

Electric Power Industry of Serbia 2019 Environmental Report



INTRODUCTION.....	9
I PUBLIC ENTERPRISE “ELECTRIC POWER INDUSTRY OF SERBIA“	10
COAL PRODUCTION IN PE EPS	10
ELECTRICITY GENERATION IN PE EPS	11
FUEL CONSUMPTION IN PE EPS THERMAL POWER PLANTS.....	11
EMISSION OF SUBSTANCES FROM THERMAL POWER PLANTS AFFECTING THE AIR QUALITY	13
WORK INJURIES IN PE EPS	13
PE EPS EMPLOYEES’ HEALTH PROTECTION	14
1. “KOLUBARA” MINE BASIN BRANCH.....	16
A KOLUBARA MB BRANCH – “OPEN CAST MINES” BRANCH	16
1.1. OVERVIEW AND STATUS OF PERMITS.....	16
1.2. MONITORING AND ENVIRONMENTAL IMPACTS	20
1.2.1. Air Quality Measurements	20
1.2.2. Emission Measurements of Matters Affecting Water Quality	21
1.2.3. Emission Measurements of Matters Affecting Soil Quality	22
1.2.4. Environmental Noise Measurement.....	26
1.2.5. Waste	26
B MB KOLUBARA BRANCH - "PRERADA" BRANCH AND “KOLUBARA METAL“ BRANCH	30
B.1. „PRERADA” BRANCH.....	30
1.1. OVERVIEW AND STATUS OF PERMITS.....	30
1.2. MONITORING AND ENVIRONMENTAL IMPACT	31
1.2.1. Air Quality Measurements	31
1.2.2. Emission Measurements of Matters Affecting Air Quality.....	31
1.2.3. Emission Measurements of Matters Affecting Water Quality.....	32
1.2.4. Emission Measurements of Matters Affecting Soil Quality	33
1.2.5. Environmental Noise Measurements.....	33
1.2.6. Waste	34
B.2. “KOLUBARA-METAL” BRANCH.....	35
1.1. OVERVIEW AND STATUS OF PERMITS.....	35
1.2. MONITORING AND ENVIRONMENTAL IMPACT	36
1.2.1. Emission Measurements of Matters Affecting Air Quality.....	36
1.2.2. Emission Measurements of Matters Affecting Water Quality	37
1.2.3. Waste	39
1.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY	45
1.3.1. Working Environment Monitoring.....	45
1.3.2. Occupational Safety	46
1.3.3. Health.....	47
1.4. PUBLIC COMPLAINTS	47

2. “KOSTOLAC” TPPS & OCMS BRANCH - OPEN CAST MINES	48
2.1. OVERVIEW AND STATUS OF PERMITS.....	48
2.2. MONITORING AND ENVIRONMENTAL IMPACT	48
2.2.1. Air Quality Measurements	48
2.2.2. Emission Measurements of Matters Affecting Water Quality.....	48
2.2.3. Emission Measurements of Matters Affecting Soil Quality	49
2.2.4. Environment Noise Measurements.....	55
2.2.5. Waste	55
2.3 WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY.....	59
2.3.1. Working Environment Monitoring.....	59
2.3.2. Occupational Safety	59
2.3.3. Health.....	60
2.4. PUBLIC COMPLAINTS	60
3. NIKOLA TESLA THERMAL POWER PLANT BRANCH	61
3.1. PERMITS OVERVIEW AND STATUS	61
3.2 MONITORING AND ENVIRONMENTAL IMPACT	61
3.2.1. Air Quality Measurements	61
3.2.2. Emission Measurements of Matters Affecting Air Quality.....	64
3.2.3. Emission Measurements of Matters Affecting Water Quality.....	71
3.2.4. Emission Measurements of Matters Affecting Soil Quality	77
3.2.5. Environmental Noise Measurement.....	81
3.3. WORKING ENVIRONMENT MONITORING, SAFETY AND HEALTH.....	92
3.3.1. Working Environment Monitoring.....	92
3.3.2. Occupational Safety	92
3.3.3. Health.....	93
3.4. PUBLIC COMPLAINTS.....	93
4. KOSTOLAC TPPS & OCMS BRANCH	95
4.1. OVERVIEW AND STATUS OF PERMITS.....	95
4.2 MONITORING AND ENVIRONMENTAL IMPACT	96
4.2.1. Air Quality Measurements	96
4.2.2. Emission Measurements of Matters Affecting Air Quality.....	98
4.2.3. Emission Measurements of Matters Affecting Water Quality.....	103
4.2.4. Emission Measurements of Matters Affecting Soil Quality	108
4.2.5. Environmental Noise Measurements.....	110
4.2.6. Waste	110
4.3. WORKING ENVIRONMENT MONITORING, SAFETY AND HEALTH.....	113
4.3.1. Working Environment Monitoring.....	113
4.3.2. Occupational Safety	113
4.3.3. Health.....	114

4.4. PUBLIC COMPLAINTS	114
5. PANONSKE CHPPS BRANCH	115
5.1. OVERVIEW AND STATUS OF PERMITS.....	115
5.2. MONITORING AND ENVIRONMENTAL IMPACT	115
5.2.1. Air Quality Measurements	115
5.2.2. Emission Measurements of Matters Affecting Air Quality.....	116
5.2.3. Emission Measurements of Matters Affecting Water Quality.....	120
5.2.4. Emission Measurements of Matters Affecting Soil Quality	124
5.2.5. Environmental Noise Measurements.....	125
5.2.6. Waste	126
5.3. WORKING ENVIRONMENT MONITORING, SAFETY AND HEALTH.....	131
5.3.1. Working Environment Monitoring.....	131
5.3.2. Occupational Safety	131
5.3.3. Health.....	133
5.4. PUBLIC COMPLAINTS.....	133
6. DJERDAP HPPS BRANCH.....	134
6.1. OVERVIEW AND STATUS OF PERMITS.....	134
6.2. MONITORING AND ENVIRONMENTAL IMPACT	135
6.2.1. Identified Negative Impact on the Flow and Ecological System under the Accumulation.....	135
6.2.2. Water.....	135
6.2.3. Waste	142
6.2.4. Environmental Noise Measurement.....	147
6.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL SAFETY AND HEALTH PROTECTION	147
6.3.1. Working Environment Monitoring.....	147
6.3.2. Occupational Safety	147
6.3.3. Health Protection	148
6.4. PUBLIC COMPLAINTS	148
7. DRINSKO-LIMSKE HPPS BRANCH.....	149
7.1. OVERVIEW AND STATUS OF PERMITS.....	149
7.2. MONITORING AND ENVIRONMENTAL IMPACT	150
7.2.1. Identified Negative Impacts on the Flow and Ecological System below the Accumulation.....	150
7.2.2. Water.....	150
7.2.3. Waste	157
7.2.4. Environmental Noise Measurement.....	159
7.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL SAFETY AND HEALTH PROTECTION	159
7.3.1. Working Environment Monitoring.....	159
7.3.2. Occupational Safety	160
7.3.3. Health protection	161

7.4. PUBLIC COMPLAINTS.....	162
8. RENEWABLE ENERGY SOURCES BRANCH.....	163
8.1. OVERVIEW AND STATUS OF PERMITS.....	163
8.2. MONITORING AND ENVIRONMENTAL IMPACT	163
8.2.1. Identified Negative Impacts on the Flow and Ecological System below the Accumulation.....	163
8.2.2. Water.....	163
8.2.3. Waste	164
8.2.4. Environmental Noise Measurement.....	164
8.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL SAFETY AND HEALTH PROTECTION	164
8.3.1. Working Environment Monitoring.....	165
8.3.2. Occupational Safety	165
8.3.3. Health protection	165
8.4. PUBLIC COMPLAINTS.....	165
9. TECHNICAL CENTER BEOGRAD	166
9.1. OVERVIEW AND STATUS OF PERMITS.....	166
9.2. MONITORING AND ENVIRONMENTAL IMPACT	166
9.2.1. Electromagnetic Fields	166
9.2.2. Living Environment Noise Measurements	166
9.2.3. Waste	166
9.2.4. Surface, Ground Waters and Soil Monitoring.....	166
9.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL SAFETY AND HEALTH PROTECTION	166
9.3.1. Working Environment Monitoring.....	166
9.3.2. Occupational Safety	167
9.3.3. Health Protection	167
9.4. PUBLIC COMPLAINTS.....	168
10. TECHNICAL CENTER NOVI SAD.....	169
10.1. OVERVIEW AND STATUS OF PERMITS.....	169
10.2. MONITORING AND ENVIRONMENTAL IMPACT	169
10.2.1. Electromagnetic Fields	169
10.2.2. Environment Noise Measurements.....	169
10.2.3. Waste	171
10.2.4. Surface, Ground Waters and Soil Monitoring.....	175
10.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL SAFETY AND HEALTH PROTECTION	175
10.3.1. Working Environment Monitoring.....	175
10.3.2. Occupational Safety	180
10.3.3. Health.....	182
10.4. PUBLIC COMPLAINTS.....	183
11. TECHNICAL CENTER KRALJEVO	184

11.1. OVERVIEW AND STATUS OF PERMITS.....	184
11.2. MONITORING AND ENVIRONMENTAL IMPACT	184
11.2.1. Electromagnetic Fields	184
11.2.2. Living Environment Noise Measurements	184
11.2.3. Waste	184
11.2.4. Surface, Ground Waters and Soil Monitoring	184
11.3. WORKING ENVIRONMENT MONITORING, HEALTH AND SAFETY.....	184
11.3.1. Working Environment Monitoring.....	184
11.3.2. Occupational Safety	192
11.3.3. Health.....	194
11.4. PUBLIC COMPLAINTS.....	194
12. TECHNICAL CENTER KRAGUJEVAC.....	195
12.1. OVERVIEW AND STATUS OF PERMITS.....	195
12.2. MONITORING AND ENVIRONMENTAL IMPACT	195
12.2.1. Electromagnetic Fields	195
12.2.2. Noise	195
12.2.3. Waste	195
12.2.4. Surface, Ground waters and Soil Monitoring	195
12.3. WORKING ENVIRONMENT MONITORING, HEALTH AND SAFETY.....	195
12.3.1. Working Environment Monitoring.....	196
12.3.2. Occupational Safety	202
12.3.3. Health.....	203
12.4. PUBLIC COMPLAINTS.....	203
13. TECHNICAL CENTER NIŠ.....	204
13.1. OVERVIEW AND STATUS OF PERMITS.....	204
13.2. MONITORING AND ENVIRONMENTAL IMPACT	204
13.2.1. Electromagnetic Fields	204
13.2.2. Environmental Noise	204
13.2.3. Waste	204
13.2.4. Surface, Ground Waters and Soil Monitoring	204
13.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY.....	204
13.3.1. Working Environment Monitoring.....	204
13.3.2. Occupational Safety	214
13.3.3. Health.....	216
13.4. PUBLIC COMPLAINTS.....	217
14. PE EPS HQ.....	218
14.1. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY.....	218
14.1.1. Working Environment Monitoring.....	218

14.1.2. Occupational Safety	218
14.1.3. Health	218
14.2. PUBLIC COMPLAINTS.....	219
15. EPS SNABDEVANJE BRANCH	220
15.1. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY	220
15.1.1. Working Environment Monitoring.....	220
15.1.2. Occupational Safety	220
15.1.3. Health.....	220
15.2. PUBLIC COMPLAINTS.....	220
III DISTRIBUTION SYSTEM OPERATOR “EPS DISTRIBUCIJA“	221
1. DISTRIBUTION AREA BELGRADE.....	221
1.1. OVERVIEW AND STATUS OF PERMITS.....	222
1.2. MONITORING AND ENVIRONMENTAL IMPACT	223
1.2.1. Electromagnetic Fields	223
1.2.2. Environmental Noise	223
1.2.3. Waste	223
1.2.4. Surface, Ground Waters and Soil Monitoring	225
1.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY	225
1.3.1. Working Environment Monitoring.....	225
1.3.2. Occupational Safety	225
1.3.3. Health	226
1.4. PUBLIC COMPLAINTS.....	226
2. DISTRIBUTION AREA NOVI SAD	227
2.1. OVERVIEW AND STATUS OF PERMITS.....	228
2.2. MONITORING AND ENVIRONMENTAL IMPACT	241
2.2.1. Electromagnetic Fields	241
2.2.2. Environmental Noise	241
2.2.3. Waste	242
2.2.4. Surface, Ground Waters and Soil Monitoring	246
2.3. MONITORING OF THE WORKING ENVIRONMENT, OCCUPATIONAL SAFETY AND HEALTH PROTECTION.....	246
2.3.1. Working Environment Monitoring.....	247
2.3.2. Occupational Safety	249
2.3.3. Health	250
2.4. PUBLIC COMPLAINTS.....	250
3. DISTRIBUTION AREA KRALJEVO	251
3.1. OVERVIEW AND PERMITS STATUS	252
3.2. MONITORING AND ENVIRONMENTAL IMPACT	267
3.2.1. Electromagnetic Fields	267

3.2.2. Environmental Noise	268
3.2.3. Waste	268
3.2.4. Surface, Groundwater and Soil Monitoring.....	273
3.3. WORKING ENVIRONMENT MONITORING, HEALTH AND SAFETY AT WORK	273
3.3.1. Working Environment Monitoring.....	273
3.3.2. Occupational Safety	273
3.3.3. Health.....	275
3.4. PUBLIC COMPLAINTS.....	275
4. DISTRIBUTION AREA KRAGUJEVAC.....	276
4.1. OVERVIEW AND STATUS OF PERMIT	276
4.2. MONITORING AND ENVIRONMENTAL IMPACT.....	280
4.2.1. Electromagnetic Fields	281
4.2.2. Environmental Noise	281
4.2.3. Waste	281
4.2.4. Surface, Ground Waters and Soil Monitoring	284
4.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY	284
4.3.1. Working Environment Monitoring.....	284
• Working environment parameters	285
4.3.2. Occupational Safety	285
4.3.3. Health.....	285
4.4 PUBLIC COMPLAINTS	286
5. DISTRIBUTION AREA NIŠ.....	287
5.1. OVERVIEW AND STATUS OF PERMITS.....	288
5.2. MONITORING AND ENVIRONMENTAL IMPACT	291
5.2.1. Electromagnetic Fields	292
5.2.2. Environmental Noise	292
5.2.3. Waste	292
5.2.4. Surface, Ground Waters and Soil Monitoring	295
5.3. WORKING ENVIRONMENT MONITORING, OCCUPATIONAL HEALTH AND SAFETY.....	295
5.3.1. Working Environment Monitoring.....	295
5.3.2. Occupational Safety	307
5.3.3. Health.....	309
5.4. PUBLIC COMPLAINTS.....	309
APPENDIX 1 EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT ENVIRONMENTAL MODEL REPORT	310
APPENDIX 2. SERBIAN ENVIRONMENTAL LEGISLATION.....	312
APPENDIX 3.ABBREVIATIONS	320

INTRODUCTION

Public Enterprise “Electric Power Industry of Serbia” 2019 Environmental Report was prepared on the basis of the recommendations regarding the contents and form – report template provided by the European Bank for Reconstruction and Development ([APPENDIX 1](#)) as well as on the basis of data on environment status monitoring submitted by the responsible persons of PE EPS organizational units.

Hazardous and harmful substances air emission data have been provided on the basis of calculation based on measured mass concentrations, i.e. their flows and units’ (boilers) operating hours in 2019.

Outline of Serbian environmental legislation used to evaluate and compare the measured pollutant values and other parameters with the permissible values is provided in [APPENDIX 2](#).

Abbreviations used in the Report are provided in [APPENDIX 3](#).

I PUBLIC ENTERPRISE “ELECTRIC POWER INDUSTRY OF SERBIA“

Public Enterprise "Electric Power Industry of Serbia" Belgrade is a vertically organized enterprise, 100% state-owned. PE EPS is the founder and sole owner of two subsidiaries as follows:

- Distribution System Operator “EPS Distribucija” Ltd. Belgrade, for the performance of activities of electricity distribution and distribution system operation in the Republic of Serbia, and
- “EPS Trgovanje” Ltd. Ljubljana for the performance of activities of electricity trading abroad in order to optimize the use of its own resources.

PE EPS has founder's rights in three public companies in Kosovo and Metohija. Since June 1999, PE EPS has been unable to manage its capacities in Kosovo.

Until July 1st 2015, PE EPS operated through 13 subsidiaries, and after conducting status changes, an acquisition of 11 subsidiaries was made by the parent-controlling company.

The main activity of Public Enterprise “Electric Power Industry of Serbia” is energy activity: supply of electricity, industry code 35.14 – Electricity trading.

Coal Production in PE EPS

In PE EPS coal is produced by the following organisational units of PE EPS: Branch MB “Kolubara”, “Kostolac” TPPs-OCMs Branch and PE “Kosovo” OCMs**. Amounts of produced raw and dried coal (except for Kosovo OCMs**) in 2019 are given in Table 1.

Table 1

PUBLIC ENTERPRISE “ELECTRIC POWER INDUSTRY OF SERBIA”						
COAL PRODUCTION IN 2019						
Branch	Coal production (t)			Overburden removal (m ³ čm)		
	Planned	Achieved	%	Planned	Achieved	%
BRANCH MB “KOLUBARA” – OPEN CAST MINES						
Field B	3.400.000	2.486.288	73,13	15.600.000	12.493.953	80,09
Field D	8.911.000	9.206.769	103,32	22.780.000	16.254.384	71,35
Field G	4.500.000	6.115.884	135,91	4.250.000	5.755.870	135,43
Tamnava – West Field	12.239.000	11.892.814	97,17	28.235.000	28.047.845	99,34
Radljevo	-	-	-	0	535.460	-
TOTAL (RAW COAL*):						
BRANCH MB “KOLUBARA” – OPEN CAST MINES	29.050.000	29.701.755	102,24	70.865.000	63.087.512	89,02
Kolubara Prerada (dried coal)	With dust	550.000	360.133	65,48	-	-
	Without dust	500.000	327.318	65,46	-	-
TPPs-OCMs “KOSTOLAC” – OPEN CAST MINES						
Drmno	8.939.000	8.471.919	94,77	42.000.000	31.635.615	75,32
TOTAL:						
“KOSTOLAC” TPPS-OCMS BRANCH – OPEN CAST MINES	8.939.000	8.471.919	94,77	42.000.000	31.635.615	75,32
TOTAL: OPEN CAST MINES						
PE EPS	37.989.000	38.173.674	100,49	112.865.000	94.723.127	83,93

* Total raw coal amount, partially used for dried coal production

** As of June 1999, PE EPS does not operate its Kosovo and Metohija capacities

Electricity Generation in PE EPS

In PE EPS electricity is generated by the following thermal power plants: “Nikola Tesla” TPPs, “Kostolac” TPPs-OCMs, “Panonske” CHP, PE “Kosovo” TPPs*, and by the following hydropower plants: “Đerdap” HPP and “Drinsko – Limske” HPPs. Electricity generation data (except for PE “Kosovo” TPPs*) in 2019 are given in Table 2.

Table 2

PUBLIC ENTERPRISE “ELECTRIC POWER INDUSTRY OF SERBIA”			
ELECTRICITY GENERATION IN 2019			
Branch	Unit	Electricity generation (GWh)	
		at the generator	sent to grid
BRANCH NIKOLA TESLA TPPs			
NIKOLA TESLA A TPP	A1 - A2	1.896,19	1.660,56
	A3 - A5	5.658,19	5.042,64
	A6	2.114,18	1.867,88
NIKOLA TESLA B TPP	B1 - B2	8.604,56	7.937,29
KOLUBARA A TPP	A1 - A4	344,51	329,17
	A5	252,77	230,98
MORAVA TPP	A	498,22	453,86
TOTAL: BRANCH NIKOLA TESLA TPPs		19.368,62	17.522,38
BRANCH “KOSTOLAC” TPPs-OCMs			
“Kostolac” A TPP	A1	664,04	655,60
	A2	1.535,56	1.415,16
“Kostolac” B TPP	B1	2.484,45	2.232,09
	B2	1.493,52	1.343,65
TOTAL: “KOSTOLAC” TPPs-OCMs		6.177,57	5.646,50
BRANCH “PANONSKE” PPs			
NOVI SAD CHPP		385,13	336,65
ZRENJANIN CHPP		0,00	0,00
SREMSKA MITROVICA CHPP		0,00	0,00
TOTAL: “PANONSKE” POWER PLANTS		385,13	336,65
TOTAL: TPPs and CHPs			
		25.931,32	23.505,53
HYDROPOWER PLANTS			
BRANCH “ĐERDAP” HPPs		6.766,00	6.719,49
“DRINSKO-LIMSKE” HPPs		3.242,69	3.231,66
SMALL HPPs		24,35	24,35
TOTAL: HYDRO POWER PLANTS		10.033,04	9.975,50
PE “ELEKTROKOSMET”**			
		-	-
TOTAL: PE EPS (exclusive of K&M)			
		35.964,36	33.481,03

* As of June 1999, PE EPS does not operate its Kosovo and Metohija capacities

Fuel Consumption in PE EPS Thermal Power Plants

Table 3 shows the solid, liquid and gaseous fuel consumption data by PE EPS TPPs and CHPs in 2019.

Table 3

PUBLIC ENTERPRISE “ELECTRIC POWER INDUSTRY OF SERBIA”						
FUEL CONSUMPTION IN 2019						
Organizational unit	Unit /boiler	Fuel				
		Coal	Heavy fuel oil	Oil	Gas	Biomass
		t	t	t	Stm³	t
BRANCH “NIKOLA TESLA” TPPs“						
“NIKOLA TESLA” A TPP	A1	1.641.042	6.625	-	-	-
	A2	1.233.347	3.947	-	-	-
	A3	3.058.060	2.616	-	-	-
	A4	2.998.502	2.637	-	-	-
	A5	2.583.487	1.903	-	-	-
	A6	3.200.129	3.461	-	-	-
“NIKOLA TESL”A B TPP	B1	6.382.308	5.597	-	-	-
	B2	6.402.980	5.850	-	-	-
“KOLUBARA” A TPP	K1	205.196	-	436	-	-
	K2	-	-	-	-	-
	K3	129.561	-	210	-	-
	K4	191.626	-	187	-	-
	K5	142.592	-	178	-	-
	K6	437.575	-	614	-	-
“MORAVA” TPP	A1	631.185	772	358	-	-
TOTAL: “BRANCH NIKOLA” TESLA TPPs		29.237.590	33.408	1.983	-	-
BRANCH “KOSTOLAC” TPPs-OCMs						
“KOSTOLAC” A TPP	A1	974.372	-	1.724	-	-
	A2	1.955.261	-	774	-	-
“KOSTOLAC” B TPP	B1	2.817.464	2.905	-	-	-
	B2	1.619.928	1.911	-	-	-
TOTAL: BRANCH “KOSTOLAC” TPPS-OCMS		7.367.025	4.816	2.498	-	-
BRANCH MB “KOLUBARA” – ORGANIZATIONAL UNIT „PRERADA“						
VREOCI HEATING PLANT	K1 AND K2	193.326	183,80	-	-	-
TOTAL: BRANCH MB KOLUBARA		193.326	183,80	-	-	-
BRANCH “PANONSKE” CHPs						
“NOVI SAD” CHP	A1 (K1 and K2)	-	-	-	32.319,450	-
	A2 (K3)	-	-	-	77.472,624	-
	Stack, both units – continuous measurements	-	-	-	22.066,751	-
“ZRENJANIN” CHP	A1	-	-	-	88.947,000	-
	A2	-	-	-	42.846,000	-
“SREMSKA MITROVICA” CHP	A3 (K3 and K4)	-	-	-	-	-
	S2400 1-3	-	-	-	550,907	-
	Biomass boiler	-	-	-	88,470	5.593
TOTAL: BRANCH “PANONSKE” CHPs			-	-	264.291,202	5.593
TOTAL: PUBLIC ENTERPRISE “ELECTRIC POWER INDUSTRY OF SERBIA		36.797.941	38.407,80	4.481	264.291,202	5.593

Emission of Substances from Thermal power Plants Affecting the Air Quality

Complete data on emission of substances from thermal power plants affecting the air quality in 2019 for PE EPS organizational units (except for PE Kosovo TPPs*) are given in Table 4.

Table 4

PUBLIC ENTERPRISE "ELECTRIC POWER INDUSTRY OF SERBIA"				
AMOUNTS OF EMISSION OF SUBSTANCES FROM THERMAL POWER PLANTS AFFECTING THE AIR QUALITY IN 2019				
Organizational unit	t / year			
	Particulate matter	SO ₂	NO _x (NO ₂)	CO ₂
"NIKOLA TESLA" TPPs BRANCH	7.118,30	194.048,09	28.248,38	20.393.402,00
"KOSTOLAC" TPPs-OCMs BRANCH	1.642,70	131.823,00	9.717,00	6.517.198,98
"PANONSKE" CHP BRANCH	2,53	0,14	958,23	246,567,29
"KOLUBARA" MB BRANCH - ORGANIZATIONAL UNIT PRERADA	73,76	1.361,07	259,82	233.162,57
TOTAL: PUBLIC ENTERPRISE "ELECTRIC POWER INDUSTRY OF SERBIA"	8.837,29	327.232,30	39.183,43	27.390.330,84

Work Injuries in PE EPS

Table 5 shows data on the number of work injuries in 2019 for PE EPS Organizational units.

Table 5

PUBLIC ENTERPRISE "ELECTRIC POWER INDUSTRY OF SERBIA"						
WORK INJURIES IN 2019						
Organizational unit	Number of employees	Injuries - number of employees ratio				
		Minor	Severe	Fatal	Total	%
"KOLUBARA" MB BRANCH	11.349	191	73	1	265	2,34
"KOSTOLAC" TPPs-OCMs BRANCH – OPEN CAST MINES	2.079	8	5	0	13	0,63
OPEN CAST MINES	13.428	199	78	1	278	2,07
"NIKOLA TESLA" TPPs BRANCH	1.996	22	4	0	26	1,30
"KOSTOLAC" TPPs-OCMs BRANCH – THERMAL POWER PLANTS	704	3	1	0	4	0,57
"PANONSKE" CHPs BRANCH	376	6	3	0	9	2,39
THERMAL POWER PLANTS:	3.076	31	8	0	39	1,27
"ĐERDAP" HPPs BRANCH	709	9	4	0	13	1,83
"DRINSKO-LIMSKE" HPPs BRANCH	417	1	0	0	1	0,24
"RENEWABLE ENERGY RESOURCES" BRANCH	50	1	0	0	1	2,00
HYDRO POWER PLANTS:	1.176	11	4	0	15	1,28
TC "BEOGRAD"	778	10	3	0	13	1,67
TC "NOVI SAD"	1.053	17	3	0	20	1,90
TC "KRALJEVO"	1.512	23	3	0	26	1,72
TC "KRAGUJEVAC"	415	20	3	0	23	5,54
TC "NIS"	844	19	2	0	21	2,49
TECHNICAL CENTERS:	4.602	89	14	0	103	2,24
PE EPS HQ	787	7	1	0	8	1,02
BRANCH "EPS SUPPLY"	1.101	10	1	0	11	1,00
DA "BEOGRAD"	940	7	1	0	8	0,85
DA "NOVI SAD"	727	8	0	0	8	1,10

DA "KRALJEVO"	858	6	2	0	8	0,93
DA "KRAGUJEVAC"	284	0	0	0	0	0,00
DA "NIŠ"	550	4	2	0	6	1,09
DISTRIBUTION SYSTEM OPERATOR	3.359	25	5	0	30	0,89
TOTAL: PUBLIC ENTERPRISE "ELECTRIC POWER INDUSTRY OF SERBIA"	27.529	372	111	1	484	1,76

Note: Relevant data on fatalities are given in the Section relating to the relevant PE EPS Organizational unit.

PE EPS Employees' Health Protection

Table 6 presents data on employee's health protection, which includes obligatory medical examination prior to employment, as well as periodical examinations with the aim of determining employees' work ability, conducted during 2019 in PE EPS Organizational units.

Table 6

PUBLIC ENTERPRISE "ELECTRIC POWER INDUSTRY OF SERBIA"											
EMPLOYEE'S WORK ABILITY IN 2019											
Organizational unit	Number of employees	Periodic examinations				For work					
		Referred to examination		Examined		Able		Limited ability		Disabled	
		no.	%	no.	%	no.	%	no.	%	no.	%
"KOLUBARA" MB BRANCH	11.349	9.396	82,79	8.964	95,40	6.290	70,17	2.500	27,89	174	1,94
"KOSTOLAC" TPPs-OCMs BRANCH - OCM	2.079	1.533	73,74	1.476	96,28	1.315	89,1	150	10,16	11	0,75
OPEN CAST MINES:	13.428	10.929	81,39	10.440	95,53	7.605	72,84	2.650	25,38	185	1,77
"NIKOLA TESLA" TPPs BRANCH	1.996	1.623	81,31	1.610	99,20	1.468	91,18	126	7,83	16	0,99
"KOSTOLAC" TPPs-OCMs BRANCH – THERMAL POWER PLANTS	704	600	85,23	583	97,17	542	92,97	41	7,03	0	0,00
"PANONSKA" CHPs BRANCH	376	284	75,53	283	99,65	209	73,85	73	25,80	1	0,35
THERMAL POWER PLANTS:	3.076	2.507	81,50	2.476	98,76	2.219	89,62	240	9,69	17	0,69
"ĐERDAP" HPPs BRANCH	709	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
"DRINSKO-LIMSKE" HPPs BRANCH	417	137	32,85	137	100,00	109	79,56	27	19,71	1	0,73
"RENEWABLE ENERGY RESOURCES" BRANCH	50	37	74,00	37	100,00	37	100,00	0	0,00	0	0,00
HYDRO POWER PLANTS:	1.176	174	14,80	174	100,00	146	83,91	27	15,52	1	0,57
TC "BEOGRAD"	778	361	46,40	361	100,00	338	93,63	17	4,71	6	1,66
TC "NOVI SAD"	1.053	611	58,02	609	99,67	530	87,03	76	12,48	3	0,49
TC "KRALJEVO"	1.512	961	63,56	950	98,86	818	86,11	128	13,47	4	0,42
TC "KRAGUJEVAC"	415	224	53,98	224	100,00	191	85,27	22	9,82	11	4,91
TC "NIŠ"	844	489	57,94	489	100,00	439	89,78	44	9,00	6	1,23
TECHNICAL CENTERS:	4.602	2.646	57,5	2.633	99,51	2.316	87,96	287	10,90	30	1,14
PE EPS HQ	787	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
BRANCH "EPS SUPPLY"	1.101	15	1,36	15	100,00	15	100,00	0	0,00	0	0,00
DA "BEOGRAD"	940	393	41,81	393	100,00	390	99,24	0	0,00	3	0,76
DA "NOVI SAD"	727	366	50,34	366	100,00	356	97,27	10	2,73	0	0,00

DA "KRALJEVO"	858	508	59,21	504	99,21	458	90,87	43	8,53	3	0,60
DA "KRAGUJEVAC"	284	146	51,41	146	100,00	116	79,45	28	19,18	2	1,37
DA "NIS"	550	276	50,18	272	98,55	246	90,44	26	9,56	0	0,00
DISTRIBUTION SYSTEM OPERATOR	3.359	1689	50,28	1.681	99,53	1.566	93,16	107	6,37	8	0,48
TOTAL: PUBLIC ENTERPRISE "ELECTRIC POWER INDUSTRY OF SERBIA"	27.529	17.960	65,24	17.419	96,99	13.867	79,61	3.311	19,01	241	1,38

1. “KOLUBARA” MINE BASIN BRANCH

The core activities of “Kolubara” MB Branch comprise mining, processing and transportation of coal. Organizationally, it is comprised of the Head Office and four organizational units:

1. Open Cast Mines
2. Prerada
3. Projekat and
4. Metal.

Organizational unit “Open Cast Mines –Baroševac” has four active open cast mines:

1. “Field B/C”
2. “Field D”
3. “Tamnava West Field”
4. “Field G” and
5. “Field E

The Sector for Environmental Protection and Improvement deals with environmental tasks and its role is to prevent, control, mitigate and remediate all forms of environmental pollution. This sector comprises the following divisions:

1. Environment Protection and Enhancement Division – the organizational unit “Open Cast Mines – Baroševac”;
2. Biological Reclamation Division;
3. Waste and Hazardous Substances Division and
4. Environment Protection and Enhancement Division - organizational unit “Prerada” – Vreoci.

A KOLUBARA MB BRANCH – “OPEN CAST MINES” BRANCH

1.1. Overview and Status of Permits

Overview and status of permits, licenses and other necessary approvals realized in 2019 are shown in Table 7.

Table 7

MB KOLUBARA BRANCH – “OPEN CAST MINES” BRANCH			
Overview and status of permits in 2019			
Open cast mine	Permits, licenses and other necessary approvals obtained in 2019 Project name and status	Applications for new or extension of existing permits	Note
Field B/C	Decision on execution of mining works under the Detailed Mining Design for open cast mine Field C, No. 310-02-01085/2015-02 dated 28 November 2018. Supplementary Mining Design for open cast mine Field C (2019) Water approval. Water approval compliance report dated 10 May 2013. Detailed Mining Design - Expansion of the Field C open cast mine, Projekt Branch, Lazarevac, 2009, Decision on the execution of mining works under the Detailed Mining Design No. 310-02-0397/2010-06 dated 25 August 2010. Valid until 31 December 2014.	Mining Works approval request submitted under the Supplementary Mining Design 18 August 2015.	Collection of necessary documentation for the “Kruševica” mine expansion is in progress.”



	<p>Decision No. 310-02-0397/2010-06 dated 6 June 2014 stipulating the execution of mining works in line with the Detailed Mining Design was obtained.</p> <p>Supplementary Mining Design - Stone excavation at the "Kruševica" open cast mine, "Project" Branch, Lazarevac, 2011; Technical audit was executed.</p> <p>Technical Mining Design – Field "C" outside dump and 1st ECS system. Technical audit of the project was performed by the Mining Institute Ltd. Belgrade No. 2392 dated 18 June 2014.</p> <p>Decision approving the "Kruševica" Open Cast Mine Stone Excavation Environmental Impact Assessment Study was obtained.</p> <p>Decision No. 310-03-218/88-02 dated 24 June 2014 approving the "Kruševica" latite and latite breccia mining field was obtained.</p> <p>Balance reserves certificate identifying latite and latite pyroclastics reserves of the "Kruševica" deposit was obtained, with the state as at 31 December 2011, Decision No. 310-02-00494/2012-03 dated 06 March 2014.</p> <p>Preparation of Detailed Mining Design for permanent cancellation of stone excavation at "Kruševica" open cast mine is in progress.</p> <p>Supplementary Mining Design – "Field C" OCM. Technical audit conducted by the Tera & Gold Beograd, a company for production, engineering, designing and marketing, March 2015.</p> <p>Water approval decision No. VIII-04-325.2-12/2015 dated 21 July 2015.</p>		
Field D	<p>Water approval decision for the OCM "Field D" Supplementary Mining Design dated 13 December 2013, was obtained.</p> <p>"Field D" OCM Supplementary Mining Design, "Projekt" Branch, Lazarevac, 2009, Decision on the execution of mining works under the Supplementary Mining Design № 310-02-0327/2010-06 dated 7 May 2010. Valid until 31 December 2017.</p> <p>Mining Design for the North-western area of OCM "Field D". Technical audit performed by the Mining Institute Ltd. Belgrade No. 3801 dated 24 October 2014.</p> <p>Technical Mining Design – Overburden Removal and Coal Production at the Southern Slope of OCM "Field D". Technical audit conducted by the Institute for Mining and Metallurgy Bor.</p> <p>Mining Design of OCM "Field D" dewatering in front of the ECS system inside the OCM "Field E" zone. Technical audit performed by the Mining and Metallurgy Institute Bor.</p>		

<p>Field E</p>	<p>Preparation of Detailed Mining Design for open cast mine Field E</p> <p>Environmental Impact Assessment for the project of lignite exploitation in open cast mine Field E, with disposal area in Fields A, B, C, D and Turija.</p>	<p>Public Procurement procedure has been initiated for Technical Control services for Detailed Mining Design for Field E</p> <p>An Application for obtaining approval from Ministry of Environmental Protection was submitted on 25 June 2019 for Environmental Impact Assessment for the project of lignite exploitation in open cast mine Field E with disposal areas in Fields A, B, C, D and Turija</p>	
<p>Veliki Crljeni</p>	<p>“Veliki Crljeni” Detailed Mining Design, “Projekt” Branch, Lazarevac, 2006.</p> <p>Decision on the execution of mining works under the “Veliki Crljeni” OCM Detailed Mining Design 310-02-0765/2008-06 dated 03 February 2010. Valid until 31 December 2014.</p> <p>Mining works approval decision under the Detailed Mining Design – “Veliki Crljeni” OCM No. 310-02-0765/2008-06 dated 22 April 2015.</p> <p>Decision approving the use of dewatering structures developed under the Detailed Mining Design – “Veliki Crljeni” OCM No. 310-02-0164/2013-03 dated 16 June 2014.</p> <p>Water approval No. 325-04-976/2009-07 dated 6 August 2009.</p> <p>Crushing Plant: Supplementary Mining Design of the “Tamnava” Coal Preparation Plant – Phase I, <i>Delta inženjering</i>, Belgrade, 2011.</p> <p>Supplementary Mining Design – “Veliki Crljeni” OCM Expansion. Technical audit conducted by the “Tera & Gold” Beograd, a company for production, engineering, designing and marketing.</p> <p>Environmental Impact Assessment Study for the Supplementary Mining Design – “Veliki Crljeni” OCM Expansion. Approval of the Environmental Impact Assessment Study for the Supplementary Mining Design – “Veliki Crljeni” OCM Expansion no. 353-02-345-2016-16 dated 16 September 2016.</p> <p>Supplementary Mining Design – “Tamnava” Coal Preparation Plant Phase II, № 310-02-00900/2014-02 dated 23 July 2015.</p> <p>Decision of MME approving works under Supplementary Mining Design for transport, disposal, fine coal landfill, homogenization, taking</p>	<p>The Request for Approval of the Environmental Impact Assessment Study for the Supplementary Mining Design – “Veliki Crljeni” OCM was submitted.</p>	<p>Collection of necessary documents for submitting The Request for Conducting Mining Works under the Supplementary Mining Design – “Veliki Crljeni” OCM is in progress.</p>

	<p>and transport of fine coal at mining field 321A, at the territory of Lazarevac municipality and Ub municipality no. 310-02-00647/2015-02 dated 19 August 2016.</p> <p>Water approval application submitted for buildings i.e. works for which water requirements were issued under Supplementary Mining Design – “Veliki Crljeni” OCM Expansion no.0402-526782/1-16 dated 14 December 2016.</p>		
Tamnava West Field	<p>Supplementary Mining Design for open cast mine “Tamnava West Field” (2019).</p> <p>“Tamnava West Field” Supplementary Mining Design, Projekt Branch, Lazarevac 2014.</p> <p>Technical audit of the Tamnava West Field Supplementary Mining Design performed by the Mining and Metallurgy Institute Bor.</p> <p>Decision approving the mining works No. 310-02-00187587/2014-03 dated 25 August 2014.</p> <p>Mining Design – “Veliki Crljeni” ECS System Operation at the “Tamnava West Field” OCM.</p> <p>Technical audit conducted by the Mining Institute Belgrade № 1723 dated 30 April 2014.</p> <p>Decision № 310-02-01473/2013-03 dated 20 February 2014 approving the use of the mobile shifting station and BW.</p> <p>Water approval decision for the Supplementary Mining Design – “Tamnava West Field” OCM No. 325-04-451/2104-07 dated 14 April 2014.</p> <p>Technical Mining Design – Commissioning of the ECS system taken over from the “Veliki Crljeni” OCM. Technical audit report by Mining Institute Belgrade.</p> <p>Technical Mining Design – ECS System Operation on the “Tamnava West Field” OCM. Technical audit performed by the Tera & Gold Beograd, a company for production, engineering, designing and marketing.</p> <p>Decision on trial operation of excavator “SchRs” 740x25/6 on “TWF” OCM no. 310-02-01525/2015/2 dated 08. August 2016.</p> <p>Application for use of mining constructions submitted – use permit for bucket wheel excavator “SchRs” 740 25/6 (G-V) no. 04.02-475291/1-16 dated 17 November 2016.</p>		
Field G	<p>MME Reserves Certificate, Committee for Establishment and Certification of Reserve Mineral Resources no. 310-02-00410/2010-06 dated 28 September 2010.</p> <p>Approval for coal deposit mining – “Field G” OCM on the expanded mining field number 321A no.310-02-00311/90 dated 21 January 2015.</p> <p>Detailed Mining Design- “Field G” OCM, prepared by OC Projekt biro (2012). Technical audit by Mining Institute Ltd. Belgrade.</p> <p>Approval of Environmental Impact Assessment Study – opening and construction of “Field G”</p>		

	<p>OCM no. 353-02-1150/2012-02 dated 11 December 2012.</p> <p>Decision on water approval under Detailed Mining Design – “Field G” (Belgrade City Administration, Secretariat for Water) d. VIII -04-325.2-32/2014 dated 02 March 2015.</p> <p>MME decision approving mining works under Detailed Mining Design – “Field G” OCM no. 310-02-00639/2015-02 dated 30 June 2015.</p>		
Radljevo - North	<p>Detailed Mining Design for exploitation of open cast mine Radljevo – North</p> <p>Decision on construction of mining facilities and execution of mining works under the Detailed Mining Design for open cast mine Radljevo – North, issued by Ministry of Mining and Energy No. 310-02-00722/2017-02 dated 9 October 2017</p>	<p>Application for approval of occupancy of mining ECS system facilities in OCM Radljevo – North submitted to the Ministry of Mining and Energy on 2 December 2019, No. 310-02-01600/2019-02</p>	

1.2. Monitoring and Environmental Impacts

1.2.1. Air Quality Measurements

Putting in operation automatic station for air quality measurements (PM₁₀, PM_{2.5}, SO₂, NO/ NO₂/ NO_x, CO, O₃) owned by EP EPS initiated monitoring of air quality within the area under impact of mining basin Kolubara at 6 measuring sites. Measuring periods are 30 days, and each measuring site is covered twice a year. As the accreditation process for the laboratory which will include automatic methods for the above mentioned air quality parameters is ongoing, interlaboratory measurements in cooperation with an external laboratory were arranged – 3 times a year at two measuring sites for 30 days. Each exceeding (which, as a rule, refer to suspended matters) in most cases can be related to use of solid fuels during the heating period. Air quality in 2019 is provided by a number of exceeding upper limit values in Table 8.

Table 8

MB KOLUBARA BRANCH – “OPEN CAST MINES –BAROŠEVAC” BRANCH				
Air quality in 2019				
	Tasted paremetar (µg/m-3)			
Measuring site 1 – Water supply Medoševac				
MAY – month (where measurements were done at the measuring site)	SO ₂	NO ₂	Soot	PM ₁₀
Number of days > LV	-	-	1	2
Measuring site 2 - Strelište				
MAY – month (where measurements were done at the measuring site)	SO ₂	NO ₂	Soot	PM ₁₀
Number of days > LV	-	-	-	-
Measuring site 3 – Water supply Kalenić				
AUGUST – month (where measurements were done at the measuring site)	SO ₂	NO ₂	Soot	PM ₁₀
Number of days > LV	-	-	-	2
Measuring site 4 – Strelište Sumed				
AUGUST – month (where measurements were done at the measuring site)	SO ₂	NO ₂	Soot	PM ₁₀
Number of days > LV	-	-	-	-

Measuring site 5 – Firefighting Center Mali Crljeni				
DECEMBER – month (where measurements were done at the measuring site)	SO ₂	NO ₂	Soot	PM ₁₀
Number of days > LV	-	-	-	5
Measuring site 6 – Water supply Medoševac				
DECEMBER – month (where measurements were done at the measuring site)	SO ₂	NO ₂	Soot	PM ₁₀
Number of days > LV	-	-	-	7

1.2.2. Emission Measurements of Matters Affecting Water Quality

▪ Dewatering System Water

Water originating from the preliminary dewatering and dewatering systems represents a technological part of the coal production system. Waters pumped (mining wastewaters) from these systems are discharged over a sedimentation tank into the surrounding watercourses, as follows:

- OCM "Field B/C", Baroševac into the river Peštan and into the river Turija;
- OCM "Field D", Medoševac into the river Peštan;
- OCM "Tamnava West Field" into the river Kolubara.

In accordance with the law, the quality control of the recipients is carried out by the authorized laboratory.

Table 9 shows the pumped water quality results from open cast mines (from the sedimentation tank into the recipient) in 2019.

Table 9

KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES“ BAROŠEVAC				
Water quality in 2019				
Parameters	OCM “Field G”	OCM “Field B/C”, Baroševac	OCM “Field D” Medoševac	OCM “Tamnava West Field
Electrical conductivity (µs/cm)	468 - 547	489 - 621	729 - 791	451 - 588
pH	7.4 - 7.8	7.1 - 7.6	7.2 - 7.7	7.5 - 7.8

▪ Sanitary water

Open cast mines are supplied with drinking water from five regional water supply systems: Medoševac, Kalenić, Junkovac, and Tamnava - East Field.

Table 10 shows the data on the quantities of wastewater generated from the drainage of mines and quantities of drinking water used in 2019. The amount of generated sanitary wastewater can be estimated on the basis of the quantity of the supplied drinking water.

Table 10

KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES“ BAROŠEVAC		
Water quantity in 2019 (m³/god.)		
Open cast mine	Total amounts of pumped water (m³)	Supplied drinking water (m³)
Field B/C	1.595.774,59	-
Field D	4.685.545,19	1.495.776
Field G	3.888.689,00	246.020
Tamnava West Field	12.693.041,00	970.038

1.2.3. Emission Measurements of Matters Affecting Soil Quality

During 2019, soil quality testing was conducted at 22 locations at lots owned by PE EPS, but these are self-made and not reclaimed terrains. The tested parameters were: clay content, humus content, organic carbon content (TOC), available phosphorus, total content of N, Cd, Cr, Cu, Ni, Pb, Zn, Hg, As, B, Ca, Mg, Mn, Fe, fluoride content (F^-), chloride content (Cl^-), nitrite content (NO_2^-), nitrate content (NO_3^-), bromide content (Br^-), orthophosphate content (PO_4^{3-}), sulfates content (SO_4^{2-}), hydrocarbons of petroleum origin - gasoline (C6-C10), hydrocarbons of petroleum origin - diesel (C10-C28), mineral oils (C10-C40), polycyclic aromatic hydrocarbons (RAH) - total, polychlorinated biphenyls (PCB). As in previous years, at almost every location limit values of some or most metals were exceeded - chromium, arsenic, nickel, zinc, copper, cadmium. These exceedings, taking into account activities within MB Kolubara and area analysis done in 2019, cannot be related to open cast mines, and it was concluded that these are most likely a result of a natural background. Given that it was found that there are exceedings of remedial values at three locations in 2019 (which either cannot be related to MB Kolubara), two additional analysis will be done in 2020, at two time points in order to verify the obtained results. If this is the case, necessary activities will be performed in accordance with laws in the Republic of Serbia. Table 11 shows the measured, limit values and remediation values for metals in soil in 2019.

Table 11

KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES”			
Measured, limit values and remediation values of metals in soil in 2019			
Место узорковања	Parameters where exceeding was recorded (mg/kg)		
	Cr	As	Ni
Veliki Crijeni (pump at MS2)	412,0	141,5	-
Remediation value	323,0	46,7	-
Veliki Crijeni (water intake)	-	76,6	-
Remediation value	-	29,5	-
Stepojevac (Sumed)	308,0	-	171,3
Remediation value	266,0	-	120,0
Kalenić (water supply)	-	-	-
Remediation value	-	-	-
Radljevo (assembly lot)	-	-	-
Remediation value	-	-	-
Kalenić (retention)	-	-	-
Remediation value	-	-	-
Skobalj 1	-	-	-
Remediation value	-	-	-
Skobalj 2	-	-	-
Remediation value	-	-	-
Jabučje (farm)	-	-	-
Remediation value	-	-	-
Vreoce (old Peštan)	-	-	-
Remediation value	-	-	-
Vreoci (Ibarska)	-	-	-
Remediation value	-	-	-
Vreoci (three-borders area)	-	-	-
Remediation value	-	-	-
Volujak	-	-	-
Remediation value	-	-	-
Junkovac (center)	-	-	-
Remediation value	-	-	-
Junkovac (Ivanović)	-	-	-
Remediation value	-	-	-
Medoševac (old playground)	-	-	-
Remediation value	-	-	-
Burovo (bend at the apiary)	-	-	-
Remediation value	-	-	-
Zeoke (Milijanović field)	-	-	-

Remedation value	-	-	-
Baroševac (the road to Dren)	-	-	-
Remedation value	-	-	-
Baroševac (graveyard)	-	-	-
Remedation value	-	-	-
Mali Crljeni (graveyard)	-	-	-
Remedation value	-	-	-
Rudovci (firefighting-park)	-	-	-
Remedation value	-	-	-

▪ Overview of Expropriated and Reclaimed Areas

Maintenance of reclaimed areas is foreseen by the Branch business plan, together with temporary reclamation measures on new areas. Final reclamation measures are carried out after completion of mining operations, based on the adopted Kolubara Region Spatial Plan.

Within Biological Reclamation Division, Forestry Office manages 611.30 ha of areas reclaimed by afforestation (forests and forestry land), 7.5 ha out of which are outside of "Kolubara MB" Management Basis (Field "D" – 430.44 ha, "Tamnava East Field" – 60.63 ha, Field "B" – 111.65 ha and "Tamnava West Field" – 7.5 ha). Within the Management Basis, within Field "D", there are 49.28 ha of expropriated land and forestry land.

Within Biological Reclamation Division, Agriculture Office conducts the biological reclamation measures on a total area of 96.20 ha of reclaimed area. In 2019, infrastructural works were conducted on reclaimed area of 11.20 ha, so this area was not cultivated. Moreover, regular agricultural production is conducted on expropriated lots of 14.50 ha.

A review of areas recultivated prior to 2019 is shown in Table 12. Table 13 shows the expropriated areas at active mines in 2019.



KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES“																			Table 12
Review of expropriated areas prior to 2019																			
Open cast mine /Facilities	Expropriated areas (ha)	Total land area registered in the land register (ha)		Total land area whose use has been changed (ha)		Land containing buildings (ha)		Dump site areas(ha)				Reclaimed areas (ha)							
		until 2018	in 2019	until 2018	in 2019	until 2018	in 2019	Inside		Outside		Forests		Arable land		Orchards		Nurseries	
								until 2018	in 2019	until 2018	in 2019	until 2018	in 2019	until 2018	in 2019	until 2018	in 2019	until 2018	in 2019
Field D	2.297,65	2.270,56	13,55	864,47	-52,86	24,98	-4,16	1.206,45	26.11	0,00	0,00	430,44	0,00	51,00	0,00	7,00	0,00	0,00	0,00
Field B	1.169,56	1.173,41	-7,83	524,98	-17,40	19,31	0,00	466,74	-4.93	0,00	0,00	111,65	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Auxiliary machinery	5,38	5,38	0,00	1,95	0,00	5,38	-1,40	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Mines HQ	18,10	18,51	-0,55	10,48	-9,19	17,94	-0,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
South Field	448,26	416,63	3,72	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Field G	263,01	248,45	12,04	0,09	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Field E	563,65	423,41	125,08	10,04	0,40	20,80	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Tamnava East Field	2.068,86	1.944,64	0,00	82,67	0,00	94,04	0,00	792,39	0,00	0,00	0,00	60,63	0,00	49,40	0,00	0,00	0,00	0,00	0,00
Veliki Crljeni Field	204,65	210,24	0,00	0,00	0,00	1,66	0,00	18,54	22.31	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Tamnava West Field	1.812,14	1.730,71	50,99	70,13	0,00	48,37	0,00	731,39	24.34	0,00	0,00	8,58	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Radljevo	358,26	334,97	25,39	0,00	0,00	0,18	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Kladnica	31,59	31,59	0,00	0,00	0,00	2,51	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
TOTAL:	9.214,11	9.030,89		1.485,76		229,31		3.283,34		0,00		611,30		100,40		7,00		0,00	



Table 13

KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES“								
Expropriated areas on active open cast mines of MB Kolubara in 2019 (ha)								
Year	OCM Field B/C	OCM Field D	OCM Veliki Crljeni	OCM Tamnava – West Field	Village Vreoci resettlement	OCM Field E	OCM Radljevo	Watercourse and dam repair – The Kolubara, Vranicina, Skobaljski Potok rivers and Kladnica Dam
2017.	5,46	-	-	-	64,80	20,15	86,33	4,63
2018.	-	-	-	3,42	40,04	26,94	64,88	-
2019.	0,35	-	0,64	34,26	116,22	70,51	28,13	-
Total expropriated areas	5,81	-	0,64	37,68	221,06	117,60	179,34	4,63

1.2.4. Environmental Noise Measurement

Measuring point for environment noise measurement in 2019:

- Measuring point the House of Culture Burovo – 21 March 2019;
- Measuring point the church in Baroševac – 15 August 2019;
- Measuring point Radljevo – 5 November 2019.

Noise measurement results are shown in the Table 14

Table 14

KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES”	
Noise level in 2019 (dB)(A)	
Measuring date	21 March 2019
Measuring point	House of Culture Burovo
	Competent level (dB)
Day level	41
Evening level	41
Night level	45
Measuring date	15 August 2019
Measuring point	The church in Baroševac
	Competent level (dB)
Day level	43
Evening level	42
Night level	42
Measuring date	5 November 2019
Measuring point	Radljevo
	Competent level (dB)
Day level	41
Evening level	40
Night level	38

Measurement were carried out with our equipment and by our employees. Application for laboratory certification for environmental noise measurement within the Environmental Department was submitted to the Accreditation Body of Serbia.

1.2.5. Waste

In 2019, Waste and Hazardous Substances Division activities involved the establishment of waste management systems, procurement of waste management equipment, signing of contracts with the operators licensed to sell – handle waste, reporting to the competent authorities, elaboration of tender documentation and waste sale contracts implementation.

Waste generated within the Branch “Open Cast Mines Baroševac” in 2019 is shown in the Table 15, in line with the Serbian waste management regulations.



Table 15

KOLUBARA BRANCH MB – BRANCH “OPEN CAST MINES”										
Waste generated in 2019										
	Official nomenclature of the Rules defining waste categories, its testing and classification (OG RS No. 56/10 and 93/2019)		Measuring unit	Open cast mine/Facility						
				"Field D"	"Field B"	"Tamnava West Field"	"Tamnava East Field"	Auxiliary Machi.	Total	Note
	Name	Index number		Generated waste amounts						
1.	Used printer cartridge other than the one indicated under 08 03 17	08 03 18	t	0,059	0,000	0,023	0,050	0,000	0,132	Used printer cartridge
2.	Scraping and processing of ferrous metals	12 01 01	t	5,000	3,640	0,000	1,525	0,000	10,165	Iron and steel scrapings
3.	Scraping and processing of non-ferrous metals	12 01 03	t	0,040	0,000	0,000	0,000	0,000	0,040	Non-ferrous metals processing scrapings
4.	Mechanical emulsions and solutions without halogenated matters	12 01 09*	t	0,000	0,000	6,520	0,000	16,900	23,420	Mechanical emulsions and solutions without halogenated matters
5.	Waste not otherwise specified	12 01 12*	t	0,000	0,000	6,770	0,000	0,000	6,770	Wax and oil (oil mixtures, oils mixed with various impurities)
6.	Waste not otherwise specified	12 01 99	t	0,000	5,000	0,000	0,000	0,000	5,000	Welding paste ZIS 218
7.	Mineral non-chlorinated hydraulic oils, oils for gearboxes and lubrication	13 02 05*	t	0,000	0,000	1,600	0,000	16,900	18,500	Motor oils, gearbox oils
8.	Sludge from oil/water separator	13 05 02*	t	0,000	2,500	0,000	0,000	34,420	36,920	Residue from oil/water separator
9.	Waste not otherwise specified	13 08 99*	t	0,000	0,000	10,660	0,000	0,000	10,660	Grease and oils containing impurities, filtration oil residue
10.	Packaging containing residues of substances or contaminated by hazardous substances	15 01 10*	t	0,000	1,770	1,900	0,000	3,170	6,840	Waste metal packaging used for oil and lubricants
11.	Absorbent and filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	0,340	3,310	0,167	1,060	4,580	9,457	Oil and air filters, oily wiping cloth, working clothes
12.	Used tires	16 01 03	t	0,000	1,958	0,000	0,000	20,160	22,118	Tires
				0,000	0,600	0,000	0,000	0,000	0,600	Rubber gaskets, wipers, roll rings



				0,000	0,000	0,000	0,000	0,000	0,000	Waste conveyor belting with steel cord
13.	Used vehicles, containing neither liquids nor other hazardous components	16 01 06	t	0,000	0,000	0,000	0,000	7,760	7,760	Used vehicles and their parts
14.	Waste not otherwise specified – iron and steel	16 01 99 / 17 04 05	t	0,000	0,000	0,000	0,000	877,540	877,540	Waste construction machines and their parts
15.	Organic waste not including hazardous matters	16 03 05*	t	0,000	0,000	0,000	0,140	0,000	0,140	Waste hydrazine
16.	Lead batteries	16 06 01*	t	0,800	2,120	1,234	0,000	0,000	4,154	Lead accumulators
17.	Ni-Cd batteries	16 06 02*	t	0,900	0,000	0,000	0,000	0,000	0,900	Ni-Cd batteries
18.	Copper, bronze, brass	17 04 01	t	0,178	0,000	0,041	0,000	0,000	0,219	Copper
19.	Iron and steel	17 04 05	t	20,000	70,460	3,810	3,000	0,000	97,270	Alloy steel (crawler platforms, crusher hammers, excavator teeth)
				85,000	1,150	0,000	0,000	0,000	86,150	Iron and steel with rubber coating
				0,000	0,000	0,000	0,000	0,000	0,000	Iron over 6 mm
				93,400	63,843	0,000	109,600	0,000	266,843	Iron and steel sheets up to 3 mm (switching cabinets, vulcanization containers)
				170,000	188,640	5,925	7,000	46,660	418,225	Iron and steel over 3 mm (sheets, idlers, shafts, structures, steel ropes)
20.	Cables other than those specified under 17 04 10	17 04 11	t	11,000	0,300	0,000	17,460	0,000	28,760	High voltage copper cables with insulation
				4,285	0,000	0,000	0,000	0,000	4,285	Low voltage copper cables with insulation
21.	Insulation materials containing asbestos	17 06 01*	t	15,000	11,000	0,000	0,000	0,000	26,000	Constructing insulation boards containing asbestos
22.	Plastics and rubber	19 12 04	t	0,000	0,000	2,970	0,000	0,000	2,970	Wipers, rubber gaskets, rubber idler rings



23.	Other waste from waste mechanical treatment containing hazardous substances	19 12 11*	t	2,700	0,000	0,000	0,000	0,000	2,700	Oily rubber-plastic gaskets and hydraulic tubes
24.	Discarded electrical and electronic equipment other than those indicated under 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	0,000	0,002	0,000	5,000	0,000	5,002	Electro-hydraulic thruster brake, other
25.	Discarded electrical and electronic equipment other than those indicated under y 20 01 21, 20 01 23 and 20 01 35	20 01 36	t	1,300	0,000	0,000	0,000	0,000	1,300	Waste electric motors
				0,000	5,920	0,112	35,000	0,000	41,032	El. Tools, devices and equipment
26.	Scrap metal contaminated with hazardous substances	17 04 09*	t	7,150	0,000	0,000	0,000	0,000	7,150	Oiled idler bearings
27.	Plastics	20 01 39	t	0,000	0,000	0,008	0,000	0,000	0,008	PET packaging
		15 01 02		0,000	5,920	0,000	0,000	0,000	5,920	Plastic – plastic rings

B MB KOLUBARA BRANCH - "PRERADA" BRANCH AND "KOLUBARA METAL" BRANCH

B.1. „PRERADA” BRANCH

MB "Kolubara" Branch – "Prerada" Branch performs the processing and enrichment of raw coal from "Field B/C" and "Field D" open cast mines. Obtained coal is used to supply the power plants, market sale, for industrial consumers, etc.

MB "Kolubara" Branch comprises "Prerada" Branch, which comprises of the following organizational units:

- **Operations centre**
- **Dry separation – unit**
- **Coal enrichment – unit**
 - Wet separation
 - Drying and classification plant
 - Heating plant
 - Maintenance
- **Railway transport – unit**
- **Coal and wastewater testing centre (accredited laboratory)**

All units were constructed based on the valid designs and they possess the necessary utilisation permits.

1.1. Overview and Status of Permits

Overview and status of permits in 2019 for "Prerada" Branch is given in Table 16

Table 16

MB KOLUBARA BRANCH – "PRERADA" BRANCH			
Overview and Status of Permits in 2019			
Unit	Permits, licenses and other necessary approvals, obtained in 2019 (number and date) Project name and status	New requests for obtaining or extension of valid permits	Note
Enrichment Unit RU Heating plant	PWSE Srbijavode issues a water permit with a new term of validity of PE "Elektroprivreda Srbije" Branch MB Kolubara OU "Prerada" for the storage of petroleum products for the needs of the facility "Toplana" and discharge of atmospheric waste water and condensates of the steam used to heat the oil within the "Heating Plant" complex within the branch "Prerada", located at CP 1828/1 CM Vreoci Lazarevac Municipality on the territory of the city of Belgrade No. 04.08-389256/1-2019 as of 12 July 2019.	-	2 years from the date of receiving the decision.
OC "Prerada", Vreoci	The permit is issued to the project manager, "Kolubara" Branch OU "Prerada" – Lazarevac, for the Environmental Impact Assessment study of the Project of the construction of WWTP within OU "Prerada", on the cadastral plot no. 1820 CM Vreoci, 1820 KO Вреоци, Lazarevac Municipality no. 353-02-1837/2017-02 dated 26 January 2018.	-	-

1.2. Monitoring and Environmental Impact

1.2.1. Air Quality Measurements

No air quality measurements and monitoring were performed within the “Prerada” Branch impact zone in 2019. Air quality in the area covered by the MB “Kolubara” Branch organisational units is monitored by the City of Belgrade automatic air quality monitoring network.

Belgrade automatic air quality monitoring network, under the jurisdiction of the City of Belgrade, inter alia includes the measuring points on the territory of Lazarevac in the town centre, where soot, SO₂, NO₂, O₃ and PM₁₀ are measured.

1.2.2. Emission Measurements of Matters Affecting Air Quality

OU Heating Plant Vreoci is a thermal and power facility generating superheated steam used by technological processes, for heating of industrial facilities and the town of Lazarevac, of the capacity 2x60 MW. Flue gases are treated by an electrostatic precipitator and discharged into the air through an 80m high stack.

During 2019, individual measurements of air pollutants were conducted by an accredited laboratory of the Occupational Safety Institute Novi Sad. The Monitoring Programme included measurements of flue gas conditions (temperature, pressure and humidity), flow rate, oxygen content, mass concentrations and emission factors for sulphur dioxide (SO₂), nitrogen oxides (NO_x–NO₂), carbon monoxide (CO), hydrogen chloride, hydrogen fluoride and powdery substances.

Legal compliance was evaluated by comparing the measured emissions prescribed by the Regulation stipulating air pollutants emission limit values (OG RS No. 6/2016) and the Large Combustion Plants Directive 2001/80/EC.

Table 17 provides an overview of the results of individual air pollutants measurements for the Vreoci Heating Plant conducted in 2019.

Table 17

MB KOLUBARA BRANCH – “PRERADA” BRANCH			
Individual measurements of air pollutants emission for 2019			
Mass concentrations of air pollutants (mg/Nm ³)			
Heat output MWth120 (2 x 60MW)			
Organisational unit	Heating Plant Vreoci		
Boiler	1	2	
Date	5 December 2019	17 April 2019	5 December 2019
SO ₂	1.836,94	1.504,82	1.745,44
NO _x (NO ₂)	405,50	183,01	359,27
CO	78,65	143,24	148,13
Particulate matter	63,99	92,56	84,06

Note: Pursuant to the Directive on the limitation of emissions of certain pollutants into the air from large combustion plants (Off. Gazette of RS, no. 6/16), Article 5 stipulates that old large combustion plants do not have to comply with individual ELVs if from the date of entry into force of the mentioned Directive they are included in the preliminary application for the National Emission Reduction Plan from the stationary large combustion plants. OC Vreoci is included in the National Emission Reduction Plan.

Table 18 provides an overview of air pollutants emissions: powdery substances, SO₂, NO₂ and CO₂ for the “Prerada” Branch in 2019. Annual SO₂ and NO₂ emissions were calculated using the measured mass concentrations, flue gas flow rate and unit operating hours, while CO₂ emissions were determined based on fuel consumption data (given in table 19) and ECF - emission correction factor.

Table 18

MB KOLUBARA BRANCH – “PRERADA” BRANCH				
Air pollutants emissions in 2019 - Individual emission measurements				
Facility	Vreoci Heating Plant t/year			
	Particulate matter	SO₂	NO_x (NO₂)	CO₂
Boiler 1	73,76	1.361,07	259,82	233.162,57
Boiler 2				
TOTAL: MB KOLUBARA BRANCH – “PRERADA” BRANCH	73,76	1.361,07	259,82	233.162,57

Table 19

MB KOLUBARA BRANCH – “PRERADA” BRANCH		
Fuel consumption in 2019		
Facility	Vreoci Heating Plant t/year	
	coal	oil fuel
BOILER 1	193.326,00	183,80
BOILER 2		
TOTAL: MB KOLUBARA BRANCH – “PRERADA” BRANCH	193.326,00	183,80

1.2.3. Emission Measurements of Matters Affecting Water Quality

Process water is used in the technological process and coal enrichment (wet separation, drying plant, heating plant) from the water intake from the Kolubara River reservoir. The largest process water amounts are used in the “Prerada” Branch to generate superheated steam, ash and slag transport and wet coal separation. “Prerada” Branch also operates the Vreoci waterworks, supplying potable water to industrial facilities and the Vreoci village.

Wastewater is generated during the technological process of lignite processing and enrichment (wet separation, drying plant, heating plant) - chemical treatment of boiler water and sanitary water treated by the wastewater treatment plant.

Wastewater treatment plant comprises a receiving tank, filter sedimentation tank, fast mixing tank, Emser filters, secondary sedimentation tank, lagoons and purified water collectors. The treated water from the wastewater treatment plant is discharged through the gauge station into a channel and transported to the Kolubara River via a 7km long channel.

The Monitoring Programme includes the following types of water:

- The Kolubara River water upstream of the wastewater discharge;
- Wastewater entering the treatment system;
- Wastewater leaving the treatment system;
- The Kolubara River water upstream of the wastewater discharge.

Testing includes the determination of physical-chemical and microbiological characteristics of water which are of hygiene, water management and technical-technological importance, as follows: water appearance, visible waste materials, water temperature, air temperature, turbidity, colour, pH, sulphates, conductivity, ammonia, total nitrogen, chloride, KMnO₄ demand, COD, BOD₅, iron, manganese, and filtered water vaporisation residue, unfiltered water vaporisation residue, suspended solids, particulate matter, phenol matter, arsenic, mineral oil, and microbiological analysis of water.

Quality control of groundwater was performed in 6 piezometers.

During 2019, testing was carried out by the authorized and accredited laboratory of the Occupational Safety Institute Novi Sad. Reports presenting the quality control of the wastewater, treated water, Kolubara River water and groundwater within the "Prerada" Branch impact zone are submitted to: the Ministry of Environmental Protection, Public Water Company "Srbijavode", City Administration - Department for Utilities and Housing Services - Water Division, PE Electric Power Industry of Serbia, and the Secretariat (City of Belgrade Environmental Division for environmental protection).

Table 20 shows the groundwater quality data analysis in the vicinity of the wastewater treatment plant. Evaluation of legal compliance was done by comparing the hazardous and harmful substances concentrations values measured in piezometers with remediation values of hazardous and harmful substances concentration and values indicating considerable groundwater contamination.

Table 20

MB KOLUBARA BRANCH – "PRERADA" BRANCH		
Groundwater quality in 2019		
Concentration	RV ¹	Organizational Unit Prerada
Arsenic (mg/l)	0,06	All measured values were below remediation value (<0,003-0,060)
Phenols (mg/l)	2	All measured values were below remediation value (<0,1)
Mineral oils (mg/l)	0,6	All measured values were below remediation value (<0,01- 0,069)

RV¹ - remediation values of concentrations of hazardous and harmful substances and values potentially indicating significant groundwater contamination under the Regulation establishing a program of systematic soil quality monitoring, indicators for assessing the risk of soil degradation and remediation programs development methodology (OG RS No. 88/2010).

Table 21 shows wastewater quality data analysis at the treatment plant inlet and outlet in 2019.

Wastewater treatment plant discharges do not adversely affect the quality of the recipient, i.e. the Kolubara River; there is no significant change in water quality of the Kolubara River.

Table 21

MB KOLUBARA BRANCH – "PRERADA" BRANCH		
Wastewater treatment plant operating results in 2019		
Parameter	Concentration (mg/l)	
Pollutant	Plant inlet	Plant outlet
Suspended solids	3.600,00-6.060,00	183,33-920,00
Organic substances COD	3.257,13-4.584,06	199,10-1.012,65
Phenols	0,272-4,521	0,023-0,174
Arsenic	0,091-0,199	0,012-0,154

1.2.4. Emission Measurements of Matters Affecting Soil Quality

During 2019 no physical-chemical soil testing in the "Prerada" Branch site was carried out, considering that the analysed soil samples for 2011 and 2012 did not reach values requiring remediation measures in accordance with the Regulation establishing a program of systematic soil quality monitoring, indicators for assessing the risk of soil degradation and remediation programs development methodology (OG RS No. 88/10).

1.2.5. Environmental Noise Measurements

Noise level measurements and the "Prerada Branch" living environment noise impact assessment in 2019 was conducted by the accredited laboratory "Occupational Safety Institute" Novi Sad. Noise level measurements was conducted at two measuring points, namely:

Measuring point 1 is in the northern part of the complex, in the direction of the Drying plant at approximately 380m distance from the facility, and 50m from the railway line. On a clear space with no facilities or any reflecting surfaces in the immediate proximity.

Measuring point 2 is in the southern part of the complex, in the direction of Dry separation at approximately 200m distance from the facility, and 50m from the railway line. On a clear space with no facilities or any reflecting surfaces in the immediate proximity.

Table 22 shows noise measurements data for “Prerada” Branch unit in 2019.

The assessment of measured noise levels was conducted on the basis of noise indicators limit values at open space and relevant noise levels (additional noise indicators) proscribed by Regulation on Noise Indicators, Limit Values, Methods for Evaluating Indicators of Noise, Disturbance and Harmful Effects of Noise in the Environment (“RS Official Gazette”, No. 75/10).

Table 22

MB KOLUBARA BRANCH – “PRERADA” BRANCH				
Noise levels in 2019 dB (A)				
Noise indicators limit values, Regulation stipulating noise indicators, limit values, methods assessing noise indicators, disturbance levels and harmful living environment noise effects, “RS Official Gazette” No. 75/2010)	*Closed areas		Day and evening	Night
			35	30
	Open areas	Tourist areas, camps and school zones	50	45
		Purely residential areas	55	45
		Business and residential areas, trading-residential areas and children’s playgrounds	60	50
		City centre, trading, crafts, administrative zones containing flats, zones along motorways, state and city roads	65	55
	Industrial, storage and service areas and transport routes without residential buildings	At the border of this zone noise must not exceed the limit value in the zone with which it is bounded.		
“Prerada” Branch	Measuring point 1		Measuring point 2	
23 January 2019				
Referent measuring time interval (h)	*L _{Aeq,30min.}	**L _{RAeq,30min.})	*L _{Aeq,30min.}	**L _{RAeq,30min})
12 Day and evening 06 - 18 hours	57,0	57	54,0	54
	57,0	57	53,0	53
4 Day and evening 18 - 22 hours	55,0	55	52,0	52

*Noise levels L_{Aeq,30min.} dB(A) for day and evening

**Relevant noise levels L_{RAeq,30min.} dB(A)

1.2.6. Waste

Waste amounts generated in 2019 in “Prerada” Branch are shown in Table 23, according to Serbian waste management legislation.

Table 23

MB KOLUBARA BRANCH – “PRERADA” BRANCH					
Generated types of waste in 2019					
Official nomenclature of the Rules defining waste categories, its testing and classification ("RS Official Gazette", No. 56/2010 and 93/2019)					
Number	Name	Index number	Unit	Waste amount	Note
1.	Packaging containing residues of substances or contaminated by hazardous substances	15 01 10*	t	0,000	Packaging waste from the used oils and lubricants
2.	Discarded non-organic chemicals with hazardous substances	16 05 07*	t	1,360	Waste non-organic chemicals
3.	Iron and steel	17 04 05	t	32,300	Iron and steel to 3 mm (steel sheets, profiles, el.cubicles...)
4.	Iron and steel	17 04 05	t	9,115	Iron and steel over 3 mm (steel sheets, profiles, el.cubicles...)
5.	Iron and steel	17 04 05	t	198,480	Iron and steel - wagons
6.	Detergents containing hazardous matters	20 01 29*	t	1,580	Detergents
7.	Discarded electrical and electronic equipment other than the one indicated under 20 01 21; 20 01 23 and 20 01 35 containing hazardous substances	20 01 35*	t	2,334	Discarded electrical equipment

B.2. “KOLUBARA-METAL” BRANCH

Within MB “Kolubara” Branch – “Kolubara-Metal” Branch performs designing, production, assembly and maintenance of mining, energy and processing equipment.

“Kolubara-Metal” Branch comprises of the following organizational parts, with short descriptions of technological processes:

- **Operations Centre;**
- **Production unit:** mechanical and thermal treatment of materials and molding, machine parts washing, washing oily and greasy surfaces of the spare parts;
- **Overhaul unit:** overhaul of mining equipment, machine parts washing, cleaning of oily and greasy surfaces of the spare parts;
- **Montaža Unit,** relocated from the Branch, performs electromechanical assembly of mining, processing and thermal power equipment and facilities;
- **ELMONT Unit,** relocated from the Branch, manufactures spare parts and assemblies workshops, revitalization and regeneration of electrical equipment, maintenance of power and telecommunication facilities on the field and, car and electrical equipment washing;
- **Own maintenance.**

All the above units were constructed based on the valid designs and they possess utilisation permits.

1.1. Overview and Status of Permits

There were no new permits for Kolubara-Metal Branch in 2019. Overview and status of inspections and decisions are given in the Table 24.

Table 24

"KOLUBARA MB" BRANCH – "KOLUBARA-METAL" BRANCH		
Overview and status of inspections and divisions in 2019		
No.	Mark	Name
1.	501-25/2019-08 01.04.2019.	Order for office inspection
2.	501-109/2019-08 20.12.2019.	Order for office inspection
3.	501-109/2019-08 31.12.2019.	Minutes on inspection in ELMONT Unit

1.2. Monitoring and Environmental Impact

1.2.1. Emission Measurements of Matters Affecting Air Quality

In accordance with the Law and Decision of Environmental Protection Inspector of the competent Ministry, Kolubara-Metal Branch shall measure air emissions from the production capacities within Production Unit as well as boiler emission measurements within Montaža and ELMONT Units.

According to the Contract no. E.04.04-141/127-2019 dated 16 April 2019, for provision of the service "Air Quality Analysis", individual air emission measurements were performed by accredited laboratory Occupational Safety Institute, Novi Sad. The Monitoring Programme included measurements of flue gas conditions (temperature, pressure and humidity), flow rate, mass concentrations and emission factors for sulphur dioxide (SO₂), nitrogen oxides (NO_x-NO₂), carbon monoxide (CO), dust, and organic compounds expressed as a total carbon.

Measured emission values were compared to emission limit values prescribed by the Regulation. Emission measurement results are given in tables 25 and 26, per metering points

Table 25

"KOLUBARA MB" BRANCH – "KOLUBARA-METAL" BRANCH					
Air emission measurements in 2019					
Emitted matter	GOSTOL line (E _m) (mg/Nm ³)	Plasma cutter (E _m) (mg/Nm ³)	ELV (mg/Nm ³)	For mass flow (g/h)	Assessment of results
Nitrogen oxides NO ₂	<2,05	<2,05	350	≥1.800	Compliant with legal regulations*
Sulphur oxides SO ₂	<2,86	<2,86	350	≥1.800	Compliant with legal regulations*
Particulate matter	1,36	40,72	150	≥200	Compliant with legal regulations*

E_m - the highest value of emission measurement results reduced by the value of the measurement uncertainty.

*Legal regulations: Regulation on limit values of air pollutant emissions from stationary sources of pollution, except from combustion installations ("Official Gazette of the RS" No 111/15) – APPENDIX, GENERAL LIMIT VALUES OF EMISSIONS, Limit values of emissions for total particulate matters and Limit values of emissions for non-organic gas matters.

Table 26

MB KOLUBARA BRANCH – OU "KOLUBARA METAL"				
Measurements of air pollutants emission for 2019				
Emitted matter	Mounting Unit-coal boiler (E _m) (mg/Nm ³)	ELMONT Unit-coal boiler (E _m) (mg/Nm ³)	ELV (mg/Nm ³)	Assessment of results
Emitted matter	2.892,06	941,55	350	Not compliant with legal regulations*
CO	1.103,53	1.210,32	1.700	Compliant with legal regulations*
SO ₂	154,38	146,68	650	Compliant with legal regulations*
Nitrogen oxides NO ₂	No measurements	104,34	150	Compliant with legal regulations*

E_m - the highest value of emission measurement results reduced by the value of the measurement uncertainty.

*Legal regulations: Regulation prescribing air emission measurements from stationary sources of pollution ("Official Gazette of RS" no. 5/16).

Analysis results show there is no excess emission according to the Regulation, except for the boiler rooms in the Unit for mounting and Unit ELMONT in Lajkovac and painting facility, within the specific part of the new steel structures hall in the Production Unit. The abovementioned off limits for carbon monoxide (CO), which occurred in the boiler rooms in the Unit for mounting and Unit ELMONT, happened partially due to obsolete boilers and congestion during heating.

1.2.2. Emission Measurements of Matters Affecting Water Quality

Treated water from wastewater treatment plant (separator), installed at washing points of mining equipment and car parts, as well as regenerated parts of equipment for excavators, flows into collectors of atmospheric wastewaters and is transported from Kolubara-Metal Branch via rain sewage into PUTOKS facility and then through the canal into Kolubara River.

According to the Law on Waters (RS Official Gazette, no. 30/10, 93/12, 101/16 and 95/18), the control of wastewater and treated water from OU Kolubara Metal plants was conducted by the authorized and accredited laboratory.

In accordance with the Contracts No. E.04.04-204/288-18 dated 6th July 2018 and E.04.04-141/276-2019 dated 5th July 2019, testing was conducted by the authorized and accredited laboratory of Occupational Safety Institute, Novi Sad. Four series of wastewater and treated water quality testing were performed. Testing included physical-chemical and microbiological characteristics of water which are of hygiene, water management and technical-technological importance, as follows: water appearance, visible waste materials, water temperature, air temperature, turbidity, colour, pH value, sulphates, specific conductivity, ammonia, total nitrogen, chloride, KMnO₄ demand, COD, BOD₅, iron, manganese, filtered water vaporisation residue, unfiltered water vaporisation residue, suspended solids, particulate matter, total phosphates, phenol matter, arsenic, mineral oil, and microbiological analysis of water. The results physical-chemical testing of wastewater are given in Tables 27, 28, 29 and 30.

Table 27

KOLUBARA MB BRANC – OU “KOLUBARA-METAL”							
Wastewater physical-chemical testing in 2019 – first quarter							
Tested parameter	Measured value						Reference value *
	I	II	III	IV	V	VI	
Water temperature (°C)	13.2	10.4	17.8	10.2	12.0	9.5	30
Turbidity (NTU)	6.1	4.6	4.9	19	288	16.4	-
Conductivity (µS/cm)	623	664	490	449	611	336	-
Total phosphorus (mg/l)	0.301	0.448	0.232	0.235	0.846	0.134	-
Fe (mg/l)	0.74	1.97	3.48	1.98	21.53	0.64	-
Mn (mg/l)	0.11	0.20	0.34	0.344	0.554	0.037	-
As (mg/l)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
Mineral oil (TPH) (mg/l)	5.257	7.461	<0.01	0.397	0.124	1.358	10
Total number of fecal coliform bacteria (cfu/100ml)	<60	5.8x10 ³	2x10 ⁴	<60	7.7x10 ⁴	<60	-

Table 28

KOLUBARA MB BRANC – OU “KOLUBARA-METAL”							
Wastewater physical-chemical testing in 2019 – second quarter							
Tested parameter	Measured value						Reference value *
	I	II	III	IV	V	VI	
Water temperature (°C)	26.5	22.2	20.8	24.3	20.5	21.7	30
Turbidity (NTU)	4.60	133	8.9	42	26	54	-
Conductivity (µS/cm)	577	311	617	572	657	277	-
Total phosphorus (mg/l)	0.328	0.275	0.128	0.175	0.532	0.113	-
Fe (mg/l)	0.631	1.74	0.715	0.612	0.378	1.57	-
Mn (mg/l)	0.331	0.089	0.064	0.095	0.047	0.368	-

As (mg/l)	0.013	0.014	<0.01	<0.01	<0.01	0.021	-
Mineral oil (TPH) (mg/l)	<0.01	0.422	<0.01	0.149	0.358	<0.01	10
Total number of fecal coliform bacteria (cfu/100ml)	2.9x10 ³	1.2x10 ²	4.7x10 ³	1x10 ³	2.6x10 ⁵	<60	-

Table 29

KOLUBARA MB BRANC – OU “KOLUBARA-METAL”							
Wastewater physical-chemical testing in 2019 – third quarter							
Tested parameter	Measured value						Reference value *
	I	II	III	IV	V	VI	
Water temperature (°C)	23.4	19.2	20.8	22.2	21.4	19.4	30
Turbidity (NTU)	45	237	4.15	879	132	260	-
Conductivity (µS/cm)	721	501	654	632	707	301	-
Total phosphorus (mg/l)	0.28	0.53	0.132	1.195	0.247	0.505	-
Fe (mg/l)	0.844	4.8	3.25	9.09	5.41	6.26	-
Mn (mg/l)	0.359	0.224	0.424	0.251	0.233	0.523	-
As (mg/l)	<0.01	0.028	<0.01	0.015	<0.01	0.025	-
Mineral oil (TPH) (mg/l)	0.987	0.443	0.249	0.125	<0.01	0.072	10
Total number of fecal coliform bacteria (cfu/100ml)	1.6x10 ⁴	4x10 ²	1.5x10 ⁴	5.2x10 ²	4.5x10 ⁴	60	-

Table 30

KOLUBARA MB BRANC – OU “KOLUBARA-METAL”							
Wastewater physical-chemical testing in 2019 – forth quarter							
Tested parameter	Measured value						Reference value *
	I	II	III	IV	V	VI	
Water temperature (°C)	12.3	12.0	29	10.8	12.6	12.2	30
Turbidity (NTU)	115.0	390	6.75	15.5	16.0	67.5	-
Conductivity (µS/cm)	680	204	542	745	705	373	-
Total phosphorus (mg/l)	0.73	4.60	0.73	0.74	0.73	0.41	-
Fe (mg/l)	5.38	5.45	1.60	1.31	0.859	1.79	-
Mn (mg/l)	0.35	0.106	0.1	0.553	0.07	0.196	-
As (mg/l)	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	-
Mineral oil (TPH) (mg/l)	1.673	31.96	<0.01	0.084	0.593	6.775	10
Total number of fecal coliform bacteria (cfu/100ml)	1.1x10 ³	3.9x10 ²	9.2x10 ²	60	1.5x10 ³	60	-

*Reference value: Regulation prescribing water emission limit values and deadlines for their reaching (“RS Official Gazette” no. 67/2011, 48//2012 and 1/2016). Emission limit values for wastewater containing mineral oil, Table 4.1. Emission limit values at surface water discharge point.

Measuring points I, II, IV and VI represent outlets from the separator within Production Unit, Overhaul Unit and ELMONT Unit in Lajkovac, and measuring points III and V are outlets of rain sewage from Production Unit and Overhaul Unit.

During the sampling on certain measuring points, per quarters, samples at outlets were not taken due to separators clogging. Certain represented results do not give a real picture of the separators efficiency due to their clogging and heavy precipitation in intervals prior to and after the sampling.

Based on the represented results it can be concluded that the efficiency of wastewaters treatment was reduced and that the wastewaters at separators outlets were not categorized as having satisfactory quality regarding reaching the levels proscribed by the Regulation, and that separators do not perform their function. Likewise, the concentration of suspended solids, organic matter (COD) was significantly increased, while the concentration of iron, phenol and arsenic in wastewaters at the separator outlet significantly fluctuate. The reason for this reduction in the efficiency of wastewaters treatment is the impossibility of cleaning the oily sludge separators, due to non-existing hazardous waste disposal during the period prior to the sampling. Namely, in order to maintain the functionality of the plant for wastewaters treatment (separators), the cleaning of oily sludge is necessary, by using the service of hazardous waste disposal which is, by contract, provided by operators –

authorized persons for hazardous waste management. An information was received from the Person responsible for hazardous waste management for the period from 25th March until 15th April 2019 regarding the cleaning of washing point and emptying of separators. Based on this information on establishing a functional state of the separators, complete sampling from both separator inlet and outlet was organized.

1.2.3. Waste

Waste amounts generated in 2019 in "Kolubara-Metal" Branch are presented in Table 31, according to Serbian waste management legislation.

Table 31

"KOLUBARA MB" BRANCH – OU "KOLUBARA-METAL"					
Generated types of waste in 2019					
Official nomenclature of the Rules defining waste categories, its testing and classification ("Official Gazette of RS". no. 56/2010 and 93/2019)					
Number	Name	Index number	Unit of measure	Waste amount	Note
1.	Used printer cartridge	08 03 18	t	0,460	Used cartridge
2.	Chips from ferrous metals processing	12 01 01	t	205,040	Chips iron and steel
3.	Chips from of non-ferrous metals processing	12 01 03	t	27,340	Chips from non-ferrous metal processing (copper, bronze, aluminum)
4.	Other emulsions	13 08 02*	t	84,720	Sludge from washing points
5.	Metal packaging of oil and lubricants	15 01 10*	t	0,480	Packaging containing hazardous substances from oil and lubricants
6.	Absorbent and filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	1,240	Oily wiping cloth
7.	Copper, bronze, brass	17 04 01	t	16,340	Waste copper and bronze
8.	Aluminum	17 04 02	t	15,200	Aluminum cords
9.	Iron and steel	17 04 05	t	54,580	Alloy steel over 6 mm
				698,120	Iron and steel over 3 mm (rolls, cords, shafts)
				101,700	Alloy steel (plate segments, excavator teeth, etc.)
				376,880	Waste steel rolls
10.	Metal waste that contains hazardous substances	17 04 09*	t	22,840	Oily bearings
11.	Insulating material containing asbestos	17 06 01*	t	12,600	Construction asbestos plate

The cumulative amount of waste for the Kolubara MB (Open Cast Mines "Baroševac" Branch, "Prerada" Branch and "Kolubara-Metal" Branch) generated in 2019 is presented in Table 32, in line with the Republic of Serbia waste management legislation.

Table 32

KOLUBARA MB BRANCH – OU POVRŠINSKI KOPOVI BAROŠEVAC, OU PRERADA AND OU KOLUBARA METAL													
Number	Official nomenclature of the Rules defining waste categories, its testing and classification ("Official Gazette of RS" no. 56/2010 and 93/2019)		Unit of measure	Generated types of waste in 2019									Note
				“Open cast mine – Baroševac”						Total: Prerada	Total: Kolubara Metal	Total: Kolubara MB	
				"Field D"	"Field B"	"Tamnava Zapadno Polje"	"Tamnava Istočno polje"	Auxiliary mechanization	Total: OCM				
	Name	Index number		Generated waste amount									
1.	Used printer cartridges other than the one indicated under 08 03 17	08 03 18	t	0,059	0,000	0,023	0,050	0,000	0,132	0,000	0,460	0,592	Used cartridges
2.	Chips from ferrous metals processing	12 01 01	t	5,000	3,640	0,000	1,525	0,000	10,165	0,000	205,040	215,205	Chips from steel and iron
3.	Chips from non-ferrous metals processing	12 01 03	t	0,040	0,000	0,000	0,000	0,000	0,040	0,000	27,340	27,380	Chips from non-ferrous metals processing
4.	Wastes not otherwise specified	12 01 09*	t	0,000	0,000	6,520	0,000	16,900	23,420	0,000	0,000	23,420	Mechanical emulsions and solutions not containing halogens
5.	Wastes not otherwise specified	12 01 12*	t	0,000	0,000	6,770	0,000	0,000	6,770	0,000	0,000	6,770	Wax and grease (Grease mixture, oils containing various impurities)
6.	Wastes not otherwise specified	12 01 99	t	0,000	5,000	0,000	0,000	0,000	5,000	0,000	0,000	5,000	Solder paste ZIS 218
7.	Mineral non-chlorinated motor oils, gearbox and lubricating oils	13 02 05*	t	0,000	0,000	1,600	0,000	16,900	18,500	0,000	0,000	18,500	Motor oil, gearbox oils
8.	Sludge from oil/water separator	13 05 02*	t	0,000	2,500	0,000	0,000	34,420	36,920	0,000	0,000	36,920	Sludge from oil/water separator
9.	Other emulsions	13 08 02*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	84,720	84,720	Sludge from washing points

10.	Wastes not otherwise specified	13 08 99*	t	0,000	0,000	10,660	0,000	0,000	10,660	0,000	0,000	10,660	Grease and oils with impurities, sludge from oil filtering
11.	Packaging containing residues of substances or contaminated by hazardous substances	15 01 10*	t	0,000	1,770	1,900	0,000	3,170	6,840	0,000	0,480	7,320	Used metal barrels from oil and lubricants
12.	Absorbent and filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	0,340	3,310	0,167	1,060	4,580	9,457	0,000	1,240	10,697	Oil and air filters, oily cotton wiping cloth, working clothes
13.	Used tires	16 01 03	t	0,000	1,958	0,000	0,000	20,160	22,118	0,000	0,000	22,118	Pneumatics
				0,000	0,600	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Seal rubber, wipers, roll rings
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste conveyor belting with steel cord
14.	Used vehicles	16 01 06	t	0,000	0,000	0,000	0,000	7,760	7,760	0,000	0,000	7,760	Used vehicles and parts
15.	Wastes not otherwise specified – iron and steel	16 01 99 / 17 04 05	t	0,000	0,000	0,000	0,000	877,540	877,540	0,000	0,000	877,540	Waste construction mechanisation and parts
16.	Organic waste contaminated by hazardous substances	16 03 05*		0,000	0,000	0,000	0,140	0,000	0,140	0,000	0,000	0,140	Waste hydrazine
17.	Waste non-organic chemicals contaminated by hazardous substances	16 05 07*	t	0,000	0,000	0,000	0,000	0,000	0,000	1,360	0,000	1,360	Waste non-organic chemicals
18.	Lead batteries	16 06 01*	t	0,800	2,120	1,234	0,000	0,000	4,154	0,000	0,000	4,154	Lead accumulators
19.	Ni-Cd batteries	16 06 02*	t	0,900	0,000	0,000	0,000	0,000	0,900	0,000	0,000	0,900	Ni-Cd batteries
20.	Copper, bronze, brass	17 04 01	t	0,178	0,000	0,041	0,000	0,000	0,219	0,000	16,340	16,559	Copper
21.	Alluminum	17 04 02	t	0,000	0,300	0,000	0,000	0,000	0,000	0,000	15,200	15,200	Waste aluminum
22.	Iron and steel	17 04 05	t	20,000	70,460	3,810	3,000	0,000	97,270	0,000	101,700	198,970	Alloy steel (plate segments, crusher

													hammers, excavator teeth)
				85,000	1,150	0,000	0,000	0,000	86,150	0,000	376,880	463,030	Iron and steel with rubber lining
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	54,580	54,580	Iron over 6 mm
				93,400	63,843	0,000	109,600	0,000	266,843	32,300	0,000	299,143	Iron and steel sheets up to 3 mm (sheet, switching cabinets, vulcanization containers)
				170,000	188,640	5,925	7,000	46,660	418,225	9,115	698,120	1.125,460	Iron and steel over 3 mm (sheet, rolls, shafts, constructions, steel cords)
				0,000	0,000	0,000	0,000	0,000	0,000	198,480	0,000	198,480	Iron and steel - coaches
23.	Scrap metal contaminated with hazardous substances	17 04 09*	t	7,150	0,000	0,000	0,000	0,000	7,150	0,000	22,840	29,990	Oily bearings
24.	Cables other than those indicated in 17 04 10	17 04 11	t	11,000	0,300	0,000	17,460	0,000	28,760	0,000	0,000	28,760	High voltage copper cables with insulation
				4,285	0,000	0,000	0,000	0,000	4,285	0,000	0,000	4,285	Low voltage copper cables with insulation
25.	Insulating materials containing asbestos	17 06 01*	t	15,000	11,000	0,000	0,000	0,000	26,000	0,000	12,600	38,600	Construction insulation boards containing asbestos
26.	Plastics and rubber	19 12 04	t	0,000	0,000	2,970	0,000	0,000	2,970	0,000	0,000	2,970	Seal rubber, wipers, roll rings
27.	Other waste from mechanical waste treatment that contains hazardous substances	19 12 11*	t	2,700	0,000	0,000	0,000	0,000	2,700	0,000	0,000	2,700	Greasy rubber-plastic seals and hydraulic hoses
28.	Detergents containing hazardous substances	20 01 29*	t	0,000	0,000	0,000	0,000	0,000	0,000	1,580	0,000	1,580	Detergents

29.	Discarded electrical and electronic equipment other than those indicated under 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	0,000	0,002	0,000	5,000	0,000	5,002	2,334	0,000	7,336	Electro-hydraulic thruster brake, other
30.	Discarded electrical and electronic equipment other than those indicated under 20 01 21, 20 01 23 and 20 01 35	20 01 36	t	1,300	0,000	0,000	0,000	0,000	1,300	0,000	0,000	1,300	Waste electric motors
				0,000	5,920	0,112	35,000	0,000	41,032	0,000	0,000	41,032	El. tools, devices and equipment
31.	Plastics	20 01 39 15 01 02	t	0,000	0,000	0,008	0,000	0,000	0,008	0,000	0,000	0,008	PET packaging
				0,000	5,920	0,000	0,000	0,000	5,920	0,000	0,000	5,920	Plastics – plastic rings

Table 33 shows the implementation of the takeover amount of waste that "Kolubara" MB Branch had in the period from 1st January – 31st December 2019.

Table 33

"KOLUBARA" MB BRANCH			
Takeover amount of waste in 2019			
Number	Waste name	Waste index number	Takeover amount (kg)
1.	Scraping and processing of ferrous metals (iron and steel scrapings without admixtures)	12 01 01	88.060,000
2.	Scraping and processing of ferrous metals (shaving with impurities)	12 01 01	156.560,000
3.	Scraping and processing of non-ferrous metals – copper shaving	12 01 03	32.520,000
4.	Non-chlorinated mineral engine oils, gearbox oils and lubricating oils (motor and gearbox)	13 02 05*	16.900,000
5.	Used tires (pneumatics)	16 01 03	44.120,000
6.	Waste vehicles (passenger and carbo that do not contain any liquid or other hazardous components)	16 01 06	7.760,000
7.	Lead batteries (Waste lead accumulators)	16 06 01*	16.140,000
8.	Copper, bronze, brass (Waste enameled wire and copper wire with insulation)	17 04 01	12.280,000
9.	Copper, bronze, brass (chips)	17 04 01	4.740,000
10.	Aluminum – Aluminum cords and parts of couplings	17 04 02	15.200,000
11.	Iron and steel – up to 3 mm (sheet, other)	17 04 05	248.080,000
12.	Iron and steel – over 6 mm (constructions, rolls, shafts)	17 04 05	190.440,000
13.	Iron and steel – over 3 mm (sheet, profiles, rolls, shafts, steel cords)	17 04 05	604.080,000
14.	Iron and steel (rolls and shafts)	17 04 05	207.460,000
15.	Iron and steel (various dimensions and shapes)	17 04 05	406.200,000
16.	Iron and steel (non-complete decommissioned construction mechanization, parts and other related equipment)	17 04 05	736.060,000
17.	Iron and steel (shafts, gears, construction parts)	17 04 05	66.560,000
18.	Iron and steel (railway coaches)	17 04 05	197.940,000
19.	Iron and steel (with rubber lining)	17 04 05	94.740,000
20.	Iron and steel (Alloy steel, plate segments, crusher hammers, excavator teeth)	17 04 05	142.500,000
21.	Metal waste contaminated with hazardous substances, hazardous components other than those indicated under 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14 (oily bearings)	17 04 09* 16 01 21*	64.980,000
22.	Cables other than those indicated in 17 04 10 – HV, LV and telephone cords with insulation	17 04 11	21.640,000
23.	Hazardous electronic waste (Electro-hydraulic thruster brake)	20 01 35*	2.580,000
TOTAL: MB KOLUBARA BRANCH			3.377.540,000

Table 34 shows an overview of the realization of the disposed waste of "Kolubara" MB in the period from 1st January – 31st December 2019.

Table 34

"KOLUBARA" MB BRANCH			
Disposed waste in 2019			
No.	Waste name	Waste index number	Takeover amount (kg)
1.	Mechanical emulsions and solutions not containing halogens	12 01 09*	21.600,000
2.	Used wax and grease, waste not otherwise specified, grease mixtures, oils with various impurities – waste index numbers 120112* and 130899*; other fuels (including mixtures) waste fuel mixture oil, waste index number 130703*; organic waste containing hazardous substances (waste hyzardine)	12 01 12* 13 08 99* 13 07 03*	20.060,000
3.	Sludge from oil/water separators	13 05 02* 13 05 07* 13 05 08*	38.600,000
4.	Other emulsions (washing point cleaning, deposits from washing point)	13 08 02* 13 88 99*	84.720,000
5.	Absorbent and filter materials, including oil filters not otherwise specified, (wiping cloths, protective clothing contaminated by hazardous substances(oily wiping cloth, filters))	15 02 02*	15.020,000
6.	Ni-Cd batteries	16 06 02*	1.320,000
7.	Waste chemicals and decommissioned equipment containing hazardous materials (circuit breaker containing mercury)	16 05 07* 16 05 08* 16 02 13*	1.520,000
8.	Asbestos plates from object insulation. Roof covers containing asbestos	17 06 01*	19.520,000
9.	Detergents containing hazardous substances (waste household chemicals, cleaning agents)	20 01 29*	1.580,000
TOTAL: MB KOLUBARA BRANCH			203.940,000

1.3. Working Environment Monitoring, Occupational Health and Safety

The 2019 Occupational Safety and Health Reports include the following elements:

- **Working Environment Monitoring**
 - working environment noise measurement
- **Occupational Safety**
 - training
 - work injuries
- **Health**

1.3.1. Working Environment Monitoring

- **Working Environment Noise Measurements**

Working environment noise levels measurements results are given in Table 35

Table 35

"KOLUBARA" MB BRANCH		
Working environment noise in 2019		
Organizational unit	Registered noise level (dB(A))	Permitted noise level (dB(A))
Open Cast Mines	There was no measuring in 2019	
Prerada	At 302 points the measured noise was within the proscribed boundaries	
Metal	There was no measuring in 2019	
HQ	At 12 points the measured noise was within the proscribed boundaries, and it did not excede the proscribed boundaries	85
Project	At 2 points the measured noise was within the proscribed boundaries, and it did not excede the proscribed boundaries	85

1.3.2. Occupational Safety

Analysis of high-risk jobs was carried out and it was established that such workplaces (jobs) are adequately protected in line with legislation.

■ Training

Occupational health and safety training is conducted when new employees are recruited, when existing employees are transferred to other positions, when new technologies and tools are introduced. Trainings are both theoretical and practical.

Theoretical (general) training is performed by the Health and Safety Division introducing normative acts in the field of occupational safety and health to employees. Practical training is conducted at the workplace and implemented by line managers. Theoretical training of newly recruited employees and the ones transferred to new positions is performed regularly.

In 2019, occupational health and safety training was performed for 5,977 persons in "Kolubara" MB (employment, transfer to other positions, contractors, students employed under temporary and provisional contracts).

Under the Law on Mining and Geological Exploration, Occupational Health and Safety Law, Law on Fire Protection, OHS Regulations, and FP Regulations, the employer is under the obligation to perform OHS and FP testing of employees.

The training of employees is conducted in accordance with "Occupational Health and Safety Training Programme". Training and testing is conducted for employees working at job positions with higher risk, as well as for employees working at job positions that are not of higher risk.

OHS and FP testing is obligatory for all "Kolubara" MB Branch employees. Table 36 shows the number of employees who were tested for knowledge assessment.

Table 36

"KOLUBARA" MB BRANCH			
Testing in 2019			
Organizational unit	Invited	Tested	%
Open Cast Mines	6.424	5.809	90,43
Prerada	1.442	1.412	97,92
Metal	1.872	1.843	98,45
HQ	1.533	802	52,32
Project	78	9	11,54
"KOLUBARA" MB BRANCH	11.349	9.875	87,01

■ Work Injuries

Table 37 shows the 2019 work injuries data.

Table 37

"KOLUBARA" MB BRANCH						
Work injuries in 2019						
Organizational unit	Number of employees	Injuries – employees ratio				
		Minor	Severe	Fatal	Total	%
Open Cast Mines	6.424	133	39	1	173	2,69
Prerada	1.442	8	13	0	21	1,46
Metal	1.872	35	15	0	50	2,67
HQ	1.533	15	6	0	21	1,37
Project	78	0	0	0	0	0,00
TOTAL: "KOLUBARA" MB BRANCH	11.349	191	73	1	265	2,34

In 2019, one fatal injury occurred in “Kolubara” MB Branch.

1.3.3. Health

Medical examinations are performed by the Occupational Health Department of Đorđe Kovačević Lazarevac Medical Centre. Periodic medical examinations are performed annually, and employees working in high-risk workplaces and those operating at computer screens are referred to examination.

Table 38 presents 2019 periodic examinations data for employees working in high-risk workplaces.

Table 38

“KOLUBARA” MB BRANCH											
Employees’ work capability in 2019											
Organizational unit	Number of employees	Previous and periodical examinations				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Not capable	
		number	%	number	%	number	%	number	%	number	%
Open Cast Mines	6.424	6.259	97,43	5.964	95,29	4.135	69,33	1.718	28,81	111	1,86
Prerada	1.442	1.458	101,11	1.374	94,24	875	63,68	470	34,21	29	2,11
Metal	1.872	1.242	66,35	1.207	97,18	991	82,10	182	15,08	34	2,82
HQ	1.533	419	27,33	401	95,70	277	69,08	124	30,92	0	0,00
Project	78	18	23,08	18	100,00	12	66,67	6	33,33	0	0,00
TOTAL: “KOLUBARA” MB BRANCH	11.349	9.396	82,79	8.964	95,40	6.290	70,17	2.500	27,89	174	1,94

1.4. Public Complaints

Under the Act number 1201.68476/2-19 dated 12th February 2019, PE EPS notified The Protector of Citizens on the current affairs and the prospects of moving the remaining citizens of the settlement of Veliki Crljeni, Zeoke and Medoševac, accentuating that on 22nd November 2018 the Government of the Republic of Serbia defined the public interest for the expropriation into the so called “infrastructure corridor” in OCM Zeoke for 15 affected households. It was emphasized that further steps in moving depend on the possibilities of eliminating negative environment impacts in the settlement of Veliki Crljeni, i.e. planned development of mining activities in the settlement of Medoševac.

2. “KOSTOLAC” TPPS & OCMS BRANCH - OPEN CAST MINES

“Kostolac” TPPs and OCMS Branch is comprised of four organisational units:

- “Kostolac” A TPP
- “Kostolac” B TPP
- “Drmno” Open Cast Mine (Drmno OCM)
- “Ćirikovac” Open Cast Mine (Ćirikovac OCM)

2.1. Overview and Status of Permits

Table 39 shows the overview of permits and status of permits, licences and other necessary approvals for 2019.

Table 39

“KOSTOLAC” TPPS & OCMS BRANCH - OPEN CAST MINES			
Overview and status of permits for 2019			
Organizational unit	Granted permits and approvals (number and date)	New requests for permits or for existing permits extension	Note
OCM Drmno	Decision on Granting Water Consent no. 325-04-01817/2019-07 dated 31 st December 2019 on technical documents Additional Mining Project OCM Drmno for the capacity of tons of coal annually, Technical Project of Open Cast Mine Water Protection 2018 – 2022.	-	-

2.2. Monitoring and Environmental Impact

2.2.1. Air Quality Measurements

Air quality measurements in the vicinity of mines and “Kostolac” A and “Kostolac” B TPPs are conducted under an integral network of measuring points.

2.2.2. Emission Measurements of Matters Affecting Water Quality

▪ Dewatering System Waters

Water from the “Drmno” OCM dewatering system is mainly transported to the “Kostolac” B TPP cooling water reservoir, while smaller amounts are discharged into the Mlava River. Water from the Ćirikovac OCM dewatering system is accumulated in the mine vicinity. “Klenovnik” OCM water amounts are low and therefore not measured.

Drainage water quality control originating from the Drmno OCM dewatering system in 2019 was carried out by the authorized legal entity Mining and Metallurgy Institute – Bor and Occupational Safety Institute – Novi Sad. Table 40 shows the drainage water quality results for “Drmno” OCM in 2019.

Table 40

KOSTOLAC TPPs & OCMS BRANCH – OPEN CAST MINES			
Drainage water quality in 2019			
Drmno OCM	Draining well 3 (drainage lake inlet TEKO B)	Draining well 75 (northern section Drmno OCM)	Spillway station - Mlava Drmno OCM
Sulfates (mg/l)	61,09-119,80	8,65-12,73	58,41-89,76
Phenols (mg/l)	0,05-0,10	0,05-0,10	0,05-0,10
Electrical conductivity (µs/cm)	889-1015	451-865	695-900
Arsenic (mg/l)	0,0021-0,0190	0,0021-0,010	0,0021-0,010

▪ Sanitary Water

Potable and sanitary water used by the Drmno OCM comes from Bradarac water source. Potable water quality is controlled by the authorized legal entity Požarevac Health Protection.

Table 41 shows data on sanitary wastewater treatment device operation in 2019.

Table 41

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES		
Sanitary wastewater treatment device operation in 2019		
Pollutant concentration (mg/l)	BIODISC Drmno OCM	
Suspended matter (mg/l)		
Device inlet	0,90-24,0	
Device outlet	0,70-16,0	
5 days Biochemical oxygen demand (BOD ₅)		
Device inlet	3,0-14,0	
Device outlet	2,10-9,0	
Device efficiency assessment		Satisfies quarantees for suspended matters for all measurings

In 2019, sampling and testing of water quality was performed by the authorized legal entity on sanitary wastewater treatment plant inlet and outlet on the location of Drmno OCM.

Potable water used by the Ćirikovac and Klenovnik OCMs comes from the city waterworks system. water quality is controlled by the authorized legal entity Požarevac Health Protection.

Data from Table 40 for sanitary water consumption in Drmno OCM refer to the Drmno Crushing plant and Drmno container complex. Workers' estate Drmno PCM has its water from Bradarac water source. Since Bradarac village and Drmno OCM have one shared water meter, there is no reliable data for workers' estate Drmno OCM.

Table 42 shows the used potable and sanitary water data amounts, together with the drainage water amounts for the Drmno OCM in 2019.

Table 42

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES				
Water amounts in 2019 (m ³ /y)				
Open cast mine		Dewatering	Sanitary waters used by the OCM	
		Total water amounts	Water supply	Total amount
Klenovnik		3.520	310	3.830
Ćirikovac	Ash landfill dewatering	102.822,50	522	106.664,50
	Pit	0	3.320	
Drmno	Surface dewatering	5.077.000	24.042	37.113.042
	Deep dewatering	32.012.000		
TOTAL: KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES		37.195.342,50	28.194	37.223.536,50

2.2.3. Emission Measurements of Matters Affecting Soil Quality

"Kostolac" TPPs and OCMs Branch monitors the pollutants emission in soil every year. The comments of the results are given in accordance with the maximum allowable concentration (MAC) and border and remediation values of hazardous and harmful substances concentration proscribed under the Regulation on limit values for pollutant, harmful and dangerous substances in soil ("Official Gazette of RS", no. 30/2018 and 64/2019) and under the Land Law.

The results showed that the total content of chromium (Cr) and nickel (Ni) exceeded maximum border value for heavy metals in all analyzed samples. Excessive amounts were also noted for the contents of copper (Cu), as

well as zinc (Zn). The content of arsenic (As) exceeded maximum border value in 17.6% of samples, the content of lead (Pb) exceeded MAC values in 41% of analyzed samples. Other analyzed parameters were within the borders of allowable concentration.

Soil quality monitoring in the proximity of "Kostolac" TPPs and OCMs Branch was performed in vegetative and non-vegetative period in 2019. Concentration of matters affecting soil quality are presented in Tables 43 and 44.

Table 43

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES										
Concentration of Matters Affecting Soil Quality in 2019										
Sample symbol	Chemical Properties									
	Soil pH		Organic carbon	Easily accessible		Total nitrogen content	Organic matter	Clay content	Ion content	
	H ₂ O	KCl	(TOC) %	P ₂ O ₅ mg/100g	K ₂ O mg/100g	% N	%	%	NO ₂ ⁻ mg/kg	NO ₃ ⁻ mg/kg
Z-1	7.84	7.80	1.16	0.002	0.047	0.26	5.05	3.60		
Z-4	7.93	7.45	1.30	0.008	0.066	0.20	6.42	4.60		
Z 12	7.98	7.60	1.44	0.007	0.064	0.19	0.19	1.20		
Z 23	8.27	7.74	0.86	0.001	0.046	0.15	4.93	1.30		
Z 25	6.56	6.46	23.96	0.004	0.036	0.53	37.99	0.00		
Z 26	7.63	7.25	8.00	0.006	0.039	0.26	15.09	1.30		
Z 27	8.06	7.66	1.75	0.006	0.054	0.22	5.70	2.60		
Z 28	8.20	7.88	0.42	0.002	0.039	0.09	2.47	0.00		
Z 36	8.03	7.85	1.95	0.028	0.082	0.28	5.92	0.90		
Z 43	7.36	6.75	1.77	0.003	0.082	0.26	6.54	1.50		
Z 44	8.05	7.82	1.56	0.015	0.048	0.21	5.32	5.90		
Z 45	8.06	7.85	1.41	0.014	0.049	0.20	5.31	2.80		
Z 46 0-30	8.26	7.71	1.60	0.051	0.065	0.21	5.17	1.80		
Z 46 30-60	8.30	7.77	1.41	0.031	0.060	0.19	4.87	1.20		
Z 47	7.94	7.50	1.24	0.004	0.057	0.18	5.87	1.80		
Z 51	8.33	8.00	0.28	0.002	0.068	0.12	3.79	5.20		
Z 56	7.80	7.33	2.17	0.034	0.080	0.32	7.66	1.70		
Z 57 0-30	8.01	7.62	1.82	0.003	0.048	0.26	5.98	5.90		
Z 57 30-60	8.10	7.79	1.38	0.001	0.042	0.21	5.46	5.70		

Table44

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES																			
Concentration of Matters Affecting Soil Quality in 2019																			
Sample symbol	Metal content																		
	Heavy metals accessible form mg/kg										Total content of heavy metals mg/kg								
	Cr	Ni	Pb	Cu	Zn	Cd	Hg	B	As	%Fe	Cr	Ni	Pb	Cu	Zn	Cd	Hg	As	%Fe
Z-1	2.1	8.2	8.0	7.6	<3.4	<0.71		<10.0	<1.7	0.052	170.9	49.9	60.2	39.3	89.0	<0.71	<0.1	13.9	3.26
Z-4	3.5	32.7	58.1	15.7	16.4	<0.71		<10.0	<1.7	0.18	236.9	194.5	90.3	54.0	166.7	<0.71	0.1	31.1	5.03
Z-12	1.9	8.6	8.3	7.4	5.1	<0.71		<10.0	<1.7	0.052	242.6	53.9	73.7	32.3	75.5	<0.71	<0.1	11.9	2.84
Z-23	3.1	20.7	27.4	12.0	14.1	<0.71		<10.0	<1.7	0.20	186.3	108.9	51.3	43.7	142.8	<0.71	0.1	17.5	4.02
Z-25	<0.68	16.5	3.9	13.3	26.1	<0.71		<10.0	2.0	0.42	121.4	43.8	13.1	59.1	81.4	<0.71	0.2	16.7	2.35
Z-26	1.0	9.9	4.6	9.4	13.5	<0.71		<10.0	<1.7	0.14	309.6	43.1	19.3	106.7	77.6	<0.71	0.1	15.8	2.80
Z-27	1.5	9.5	8.4	7.5	4.4	<0.71		<10.0	<1.7	0.062	181.9	50.5	23.9	27.5	88.2	<0.71	<0.1	11.0	3.45
Z-28	3.4	13.6	6.0	2.3	6.1	<0.71		<10.0	<1.7	0.13	301.9	84.5	21.9	26.7	71.8	<0.71	<0.1	10.6	2.33
Z-36	3.2	7.9	8.5	29.3	9.3	<0.71		<10.0	<1.7	0.059	245.7	43.1	22.6	60.5	81.3	<0.71	<0.1	7.2	2.92
Z-43	1.1	19.9	9.2	8.3	<3.4	<0.71		<10.0	<1.7	0.059	194.9	106.7	32.6	42.1	106.0	<0.71	<0.1	15.3	4.16
Z-44	2.0	8.2	7.6	7.0	4.8	<0.71		<10.0	<1.7	0.054	185.5	47.0	23.2	44.4	82.8	<0.71	<0.1	14.1	3.18
Z-45	2.7	8.6	7.4	6.3	<3.4	<0.71		<10.0	<1.7	0.059	195.1	46.6	21.9	26.1	81.4	<0.71	<0.1	9.7	3.19
Z-46 0-30	2.1	8.8	72.3	9.4	4.4	<0.71		<10.0	<1.7	0.061	226.3	48.7	103.1	28.9	79.0	<0.71	0.2	7.4	3.02
Z-46 30-60	2.0	8.7	75.2	9.2	4.6	<0.71		<10.0	<1.7	0.062	235.5	51.1	202.3	87.2	85.5	<0.71	0.1	12.8	3.08
Z-47	2.2	22.5	33.4	11.1	8.0	<0.71		<10.0	<1.7	0.11	255.0	167.3	70.8	49.2	146.2	<0.71	0.2	27.3	4.67
Z-51	2.1	13.7	6.8	4.7	<3.4	<0.71		<10.0	<1.7	0.075	196.3	82.1	23.2	32.2	100.5	<0.71	<0.1	18.6	3.66
Z-56	2.9	8.9	11.9	17.2	13.8	<0.71		<10.0	<1.7	0.25	201.3	56.4	28.1	57.3	106.3	<0.71	<0.1	22.3	4.02
Z-57 0-30	2.2	8.7	9.5	8.0	4.3	<0.71		<10.0	<1.7	0.067	171.9	45.6	21.8	26.0	85.1	<0.71	<0.1	9.4	3.32
Z-57 30-60	1.6	7.8	7.2	5.8	<3.4	<0.71		<10.0	<1.7	0.051	186.8	49.1	25.4	29.2	93.1	<0.71	<0.1	9.5	3.61

▪ Overview of Expropriated and Reclaimed Areas

Overview of expropriated and reclaimed areas in PE EPS Branch – Kostolac TPPs & OCMs for the period until 2018, changes in 2019 and total area up to and including 2019, for locations and types of reclaimed areas are represented in Table 45.

Total expropriated areas until 2019 amounted to 4,333.02 ha.

Land area registered in the cadaster until 2019 amounts to 217.95 ha. Land area whose use has been changed until 2019 amounts to 373.32 ha.

Land area containing building structure until 2018 amounted to 1.41 ha, and up to and including 2019 this has remained unchanged.

Land areas under dump sites until 2018 amounted to 769.20 ha, which has not been changes until the end of 2019.

Reclaimed areas include areas under forests, arable land, orchards and plant nursery.

In 2019, reclaimed area under forests was increased for 36.88 ha, and it amounted to 138.71 ha in 2019.

Reclaimed area under arable land until 2018 amounted to 312.80 ha; 15.00 ha was reclaimed in 2019, so the total area amounts to 327.80 ha.

Reclaimed area under orchards amounted to 2.00 ha in 2018, which remained unchanged in 2019.

Reclaimed area under plant nursery remained unchanged in 2019, and until 2018 it amounted to 7.50 ha.

Table 45

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES																			
Overview of expropriated and reclaimed areas until 2019																			
Open cost mine	Expropriated area (ha)	Land area registered in the cadastre (ha)		Land area whose use was changed (ha)		Land area containing building structure (ha)		Dump site areas (ha)				Reclaimed areas (ha)							
		Until 2018	In 2019	Until 2018	In 2019	Until 2018	In 2019	Inside		Outside		Forests		Arable land		Orchards		Plant Nursery	
								Until 2018	In 2019	Until 2018	In 2019	Until 2018	Until 2019	до 2018	у 2019	до 2018	у 2019	до 2018	у 2019
Klenovnik	472,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Čirikovac	1.047,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drmno	2.644,47	193,6	3,90	322,00	51,32	1,41	-	769,20	-	-	-	16,13	16,38	312,80	15,00	2,00	-	7,50	-
Kličevac	169,55	20,45	-	-	-	-	-	-	-	-	-	85,70	20,50	-	-	-	-	-	-
TOTAL	4.333,02	217,95		373,32		1,41		769,20		-		138,71		327,80		2,00		7,50	

2.2.4. Environment Noise Measurements

Noise measurements in 2019 was performed by the authorized legal entity – Public Health Institute Požarevac at two measuring locations in accordance with the Law on protection against noise in the environment (Official Gazette of RS, No.36/2009 and 88/2010), the Rulebook on noise measurement methods, contents and form of the report for noise measurements (Official Gazette of RS, No. 72/2010) and Regulation on noise indicators, limit values, methods for noise indicators evaluation, nuisance and harmful effects of noise in the environment (Official Gazette of RS, No. 75/2010).

Measurements were performed at the following locations:

1. Drmno OCM - Vidikovac
2. Drmno OCM - a road towards Kličevac

Table 46 represents shows data on measured noise levels in the environment in 2019 in Kostolac TPPs-OCMs Branch – organizational units Open-cast Mine, for the winter period.

Table 46

KOSTOLAC TPPs AND OCMs BRANCH		
Noise level in 2019 (dB)(A)		
I measurement - winter		
Measuring locations	Drmno OCM	
	Vidikovac	A road towards Kličevac
For day	50	51
For day	50	55
For evening	54	56
For night	54	55
For night	55	55

2.2.5. Waste

Table 47 indicates waste production in 2019 for Kostolac TPP&OCM Branch (the branch sections OCM Drmno and OCM Čirikovac).

Table 48 indicates quantities of the submitted waste in 2018 from Kostolac TPP&OCM Branch (the branch sections OCM Drmno and OCM Čirikovac).

Table 47

KOSTOLAC TPPs AND OCMs BRANCH - OPEN CAST MINES							
Waste generated in 2019 (t)							
Number	Official nomenclature of the Rules defining waste categories, its testing and classification (Official Gazette of RS, no. 56/2010 and 93/2019)	Index number	Organizational unit				Note
	Name		Drmno OCM	Cirikovac OCM	HQ warehouse	Total	
1.	Waste paints and varnish containing organic solvents or other dangerous substances	08 01 11*	0,000	0,000	0,000	0,000	-
2.	Waste printer cartridges other than the ones indicated under 08 03 17	08 03 18 08 03 99	0,035	0,082	0,000	0,117	-
3.	Waste bonds and seals containing organic components or other hazardous substances	08 04 09*	0,000	0,000	0,000	0,000	-
4.	Used waxes and greases	12 01 12*	0,400	0,000	0,000	0,400	-
			2,455	0,000	0,000	2,455	Used waxes and greases
5.	Mineral non-chlorinated hydraulic oil	13 01 10*	7,950	0,000	0,000	7,950	Other fuels (including mixtures)
6.	Synthetic non-hlorinated hydraulic oil	13 01 11*	0,750	0,000	0,000	0,750	-
7.	Waste mineral non-chloridated gearbox and lubrication oils	13 02 05*	14,230	0,000	0,000	14,230	-
8.	Other motor oils, gearbox oils and lubrication oils	13 02 08*	0,000	0,000	0,000	0,000	-
9.	Waste mineral non-chloridated insulation and heat transfer oil – transformer oil	13 03 10*	0,000	0,000	0,000	0,000	-
10.	Other emulsions	13 08 02*	1,050	0,000	0,000	1,050	-
11.	Packaging containing residues of hazardous substances or contaminated by hazardous substances	15 01 10*	0,160	0,000	0,000	0,160	-
12.	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing, contaminated with hazardous substances	15 02 02*	1,100	0,000	0,000	1,100	Metal packaging oil tanks
13.	Absorbents, filter materials, wiping cloths and protective clothing other than those indicated under 15 02 02	15 02 03	0,050	0,000	0,000	0,050	Oily wiping cotton cloth
			0,000	0,000	0,000	0,000	Air filter
14.	Waste tires	16 01 03	18,900	0,000	0,000	18,900	Protective equipment – HTZ boots
15.	Waste vehicles	16 01 06	0,000	0,000	0,000	0,000	Car tires

16.	Waste oil filters	16 01 07*	1,900	0,000	0,000	1,900	-
17.	Brake pads containing asbestos	16 01 11*	0,000	0,000	0,000	0,000	-
18.	Antifreeze solution	16 01 14*	0,000	0,000	0,000	0,000	-
19.	Discarded equipment different from the one indicated under 16 02 09 to 16 02 12	16 02 13*	0,300	0,000	0,000	0,300	-
20.	Organic waste containing hazardous substances (other solutions)	16 03 05*	0,000	0,000	0,000	0,000	-
21.	Lead batteries	16 06 01*	2,111	0,000	0,000	2,111	-
22.	Nickel-cadmium batteries	16 06 02*	0,000	0,000	0,000	0,000	Accumulator battery
23.	Other batteries and accumulators (alkaline batteries)	16 06 05	0,000	0,000	0,000	0,000	-
24.	Waste glass	17 02 02	6,000	0,000	0,000	6,000	-
25.	Plastics	17 02 03	2,220	0,000	0,000	2,220	-
26.	Copper bronze brass	17 04 01	0,000	0,000	0,000	0,000	-
27.	Aluminium	17 04 02	3,000	0,000	0,000	3,000	-
28.	Iron and steel	17 04 05	227,367	950,016	0,000	1.177,383	-
29.	Cables other than those indicated under 17 04 10	17 04 11	16,650	0,000	0,000	16,650	Various thickness
			0,000	0,000	0,000	0,000	Copper cables
30.	Earth and stone containing hazardous substances	17 05 03*	0,400	0,000	0,000	0,400	Aluminum cables
31.	Construction material containing asbestos (asbestos cement plates)	17 06 05*	0,200	0,000	0,000	0,200	Earth and sand soaked with oil
32.	Plastics and rubber	19 12 04	188,000	0,000	0,000	188,000	
			3,005	0,000	0,000	3,005	Rubber bands
33.	Fluorescent tubes and other waste containing mercury	20 01 21*	0,165	0,000	0,000	0,165	Rubber material
34.	Discarded electrical and electronic equipment other than those indicated under 20 01 21 and 20 01 23 koja containing hazardous components	20 01 35*	2,464	0,000	0,000	2,464	Fluopipes and mercury bulbs
35.	Discarded electrical and electronic equipment other than those indicated under 20 01 21 and 20 01 23 and 20 01 35	20 01 36	0,044	0,000	0,000	0,044	-

Table 48

KOSTOLAC TPPs AND OCMs BRANCH - OPEN CAST MINES							
Waste delivered in 2019 (t)							
Number	Official nomenclature of the Rules defining waste categories, its testing and classification ("Official Gazette of RS". no. 56/2010 and 93/2019)	Index number	Organizational unit				Note
	Name		OCM Drmno	OCM Cirikovac	HQ Warehouse	Total	
1.	Mineral non-chlorinated hydraulic oil	13 01 10*	3,930	0,000	0,000	3,930	-
2.	Mineral non-chlorinated motor oils, gearbox oils and lubrication oils	13 02 05*	9,410	0,000	0,000	9,410	-
3.	Iron and steel	17 04 05	159,800	863,350	0,000	1.023,150	Various thickness
4.	Plastics and rubber	19 12 04	582,250	0,000	0,000	582,250	Rubber bands
			11,400	0,000	0,000	11,400	Rubber materials

2.3 Working Environment Monitoring, Occupational Health and Safety

The 2019 Occupational Health and Safety Reports include the following elements:

- **Working environment monitoring**
 - working environment noise measurements
- **Safety**
 - training
 - work injuries
- **Health**

2.3.1. Working Environment Monitoring

- **Working environment noise measurements**

In 201 at Drmno OCM and Ćirikovac OCM monitoring was conducted, i.e. measuring of the parameters of microclimate in the winter period at 176 working positions at Drmno OCM and 20 posts at Ćirikovac OCM.

Noise measurements were not conducted.

2.3.2. Occupational Safety

- **Traning**

Employees are trained according to the Health and Safety Training Programme. Testing of occupational safety competence and knowledge is carried out at least once a year in accordance with Kostolac Branch Risk Assessment Act and in accordance with Mining and Geological Investigation and Occupational Health and Safety Act. According to Occupational Health and Safety Act, training within Kostolac Mining Basin is performed whenever new workers are recruited, deployed to new workplaces, during technological process changes and the introduction of new equipment and work tools. Updating and checking of knowledge is performed for employees working at increased risk working positions.

Table 49 indicates the number of employees envisaged for training, as well as the number of employees trained in 2019.

Table 49

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES					
Training in 2019					
Organisational units	Number of employees	To be trained		Trained	
		Number	%	Number	%
Drmno OCM	1.479	1.360	91,95	1.266	93,09
Ćirikovac OCM	69	49	71,01	48	97,96
HQ	531	49	9,23	47	95,92
TOTAL: KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES	2.079	1.458	70.13	1.361	93,35

Note: Some workers have passed more than one training, e.g. because they were transferred to other workplaces, etc.

- **Work injuries**

Table 50 indicates the work injuries data for 2019.

Table 50

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES						
Work injuries in 2019						
Organisational units	Numer of employees	Injuries – employees ratio				
		Minor	Severe	Fatal	Total	%
Drmno OCM	1.479	7	4	0	11	0,74
Cirikovac OCM	69	0	0	0	0	0,00
HQ	531	1	1	0	2	0,38
TOTAL: KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES	2.079	8	5	0	13	0,63

2.3.3. Health

All employees from the Kostolac Open-cast mines are subject to pre-employment and/or periodical medical examinations. Employees to be employed or during transfer to some other work post with high risk are referred to pre-employment medical examinations. Employees working at high-risk posts are referred to periodic medical examinations done once a year. In 2019, periodic medical examinations were done in the Occupational Medicine Clinic within Požarevac Health Center.

Table 51 indicates provides data on periodic medical examinations for examining work capability of employees in 2019.

Table 51

KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES											
Work capability in 2019											
Organisational units	Numer of employees	Periodical examinations				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Not capable	
		број	%	број	%	број	%	број	%	број	%
Drmno OCM	1.479	1.371	92,70	1.318	96,13	1.172	88,92	138	10,47	9	0,68
Cirikovac OCM	69	49	71,01	47	95,92	35	74,47	9	19,15	2	4,26
HQ	531	113	21,28	111	98,23	108	97,30	3	2,70	0	0,00
TOTAL: KOSTOLAC TPPs & OCMs BRANCH – OPEN CAST MINES	2.079	1.533	73,74	1.476	96,28	1.315	89,91	150	10,14	11	0,74

2.4. Public Complaints

There were no public complaints regarding the environment in 2019.

3. NIKOLA TESLA THERMAL POWER PLANT BRANCH

Nikola Tesla TPP Branch (TENT) comprises of five organisational units:

- **Nikola Tesla A TPP (TENT A);**
- **Nikola Tesla B TPP (TENT B);**
- **Kolubara A TPP (Kolubara A TPP);**
- **Morava TPP (Morava TPP);**
- **Railway transport (RT).**

3.1. Permits Overview and Status

Table 52 indicates an overview of obtained permits and applications for new permits or extension of existing ones in 2019.

Table 52

NIKOLA TESLA THERMAL POWER PLANT BRANCH			
Overview and status of permits in 2019			
Organisational unit	Obtained permits and approvals (number and date)	Applications for new or extension of existing permits	Note
TENT A	-	-	-
TENT B	-	-	-
KOLUBARA A TPP	-	-	-
MORAVA TPP	- Decision on issuing water permit (water permit for collection, treatment and usage of ground and underwater and for collection, cleaning and discharging of waste water into Velika Morava) Validity term for the water permit is until 7 th September 2019	Request for issuing water permit number 5074-E-03.03.-632301/1-2019 dated 14 th November 2019 was submitted	Report on Fulfilling the Conditions for Water Permit no. 9251/1 date 1 st November 2019.
	- Approval for continuous testing of emission from stationary pollutant sources in Morava TPP. Decision no. 353-01-00748/2019-03 dated 28 th October 2019.		

3.2 Monitoring and Environmental Impact

3.2.1. Air Quality Measurements

Air quality monitoring in the vicinity of the TENT Branch organizational units is carried out as part of the monitoring financed and organized by individual organizational units. It should be noted that the air quality monitoring is within the competence of the legislator; therefore air quality monitoring is carried out as part of the national automatic air quality monitoring network, comprising measuring points located in the proximity of the TENT Branch.

During 2019, air quality measurements were performed in the proximity of all four branches: TENT A, TENT B, Kolubara TPP and Morava TPP. In the proximity of Kolubara TPP, measurements were performed by Occupational Safety and Environmental Protection Beograd Ltd. In the proximity of TENT A and TENT B measurement were performed by the authorized person in accordance with the Air Protection Law of the Public Health Institute Belgrade in the period from January – March 2019 and September – December, while certain measurements in for the period from September – December were performed by the accredited laboratory Occupational Safety and Environmental Protection Belgrade, Ltd. During the whole year, measurements were also

performed internally by the laboratory Division for Environmental Monitoring and Control TENT, which is not accredited.

During 2019, air quality measurements in the proximity of Morava TPP was also performed. Measurements were performed since 1st September 2019 by the authorized legal entity Occupational Safety and Environmental Protection Belgrade, Ltd.

TENT A and TENT B

In 2019, in the vicinity of TENT A and TENT B measurements of the total particulate matter content (TPM) were performed at 18 measuring points, sulphur dioxide and soot concentrations were performed at two measuring points, and suspended matter smaller than 10 μ m (PM₁₀) at one measuring point. Table 53 shows data on air quality on the vicinity of TENT A and TENT B for the period from January – March, based on measurements of Public Health Institute (TPM, sulphur dioxide, soot and PM₁₀ for the period from January – March, as well as sulphur dioxide, soot and PM₁₀ for the period September - December), Occupational Safety and Environmental Protection Belgrade, Ltd. (TPM for the period September - December), and based on the measurements of the laboratory Division for Environmental Monitoring and Control (TPM, sulphur dioxide and soot in the period April - August).

During 2019 there was no significant ash dispersion from ash landfills and no citizens complaints to air pollution. All existing active cassettes protection systems on TENT A and TENT B ash landfills were in operation, water lens covered an optimal area in accordance with the technical requirements. Moreover, wetting of dry surfaces was also executed.

Kolubara A TPP

Air quality measurements in the Kolubara A TPP surroundings have been performed for over twenty years. Monthly and annual air quality monitoring reports for the vicinity of Kolubara A TPP are submitted to the local self-government authorities and governmental agencies, at their request. During 2019, TPM content was measured at 8 measuring points, and concentration of SO₂, soot and total suspended particles PM₁₀ was measured at 1 measuring point. Measurements were performed in the period from 2nd September 2019 until 31st December 2019.

Morava TPP

Air quality monitoring in the vicinity of Morava TPP was performed for the first time in 2019.

Air quality monitoring in the vicinity of Morava TPP started on 1st September 2019 by measuring the TPM content at 8 measuring points, and concentration of SO₂, soot and total suspended matter PM₁₀ at 1 measuring point.

During 2019, ash was dispersed from ash landfills do to strong winds, and there was one citizen complaint for air pollution. The system for ash wetting was installed at one inactive cassette VII, which was in operation during the summer period, specifically when there were strong winds. Water lens at an active cassette VII covered an optimal area in accordance with the technical requirements.

Table 53 shows air quality data analysis for 2019 under the legal requirements, for the plants of TENT Branch. Air quality assessment was performed based on the measuring results compared to the limit and tolerable values for SO₂, TPM, total suspended matter PM₁₀ and soot specified by the Regulation stipulating air quality monitoring conditions and requirements (Official Gazette of RS, no. /10, 75/10 and 63/13). The regulation is compliant with the European Union Regulation.

Table 53

NIKOLA TESLA THERMAL POWER PLANT BRANCH							
Air quality in 2019							
Legal compliance (data or days exceeding legal limits)							
Air quality indicators		Total particulate matters levels - TPM (mg/m ² /day)			Concentration of SO ₂ (µg/m ³)		
		Maximum permissible value (MPV)			LV	TV	TL
Averaging period							
One hour					350	350	0
*One day					125	-	
**One month		450			-		
***Calendar year		200			50	-	
TENT A and TENT B	*	-			No exceedance out of a total of 679 data. Measurements performed on two measuring points.		
	**	Measureings were performed at 18 measuring points, as follows: -2 measuring points, TENT A landfill area; -3 measuring points, TENT B landfill area; -4 measuring points in the vicinity of TENT A; -5 measuring points in the vicinity of TENT B; -4 measuring points in Obrenovac and its vicinity; -1 measuring point in Vladimirci. Out of a total of 212 data for monthly TPM values, there was no exceedance of MVP.			-		
	** *	Out of a total of 18 data for monthly TPM values, there was no exceedance of mean annual MVP.			No exceedance		
KOLUBARA A TPP	*	-			No exceedance		
	**	No exceedance					
	** *	For measuring period from 2 nd September 2019 until 31 st December 2019 there was no MVP exceedance.			No data on mean annual value, no measurings were performed during the whole year.		
MORAVA TPP	**	September – no exceedance at all eight measuring points October - no exceedance at all eight measuring points November – at 2 measuring points (MM2 и MM3) exceedance December – no exceedance			No exceedance of mean daily values. No data on mean annual value, no measurings were performed during the whole year.		
	** *						
Air quality indicators		Total particulate matters levels PM ₁₀ (µg/m ³)			Soot (µg/m ³)		
Averaging period		LV	TV	TL	Maximum permissible concentration (MPC)		
*One day		50	50	0	50		
***Calendar year		40	40	0	50		
TENT A and TENT B	*	Number of data exceeding LV 78 (the most in October – 17), which amounts to 36.8% out of 212 data. Measurement is performed at one measuring point daily	-	-	No exceedance of totally 679 data. Measurement were taken at two measuring points.		
	**	-	-	-	-		

	** *	No measurements were performed during the whole year	-	-	No exceedance
KOLUBARA A TPP	*	Number of data exceeding LV is 44, which amounts to 36.36% (out of 121 data). Measurement is performed at one measuring point daily.	-	-	Number of data exceeding MPV is a total of 1: in December – 1 day, which amounts to 0.83% out of 121 data. Measurement is performed at one measuring point daily.
	** *	At the level of LV – 49,53 µg/m ³ (out of 121 data)	-	-	Below LV-12.20 µg/m ³ (out of 121 data)
TE MOPABA	*	Number of data exceeding LV is a total of 29 (In September - 5, October – 11 and December -13)			
	**				No exceedance
	** *				

LV – Limit value, TV – Tolerance value, TL – Tolerance limit

Note: hourly values are not measured for sulphur dioxide

Based on the long-term air quality monitoring in this area, the following may be concluded:

- SO₂ concentrations are below the prescribed average daily and annual mean limit values and tolerance values;
- Air pollution by ash particles PM₁₀ is of local significance, mainly the result of power plant operation and other sources of pollution (traffic, household furnaces and the like). Pollution is higher during winter months.

3.2.2. Emission Measurements of Matters Affecting Air Quality

Total sulphur content in Kolubara lignite supplied to the TENT Branches is approximately 0.5%. Flue gases containing sulphur dioxide, nitrogen oxides, carbon dioxide and dust, after treatment and dust separation by electrostatic precipitators, are emitted into the air through stacks of the following heights:

- TENT A - 150m (units A1, A2 and A3) and 220m (units A4, A5 and A6)
- TENT B - 280m (units B1 and B2)
- Kolubara A TPP -105m (boiler K1), 105m (boilers K2 i K3) and 130m (unit A5)
- Morava TPP - 105m.

In line with the legal requirements individual pollutants air emission measurements are carried out regularly, while continuous measurements are carried out on the majority of the TENT Branch units.

■ Periodic emission measurements of matters affecting air quality

During 2019, periodic emission measurements of matters affecting air quality were done once a year at one TENT A unit – unit A1, at Kolubara TPP chimney 2 (boiler K3, K4, K5) and chimney 3 (unit A5, K6), and twice a year on chimney 1 (boiler K1) kolubara TPP. In morava TPP there were two individual measurements of air emission affecting the air quality. Both measurements were conducted on the chimney, as chimney measuring point was aligned with the standard in the meantime. Monitoring Programme included the flue gas conditions measurements (temperature, pressure, and humidity), flow rate, oxygen content, mass concentrations and emission factors for sulphur dioxide (SO₂), nitrogen oxides (NO_x - NO₂), carbon monoxide (CO), chlorine (HCl) and fluorine (HF) compounds and dust. Furthermore, technical and elementary coal analysis was performed. In addition to this, macro-elements, combustible substances, particle size distribution and electrical resistance of fly ash measurements were also executed.

Emission measurements of matters affecting air quality were performed by accredited laboratories of the Nuclear Science Institute Vinča and Mining Institute - Belgrade, in line with the Air Pollutants Emission Periodic Measuring Plan.

Table 54 shows the results of emission measurements of air pollutants affecting air quality for the TENT Branch, performed in 2019.

Table 54

NIKOLA TESLA THERMAL POWER PLANT BRANCH									
Periodic emission measurements of matters affecting air quality in 2019									
Mass concentrations of matters affecting air quality (mg/Nm³)									
Organizational unit	TENT A						TENT B		
Unit	A1	A2	A1	A2	A1	A2	A1	A2	
Power MWth	660	660	932	943	934	934	1.809	1.826	
SO ₂	2.217								
NO _x (NO ₂)	351								
CO	60								
Particulate matter	166								
Organizational unit	KOLUBARA A TPP							Morava TPP	
Unit, boiler	K1			K3,K4 and K5		A5, K6			
Power MWth	125,6			376,8		333,5		420,0	
SO ₂	1.183			1.414		1.814		4.055	
	1.326							4.409	
NO _x (NO ₂)	276			368		463		547	
	291							537	
CO	94			33		87		20	
	58							245	
Particulate matter	836			966		139		301	
	881							33	

Note: Pursuant to the Directive on the limitation of emissions of certain pollutants into the air from large combustion plants (Off. Gazette of RS, no. 6/16), Article 5 stipulates that old large combustion plants do not have to comply with individual ELVs if from the date of entry into force of the abovementioned Directive they are included in the preliminary application for the National Emission Reduction Plan from station big combustion plants. TENT A and TENT B are included by National Emission Reduction Plan.

Likewise, in accordance with Article 6 of this Directive, authorized body can exclude huge combustion plants from implementation of limit values of pollutant air emissions and from obligation determined by National Emission Reduction Plan of old combustion plants on condition that these were in exemption mechanism due to its limited life. TEM and TEK are included in this mechanism due to the limited life of the plant.

On units A3, A5 and A4 in TENT A, burners were reconstructed in order to reduce nitrogen oxide emissions and increase unit capacity (unit A4).

▪ Continuous emissions measurements of matters affecting air quality

In the period from 2004 until the end of 2014, equipment for continuous emissions measurements of matters affecting air quality was installed on TENT Branch units. In addition to the basic equipment for measuring mass concentration of dust and gases, some additional measuring equipment was installed for oxygen (O₂), carbon dioxide (CO₂) and humidity, as well as temperature (t), pressure (p) and flue gases flow rate. Data acquisition and processing equipment was also installed.

The project funded through an IPA donation included design, supply, delivery, installation, commissioning, calibration - QAL2 certification of the continuous measuring system for sulphur dioxide (SO₂), nitrogen oxides (NO_x - NO₂), carbon monoxide (CO), carbon dioxide (CO₂), dust for:

- all units (A1-A6) in Nikola Tesla A TPP (completion of existing equipment),

- units B1 and B2 Nikola Tesla B TPP and
- unit A5 - Kolubara A TPP.

CEMS Reports were established in line with the Large Combustion Plants Directive 2001/80/EC and in accordance with the legislation in the Republic of Serbia. The entire system was reconciled with EN 14181 (QAL1, QAL2 and QAL3) standard and national legislation.

Pursuant to the Air Protection Act (Official Gazette of RS No. 36/09 and 10/13) and the Rulebook on conditions for giving approval to operators for air quality measurements and/or emissions from stationary pollution sources (Official Gazette of RS No. 16/12), TENT A, TENT B, MTPP and KTPP boilers K3, K4 and K5 and unit A5 obtained approvals for continuous emission measurements from stationary pollution sources.

Table 55 shows the overview of results for continuous emissions measurement of matters affecting air quality (mean annual mass concentration) for TENT Branch in 2019.

Table 55

NIKOLA TESLA THERMAL POWER PLANT BRANCH								
Continuous emission measurements of matters affecting air quality in 2019								
Mass concentrations of matters affecting air quality (mg/Nm³)								
Unit	TENT A						TENT B	
Power MWth	A1	A2	A1	A2	A1	A2	A1	A2
SO ₂	660	660	932	943	934	934	1.809	1.826
NO _x (NO ₂)	2.044	2.340	2.297	2.621	2.239	2.434	2.418	2.270
CO	333	307	325	331	245	467	351	316
Particulate matter	114	124	68	74	91	143	32	43
Organizational unit	151	257	39	24	51	29	37	42
Unit	Kolubara A TPP*							Morava TPP
Unit, boiler	K1		K3, K4 and K5		A5, K6			
Power MWth	125,6		376,8		333,5		420,0	
SO ₂	-		1.816		2.115		-	
NO _x (NO ₂)	-		282		438		-	
CO	-		188		87		-	
Particulate matter	-		868		131		-	

*due to disturbance in the continuous emission measurement system in Kolubara TPP, Table 55 presents average monthly values: for plants K3, K4 and K5 for the period June – December 2019, and for the plant A5, K5 for the period October – December 2019.

Table 56 shows data on equipment in units for continuous emission measurement of matters affecting air quality in TENT branch organizational sections.

Table 56

NIKOLA TESLA THERMAL POWER PLANT BRANCH										
Equipment in TPP units for continuous emission measurement of matters affecting air quality in 2019										
Emitted matter					Parameters					
Organizational unit		Particulate matter (PM)	Gases		Content			p	t	Flow
			SO ₂ , NO _x (NO ₂), CO	HCl and HF	Humidity	CO ₂	O ₂			
TENT A	A1	Measuring devices installed on each unit on flue ducts after the left and right ESP, behind ID fan. Total: 12 measuring devices.	One measuring device installed per unit. Sampling is carried out on flue ducts, continuously, behind the left and right ID fan. Flue gas is mixed and led to measuring devices for gases Total: 6 sets of measuring devices.	-	Humidity adopted Installation of 6 more measuring devices planned.	Total: 6 measuring devices.	Measuring devices installed on each unit, on flue ducts after the left and right ESP, ID fan. Total: 12 sets of measuring devices.			
	A2									
	A3									
	A4									
	A5									
	A6									
TENT B	B1	Measuring device installed on the flue duct, at the elevation 55.1 m in the inner stack lining.	-	Measuring device installed on the flue duct, at the level 55.1m in the inner stack lining.						
		Platform located at the elevation 54m, inner stack lining Total: 1 set of measuring devices								
	B2	Measuring device installed on the flue duct, at the elevation 55.1m in the inner stack lining.		Measuring device installed on the flue duct, at the level 55.1m in the inner stack lining.						
		Platform located at the elevation 54m, inner stack lining Total: 1 set of measuring devices								
KOLUBARA A TPP	K1	-	-	-						
	K3	Measuring devices (except HC and HF devices) installed at the elevation of 46.25m, outer stack lining. Platform is located at the elevation of 45m, outer stack lining. Control measurements openings at the elevation of 46.75m. Stack height - 105m								
	K4									
	K5									
	A5-K6	Installed: • behind ESP after ID fan: Left ESP Right ESP • stack	Installed on the stack	-	Installed on the stack	Installed: • behind ESP after ID fan: Left ESP Right ESP • stack		Installed on the stack		
		Measuring devices installed at the elevation of 51m, outer stack lining. Platform is located at the elevation of 50m, outer stack lining. Measuring plane with measuring opening for control measurements located at the elevation of 51.5m. Stack height - 130m.								
MORAVA TPP		At the measuring section of the stack three measuring platforms were located (50,3m 50,7m и 56,7m). In the measuring platform MP1 at the elevation 50,3m there are openings for AMS. Measuring devices for pressure, gases and dust on the outer side of the stack lining. Measuring platform MP2 at 50,7m have openings for CPM. MP3 is located at 56,7m. Inlet part of the platform is at 46,7m and the outer is at 48,3m. Platform is at the elevation 49m. Stack height is 105m.								

Data acquisition and processing equipment (software) is an integral part of the above automatic measuring system (AMS).

Under the Decisions issued by the competent ministries, i.e.: 2nd December 2018 Ministry of Energy, Development and Environment, 22nd December 2015 and 16th January 2017 Ministry of Agriculture and Environment, and 25th November 2019 the Ministry of Environmental Protection, TENT received Approval for independent continuous stationary pollutant sources measurements for the following pollutants: SO₂, NO_x, CO and total particulate matter for TENT A units A1 to A, TENT B units B1 to B2 and Kolubara A TPP unit A5.

The abovementioned devices for boilers K3, K4, K5 at Kolubara A TPP were installed on joint stack 2 (105m high), at the elevation 46.25m. The first calibration of devices - QAL2 tests of basic and additional equipment were conducted in November 2014 by the accredited laboratory AEROLAB d.o.o. Beograd. Under Decisions issued by the competent ministries, i.e. on 30th November 2016 by the Ministry of Agriculture and Environment and on 11th October 2017 by the Ministry of Environmental Protection, TENT received approval for continuous measurement of pollutant emissions from stationary pollution sources for boilers K3, K4, K5 - Kolubara TPP.

Equipment for the continuous emissions measurements of air pollutants at the Morava TPP was installed on the stack in 2018. The equipment is in operation and calibrated under QAL-2. In 2019, the Ministry's Approval was obtained for continuous measurement of pollutant emissions from stationary pollution sources. The measurement results were incorrect due to damage to the heating line for transporting gas sample from the stack to the analyser placed in the container at the bottom of the stack. This inability for continuous emissions monitoring was timely reported to the competent ministry, followed by the suitable explanation.

• Annual emissions of matters affecting air quality

Table 57 provides an overview of air emissions: dust, SO₂, NO₂ and CO₂ for TENT Branch in 2019.

Annual dust, SO₂ and NO₂ emissions were calculated on the basis of mean annual flow rates, mean annual concentration of pollutants obtained from continuous measurements and periodic emission measurements, and operating periods during stable operation (h) of each unit (stack), according to CEMS (there might be corrections regarding emission calculation method).

There is no equipment for continuous emission measurement of matters affecting air quality on stack D1 (boiler K1) in Kolubara TPP. For boiler K1 the quantities of emissions of air pollutants are calculated by multiplying operating periods during normal operation of the plant (h) with output pollutant flow rate (Nm³/h) and mean measured mass concentration (mg/Nm³) obtained by periodic emission measurement of pollutants in 2019.

Calculation for CO₂ was done based on the fuel consumption, presented in Table 58 and CEF – correction emission factor.

Table 57

NIKOLA TESLA THERMAL POWER PLANT BRANCH				
Emissions of matters affecting air quality in 2019 (t/year)				
Organizational unit	Particulate matter	SO ₂	NO _x (NO ₂)	CO ₂
TPP NIKOLA TESLA A				
A1-A2-A3	2.121	36.471	5.270	4.101.449
A4-A5-A6	881,3	61.086,09	8.737,38	6.121.254
Total: TENT A	3002,3	97.557,09	14.007,38	10.222.703
TPP NIKOLA TESLA B				
Total: TENT B	1.311	78.839	11.297	8.807.371
Kolubara A TPP				
K1	663	1.933	305	158.803
K3, K4 и K5	1.829	3.526	569	301.213
A5, K6	241	2.659	852	324.300
Total: KOLUBARA A TPP	2.733	8.118	1.726	784.316
Morava TPP				
Total: MORAVA TPP	72	9.534	1.218	579.012
TOTAL: NIKOLA TESLA THERMAL POWER PLANT BRANCH	7.118,3	194.048,09	28.248,38	20.393.402

Table 58

NIKOLA TESLA THERMAL POWER PLANT BRANCH								
Fuel consumption in 2019								
Organisational unit	TENT A		TENT B		KOLUBARA A TPP		MORAVA TPP	Branch Total
Raw material	Unit	(t/year)	Unit		Boiler	(t/year)	(t/year)	(t/year)
COAL	A1	1.641.042	B1	6.382.308	K1	205.196	631.185	29.237.590
	A2	1.233.347	B2	6.402.980	K2	-		
	A3	3.058.060			K3	129.561		
	A4	2.998.502			K4	191.626		
	A5	2.583.487			K5	142.592		
	A6	3.200.129			K6	437.575		
	TOTAL	14.714.567		12.785.288		1.106.550	631.185	
HEAVY FUEL OIL	A1	6.625	B1	5.597	K1	-	772	33.408
	A2	3.947	B2	5.850	K2	-		
	A3	2.616			K3	-		
	A4	2.637			K4	-		
	A5	1.903			K5	-		
	A6	3.461			K6	-		
	TOTAL	21.189		11.447		-	772	
OIL	A1	-	B1	-	K1	436	358	1.983
	A2	-	B2	-	K2	-		
	A3	-			K3	210		
	A4	-			K4	187		
	A5	-			K5	178		
	A6	-			K6	614		
	TOTAL	-		-		1.625	358	

- **Harmonisation of emissions of matters affecting air quality with European Union regulations**

Particulate matter

Unit A3 electrostatic precipitator was reconstructed in 2014. This means that to date electrostatic precipitators of all the Nikola Tesla A TPP units (A1, A2, A3, A4, A5 and A6) were reconstructed, along with the Nikola Tesla B units (B1 and B2) and unit A5 of the Kolubara A TPP. Outlet dust mass concentration guaranteed by the equipment supplier is $\leq 50\text{mg/Nm}^3$, which is in line with EU and Serbian legislation.

Electrostatic precipitator of the Morava TPP was reconstructed in order to achieve the output dust concentration of 50 mg/Nm^3 , during the 2016 overhaul. Individual measurements of matters affecting air quality carried out in 2017 confirmed an outlet dust mass concentration within the values guaranteed by the equipment supplier.

Sulphur dioxide

During the designing and construction of the Nikola Tesla A and B TPPs no sulphur oxides emissions reduction measures were undertaken. To reduce sulphur oxide emissions below 200mg/Nm^3 in line with the Serbian and EU legislation, flue gas desulphurization plants should be introduced in the forthcoming period.

In 2011, the Japanese Government approved a loan to introduce the flue gas desulphurisation system at the Nikola Tesla TPPs. During 2012 a consultant, Japanese company TEPCO, was selected and the preparation of the tender and pre-qualification documents for the procurement, installation and commissioning of the TENT A FGD plant equipment were initiated. TEPCO conducted a Report on the preliminary design of FGD TENT A (A3 - A6). After Basic Design for A3- A6 Units FGD Plant Nikola Tesla A TPP had been revised, TEPCO prepared a project report used to draft the tender documents in late 2013. In early 2014, invitation to tender was published for the potential equipment and works suppliers. Following the tender procedure, a consortium led by Mitsubishi Hitachi Power Systems was selected as the contractor in September 2017. The signed contract with the contractor has been valid as of November 2017. The implementation of the Flue Gas Desulphurization Project will last for 42 months. During 2018, in addition to numerous activities a New General Regulation Plan for TENT A was developed and adopted by the authorities in June 2018. Public discussion and presentation of the Study on environmental impact of FGD on units A3-A6 at TPP "TENT A" were conducted in November 2018. After obtaining the approval for the Study from the Ministry for Environmental Protection in 2019, the conditions for building permit acquisition were fulfilled. During 2019, within the Flue Gas Desulphurization Project in A3-A6 Nikola Tesla thermal power plant, the following was realized: Building permit for relocation of underground installations at the complete FGD area (both phases) was obtained, building permit for phase 1 (system for limestone receiving and gypsum storing) and building permit for preparation works in phase 2 (obtained on 18th January 2020).

Works were completed on underground installations relocation (water network, hydrant network, rainfall and fecal sewage), fecal sewage pumping station was relocated and Liquefied petroleum gas station was removed. Energy cables were relocated, as well as heating pipes in the zone of A5/A6 absorber, and energy and signal cables in the zone of new railway track construction. The existing railway tracks were removed in the A3/A4 absorber zone. Ash line relocation is currently ongoing, as well as steam line for carriage defrosting and coal feed heating, and coal feed energy cables, in the A3/A4 absorber zone. New parts of flue gas channel were installed, with prepared fitting for the future FGD plant, as follows: A6 left branch, A5 left branch and both branches at A3 unit. The foundation for new 31.5 MVA substation was installed, for FGD power supply at A5 unit. 237 piles of 22m length were installed, and foundation plate was constructed at gypsum silo. 252 out of 345 18m piles were installed at the object for limestone receiving and transport. 28 out of 133 piles were installed at the object for limestone storing. Foundation plate was constructed on the object of power control facility for phase 1. Pre-installation of three daily limestone silo for was conducted. Pre-installation of the new parts of flue gas channel with FGD fittings for unit A4 was completed. Pre-installation of steel construction of limestone daily silo in the workshop is currently ongoing. The delivery of materials for absorbers, gypsum dryer, booster-fan parts, mill parts, flue gas trim damper, limestone loader parts, etc. was completed.

Nitrogen oxides

In the previous period, primary measures have been introduced on units A3 and A5 TENT A and during capital overhaul in 2018 also on unit A4. Guarantee measurement were performed – TEST A by accredited laboratory, which confirmed guarantee parameters of the system of nitrogen oxide emission reduction on unit A4. The plan is to introduce primary nitrogen oxide reduction measures in the coming period on unit A6 TENT A, as well as on units B1 and B2 TENT B.

3.2.3. Emission Measurements of Matters Affecting Water Quality

Water used for condenser water vapour cooling has the highest share in the total amount of make-up water used by PE EPS Nikola Tesla TPPs Branch. River water is captured, used to cool condensers and subsequently discharged via the return tunnel back into the recipient. TENT A and TENT B use the Sava River water for cooling, while the Morava TPP uses the Morava River water, and those three thermal power plants have an open cooling system. Kolubara A TPP uses the Kolubara River water and it has a closed cooling system with towers.

Approximately 2.5% of captured water is used for thin slurry (ash and slag) transport in TENT A, while 0.8% of captured water was used for thin slurry transport and wetting of the landfill.

Wastewater originating from the thin slurry transportation system is discharged directly or indirectly into the recipient in the form of overflow and drainage water, in old technology of hydraulic transport of “scarce” ash water ratio (1:10) in TENT A and Kolubara A TPP. Drainage and overflow waters in TPP Morava are returned by pumps to the system for ash and slag transport.

In the case of the thick slurry transport (ash/water ratio - 1:1) used by TENT B there is no overflow and discharge of drainage water into the recipient, but water is stored in the winter and used for disposal site wetting in the summer.

Demineralized water (demi water) used by boilers and the water-vapour system is produced by a chemical water treatment plant. Demi water is produced by chemical treatment of groundwater in ion exchangers. In Kolubara A TPP demi water is obtained by treating decarbonised water in ion exchangers - columns. Raw water is captured from tube wells located along the riverbank. HCl or NaOH solution is used to regenerate ion masses, resulting in acid and alkaline wastewater used for ash and slag transport.

Sanitary wastewater after mechanical-biological treatment under aerobic conditions (TENT A and TENT B) is discharged directly or indirectly into the river. The equipment for sanitary wastewater treatment Biodisk, in TENT A has a UV lamp for water disinfection before it is released into the Sava. At the Morava TPP, sanitary water is discharged into the city sewer network.

Water containing oil and/or fuel oil, after oil or fuel oil removal from the water surface by means of adsorption agents indirectly via storm drainage or a return cooling water tunnel, is discharged back into the recipient (TENT B, TEK and TEM).

Waste water treatment plant was constructed and commissioned at TENT A in 2016, and it consists of several units:

- storm water from the concrete surfaces and roofs of the administrative building, the maintenance building, the turbine hall and the rolling stock, as well as other facilities at site runs through the main collector, and from the concrete surfaces and roofs of the RT buildings, warehouse and the external rolling stock runs through the secondary collector and flow into the return cooling water channel. Storm water and other wastewater from the coal landfill, (water from wagons defrosting, washing of inclined bridges and conveyor belts, from bulldozer depots) after purification at the wastewater treatment plant (G1), are discharged into the old drainage channel of the ash landfill, where storm waste water from water landfill after passing the coal separator is also discharged;

- waste waters from drainage pit of heavy oil station, condensate expander and drainage pits of heavy oil heating stations, after treatment at the plant for pretreatment of heavy oil waste waters (UM1), are taken to the oily waste water treatment plant (U1),
- except the heavy oil waste waters which were pretreated on API- separator (UM1), waste waters from machine hall drainage pits are treated at U1 plant as well and then discharged into the old ash landfill drainage channel;
- plant for treatment of waste waters resulting from the flue gas desulphurization process (FGD) is not in operation at this time because the construction of FGD plant is still underway;

Waste water control in the facilities of TENT Branch and its impact on recipients and groundwater is done 4 times a year, except for the return cooling water at TENT A and TENT B and water at the oil separator outlet at TENT A waste disposal, which are analyzed once a month. Tests are carried out by authorized legal person. In 2019, only two samplings were done, both in first two quarters, due to delay in implementation of the public procurement for water testing under the program of Monitoring the impact of TENT A, TENT B, TEK and TEM waste waters on surface and ground waters.

The program of control of each organizational part of the TENT Branch includes the physical and chemical, bacteriological and radiological parameters that are given as necessary for monitoring the compliance with the legal regulations related to certain types of water.

Control program includes the following types of water:

- Waste waters at discharging points into the river;
- River waters – recipients' waters on the profiles upstream and downstream of the waste water discharge point *воде peke*;
- Groundwater in the vicinity of ash and slag landfill (piezometers and rural wells).

Within the control program, monitoring of the efficiency of devices for wastewater treatment is also carried out at TENT A - G1, UM1 and Biodisk. Ash and slag landfills groundwater quality impact is monitored by testing water quality in the piezometers and rural wells located in the landfill vicinity. Long-term studies have shown that concentrations of sulphate and arsenic are relevant parameters to monitor the impact of ash and slag landfills on groundwater. Sulphate ion, originating from the landfill is characterised by the fastest migration and is considered to be an excellent tracer for monitoring of the landfill groundwater impact. There is groundwater control in piezometers in vicinity of coal storage and waste storage in TENT A.

TENT B recorded the current state, so-called initial state, of groundwater quality prior to the commencement of ash landfill site exploitation. Groundwater quality data, initial state, are of great importance for further monitoring and evaluation of the ash landfill impact on the groundwater quality. In TENT B, PUTOKS plant for sanitary waste water treatment is monitored in terms of its operation efficiency.

Annual surface and groundwater quality reports for each TENT unit are submitted by authorized person to Serbian Environmental Protection Agency, to the competent inspectors upon their request, as well as to the relevant institutions during the opinion obtaining process for the purpose of issuance of water permits.

Results of water quality measurements are presented in the Environmental Report developed each year for every organisational unit. Additionally, data are presented in the National Pollution Sources Registry delivered by PE EPS TENT Branch each year to the Environmental Protection Agency in line with the legal regulations.

Surface, groundwater and wastewater quality monitoring for the first two quarters in 2019 at all four locations was executed by authorized legal entity, the Institute for occupational protection Novi Sad.

Table 59 shows the analysis of wastewater and recipient quality data for 2019 in terms of their legal compliance.

In case of surface waters, legal compliance was evaluated by comparing the measured values of parameters with the limit values defined by the Regulation stipulating limit values for pollutants in surface and ground waters and sediments, and due dates for their achievement (Official Gazette of RS No. 50/2012) while wastewater

values were compared with the limit values defined by the Regulation stipulating limit values of pollutants in water and due dates for their achievement (Official Gazette of RS No. 67/2011, 48/2012 and 1/2016).

Table 59

NIKOLA TESLA TPPs BRANCH				
Water quality in 2019				
Organizational unit	TENT A	TENT B	KOLUBARA A TPP	MORAVA TPP
Water type	Waste water and recipients			
Drainage wastewater from the landfill	<ul style="list-style-type: none"> suspended solids: <1 - 14mg/l, no LV exceedance arsenic: 10 - 59µg/l, LV exceedance of 10µg/l in two samples of waste water of new drainage channel and one sample from old drainage channel sulphates: 107-501mg/l Below LV-2.000mg/l 	<ul style="list-style-type: none"> suspended solids: <1 mg/l, arsenic: <4 - 34µg/l, sulphates: 600-684mg/l <p>NOT DISCHARGED</p>	-	Not discharged into recipient
Overflow wastewater from the landfill	<ul style="list-style-type: none"> suspended solids: <1 mg/l, no LV exceedance arsenic: 19 - 138µg/l. above LV- 10µg/l sulphates: 243 – 436mg/l. <p>below LV-2000mg/l</p> <p>Note: analysed sample is a mixture of overflow and drainage waters with mostly overflow waters</p>	<ul style="list-style-type: none"> suspended solids <1 - 1216 mg/l arsenic: 4 - 291µg/l sulphates: 496-505mg/l <p>NOT DISCHARGED</p>	<p>I and II quarter suspended solids <1-8 mg/l</p> <p>arsenic: 0,21-0,22 mg/l</p> <p>sulphates: 451.38-523 mg/l</p>	<p>pH 8.99-11.21</p> <p>suspended matter 3.2-227 mg/l</p> <p>As 0.09 mg/l (I quarter)</p> <p>Pb 0.078 mg/l (I quarter)</p> <p>Not discharged into recipient.</p>
Recipient	<p>No changes of the Sava River quality upstream - downstream of TENT A for:</p> <ul style="list-style-type: none"> arsenic: not exceeding LV - 10µg/l sulphates: 18.5mg/l. Below LV -100 mg/l mineral oil: not identified <p>Sava River temperature differences (TENT A upstream and downstream) do not exceed 3°C (legal limit) and it amounts to 1.3°C.</p>	<p>No changes of the Sava River water quality upstream-downstream of TENT B:</p> <ul style="list-style-type: none"> arsenic: not exceeding LV -10µg/l sulphates: 18 – 24 mg/l, below LV-100 mg/l mineral oil: not identified <p>No Sava River temperature differences TENT B upstream and downstream</p>	<p>Turija River: I and II quarter</p> <p>-arsenic: upstream - below MPC (0.01 mg/l) and downstream two samples exceed MPC (0.021-0.022)</p> <p>•sulphates: upstream and downstream – all samples below MPC (100 mg/l)</p> <p>Kolubara River:</p> <p>-arsenic: upstream one sample exceeds MPC (0.014mg/l) and downstream one sample exceeds MPC (0.017mg/l) MPC (0.01)</p>	<p>Velika Morava River upstream wastewater discharge:</p> <p>Ammonium 0.6 mgN/l (II quarter)</p> <p>Velika Morava River downstream wastewater intake :</p> <p>Total N 2.76-2.93 mg/l</p> <p>Velika Morava River during discharge of wastewater from sand filters washing:</p> <p>Total N 2.80-2.83 mg/l</p> <p>Ammonium 0.75 mgN/l (I quarter)</p>

			-sulphates: upstream and downstream all samples below MPC (100 mg/l) - Mineral oils upstream and downstream <0.1 mg/l - Kolubara River temperature difference upstream and downstream from TEK is lower than 3°C (within the legal limit)	
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Table 60 shows the groundwater quality data analysis in the ash and slag landfill site vicinity in 2019 in terms of their legal compliance. Analysis was provided for certain tested parameters of greater importance.

During 2019 groundwater quality monitoring in TENT A was conducted in 14 piezometers and 3 rural wells, TENT B – 7 piezometers and 4 rural wells, TPP KOLUBARA A - 5 piezometers and 4 rural wells and TPP Morava 1 piezometer and 4 rural wells.

Legal compliance is evaluated by comparing the groundwater values measured in piezometers with remediation values of pollutant, hazardous and harmful substances in aquifer in line with the Regulation on limit values of pollutant, hazardous and harmful substances in soil (Official Gazette of RS No. 30/2018), while the rural wells water data are compared with the maximum permissible concentrations (MPCs) stipulated by the Rulebook on hygienic correctness of drinking water (Official Gazette of FRY No. 42/98 and Official Gazette of RS, No. 28/19).

Table 60

NIKOLA TESLA TPPs BRANCH						
Groundwater quality around ash and slag landfills in 2019						
	Permissible values		Organisational unit			
	*	**	TENT A	TENT B	KOLUBARA TPP A	MORAVA TPP
Sulphates (mg/l)	250		Highest in piezometers: P7-3, П10/4 and P2 (from 421 mg/l – 605 mg/l). Below MPC in all samples of rural wells.	Highest in piezometers: P2 and P48: 490mg/l-547 mg/l Below MPC in all samples of rural wells.	In wells: I and II quarters •N2, 127.1 – 785.5 mg/l , in one sample over MPC; •N3 160.9 – 661.3 mg/l, in one sample over MPC. Below MPC in all piezometers.	In controlled piezometer 61-206.2-229.7 mg/l. Above MPC in 2 wells measured 269.3-272.9 mg/l. (I quarter) Above MPC in 1 well measured 288.1 mg/l. (II quarter)
Arsenic (µg/l)	10	60	Below MPC in all samples of piezometers and rural wells.	Below MPC in all piezometers. Below MPC in all rural wells.	In wells below MPC in all samples. For I and II quarters In piezometers above MPC in two piezometers of one sampling series (VIII-1 and XV-1) and in one piezometer in two sampling series (I-2).	In controlled piezometer below MPC. Above MPC in 1 well measured 0.021mg/l. (I quarter)

Lead and cadmium (mg/l)	Pb 0.01	Pb 0.075 Cd 0.006	Lead above MPC in two samples of piezometer P19 and one P7/3 (0.088 – 0.17mg/l). Cadmium above MPC in one sample of piezometer P19 (0.014mg/l).	Lead and cadmium above MPC in one sample of piezometer P59 (Pb – 0.34 mg/l, Cd – 0.15 mg/l) Both lead and cadmium below MPC limit in all rural wells	In wells Pb is below MPC in all samples For I and II quarters In piezometers Pb and Cd are below MPC in all samples except Pb in sample VIII-1 in one sampling series. For I and II quarter	In controlled piezometer below MPC. Below MPC in all wells.
Zinc (mg/l)	3.0	0.8	Above MPC in most samples of piezometers (up to 30 mg/l)	Above MPC in piezometers P59, P74 and P35 (2.1 – 76 mg/l)	Zinc below MPC in all samples in wells and piezometers also except Zn in sample VIII-1 in one sampling series. For I and II quarter	In controlled piezometer zinc is below MPC. Below MPC in all wells.
Manganese (mg/l)	0.05		Above MPC in sample of one rural well 2 in Krtinska– 0.27 mg/l.	Above MPC in one sample of well 2 in Grabovac (0.196 mg/l)	In Wells : For I and II quarter N1 - < 0.05 in two samples below MPC. N2 – < 0.05 and 0.42 mg/l, in one sample above MPC. N3 – 0.32 mg/l and 2.73 mg/l in two samples above MPC. N4 – < 0.05 mg/l below MPC in all samples.	In controlled piezometer above MPC 0.11 mg/l (II quarter) Above MPC in 2 wells measured 0.80-0.82mg/l.
Ammonia (mg/l)	0.03		Ammonia is below MPC in all samples of rural wells. Nitrites above MPC are registered in all samples of wells in Urovci (0.15– 0.16 mg/l)	Ammonia and nitrites below MPC in all samples from rural wells	For I and II quarter Ammonia above MPC in wells in one sampling series N2-1.49 mg/l; N3-2.01 mg/l; N4-0.512 mg/l Nitrites are below MPC in N1, N3 and N4 wells, above MPC one sampling in well N2: 0.825 mg/l There are no MPCs for ammonia and nitrites for piezometers (Regulation released in Official Gazette of the Republic of Serbia No. 88/2010 and 30/2018-second regulation)	In controlled piezometer below MPC. Above MPC in 1 well measured 1.97-2.25 mg/l. (I and II quarter) In controlled piezometer below MPC.
Nitrites (mg/l)	0.1					
Nitrates (mg/l)	50		Above MPC in all samples from rural wells (84 - 162 mg/l)	Nitrates above MPC in one sample of well in Dren (54.7 mg/l)	For I and II quarter Below MPC in all samples taken from wells. There are no MPC for nitrates for piezometers (Regulation released in Official Gazette of the Republic of Serbia No. 88/2010 and 30/2018-second regulation)	In controlled piezometer below MPC. Below MPC in all wells

*MPC of potable water;

**Remediation values of hazardous and harmful substances and values indicating serious groundwater contamination

As the concentration of manganese in the overflow and drainage waters of ash landfill is low, increased manganese in rural wells water is probably caused by the high level of this element in soil, which can be concluded from the fact that concentrations of manganese and nitrates in rural wells' water are increased as well as bacteria around the TENT B ash landfill, established by the "zero state" testing.

Annual reports of authorized persons from the previous years state that measured high concentration of zinc in piezometers on TENT A and TENT B is the result of dissolution of metal from galvanized pipes the piezometers are made of.

Bacteriological analysis of rural wells water indicated the presence of coliform bacteria. This is caused by the proximity of septic tanks and stables, which is concluded based on the data on initial state.

Table 61 provides the analysis of sanitary wastewater quality data at the treatment plant inlet and outlet for 2019.

Table 61

NIKOLA TESLA TPPs BRANCH			
Sanitary wastewater treatment plant operation in 2019			
Pollutants concentration (mg/l)	MPC (mg/l)	Biodisk plant TENT A	Putoks plant TENT B
Suspended solids (mg/l)			
Plant inlet	-	31 - 754	70,4 – 250
Plant outlet	75	21 - 305	10,4 – 16,4
Biological oxygen demand for 5 days (BOD5)			
Plant inlet	-	60 – 360	180 – 240
Plant outlet	50	3,3– 90	10 – 30

• Water amounts

Table 62 provides an overview of water amounts captured and discharged by TENT Branch organisational units for 2019. TENT A and TENT B calculation of annual amounts of captured surface waters and discharged return cooling water, as well as overflow and drainage water on TENT A is prepared based on the data on capacity and operating time of the pumps for capturing i.e. discharging water. In TENT A and TENT B, there are flow meters both for captured underground and discharged sanitary waste water. In the case of gravitational wastewater discharges, calculations were made based on previous wastewater measurements (overflow and drainage water from the ash and slag landfill). Veliki Crljeni potable water treatment plant supplies Veliki Crljeni and Kolubara A TPP with potable water. A gauge was installed for the line running towards the Kolubara A TPP, also supplying one part of the settlement and the sports centre.

Table 62

NIKOLA TESLA TPPs BRANCH						
Water amounts in 2019 (m ³ / year x10 ³)						
Organizational unit	Reservoir		Discharged wastewater			
	Used amounts		Used amounts	Wastewater discharged into Bare Channel	Overflow and drainage water – ash disposal site	Sanitary wastewater
	Surface	Surface				
Nikola Tesla A TPP	1.231.168	922	1.199.000	-	30.623	116 ¹⁾
Nikola Tesla B TPP	1.222.176	373	1.211.559	-	-	64
Kolubara A TPP	5.029	-	-	670	220	410
Morava TPP	69.441	101	67.540		-	8
TOTAL: NIKOLA TESLA TPP BRANCH	2.527.814	1.396	2.478.099	670	30.843	598

* For raw water preparation

1) In 2019, flow meter at sanitary water outlet at TENT A was broken and therefore the quantity of water captured from Obrenovac water supply is taken as the amount of discharged sanitary water.

▪ Improvements aimed at reducing wastewater impacts on surface and groundwater

One of the conditions to obtain the integrated permit for further operation and performance of activities after 31st December 2020 is to reduce emissions to water in accordance with the Water Act (Official Gazette of RS No. 30/10) and the Regulation stipulating pollutants limit values in waters and due dates for their achievement (Official Gazette of RS No. 67/11, 48/12 and 1/2016).

TENT A

Wastewater treatment plant was constructed in 2016 and it includes treatment plants for coal contaminated waste water (G1), oil contaminated waste water (U1) including pre-treatment of heavy oil contaminated waste waters (UM1) and FGD wastewaters (that is not operating since FGD plant has not been built yet). Accredited laboratory of Institute for operational protection Novi Sad performed sampling two times over the first two quarters of 2019 in order to monitor operational efficiency of the plant. In the first quarter sampling, arsenic concentration above the ELV was recorded at the outlet of G1 and UM1 plants.

TENT B

Detail Design for the TENT B Wastewater Treatment Plant Construction has been prepared and a Contractor has been selected but the construction of the plant has not started due to the impossibility of the Contractor to execute works. Plant Design was implemented through decentralized system for IPA Projects management (EU Delegation was responsible for management of the project), having in mind a fact that the construction of the plant was approved for financing from IPA 2011 Funds.

3.2.4. Emission Measurements of Matters Affecting Soil Quality

During 2019 the testing of soil quality and the content of total and available forms of heavy metals and pollutants in soil was continued, together with the monitoring of chemical composition and water quality in the melioration channels around TENT Branch TPPs to identify ash and slag landfill impacts on soil and melioration channels water. Annual monitoring reports covering thermal power plant ash and slag landfill soil and melioration channels impacts for each of the PE EPS organisational unit are made available to the inspection upon request. Soil quality measurement results are presented in an Environmental Report prepared annually for each organisational unit.

The first sampling and testing were performed by Institue 'Vatrogas' Novi Sad, in out-of-vegetation period of 2019, while the second sampling and testing were performed during the vegetation period of 2019 by "Operational and Environmental Protection Belgrade", DOO at locations of TENT A, TENT B, TPP Kolubara and TPP Morava. Samples were analysed for: physical properties of soil, chemical properties of soil, soil reaction, topsoil content, total nitrogen and organic carbon soil content, nitrate and nitrite ions content, available phosphorus and potassium content, heavy metals content (chromium, nickle, lead, copper, zinc, cadmium, mercury, arsenic and boron).

The soil monitoring programme included: field and laboratory measurements on representative sampling points entered into the topographic map (GPS identified points), allowing future monitoring of changes of the studied parameters at the same measuring points.

Measuring points are defined depending on their distance from the landfill. A total four sampling zones has been defined (three impact zones and one control zone) as follows:

- Zone 1 – up to one kilometre from the landfill,
- Zone 2 – between one and three kilometres from the landfill,
- Zone 3 –three to five kilometres from the landfill, and
- Zone 4 – represents control sample taken at the distance of more than five kilometres from the landfill.

The content of heavy metals and other toxic elements in soil was within normal ranges and below remediation values for: chromium (Cr), lead (Pb), copper (Cu), zinc (Zn), cadmium (Cd), mercury (Hg), arsenic (As) and boron (B).

Data were evaluated based on the Regulation on limit values for pollutant, harmful and dangerous substances in soil (Official Gazette of RS No 30/2018) and the Regulation stipulating permissible hazardous and harmful substances content in soil and irrigation water and their testing methods (Official Gazette of RS № 23/94) and by Regulation on limit values for pollutant, harmful and dangerous substances in soil (Official Gazette of RS No 30/2018 and 64/2019).

TENT A and B

In TENT A, ash is disposed by uniform discharge of a water and ash mixture (slurry) into the storage area (active cassette), while the remaining area is temporarily idle (passive cassette). Uniform ash disposal is achieved by changing the unloading points on the active cassette, as well as by switching from one to another cassette, every 5 to 6 years (transitional period). The landfill occupies a total area of 400 ha. The entire area is divided into 3 cassettes. Disposal of ash and slag takes place in cassette II, and cassette III has been idled since April 2018.

Total area of the disposal site of TENT B is 600 ha, out of which 400 ha were used for ash and slag disposal. Technology of collecting, transport and disposal of ash was changed from thin to thick slurry (on 4th October 2009, unit B2 was connected to new system, while B1 was connected on 30th May 2010). Currently, cassette II is active, and cassette I is idle.

On TENT A and TENT B locations, ash and 30 soil samples were analysed.

KOLUBARA TPP

The reconstruction of ash handling system of Unit A5 Kolubara TPP in 2009 is part of a joint project, which also included a reconstruction of an electrostatic precipitator plant aimed at reducing dust emissions to the limit values. Ash and slag landfill area is 78ha and has four cassettes. Two cassettes (1 and 2) were permanently re-cultivated by foresting in 2009.

At the Kolubara TPP, ash and 16 soil samples were analysed taken from the landfill.

MORAVA TPP

Retention of ash and slag is achieved by constructing peripheral embankments. In total there are eight bunds (cassettes), of which I, II, III, IV, V and VI were biologically re-cultivated (grass sowing, planting of fruit and other plants), cassette VII is the area where ash is used for cement plants needs, and cassette VIII is active and ash and slag are disposed there. In 2014 overflow reservoir system is built where drainage water from ash and slag landfill is collected and then returned by pump system into slurry station for further ash and slag transport.

At the Morava TPP, ash and 17 soil samples were analysed taken from the landfill.

Table 63 contains measurement results evaluation in accordance with the above legislation. Data show pollutant content in ash as a potential pollution source, however data were not evaluated since the above mentioned legislation refers to soil not ash

Table 63

NIKOLA TESLA TPP BRANCH						
Content of substances affecting the soil quality around ash landfill in 2019						
Content (mg/kg)	LV	RV	TENT A	TENT B	KOLUBARA TPP	MORAVA TPP
	mg/kg					
Chromium (Cr)	100	380	Ash: 34.8 ± 12.18 Soil: Out of 48 samples, one exceeds LV. None exceeds RV. Soil, control zone: Out of 10 samples none exceeds LV. None exceeds RV.	Ash: 21.45 ± 6.65 and 35.8 Soil: Out of 46 samples,none exceeds LV. None exceeds RV. Soil, control zone: Out of 8 samples none exceeds neither LV nor RV Zone across Sava: Out of 4 samples none exceeds neither LV nor RV	Ash: 24.1 (±7.88) and 38.5 Soil: Out of 30 samples, 4 exceed LV. None exceeds RV. Soil, control zone: Two control samples not exceeding LV and RV.	In 7 samples chromium content exceeds LV both in vegetation and out-of-vegetation period.
Nickel (Ni)	35	210	Ash: 39.12 ± 12.13 и 62.5 Soil: Out of 48 samples, 39 exceed LV. None exceeds RV. Soil, control zone: All 10 samples exceed LV. None exceeds RV.	Ash: 28.6 ± 10.01 и 57.6 Soil: Out of 46 samples, 25 exceed LV. None exceeds RV. Soil, control zone: Out of 8 samples 4 exceed LV. None exceeds RV. Zone across Sava: Out of 4 samples one exceeds LV. None exceeds RV.	Ash: 50.2 (±15.56) и 42.7 Soil: Out of 30 samples 25 exceed LV. Two samples exceed RV. Soil, control zone: Both of two control samples exceed LV, but not RV.	In 31 samples nickle content exceeds LV both in vegetation and out-of-vegetation period. In 13 samples nickle content exceeds MPC both in vegetation and out-of-vegetation period In 5 samples nickle content exceeds RV both in vegetation and out-of-vegetation period
Lead (Pb)	85	530	Ash: 15.33 ± 5.52 and <8 Soil: Out of 48 samples, 14 exceed LV but none of them RV. Soil, control zone: out of 10 samples 4 exceed LV but none of them RV.	Ash: 4.99 ± 1.80 and 11.8 Soil: Out of 46 samples none exceeds LV nor RV. Soil, control zone: Out of 8 samples, none exceeds LV nor RV. Zone across Sava: out of 4 samples none exceeds LV nor RV.	Ash: 16.5 (±14.86) and 34.8 Soil: Out of 30 samples one exceeds LV but not RV. Soil, control zone: None of two control samples exceeds LV nor RV.	 In 8 samples lead content exceeds LV both in vegetation and out-of-vegetation period. In 7 samples lead content exceeds MPC both in vegetation and out-of-vegetation period.

Copper (Cu)	36	190	<p>Ash: 25.9 ± 8.03 and 36.3</p> <p>Soil: Out of 48 samples, 18 exceed LV. None exceeds RV.</p> <p>Soil, control zone: Out of 10 samples 5 exceed LV. None exceeds RV.</p>	<p>Ash: 11.00 ± 3.41 and 21.1</p> <p>Soil: Out of 46 samples, 4 exceed LV. None exceeds RV.</p> <p>Soil, control zone: Out of 8 samples none exceeds LV. None exceeds RV</p> <p>Zone across Sava: Out of 4 samples none exceeds LV nor RV.</p>	<p>Ash: 38.8(±12.03) and 20.8</p> <p>Soil: Out of 30 samples, 12 exceed LV. None sample exceeds RV.</p> <p>Soil, control zone: Out of two control samples none exceeds neither LV nor RV.</p>	In 24 samples copper content exceeds LV both in vegetation and out-of-vegetation period .
Zinc (Zn)	140	720	<p>Ash: 40.1 ± 12.83 and 60.4</p> <p>Soil: Out of 48 samples, 4 exceed LV. None exceeds RV.</p> <p>Soil, control zone: Out of 10 samples 3 exceed LV. None exceeds RV</p>	<p>Ash: 8.50 ± 2.72 and 20.3</p> <p>Soil: Out of 46 samples, one exceeds LV. None exceeds RV.</p> <p>Soil, control zone: Out of 8 none exceeds neither LV nor RV.</p> <p>Zone across Sava: Out of 4 samples none exceeds neither LV nor RV.</p>	<p>Ash: 58.4 (±18.69) and 71.8</p> <p>Soil: Out of 30 samples, 4 exceed LV. None sample exceeds RV.</p> <p>Soil, control zone: None of two control sample exceeds neither LV nor RV.</p>	In 19 samples zinc content exceeds LV both in vegetation and out-of-vegetation period .
Cadmium (Cd)	0.8	12	<p>Ash: < 0.20 and <0.4</p> <p>Soil: Out of 48 samples none exceeds LV. None of the samples exceeds RV.</p> <p>Soil, control zone: Out of 10 samples 5 exceeds LV. None of them exceeds RV.</p>	<p>Ash: <0.20 and <0.4</p> <p>Soil: Out of 46 samples none exceeds RV and LV.</p> <p>Soil, control zone: Out of 8 samples non exceeds LV and RV.</p> <p>Zone across Sava: Out of 4 samples none exceeds LV and RV.</p>	<p>Ash: <0.2 and <0.9</p> <p>Soil: Out of 30 samples, 7 exceed LV and none of the samples exceeds RV.</p> <p>Soil, control zone: One of two control samples exceeds LV but not RV.</p>	In 9 samples zinc content exceeds LV in out-of-vegetation period.
Mercury (Hg)	0.3	10	<p>Ash: < 0.10 and 1.3</p> <p>Soil: Out of 48 samples 10 exceed LV and none of the samples exceeds RV.</p> <p>Soil, control zone: Out of 10 samples 2 exceed LV and none of the samples exceeds RV.</p>	<p>Ash: <0.10 and 0.3</p> <p>Soil: Out of 46 samples 3 exceed LV. None of the samples exceeds RV</p> <p>Soil, control zone: Out of 8 samples 2 exceed LV. None of the samples exceeds RV.</p> <p>Zone across Sava: Out of 4 samples 2 exceed LV. None of the samples exceeds RV .</p>	<p>Ash: <0.1 and 0.2</p> <p>Soil : Out of 30 samples, 4 exceed LV. None of the samples exceeds RV.</p> <p>Soil, control zone: One of two control samples exceeds LV but not RV .</p>	No exceedance
Arsenic (As)	29	55	<p>Ash: 100,5 ± 35.18 and 45.3</p> <p>Soil:</p>	<p>Ash: 9.20 ± 3.22 и 17.7</p> <p>Soil: Out of 46 samples none exceeds RV and LV.</p>	<p>Ash: 178.6 (±1.1) и 6.1</p> <p>Soil:</p>	In 6 samples arsenic content exceeds LV both in vegetation and

			Out of 48 samples none exceeds RV and LV. Soil, control zone: Out of 10 samples none exceeds LV and RV	Soil, control zone: Out of 8 samples none exceeds LV and RV. Zone across Sava: Out of 4 samples none exceeds LV and RV	Out of 30 samples, one exceeds LV and none of them RV. Soil, control zone: None of two control samples exceeds LV and RV	out-of-vegetation period . In 3 samples arsenic content exceeds MPC in out-of-vegetation period. In 1 sample arsenic content exceeds RV in vegetation period.
Boron (B)	.	.	Ash: <0.7 and 33 Soil: Out of 48 samples none exceeds RV and LV. Soil, control zone: Out of 10 samples none exceeds LV and RV.	Ash: <0.7 and 21.6 Soil: Out of 46 samples none exceeds RV and LV. Soil, control zone: Out of 8 samples none exceeds LV and RV Zone across Sava: Out of 4 samples none exceeds LV and RV.	Ash: <0.7 and 7.0 Soil: Out of 30 samples, none exceeds LV and RV. Soil, control zone: None of two control samples exceeds LV and RV	No exceedance

3.2.5. Environmental Noise Measurement

During 2019 in TENT Branch area environment noise levels were measured twice by City Institute for Public Health Belgrade and Mining Institute Belgrade. Noise levels were measured on four measuring points around each plant. Measuring points are distributed on different sides of the world, at different distances from the plants. At the order of the inspection, noise was measured in TENT A and TENT B closest residential areas. Measurements were conducted during the day, evening and night mode. Table 64 shows values for day and night measurements as mean values of two fifteen-minute measurements. The measurements were done in line with SRPS ISO 1996-1 and SRPS ISO 1996-2. Ultimate objective of the above measurements was to determine the relevant noise levels indicated as the measured equivalent levels.

Annual Environmental Noise Levels Reports for each TENT organisational unit are delivered to the Environmental Protection Agency and are made available also to the relevant inspectors upon request. Environmental noise levels are also presented in an Environmental Report prepared each year for every organisational unit.

Noise in the process of electricity generation in thermal power plants is created by operation of the following plants: mills, turbines, flue gas fans while occasionally during unit (boiler) operation disturbances, noise is created by when safety valves are turned on, lasting up to 1 minute.

Table 64 shows the measured noise levels in 2019 for the Nikola Tesla TPPs Branch. Data for two annual measurings of noise are given for TENT A and TENT B.

Local governments of Obrenovac, Lazarevac (Belgrade City), and Svilajnac have not carried out yet acoustic spatial zoning in accordance with the Environmental Noise Protection Act (Official Gazette of RS No. 36/09 and 88/10). Due to the lack of clearly limited acoustic zones it was not possible to accurately determine the measuring points. Therefore, Zemun Mining Institute reports on performed measurements for measuring points in the closest residential zones TENT A and TENT B suggested acoustic zone 5 – City centre, trading, crafts, administrative zones containing flats, zones along motorways, state and city roads. According to Regulation stipulating acoustic zones identification methodology (Official Gazette of RS No. 72/2010): Zone 6 – Industrial, storage, service areas and transport terminals without residential buildings borders Zone 5 – City centre, trading, crafts, administrative zones containing flats, zones along motorways, state and city roads. Noise indicators limit values in open areas for Zone 5 in line with the above Regulation for day and evening is 65 dB (A) and night 55

dB (A). Results obtained by the measurement were compared to the prescribed values for measured level of noise for day, evening and night period of thermal power plant units' operation.

Mining Institute Belgrade did not give comparison of measured values with limit values in its reports, because local governments did not performed acoustic zoning.

Measuring points selected as the residential area closest to TENT B, are along the trunk road, so great noise influence is made by traffic noise.

Based on environmental noise measurement done 7th November – 8th November 2019 around the thermal power plant of Kolubara on four measuring points in order to determine relevant noise level, which is given through measured level equivalents and possible additions to the level depending on the type of the noise measured. At the time of measurement and report preparation, data on acoustic zoning in vicinity of Kolubara TPP were not available and therefore Mining Institute from Zemun did not perform comparison with the limit values and assesment of measurement results. The obtained noise level indicators are shown in table.

Table 64

NIKOLA TESLA TPPs BRANCH							
Noise levels in 2019 (dB)(A)							
Noise indicators limit values, Regulation stipulating noise indicators, limit values, methods assessing noise indicators, disturbance levels and harmful living environment noise effects (OG RS № 75/10)		*Closed area				Day and evening	Night
						35	30
		Open areas	Areas for rest and recreation, hospital zones and rehabilitation centres, cultural and historical sites, large parks			50	40
			Tourist areas, camps and school zones			50	45
			Purely residential areas			55	45
			Commercial-residential areas, trading-residential areas and children's playgrounds			60	50
			City centre, trading, crafts, administrative zones containing flats, zones along motorways, state and city roads			65	55
			Industrial, storage and service areas and transport terminals without residential buildings			At the border of this zone noise must not exceed the limit value in the zone with which it is bounded.	
Measuring points		TENT A		TENT B		KOLUBARA A TPP	MORAVA TPP
		Measurement I	Measurement II	Measurement I	Measurement II	Measurement I	Measurement I
Day	1	53,5	58,8	68,0	65,4	46,0	61,3
	2	53,0	55,2	65,5	65,6	56,0	54,5
	3	58,0	53,3	58,0	57,3	55,5	55,4
	4	55,5	51,2	48,0	48,7	67,6	50,9
Evening	1	54,0	62,4	65,0	68,9	46,5	56,1
	2	52,0	51,7	62,0	62,0	56,7	56,1
	3	52,0	50,0	62,0	56,7	53,6	55,2
	4	53,0	52,8	50,0	50,2	63,0	46,6
Night	1	54,0	61,0	55,5	62,1	47,4	59,4
	2	54,0	51,3	51,5	61,9	49,7	55,8
	3	53,5	51,2	50,0	55,0	53,6	55,0
	4	53,0	50,8	47,5	49,1	58,7	53,8

Preparation of Study for noise decrease in the environment for TPP and TPP- HP is planned in the future period.

3.2.6. Waste

Waste created in 2019 is shown in Table 65, while waste quantities given to the authorized operators in 2019 are shown in Table 66.

Table 65

NIKOLA TESLA TPPs BRANCH									
Generated waste in 2019									
No.	Official nomenclature under the Rulebook on Waste Categories, Testing and Classification ("Official Gazette of RS", no. 56/2010 and 93/2019)		Unit (t)	Organizational unit				Total	Note
				TPP Nikola Tesla A	TPP Nikola Tesla B	Kolubara A TPP	Morava TPP		
	Name	Index number	(t)	Amounts					
1	Used printer cartridges other than those indicated under 08 03 17	08 03 18	t	0,000	0,000	0,500	0,000	0,500	Waste printer cartridges
2	Ash, slag and dust from boiler (except the dust from boiler stated in 10 01 04)	10 01 01	t	2.940.840,520	2.554.844,040	264.159,472	153.624,260	5.913.468,292	Coal ash and slag
	Coal fly ash	10 01 02							
3	Spent waxes and greases	12 01 12*	t	0,000	0,000	0,000	0,020	0,020	Waste greases
4	Other hydraulic oils	13 01 13*	t	6,520	2,460	2,160	0,960	12,100	Waste hydraulic oils
5			t	2,700	0,000	8,720	7,520	18,940	Waste turbine oils
6	Other motor oils, gear oil and lubricating oil	13 02 08*	t	6,980	67,935	0,000	0,000	74,915	Waste lubricating and control oil
7			t	3,640	1,500	0,000	1,390	6,530	Waste motor oil, gear oil and lubricating oil
8	Other oils for insulation and heat transfer	13 03 10*	t	3,140	0,680	0,000	0,610	4,430	Waste oil for insulation and heat transfer
9	Other fules (including mixtures)	13 07 03*	t	61,900	0,000	0,000	0,000	61,900	Waste sludge and fuel from reservoir
10			t	5,515	0,120	0,000	0,160	5,795	Waste heavy oil
11			t	0,000	0,750	0,000	0,000	0,750	Heavy oil-contaminated soil and branches
12	Other emulsions	13 08 02*	t	9,020	11,860	0,000	0,060	20,940	Waste emulsions (mixture water and oil)
13	Other solvents and solvent mixtures	14 06 03*	t	0,600	0,152	0,000	0,000	0,752	Waste solvents and solvent mixtures
14	Wooden packaging	15 01 03	t	50,000	50,000	3,000	46,460	149,460	Wooden packaging waste

15	Metal packaging	15 01 04	t	0,000	0,000	0,000	0,000	0,000	Waste FF device bottles
16	Packaging with residue of hazardous substances or contaminated with hazardous substances	15 01 10*	t	0,000	0,056	0,000	0,000	0,056	Waste contaminated glass packaging
17			t	3,540	1,031	0,250	0,000	4,821	Waste contaminated PVC packaging from chemicals
18			t	3,225	0,345	0,300	0,000	3,870	Waste metal packaging from oils and lubricants
19	Metal packaging containing dangerous solid porous matrix (e.g., asbestos), including empty bottles under pressure	15 01 11*	t	1,420	0,120	0,180	0,000	1,720	Waste gas bottles
20	Absorbent, filter materials, wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	0,745	4,640	0,260	0,580	6,225	Cotton waste with oil and heavy oil
21			t	0,500	0,055	0,000	0,150	0,705	Rejected oiled filters
22			t	6,070	0,000	0,880	1,120	8,070	Waste adsorption means with oil and heavy oil
23	Absorbent, filter materials, wiping cloths, protective clothing different from those mentioned in 15 02 02	15 02 03	t	0,160	0,100	0,000	0,140	0,400	Waste non-dangerous filters
24	Waste tires	16 01 03	t	1,990	0,194	0,000	1,700	3,884	Waste pneumatic tires
25			t	31,650	2,000	0,000	7,200	40,850	Waste rubber conveyor belt
26	Waste vehicles not containing liquids or other hazardous components	16 01 06	t	0,000	0,000	0,000	0,000	0,000	Waste vehicles not containing liquids
27	Discarded equipment containing hazardous components other than those indicated under 16 02 09 and 16 02 12	16 02 13*	t	28,758	6,454	1,080	1,760	38,052	Waste from electric and electronic devices
28	Laboratory chemicals made of or containing dangerous substances, including laboratory chemical mixtures	16 05 06*	t	0,000	0,000	0,000	0,020	0,020	Waste chemicals
29	Lead batteries	16 06 01*	t	11,300	0,242	0,300	0,320	12,162	Waste lead batteries
30	Nickel-cadmium batteries	16 06 02*	t	0,560	0,000	0,000	0,000	0,560	Ni - Cd batteries
31	Ceramics	17 01 03	t	1,440	0,000	1,000	0,220	2,660	Waste ceramics
32	Wood	17 02 01	t	0,340	0,700	0,000	14,720	15,760	Waste wood
33	Glass	17 02 02	t	7,760	0,000	0,000	3,900	11,660	Waste glass
34	Plastic	17 02 03	t	3,730	1,190	4,540	9,780	19,240	Waste mixed plastics
35	Copper, bronze, brass	17 04 01	t	0,415	0,859	1,850	0,000	3,124	Waste and remains of copper and brass

36	Aluminium	17 04 02	t	2,910	7,960	2,000	5,040	17,910	Waste copper cables
37			t	0,905	0,000	0,000	0,000	0,905	Waste bronze
38			t	0,440	0,000	0,000	0,000	0,440	Waste aluminium cables
39			t	9,740	2,978	0,200	2,280	15,198	Aluminium sheet
40	Iron and steel	17 04 05	t	15,620	1,410	0,000	0,000	17,030	Waste steel sheet
41			t	11,260	16,893	5,000	3,960	37,113	Waste galvanized and black sheet metal
42			t	1,240	0,000	30,000	0,000	31,240	Waste collection electrodes
43			t	365,140	0,300	0,000	0,000	365,440	Waste FE cells
44			t	152,620	228,500	6,620	65,740	453,480	Waste impact plates
45			t	6,880	0,000	0,000	0,000	6,880	Waste steam pipeline
46			t	75,160	0,140	0,000	29,620	104,920	Waste boiler pipelines
47			t	59,120	29,580	47,620	50,480	186,800	Waste iron up to 5mm thickness
48			t	0,000	0,560	107,440	0,580	108,580	Waste grey cast iron
49			t	211,130	28,074	30,300	0,000	269,504	Waste and remains from iron and steel
50			t	1,920,750	527,935	61,300	24,880	2,534,865	Waste iron over 5mm thickness
51			t	24,920	0,000	0,000	0,000	24,920	Waste rail accessories
52			t	1,500	0,000	60,000	0,000	61,500	Waste rail tracks
53			t	0,000	0,000	0,000	3,040	3,040	Waste steel sheet with concrete admixtures
54			t	0,000	0,000	0,000	4,480	4,480	Waste steel sheet with slag additives
55			t	0,000	0,000	0,000	0,800	0,800	Waste steel sheet with wool admixtures
56				0,000	0,000	0,000	1,160	1,160	Metal shavings
57	Mixed metals	17 04 07	t	7,440	0,000	35,960	0,990	44,390	Waste mixed metals
58			t	0,000	0,000	18,640	0,000	18,640	Scrap metal shaving
59			t	0,000	0,000	0,000	1,080	1,080	Waste mixed metals with ceramic admixtures
60			t	0,000	0,000	0,000	0,260	0,260	Waste mixed metals from magnetic separator
61	Waste metal containing dangerous substances	17 04 09*	t	1,360	0,000	0,000	0,000	1,360	Heavy oil-contaminated steel sheet



62	Soil and stone containing dangerous substances	17 05 03*	t	0,000	0,740	0,000	0,000	0,740	Gravel contaminated by oil
63	Soil and stone other than those mentioned in 17 05 03*	17 05 04	t	0,000	8,200	0,000	0,000	8,200	Waste gravel
64	Insulation material other than those mentioned in 17 06 01 and 17 06 03	17 06 04	t	0,000	2,000	0,000	0,000	2,000	Waste insulation textile braids
65			t	116,000	17,960	21,760	2,980	158,700	Waste mineral rock wool
66	Construction material containing asbestos	17 06 05*	t	0,480	0,000	19,000	1,740	21,220	Waste salanit panels
67			t	0,000	0,000	0,000	0,000	0,000	Waste concrete pipes with asbestos
68	Mixed construction and demolition waste other than those indicated under 17 09 01 and 17 09 02 and 17 09 03	17 09 04	t	7.500,000	4.400,000	0,000	0,000	11.900,000	Mixed construction waste
69	Sludge from other industrial waste water treatments other than mentioned in 19 08 13	19 08 14	t	62,400	0,000	0,000	0,000	62,400	Sludge from industrial waste water treatments
70	Sludge from water decarbonisation	19 09 03	t	0,000	0,000	0,000	3,620	3,620	Sludge from water decarbonisation
71	Saturated or spent ion-exchanging resins	19 09 05	t	9,560	0,000	2,440	0,300	12,300	Waste ion mass
72	Minerals (e.g. sand and rock)	19 12 09	t	0,000	0,000	89,640	6,880	96,520	Waste white sand
73	Textile	20 01 11	t	0,000	0,560	0,000	0,000	0,560	Firefighting hose-pipe
74	Fluorescent tubes and other mercury-containing waste	20 01 21*	t	0,470	0,390	0,200	0,114	1,174	Waste fluorescent tubes
75			t	0,088	0,100	0,050	0,000	0,238	Waste Hg bulbs and thermometers

Table 66

NIKOLA TESLA TPPs BRANCH									
Waste given to operators in 2019									
o	Official nomenclature under the Rulebook on Waste Categories, Testing and Classification ("Official Gazette of RS", no. 56/2010 and 93/2019)		Unit (t)	Organizational unit				Total	Note
			(t)	TPP Nikola Tesla A	TPP Nikola Tesla B	Kolubara A TPP	Morava TPP		
	Name	Index number		Amounts					
1	Ash, slag and dust from boiler (except the dust from boiler stated in 10 01 04)	10 01 01	t	0,000	123.410,600	12.900,100	19.786,440	156.097,140	Ash and slag from coal
	Coal fly ash	10 01 02							
2	Spent waxes and greases	12 01 12*	t	0,000	0,000	0,000	0,060	0,060	Waste grease
3	Other hydraulic oils	13 01 13*	t	6,160	3,540	4,240	2,080	16,020	Waste hydraulic oils
4			t	4,260	0,000	5,720	4,500	14,480	Waste turbine oils
5	Other motor oils, gear oils and lubricating oils	13 02 08*	t	40,120	34,760	0,000	0,000	74,880	Waste oil for lubrication and regulation
6			t	5,240	8,160	0,000	3,780	17,180	Waste motor oils, gear oils and lubricating oils
7	Other oils for insulation and heat transfer	13 03 10*	t	3,440	0,000	0,000	0,500	3,940	Waste oils for insulation and heat transfer
8	Other fuels (including mixtures)	13 07 03*	t	61,900	0,000	0,000	0,000	61,900	Waste sludge and fuel from reservoir
9			t	3,535	0,120	0,000	0,160	3,815	Waste heavy oil
10	Other emulsions	13 08 02*	t	7,490	4,840	0,000	0,420	12,750	Waste emulsions (oil-water mixture)
11	Other solvents and solvent mixtures	14 06 03*	t	0,200	0,000	0,000	0,000	0,200	Waste solvents and solvent mixtures
12	Wooden packaging	15 01 03	t	149,180	46,700	0,000	57,000	252,880	Waste wooden packaging
13	Metal packaging	15 01 04	t	0,000	0,000	0,000	0,000	0,000	Waste FF device bottles
14		15 01 10*	t	0,000	0,000	0,000	0,000	0,000	Waste contaminated glass packaging



15	Packaging with residue of hazardous substances or contaminated with hazardous substances		t	1,000	0,023	0,000	0,220	1,243	Waste contaminated PVC packaging from chemicals
16			t	2,540	0,000	0,000	0,120	2,660	Waste metal packaging from oil and lubricants
17	Metal packaging containing dangerous solid porous matrix (e.g., asbestos), including empty bottles under pressure	15 01 11*	t	1,960	0,180	0,180	0,000	2,320	Waste gas bottles
18	Absorbent, filter materials, wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	0,945	4,940	0,160	0,680	6,725	Cotton waste with oil and heavy oil
19			t	0,700	0,040	0,000	0,260	1,000	Waste oiled filters
20			t	5,630	0,000	0,520	1,120	7,270	Waste adsorption means with oil and heavy oil
21	Waste tires	16 01 03	t	13,660	0,160	0,000	3,380	17,200	Waste pneumatic tires
22			t	64,380	42,140	9,460	12,800	128,780	Waste rubber conveyor belts
23	Waste vehicles not containing liquids or other hazardous components	16 01 06	t	25,620	11,280	1,520	0,000	38,420	Waste vehicles not containing liquids
24	Discarded equipment containing hazardous components other than those indicated under 16 02 09 and 16 02 12	16 02 13*	t	16,960	5,000	4,080	0,900	26,940	Waste from electric and electronic devices
25	Laboratory chemicals consisting of or containing dangerous substances, including laboratory chemical mixtures	16 05 06*	t	0,000	0,000	0,000	0,080	0,080	Waste chemicals
26	Lead batteries	16 06 01*	t	1,720	9,220	0,000	2,660	13,600	Waste lead batteries
27	Nickle-cadmium batteries	16 06 02*	t	0,000	0,000	0,000	0,000	0,000	Ni-Cd batteries
28	Ceramics	17 01 03	t	1,440	0,000	0,000	0,000	1,440	Waste ceramic
29	Wood	17 02 01	t	0,000	93,260	52,680	189,720	335,660	Waste wood
30	Glass	17 02 02	t	4,860	0,000	0,000	8,900	13,760	Waste glass
31	Plastic	17 02 03	t	4,540	2,000	14,540	10,660	31,740	Waste mixed plastics
32	Copper, bronze, brass	17 04 01	t	5,060	1,520	0,000	35,100	41,680	Waste and remains of copper and brass
33			t	1,980	1,620	0,980	4,980	9,560	Waste copper cables
34			t	0,000	0,420	0,000	0,000	0,420	Waste brass
35	Aluminum	17 04 02	t	0,000	0,000	0,000	0,000	0,000	Waste aluminium cables

36			t	9,580	2,360	2,700	2,520	17,160	Aluminium sheet
37	Iron and steel	17 04 05	t	0,000	8,560	0,000	1,000	9,560	Waste steel sheet
38			t	21,080	54,820	20,000	5,000	100,900	Waste galvanized and black sheet metal
39			t	126,240	0,000	0,000	0,000	126,240	Waste collection electrodes
40			t	0,000	9,820	0,000	0,000	9,820	Waste Fe cells
41			t	305,060	252,600	54,620	161,320	773,600	Waste impact plates
42			t	23,920	0,000	0,000	0,000	23,920	Waste steam pipeline
43			t	29,760	1,640	0,000	130,880	162,280	Waste boiler pipelines
44			t	127,180	109,400	87,620	87,540	411,740	Waste iron up to 5mm thickness
45			t	0,000	4,360	87,440	0,680	92,480	Waste grey cast iron
46			t	749,180	76,280	30,300	0,000	855,760	Waste and remains from iron and steel
47			t	823,680	494,500	131,300	119,000	1.568,480	Waste iron over 5mm thickness
48			t	0,000	0,000	0,000	8,040	8,040	Waste steel sheet with concrete admixtures
49			t	0,000	0,000	0,000	4,480	4,480	Waste steel sheet with slag additives
50			t	0,000	0,000	0,000	3,000	3,000	Waste steel sheet with rubber admixtures
51			t	0,000	0,000	0,000	0,800	0,800	Waste steel sheet with wool admixtures
52			t	0,000	0,000	0,000	1,160	1,160	Metal shavings
53			t	37,400	0,000	0,000	0,000	37,400	Waste rail accessories
54			t	24,680	0,000	0,000	0,000	24,680	Waste railway rails
55	Mixed metals	17 04 07	t	11,000	2,700	73,960	8,250	95,910	Waste mixed metals
56			t	0,000	0,000	4,640	0,100	4,740	Waste metal shavings
57			t	0,000	0,000	0,000	1,080	1,080	Waste mixed metals with ceramic admixtures
58			t	0,000	0,000	0,000	6,200	6,200	Waste mixed metals from magnetic separator
59	Soil and stone containing hazardous substances	17 05 03*	t	0,000	3,000	0,000	0,000	3,000	Oil-contaminated gravel
60	Insulating materials containing azbestos	17 06 01*	t	0,360	0,000	0,000	0,000	0,360	Waste asbestos



61	Insulating material other than mentioned in 17 06 01 and 17 06 03	17 06 04	t	149,180	17,960	21,760	2,780	191,680	Waste mineral rock wool
62	Construction materials containing asbestos	17 06 05*	t	4,060	0,000	9,040	3,720	16,820	Waste salonit panels
63	Mixed construction and demolition waste other than those indicated under 17 09 01 and 17 09 02 and 17 09 03	17 09 04	t	7.525,390	4.391,180	0,000	0,000	11.916,570	Mixed construction waste
64	Sludge from other industrial waste water treatments other than mentioned in 19 08 13	19 08 14	t	62,400	0,000	0,000	0,000	62,400	Sludge from industrial waste water treatments
65	Sludge from water decarbonisation	19 09 03	t	0,000	0,000	0,000	5,620	5,620	Sludge from water decarbonisation
66	Saturated or spent ion-exchanging resins	19 09 05	t	18,560	0,000	2,440	0,840	21,840	Waste ion mass
67	Minerals (for example: sand and stone)	19 12 09	t	0,000	0,000	99,640	6,880	106,520	Waste white sand
68	Textiles	20 01 11	t	0,000	0,560	0,520	0,400	1,480	Firefighting hose-pipe
69	Fluorescent tubes and other mercury-containing waste	20 01 21*	t	0,160	0,140	0,000	0,120	0,420	Waste fluorescent tubes
70			t	0,040	0,000	0,000	0,000	0,040	Waste mercury bulbs and thermometers

3.3. Working Environment Monitoring, Safety and Health

Occupational Safety and Health Reports for 2019 include the following elements:

- **Working environment monitoring**
 - working environment noise measurements
- **Occupational Safety**
 - training
 - work injuries
- **Health**

3.3.1. Working Environment Monitoring

- **Working environment noise measurement**

During 2019, summer testings of working environment conditions were done on TENT B, TPP Kolubara and TPP Morava locations. Noise levels measured at all measuring points where the measurements were performed did not exceed the limit values.

3.3.2. Occupational Safety

- **Training**

Table 67 shows a number of employees to be trained and a number of trained employees in 2019.

Table 67

NIKOLA TESLA TPPs BRANCH					
Training in 2019					
Organisational unit	Number of employees	Foreseen for training		Trained	
		No.	%	No.	%
Joint services	336	60	17,86	59	98,33
Nikola Tesla A TPP	578	530	91,70	530	100,00
Nikola Tesla B TPP	281	270	96,09	277	102,59
Kolubara TPP	280	200	71,43	167	83,50
Morava TPP	104	60	57,69	42	70,00
Railway transport	417	330	79,14	415	125,76
TOTAL: NIKOLA TESLA TPPs BRANCH	1.996	1.450	72,65	1.490	102,76

In 2019, 1253 PROTENT employees performing their jobs within TENT organizational unit were trained.

- **Work injuries**

Table 68 gives data on a number of injuries at work in 2019.

Table 68

NIKOLA TESLA TPPs BRANCH						
Work injuries in 2019						
Organisational unit	Number of employees	Injuries – number of employees ratio				
		Easy	Heavy	Fatal	Total	%
Joint services	336	1	1	0	2	0,60
Nikola Tesla A TPP	578	10	2	0	12	2,08
Nikola Tesla B TPP	281	4	0	0	4	1,42
Kolubara TPP	280	2	0	0	2	0,71
Morava TPP	104	1	0	0	1	0,96
Railway transport	417	4	1	0	5	1,19
TOTAL: NIKOLA TESLA TPPs BRANCH	1.996	22	4	0	26	1,30

3.3.3. Health

Medical examinations of employees working in high-risk workplaces is carried out once a year or once in two years in accordance with assessed risks.

Table 69 provides periodic examinations data verifying the work capability for 2019.

Table 69

NIKOLA TESLA TPPs BRANCH											
Work capability in 2019											
Organisational unit	Number of employees	Periodical examinations				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Not capable	
		No.	%	No.	%	No.	%	No.	%	No.	%
Joint services	336	93	27,68	92	98,92	86	93,48	5	5,43	1	1,09
Nikola Tesla A TPP	578	561	97,06	559	99,64	489	87,48	62	11,09	8	1,43
Nikola Tesla B TPP	281	236	83,99	235	99,58	217	92,34	17	7,23	1	0,43
Kolubara TPP	280	212	75,71	204	96,23	189	92,65	14	6,86	1	0,49
Morava TPP	104	104	100,00	104	100,00	84	80,77	17	16,35	3	2,88
Railway transport	417	417	100,00	416	99,76	403	96,88	11	2,64	2	0,48
TOTAL: NIKOLA TESLA TPPs BRANCH	1.996	1.623	81,31	1.610	99,20	1.468	91,18	126	7,83	16	0,99

3.4. Public complaints

Public complaints are given in Table 70.

Table 70

NIKOLA TESLA TPPs BRANCH			
Public complaints in 2019			
Organisational unit	Complaint (number, date and by whom submitted)	Subject	Actions
TPP NIKOLA TESLA A	No public complaints		
TPP NIKOLA TESLA B	No public complaints		
KOLUBARA TPP	On 19.01.2019, a complaint of an anonymous citizen from Veliki Crljeni was filed to the Secretariat for Inspections of the City of Belgrade	Ash dispersal on the road at transporting the ash to the landfill of D.Volujak field.	In the Minutes on Inspection Supervision No. X 05 901.9-95/2019 dated 13.02.2019, the inspectors Vladimir Petrovic and Vesna Milenovic established that there were no grounds for further proceeding and that the procedure was suspended. Thereafter, there was no further action by the inspector.
	On 25.03.2019, citizens filed a complaint to the Republic Inspection for Environmental Protection.	Air pollution from Kolubara TPP stack 2	On 26.03.2019, Republic inspector Aleksandar Blagojevic received by e-mail detailed explanation of problems in operation of CEMS (fault) and relating to starting and stopping boilers in Kolubara TPP in the previous period. On 16.05.2019, Republic inspector for environmental protection performed a regular field and office inspection in Kolubara TPP and ordered, by Minutes, to enable CEMS and to reduce particular matter emissions. The inspector was informed by letters that CEMS equipment was repaired. However, this was followed by the inspector's report filed with the Commercial Court for not having provided emissions' continuous measurements for the stack 2 in the period 19.11.2018 - 27.05.2019.

	On 25.10.2019, complaint by Radisav Jovanovic from Veliki Crljeni to Republic Inspection for Environmental Protection.	Transport of slag from Kolubara TPP cassettes by trucks which are not properly secured	The reply was submitted through electronic media to Republic inspector Goran Stojanovic on 30.10.2019. Afterwards there were no further actions by the inspector.
	On 25.11.2019, complaint by unidentified person from Veliki Crljeni to Republic Inspection for Environmental Protection.	Transport of ash by trucks which are not secured	The reply was submitted through electronic media to Republic inspector Goran Stojanovic on 27.11.2019, and then again on 11.12.2019, when the work of ash transportation under the contract was completed. Afterwards there were no further actions by the inspector.
MORAVA TPP	On 21.10.2019, inspection supervision was initiated upon complaint of the Citizens' Association of "Eko pokret Svilajnac", "Ljubitelji V. Morave" FB group and Matejic Predrag from Svilajnac.	Air and soil pollution from ash landfill	On 21.10.2019, the Republic inspector for environmental protection performed extraordinary inspection and acknowledged that TENT complied with the Law and that there were no grounds to initiate a proceeding. Minutes on Inspection Supervision No. 480-501-00051/2019-07 dated 23.10.2019. was prepared.

4. KOSTOLAC TPPS & OCMS BRANCH

Kostolac TPPs & OCMS branch comprise the following organisational units:

- **TPP Kostolac A**
- **TPP Kostolac B**
- **Drmno OCM**
- **Cirikovac OCM**

4.1. Overview and Status of Permits

Table 71 provides overview of obtained permits and applications for new permits or extension of existing ones in 2019 – Kostolac TPPs and OCMS Branch“.

Table 71

KOSTOLAC TPPs & OCMS BRANCH			
Overview and status of permits in 2019			
Organisational unit	Obtained permits and approvals (number and date)	Applications for new or extension of existing permits	Note
TPP KOSTOLAC A	<p>Decision of the Ministry of Environmental Protection on consent for continuous measurement of emissions from stationary sources for units A1 no. 353-01-00182 / 2018-03 dated 02.02.2019</p> <p>Decision of the Ministry of Environmental Protection on consent for continuous measurement of emissions from stationary sources for units A1 and A2 no. 353-01-01913/2019-03 dated 23.10.2019.</p> <p>Decision on issuing water permit for process water transport and ash and slag hydraulic transport from Kostolac A TPP to ash landfill to SKO no. 325-04-00124/2019-07 dated 13.06.2019.</p> <p>Decision on issuing water permit for manner, conditions and volume of capturing and using waters from the cooling water inlet and outlet system into the drainage system and then into the Danube River no.325-04-00122/2019-07 dated 29.04.2019.</p>		
TPP KOSTOLAC B	<p>Decision of the Ministry of Environmental Protection on consent for continuous measurement of emissions from stationary sources for units B1 and B2 no.353-01-01225/2018-03 dated 20.12.2019.</p> <p>Building Permit for construction of the wastewater treatment plant Kostolac B TPP, for units B1, B2 and future unit B3, no. 351-02-00028/2019-07 ROP-MSGI-2839-CPIH-2-2019 dated 16.04.2019.</p> <p>Decision on updated Environmental Impact Assessment Study of the project for construction of wastewater treatment plant TPP Kostolac B, for units B1, B2 and future B3 no. 353-02-00252/2019-03 dated 11.07.2019.</p> <p>Decisions on legalisation of the Ministry of Construction, Transport and Infrastructure:</p> <p>1. Fire water storage tank located within the FF plant of the external heavy oil plant TPP Kostolac B no.35-00-00192/1/2019-09 dated 16.10.2019.</p> <p>2.Shelter facility with a workshop for vehicle repair, serial number 31. TPP Kostolac B, no. 354-00-00188/2019-09 dated 15.10.2019.</p>		-

	<p>3. Main power building Kostolac B TPP, floors: Basement, Ground floor +4, no. 354-00-00189/2019-09 dated 04.11.2019.</p> <p>4. Heavy oil tank within the external heavy oil plant Kostolac B TPP, no. 354-00-00190/1/2019-09 dated 29.10.2019.</p> <p>5. Guardhouse Building no.35 Kostolac B TPP, no. 35-00-00191/1/2019-09 dated 15.10.2019.</p> <p>6. External heavy oil plant building, floors: GF in Kostolac B TPP, no. 354-00-00190/2019-09 dated 29.10.2019.</p>		
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* BPD - Building Permit Design

4.2 Monitoring and Environmental Impact

4.2.1. Air Quality Measurements

Air quality monitoring in the vicinity of the Kostolac TPPs & OCMs Branch organisational units is carried out as part of the monitoring financed and organized by the relevant organizational units. It should be noted that the air quality monitoring is within the competence of the legislator; therefore air quality monitoring is carried out as part of the national automatic air quality monitoring network, comprising measuring points located around the Kostolac TPPs & OCMs Branch.

The national automatic air quality monitoring network also includes a measuring point in the Kostolac town centre. Depending on the measuring point forming the national network, SO₂, NO₂, NO, NO_x, CO and weather parameters (wind speed and direction, temperature, relative air humidity, atmospheric pressure) are measured.

Air quality measurements in the area of the Kostolac TPPs & OCMs Branch have been performed internally for over 30 years by the Environmental Department not authorised for total particulate matter and SO₂ measurements (Environmental Management Division Laboratory accreditation activities are in progress). Since 2008 air quality measurements in the area of the Kostolac TPPs & OCMs Branch have been performed by authorized legal entities.

During 2019, air quality measurements in the Kostolac TPPs & OCMs Branch area were performed by authorized legal entities under the joint tender for public procurement, Institute of Public Health, Pozarevac (No. of authorization for immission measurements 353-01-00436/2014-08 dated 15.04.2014) with Mining Institute, Belgrade (No. of authorization 353-01-00989/2014-19 dated 11.09.2014) until the month of April 2019, and afterwards, from April, the measurement was carried out independently by Pozarevac Public Health Institute.

Total particulate matter (TPM), sulphur oxides (SO₂), suspended particulate matter (PM₁₀), soot and heavy metals (Pb, Cd, As and Ni) were identified by analysing samples collected within one month for TPM, while SO₂ concentrations were determined by analysing 24-hour air samples.

SO₂ and soot concentrations were measured on 4 measuring points, as follows:

1. Klenovnik – Klenovnik Local Community
2. Stari Kostolac – Local Community
3. Drmno – Medical centre
4. Bradarac – Medical centre

TPM content was measured on 4 measuring points, as follows:

1. Klenovnik – Klenovnik Local Community
2. Stari Kostolac – Saint George church
3. Drmno – Medical centre
4. Bradarac – water source (pumping station).

Suspended particulate matter - PM₁₀ on the following measuring points:

- I. Cirikovac – Cirikovac OCM administrative building

- II. Drmno – Georad company
- III. Kostolac – Prim company
- IV. Klenovnik – Kostolac Usluge Klenovnik

Suspended particulate matter PM₁₀ were measured in 2019 seven days in each month on each above mentioned measuring points.

Comment in Table 72 relating to suspended particulate matter PM₁₀ refers to number of measurements performed on the above mentioned measuring points – measurements were not done all 365 days a year for each measurement point, but 84 measurement days a year on measuring points Drmno – Georad company and Kostolac – PRIM, and on measuring points Cirikovac – administrative building OCM Cirikovac 105 measurement days and Klenovnik – Kostolac 102 days as per the Decision of the Republic inspector no. 480-501-00046/2017-04 dated 25.10.2017.

New contract provided for all 365 days a year PM₁₀ measurements on each measuring point.

Kostolac TPPs & OCMs Branch air quality report analyses the data of monitoring financed by Kostolac TPPs & OCMs Branch.

Table 72 shows the 2019 air quality data analysis, in terms of their compliance with legal requirements, for Kostolac TPPs & OCMs Branch organisational units. Assessment of air quality compliance with legal regulations was done by comparing the measured values with the values prescribed by the Regulation on conditions for monitoring and air quality requirements (Official Gazette of RS, No. 11/2010, 75/2010 and 63/2013).

Table 72

Kostolac TPPs and OCMs Branch							
Air quality in 2019							
Legal compliance (number of data or days exceeding the defined values)							
Air quality indicators		TPM content (mg/m ² /day)	Soot (µg/m ³)	SO ₂ concentration (µg/m ³)			
		Maximum permissible value (MPV)	Maximum permissible concentration (MPC))	LV	TV	LT	
Averaging period							
One hour		-	-	350	350	0	
*One day		-	50	125		-	
**One month		450	-				
***Calendar year		200	50	50		-	
		-	-	No measurements			
*		-	No exceedance	No exceedance on measuring point Klenovnik 4 days of exceedance on measuring point Drmno in a year 1 day of exceedance on measuring point Selo Kostolac 8 days of exceedance on measuring point Bradarac			
**	1	June 762.8 mg/m ² /day exceedance	-	-			
	2	No exceedance					
	3	April 454.3 mg/m ² /day Exceedance May 2712.0 mg/m ² /day Exceedance June 1940.0 mg/m ² /day Exceedance September 622.1 mg/m ² /day Exceedance					
		4					No exceedance

***	1	No exceedance	No exceedance	20.233 µg/m³ – measuring point Klenovnik 22.413 µg/m³ – measuring point Stari Kostolac 25.433 µg/m³ – measuring point Drmno 35.869 µg/m³ – measuring point Bradarac
	2	No exceedance		
	3	No exceedance		
	4	No exceedance		
Air quality indicators		Particulate matter PM ₁₀ (µg/m³)		
Averaging period		ГБ	ТБ	ГТ
*One day		50	50	0
***Calendar year		40	40	0
*	I	Exceedance of 17 days out of 102 days in total	17 days out of 102 days	
	II	Exceedance of 10 days out of 84 days in total	10 days out of 84 days	
	III	Exceedance of 11 days out of 84 days in total	11 days out of 84 days	
	IV	Exceedance of 11 days out of 105 days in total	11 days out of 105 days	

LV – limit value; TV – tolerance value; LT – limit tolerance

4.2.2. Emission Measurements of Matters Affecting Air Quality

Total sulphur content of the Kostolac lignite used for combustion in the Kostolac TPPs and OCMs Branch is around 1.3%.

Flue gases containing sulphur dioxide, nitrogen oxides, carbon dioxide and dust, after treatment, i.e. dust separation by electrostatic precipitators are emitted into the air through stacks:

Kostolac A TPP

- 105m - Unit A1 (K1 (1 ESP) and K2 (1 ESP))
- 110m - Unit A2 (1 ESP)

Kostolac B TPP

- 250m units B1 (1 ESP) and B2 (1 ESP)
- 180 m after construction of FGD plant for units B1 and B2 (each boiler has its own flue gas pipe)

In accordance with legal requirements occasional individual measurements of emission of matters affecting the air quality are performed regularly and continuous measurements are also performed on all Kostolac TPPs and OCMs Branch units.

▪ Individual emissions measurements of matters affecting air quality

During 2019, emission measurements of matters affecting air quality were carried out occasionally and continuously on Kostolac A2 TPP, Kostolac B1 TPP and Kostolac B2 TPP units.

For Kostolac A1 TPP, continuous measurements were performed in 2019. The Monitoring Programme included measurement of flue gas conditions (temperature, pressure and humidity), volume flow rate, oxygen content and mass concentrations, as well as emission factors for sulphur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), chlorine compounds (HCl) fluorine compounds (HF) and dust. In addition, technical and elementary coal analysis as well as ash chemical analysis were conducted at the same time. QAL 2 and QAL 3 were performed on units A1, A2, B1 and B2 by an authorized legal person.

Table 73 provides an overview of dust emission measurements in December 2019.

Table 73

Kostolac TPPs and OCMs Branch				
Occasional dust emission measurements in 2019				
Kostolac B1 and B2 TPP				
Particulate matters (mg/Nm ³)	TEKO B1	38,8	39,3	38,9
	TEKO B2	74,2	72,2	72,3

Table 74 gives overview of occasional measurements of emissions affecting air quality for TPPs and OCMs Kostolac Branch, TPP Kostolac A (only for A2 because for A1 occasional measurement was not taken but only continuous measurement) and TPP Kostolac B for 2019.

Occasional measurement for A2 unit was done in May 2019, and for B1 and B2 units occasional measurements were done in May and December 2019. Consent to continuous measurement for A2 unit was obtained on 23.10.2019.

Table 74

Kostolac TPPs and OCMs Branch				
Occasional measurements of matters affecting air quality for 2019				
Mass concentrations of matters affecting air quality (mg/Nm ³)				
Organisational unit	Kostolac A TPP		Kostolac B TPP	
Boiler	A1	A2	B1	B2
Heat capacity MWt	358	689	1.077,5	1.077,5
SO ₂	4.987,6	4.631,1	4.522,3	4.791,8
NO _x (NO ₂)	367,7	430,0	410,2	410,2
CO	70,1	27,7	74,6	66,5
Particulate matters	68,7	78,1	37,9	65,0

▪ Continuous emissions measurements of matters affecting air quality

Between 2006 and 2014, at the Kostolac TPPs and OCMs Branch, devices for continuous measurement of matters affecting air quality (SO₂, NO_x, CO and dust) were installed– at Kostolac B TPP units (SO₂, NO_x and dust) and TPP Kostolac A2 unit, while at TPP Kostolac A1, continuous measurements (SO₂, NO_x, CO and dust) have been performed since 2nd February 2018. In addition to these basic devices, data acquisition and processing equipment was also installed and additional measurement devices: oxygen (O₂) content and humidity as well as temperature, pressure and flue gases flow volume.

Kostolac A TPP

Consent to continuous measuring at the unit A1 was obtained by the decision of the Ministry of Environmental Protection no. 353-01-00182/2018-03 dated 02.02.2018. TPPs and OCMs Kostolac Branch for TPP A submitted a request for obtaining consent to continuous measuring for units A1 and A2. Consent to continuous measuring for the units A1 and A2 was obtained by the decision of the Ministry no. 353-01-01913/2019-03 dated 23.10.2019 and thus the previously obtained decision on consent for the unit A1 ceased to be valid. Consent to continuous measuring of A1 and A2 units emissions was obtained for: sulfur dioxide, nitrogen oxides, carbon monoxide and particulate matters

Kostolac B TPP

Kostolac B TPP comprises two identical units, each of 348.5 MW. Each unit has its own electrostatic precipitator with two branches. Continuous emission measurement devices for SO₂, NO_x, CO and dust, as well as O₂ content and flue gas flow rate were installed on the flue duct behind the electrostatic precipitator, before ID fan.

New equipment for flue gas and dust emissions measurement has been installed in newly constructed desulphurization plant in Kostolac B (B1 and B2) TPP units downstream of stack desulphurization plant. Trial

run of the plant was performed in the first quarter of 2019. After the trial run, performance measurements were done. After the performance measurements, QAL 2 and QAL 3 measurements were performed at TEKO B1 and B2 unit. After obtaining the results in 2018, the request for continuous measurements approval was submitted to the Ministry of Environmental Protection on 23rd May 2018. Due to incomplete documentation submitted, the Ministry of Environmental Protection requested its supplementation. TE-KO Kostolac B branch supplemented everything that had been missing, so that the consent to the continuous measurement of emissions from stationary source (after the desulphurization plant) was obtained by the Decision no. 353-01-01225 / 2018-03 dated 20.12.2019 for units B1 and B2.

Table 75 summarises the results of guarantee measurements at units TPP B1 and TPP B2 done during 2019.

Table 75

Kostolac TPPs and OCMs Branch			
Guarantee measurements for FGD plant for 2019			
Organisational unit	TEKO B1	TEKO B2	ELV (mg/Nm ³)
SO ₂	66	163	200
	65	149	
	37	153	
	30	125	
	71	192	
	64	157	
		111	
Particulate matters	12	21	30
	11	23	
	10	23	
	11	28	
	11	27	
	10	25	
		20	
Mist content	24	78	100
Limestone consumption	11	14	19 t/h
	12	14	
	12	11	
	12	12	
	13	11	
	12	12	
		12	

Table 76 summarises the data related to the unit equipped with the equipment for continuous measuring of emissions affecting air quality in organizational units of Kostolac TPPs & OCMs Branch, as of 2019.

Table 76

Kostolac TPPs & OCMs Branch								
Level of unit being equipped with devices for continuous emission measurement as of 2019								
Analysers		Particulate matters	Emitted matters		Parameters			
			Gases		Content			Flow rate
			SO ₂ , NO _x (NO ₂), CO; particulate matters	HCl и HF	Humidity	CO ₂	O ₂	
TPP KOSTOLAC A	A1	Devices installed on the unit A1 stack, 4 parameters monitored Stack height is 105 m. Platform is located at the level 60 m.	Devices installed for both boilers on the stack	-	-	-	Devices on the stack	Measurement exists

	A2	A2: ESP left and right side (branch), on the stack, at the level of 63 m, external stack lining. Platform is located on the level of around 61m. Stack height – 110m. Total: 3 devices	One device installed	-	-	-	Devices installed on the stack, Total: 1 device In 2015, devices were installed for measurement of wet O ₂ and flue gas flow rate on the stack	Measurement at this unit exists
TPP KOSTOLAC B	B1	Devices installed on each unit on flue gas ducts behind each ESP, before (IDF). Total: 2 devices B1: ESP1 and B2: ESP2	Devices installed on each unit behind ESP, before ID fan. Total: 2 sets	-	-	-	Devices installed on each unit behind ESP, before ID fan. Total: 2 sets	2 devices Installed on each of the units
	B2			-	-	-		
TPP KOSTOLAC B	B1	Devices installed after desulphurization plant (new stack height 180 m). Each unit has its own flue gas pipe. Devices for continuous emission measurement installed on each flue gas pipe	Devices installed on each flue gas pipe	-	-	-	Devices installed on each flue gas pipe (2 sets)	Devices installed on each flue gas pipe
	B2			-	-	-		

Data acquisition and processing equipment is an integral part of this equipment.

HF and HCl continuous measurement equipment has not been installed on any of the Kostolac TPP units.

Software performing statistical analysis of continuous measurements data (SO₂, NO_x (NO₂), CO and dust) is in operation on Kostolac A and Kostolac B TPP units. New flue gas and dust emission monitoring equipment has been installed (on the stack) after the FGD plant and new data processing software package has been installed, as well.

▪ Annual emissions of matters affecting air quality

Table 77 gives overview of dust emission, SO₂, NO₂, CO for TPP Kostolac in 2019. In unit A1 mean values of mass concentration and volume flow are calculated on the base of received results from continuous emission measurements in period between 1st January and 31st December .2019. Data on operating hours were taken from the Process Analysis Department. In unit A2 mean values of mass concentration and volume flow were calculated on the base of data received on corectness inspection of AMS according to SRPS EN 14181 and periodical measurements of emission affecting air quality (report on inspection no. E-08/19/JPEPS/TEKO-A2 dated 10.05.2019). Data on operating hours were taken from the Process Analysis Department. In units B1 and B2 mean values of mass concentration and volume flow were calculated based on data of periodic measurements of air pollutant emissions (inspection report by Vinca). Data on operating hours were taken from the Process Analysis Department.

Table 77

Kostolac TPPs and OCMs Branch					
Emissions of matters affecting air quality (t/year) in 2019					
Organisational unit	Particulate matters	SO ₂	NO _x (NO ₂)	CO	CO ₂
TPP Kostolac A					
A1	250,8	18.207,7	1.342,3	255,9	860.963,56
A2	581,9	34.502,6	3.203,6	206,4	1.719.101,14
Total: Kostolac A	832,7	52.710,3	4.545,9	462,3	2.580.064,70
TPP Kostolac B					
B1	423,3	50.580,8	2.728,3	834,9	2.484.883,45
B2	386,7	28.531,9	2.442,8	395,7	1.452.250,83
Total: Kostolac B	810,0	79.112,7	5.171,1	1.230,6	3.937.134,28
TOTAL: Kostolac TPPs and OCMs Branch	1.642,7	131.823,0	9.717,0	1.692,9	6.517.198,98

Table 78 gives fuel consumption in 2019.

Table 78

Kostolac TPPs and OCMs Branch		
Fuel consumption in 2019		
Fuel	Unit	Fuel consumption (t/year)
KOSTOLAC A TPP		
COAL	A1 - K1	-
	A1 - K2	-
	A1	974.372
	A2	1.955.261
	TOTAL	2.929.633
PETROLEUM	A1 - K1	-
	A1 - K2	-
	A1	1.724
	A2	774
	TOTAL	2.498
KOSTOLAC B TPP		
COAL	B1	2.817.464
	B2	1.619.928
	TOTAL	4.437.392
HEAVY FUEL OIL	B1	2.905
	B2	1.911
	TOTAL	4.816

▪ Harmonization of emissions of matters affecting air quality with EU legislation

Units B1 and B2 of TPP Kostolac are on the final list of old big plants for combustion in National plan for emission reduction according to the letter of the Environmental Protection Ministry no. 353-01-00122/2017-03 dated 29.12.2017.

Particulate matters

To date electrostatic precipitators were reconstructed on all Kostolac TPP units: on units A1 and A2 - Kostolac A TPP, units B1 and B2 - Kostolac B TPP. Guaranteed mass concentration for dust defined by the equipment supplier at the electrostatic precipitator outlet is ≤50mg/Nm³ which is in line with the EU and Serbian legislation

Sulphur dioxide

During the design and construction of Kostolac A and B TPP, no measures were taken to reduce SO₂ emissions, given that at the time no SO₂ emission limit values (ELVs) were stipulated.

Mass concentration of SO₂ in the flue gas are well above ELVs prescribed by Serbian and EU regulations. In order to reduce sulphur oxide emissions below 200mg/Nm³ in accordance with EU legislation desulphurization plant construction was finished at the end of December 2016, as well as new stack with two pipes (each unit, B1 and B2, has its own pipe). Test run was completed in March and April 2017. Guarantee measurements were executed during operation of each unit separately and during simultaneous operation of units. Results of guarantee measurements are given in the Table 75.

Nitrogen oxides

New burners were installed on TEKO B unit B1 during unit revitalisation in 2014 to reduce nitrogen oxides emissions below the level of 200mg/Nm³. Measurement results indicate considerable nitrogen oxides emission reduction. Emissions prior to reconstruction ranged from 450 to 600 mg/Nm³, while after burner reconstruction in 2019 these were 244 mg/Nm³.

During 2019, system for reduction of nitrogen oxides on TPP Kostolac B2 was installed. After major overhaul, B2 unit was started on 19.12.2019, while periodical measurement on B1 and B2 units was done on 25.12.2019.

Nitrogen oxides emissions periodical measurement result on B2 unit was 271.5 mg/Nm³.

4.2.3. Emission Measurements of Matters Affecting Water Quality

Water used to cool condensers' steam has the highest share in process water used by Kostolac TPPs. Water used for this process is captured from the Danube River. To be precise, the captured river water is first used to cool the condensers and subsequently discharged into the recipient (Danube - Kostolac A or Mlava - Kostolac B) via the return channel.

A small share, about 2.5% of water is used for hydraulic transport of ash and slag. By transition to, i.e. connecting the Kostolac B TPP units to the thick slurry transport system (solids: water ratio - 1:1) water consumption is reduced. Wastewater from the hydraulic transport of ash and slag is in the form of overflow and drainage water discharged into the recipient, in the case of old technology – thin slurry transport of ash and water (1:10), in operation at Kostolac A TPP. Under the thick slurry transportation system in place at the Kostolac B TPP there is no overflow water, while the created drainage water is recycled (returned) from the ash landfill to the thermal power plant and reused for hydraulic transport of ash and slag. Wastewater drained from Cirikovac ash landfill and then discharged into the Mlava river was sampled and tested in 2019.

Decarbonised water of Kostolac A TPP is partly used for cooling while the other part is treated with ion exchangers (ion mass) to obtain demineralised water.

Demineralised water (demi water) used by the boiler water-vapour system is produced by chemical water treatment plants. Demi water is produced by chemical purification of groundwater - Kostolac B TPP or by purification of river water (Danube) - Kostolac A TPP in ion exchangers.

Plant for water preparation for the purpose of supplementing the remote heating system of the cities of Kostolac and Pozarevac was put in operation.

Raw water is captured from tube wells located along the Mlava River bank. HCl or NaOH solution is used to regenerate ion masses in ion-exchange columns, resulting in acid and alkaline wastewater partly used by the ash and slag transportation system of Kostolac B TPP, while in the case of Kostolac A TPP regeneration products are discharged into the return cooling water channel (hot water channel).

Sanitary wastewater is discharged directly or indirectly into the river (Mlava) after mechanical-biological treatment under aerobic conditions by treatment devices (Kostolac B TPP). Sanitary wastewater of Kostolac A TPP is discharged into the municipal sewage system which is subsequently discharged into the Kostolac A TPP return cooling water channel.

After water containing oil and/or heavy fuel oil and/or petroleum is collected, only water containing petroleum is pumped back into the tank. Wastewater is discharged through storm sewage into the Kostolac A TPP hot water

channel while waters containing heavy fuel oil are transported to the slurry station and subsequently to the OCM Cirikovac ash landfill.

The Kostolac OCMs and TPPs Branch Wastewater Management Programme includes physical, chemical, bacteriological and radiological measurements of the following parameters: air and water temperature, water turbidity, pH, electrical conductivity, soluble O₂, % of O₂ saturation, COD, BOD₅, unfiltered water evaporation residue, filtered water evaporation residue, total suspended particulate matter, particulate matter, total surfactants, mineral oils, phenols, alkalinity, F, Cl, NO₂, NO₃, SO₄, PO₄, NH₄, Ca, Mg, hardness, Al, Fe, Mn, Cd, Cr⁶⁺, total Cr, Cu, Ni, Zn, Pb, Hg, As, B, α and β activity, microbiological analysis of the waters in the recipient.

Monitoring also includes:

- Wastewater at the source and/or at the point of discharge into the river and/or at the point of discharge of hot water into the channel;
- River water - water recipient on profiles upstream and downstream of wastewater discharge;
- Groundwater around the ash and slag landfill SKO and OCM Cirikovac, at coal landfill – Kostolac B TPP, around the oil tanks at TE-KO A and around gas station at OCM Drmno.

Long-term studies have shown that concentrations of sulphate and arsenic are essential parameters used to monitor the ash landfill impact on groundwater. Sulphate ions originating from the landfill migrates fastest, and is considered to be an excellent tracer to monitor the groundwater impact of landfills. On the other hand, arsenic reaches groundwater much slower because it is previously adsorbed by the aluminosilicate surface (landfill ash and/or clay making an integral part of the soil). Drmno OCM dewatering water quality is also monitored. Drmno OCM dewatering water is discharged to the Mlava and/or Danube rivers, and partly used as cooling water by Kostolac B TPP.

Kostolac OCMs and TPPs Branch wastewater quality and its impact on recipients is controlled 12 times a year and 4 times a year for groundwater and sanitary water in line with the Law on Waters (Official Gazette of RS, no. 30/2010, 93/2012, 101/2016, 95/2018) and The Rulebook on Methods and Conditions for Wastewater Quantity Measurement and Quality Testing, and the Content of the Measurement Report (Official Gazette of RS, no. 33/2016), Regulation on pollutants' emission limit values in waters and deadline for their achievement (Official Gazette of RS, no. 67/2011, 48/2012, 1/2016).

Annual surface and ground water quality reports for each organizational unit of the Kostolac OCMs and TPPs Branch are made available on request to competent inspectors and relevant institutions when providing opinions required for the issuing of water conditions and water permits.

Water quality measurement results are presented in the Environmental Report prepared every year for each organisational unit. In addition, results are presented in the National Pollution Sources Register of Serbia sent by the Kostolac OCMs and TPPs Branch each year in accordance with the legal obligation to the Environmental Protection Agency.

Kostolac OCMs and TPPs Branch surface and ground water quality was controlled in 2019 by the accredited legal person for chemical testing, Mining and Metallurgy Institute Bor and Institute for Occupational Safety Novi Sad.

Table 79 provides the analysis of wastewater and recipient watercourse quality data in 2019 in terms of their legal compliance.

In the case of surface waters, legal compliance is evaluated by comparing the measured values of substances affecting water quality with the limits defined by the Regulation stipulating limit values for pollutants in surface and ground waters and sediments, and deadlines for their achievement (OG RS № 50/2012) while wastewater values are compared with the limits defined by the Regulation stipulating limit values of pollutants emissions in water and deadlines for their achievement (OG RS № 67/2011, 48/2012 and 1/2016).

Table 79

Kostolac TPPs & OCMs Branch		
Wastewater and watercourses-recipients quality in 2019		
Organisational unit	Kostolac A TPP	Kostolac B TPP
Water type		
Drainage wastewater from the ash landfill	<ul style="list-style-type: none"> Electrical conductivity: 865 - 1098 $\mu\text{S}/\text{cm}$ Arsenic: 10 - 277 $\mu\text{g}/\text{l}$ Sulphates: 166.5 – 217.2 mg/l 	Main watersump at OCM Cirikovac landfill <ul style="list-style-type: none"> Electrical conductivity: 1761 - 1982 $\mu\text{S}/\text{cm}$ Arsenic: 2.1 - 10 $\mu\text{g}/\text{l}$ Sulphates: 529.4 - 703 mg/l
Overflow wastewater from the ash landfill	<ul style="list-style-type: none"> Electrical conductivity: 550 - 708 $\mu\text{S}/\text{cm}$ Arsenic: 42-146 $\mu\text{g}/\text{l}$ Sulphates: 166.5 – 217.2 mg/l 	
Watercourse (recipient)	There were no significant changes in the Danube River quality upstream – downstream from Kostolac A TPP: Danube upstream Arsenic: <20 $\mu\text{g}/\text{l}$, below MPC-50 $\mu\text{g}/\text{l}$, upstream and downstream from the discharge point <ul style="list-style-type: none"> Sulphates: 21.55 – 28.36 mg/l upstream and 20.09 – 31.08 mg/l downstream Mineral oil, at testing points upstream and downstream < 50 $\mu\text{g}/\text{l}$ No temperature increase of the Danube River water	There were no significant changes in the Mlava River quality downstream - upstream from Kostolac B TPP: <ul style="list-style-type: none"> arsenic: <10 $\mu\text{g}/\text{l}$, upstream and 2-10 $\mu\text{g}/\text{l}$ downstream from the discharge point sulphates: 28.7-44.69 mg/l upstream and 24.7- 37.7 mg/l downstream Mineral oil in the Mlava River upstream and downstream was < 50 $\mu\text{g}/\text{l}$ Mlava River water temperature increase downstream was within 5°C.

Table 80 provides the analysis of groundwater quality data in the piezometers at the locations of Kostolac TPPs and OCMs Branch. During 2019, groundwater quality was controlled in 14 piezometers.

Table 80

Kostolac TPPs and OCMs Branch			
Groundwater quality in 2019			
Concentration	Permitted values		Organisational unit
	MPC	RV	
			TPP Kostolac A and TPP Kostolac B
Sulphates (mg/l)	250		in piezometers around cassette B ranging from 61,88-438,01 in piezometers around the cassette C ranging from 247,60 - 763,30 in piezometers around the Cirikovac ash landfill: 11,58-370,0 piezometers away from the SKO landfill: 51,70-686,00 around the coal yard D5: 27,90-40,50 piezometers around oil tanks TPP A - 23,8 196,50 piezometers around gas station OCM Drmno -60,81-526,80
Arsenic ($\mu\text{g}/\text{l}$)	10	60	in piezometers around cassette B ranging from: 5,6-118 in piezometers around the cassette C ranging from: 5,6-510 in piezometers around the Cirikovac ash landfill: <2,1 – 19 piezometers away from the SKO landfill: <2,1 – 10 around the coal yard D5: <2,1-16 piezometers around oil tanks TPP A –< 2,1-21 piezometers around gas station OCM Drmno - <2,1 -42
Zink (mg/l)	3.000	800	in piezometers around cassette B ranging from: 20-407 in piezometers around the cassette C ranging from: 23,1-168 in piezometers around the Cirikovac ash landfill: 30- 39 480 piezometers away from the SKO landfill: 7,6-9950 around the coal yard D5: 290-7890 piezometers around oil tanks TPP A - 6,2-900 piezometers around gas station OCM Drmno – 7-2690

Manganese (mg/l)	50		in piezometers around cassette B ranging from: 0,0016-0,3780 in piezometers around the cassette C ranging from: 0,0040-0,177 in piezometers around the Cirikovac ash landfill: 0,0016 - 0,674 piezometers away from the SKO landfill: 0,0040-0,893 around the coal yard D5: 0,072-0,289 piezometers around oil tanks TPP A - 0,0082-2,16 piezometers around gas station OCM Drmno: 0,0117 - 0,824
Ammonia (mg/l)	0.1		in piezometers around cassette B ranging from: 0,0016-0,3780 in piezometers around the cassette C ranging from 0,03-2,40 in piezometers around the Cirikovac ash landfill: 0,01-2,25 piezometers away from the SKO landfill: 0,01-1,90 around the coal yard D5: 0,06-0,10 piezometers around oil tanks TPP A : 0,03-0,340 piezometers around gas station OCM Drmno: 0,01 - 0,10
Nitrites (mg/l)	0.03		In all piezometers the most common value била 0,001-0,01 mg/l; except one value from piezometer in SKO landfill (cassette B) 0,01- 0,31 mg/l
Nitrates (mg/l)	0.05		in piezometers around cassette B ranging from: 0,04-5,06 in piezometers around the cassette C ranging from 0,10-1,12 in piezometers around the Cirikovac ash landfill: 0,20-48,50 piezometers away from the SKO landfill: 0,10-23,09 around the coal yard D5: 0,10-0,64 piezometers around oil tanks TPP A: 0,23-22,50 piezometers around gas station OCM Drmno: 1,31-28,81
Copper (µg/l)	2000	75	in piezometers around cassette B ranging from: 3,3 - 28 in piezometers around the cassette C ranging from :3,3-28 in piezometers around the Cirikovac ash landfill: 3,3-39 piezometers away from the SKO landfill: 3,3-20 around the coal yard D5: 3,3-29 piezometers around oil tanks TPP A: 3,3-23 piezometers around gas station OCM Drmno: 3,3-29
Cadmium (µg/l)	3	6	in piezometers around cassette B ranging from: : 0,1-0,6 in piezometers around the cassette C ranging from: 0,1-0,4 in piezometers around the Cirikovac ash landfill : 0,1-0,7 piezometers away from the SKO landfill: 0,1-0,6 around the coal yard D5: 0,1-0,6 piezometers around oil tanks TPP A : 0,1-0,4 piezometers around gas station OCM Drmno : 0,1-0,6
Lead (µg/l)	10	75	in piezometers around cassette B ranging from : 2,1-14 in piezometers around the cassette C ranging from : 2,1-10 in piezometers around the Cirikovac ash landfill : 2,1-53 piezometers away from the SKO landfill: 2,1-34 around the coal yard D5: 2,1-57 piezometers around oil tanks TPP A – 2,1-57 piezometers around gas station OCM Drmno : 2,1-15
Mercury (µg/l)	1	0,3	in piezometers around cassette B ranging from : < 0,5 in piezometers around the cassette C ranging from : < 0,5 in piezometers around the Cirikovac ash landfill : < 0,5 piezometers away from the SKO landfill: < 0,5 around the coal yard D5: < 0,5 piezometers around oil tanks TPP A – < 0,5 piezometers around gas station OCM Drmno - < 0,5
Mineral oil (µg/l)		600	in piezometers around cassette B ranging from : <500 in piezometers around the cassette C ranging from : <500 in piezometers around the Cirikovac ash landfill : <500 piezometers away from the SKO landfill: <500 around the coal yard D5: <500 piezometers around oil tanks TPP A – <500 piezometers around gas station OCM Drmno - <500

MPC – drinking water;

RV - Remediation values of hazardous and harmful substances concentration and values indicating severe groundwater contamination.

Legal compliance is evaluated by comparing the groundwater measured values of hazardous and harmful substances concentration from piezometers, remediation values of hazardous and harmful substances concentration and values indicating severe groundwater contamination in line with the Regulation on Limit Values for Polluting, Harmful and Hazardous Substances in the Soil (OG RS № 30/2018) pursuant to the Law on Soil Protection.

Table 81 provides analysis of data related to sanitary waste water quality at the inlet and outlet of the plant for treatment (BIODISK) for 2019.

Table 81

Kostolac TPPs and OCMs Branch	
Sanitary wastewater treatment plant operation in 2019	
Pollutants concentration (mg/l)	BIODISK plant Kostolac B TPP
Suspended solids (mg/l)	
Plant inlet	24,4
Plant outlet	1,2
5-day biological oxygen demand (BOD ₅)	
Plant inlet	23,0
Plant outlet	4,0
Operation efficiency evaluation	Meeting guaranteed values for suspended solids for all measurements

Emission threshold values according to the facility capacity, based on the Regulation on Emission Threshold Values of Pollutants in Water, do not exceed allowable limits. (ELV for biological oxygen consumption is 50mg/l and total suspended matter 75mg/l).

According to the instructions provided by the manufacturer, the primary sedimentation tanks should be emptied once a year, while all devices should be regularly maintained and overhauled.

▪ Water amounts

Table 82 provides an overview of water amounts captured and discharged by the organizational units of Kostolac OCMs and TPPs Branch for 2019

Table 82

Kostolac TPPs and OCMs Branch					
Water amounts in 2019 (m ³ /year x10 ³)					
Organizational unit	Water intake		Discharged wastewater		
	Used amounts		Return cooling water	Overflow and drainage water from the ash landfill	Sanitary wastewater
	Surface	Ground*			
KOSTOLAC A TPP	356.162	-	342.729	12.146	75
KOSTOLAC B TPP	607 600	758	596.631	7.595	189
TOTAL: Kostolac OCMs and TPPs Branch	963.762	758	939.360	19.741	264

*for the purposes of technical and potable water preparation

For the purposes of hydro mixture transportation from TPP-OCM A and TPP-OCM B to Cirikovac ash landfill, part of return cooling water is used and returned by recirculation.

Annual amount is calculated on the basis of data on the capacity and water capture and discharge pumps operating time. In cases of gravitational wastewater discharge calculations are made on the basis of previously measured wastewater amounts.

▪ Improvements aimed at reducing wastewater impacts on surface and groundwater

A new ash and slag handling system at Kostolac A TPP was put in operation during 2019. Upon system commissioning, new system performances were under proof.

Ash and slag were disposed to the Srednje Kostolacko Ostrvo landfill. Commissioning of the new system (thick slurry transportation) Kostolac A TPP moved to ash and slag disposal to ash and slag landfill of Cirikovac OCM. The Srednje Kostolacko Ostrvo landfill serves as back-up until the phase of its shutdown.

Kostolac B TPP units were connected to the new thick slurry collection, transportation and disposal system. Ash and slag are disposed to the Cirikovac OCM. Thick slurry transportation system is of circulation type, because water serves to transport ash and slurry and circulates the system.

During 2019, in the course of operation of the new flue gas desulfurization facility, before its mixing with other wastewaters, a control was performed on wastewater of this facility in accordance with the Regulation about limits for wastewater from FGD system. A temporary solution for the discharge of this wastewater is into ash - slurry pumping station until the construction of wastewater treatment facility.

During 2019 the construction of TPP Kostolac B Wastewater Treatment Facility has commenced. Previously the construction permit was issued by the Ministry of Construction, Transport and Infrastructure no. 351-02-00028/2019 as of 16th April 2019, as well as the Decision of the Ministry of Environmental Protection on the approval on the updated Environmental Impact Assessment Study for the Wastewater Treatment Facility (no.353-02-00252/2019-03 as of 11th July 2019).

4.2.4. Emission Measurements of Matters Affecting Soil Quality

During 2019, testing of soil quality and content of the total and available forms of heavy metal pollutants in soil were carried out, as well as the chemical composition control in the vicinity of the Kostolac TPPs and OCMs Branch aimed at monitoring the ash and slag landfill impact. Kostolac TPPs and OCMs Branch monitors the content of pollutants in soil annually.

Annual reports about the ash and slag landfill impacts on soil are made available to inspection upon request. Soil quality measurement results are presented in the Environmental Report for the relevant year for each organizational unit. They are also presented in the National Cadaster of Polluters of the Republic of Serbia, delivered by PE EPS each year in accordance with the legal obligation to the Environmental Protection Agency.

Sampling and testing were carried out during 2019 by the authorized legal entity the Mining and Metallurgy Institute Bor for the Kostolac TPPs and OCMs Branch. Testing includes the following characteristics: physical soil properties, chemical soil properties, soil reaction, humus content, total nitrogen and organic carbon content, nitrate and nitrite ions content, available phosphorus and potassium content, content of heavy metals and other toxic elements.

Soil control program covered: field and laboratory measurements on representative measuring points shown on the topographic map (GPS identified points), allowing the monitoring of parameter changes on these measuring points in the future. Measuring points are defined depending on the distance from the landfill.

- landfill (ash)
- inside the impact zone as follows: Zone 1 - up to 1km from the landfill, Zone 2 - from 1km to 3km from the landfill and Zone 3 - from 3km to 5km from landfill
- outside the landfill zone (checkpoints).

Based on the results obtained from soil analysis with sampling according to sampling plan during vegetative period (August) and non-vegetative period (December) at the Kostolac TPPs and OCMs Branch location, at 70 measuring points of sampling depth of 0 – 30 cm, 7 measuring points of sampling depth of 30 – 60 cm and 2 measuring points of sampling depth of 0 – 50 cm, the conclusion is as follows:

- Soil acidity of samples ranged between 5,35 and 8,65 in H₂O and between 5,35 and 8,65 in KCl.
- Total nitrogen content in samples ranged between 0,05% and 0,62%.
- Organic carbon compounds in soil samples ranged between 0,24% and 26,65%.
- Nitrite ion NO₂⁻ content in samples ranged between < 0,1 mg/kg and 26,7 mg/kg.
- Nitrite ion NO₃⁻ content in samples ranged between < 0,1 mg/kg and 74,38 mg/kg.

- The amount of readily available phosphorus in samples ranged between 0,001 mg/kg and 365,93 mg/kg.
- Readily available content of potassium in tested samples ranged between 0,027 and 330,30 mg/100g.
- In tested soil samples, the content of iron ranged between 1,30% and 15,15%. The total concentration of iron in soil was normal and of geochemical origin.
- In tested samples, the content of organic matters samples ranged between <0,1% and 43,86%.
- In tested samples the clay content ranged between 0,00% and 26,7%.

The comments related to obtained results are based on maximum allowed concentrations and limit and remediation values of concentration of hazardous and harmful substances also prescribed by Regulation identifying threshold values of polluting, harmful and hazardous substances in soil (OG RS no. 30/2018 and 64/2019, pursuant to the Law on Soil Protection, Annex 1 Limit, maximal and remediation values of polluting, harmful and hazardous substances in soil).

Table 83 shows measurement results evaluation in accordance with the aforementioned regulations.

Table 83

KOSTOLAC TPPs and OCMs BRANCH				
Content of hazardous and harmful substances in soil in 2019				
Matter (mg/kg)	MPC	LV	RV	Content of substances in soil in Kostolac TPPs and OCMs Branch
	mg/kg			
Chromium (Cr)	100	100	380	Chromium content in tested samples ranged between 63,1 mg/kg and 361,3 mg/kg. In the most samples values of chromium exceed MPC , as well as LV and in all tested soil samples, concentration of chromium are bellow RV .
Nickel (Ni)	50	35	210	Nickel content in tested samples ranged between 26,0 mg/kg and 204,3 mg/kg. In the most tested soil samples values of nickel exceed MPC, as well as LV, and in all tested soil samples concentration of nickel are bellow RV . Increased nickel values (above MPC) in all tested soil samples most likely depend on geochemical soil content since earlier research showed that naturally elevated nickel content is present in alluvial deposits of our rivers (Kolubara, Great Morava).
Lead (Pb)	100	85	530	Lead content in tested samples ranged between 11,2 mg/kg and 306,6 mg/kg. In 8 soil samples values of lead exceed MPC , in 13 samples values of lead exceed LV and in all tested soil samples, concentration of lead are bellow RV .
Copper (Cu)	100	36	190	In tested samples the concentration of copper ranged between 16,7 mg/kg and 236,0 mg/kg. In the most soil samples, the concentration of copper exceeds LV . In tested soil samples the copper values were bellow RV . In 6 tested samples copper content exceeds MPC.
Zinc (Zn)	300	140	720	In tested samples the concentration of zinc ranged between 39,1 mg/kg and 240,7 mg/kg. In 18 soil samples the concentration of zinc exceeds LV . In tested soil samples the zinc values were bellow RV . In all tested sample the content of zinc does not exceed maximum permissible concentration . The concentration of zinc in all tested soil samples was bellow MPC and remediation levels, so this soil cannot be deemed polluted with this element.
Cadmium (Cd)	3	0.8	12	Cadmium content in tested samples ranged between < 0,71 mg/kg. In all (156) soil samples values of cadmium does not exceed LV . In tested soil samples cadmium levels were bellow RV and MPC .
Arsenic (As)	25	29	55	Arsenic content in tested samples ranged between 4,6 mg/kg up to 188,1 mg/kg. Arsenic content in 6 tested soil samples exceeded limit values and remediation values of prescribed arsenic content. In 9 samples exceeded MPC.

Note: Kostolac TPP and OCM environmental monitoring plan and program foresees monitoring of Kostolac TPP and OCM Branch operation impact every second year.

4.2.5. Environmental Noise Measurements

Noise measurements were performed in 2019 on eight measurement points in accordance with the Noise Protection Act (OG RS № 36/2009 and OG RS № 88/2010), Rules stipulating noise measurement methodology, the content and form of noise measurement reports (OG RS № 72/2010) and the Rules stipulating noise indicators, limits, methods for evaluating noise indicators, disturbance and harmful environmental noise effects (Official Gazette of RS, No. 75/2010). Noise measurement on the locations of thermal power plants was carried out by an authorized legal entity on 6 measurement points, while on the location of open cast mines, on two measurement points it is presented in the Report for OCM.

Measurements were carried out on the following measuring points:

1. TEKO A – Port - dock Kostolac
2. TEKO A - FIO Minel
3. TEKO A – staircase at PRIM
4. TEKO B – container park
5. TEKO B – ship lock on Mlava River
6. TEKO B – Drmno village – Crushing facility
7. Drmno OCM - Lookout point
8. Drmno OCM – Road to Klicevac village

Table 84 shows the measured environmental noise levels in 2019 for the Kostolac TPPs and OCMs Branch (both open cast mines and thermal power plants), especially during winter and summer seasons.

During noise levels measuring, the units operated at full capacity (TPP A1 – 100MW; A2 - 210 MW; B1 - 348,5 MW; B2 - 348,5 MW, while Unit B2 was in capital overhaul). Unit B2 started on 25th December 2019 and was in stable operation mode. Second measurement was carried out due to the several months long downtime of Unit B2.

Local government of city municipalities of Kostolac and Pozarevac did not perform acoustic zoning in accordance with the Noise Protection Act (OG RS № 36/09 and 88/10). Due to the lack of clearly limited acoustic zones, measuring points cannot be precisely determined, as well as the limits for these measuring points. For this reason, legal compliance of the Kostolac OCMs and TPPs Branch in this respect cannot be assessed.

Table 84

Kostolac TPPs and OCMs Branch						
Noise levels in 2019 (dB)(A)						
I measuring-winter						
Measuring point	TPP - OCM A			TPP – OCM B		
	Port-Kostolac dock	FIO Minel	Staircase at Prim	Container park	Mlava River ship lock	Crushing facility
day	55	45	63	49	59	48
day	53	45	60	51	51	59
evening	58	50	54	52	54	69
night	57	48	53	52	53	52
night	56	42	57	51	53	50

In the upcoming period, the Study of Noise Reduction in Environment will be prepared for TPP and CHPP.

4.2.6. Waste

Table 85 shows waste production in 2019 for Kostolac TPPs and OCMs Branch (parts of the TPP Branch Kostolac A and Kostolac B).

Table 86 shows quantities of waste from Kostolac TPPs and OCMs Branch delivered in 2019 (parts of the TPP Branch Kostolac A and Kostolac B).

Table 85

Kostolac TPPs and OCMs Branch						
Waste generated in 2019						
№	Official nomenclature of the Rules defining waste categories, its testing and classification OG RS № 56/2010 and 93/2019	Index number	Organizational unit			Note
	Name		TPP-OCM A	TPP - OCM B	TOTAL	
1	Waste printer cartridges other than the ones indicated under 08 03 17	08 03 18	0,000	0,060	0,060	-
2	Fly ash from coal	10 01 02	597.645,130	924.553,840	1.522.198,970	-
4	Mineral non-chlorinated hydraulic oil	13 01 10*	13,926	39,786	53,712	-
5	Packaging containing residues of hazardous substances or contaminated by hazardous substances	15 01 10*	0,270	0,600	0,870	Levoxin packaging
6	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing, contaminated with hazardous substances	15 02 02*	0,000	0,300	0,300	Cotton
7	Lead batteries	16 06 01*	0,000	0,600	0,600	-
9	Plastics	17 04 01	0,000	4,000	4,000	-
10	Copper, bronze, brass	17 04 02	0,000	14,940	14,940	-
11	Aluminum Iron and steel	17 04 05	0,000	1.262,800	1.262,800	Various thickness
			0,000	299,200	299,200	Impact plates, billets and pipes
13	Изолациони материјали другачији од оних наведених у 17 06 01 и 17 06 03	17 06 04	0,000	50,000	50,000	Mineral wool
14	Insulation materials other than those indicated under 17 06 01 and и 17 06 03	19 09 04	25,000	0,000	25,000	Preinsulation pipes
15	Insulation materials other than those indicated under 17 06 01 and и 17 06 03	20 01 21*	0,000	0,200	0,200	-
16	Fluorescent tubes and other waste containing mercury	20 01 35*	0,600	0,500	1,100	-

Table 86

Kostolac TPPs and OCMs Branch						
Waste delivered in 2019						
№	Official nomenclature of the Rules defining waste categories, its testing and classification OG RS № 56/10 and 93/2019)	Index number	Organizational unit			
	Name		TPP-OCM A	TPP - OCM B	Total	Note
1	Fly ash from coal	10 01 02	0,000	17.374,620	17.374,62	Sale with financial compensation
2	Mineral non-chlorinated hydraulic oil	13 01 10*	16,266	46,266	62,532	Sale with financial compensation
4	Iron and steel	17 04 05 различите дебљине	203,740	1.262,800	1.466,54	Sale with financial compensation
		17 04 05 Ударне плоче	198,620	299,200	497,82	Sale with financial compensation
6	Aluminum	17 04 02	0,000	14,940	14,940	Sale with financial compensation

4.3. Working Environment Monitoring, Safety and Health

Occupational Safety and Health Reports for 2019 include the following elements:

- **Working environment monitoring**
 - working environment noise measurements
- **Safety**
 - training
 - work injuries
- **Health**

4.3.1. Working Environment Monitoring

- **Working environment noise measurements**

In 2019 in TPP Kostolac A working environment conditions tests were not performed, i.e. working environment noise measurements were not performed. In 2019 in TPP Kostolac B working environment tests were performed, i.e. periodic measurements and working environment tests at 94 work posts. Within testing and measuring of physical hazards, working environment noise measurement was also performed. Of 94 work posts where measuring was performed, measured noise value at 20 work posts exceeded limit values.

4.3.2. Occupational Safety

- **Training**

Employees are trained according to the Health and Safety Training Programme. Testing of occupational safety competence and knowledge is carried out minimum once a year in compliance with the Act on Kostolac TPPs and OCMs Branch risk assessment and Occupational Health and Safety Act. According to Occupational Health and Safety Act training within Kostolac TPP is performed whenever new workers are recruited, deployed to new workplaces, in the process of technological changes and the introduction of new equipment and work tools. Revision and knowledge tests were conducted for the employees working at high risk posts. Table 87 shows the number of employees foreseen for training and the number of trained employees in 2019.

Table 87

Kostolac TPPs and OCMs Branch					
Training in 2019					
Organizational unit	Number of employees	Foreseen for training		Trained	
		No	%	No	%
Organizational unit	341	341	100,00	341	100,00
TE Костолац Б	363	248	68,32	248	100,00
Organizational unit	704	589	83,66	589	100,00

Note: Some workers went through more than one training, for example due to relocation to other jobs or as a post injury measure

- **Work injuries**

Table 88 provides work injuries data for 2019.

Table 88

Kostolac TPPs and OCMs Branch						
Work injuries in 2019						
Organizational unit	Number of employees	Injuries – Number of employees' ratio				
		Light	Serious	Fatalities	Total	%
KOSTOLAC A TPP	341	2	0	0	2	0,59
KOSTOLAC B TPP	363	1	1	0	2	0,55
TOTAL: Kostolac OCMs and TPPs Branch	704	3	1	0	4	0,57

4.3.3. Health

All employees at Kostolac TPPs are conducted to pre-employment and periodic medical examinations. Workers are directed to pre-employment medical examinations before they are hired and when they are deployed to a different workplace that has a higher risk factor. Employees working at high risk posts are directed to periodic medical examinations once a year. Periodic examinations in 2019 were performed at Occupational healthcare center Pozarevac.

Table 89 provides periodic examination data verifying the work capability of employees in 2019.

Table 89

Kostolac TPPs and OCMs Branch											
Work capability in 2019											
Organizational unit	Number of employees	Periodical examinations				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Not capable	
		број	%	број	%	број	%	број	%	број	%
KOSTOLAC A TPP	341	334	97,95	320	95,81	302	94,38	18	5,63	0	0,00
KOSTOLAC B TPP	363	266	73,28	263	98,87	240	91,25	23	8,75	0	0,00
TOTAL: Kostolac OCMs and TPPs Branch	704	600	85,23	583	97,17	542	92,97	41	7,03	0	0,00

4.4. Public Complaints

Public complaints in 2019 are shown in the Table 90.

Table 90

Kostolac TPPs and OCMs Branch		
Public complaint in 2019		
Organizational unit	Complaint (made by)	Subject of complaint Measures taken
KOSTOLAC A TPP KOSTOLAC B TPP	Complaint by the citizens of Klenovik village and Cirikovac village	The complaint was made with regard to dispersing of ash from ash and slag landfill from Cirikovac OCM in April. Cassette 2, with the surface of 42ha, was coated with 15cm thick soil in order to stop ash from spreading. The works were finalized in June and lasted 37 days. After the works were finished, dispersing of ash was stopped and there were no complaints.

5. PANONSKE CHPPS BRANCH

Panonske CHPPs Branch comprises the following organizational units:

- **Novi Sad CHPP,**
- **Zrenjanin CHPP and**
- **Sremska Mitrovica CHPP.**

5.1. Overview and Status of Permits

Overview and status of permits for 2019 are in Table 91.

Table 91

PANONSKE CHPPS BRANCH			
Overview and Status of Permits for 2019			
Organizational unit	Obtained permits and approvals (number and date)	New requestes for obtaining or extension of valid permits	Note
NOVI SAD CHPP	Decision of the Ministry of Environmental Protection for independent performance of continuous emission measurements in the plant Novi Sad CHPP number 353-01-00293/2019-03 dated 19 th September.2019		
ZRENJANIN CHPP	Water permit from the Public Water Management Company „Vode Vojvodine“ for Zrenjanin CHPP no. I- 1539 / 3-18 dated 13 th August 2019		
SREMSKA MITROVICA CHPP	Use permits for: - Network of waste technological and treated water pipelines with connection to the city sewerage network; No. ROP-SMI-6246-IUPH- 1/2019 dated 21 st March 2019 - Sewage pipeline network with connection to the city sewerage network; No. ROP-SMI-9115-IUPH- 2/2019 dated 14 th May 2019 - Warehouse for preparation and dosing of chemicals for the production of decarbonized and industrial water, number ROP-SMI-27977-IUP-1/2019 from 23 rd September 2019		

5.2. Monitoring and Environmental Impact

5.2.1. Air Quality Measurements

Air quality monitoring in the vicinity of the Panonske CHPPs Branch organizational units is carried out as part of the monitoring financed and organized by individual organizational units (as requested by inspection). It should be noted that the air quality monitoring is within the competence of the competent authorities, public administration and authorized legal entities; therefore, air quality monitoring is carried out as part of the national automatic air quality monitoring network, comprising measuring points located in the vicinity of CHPP within Panonske CHPPs Branch.

Monthly and annual air quality reports in the vicinity of the Panonske CHPPs organisational units (when there are measurements) are made available to the local government and public administration upon request.

Novi Sad CHPP

No air quality measurements have been carried out in 2019.

Zrenjanin CHPP

No air quality measurements have been carried out in Zrenjanin CHPP since 2011.

Sremska Mitrovica CHPP

No air quality measurements in 2019.

5.2.2. Emission Measurements of Matters Affecting Air Quality

Flue gases containing sulphur dioxide, nitrogen oxides and dust are emitted through stacks:

- 160m – Novi Sad CHPP
- 160m - Zrenjanin CHPP
- Sremska Mitrovica CHPP
 1. 105m – concrete stack
 2. 77.5m – brick stack and

Auxiliary boiler room (3 boilers, each having its own stack – total 3 small metal stacks)

- 2 metal stacks – 7m
- 1 metal stack – 4.7m

In accordance with the legislation individual measurements of air pollutants are performed regularly, control measurements as required. Continuous measurements are carried out on boilers of Panonske CHPPs Branch organizational units only for the purpose of internal monitoring. In September 2019, organizational unit CHPP Novi Sad obtained the consent issued by the competent authority to carry out individual continuous measurements of the emissions of sulfur dioxide, nitrogen oxides, carbon monoxide and particulate matter.

■ Individual emissions measurements of matters affecting air quality

Emissions of air pollutants for 2019 are given for each CHP individually based on measurements performed by an authorized legal entity "Vatrogas Institut", Novi Sad, in line with the Individual Air Emission Measurement Programme. The programme includes measurement of flue gas condition (temperature, pressure and humidity), volume flow, oxygen content, as well as mass concentration and calculation of emission factors for sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and particulate matters.

Table 92 summarizes the results of individual measurements of matters emissions affecting air quality for the Panonske CHPPs Branch conducted in 2019.

Table 92

PANONSKE CHPPs BRANCH		
Individual air emission measurements in 2019		
Mass concentrations of pollutants (mg/Nm ³)		
Novi Sad CHPP		
Unit	A1 (K1 and K2)	A2(K3)
Heat output	2x279 MWth	320 MWth
Heat output at stack	878 MWth	
Fuel	Gas	
SO ₂	*	0
NO _x (NO ₂)	*	792,2
CO	*	0,0
Particulate matter	*	0,4

Zrenjanin CHPP				
Unit	A1(K1 and K2)		A2 – out of operation	
Heat output	2x250 MWth			
Fuel	Gas		-	
SO ₂	-		-	
NO _x (NO ₂)	-		-	
CO	-		-	
Particulate matter	-		-	
Sremska Mitrovica CHPP				
Unit	A3(K3 and K4)		Auxilliary Boiler Room	Biomass boiler TE.K - 405
Heat output	2x80 MWth		3x15 MWth	18 MWth
Fuel	Gas	Crude oil	Gas	Sunflower husk
ELV				
SO ₂			1,9	1,7
CO			2,4	208,5
NO _x (NO ₂)			165,1	284,3
Particulate matter			-	33,5

*Boiler 1 in Novi Sad CHPP was out of operation in 2019, Boiler 2 was in operation for 1188,16 hours while Boiler 3 was in operation 3139,47 hours. Note: According to the Decree stipulating air emission limit values of pollutants from combustion plants (OG RS № 6/2016), Article 5, it is stipulated that all large combustion plants don't have to comply to each individual ELV if they were included in the preliminary application for the National Emission Reduction Plan for Large Stationary Combustion Plants since the date of the aforementioned Decree's coming into force.

Boilers 2 and 3 of the Novi Sad CHPP fired natural gas during the entire 2019.

In 2019 no air pollutant emissions measurements were performed in Zrenjanin CHPP since generation unit was not in operation. Unit A2 has not been in operation nor in function since 1st November 2010.

The last emission measurement was conducted on boiler B1, heat output of 250 MW, Unit A1, in 2012. Since 2012, Unit A1 was not engaged in operation by EPS. For heating purposes of the Zrenjanin CHPP facilities, boiler T110 is used, heat output of 8.5 MW, which was in operation during the heating season of 2019. The average heat output used to heat own facilities is approximately 500 kW. Emissions were measured by an internal TESTO device, however due to the low boiler generation, the TESTO device was unable to register any pollutants. This means that emissions of pollutants were below the detection limit of the device.

During 2019 in the Sremska Mitrovica CHPP, one boiler fired biomass TE.K – 405 (sunflower husk) operated for 2643 hours, while auxiliary boiler in the auxiliary boiler room S-2400/2 operated exclusively on natural gas for 622 hours. Unit A3 was not in operation. Steam boilers S-2400/1 и S-2400/3 operated on natural gas less than 100 hours.

In the first half of the year, when measuring the emission on 12th March 2019 ELV level was exceeded for particulate matters. In order to eliminate this, 413 of 480 filter bags on the bag filter of the biomass boiler were changed, and then on 3rd December 2019, the authorized legal entity carried out control measurement of the emission. The report states that the mass concentration of particulate matters is significantly below the permitted ELV for dust.

▪ Continuous emissions measurements of matters affecting air quality

In addition to the basic equipment consisting of analyses measuring mass concentrations of dust and gases, additional equipment was installed on stacks measuring oxygen, carbon dioxide and humidity content as well as temperature, pressure and flue gas flow rate, SO₂, CO, NO₂, NO_x, HCl, HF. Data acquisition and processing equipment was also installed.

Table 93 shows the continuous air emissions measurement equipment data for all the Panonske CHPPs Branch organizational units.

Table 93

PANONSKE CHPPs BRANCH									
Continuous air emissions measuring equipment in 2019									
Organisational unit	Particulate matters	Pollutants		Parameters					
		Gases		Content			p	t	flow
		SO ₂ , NO _x (NO ₂), CO	HCl and HF	Humidity	CO ₂	O ₂			
Novi Sad CHPP	1 analyzer	1 analyzer	1 analyzer each			1 device each			
	Equipment installed at the level of 41.8 m, external stack lining. Platform located at the level of 40.0 m, external stack lining. Stack height - 160 m								
Zrenjanin CHPP	1 analyzer	1 analyzer	1 analyzer each			1 device each			
	Equipment installed at the level of 38 m, external stack lining. Platform located at the level of 37.0 m, external stack lining. Stack height - 160 m.								
Sremska Mitrovica CHPP	1 device each					1 device each			
	Equipment installed on the horizontal rectilinear flue gas duct of the biomass boiler TE.K – 405, connected to the brick stack (77.5 m height).								

Continuous measurements are aligned with the EN 14181_QAL1 standard. Statistical continuous measurements data analysis software prepares daily, monthly and annual reports.

During 2019, the consent for continuous measurements was obtained by the decision of the Ministry of Environmental Protection for independent performance of continuous emission measurements in Novi Sad CHPP, number 353-01-00293 / 2019-03 dated 19th September 2019.

Table 94 provides an overview of the results of continuous measurements of air emissions for Novi Sad CHPP in 2019.

Table 94

PANONSKE CHPPs BRANCH				
Continuous measuring of emissions affecting air quality in 2019				
Organizational unit	Particulate matter	SO ₂	CO	NO _x (NO ₂)
Novi Sad CHPP	1,48	0	84,6	235,5

▪ Annual emissions of matters affecting air quality

Table 95 summarizes air pollutants emissions: dust, SO₂, NO₂ and CO₂ for the Panonske CHPPs Branch in 2019.

Annual SO₂ and NO₂ emissions were calculated on the basis of the measured mass concentrations, flue gas flow rate and operating time of each unit, while CO₂ emissions were calculated based on the fuel consumption data shown in Table 96 and ECF – emission correction factor.

Table 95

PANONSKE CHPPs BRANCH				
Emissions affecting air quality in 2019 (t/year)				
Organisational units	Particulate matter	SO ₂	NO _x (NO ₂)	CO ₂
NOVI SAD CHPP				
UNIT A1, B -1 and B -2	0,1522	0,000	301,4383	60.143,600
UNIT A2, B-3	0,2966	0,000	587,568	144.169,620
STACK, BOTH UNITS –CONTINUOUS MEASUREMENT	0,3101	0,000	49,3401	41.064,250
TOTAL: NOVI SAD CHPP	0,7589	0,000	938,3464	245.377,470
ZRENJANIN CHPP				
Unit A1	0,000	0,000	0,000	0,000
Unit A2	0,000	0,000	0,000	0,000
Total: Zrenjanin CHPP	0,000	0,000	0,000	0,000
SREMSKA MITROVICA CHPP				
Unit A3, B3/B4	0,000	0,000	0,000	0,000

S-2400/1	0,000	0,000	0,000	1,17
S-2400/2	0,000	0,004	1,046	998,36
S-2400/3	0,000	0,000	0,000	25,66
Biomass-fired boiler	1,769	0,132	18,839	164,63*
Total: Sremska Mitrovica CHPP	1,769	0,136	19,885	1.189,82
TOTAL: PANONSKE CHPPs	2,5279	0,136	958,2314	246,567,29

* CO₂ generated from the consumed natural gas for biomass boiler ignition

Table 96

PANONSKE CHPPs BRANCH			
Fuel consumption in 2019			
Organisational unit	Fuel type		
NOVI SAD CHPP			
	Gas (kStm ³ /year)	Heavy fuel oil (kt /year)	Biomass (kt/year)
Unit A1, B -1 and B -2	32.319,450	0,000	0,000
Unit A2, B-3	77.472,624	0,000	0,000
Stack, both units-continuous measurement	22.066,751	0,000	0,000
Total: Novi Sad CHPP	131.858,825	0,000	0,000
ZRENJANIN CHPP			
Unit A1	88.947,000	0,000	0,000
Unit A2	42.846,00*	0,000	0,000
Total: Zrenjanin CHPP	131.793,00*	0,000	0,000
SREMSKA MITROVICA CHPP			
Unit A3, B3/B4	0,00	0,000	0,000
S-2400/1	0,628	0,000	0,000
S-2400/2	536,488	0,000	0,000
S-2400/3	13,791	0,000	0,000
Biomass boiler	88,470	0,000	5,593
Total: Sremska Mitrovica CHPP	639,377	0,000	5,593
TOTAL: PANONSKE CHPPs	264.291,20	0,000	5,593

* Fuel consumption for heating own facilities in Zrenjanin CHPP and for deconservation and conservation purposes

▪ Harmonization of air emissions with EU legislation

Sulphur dioxide

To reduce the Panonske CHPPs SO₂ emissions, the use of heavy fuel oil with Sulphur content of up to 1% was planned together with the combined cycle operation – gas/heavy fuel oil.

Novi Sad CHPP

Heat output of boilers is 2x279 MW and 1x320MW, whereby when one boiler fires heavy fuel oil with Sulphur content up to 1% ELVs will not be exceeded which is in line with EU legislation.

Zrenjanin CHPP

Heat output of the boiler is 2x250MW, whereby when one boiler fires heavy fuel oil with Sulphur content up to 1% ELVs will not be exceeded which is in line with EU legislation.

Sremska Mitrovica CHPP

Heat output of the boiler and auxiliary boiler are 2x80MW and 3x15MW respectively. When one boiler fires heavy fuel oil with Sulphur content up to 1% ELVs will not be exceeded which is in line with EU legislation. There is also an 18MW biomass-fired boiler where an authorized legal entity measured low SO₂ emission during its operation which is below proposed ELV.

Nitrogen oxides

Novi Sad CHPP, Zrenjanin CHPP and Sremska Mitrovica CHPP

The following study is prepared: Preliminary Design with variant calculations for reduction of nitrogen oxides content on B-3 steam boiler in CHPP Novi Sad.

5.2.3. Emission Measurements of Matters Affecting Water Quality

Measurement of emissions that affected water quality in 2019 are provided for every CHPP separately, based on research done by authorized legal entities Vatrogas Institute - Novi Sad and Institute for Occupational Safety Novi Sad.

Novi Sad CHPP

Highest consumption of process water in Novi Sad CHPP is the water for steam cooling in condensers, there is a circulating cooling system, while water is supplied from the Danube. Return cooling water and all other industrial wastewater (water from the demineralization process and oily water after primary and secondary treatment) is after treatment discharged into the Danube. A small share of water is used to produce demineralized and soft water.

Sanitary-sewage water is from November 2012 discharged into the city wastewater collector. Storm drainage is from November 2012 discharged into the city wastewater collector. The Danube water belongs to Class II.

Wastewater quality and its Danube impact is controlled 4 times a year pursuant to the Law on Water. Novi Sad CHPP wastewater is discharged over three outlets:

- Storm drainage;
- Sanitary-sewage water system. From 2013, quality of this water is not controlled, given that it is discharged into the city wastewater collector;
- Cooling water channel.

Monitoring programme includes the following physical-chemical parameters: temperature, pH, turbidity, ammonia, inorganic nitrogen, cyanides, suspended substances, dissolved oxygen, COD, BOD₅, total phosphorus, mineral oils, Pb, Cd, Cu, Cr, Ni and Zn.

Wastewater sampling is performed on 7 measuring points, as follows:

1. Storm drainage – last manhole inside the Novi Sad CHPP grounds;
2. Return cooling and process water – Danube discharge point
3. Danube water - 100m downstream from the cooling water discharge;
4. Danube water - 100m upstream from the cooling water discharge;
5. Neutralisation basin;
6. Oily water at the oily water treatment plant inlet – primary treatment;
7. Oily water after secondary treatment (carbon filters).

In 2019 wastewater quality was controlled on 4 occasions.

Zrenjanin CHPP

Water used for condenser water vapour cooling has the highest share in the total amount of process water used by the Zrenjanin CHPP. Zrenjanin CHPP cooling water system is of the recirculation type including a turbine condenser, cooling towers, cooling water pumps, pipes and valves. Decarbonized water is used as an operating fluid by the cooling water system. Begej River water is used to produce demineralized and decarbonized water.

Wastewater (from boiler chemical cleaning, cleaning and passivation of water channels and oily water) is discharged after treatment into the Aleksandrovac channel and subsequently into the Begej River. Aleksandrovac channel belongs to Category IV, while the Begej River water belongs to Category II.

Decarbonisation and clarification processes wastewater is fed back to the process while the resulting sludge cake is transported and disposed at the landfill.

Acid-alkaline water originating from the demineralization process is neutralized and discharged into the Aleksandrovac channel. Acid-alkaline wastewater from regenerative air heater washing is processed (neutralization and sedimentation) and returned to the process as filtrate.

Oily wastewater is also treated (through carbon-anthracite filters) and subsequently discharged into the Aleksandrovac channel.

Sanitary-sewage water is after mechanical-biological treatment by the PUTOX plant discharged over a special channel into the Aleksandrovac channel.

Zrenjanin CHPP wastewater quality and its water recipient impact is controlled 4 times a year. Wastewater is sampled on 5 measuring points, as follows:

- Sanitary-sewage water (PUTOX) – before treatment and after treatment;
- Neutralization pit;
- Aleksandrovac channel before discharge;
- Aleksandrovac channel after discharge;
- Oily water – before inlet in the treatment plant and at the outlet of the treatment plant.

After all measurements performed during the year, an authorized legal entity issues a certificate for the efficiency of the wastewater treatment plant operation (Putox) and oily and oily water treatment plants operation.

Monitoring programme includes the following physical-chemical parameters: temperature, pH, electrical conductivity, dissolved oxygen, turbidity, suspended substances, sedimentary matter, alkalinity, acidity, COD, BOD₅, permanganate demand, chloride demand, total nitrogen, total phosphorus, ammonia, nitrites, nitrates, phosphates, sulphates, phenol index, hardness, grease and oil. Sampling was conducted within the Zrenjanin CHPP grounds, Aleksandrovac channel and Begej River.

In 2019 wastewater quality was controlled on 4 occasions

Sremska Mitrovica CHPP

Water used for T/G 32 MW turbine condenser cooling has the highest share in the total amount of process water used by the Sremska Mitrovica CHPP. Sremska Mitrovica CHPP has a continuous cooling system, and is supplied by water from the Sava River. Return cooling water is discharged into the Sava River. The Sava River is classified as a Class II watercourse.

One drilled well is located on the land jointly owned by the ISTEP Company and Sremska Mitrovica CHPP. Water from this well acquires quality of drinking water upon deferrization process.

A part of wastewater is not discharged directly into the recipient but after processing in waste water treatment plant (oily waste water and heavy fuel oil contaminated waste water plant) and from the neutralization pool in the plant for chemical water treatment is discharged through the pipeline network for waste, process and purified water, through control-gauging manhole into the city industrial-sewage collector. A use permit has been obtained for the pipeline network for waste, process and treated water with a connection point to the city sewage network.

Technical acceptance of waste water treatment plants is in progress, as well as obtaining of use permits.

After processing in sewage water treatment plant sanitary water is discharged through sewage pipeline network into the city industrial-sewage collector. A use permit has been obtained for the sewage pipeline network with a connection point to the city sewage network to discharge water into industrial – sewage collector.

Sremska Mitrovica CHPP wastewater quality is controlled 4 times a year. Wastewater from Sremska Mitrovica CHPP is discharged via three outlets as:

- Cooling water into recipient the Sava River,
- Part of wastewater from the accelerator is joined with the wastewater from ISTEP Company and subsequently as one discharged into the recipient;
- Sanitary waste water is discharged through a separate pipeline into the city industrial-sewage collector;
- Wastewater (from HPV plant, from boilers desludging, water from oil-containing water separators, treated sludgy water) is discharged through control-gauging manhole into the city industrial-sewage collector.

Monitoring programme includes the following physical-chemical parameters: temperature, pH, ammonia, nitrates, nitrites, total inorganic nitrogen, cyanides, suspended solids, dissolved oxygen, COD, BOD₅, total phosphorus, mineral oils, Pb, Cu, Ni, Zn, Cr, Fe, Cd.

Wastewater sampling is carried out four times a year at 8 measuring points:

1. Wastewater coming from control-gauging manhole at the discharging point into the city collector,
2. Wastewater coming from the last manhole before pouring into the Sava River,
3. Wastewater at the inlet and outlet of the plant for oily water treatment,
4. Wastewater at the inlet and outlet of the plant for sludgy water treatment.
5. Wastewater at the inlet and outlet of the plant for sewage water treatment.

Recipient, Sava River, sampling was carried out at 2 measuring points:

- At the water inlet into the water intake and
- After the wastewater discharge into the recipient.

Wastewater quality in 2019 was controlled on four occasions.

Table 97 shows analysis of wastewater, watercourse - recipient water quality data for 2019 in terms of their legal compliance for Panonske CHPPs Branch.

In the case of surface waters, legal compliance is evaluated by comparing the measured values of hazardous and harmful substances with the limits defined by the Regulation stipulating limit values for pollutants in surface and ground waters and sediments, and deadlines for their achievement (OG RS № 50/2012) while wastewater values are compared with the limits defined by the Regulation stipulating limit values of pollutants in water and deadlines for their achievement (OG RS № 67/2011, 48/2012 and 1/2016).

Table 97

PANONSKE CHPPs BRANCH			
Wastewater and water recipient quality in 2019			
Water type	Organizational unit		
	Novi Sad CHPP	Novi Sad CHPP	Novi Sad CHPP
Wastewater	No exceedance in 2019	Exceedance in IV quarter 2019: total inorganic nitrogen in sewage water - Putox	<p>In the I quarter there wasn't any ELV exceedance in tested parameters</p> <p>In the II quarter there wasn't any ELV exceedance in tested parameters</p> <p>In the III quarter tin the last manhole before pouring into the Sava River there was ELV exceedance for suspended solids, nickel, cadmium and chrome</p> <p>In the IV quarter there wasn't any ELV exceedance in tested parameters</p>

Recipient	Danube – prior to cooling and process water discharge (upstream) – ELV exceedance: Suspended solids 42 mg/l	There wasn't any exceedance	<p>In the I quarter there wasn't any exceedance</p> <p>In the II quarter there wasn't any ELV exceedance</p> <p>In the III quarter parameters for suspended solids in the Sava River at the water inlet into the water intake and at the water outlet from the water intake exceed ELV for water course class of the subject watercourse</p> <p>In the IV quarter water from the recipient at the inlet into the water intake for the tested parameter iron corresponds to watercourse class III, while all other tested parameters correspond to water course class II to which the Sava River belongs as well</p>
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■ Water amounts

Table 98 summarizes the amount of water captured and discharged by organizational units of Panonske CHPPs Branch in 2019. Annual amounts are calculated on the basis of the capacity, water capture and discharge pumps' operating time and flow gauges data.

Table 98

PANONSKE CHPPs BRANCH								
Captured and discharged water amounts in 2019 (m ³ /year x10 ³)								
Organizational unit	Water intake				Discharged wastewater			
	Used amounts		Permitted amounts		Return cooling water	Oily water	Sanitary wastewater	Other water (neutralisation pit and luvo washing)
	Surface	Ground	Surface	Ground				
Novi Sad CHPP	37.900,528	-	45.272,307	-	37.553,282	2,538	4,080	40,130
Zrenjanin CHPP	182,404	-	-	-	-	4,177	2,520	2,996
Sremska Mitrovica CHPP	31,361	18,438	-	*72,533	-	-	11,450	25,400
TOTAL: Panonske CHPPs Branch	38.114,293	18,438	45.272,307	*72,533	37.553,282	6,715	18,050	68,526

*Data taken from the Book of Records on the status of groundwater reserves at the source of Sremska Mitrovica CHPP

- **Improvements aimed at reducing surface and groundwater wastewater impacts**

Novi Sad CHPP

In order to reduce wastewater impact, the following open public procurement is currently being initiated by PE EPS - Preliminary Design, Feasibility Study with Basic Design and Study on estimation of environmental impact of the Novi Sad CHPP wastewater treatment plant.

Zrenjanin CHPP

In order to improve the quality parameters of the discharged water, a device has been obtained for determination of NRK consumption to maintain and improve the quality of discharged water.

Sremska Mitrovica CHPP

Technical acceptance of waste water treatment plants is in progress, as well as obtaining of use permits.

5.2.4. Emission Measurements of Matters Affecting Soil Quality

So far, certain measurements of emission of pollutants into the soil around the Panonske CHPP Branch consisting of Novi Sad CHPP, Zrenjanin CHPP and Sremska Mitrovica CHPP have been performed. Since 2014, for the purpose of the study Monitoring of soil contamination around the reservoirs and unloading liquid fuel stations in PE EPS and Monitoring system of the oil bunds and pits at the PE EPS facilities - Phase I, soil tests are performed by accredited MOL Institute Ltd. laboratory. Testing will last for 5 years. More detailed information will be available upon preparation and adoption of the above-mentioned study.

Novi Sad CHPP

For the purposes of the study: "Monitoring of the system of oil baths and pits in the PE EPS facilities aimed at preventing environmental pollution - I phase", the testing of soil and groundwater was executed. In total 8 (eight) drillings were carried out and 8 (eight) composite soil samples were taken. According to the results of physical and chemical tests it can be concluded that the ground in the direct vicinity of oil baths and pits at the Novi Sad CHPP site is neither contaminated with arsenic and metals, such as chromium, nickel, lead, copper, zinc, cadmium, mercury and cobalt, nor with organic pollutants – mineral oils C₁₀-C₄₀, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and aromatic hydrocarbons (benzene, xylene, toluene and ethylbenzene).

For the purposes of the study: "Monitoring of soil contamination around the tanks and unloading stations for liquid fuel and oil and lubricants storage within subsidiaries of the Public Enterprise Electric Power Industry of Serbia", the testing of soil and groundwater was executed. In total 7 (seven) drillings were carried out and 7 (seven) composite soil samples were taken. According to the results of physical and chemical tests it can be concluded that the ground in the direct vicinity of heavy oil tank at the Novi Sad CHPP site is neither contaminated with arsenic and metals, such as chromium, nickel, lead, copper, zinc, cadmium, mercury and cobalt, nor with organic pollutants – mineral oils C₁₀-C₄₀, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and aromatic hydrocarbons (benzene, xylene, toluene and ethylbenzene).

Zrenjanin CHPP

For the purposes of the study: "Monitoring of the system of oil baths and pits in the PE EPS facilities aimed at preventing environmental pollution - I phase", the testing of soil and groundwater was executed. In total 3 (three) drillings were carried out and 3 (three) composite soil samples were taken and sampling of groundwater from drillings was performed. According to the results of physical and chemical tests it can be concluded that the ground in the direct vicinity of oil baths and pits at the Zrenjanin CHPP site is neither contaminated with arsenic and metals, such as chromium, nickel, lead, copper, zinc, cadmium, mercury and cobalt, nor with organic pollutants – mineral oils C₁₀-C₄₀, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and aromatic hydrocarbons (benzene, xylene, toluene and ethylbenzene).

For the purposes of the study: "Monitoring of soil contamination around the tanks and unloading stations for liquid fuel and oil and lubricants storage within subsidiaries of the Public Enterprise Electric Power Industry of Serbia", the testing of soil and groundwater was executed. In total 11 (eleven) drillings were carried out and 11 (eleven) composite soil samples were taken and the testing of groundwater from the drillings was also executed. According to the results of physical and chemical tests it can be concluded that the ground in the direct vicinity of oil baths and pits at the Zrenjanin CHPP site is neither contaminated with arsenic and metals, such as chromium, nickel, lead, copper, zinc, cadmium, mercury and cobalt, nor with organic pollutants – mineral oils C₁₀-C₄₀, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and aromatic hydrocarbons (benzene, xylene, toluene and ethylbenzene).

Sremska Mitrovica CHPP

For the purposes of the study: "Monitoring of the system of oil baths and pits in the PE EPS facilities aimed at preventing environmental pollution - I phase", the testing of soil and groundwater was executed. In total 2 (two) drillings were carried out and 2 (two) composite soil samples were taken. According to the results of physical and chemical tests it can be concluded that the ground in the direct vicinity of oil baths and pits at the Sremska Mitrovica CHPP site is neither contaminated with arsenic and metals, such as chromium, nickel, lead, copper, zinc, cadmium, mercury and cobalt, nor with organic pollutants – mineral oils C₁₀-C₄₀, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and aromatic hydrocarbons (benzene, xylene, toluene and ethylbenzene).

For the purposes of the study: "Monitoring of soil contamination around the tanks and unloading stations for liquid fuel and oil and lubricants storage within subsidiaries of the Public Enterprise Electric Power Industry of Serbia", the testing of soil and groundwater was executed. In total 10 (ten) drillings were carried out and 10 (ten) composite soil samples were taken. According to the results of physical and chemical tests it can be concluded that the ground in 7 (seven) drillings in the direct vicinity of crude oil tanks at the Sremska Mitrovica CHPP site is neither contaminated with arsenic and metals, such as chromium, nickel, lead, copper, zinc, cadmium, mercury and cobalt, nor with organic pollutants – mineral oils C₁₀-C₄₀, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons (PAH) and aromatic hydrocarbons (benzene, xylene, toluene and ethylbenzene). Soil from 3 (three) drillings is contaminated with mineral oil, C₁₀-C₄₀. Repeated control test showed no contamination.

5.2.5. Environmental Noise Measurements

Environmental noise measurements at the Panonske CHPPs Branch (Novi Sad CHPP and Zrenjanin CHPP) were carried out by an accredited laboratory of the Novi Sad Occupational Safety Institute from 2008 to 2009 when the Rulebook on allowed environmental noise levels ("Official Gazette of RS" no. 54/92) was in force.

The legislation does not prescribe any definite noise measurement periods, unless the relevant authority orders otherwise, as deemed necessary.

At CHPP Sremska Mitrovica environmental noise measuring was conducted on 21st February 2018 in accordance with the Law on Environmental Noise Protection ("Official Gazette of RS" no. 36/09 and 88/10). Act on noise indicators, limiting values, methods for assessment of noise indicators, disturbance and harmful effects of environmental noise ("Official Gazette of RS" no. 75/2010) and the Rulebook on the method of noise measurement, content and volume of the report on noise measurement ("Official Gazette of RS" no. 72/2010).

Novi Sad CHPP

Novi Sad CHPP environmental noise levels were not measured in 2019. The last measurement was carried out on 30th December 2008.

Zrenjanin CHPP

Zrenjanin CHPP environmental noise levels were not measured in 2019. The last measurement was carried out on 11th March 2009.

Sremska Mitrovica CHPP

Sremska Mitrovica CHPP environmental noise levels were not measured in 2019, the last measurement was carried out on 21st February 2018 by an accredited legal entity the Novi Sad Occupational Safety Institute.

5.2.6. Waste

Waste produced in 2019 is shown in Table 99 in line with the Serbian waste management regulations.

Table 99

PANONSKE CHPPs BRANCH								
Waste generated in 2019								
№	Official nomenclature of the Rules defining waste categories, its testing and classification (OG RS № 56/2010 and 93/2019).		Unit	Organisational unit				Note
				Novi Sad CHPP	Zrenjanin CHPP	Sremska Mitrovica CHPP	Total Panonske CHPP Branch	
	Name	Index number		Amounts				
1.	Used printer cartridges other than indicated under 08 03 17	08 03 18	t	0,000	0,250	0,051	0,301	Waste printer cartridges
2.	Ash, slag and dust from the boiler (other than the one from the boiler indicated under 10 01 04)	10 01 01	t	27,320	0,000	0,000	27,320	Waste ash
3.	Slag and dust from the boiler from co-incineration other than the one indicated under 10 01 14	10 01 15	t	0,000	0,000	148,790	148,790	Waste ash from biomass fired boiler
4.	Mineral non-chlorinated hydraulic oils	13 01 10*	t	0,000	0,000	0,120	0,120	-
5.	Mineral non-chlorinated motor oils, gear oils and lubricants	13 02 05*	t	0,000	0,000	0,007	0,007	-
6.	Other motor oils, gear oils and lubricants	13 02 08*	t	0,160	0,000	0,000	0,160	Reduction oil
7.	Insulation and heat transfer non-chlorinated mineral oils	13 03 07*	t	0,000	0,000	0,000	0,000	Turbine oil
8.	Other emulsions	13 08 02*	t	0,000	0,000	0,243	0,243	Oil - water
9.	Wast other than specified	13 08 99*	t	0,480	0,000	0,000	0,480	Sludge from drainage pits cleaning
10.	Packaging containing residues of hazardous substances or is contaminated by hazardous substances	15 01 10*	t	0,020	0,000	0,281	0,301	Oily barrels
11.	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing, contaminated by hazardous substances	15 02 02*	t	0,085	0,000	0,023	0,108	Waste oily adsorption agent - sawdust and wiping cloths
12.	Absorbents, filter materials, wiping cloths and protective clothing other than those indicated under 15 02 02	15 02 03	t	0,000	0,000	1,578	1,578	Filter bags from biomass boiler bag filter
13.	Used tires	16 01 03	t	0,000	0,000	0,000	0,000	Car tires
14.	Discarded organic chemicals that are made of or contain hazardous substances	16 05 08*	t	1,840	0,000	0,000	1,840	Waste chemical - Trilon B

15.	Lead batteries	16 06 01*	t	0,200	0,000	0,000	0,200	Lead batteries
16.	Alkaline batteries (other than 16 06 03)	16 06 04	t	0,000	0,000	0,0023	0,0023	Alkaline batteries
17.	Wood	17 02 01	t	0,000	0,000	0,500	0,500	
18.	Aluminum	17 04 02	t	1,080	0,000	0,000	1,080	Aluminum sheet and window frames
19.	Zinc	17 04 04	t	2,070	0,000	5,650	7,720	Galvanized sheet
20.	Iron and steel	17 04 05	t	4,940	0,000	6,000	10,940	Different fittings; Pipes; Sheets; Valves
21.	Iron and steel	17 04 05	t	1,180	0,000	0,000	1,180	Metal shavings
22.	Mixed metal	17 04 07	t	0,000	0,000	17,740	17,740	
23.	Cables other than those indicated under 17 04 10	17 04 11	t	0,000	0,000	0,186	0,186	Copper insulated cables
24.	Insulation materials other than those indicated under 17 06 01 and 17 06 03	17 06 04	t	10,680	0,000	0,016	10,696	Waste mineral wool
25.	Construction material containing asbestos	17 06 05*	t	0,000	0,000	0,720	0,720	
26.	Solid waste from primary filtration of mechanical separation at bars	19 09 01	t	0,000	0,000	0,925	0,925	Solid waste from primary filtration and sifting
27.	Saturated or exhausted ion exchange resins	19 09 05	t	1,340	0,000	0,000	1,340	Waste ion exchange resins
28.	Waste other than specified	19 09 99	t	0,000	0,000	0,660	0,660	From the cleaning of neutralization pool
29.	Paper and cardboard	20 01 01	t	0,000	0,000	0,050	0,050	-
30.	Fluorescent tubes and mercury-containing waste	20 01 21*	t	0,005	0,000	0,055	0,060	Waste fluorescent tubes
31.	Discarded electrical and electronic equipment other than the one indicated under 20 01 21 and 20 01 23 and 20 01 35	20 01 36	t	0,000	0,000	0,137	0,137	-
32.	Plastics	20 01 39	t	0,000	0,000	0,000	0,000	Plastic hoses for sunflower husk suction

Note: Waste quantities presented here were determined by using free estimate. The actual quantities are determined when the waste is handed to authorised operators who weigh it on a scale certified by authorised organisations. * hazardous waste

Sold/delivered waste in 2019 is presented in Table 100.

Table 100

PANONSKE CHPPs BRANCH								
Sold/delivered waste in 2019								
№	Official nomenclature of the Rules defining waste categories, its testing and classification (OG RS № 56/2010 and 93/2019).		Unit	Organisational unit				Note
				Novi Sad CHPP	Zrenjanin CHPP	Sremska Mitrovica CHPP	Total Panonske CHPP Branch	
	Name	Index number		Amounts				
1.	Waste from the paint or varnish containing organic solvents or other substances	08 01 17*		0,000	0,760	0,000	0,760	Waste epoxy tar coating
2.	Used printer cartridges other than indicated under 08 03 17	08 03 18	t	0,000	0,000	0,000	0,000	Waste printer cartridges
3.	Ash, slag and dust from the boiler other than the one from the boiler indicated under 10 01 04	10 01 01	t	29,320	0,000	0,000	29,320	Waste ash
4.	Slag and dust from the boiler from co-incineration other than the one indicated under 10 01 14	10 01 15	t	0,000	0,000	148,790	148,790	Waste ash from biomass fired boiler
5.	Mineral non-chlorinated hydraulic oils	13 01 10*	t	0,000	0,000	0,160	0,160	-
6.	Mineral non-chlorinated motor oils, gear oils and lubricants	13 02 05*	t	0,000	0,000	0,120	0,120	-
7.	Other motor oils, gear oils and lubricants	13 02 08*	t	0,560	0,000	0,000	0,560	Reduction oil
8.	Insulation and heat transfer non-chlorinated mineral oils	13 03 07*	t	1,280	0,000	0,000	1,280	Turbine oil
9.	Other emulsions	13 08 02*	t	0,000	0,000	0,260	0,260	
10.	Waste other than specified	13 08 99*	t	1,080	0,000	0,000	1,080	Sludge from drainage pits cleaning
11.	Packaging containing residues of hazardous substances or is contaminated by hazardous substances	15 01 10*	t	0,060	0,000	0,340	0,400	Oily barrels
12.	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing, contaminated by hazardous substances	15 02 02*	t	0,200	0,000	0,120	0,320	Waste oily adsorption agent - sawdust and wiping cloths

13.	Used tires	16 01 03*	t	0,000	1,620	0,000	1,620	Car tires
14.	Discarded organic chemicals that are made of or contain hazardous substances	16 05 08*	t	1,840	0,000	0,000	1,840	Waste chemical - Trilon B
15.	Lead batteries	16 06 01*	t	0,200	4,160	0,000	4,360	Lead batteries
16.	Alkaline batteries (other than 16 06 03)	16 06 04	t	0,000	0,000	0,0035	0,0035	Alkaline batteries
17.	Aluminum	17 04 02	t	1,780	0,420	0,020	2,220	
18.	Zinc	17 04 04	t	2,320	0,000	6,240	8,560	Galvanized sheet
19.	Iron and steel	17 04 05	t	11,940	11,740	17,420	41,100	Different fittings; Pipes; Sheets; Valves
20.	Iron and steel	17 04 05	t	1,180	0,000	0,000	1,180	Metal shavings
21.	Mixed metal	17 04 07	t	0,000	0,000	17,820	17,820	-
22.	Cables other than those indicated under 17 04 10	17 04 11	t	0,000	0,000	0,340	0,340	-
23.	Insulation materials other than those indicated under 17 06 01 and 17 06 03	17 06 04	t	18,580	0,600	2,040	21,220	Waste mineral wool
24.	Construction material containing asbestos	17 06 05*	t	0,000	0,000	1,040	1,040	-
25.	Waste from the treatment of lubricant and oil mix from oil/water separation other than specified in 19 08 09	19 08 10*	t	0,000	1,000	0,000	1,000	Crude oil deposit
26.	Solid waste from primary filtration of mechanical separation at bars	19 09 01	t	0,000	0,000	1,140	1,140	Solid waste from primary filtration and sifting
27.	Waste other than specified	19 09 99	t	0,000	0,000	0,660	0,660	From the cleaning of neutralization pool
28.	Sludges from water decarbonization	19 09 03	t	0,000	0,480	0,000	0,480	Sludge cakes
29.	Saturated or exhausted ion exchange resins	19 09 05	t	3,840	0,000	0,000	3,840	Waste ion exchange resins
30.	Fluorescent tubes and mercury-containing waste	20 01 21*	t	0,160	0,000	0,100	0,260	Waste fluorescent tubes
31.	Discarded electrical and electronic equipment other than the one indicated under 20 01 21 and 20 01 23 and 20 01 35	20 01 36	t	0,000	0,000	0,280	0,280	-
32.	Plastics	20 01 39	t	0,000	0,000	0,340	0,340	-

5.3. Working Environment Monitoring, Safety and Health

Occupational Safety and Health Reports for 2019 include the following elements:

- **Working environment monitoring**
 - working environment noise measurements
- **Safety**
 - training
 - work injuries
- **Health**

5.3.1. Working Environment Monitoring

- **Working Environment Noise Measurements**

Novi Sad CHPP

Working environment noise measurements in 2019 are shown in Table 101.

Zrenjanin CHPP

Working environment noise measurements were not conducted in 2019.

Sremska Mitrovica CHPP

Working environment noise measurements in 2019 are shown in Table 101.

Table 101

PANONSKE CHPP BRANCH			
Working environment noise in 2019			
Organizational unit	Operating plant	Registered noise level (dB(A))	Permissible noise level (dB(A))
NOVI SAD CHHP	Shift manager office	57,4	85
	Generator 1	87,7	85
	Boiler 2, burners	82,3	85
	Pumping station	71,8	85
	Water chemical treatment plant	74,3	85
ZRENJANIN CHHP	-	-	85
	-	-	85
	-	-	85
	-	-	85
	-	-	85
SREMSKA MITROVICA CHHP	Turbine hall	81,3	85
	Mechanical workshop	72,2	85
	Pumping station	78,7	85
	Water chemical treatment manager room	57,7	85
	Filter station	60,6	85

5.3.2. Occupational Safety

- **Training**

Health and safety training – internal general OHS trainings are shown in Table 102.

Table 102

PANONSKE CHPP BRANCH		
Training in 2019		
Organizational unit	Number of trained employees	Note-internal trainings
Main office	10	Due to the change of workplaces, temporary part-time jobs, agencies
Novi Sad CHPP	174	Workplaces with increased risk, change of workplaces and hiring of new employees from Zrenjanin CHPP, temporary part-time jobs and workplaces without risk and agencies
Novi Sad CHPP	150	Hazards, harmfulness, OHS measures and code of conduct familiarization for contractors and services
Novi Sad CHPP	50	Practical classes, professional practice for students and pupils regarding hazards, harmfulness, OHS measures and code of conduct.
Zrenjanin CHPP	121	Workplaces with increased risk, change of workplaces and workplaces without increased risk
Zrenjanin CHPP	92	Hazards, harmfulness, OHS measures and code of conduct familiarization for contractors and services
Zrenjanin CHPP	53	Practical classes, professional practice for students and pupils regarding hazards, harmfulness, OHS measures and code of conduct
Sremska Mitrovica CHPP	86	Workplaces with increased risk, change of workplace, temporary part-time jobs, and workplaces without increased risk, agencies
Sremska Mitrovica CHPP	25	Hazards, harmfulness, OHS measures and code of conduct familiarization for contractors and services
Main office	10	Due to the change of workplaces, temporary part-time jobs , agencies

Other trainings in 2019 – external trainings are shown in Table 103.

Table 103

PANONSKE CHHP BRANCH			
Other trainings in 2019			
No.	Type of training	Number of persons	Note
1	PPE use training, with special attention to work at height and depth, with the use of equipment for personal protection against falls of employees, carried out by the supplier of PPE Other tools Certificates issued by Seibl Trade Beograd, 16 employees Novi Sad CHHP	16	Completed
2	General training about fire protection for all employees at Novi Sad CHHP and main office	219	Completed
3	PPE use training, with special attention to work at height and depth, with the use of equipment for personal protection against falls of employees, carried out by the supplier of PPE Other tools Certificates issued by Seibl Trade Beograd, 5 employees Zrenjanin CHHP	5	Completed
4	First aid training of employees (advanced training) Zrenjanin CHHP	8	Completed
5	PPE use training, with special attention to work at height and depth, with the use of equipment for personal protection against falls of employees, carried out by the supplier of PPE Other tools Certificates issued by Seibl Trade Beograd, 5 employees Sremska Mitrovica CHHP	5	Completed
6	Fire protection training for all employees Sremska Mitrovica CHHP	76	Completed

▪ Work injuries

Table 104 provides work injuries data for 2019.

Table 104

PANONSKE CHPPs BRANCH						
Work injuries in 2019						
Organizational unit	No. of employees	Injuries – Number of employees ratio				
		Light	Serious	Fatalities	Total	%
Head office	37	1	1	0	2	5,41
Novi Sad CHPP	160	4	1	0	5	3,13
Zrenjanin CHPP	108	0	1	0	1	0,93
Sremska Mitrovica CHPP	71	1	0	0	1	1,41
TOTAL: PANONSKE CHPPs BRANCH	376	6	3	0	9	2,39

5.3.3. Health

Table 105 provides periodical examinations data for high-risk workplaces in Panonske CHPP Branch in 2019.

Table 105

PANONSKE CHPPs BRANCH											
Work capability in 2019											
Organizational unit	Number of employees	Periodical examinations				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Not capable	
		No	%	No	%	No	%	No	%	No	%
Head office	37	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
Novi Sad CHPP	160	133	83,13	133	100,00	96	72,18	36	27,07	1	0,75
Zrenjanin CHPP	108	90	83,33	90	100,00	78	86,67	12	13,33	0	0,00
Sremska Mitrovica CHPP	71	61	85,92	60	98,36	35	58,33	25	41,67	0	0,00
TOTAL: PANONSKE CHPPs BRANCH	376	284	75,53	283	99,65	209	73,85	73	25,80	1	0,35

5.4. Public complaints

There were no public complaints regarding the environment in 2019.

6. DJERDAP HPPS BRANCH

6.1. Overview and Status of Permits

Overview and status of permits, licenses and other necessary approvals as well as new applications for obtaining or extending the valid permits and approvals in 2019 are shown in Table 106.

Table 106

DJERDAP HPPs BRANCH			
Overview and Status of Permits in 2019			
Organizational unit	Obtained permits and approvals (number and date)	New applications for obtaining or extending the valid permits	Note
DJERDAP 1 HPP	Decision no.09-217-1944 /19 as of 22 nd November 2019, the Ministry of the Interior of the Republic of Serbia, Sector for Emergency Management Belgrade, which approves the Disaster Risk Assessment of PE Electric Power Industry of Serbia, Branch Djerdap HPP, Djerdap 1 HPP, Kladovo	Accident Protection Plan is being updated, with approved deadline extension	-
DJERDAP 2 HPP	<p>Following decisions have been approved for Djerdap 2 HPP Negotin in 2019:</p> <ul style="list-style-type: none"> - Decision no. 01.02.26771/39-2019 as of 3rd July 2019, the Ministry of Interior, Sector for Emergency Management, Emergency Situation Department in Bor, Preventive Protection Office, which approves to PE EPS, Branch Djerdap HPP, Djerdap 2 HPP Negotin, the location for the construction of storage for bottles containing technical gases at Central Storage Djerdap 2 HPP, Negotin-Kusjak, at cadastral lot no. 19788/14, cadastral municipality Dušanovac, with planned storage amounts up to 1000kg (of acetylene, nitrogen, argon and oxygen) in accordance with submitted documents and also in accordance with the situational plan P=1:500, which represents integral part of this Decision. - Decision no. 01.02.26771/40-2019 as of 3rd July 2019 the Ministry of Interior, Sector for Emergency Management, Emergency Situation Department in Bor, Preventive Protection Office, which approves to the investor PE EPS, Branch Djerdap HPP, Djerdap 2 HPP, the projects for the execution of works regarding fire protection measures at the storage building for the storage of bottles containing technical gases at Central Storage Djerdap 2, Negotin-Kusjak, at cadastral lot no. 19788/14, cadastral municipality Dušanovac, the municipality of Negotin. - Decision no. 01.02.-518523/4-2019 as of 29th November 2019, the Ministry of Interior of the Republic of Serbia, Sector for Emergency Situation Belgrade, which approves the Disaster Risk Assessment of PE Electric Power Industry of Serbia, Branch Djerdap HPP, Djerdap 2 HPP Kladovo-Negotin. 	Accident Protection Plan is being updated, with approved deadline extension	-
PIROT HPP	<p>Location conditions for the construction of 9 torrent barriers within the anti-erosion arrangement of the catchment area of Zavoj accumulation for the protection against sediments.</p> <p>Location conditions for the reconstruction of water supply and sewerage network for the reception center „Četvrti kilometar“.</p>	Procedure for obtaining Water Permit is in progress	-
VLASINSKE HPPs	<p>Decision on issuing a water permit for Vrla 1 HPP, Vrla 2 HPP, Vrla 3 HPP and Vrla 4 HPP, No. 325-04-00873/2019-07 dated 19th June 2019.</p> <p>Decision on issuing a water permit for Lisina PSP, No. 325-04-000875/2019-07 dated 19th June 2019.</p>	-	-

6.2. Monitoring and Environmental Impact

Environmental protection of the Djerdap HPPs Branch during 2019 followed the defined procedures and other documents of the environmental management system (EMS).

6.2.1. Identified Negative Impact on the Flow and Ecological System under the Accumulation

During 2019 there were no registered negative impacts on the flow and ecological system under the accumulation in the Djerdap HPPs Branch facilities, except in the facility Djerdap 2 HPP, where one negative impact has been registered, without the impact on the flow and without significant and proven impact on ecological system under the accumulation. It was an event registered during October 2019, the oil leakage from Unit A-9. Fault repair completed.

6.2.2. Water

• Water amounts

Water used for hydropower generation, process and sanitary (waste) water did not exceed the permitted amounts. Amounts of allowed water and water used to generate electricity, along with water amounts discharged after electricity generation in 201 are provided in Table 107.

Table 107

DJERDAP HPPs BRANCH						
Water amounts in 2019						
Organisational unit	Number of units	Permitted water amounts (installed discharge per unit) m ³ /s	Discharged water amounts			
			Water used for electricity generation in 201 m ³ /y x 10 ⁶	Process water m ³ / y x10 ⁶	Sanitary water m ³ / y x10 ³	Total discharged water m ³ / y x10 ⁶
DJERDAP 1 HPP	6	800	73.952,000	312,569	285,930	74.550,499
DJERDAP 2 HPP	10	422	68.965,000	61,750	126,147	71.192,60
PIROT HPP	2	22,5	87.865	0,042	1,584	88,721
VLASINSKE HPPs	Vrla 1	I и II – 8,1 III и IV - 10	79,796	0,801	7,300	80,597
	Vrla 2	I – 8,5 II - 10	103,452	0,537	3,700	103,989
	Vrla 3	I – 8,5 II - 10	121,944	0,784	10,300	122,728
	Vrla 4	I – 8,4 II - 10	130,599	0,564	3,700	131,163
	Lisina PSP	I – 3,6 II – 3,6	61,649	0,441	3,500	62,090

• Water quality

Following contractual obligations regarding wastewater management, Institute for Occupational Safety Novi Sad, executed sampling of wastewater from all PE EPS facilities, Djerdap HPP Branch in the fourth quarter of 2019.

3 samples were taken from each of the Djerdap HPP Branch facilities from the following points:

- wastewater sample at the discharge point;
- surface water sample upstream from the facility;
- surface water sample downstream from the facility;

chemically and biologically analyzed, while the results were interpreted in accordance with Regulation stipulating the limit values of pollutants in surface and ground waters and sediments, and the deadlines for their achievement (OG RS № 50/2012), Regulation setting the parameters of the ecological and chemical status of surface waters and the parameters of chemical and quantitative status of groundwater (OG RS № 74/2011), Regulation stipulating the limit values of pollutant emissions in water and deadlines for their achievement (OG RS № 67/2011 and 48/2012) and Water Classification Regulation (OG SFRY № 6/1978), Regulation classifying water of inter-republic watercourses, international waters and coastal waters of Yugoslavia (OG SFRY № 6/78), Decision defining maximum permissible concentrations of radionuclides and hazardous substances in inter-republic watercourses, international waters and coastal waters of Yugoslavia (OG SFRY № 8/78) and the Water Law (OG RS № 30/2010, 93/2012, 101/2016, 95/2018 and 95/2018 – other law). Results obtained by chemical and microbiological analysis of wastewater samples in 2019 are summarized in Table 108.

Table 108

DJERDAP HPPs BRANCH															
Wastewater in 2019															
Organisational unit	Testing parameters (unit)	Wastewater and surface water quality testing results for 2019													Test results comment and conclusion (Review of chemical and bacteriological analysis of samples from the sewage system and surface water upstream and downstream of the facility and its impact on water class defined by Water Classification Regulation)
		1 st quarter			2 nd quarter			3 rd quarter			4 th quarter			Limit values for surface water (class II)	
		From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility	From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility	From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility	From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility		
DJERDAP 1 HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	4,8x10 ³	2x10 ³	5 x10 ² -1 x10 ⁴	In 4 th quarter based on obtained results for wastewater samples (from sewerage system – before discharge), it can be concluded that tested parameters meet the values defined by the aforementioned Regulation. In 4 th quarter based on obtained results for surface water upstream and downstream, it can be concluded that tested parameters meet the values defined by the aforementioned Regulation. Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad has come into force on 17th September 2019.
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	8,32	8,42	7	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	3,2	5,0	5,1	25	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	9,4	9,7	8,8	15	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	1,5	1,0	1,0	5	
	pH value	-	-	-	-	-	-	-	-	-	7,87	8,06	7,91	6.5-8.5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
DJERDAP 2 HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	80cfu/100ml	1.2x10 ² cfu/100 ml	10 000	Based on the part of the analyzed microbiological parameters, samples V0449 1-2 match CLASS III-IV, ecological status, according to: Rulebook on parameters of ecological and chemical status of surface waters and parameters of chemical and
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	8.63	8.63	7.0	

	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	75.0	5.2 mg/l	5.4 mg/l	25	quantitative status of groundwater "OG RS no. 74/2011" Annex 3. Surface water samples belong to TYPE I WATER BODIES. Sample V0449/3 tested parameters of HPK BOD5 and total nitrogen do not meet the values prescribed by the Regulation on threshold values of pollutants in water and deadlines for their achievement "OG RS no. 67/11, 48/12 and 1/16" Annex 2, Chapter III - municipal wastewater. Table 2. Threshold values for municipal wastewater discharged into the recipient. Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad has come into force on 17th September 2019.
	COD(mg/l)	-	-	-	-	-	-	-	-	-	472	10.7	11.0	15	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	250	1.0	1.1	5.0	
	pH value	-	.	-	-	-	-	-	-	-	7.82	8.05	8.05	6.5-8.5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	0.390	0.014	<0.01	5	
PIROT HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	6,2x10 ³	6,6x10 ³	1x10 ² – 1x10 ⁴ cfu100	For the sample upstream from the inflow, the tested physical and chemical parameters meet the values stipulated by the Regulation on Threshold Values of Pollutants in Surface Waters, Groundwaters and Sediment and Deadlines for their Achievement ("OG RS" No. 50/2012) of the limit values for pollutants for water class II. For the sample downstream from the inflow, the tested physical and chemical parameter ammonium ion (NH ₄ -N) does not meet the values Stipulated by the Regulation on Threshold Values of Pollutants in Surface Waters, Groundwaters and Sediment and Deadlines for their Achievement ("OG RS, No. 50 / 2012") of the limit values for pollutants for water class II. Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	9,86	11,37	7.0	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	2,6	< 1,0	< 1,0	25	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	8,2	< 4,0	< 4,0	15	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	0,93	0,7	0,8	5,0	
	pH value	-	.	-	-	-	-	-	-	-	15,6	8,27	8,29	6,5-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	

															has come into force on 17th September 2019.
VLASINSKE HPPs Entrance building Vlasina lake VRLA 1 HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	40	40	40-4x10 ²	Sample analysis established that the measured values of the samples comply with the legal requirements stipulated by the Regulation on Water Classification ("OG RS" no. 6/68) for class I and comply with the values stipulated by the Rulebook on Hazardous Matters in Waters ("OG RS" no. 38/82) for class I and II. The tested samples predominantly match the classes II and III of ecological potential, according to the Regulation on the Parameters of Ecological and Chemical Status of Surface Waters and Parameters of Chemical Status and Quantitative Status of Groundwaters ("OG RS" no. 74/2011). Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad has come into force on 17th September 2019.
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	8,38	8,95	8	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	-	1,60	2,00	10	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	-	5,80	6,40	-	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	-	0,67	0,50	2	
	pH value	-	-	-	-	-	-	-	-	-	-	7,76	7,82	6.5-8.5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
VLASINSKE HPPs VRLA 2 HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	40	40	40-4x10 ²	Sample analysis established that the measured values of the samples comply with the legal requirements stipulated by the Regulation on Water Classification ("OG RS" no. 6/68) for class I and comply with the values stipulated by the Rulebook on Hazardous Matters in Waters ("OG RS" no. 38/82) for class I and II. The tested samples predominantly match classes II and III of ecological potential, according to the Regulation on the Parameters of Ecological and Chemical Status of Surface Waters and Parameters of Chemical Status and
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	8,95	8,94	8	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	-	2,00	2,00	10	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	-	6,40	6,50	-	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	-	0,50	0,66	2	

	pH value	-	.	-	-	-	-	-	-	-	-	7,82	7,77	6.5-8.5	Quantitative Status of Groundwaters ("OG RS" no. 74/2011). Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad has come into force on 17th September 2019
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
VLASINSKE HPPs VRLA 3 HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	40	40	40-4x10 ²	Sample analysis established that the measured values of physical and chemical parameters comply with the legal requirements referred to in Regulation on Water Classification ("OG RS" No. 5/68. see Article 280, Item 1 of the Law -33 / 75-689) for class I and comply with the values defined by the Rulebook on Hazardous Substances in Waters ("OG SRS", No. 31/82) for class I and II. Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad has come into force on 17th September 2019.
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	8,94	9,43	8	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	-	2,00	2,00	10	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	-	6,50	8,90	-	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	-	0,66	0,88	2	
	pH value	-	.	-	-	-	-	-	-	-	-	7,77	7,80	6.5-8.5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
VLASINSKE HPPs VRLA 4 HPP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	40	40	40-4x10 ²	Sample analysis established that the measured values of the samples comply with the legal requirements stipulated by the Regulation on Water Classification ("OG RS" no.5/68 see Article 280 Item 1 of the Law - 33/75-689) for class I and comply with the values stipulated by the Rulebook on hazardous matters in waters ("OG SRS" no. 31/82) for class I and II. Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	9,43	9,42	8	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	-	2,00	9,20	10	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	-	8,90	8,20	-	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	-	0,88	0,87	2	

	pH value	-	.	-	-	-	-	-	-	-	-	7,77	7,76	6.5-8.5	has come into force on 17th September 2019.
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
VLASINSKE HPPs LISINA PSP	MPN coliform bacteria cfu/100ml	-	-	-	-	-	-	-	-	-	-	80	40	40-4x10 ²	<p>Sample analysis established that the measured values of the samples comply with the legal requirements stipulated by the Regulation on Water Classification ("OG RS" no.5/68 see Article 280 Item 1 of the Law - 33/75-689) for class I and comply with the values stipulated by the Rulebook on hazardous matters in waters ("OG SRS" no. 31/82) for class I and II.</p> <p>Note: The first, second and third quarter have not been done since the Contract with the Institute for Occupational Safety Novi Sad has come into force on 17th September 2019.</p>
	Dissolved O ₂ (mg/l)	-	-	-	-	-	-	-	-	-	-	8,76	8,38	8	
	Suspended substances (mg/l)	-	-	-	-	-	-	-	-	-	-	8,40	1,60	10	
	COD(mg/l)	-	-	-	-	-	-	-	-	-	-	5,40	5,80	-	
	BOD5(mg/l)	-	-	-	-	-	-	-	-	-	-	0,62	0,67	2	
	pH value	-	.	-	-	-	-	-	-	-	-	7,77	7,76	6.5-8.5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	

6.2.3. Waste

Waste management followed the defined procedures. Waste amounts generated in 2019 are shown in Table 109.

Table 109

DJERDAP HPPS BRANCH										
Generated Waste in 2019										
№	Official nomenclature of the Rules defining waste categories, its testing and classification (OG RS № 56/2010 and 93/2019)		Unit	Facility					Total	Note
				Djerdap 1 HPP	Djerdap 2 HPP	Pirot HPP	Vlasinske HPPs	SCM Pozarevac		
	Name	Index number		Amounts						
1.	Hydrochloric acid	06 01 02*	t	0,000	0,0003	0,000	0,000	0,000	0,0003	-
2.	Phosphoric and phosphorous acid	06 01 04*	t	0,010	0,000	0,000	0,000	0,000	0,010	Phosphoric acid
3.	Sodium and potassium hydroxide	06 02 04 *	t	0,000047	0,000	0,000	0,000	0,000	0,000047	KOH
4.	Solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13	06 03 14	t	0,001	0,000	0,000	0,000	0,000	0,001	Sodium nitrate
				0,0015	0,000	0,000	0,000	0,000	0,0015	Lithium chloride
5.	Metallic oxides other than those mentioned in 06 03 15	06 03 16	t	0,000344	0,000	0,000	0,000	0,000	0,000344	Silica gel
6.	Organic halogenated solvents, washing liquids and mother liquors	07 01 03*	t	0,0003	0,000	0,000	0,000	0,000	0,0003	Chloroform
7.	Other organic solvents, washing liquids and mother liquors	07 01 04*	t	0,010	0,000	0,000	0,000	0,000	0,010	Isopropyl
				0,001	0,000	0,000	0,000	0,000	0,001	Ethyl alcohol
				0,000	0,000	0,000	0,000	0,000	0,000	Hydranal Coulomat
8.	Waste paint and varnish containing organic solvents or other dangerous substances	08 01 11*	t	0,153	0,000	0,000	0,000	0,000	0,153	Solid waste paint (expired)



9.	Waste printing toner other than those mentioned in 08 03 17	08 03 18	t	0,045	0,000	0,012	0,050	0,000	0,107	Toner cassettes and ink cartridges
10.	Waste adhesives and sealants containing organic solvents or other hazardous substances	08 04 09*	t	0,026	0,000	0,000	0,000	0,000	0,026	Waste adhesives
11.	Spent waxes and fats	12 01 12*	t	1,510	0,000	0,000	0,000	0,000	1,510	Waste lubricating fat
12.	Mineral based non-chlorinated hydraulic oils	13 01 10*	t	1,521	0,000	0,000	0,157	0,000	1,678	Waste hydraulic oil
13.	Mineral-based non-chlorinated engine, gear and lubricating oils	13 02 05*	t	0,000	0,180	0,000	0,000	0,000	0,180	Motor oil
14.	Mineral-based non-chlorinated insulating and heat transmission oils	13 03 07*	t	0,000	0,000	0,180	22,600	0,000	22,780	Waste transformer oil
15.	Other emulsions	13 08 02*	t	6,581	5,400	0,000	1,176	0,000	13,157	Oil emulsion (mixed with adsorbents and other impurities)
	Oily water from oil/water separators	13 05 07*								
16.	Mineral based non-chlorinated hydraulic oils	13 01 10*	t	9,56	0,000	0,200	0,000	0,000	9,760	Waste turbin oil
	Wastes not otherwise specified	13 08 99*		0,000	0,000	0,050	0,000	0,000	0,050	Compressor oil
17.	Packaging containing residues of or contaminated by hazardous substances	15 01 10*	t	0,036	0,000	0,317	0,000	0,000	0,353	Metal barrels
18.	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	0,103	0,100	0,353	1,405	0,000	1,961	Cloths, adsorbents contaminated by hydrocarbons



19.	End-of-life tyres	16 01 03	t	1,820	0,002	0,343	1,200	0,000	3,365	End-of-life tyres
20.	Plastic	16 01 19	t	0,207	0,285	0,026	0,025	0,000	0,543	Waste plastics
	Plastic packaging	15 01 02								
21.	Organic wastes containing hazardous substances	16 03 05*	t	0,296	0,000	0,000	0,000	0,000	0,296	Waste construction additives
22.	Copper, bronze, brass	17 04 01	t	0,000	0,113	0,001	1,954	0,000	2,068	Copper
			t	0,000	0,000	0,000	0,000	0,000	0,000	Brass
			t	2,420	0,110	0,000	0,000	0,000	2,53	Bronze
23.	Cables other than those mentioned in 17 04 10	17 04 11	t	0,604	0,000	0,000	0,166	0,000	0,770	Copper cable
24.	Aluminium	17 04 02	t	0,234	0,000	0,001	0,103	0,000	0,338	Aluminium
	Non-ferrous metal	19 12 03								
25.	Iron and steel	17 04 05	t	3,412	0,000	0,000	0,000	0,000	3,412	Steel wires
				1,309	0,000	0,000	2,487	0,000	3,796	Steel sheets
				0,000	0,000	0,000	0,000	0,000	0,000	Prochrome
				116,496	3,320	1,680	1,95	0,000	123,446	Waste iron
				2,64	0,500	0,060	0,076	0,000	3,276	Metal scrapings
26.	Paper and cardboard	20 01 01	t	0,1335	0,000	0,300	0,000	0,000	0,4335	Paper waste material
27.	Fluorescent tubes and other mercury-containing waste	20 01 21*	t	0,000	0,080	0,083	0,056	0,000	0,219	Waste fluorescent lamps
28.	Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33*	t	0,070	0,000	0,196	0,330	0,319	0,915	Waste lead accumulators
	Lead batteries	16 06 01*								

29.	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	8,256	0,067	0,802	0,114	0,388	9,627	Disposed electrical and electronic equipment and parts
	Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*								
30.	Wood other than that mentioned in 20 01 37	20 01 38	t	3,040	0,000	1,325	2,287	0,000	6,652	Discarded wood and plywood
31.	Wood other than that mentioned in 20 01 37	20 01 38	t	6.594,020	0,000	0,000	0,000	0,000	6.594,020	Discarded wood taken out of Danube

The waste generated by the hydroelectric power plants facilities of the Djerdap HPPs during the year is temporarily stored and sold to authorised operators in accordance with the Regulation stipulating storage, packaging and labelling methods of hazardous waste (OG RS № 92/10 dated 05.12.2010), Regulation stipulating categories, testing and classification of waste (OG RS № 56/10 dated 10.08.2010), Regulation stipulating the conditions and manner of collection, transportation, storage and treatment of waste used as secondary raw material or for energy generation (OG RS № 98/10 dated 24.12.2010), Regulation stipulating the conditions, manner and procedure for waste oil management (OG RS № 71/10 dated 04.10.2010) and the Regulation stipulating the methods and procedures for waste management containing asbestos (OG RS № 74/10 dated 15.10.2010).

Waste amounts delivered to authorized operators in 2019 are as follows in Table 110.



Table 110

DJERDAP HPPS BRANCH										
Waste delivered in 2019.										
№	Official nomenclature of the Rules defining waste categories, its testing and classification (OG RS № 56/2010 and 93/2019)		Unit	Facility					Total	Note
				Djerdap 1 HPP	Djerdap 2 HPP	Pirot HPP	Vlasinske HPPs	SCM Pozarevac		
	Name	Index number		Amounts						
1.	Wood other than that mentioned in 20 01 37	20 01 38	t	3.845	0,000	0,000	0,000	0,000	3.845	Discarded wood taken out of Danube

6.2.4. Environmental Noise Measurement

Noise in the environment (near the electric power facilities operated by the Djerdap HPPs) has not been measured, because the facilities are dislocated from the settlement and as such do not threaten the environment.

6.3. Working Environment Monitoring, Occupational Safety and Health Protection

Occupational Safety and Health Protection Reports in 2019 include the following elements:

- **Working Environment Monitoring**
 - noise measurements in the working environment
- **Occupational Safety**
 - training of employees
 - occupational injuries
- **Health Protection**

6.3.1. Working Environment Monitoring

- **Noise measurements in the working environment**

In 2019, in organisational units Djerdap 1 HPP, Djerdap 2 HPP, Pirot HPP, Vlasinske HPPs, SCM Pozarevac, DMR Beograd measurements of physical hazards in working environment were not carried out.

6.3.2. Occupational Safety

- **Training of employees**

Specific training of health protection and occupational safety for the employees has been conducted under the Training program, including both theoretical and practical workshops. During 2019 the following types of training were:

• Training of the employees for safety and health at work	249
• Visitors training.....	488
• Fire protection training.....	118
• Contractors' employees training (O.0.IMS.0.8.5.1.0.2 procedure).....	709
• Training of students and pupils on practical classes.....	10
• Training for safe work with the equipment.....	22
• IMS training	236

Introduction to the dangers and hazards, i.e. the risk factors, in the Branch of Djerdap is carried out in accordance with the Regulations on Safety and Health at Work and the Risk Assessment Act. The same applies to the contractors with whom a special agreement is signed regarding the implementation of occupational safety and health measures during the performance of contractual works in a common according to the law.

The number of employees trained in the field of occupational health and safety is given in Table 111.

Table 111

DJERDAP HPPS BRANCH					
Training of employees in 2019					
Organisational unit	Number of employees	For training		Trained	
		Number	%	Number	%
Djerdap 1 HPP	378	0	0,00	0	0,00
Djerdap 2 HPP	164	105	64,02	105	100,00
Pirot HPP	32	32	100,00	32	100,00
Vlasinske HPPs	94	71	75,53	71	100,00
SCM Pozarevac	24	24	100,00	19	79,17
DMR Beograd	17	17	100,00	15	88,24
TOTAL: DJERDAP HPPS BRANCH	709	249	35,12	242	97,19

Occupational injuries

Number of occupational injuries in 2019 is presented in Table 112.

Table 112

DJERDAP HPPS BRANCH						
Occupational injuries in 2019						
Organisational unit	Number of employees	Injuries in relation to the number of employees				
		Light	Severe	Fatal	Total	%
Djerdap 1 HPP	378	9	4	0	13	3,44
Djerdap 2 HPP	164	0	0	0	1	0,00
Pirot HPP	32	0	0	0	0	0,00
Vlasinske HPPs	94	0	0	0	0	0,00
SCM Pozarevac	24	0	0	0	0	0,00
DMR Beograd	17	0	0	0	0	0,00
TOTAL: DJERDAP HPPS BRANCH	709	9	4	0	13	1,83

6.3.3. Health Protection

Periodical medical examinations for the employees in HPP Djerdap branch are in progress.

6.4. Public Complaints

Public complaints in 2019 are shown in Table 113.

Table 113

DJERDAP HPPS BRANCH	
Public complaints in 2019.	
Facility	Complaint
Djerdap 2 HPP	On 09.10.2019, the competent inspector for the environmental protection in the Ministry of Environmental protection, Sector for Environmental monitoring and precautions informed us that a report has been filed by a natural person from the territory of the city of Zajecar against Djerdap 2 HPP. The report states that Djerdap 2 HPP discharges oil into the Danube watercourse downstream of the Additional Power Plant facility.

7. DRINSKO-LIMSKE HPPS BRANCH

The Drinsko-Limske HPPs Branch comprises the following hydropower plants:

BAJINA BAŠTA HPPs:

- Bajina Bašta HPP
- Bajina Bašta PSHPP
- Vrelo SHPP

ZVORNIK HPP:

- Zvornik HPP
- Radaljska Banja SHPP

ELEKTROMORAVA HPPs:

- Međuvršje HPP
- Ovčar Banja HPP

LIMSKE HPPs:

- Uvac HPP
- Kokin Brod HPP
- Bistrica HPP
- Potpeć HPP

7.1. Overview and Status of Permits

Overview and status of permits, licences and other necessary approvals as well as applications for obtaining new ones or extending the valid permits and approvals in 2019 are shown in Table 114.

Table 114

DRINSKO-LIMSKE HPPS BRANCH			
Overview and Status of Permits in 2019			
Facility	Obtained permits and approvals (number and date)	Applications for obtaining new ones or extending the valid permits	Note
BAJINA BAŠTA HPPS			
Bajina Bašta HPP	No new applications in 2019	Building permit for the construction of a facility for the accommodation of frequency converter equipment for starting of generator in pump operating mode of RHPP "Bajina Bašta", Perućac and reconstruction of switchgear, on CP 1385 CM Rastište, No.: 351-02-00287/2019-07 ROP-MSGI-21134-CPIH-4/2019	
Bajina Bašta PSHPP	Decision of approval of works execution on ancillary facility construction on CP 2522, CM Zaovine ROP-BBA-7027-ISAW-3/2019 dated 18.11.2019	No new applications	
Vrelo SHPP			
ELEKTROMORAVA HPPS			

Ovčar Banja HPP	No new permits obtained in 2019	No new applications	
Međuvršje HPP	No new permits obtained in 2019	No new applications	
ZVORNIK HPP			
ZVORNIK HPP	Use permit for the performed works on the construction of the first phase of the annex of the machine building on the existing plate of siphon block, on the right bank, below HPP Zvornik dam, No. 119-01-00259/2014-07 dated 25.09.2019.	On 24.01.2020 is submitted request for issuing of use permit for the performed works on: Design of HPP Zvornik units A1 and A2 reconstruction, installation of associated equipment in the new 110 kV plant, in the annex and construction works on the dam with facilities within the II phase of reconstruction of the unit and extension of the machine building annex, included in the building permitt of MCTI No. 351-03-01438/2015-07 dated 17.09.2015	
Radaljska Banja SHPP			
LIMSKE HPPS			
Kokin Brod HPP	No new permits obtained in 2019	No new applications	
Uvac HPP	No new permits obtained in 2019	No new applications	
Bistrica HPP	No new permits obtained in 2019	No new applications	
Potpeć HPP	No new permits obtained in 2019	No new applications	
Miscellaneous			

7.2. Monitoring and Environmental Impact

In 2019, Drinsko – Limske HPPs Branch had the re-certification audit according to the requirements of the ISO standard 14001: 2015. The re-certification audit was performed on 06th December 2019. The results have shown that Drinsko – Limske HPPs Branch continuously maintain and improve their integrated management system in accordance with the ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007 standards' requirements.

In the period 18th - 19th November 2019, Drinsko – Limske HPPs Branch was subjected to the second supervisory audit for the information security management system in accordance with the requirements of ISO/IEC 27001:2013.

In the period 16th – 20th December 2019, certification audit *EnMS – Energy management system ISO 50001:2018 (Energy efficiency)* is performed. The successful audit was performed by SGS (Systems & Services Certification Zurich - Switzerland).

7.2.1. Identified Negative Impacts on the Flow and Ecological System below the Accumulation

The identified negative impacts in the flows downstream the dams are mainly twofold: with very low water levels (low discharge) caused by annual climate and meteorological conditions and otherwise, when there are very large inflows, there is a tendency to realize transfer of hydro power with as higher as possible efficiency through the planning of electricity production.

7.2.2. Water

- Water amounts**

Utilization of water for hydropower generation, process and sanitary water did not exceed the permitted amounts. Amounts of permitted and amounts of water used for electricity generation, as well as amounts of water discharged after electricity generation in 2019 are provided in Table 115.

Table 115

DRINSKO-LIMSKE HPPS BRANCH							
Water amounts in 2019							
Facility		No. of units	Permitted water amounts (Installed discharge per unit) m ³ / s	Discharged water amounts			
				Water used for electricity generation in 2019. m ³ / year x 10 ⁶	Process water m ³ / year x 10 ⁶	Sanitary water m ³ / year x 10 ³	Total discharged water m ³ / year x 10 ⁶
Facility		4	175,000	8.673,000	0,000	26,476	9.236
РХЕ БАЈИНА БАШТА		2	55,000	563,000	0,000	0,000	0,000
Facility		1	0,740	0,000	0,000	0,000	0,000
ХЕ ЗВОРНИК		4	170,000	8.972,100	0,126	2,400	8.972,200
Facility		1	0,400	0,000	0,000	0,000	0,000
ELEKTROMORAVA HPP	Međuvršje HPP	3	I-19,500 II-30,000 III-3,750	717,024	0,00595224	5,122	717,035074
	Ovčar Banja HPP	2	I-19,500 II-30,000	756,1573	0,01080312	6,723	756,174826
LIMSKE HPPS	Uvac HPP	1	43,000	232,252	0,249	0,100	232,501
	Kokin Brod HPP	2	18,700	332,685	1,215	0,100	333,900
	Bistrica HPP	2	18,000	367,886	2,135	0,100+ 2,150(Water for use for Priboj)	372,171
	Potpeć HPP	3	55,000	2 073,341+65,549 overflow	4,235	0,100	2 140,126

• Water quality

Pursuant to the contractual obligations regarding the control management of wastewater and surface water from the riverflows and accumulations, Occupational Safety Institute in 2019 conducted the sampling of waste and surface waters from all power plants operating within the Drinsko – Limske HPPs Branch.

The sampling was made for four quarters of 2019. The following number of samples was taken: Bajina Bašta HPP 11 samples, Limske HPPs 12 samples, Elektromorava HPP 6 samples and Zvornik HPP 3 samples as follows:

- wastewater sample
- surface water sample upstream from the facility
- surface water sample downstream from the facility

The water samples were chemically and biologically analysed, while the results were interpreted in accordance with Regulation on stipulating pollutants limit values in surface and ground waters and sediments, and the deadlines for their achievement (OG RS № 50/2012), Regulation on stipulating hazardous substances in water (OG RS № 31/1982), Water Classification Regulation and Watercourse Categorisation Regulation (OG SFRY № 5/1968). The wastewater and surface water quality test results are presented in Table 116.

Table 116

DRINSKO – LIMSKE HPPs BRANCH															
Water quality in 2019															
Facility	Testing parameters (unit)	Wastewater and surface water quality testing results for 2019													
		1 st quarter			2 nd quarter			3 rd quarter			4 th quarter			Reference values	Test results comment and conclusion (Comment on chemical and bacteriological analysis of the samples from the sewage system and surface water upstream and downstream of the facility and its impact on water class defined by Water Classification Regulation)
		From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility	From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility	From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility	From the sewage system before discharge	Surface water upstream from the facility	Surface water downstream from the facility		
BAJINA BAŠTA HPP	MPN coliform bacteria (E.coli/100 ml)	-	2x10 ³	2x10 ³	-	-	-	-	2,1x10 ³	1,9x10 ³	-	5,1x10 ²	6x10 ²	-	The Drina River belongs to Class II. The tested parameters meet the values defined by the Regulation.
	Dissolved O ₂ (mg/l)	5,97	9,65	9,39	-	-	-	5,93	9,27	8,06	5,98	9,20	8,51	min. 7,0	
	Suspended substances (mg/l)	<1	<1	<1	-	-	-	123	<1	<1	8	<1	<1	25	
	COD (mg/l)	12,80	<4	<4	-	-	-	25	7,80	<4	26,20	<4	<4	15	
	BOD ₅ (mg/l)	8,30	0,95	1,10	-	-	-	2,80	2,30	1,70	4	<0,5	0,91	5	
	pH value	7,73	8,05	8,06	-	-	-	7,64	8,2	7,85	7,76	8,02	8,10	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
ZVORNIK HPP	MPN coliform bacteria (E.coli/100 ml)	-	2,5x10 ³	4x10 ³	-	-	-	-	7,2x10 ²	4,3x10 ³	-	2x10 ³	2,9x10 ³	-	The Drina River belongs to Class II. The tested parameters meet the values defined by the Regulation.
	Dissolved O ₂ (mg/l)	-	9,59	10,30	-	-	-	-	9,09	9,16	-	9,26	9,11	мин. 7,0	

	Suspended substances (mg/l)	-	<1	<1	-	-	-	-	<1	<1	-	<1	<1	25	
	COD (mg/l)	-	<4	<4	-	-	-	-	<4	<4	-	4,1	<4	15	
	BOD ₅ (mg/l)	-	1,20	1,50	-	-	-	-	1	1	-	0,51	0,91	5	
	pH value	-	8,06	8,07	-	-	-	-	8,15	8,17	-	8,19	8,19	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
OVČAR BANJA HPP	MPN coliform bacteria (E.coli/100 ml)	-	8,7 x10 ³	8,5 x10 ³	-	-	-	-	5,1x10 ²	2,3 x10 ³	-	2 x10 ²	2 x10 ²	-	The River of Zapadna Morava belongs to Class II. The tested parameters meet the values defined by the Regulation.
	Dissolved O ₂ (mg/l)	-	8,82	9,03	-	-	-	-	7,36	7,90	-	7,89	7,94	мин. 7,0	
	Suspended substances (mg/l)	-	10,5	8,70	-	-	-	-	<1	<0,1	-	4,50	<0,1	25	
	COD (mg/l)	-	4,8	<4	-	-	-	-	6	7,5	-	5,80	6,20	15	
	BOD ₅ (mg/l)	-	1,39	0,95	-	-	-	-	1,60	3	-	1,4	2,1	5	
	pH value	-	7,92	7,93	-	-	-	-	7,87	7,75	-	7,84	7,82	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
MEĐUVRŠJE HPP	MPN coliform bacteria (E.coli/100 ml)	-	8,2 x10 ³	9 x10 ³	-	-	-	-	9 x10 ³	1 x10 ⁴	-	1 x10 ²	1,1 x10 ²	-	The River of Zapadna Morava belongs to Class II. The tested parameter of suspended substances in 1 st quarter does not meet the values defined by the Regulation.
	Dissolved O ₂ (mg/l)	-	9,55	9,07	-	-	-	-	7,82	7,79	-	7,91	7,86	мин. 7,0	
	Suspended substances	-	63,2	84,4	-	-	-	-	<1	<1	-	<1	<1	25	

	(mg/l)														
	COD (mg/l)	-	6	4,70	-	-	-	-	7,30	6,20	-	6,90	5,80	15	
	BOD ₅ (mg/l)	-	0,95	0,15	-	-	-	-	1,90	4,50	-	1,90	2,50	5	
	pH value	-	7,85	7,98	-	-	-	-	7,74	7,71	-	7,74	7,73	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
UVAC HPP	MPN coliform bacteria (E.coli/100 ml)	-	5x10 ²	40	-	-	-	-	5x10 ³	5,1x10 ²	-	2x10 ³	<1x10 ²	-	
	Dissolved O ₂ (mg/l)	-	8,54	8,48	-	-	-	-	7,94	7,57	-	7,96	7,41	мин. 7,0	The Uvac River belongs to Class II. The tested parameters meet the values defined by the Regulation.
	Suspended substances (mg/l)	-	4	<1	-	-	-	-	<1	<1	-	<1	10,5	25	
	COD (mg/l)	-	<4	<4	-	-	-	-	8,80	5,50	-	5,20	5,90	15	
	BOD ₅ (mg/l)	-	1,3	1,4	-	-	-	-	2,40	1,20	-	1,51	1,02	5	
	pH value	-	7,71	7,86	-	-	-	-	7,82	7,53	-	7,85	7,75	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
KOKIN BROD HPP	MPN coliform bacteria (E.coli/100 ml)	-	80	6,9x10 ²	-	-	-	-	5,1x10 ²	2x10 ²	-	<1x10 ²	5,1x10 ²	-	The Uvac River belongs to Class II. The tested parameters meet the values defined by the Regulation.
	Dissolved O ₂ (mg/l)	-	8,68	9,47	-	-	-	-	8,80	9,27	-	7,94	9,11	мин. 7,0	
	Suspended substances (mg/l)	-	<1	<1	-	-	-	-	<1	<1	-	<1	<1	25	

	COD (mg/l)	-	<4	<4	-	-	-	-	5,4	4,1	-	5	4,2	15	
	BOD ₅ (mg/l)	-	1,40	0,85	-	-	-	-	1,80	0,50	-	1,20	0,60	5	
	pH value	-	8,02	8,13	-	-	-	-	8,21	7,89	-	7,935	8,09	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
BISTRICA HPP	MPN coliform bacteria (E.coli/100 ml)	-	1x10 ²	1,2x10 ²	-	-	-	-	8,3x10 ²	2,1x10 ³	-	<1x10 ²	1x10 ²	-	The Uvac River belongs to Class II. The tested parameters meet the values defined by the Regulation
	Dissolved O ₂ (mg/l)	-	8,65	8,51	-	-	-	-	9,08	8,22	-	9,12	8,63	мин. 7,0	
	Suspended substances (mg/l)	-	<1	<1	-	-	-	-	<1	<1	-	<1	<1	25	
	COD (mg/l)	-	<4	4,2	-	-	-	-	4,30	5,40	-	4,10	4,30	15	
	BOD ₅ (mg/l)	-	0,45	1,20	-	-	-	-	0,40	1,80	-	<0,5	0,80	5	
	pH value	-	8,05	8,05	-	-	-	-	8,04	8,01	-	7,93	7,93	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	
ПОТПЕЋ HPP	MPN coliform bacteria (E.coli/100 ml)	-	8x10 ²	3,1x10 ³	-	-	-	-	7,2x10 ²	5,1x10 ²	-	6,2 x10 ²	8,3x10 ²	-	The Lim River belongs to Class II. The tested parameter of suspended substances upstream in 1 st quarter does not meet the values defined by the Regulation.
	Dissolved O ₂ (mg/l)	-	8,91	8,75	-	-	-	-	7,82	7,24	-	7,94	7,86	мин. 7,0	
	Suspended substances (mg/l)	-	31,2	0,50	-	-	-	-	<1	<1	-	<1	<1	25	
	COD (mg/l)	-	<4	<4	-	-	-	-	5,40	<4	-	5,10	<4	15	

	BOD ₅ (mg/l)	-	0,93	1,12	-	-	-	-	2,10	1,50	-	1,20	0,90	5	
	pH value	-	8,04	8,01	-	-	-	-	7,86	7,79	-	8,07	8,04	6,8-8,5	
	Total oil and grease (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-	-	

Water quality control for Vrelo SHPP and Radaljska Banja SHPP was not carried out in the Drinsko-Limske HPPs Branch, since for their size and structure they are not able to produce waste water.

7.2.3. Waste

Waste at the Drinsko – Limske HPPs Branch is mostly produced in the process of hydro power plants maintenance. Due to the rehabilitation of the Zvornik HPP during 2019, large amount of waste was generated.

The generated waste in 2019 is shown in the Table 117.

Table 117

DRINSKO-LIMSKE HPPS BRANCH									
Generated waste in 2019									
No.	Official nomenclature of the Rules defining waste categories, its testing and classification (OG RS № 56/2010 and 93/2019)		Unit (t)	Facility				Total	Note
				Bajina Bašta HPP and PSHPP	LIMSKE HPPs	Elektromorava HPP	Zvornik HPP		
	Name	Index number		Amounts					
1.	Mineral based non-chlorinated hydraulic oils	13 01 10*	t	0,000	0,000	0,000	8,900	8,900	Turbine oil
2.	Mineral-based non-chlorinated insulating and heat transmission oils	13 03 07*	t	0,000	0,000	0,000	30,080	30,080	Transformer oil
3.	Other emulsions	13 08 02*	t	0,670	4,000	0,000	0,000	4,670	Waste emulsions form tank cleaning
4.	Lead batteries	16 06 01*	t	0,000	3,052	0,124	0,000	3,176	Accu batteries
5.	Copper, bronze, brass	17 04 01	t	0,000	0,000	0,000	1,680	1,680	Copper
6.	Aluminium	17 04 02	t	0,015	0,000	0,000	0,000	0,015	Aluminium
7.	Iron and steel	17 04 05	t	17,540	0,000	0,000	413,480	431,020	Iron, steel and veneer
8.	Mixed metals	17 04 07	t	0,000	0,000	0,000	252,500	252,500	Mixed metals
9.	Cables other than those mentioned in 17 04 10	17 04 11	t	0,520	0,000	0,000	1,560	2,080	Cables
10.	Fluorescent tubes and other mercury-containing waste	20 01 21*	t	0,120	0,060	0,040	0,040	0,220	Fluorescent tubes
11.	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	1,070	0,300	0,220	0,190	1,780	Electrical and electronic equipment

Waste management was performed following the waste management procedures and according to the following waste handling legislation: Regulation on method of storage, packaging and labeling hazardous waste "Official Gazette of RS", No. 92/10 dated 05.12.2010; Regulation on categories, testing and classification of waste ("Official Gazette of the Republic of Serbia", No. 56/10 dated 10.08.2010); Regulation on the conditions and methods of collection, transport, storage and treatment of waste used as secondary raw material or for energy generation ("Official Gazette of the Republic of Serbia", No. 98/10 dated 24.12.2010); Regulation on waste oils management methods ("Official Gazette of the Republic of Serbia", No. 71/10 dated 04.10.2010) and Regulation on manner and procedures for waste management containing asbestos ("Official Gazette of the Republic of Serbia" No. 74/10 dated 15.10. 2010).

The waste generated in Drinsko – Limske HPP Branch was tested – the categorization of waste was done. During the year, the collected waste is stored within the plants and delivered/sold to the authorized companies registered for such activity. The delivered waste in 2019 is shown in the Table 118.

Table 118

DRINSKO – LIMSKA HPPS BRANCH									
Generated waste in 2019									
No.	Official nomenclature of the Rules defining waste categories, its testing and classification OG RS № 56/2010 and 93/2019)		Unit	Facility				Total	Note
				Bajina Bašta HPP and PSHPP	Limske HPPs	Elektromorava HPP	Zvornik HPP		
	Name	Index number		Amounts					
1.	Mineral based non-chlorinated hydraulic oils	13 01 10*	t	0,000	0,000	0,000	8,900	8,900	Turbine oil
2.	Mineral-based non-chlorinated insulating and heat transmission oils	13 03 07*	t	0,000	0,000	0,000	30,080	30,080	Transformer oil
3.	Other emulsions	13 08 02*	t	0,670	4,000	0,000	0,000	4,670	Waste emulsions from tank cleaning
4.	Lead batteries	16 06 01*	t	0,000	3,052	0,124	0,000	3,176	Accu batteries
5.	Copper, bronze, brass	17 04 01	t	0,000	0,000	0,000	1,680	1,680	Copper
6.	Aluminium	17 04 02	t	0,015	0,000	0,000	0,000	0,015	Aluminium
7.	Iron and steel	17 04 05	t	17,540	0,000	0,000	413,480	431,020	Iron, steel and veneer
8.	Mixed metals	17 04 07	t	0,000	0,000	0,000	252,5	252,500	Mixed metals
9.	Cables other than those mentioned in 17 04 10	17 04 11	t	0,520	0,000	0,000	1,560	2,080	Cables
10.	Fluorescent tubes and other mercury-containing waste	20 01 21*	t	0,120	0,060	0,040	0,040	0,260	Fluorescent tubes
11.	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	1,070	0,300	0,220	0,190	1,780	Electrical and electronic equipment

7.2.4. Environmental Noise Measurement

Environmental noise measurements nearby the electric power facilities were not performed in 2019, because they are dislocated from the settlement and as such do not represent a risk factor for the environment from this aspect.

7.3. Working Environment Monitoring, Occupational Safety and Health Protection

Occupational Safety and Health Protection Reports in 2019 include the following elements:

- **Working Environment Monitoring**
 - Noise measurements in the working environment
- **Occupational Safety**
 - Training of employees
 - Occupational injuries
- **Health Protection**

7.3.1. Working Environment Monitoring

- **Noise measurements in the working environment**

Within the framework of testing of working environment, physical and microclimatic parameters, noise measurements in the working environment were made in all facilities of Drinsko - Limske hydro power plants, during regular periodic inspections for the summer period of 2019.

Bajina Bašta HPP Perućac: Out of the total 96 places where noise measurements were performed, at 11 measuring places the measured noise values exceed the limit values defined by the Rulebook on preventive measures for safe and healthy work during noise exposure ("Official Gazette of RS", no. 96/2011 and 78/2015).

Zvornik HPP Mali Zvornik: Out of the total 38 places where noise measurements were performed, at 4 measuring places the measured noise values exceed the limit values defined by the Rulebook on preventive measures for safe and healthy work during noise exposure ("Official Gazette of RS", no. 96/2011 and 78/2015).

Elektro Morava HPP Čačak (Ovčar Banja HPP and Međuvršje HPP): Out of the total 64 places where noise measurements were performed, at 2 measuring places the measured noise values exceed the limit values defined by the Rulebook on preventive measures for safe and healthy work during noise exposure ("Official Gazette of RS", no. 96/2011 and 78/2015).

Limske HPPs Nova Varoš (Kokin Brod HPP, Uvac HPP, Bistrica HPP and Potpeć HPP): Out of the total 68 places where noise measurements were performed, at 16 measuring places the measured noise values exceed the limit values defined by the Rulebook on preventive measures for safe and healthy work during noise exposure ("Official Gazette of RS", no. 96/2011 and 78/2015). The measuring places where the measured values exceed the limit values are given in Table 119.

Table 119

DRINSKO – LIMSKE HPPs BRANCH						
Noise in the working environment for 2019						
Branch of company			Unit	Registered noise level (dB(A))	Permitted noise level (dB(A))	
Facility						
Drinske HPPs	BAJINA BAŠTA HPP	BAJINA HPP	BAŠTA	Generator area	87	85
				Turbine area	93	85
				Neutral point of generator	89	85
				Machine workshop	99	85
				Diesel aggregate	102	85
		BAJINA RHPP	BAŠTA	PLATO DOT Diesel aggregate	92	85
				FP TARA Pump facility	87	85
				Generator area	95	85
				Turbine area	99	85

			Compressor department	101	85
			Ball closure	88	85
	Zvornik HPP		Generator A3- turbine operator	88,29	85
			Generator A2- turbine operator	90,02	85
			Generator A2- turbine operator	85,05	85
			Generator A1- turbine operator	89	85
			Generator A3- turbine operator	88,29	85
	HPP	Turbine area	Турбински простор	91	85
		Turbine area	Турбински простор	91	85
LIMSKE HPPs	Kokin Brod HPP		Turbine A area	87,13	85
			Turbine B area	88	85
	Uvac HPP		Machine and electrical workshop	89,1	85
			Ovčar Banja HPP	85,6	85
			Generator pit plateau	89,8	85
	Bistrica HPP		Machine workshop	93,7	85
			Generator room	87,6	85
			Area around busbar trunking	91,3	85
			Area between generators	92,9	85
			Turbine area	94,1	85
			Locksmith workshop	95,6	85
			Carpenter's workshop	89,5	85
			Generator room	87,3	85
	Potpeć HPP		Turbine area of machine B	92,8	85
			Turbine area between machine A and B	91,3	85

7.3.2. Occupational Safety

■ Training of employees

Employee training has been conducted under the Training program and complementing the knowledge of employees from occupational safety is performed periodically depending on the workplace, which is in compliance with the applicable legal regulations. The number of employees scheduled for training and the number of employees who have been trained is shown in Table 120.

Table 120

DRINSKO – LIMSKE HPPS BRANCH					
Training of employees in 2019					
Facility	Number of employees	For training		Trained	
		Number	%	Number	%
Bajina Bašta HPP	197	197	100,00	197	100,00
Bajina Bašta PSHPP					
Elektromorava HPP	46	46	100,00	46	100,00
Zvornik HPP	60	27	45,00	27	100,00
Limske HPPs	114	37	32,46	37	100,00
TOTAL: DRINSKO – LIMSKE HPPS BRANCH	417	307	73,62	307	100,00

Table 121 gives numbers of individuals sent for other trainings.

Table 121

DRINSKO – LIMSKE HPPS BRANCH			
Other trainings in 2019.			
№	Type of training	Number of persons	Note
1.	Introducing the contractors with the dangers and hazards, OSH measures and rules of conduct	BBHPP/220 LIHPP/180 ZVHPP/42 EMHPP/22 TOTAL: 464	-
2.	Training for safe forklift handling	ZVHPP/2 TOTAL: 2	-
3.	First aid training	BBHPP/24 ZVHPP/8 TOTAL: 32	-
4.	Obligation of the management personnel related to application of preventive OSH measures	LIHPP/24 TOTAL 24	-
5.	Introducing the students and pupils at practice with OSH measures and rules of conduct	LIHPP/4 EMHPP/9 TOTAL: 13	-
6.	Fire protection trainings	BBHPP/196 LIHPP/3 ZVHPP/60 TOTAL: 259	-

Occupational injuries

Table 122 provides number data occupational injuries in 2019.

Table 122

DRINSKO – LIMSKE HPPS BRANCH						
Occupational injuries in 2019						
Facility	Number of employees	Injuries in relation to the number of employees				
		Light	Severe	Fatal	Total	%
Bajina Bašta HPP	197	0	0	0	0	0,00
Bajina Bašta RHPP						
Elektromorava HPP	46	0	0	0	0	0,00
Zvornik HPP	60	1	0	0	1	1,67
Limske HPPs	114	0	0	0	0	0,00
TOTAL: DRINSKO – LIMSKE HPPS BRANCH	417	1	0	0	1	0,24

7.3.3. Health protection

Medical examinations results are provided in Table 123.

Table 123

DRINSKO – LIMSKE HPPS BRANCH											
Work ability of employees in 2019											
Facility	Number of employees	Periodical examination				Work capability					
		For medical examination		Examined		Capable		Limited capability		Not capable	
		Number	%	Number	%	Number	%	Number	%	Number	%
Bajina Bašta HPP	197	73	37,06	73	100,00	56	76,71	17	23,29	0	0,00
Bajina Bašta RHPP											
Elektromorava HPP	46	3	6,52	3	100,00	3	100,00	0	0,00	0	0,00
Zvornik HPP	60	23	38,33	23	100,00	19	82,61	3	13,04	1	4,35

Limske HPPs	114	38	33,33	38	100,00	31	81,58	7	18,42	0	0,00
TOTAL: DRINSKO – LIMSKE HPPS BRANCH	417	137	32,85	137	100,00	109	79,56	27	19,71	1	0,73

7.4. Public complaints

Several requests for compensation for the damage caused by the landslide were submitted by the residents of Zaovina.

8. RENEWABLE ENERGY SOURCES BRANCH

The Renewable Energy Sources (RES) Branch comprises the following small hydropower plants, some are in operation, whilst larger part is in the process of reconstruction.

Small hydropower plants in operation :

- Svetka Petka HPP
- Sićevo HPP
- Sokolovica HPP
- Gamzigrad HPP
- Prvonek HPP

Small hydropower plants that are out of operation:

- Seljašnica HPP
- Moravica HPP
- Turica HPP
- Pod Gradom HPP
- Kratovska reka HPP
- Raška HPP
- Temac HPP
- Vučje HPP
- Jelašnica HPP
- Stanica Spasojević HPP
- Crna HPP
- Krasava HPP
- Manastirište HPP

According to the plans of PE EPS, small hydropower plants that are out of service at different stages of reconstruction, and the last four small hydropower plants are not currently in the reconstruction plans of PE EPS due to the state they are in at the moment.

8.1. Overview and Status of Permits

In 2019, the reconstruction of Turica HPP and Seljašnica HPP is finished, and the reconstruction of Kratovska reka HPP, Moravica HPP and Pod gradom HPP was continued. Based on the plans, the reconstruction of the following hydro power plants was started in this order Temac HPP on June 1st, 2019, and starting from July 1st, 2019, in this order Raška HPP, Vučje HPP and Jelašnica HPP. Prvonek SHPP has the Use Permission No. 351-398/2012-07 issued on June, 13th 2013 by the competent Secretariat of the City of Vranje.

8.2. Monitoring and Environmental Impact

8.2.1. Identified Negative Impacts on the Flow and Ecological System below the Accumulation

The identified negative impacts in streams downstream the dams are mainly twofold: with very low water level (low flow rate), causing by annual climate and meteorological conditions and otherwise, when there are very large inflows, there is a tendency to realize transfer of hydro power with as higher as possible efficiency through the planning of electricity production.

8.2.2. Water

Utilisation of water for hydropower generation, process and sanitary water did not exceed the permitted amounts. Amounts of permitted and amounts of water used for electricity generation, as well as amounts of water discharged after electricity generation in 2019 2018 are provided in Table 121. The data which are not indicated in the table

are unavailable due to impossibility of measurement or lack of measuring equipment in the listed hydropower plants.

Table 121

RENEWABLE ENERGY SOURCES BRANCH						
Water amounts in 2019						
Organisational unit	Installed power kW	Permitted water amount (installed flow per unit) m³/ s	Discharged water amounts			
			Water used for electricity generation in 2019. m³/ god.x10 ⁶	Technical water m³/ god.x10 ⁶	Sanitary water m³/ god.x10 ³	Total discharged water m³/ god.x10 ⁶
Raška SHPP	6.256	4,5	out of service	-	-	-
Seljašnica SHPP	Completed reconstruction					
Moravica SHPP	160	2,50	In reconstruction			
Turica SHPP	Completed reconstruction					
Pod Gradom SHPP	364	2,30	In reconstruction			
Kratovska reka SHPP	In reconstruction					
Sveta Petka SHPP	600	-	-	-	-	-
Sićevo SHPP	1.348	20,60	-	-	-	-
Temac SHPP	752	6,10	out of service	-	-	-
Sokolovica SHPP	3.724	40	-	-	-	-
Gamzigrad SHPP	224	4,20	-	-	-	-
Vučje SHPP	928	1,25	out of service	-	-	-
Jelašnica SHPP	400	0,42	out of service	-	-	-
Prvonek SHPP	932	1.45	-	-	-	-

• Water quality

Water quality control for SHPPs was not carried out in the Renewable Energy Sources Branch during 2019. SHPPs in the RES Branch for their size and structure are not able to produce waste water.

8.2.3. Waste

During 2019, the works on reconstruction of previously mentioned small hydropower plants were being executed, where a part of the equipment was properly stored after dismantling. The stored equipment will, after the decision of the competent authorities, be further used by the institutions interested in using this equipment for teaching or museum purposes.

In the process of production and maintenance of small hydroelectric power plants in operation we had no waste.

8.2.4. Environmental Noise Measurement

Noise level in the environment near the hydropower electric facilities operated by the RES Branch was not measured in 2019, because the facilities are dislocated from the settlement.

8.3. Working Environment Monitoring, Occupational Safety and Health Protection

Occupational Safety and Health Protection Reports in 2019 include the following elements::

- **Working Environment Monitoring**
 - noise measurements in the working environment
- **Occupational Safety**
 - training of employees
 - occupational injuries
- **Health Protection**

8.3.1. Working Environment Monitoring

- **Noise measurements in the working environment**

No noise measurement were made in the working environment in 2019.

8.3.2. Occupational Safety

- **Training of employees**

There was no training of employees in 2019.

- **Occupational injuries**

In Table 122 are given data on number of occupational injuries in 2019.

Table 122

RENEWABLE ENERGY SOURCES BRANCH						
Occupational injuries in 2019						
Organizational unit	Number of employees	Injuries in relation to the number of employees				
		Light	Severe	Fatal	Total	%
Renewable Energy Sources	50	1	0	0	1	2,00
TOTAL: RENEWABLE ENERGY SOURCES BRANCH	50	1	0	0	1	2,00

8.3.3. Health protection

Table 123 shows the results of medical examinations for the employees.

Table 123

RENEWABLE ENERGY SOURCES BRANCH											
Work ability of employees in 2019											
Branch	Number of employees	Periodical examination				Work capability					
		For medical examination		Examined		Capable		Limited capability		Not capable	
		Number	%	Number	%	Number	%	Number	%	Number	%
Branch management	4	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
Istok SHPP	32	27	84,38	27	100,00	27	100,00	0	0,00	0	0,00
Zapad SHPP	14	10	71,43	10	100,00	10	100,00	0	0,00	0	0,00
TOTAL: RENEWABLE ENERGY SOURCES BRANCH	50	37	74,00	37	100,00	37	100,00	0	0,00	0	0,00

8.4. Public complaints

There was no public complaints regarding environment in 2019.

9. TECHNICAL CENTER BEOGRAD

Distribution network has not become a part of Technical Center Beograd. Transformer stations and cables lines are ownership of DSO "EPS Distribucija".

9.1. Overview and Status of Permits

Overview and status of permits, licences and other necessary approvals in 2019 were not carried out. There were no new applications for permits.

9.2. Monitoring and Environmental Impact

Environmental impact factors of TC Beograd are:

- **Electromagnetic fields;**
- **Environmental noise;**
- **Waste;**
- **Surface and groundwater quality;**
- **Soil quality.**

9.2.1. Electromagnetic Fields

During 2019, electromagnetic field measurements were not performed.

9.2.2. Living Environment Noise Measurements

During 2019, living environment noise measurements were not performed.

9.2.3. Waste

During 2019, the waste was not generated in TC Belgrade.

9.2.4. Surface, Ground Waters and Soil Monitoring

Monitoring of surface and groundwater, as well as monitoring of soil in 2019 was not defined-included on the territory of TC Beograd.

9.3. Working Environment Monitoring, Occupational Safety and Health Protection

Occupational Safety and Health Protection Reports in 2019 include the following elements:

- **Working Environment Monitoring**
 - noise measurements in the working environment
 - working environment electromagnetic fields
 - working environment parameters
- **Occupational Safety**
 - training of employees
 - occupational injuries
- **Health Protection**

9.3.1. Working Environment Monitoring

- **Noise measurements in the working environment**

Working environment noise measurements were not performed in 2019.

▪ Working environment electromagnetic fields

Working environment electromagnetic fields measurements were not performed in 2019.

▪ Working environment parameters

Microclimate in the workplace and in the work environment were not performed in 2019.

9.3.2. Occupational Safety

▪ Training of employees

OHS training for employees is performed. Training of employees is carried out according to the Program for training employees for safe work. Checking the skills of employees in the field of OHS, working at the workplace with increased risk is carried out in accordance with the newly adopted Risk Assessment Act for Technical Centers.

Training of employees, shown in Table 125, included checking employees' qualifications as well as training of newly recruited employees.

Table 124

TECHNICAL CENTER BEOGRAD					
Training of employees in 2019					
TC Beograd	Number of employees	For training		Trained	
		Number	%	Number	%
Safe and healthy work of employees (working places with high risk of injuries)	844	361	42,77	361	100,00

▪ Occupational injuries

The status of work injuries in 2019 is presented in Table 125.

Table 125

TECHNICAL CENTER BEOGRAD						
Occupational injuries in 2019						
Sector for technical services/Facility	Number of employees	Injuries in relation to the number of employees				
		Light	Severe	Fatal	Total	%
STS CENTAR	101	2	0	0	2	1,98
STS BANOVO BRDO	111	1	1	0	2	1,80
STS ZEMUN	104	2	0	0	2	1,92
STS KRNJACA	31	0	0	0	0	0,00
STS MLADENOVAC	75	2	0	0	2	2,67
STS OBRENOVAC	69	1	1	0	2	2,90
HQ	287	2	1	0	3	1,05
TOTAL: TECHNICAL CENTER BEOGRAD	778	10	3	0	13	1,67

9.3.3. Health Protection

Periodical medical examinations of employees are shown in Table 126.

Table 126

TECHNICAL CENTER BEOGRAD											
Work ability of employees in 2019											
Sector for technical services/Facility	Number of employees	Periodical examination				Work capability					
		Referred to examination		Examined / Referred		Capable		Limited capability		Incapable	
		No.	%	No.	%	No.	%	No.	%	No.	%
STS CENTAR	101	64	63.37	64	100,00	57	89.06	2	3,13	0	0,00
STS BANOVO BRDO	111	78	70.27	78	100,00	72	92.31	6	7,69	3	3,85
STS ZEMUN	104	71	68.27	71	100,00	69	97.18	2	2,82	2	2,82
STS KRNJACA	31	14	45.16	14	100,00	14	100,00	0	0,00	0	0,00
STS MLADENOVAC	75	48	64,00	48	100,00	47	97.92	1	2,08	0	0,00
STS OBRENOVAC	69	38	55.07	38	100,00	36	94.74	2	5,26	0	0,00
HQ	287	48	16,72	48	100,00	43	89.58	4	8,33	1	2,08
TOTAL: TECHNICAL CENTER BEOGRAD	778	361	46,40	361	100,00	338	93,63	17	4,71	6	1,66

9.4. Public complaints

There were no public complaints for environment in 2019.

MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
STS SREMSKA MITROVICA Environmental Noise Measurement were not carried out in 2019						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
STS ZRENJANIN Environmental Noise Measurement were not carried out in 2019						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
STS RUMA Environmental Noise Measurement were not carried out in 2019						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						

	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
STS NOVI SAD						
Environmental Noise Measurement were not carried out in 2019						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
Measuring points						
	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						
STS PANČEVO						
Environmental Noise Measurement were not carried out in 2019						
Measuring points						
Room for printing accounts	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)	Measured level Leq dB(A)	Relevant level dB(A)
MEASURED VALUES	-	-	-	-	-	-
GVI						

10.2.3. Waste

Produced amount of waste in 2019 is presented in Table 128.

Table 128

TECHNICAL CENTER NOVI SAD												
Waste in 2019.												
SERIAL NUMBER	RULEBOOK ON CATEGORIES. TESTING AND CLASSIFICATION OF WASTE ("Official Gazette of the Republic of Serbia". no. 56/2010 and 93/2019)	INDEX NUMBER	UNIT	Sector for technical services							Total	Note
				SUBOTICA	SOMBOR	ZRENJANIN	NOVI SAD	SREMSKA MITROVICA	RUMA	PANCEVO	TOTAL TC NOVI SAD	
				AMOUNTS								
1.	Waste printing toner other than those mentioned in 08 03 17	08 03 18	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-
2.	Other insulating and heat transmission oils	13 03 10*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Transformer oils
3.	Other emulsions	13 08 02*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Oiled water from oil pit
4.	Packaging containing residues of or contaminated by hazardous substances	15 01 10*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Plastic bottles used for testing transformer oils in electrical servicing workshop
5.	Absorbents, filter materials (including oil filters which are not otherwise specified), wiping cloths, protective clothing, contaminated with dangerous substances	15 02 02*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste adsorption mediums with oil and fuel oil. Oiled gravel
6.	End-of-life tyres	16 01 03	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste tires
7.	Waste vehicles that do not contain any liquid or other dangerous substance	16 01 06	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-
8.	Oil filters	16 01 07*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-
9.	Ferrous metal	16 01 17	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Scrap iron

10.	Transformers and capacitors containing PCBs	16 02 09*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Scrap PCB transformers
11.	Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Condenser batteries
12.	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Scrap meters
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Scrap transformers without oil
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Electrical devices
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Measuring cabinets
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Measuring devices (ampermeters, volt meters)
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Disconnecter 20 kV
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	LV and HV Units
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Scrap fuses LV and HV
13.	Lead batteries	16 06 01*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Batteries
14.	Wastes containing oil	16 07 08*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste putty for transformer oil testing on RSV
15.	Aqueous liquid wastes containing hazardous substances	16 10 01		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Aqueous liquid wastes containing hazardous substances from the oil pit
16.	Concrete	17 01 01	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Concrete poles
17.	Wood	17 02 01	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Wooden poles
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste mixed wood
18.	Plastic	17 02 03	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-
19.	Glass, plastic and wood containing or contaminated with hazardous substances	17 02 04*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Impregnated wooden poles
20.	Copper, bronze, brass	17 04 01	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste and residues of copper and brass
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste copper
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste copper cables

21.	Aluminium	17 04 02	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste aluminum
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste aluminum cables
22.	Iron and steel	17 04 05	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste parts of substation equipment
23.	Mixed metals	17 04 07	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Al - Fe
24.	Cables containing oil, coal tar and other hazardous substances	17 04 10*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Oil-filled cable
25.	Soil and stones containing hazardous substances	17 05 03*		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-
26.	Insulation materials other than those mentioned in 17 06 01 and 17 06 03	17 06 04	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste ceramic insulators
27.	Construction materials containing asbestos	17 06 05*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste asbestos-cement corrugated sheet
28.	Paper and cardboard	20 01 01	t	2,050	0,000	0,000	0,000	0,000	0,000	0,000	0,000	2,050	-
29.	Glass	20 01 02	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	-
30.	Fluorescent tubes and other mercury-containing waste	20 01 21*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Fluorescent tubes, bulbs with mercury
31.	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste computers, keyboards, monitors, electronic meters
32.	Bulky waste	20 03 07	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste office furniture

10.2.4. Surface, Ground Waters and Soil Monitoring

Surface and ground waters monitoring, as well as soil monitoring in 2019 is not defined – included in the inspections.

10.3. Working Environment Monitoring, Occupational Safety and Health Protection

Occupational Safety and Health Protection Reports in 2019 include the following elements:

- **Working Environment Monitoring**
 - noise measurements in the working environment
 - electromagnetic fields in the working environment
 - working environment parameters
- **Occupational Safety**
 - training of employees
 - occupational injuries
- **Health Protection**

10.3.1. Working Environment Monitoring

- **Noise measurements in the working environment**

Working environment noise measurements in 2019 are given in Table 129.

Table 129

TECHNICAL CENTER NOVI SAD			
Working environment noise in 2019			
Technical service department / Facility	Unit	Registered noise level (dB(A))	Permissible noise level (dB(A))
Technical service department Subotica	No measurements in 2019	-	-
Technical service department Sombor	No measurements in 2019	-	-
Technical service department Zrenjanin	Zrenjanin – print center	83,8	85
	Zrenjanin – counter hall	68,7	85
	Zrenjanin – workshop	72,7	85
	Zrenjanin – locksmith workshop	92,3	85
	Perlez – workshop	81,3	85
	Novi Bečej – workshop	83,9	85
	Sečanj – workshop	80,8	85
	Nova Crnja – workshop	82,6	85
	Žitište – workshop	84,6	85
Technical service department Novi Sad	No measurements in 2019	-	-
Technical service department Sremska Mitrovica	No measurements in 2019	-	-
Technical service department Ruma	No measurements in 2019	-	-
Technical service department Pančevo	No measurements in 2019	-	-

- **Working environment electromagnetic fields**

Electromagnetic field measurements were not performed in 2019

- **Working environment parameters**

In 2019, illumination and microclimate at workplace and within working environment were tested. Working environment parameters for 2019 are given in Tables 130, 131, 132 and 133.

Table 130

TECHNICAL CENTER NOVI SAD			
Illumination in working environment in 2019 – winter period			
Technical service department / Facility	Unit	Average (Lx)	Minimum admissible (Lx)
Technical service department Subotica	No measurements in 2019	-	-
Technical service department Sombor	No measurements in 2019	-	-
Technical service department Zrenjanin	No measurements in 2019	-	-
Technical service department Novi Sad	No measurements in 2019	-	-
Technical service department Sremska Mitrovica	No measurements in 2019	-	-
Technical service department Ruma	No measurements in 2019	-	-
Technical service department Pančevo	No measurements in 2019	-	-

Табела 131

TECHNICAL CENTER NOVI SAD			
Illumination in working environment in 2019 – summer period			
Technical service department/Facility	Unit	Average (Lx)	Minimum admissible (Lx)
Technical service department Subotica	No measurements in 2019	-	-
Technical service department Sombor	No measurements in 2019	-	-
Technical service department Zrenjanin	Zrenjanin – Pančevačka 46		
	Office no. 81	467	150
	Office no. 53	419	150
	Office no. 64	797	150
	Office no. 33	566	150
	Office no. 22	419	150
	Printing center	762	150
	Controllers' office	295	150
	Counter hall – customers	110	80
	Counter hall – employees	168	150
	Porter's lodge	2911	150
	Duty room	386	80
	Gauging office	1076	300
	ME Surroundings	248	80
	ME Town team	136	80
	Office warehouse	411	80
	ME Overhaul	580	80
	Locksmith workshop	612	80
	ME maintenance	635	80
	Car mechanic workshop	550	80
	Канцеларија возни парк	248	150



	Perlez-No. 44 Ruže Zivanović Street		
	Workshop	1097	80
	Assembly room	504	80
	Managers' Office	439	150
	Novi Bečej-No. 40 Ive Lole Ribara Street		
	Workshop	512	80
	Managers' Office	215	80
	Assembly room	207	50
	Sečanj- Partizanski put nn		
	Manager's Office	509	150
	Assembly room	84	80
	Workshop	762	150
	Kikinda-No. 83 Miloša Velikog Street		
	Office of vehicles	187	150
	Workshop	191	150
	Gatekeeper's lodge	1092	150
	Counter hall	1709	150
	Dispatch center	211	150
	Office of head of service for DEES	308	150
	Office No.19	349	150
	Office No.27	201	150
	Office No.30	1997	150
	Office No.41	295	150
	Nova Crnja-JNA nn		
	Office of branch office head	162	150
	Assembly room	324	150
	Workshop	1405	150
	Žitište-Topolovački put nn		
	Manager's Office	601	150
	Assembly room	519	150
	Workshop	588	150
Technical service department Novi Sad	No measurements in 2019	-	-
Technical service department S. Mitrovica	No measurements in 2019	-	-
Technical service department Ruma	No measurements in 2019	-	-
Technical service department Pančevo	Measurements were performed in 2019, but Expert Report has not been obtained yet	-	-

Table 132

TECHNICAL CENTER NOVI SAD				
Microclimate in working environment in 2019 - winter				
Technical service department / Facility	Operating unit	Air temperature (°C) Allowed (18-28)	Relative air humidity (%) Allowed (max. 75)	Air flow velocity (m/s) Allowed (max. 0,3)
Technical service department Subotica	No measurements in 2019	-	-	-
Technical service department Sombor	No measurements in 2019	-	-	-
Technical service department Zrenjanin	No measurements in 2019	-	-	-
Technical service department Novi Sad	No measurements in 2019	-	-	-
Technical service department S. Mitrovica	No measurements in 2019	-	-	-
Technical service department Ruma	No measurements in 2019	-	-	-
Technical service department Pančevo	No measurements in 2019	-	-	-

Table 133

TECHNICAL CENTER NOVI SAD				
Microclimate in working environment in 2019 - summer				
Technical service department / Facility	Operating unit	Air temperature (°C) Allowed (18-28)	Relative air humidity (%) Allowed (max. 75)	Air flow velocity (m/s) Allowed (max. 0,3)
Technical service department Subotica	No measurements in 2019	-	-	-
Technical service department Sombor	No measurements in 2019	-	-	-
Technical service department Zrenjanin	Zrenjanin-No. 46 Pančevačka Street			
	Office No.81	26.5	40.8	0.08
	Office No.53	26.9	33.3	0,07
	Office No.64	26.2	31.5	0,14
	Office No.33	27.0	44.8	0,09
	Office No.22	26.8	45.6	0,05
	Printing center	27.2	40.1	0,05
	Office controlers	27.5	40.6	0,06
	Counter hall-customers	26.9	42.1	0,11
	Counter hall-employees	26.2	38.9	0,04
	Gatekeeper's lodge	27.4	48.4	0,09
	Office of dispatch center	26.8	49.6	0,05
	Calibration room	26.5	32.2	0,14
	ME environment	27.1	47.6	0,12
	ME City Team	26.7	42.7	0,03
	Office Warehouse	23,6	38.7	0,06
	ME Overhaul	26.5	44.6	0,08
	Locksmith workshop	29.3	46.1	0,15



	ME maintenance	26.8	34.2	0,08
	Auto repair shop	30.8	45.4	0,04
	Office vehicles	27.1	47.0	0,06
	Perlez-No. 44 Ruže Zivanović Street			
	Workshop	32.6	41.3	0,12
	Assembly room	27.4	44.2	0,05
	Managers' Office	27.9	41.5	0,07
	Novi Bečej-No. 40 Ive Lole Ribara Street			
	Workshop	29.9	44.5	0,18
	Managers' Office	27.8	45.9	0,05
	Assembly room	26.8	47.2	0,10
	Sečanj- Partizanski put nn			
	Manager's Office	28.0	46.1	0,07
	Assembly room	26.4	47.1	0,14
	Workshop	31.0	42.5	0,07
	Kikinda-No. 83 Miloša Velikog Street			
	Office of vehicles	25.9	45.5	0,04
	Workshop	26.5	44.4	0,10
	Gatekeeper's lodge	25.7	45.8	0,04
	Counter hall	25.1	40.7	0,08
	Dispatch center	26.1	41.6	0,05
	Office of head of service for DEES	25.6	48.6	0,04
	Office No.19	25.9	42.7	0,07
	Office No.27	26.3	41.7	0,04
	Office No.30	26.0	38.1	0,07
	Office No.41	25.8	40.5	0,08
	Nova Crnja-JNA nn			
	Office of branch office head	27.9	46.4	0,05
	Assembly room	27.2	44.4	0,05
	Workshop	27.5	45.2	0,10
	Žitište-Topolovački put nn			
	Manager's Office	26.1	42.4	0,08
	Assembly room	26.7	40.9	0,06
	Workshop	26,1	42.4	0,08
Technical service department Novi Sad	No measurements in 2019	-	-	-
Technical service department S. Mitrovica	No measurements in 2019	-	-	-
Technical service department Ruma	No measurements in 2019	-	-	-

Technical service department Pančevo	Measurements were performed in 2019, but Expert Report has not been obtained yet	-	-	-
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10.3.2. Occupational Safety

■ Training of employees

Training of employees is presented in Table 134 below.

Table 134

TECHNICAL CENTER NOVI SAD						
Training of employees in 2019						
No.	Technical service department / Facility	Number of employees	Planned for training		Trained	
			No	%	No	%
1	TSD SUBOTICA	138				
	Regular training "general electrical" training performed by NORCEV 2019		64	46,38	62	96,88
	FF training (administration) of employees. Training performed by responsible person for OHS/FF.		43	31,16	42	97,67
	Regular – annual training for positions with increased risk. Training performed by responsible person for OHS/FF.		100	72,46	0	0,00
	General OHS training – employment, engagement contract for temporary assignments with Technical Center Novi Sad, EPS Supply, Agencies, temporary assignments. Training performed by responsible person for OHS/FF.		117	84,78	117	100,00
	OHS training – employment, engagement contract for temporary assignments with Technical Center Novi Sad, EPS Supply, Agencies, temporary assignments. Training performed by responsible person for OHS/FF.		117	84,78	117	100,00
2	TSD SOMBOR	134				
	Regular training "general electrical" NORCEV 2019		52	38,81	51	98,08
	General OHS training – employment, engagement contract for temporary assignments with Technical Center Novi Sad. Responsible person for OHS department for technical service		5	3,73	5	100,00
	Training – introducing dangers and harms of third parties		30	22,39	30	100,00
3	TSD ZRENJANIN	117				
	Regular training "general electrical" NORCEV 2019		34	29,06	34	100,00
	** Special general training due to employment – Employer Agency MONTOP HRS and Sequester		3	2,56	3	100,00
	** Introducing Contractors with dangers and harms, measures for OHS and rules of conduct		8	6,84	8	100,00
	Training for providing First Aid		9	7,69	9	100,00
4	TSD NOVI SAD	182				



	* Regular training "general electrical" NORCEV 2019- training performed by: MANAGEMENT TECHNICAL CENTER NOVI SAD		29	15,93	24	82,76
	** Special general training due to employment – Employer PE EPS		12	6,59	12	100,00
	** Special general training due to employment – Employer Agency MONTOP HRS and Sequester		34	18,68	34	100,00
	** Special general training due to employment – Employer Agency MONTOP HRS and Sequester – EPS Supply		17	9,34	17	100,00
	**Introducing Contractors with dangers and harms, measures for OHS and rules of conduct		73	40,11	73	100,00
	**Introducing students attending practical training with OHS measures and rules of conduct		3	1,65	3	100,00
	****General training – introducing visitors and service providers with OHS measures and rules of conduct		2	1,10	2	100,00
5	TSD RUMA	101				
	Regular training "general electrical" NORCEV 2019		27	26,73	27	100,00
6	TSD SREMSKA MITROVICA	48				
	Regular training "general electrical" NORCEV 2019		10	20,83	9	90,00
	**General training due to employment		1	2,08	1	100,00
	Special training in accordance with new Instruction for safe and healthy operation at overhead lines for employees employed by Agency		5	10,42	5	100,00
	** Special general OHS training – employment by Agency. Responsible person for OHS department for technical service		4	8,33	4	100,00
7	TSD PANČEVO	132				
	* Regular training "general electrical" NORCEV 2019- training performed by: MANAGEMENT OF TECHNICAL CENTER NOVI SAD		35	26,52	35	100,00
	**General OHS training – employment, engagement based on contract for temporary assignments with Technical Center Novi Sad. Repsonsible person for OHS department for technical services.		10	7,58	10	100,00
	Special general training due to change of position name.		10	7,58	10	100,00
	****General training – introducing visitors and service providers with OHS measures and rules of conduct		26	19,70	26	100,00
8	MANAGEMENT OF TECHNICAL CENTER NOVI SAD	201				
	* Regular training "general electrical" NORCEV 2019- training performed by: MANAGEMENT OF TECHNICAL CENTER NOVI SAD		9	4,48	9	100,00
	** Special general training due to employment – Employer PE EPS		22	10,95	22	100,00
	** Special general training due to employment – Employer Agency MONTOP HRS and Sequester		32	15,92	32	100,00
	** Special general training due to employment – Employer Agency MONTOP HRS and Sequester – EPS Supply		1	0,50	1	100,00
TOTAL: TECHNICAL CENTER NOVI SAD		1.053	944	89,65	834	88,35

Periodical training of employees on workplaces with higher risk is carried out in NORCEV Educational Center, Iriski Venac. The training is organized in cycles, twice a year, so that 15 groups of employees are trained in one cycle, one group per week (165-230 trainees in total). Target of the training is preventive action and permanent improvement in acquiring new knowledges and skills for performance of working tasks with full implementation of OHS measures.

Theoretical part: includes OHS training, training in fire fighting and work technology. Employees are getting acquainted with issues in accordance with the OHS Rulebook – normative regulation and importance and target of OHS, sources of danger and harmfulness and preventive measures for safe and healthy work, means and equipment for personal protection at work. The second part of the training is to get acquainted with work technologies – works near voltage and in voltage-free state, dangers related to electric energy, fault PF localization, basic principles of PF manipulation, instructions on dispatching management. The third part implies getting acquainted with fire and explosion protection (practical training on simulators is carried out).

Once the theoretical part of training is accomplished, the trainees take knowledge test examination.

- Practical part: it is performed in three groups on individually determined locations on polygon for demonstration such as: erection sheet metal transformer station TS 20/10/04 kV, room with measuring devices and ring main unity facility and combined MV, LV, Al/steel, self-supporting cable bundles and public lightening line.
- **Injuries at work**

Status of injuries for 2019 is presented in Table 135.

Table 135

TECHNICAL CENTER NOVI SAD						
Injuries at work in 2019						
Technical service department / Facility	Number of employees	Injuries in relation to number of employees				
		Minor	Serious	Fatalities	Total	%
STS Subotica	138	1	1	0	2	1,45
STS Sombor	134	2	0	0	2	1,49
STS Zrenjanin	117	2	0	0	2	1,71
STS Novi Sad	182	6	0	0	6	3,30
STS Ruma	101	3	1	0	4	3,96
STS Sremska Mitrovica	48	1	1	0	2	4,17
STS Pančevo	132	2	0	0	2	1,52
Management	201	0	0	0	0	0,00
TOTAL:	1.053	17	3	0	20	1,90
TECHNICAL CENTER NOVI SAD						

10.3.3. Health

Periodic medical examinations of employees are presented in Table 136.

Table 136

TECHNICAL CENTER NOVI SAD											
Working capacity of employees in 2019											
Technical service department / Facility	Number of employees	Periodical examination				Capability for work					
		Referred to examination		Examined		Capable		Limited capability		Incapable	
		No	%	No	%	No	%	No	%	No	%
STS Subotica	138	109	78,99	107	98,17	97	90,65	9	8,41	1	0,93
STS Sombor	134	103	76,87	103	100,00	83	80,58	20	19,42	0	0,00
STS Zrenjanin	117	85	72,65	85	100,00	77	90,59	7	8,24	1	1,18
STS Novi Sad	182	111	60,99	111	100,00	98	88,29	12	10,81	1	0,90
STS Ruma	101	65	64,36	65	100,00	54	83,08	11	16,92	0	0,00
STS Sremska Mitrovica	48	34	70,83	34	100,00	30	88,24	4	11,76	0	0,00

STS Pančevo	132	89	67,42	89	100,00	78	87,64	11	12,36	0	0,00
Management	201	15	7,46	15	100,00	13	86,67	2	13,33	0	0,00
TOTAL: TECHNICAL CENTER NOVI SAD	1.053	611	58,02	609	99,67	530	87,03	76	12,48	3	0,49

10.4. Public complaints

There were no public complaints regarding environment in 2019.

11. TECHNICAL CENTER KRALJEVO

Distribution network has not become a part of Technical Center Kraljevo. Transformer stations and cables lines are ownership of DSO "EPS Distribucija".

11.1. Overview and Status of Permits

Overview and status of permits, licences and other necessary approvals in 2019 were not carried out. There were no new applications for permits.

11.2. Monitoring and Environmental Impact

Environmental impact factors of TC Kraljevo are the following:

- **Electromagnetic fields**
- **Environmental noise**
- **Waste**
- **Surface and groundwater quality**
- **Soil quality**

11.2.1. Electromagnetic Fields

During 2019, electromagnetic field measurements were not performed.

11.2.2. Living Environment Noise Measurements

During 2019, living environment noise measurements were not performed.

11.2.3. Waste

Waste was not generated by TC Kraljevo in 2019.

11.2.4. Surface, Ground Waters and Soil Monitoring

Monitoring of surface and ground water, as well as monitoring of soil was not defined-included by tests in TC Kraljevo in year 2019.

11.3. Working Environment Monitoring, Health and Safety

Reports on 2019 Health and Safety include the following items:

- **Working Environment Monitoring**
 - working environment noise measurements
 - working environment electromagnetic fields
 - working environment parameters
- **Safety**
 - training of employees
 - injuries at work
- **Health**

11.3.1. Working Environment Monitoring

- **Working environment noise measurement**

Noise measurement results are provided in Table 137.

Table 137

TECHNICAL CENTER KRALJEVO			
Working environment noise in 2019			
Technical service department	Examination subject	Registered noise level in working premises in dB (A)	Allowed noise level in dB (A)
STS Arandjelovac	HQ of Technical Service Department Arandjelovac		
	Counter hall	Noise is not harmful	
	Fitters' workshop	80	85
	Auto-mechanic workshop	73	85
	Warehouse	Noise is not harmful	
	Office of warehouse clerk	Noise is not harmful	
	Installers' room	Noise is not harmful	
	Office of Maintenance Manager	Noise is not harmful	
	Office of Security	Noise is not harmful	
	Topola Plant		
	Counter hall	Noise is not harmful	
	Complaint Office	Noise is not harmful	
	Installers' room	Noise is not harmful	
	Warehouse	Noise is not harmful	
STS Valjevo	Auto-mechanic workshop	79	85
STS Kraljevo	STS Kraljevo		
	Auto-mechanic workshop	65	85
	Raška Plant		
STS Lazarevac	Fitters' workshop	70	85
	HQ of Technical service department Lazarevac		
	Auto-mechanic workshop	81	85
	Transformer workshop	82	85
STS Čačak	Fitters' workshop	85	85
	Guča Plant		
	Office No.13	Noise is not harmful	85
	Office No.12	Noise is not harmful	85
	Office No.11	Noise is not harmful	85
	Canteen	Noise is not harmful	85
	Ivanjica Plant		
	Office No.1	Noise is not harmful	85
	Lawyer's office	Noise is not harmful	85
	Office of PGS officer	Noise is not harmful	85
	Counter hall	Noise is not harmful	85
	Gatekeeper's lodge	Noise is not harmful	85
	STS Čačak		
	Fitters' workshop	80	85
	Auto-mechanic workshop	80	85
	Gornji Milanovac Plant		
	Plant - Canteen	59	85

Note: Noise measurements in working environment in other departments for Technical service were not performed.

- **Working environment electromagnetic fields**
- Electromagnetic field measurements were not carried out during 2019.
- **Working environment parameters**

Monitoring of temperature, relative humidity and air flow velocity for summer 2019 is provided in Table 138.

Table 138

Public Report

TECHNICAL CENTER KRALJEVO					
Temperature, relative himidity and velocity in 2019					
No.	Measurement point	Monitoring			Note
		t *C	Rh %	Vm/s	Comfort zone
Одсек за техничке услуге Аранђеловац – летљи период					
1.	Counter hall	27,7	48,3	0,08	Within zone
2.	Fitters' workshop	27,9	42,4	0,03	Within zone
3.	Auto-mechanic workshop	27,7	44,1	0,07	Within zone
4.	Warehouse	27,4	49,5	0,07	Within zone
5.	Office of warehouse clerk	26,9	50,4	0,05	Within zone
6.	Intallers' room	27	42,4	0,08	Within zone
7.	Office of Maintenance Manager	25,4	36,8	0,15	Within zone
8.	Office of Security	25,5	39,5	0,07	Within zone
Topola Plant					
1.	Counter hall	26,9	43,07	0,05	Within zone
2.	Complaint Office	27,5	46,7	0,09	Within zone
3.	Installers' room	27,5	48,5	0,05	Within zone
4.	Warehouse	26,5	51,5	0,09	Within zone
Department of Technical services Valjevo - summer					
No.	Measurement point	Monitoring			Note
		t *C	Rh %	Vm/s	Comfort zone
1.	Controller Office	27,6	48,1	0,04	Within zone
2.	Office of Warehouse clerk	27,9	36	0,12	Within zone
3.	Auto-mechanic workshop	27,1	49,7	0,03	Within zone
4.	Office for vehicles	26,9	51,3	0,07	Within zone
5.	Office for installers S.M.	27,3	51,1	0,06	Within zone
6.	Office for installers G.P.	27,8	48,2	0,08	Within zone
7.	Office of Maintenance officer	27,1	50,3	0,03	Within zone
8.	Office for installers Č.T.	27,5	52,6	0,04	Within zone
9.	Office No. 49 (EFP)	27,2	43,5	0,04	Within zone
10.	Office No. 45 (EFP)	27,8	47,2	0,03	Within zone
11.	Office of expert employees for maintenance (No. 48)	27,2	52,1	0,04	Within zone
12.	Office of Department for legal and general affairs (No. 22)	27,9	46,4	0,04	Within zone
13.	Branch Office Osečina – Office of Branch Head	26,8	42,3	0,10	Within zone
14.	Branch Office Osečina – Office for Maintenance officer	26,2	39,6	0,04	Within zone
15.	Branch Office Osečina – Counter	24,3	39,1	0,14	Within zone
16.	Branch Office Osečina – Fitters' hall	25	42,3	0,04	Within zone
17.	Branch Office Ub – Office of Branch Head	27,9	41,3	0,04	Within zone
18.	Branch Office Ub – Office of Maintenance officer	26	47,8	0,04	Within zone
19.	Branch Office Ub – Counter	27	48,1	0,08	Within zone
20.	Branch Office Ub – Installers' hall	27	50,9	0,04	Within zone
21.	Branch Office Mionica – Office of Branch Head	27,9	48,7	0,04	Within zone
22.	Branch Office Mionica – Office of Maintenance officer	27	49,2	0,05	Within zone
23.	Branch Office Mionica – Counter	27,9	45,7	0,04	Within zone
24.	Branch Office Mionica – Installers' hall	27,9	44,7	0,10	Within zone
Technical Service Department Kraljevo - summer					
No.	Measurement point	Monitoring			Note
		t *C	Rh %	Vm/s	Comfort zone
1.	Counter	27,1	38,2	0,03	Within zone
2.	Office of HV installers	26,2	48,9	0,07	Within zone
3.	Gatekeeper's lodge	26,1	55,7	0,03	Within zone

4.	Office of Maintenance Department Manager	26,6	52,7	0,06	Within zone
5.	Calibration room	27,5	36,5	0,04	Within zone
6.	Office of warehouse clerk	27,8	47,8	0,03	Within zone
7.	Sijače polje - warehouse	27,5	52,5	0,07	Within zone
8.	Sijače polje – Office for vehicles	27,7	48,9	0,03	Within zone
9.	Sijače polje – fitters' workshop	27,8	48,6	0,04	Within zone
10.	Sijače polje – Dispatch Center	27,8	57,2	0,04	Within zone
Vrnjačka Banja Plant					
1.	Counter	27,9	54,8	0,03	Within zone
2.	Head Office - Accounting	26,3	46,7	0,07	Within zone
3.	Office of Plant Manager	26,5	57,6	0,03	Within zone
4.	Commercial Department	26,4	59,9	0,04	Within zone
Raška Plant					
1.	Dispatch Center	27,8	54,5	0,03	Within zone
2.	Counter	27,6	39,1	0,07	Within zone
3.	Office of Inspection	26,9	49	0,09	Within zone
4.	Head Office - Vlasovo	27,7	35	0,06	Within zone
5.	Fitters' workshop - Vlasovo	27,8	32,3	0,04	Within zone
Department of Technical Services Lazarevac					
No.	Measurement point	Monitoring			Note
		t *C	Rh %	Vm/s	Comfort zone
1.	Hall of electrical installers for maintenance	26,1	57,8	0,03	Within zone
2.	Hall of electrical installers for maintenance - TS	26,1	58,6	0,09	Within zone
3.	Auto-mechanic workshop	24,3	58,1	0,03	Within zone
4.	Transformer workshop	26,9	54,1	0,08	Within zone
5.	Fitters' workshop	26,5	56,9	0,04	Within zone
6.	Office of warehouse clerk	25,4	58,7	0,07	Within zone
7.	Warehouse	25,1	59,8	0,03	Within zone
8.	Office of managers and officers for maintenance	25,7	57,8	0,04	Within zone
9.	Counter hall	26,7	43,5	0,04	Within zone
10.	Department for legal affairs	26,9	46,8	0,07	Within zone
11.	Office of officers, accounting, manager of vehicles and officer for warehouse operations	26,6	57,6	0,12	Within zone
12.	Hall for installers - inspection	25,3	57,8	0,04	Within zone
13.	Office of general affairs	26,4	42,8	0,05	Within zone
14.	Office of Accounting and Finance Department	26,2	57,2	0,09	Within zone
15.	Office of Finance Department	26,5	57,1	0,10	Within zone
16.	Branch Office Ljig – hall for installers	27,8	51,2	0,04	Within zone
17.	Branch Office Ljig - Counter	27,8	52,5	0,09	Within zone
18.	Branch Office Ljig – office of Branch Head	27,7	51,6	0,04	Within zone
19.	Branch Office Lajkovac – Office of Branch Head	26,2	48,5	0,08	Within zone
20.	Branch Office Lajkovac – hall for installers	27,6	48,5	0,05	Within zone
21.	Branch Office Lajkovac – Office of Branch officer	25,4	48,2	0,14	Within zone
22.	Branch Office Lajkovac - Counter	26,2	51,3	0,07	Within zone
Department of Technical Services Čačak – Guča Plant					
No.	Measurement point	Monitoring			Note
		t *C	Rh %	Vm/s	Comfort zone
1.	Plant-Office of Maintenance Department Manager	25,2	60,1	0,11	Within zone
2.	Plant-Office No.11	25,2	57	0,18	Within zone
3.	Plant-Office No.9	25,1	60,4	0,14	Within zone
4.	Plant-Gatekeeper's lodge	23,5	66,4	0,22	Within zone
5.	Plant-Fitters' workshop	21,2	69,7	0,05	Within zone

6.	Plant-Auto-mechanic workshop	21,6	70,1	0,09	Within zone
7.	Plant-Warehouse	21,1	67,7	0,09	Within zone
8.	Plant—Warehouse Office	21,2	71	0,06	Within zone
9.	Head office – Counter Hall	23,4	62,5	0,04	Within zone
10.	Head office - Canteen	24,5	57	0,05	Within zone
11.	Head office – Office No.502	24,2	59,4	0,11	Within zone
12.	Head office – Office No.509	24,5	51,2	0,04	Within zone
13.	Head office – Office No.404	24,4	60,2	0,10	Within zone
14.	Head office – Office No.412	24,4	56,6	0,10	Within zone
15.	Head office – Office No.416	24,1	63,7	0,10	Within zone
Guča Plant					
1.	Office No.13	26,1	55,7	0,09	Within zone
2.	Office No.12	26,4	51,1	0,05	Within zone
3.	Office No.11	25,9	54,1	0,06	Within zone
4.	Canteen	26,7	56,4	0,07	Within zone
Ivanjica Plant					
1.	Counter Hall	22,2	67,2	0,09	Within zone
2.	Office No.2	22,7	64,4	0,16	Within zone
3.	Office No.7	24,7	57,3	0,05	Within zone
4.	Warehouse	20,8	67,7	0,13	Within zone
5.	Office for installers	23,3	64,4	0,12	Within zone
Sjenica Plant					
1.	Office No.1	23,1	51,4	0,06	Within zone
2.	Lawyer's Office	23,2	51,8	0,04	Within zone
3.	PGS officer Office	23,9	49,7	0,04	Within zone
4.	Counter hall	23,7	46,0	0,09	Within zone
5.	Gatekeeper's lodge	23,7	51,2	0,04	Within zone
Gornji Milanovac Plant					
1.	Plant-Office No.5	24,4	59,3	0,08	Within zone
2.	Plant-Warehouse clerk Office	21,5	68,3	0,09	Within zone
3.	Plant-Warehouse	21,4	68,2	0,12	Within zone
4.	Plant-Canteen	22,1	67,3	0,10	Within zone
5.	Plant-Gatekeeper's lodge	23,3	61,8	0,05	Within zone

Monitoring of chemical hazards in summer 2019 is provided in Table 139.

Table 139

TECHNICAL CENTER KRALJEVO						
Chemical hazards						
Department for Technical Services Arandjelovac - summer						
No.	Measurement point	Type of chemical hazard	Measured concentration	Exposition (h)	MAV	Exceeding of concentration
1.	Counter Hall	Chemical hazards are not damaging	-	-	-	Meets requirements
2.	Fitters' workshop	Mineral dust with less than 1% SiO ₂	0,91	8	15	Meets requirements
3.	Auto-mechanic workshop	Mineral dust with less than 1% SiO ₂	1,11	8	15	Meets requirements
4.	Warehouse	Mineral dust with less than 1% SiO ₂	0,77	8	15	Meets requirements
5.	Office of Warehouse clerk	Chemical hazards are not damaging	-	-	-	Meets requirements
6.	Installers' room	Chemical hazards are not damaging	-	-	-	Meets requirements

7.	Office of Maintenance Manager	Chemical hazards are not damaging	-	-	-	Meets requirements
8.	Office of Security	Chemical hazards are not damaging	-	-	-	Meets requirements
Topola Plant						
1.	Counter hall	Chemical hazards are not damaging	-	-	-	Meets requirements
2.	Office for complaints	Chemical hazards are not damaging	-	-	-	Meets requirements
3.	Installers' room	Chemical hazards are not damaging	-	-	-	Meets requirements
4.	Warehouse	Mineral dust with less than 1% SiO ₂	0,78	8	15	Chemical hazards are not damaging
Department for Technical Services Valjevo						
1.	Auto-mechanic workshop (head office of Branch)	Mineral dust with less than 1% SiO ₂	0,82	8	15	Meets requirements
Department of Technical Services Kraljevo						
No.	Measurement point	Type of chemical hazards	Measured concentration	Exposition (h)	MAV	Exceeding of concentration
1.	Workshop Sijače polje – mechanical workshop	In breathing area of employee	Mineral dust with less than 1% SiO ₂	0,7	15	Workshop Sijače polje-mechanical workshop
Raška Pogon						
1.	Vlasovo-fitters' workshop	In breathing area of employee	Mineral dust with less than 1% SiO ₂	0,6	15	Vlasovo-fitters' workshop
Department for Technical Services Lazarevac						
1.	Auto-mechanic workshop (head office of Branch)	Mineral dust with less than 1% SiO ₂	0,25	8	15	Meets requirements
2.	Fitters' workshop (head office of Branch)	Mineral dust with less than 1% SiO ₂	0,73	8	15	Meets requirements
3.	Transformer workshop (head office of Branch)	Mineral dust with less than 1% SiO ₂	1,05	8	15	Meets requirements
Department for Technical Services Čačak – Guča Plant						
1.	Office No.13	Chemical hazards are not damaging	-	-	-	Meets requirements
2.	Office No.12	Chemical hazards are not damaging	-	-	-	Meets requirements
3.	Office No.11	Chemical hazards are not damaging	-	-	-	Meets requirements
4.	Canteen	Chemical hazards are not damaging	-	-	-	Meets requirements
Ivanjica Pogon						
1.	Counter hall	Chemical hazards are not damaging	-	-	-	Meets requirements
2.	Office No.2	Chemical hazards are not damaging	-	-	-	Meets requirements
3.	Office No.7	Chemical hazards are not damaging	-	-	-	Meets requirements
4.	Warehouse	Chemical hazards are not damaging	-	-	-	Meets requirements
5.	Office for installers	Chemical hazards are not damaging	-	-	-	Meets requirements
6.	Counter hall	Chemical hazards are not damaging	-	-	-	Meets requirements
Sjenica Pogon						

1.	Office No.1	Chemical hazards are not damaging	-	-	-	Meets requirements
2.	Lawyer's Office	Chemical hazards are not damaging	-	-	-	Meets requirements
3.	PGS officer Office	Chemical hazards are not damaging	-	-	-	Meets requirements
4.	Counter hall	Chemical hazards are not damaging	-	-	-	Meets requirements
5.	Gatekeeper's lodge	Chemical hazards are not damaging	-	-	-	Meets requirements
Measurement was not performed in Čačak and Gornji Milanovac, chemical hazards are not damaging						

Monitoring of lighting for summer 2019 is provided in Table 140.

Table 140

Table 140

TECHNICAL CENTER KRALJEVO					
Lighting in 2019 – summer					
Department for Technical Services Arandjelovac					
No.	Measurement point	Monitoring			Note
		Lighting	Illumination (lx)		Illumination (lx)
			Measured	Measured	
1.	Counter hall	Combined	303	150-300	Sufficient
2.	Fitters' workshop	Combined	426	150-300	Sufficient
3.	Auto-mechanic workshop	Combined	310	150-300	Sufficient
4.	Warehouse	Combined	180	150-300	Sufficient
5.	Office of Warehouse clerk	Combined	170	150-300	Sufficient
6.	Installers' room	Combined	143	150-300	Sufficient
7.	Office of Maintenance Manager	Combined	340	150-300	Sufficient
8.	Office of Security	Combined	402	150-300	Sufficient
Topola Plant					
11.	Counter hall	Combined	150	150-300	Sufficient
12.	Office for complaints	Combined	440	150-300	Sufficient
13.	Installers' room	Combined	341	150-300	Sufficient
14.	Warehouse	Combined	150	150-300	Sufficient
Department for Technical Services Valjevo					
No.	Measurement point	Monitoring			Note
		Lighting	Illumination (lx)		Illumination (lx)
			Measured	Measured	
1.	Controller's Office	Combined	560	150-300	Sufficient
2.	Office of Warehouse clerk	Combined	284	150-300	Sufficient
3.	Auto-mechanic workshop	Combined	150	80-150	Sufficient
4.	Office for vehicles	Combined	274	150-300	Sufficient
5.	Office for S.M. installers	Combined	309	150-300	Sufficient
6.	Office for G.P. installers	Combined	851	150-300	Sufficient
7.	Office of Maintenance Head	Combined	728	150-300	Sufficient
8.	Office for Č.T. installers	Combined	234	150-300	Sufficient
9.	Office No. 49 (EFP)	Combined	393	150-300	Sufficient
10.	Office No. 45 (EFP)	Combined	159	150-300	Sufficient
11.	Office of expert employees for maintenance (No. 48)	Combined	222	150-300	Sufficient
12.	Office of Department for legal and general affairs (No. 22)	Combined	364	150-300	Sufficient
13.	Branch Office Osečina – Office of Branch Head	Combined	347	150-300	Sufficient
14.	Branch Office Osečina – Office of Maintenance Head	Combined	340	150-300	Sufficient
15.	Branch Office Osečina – Counter	Combined	190	150-300	Sufficient
16.	Branch Office Osečina – hall for installers	Combined	281	150-300	Sufficient
17.	Branch Office Ub – Office of Branch Head	Combined	615	150-300	Sufficient
18.	Branch Office Ub – Office of Maintenance Head	Combined	335	150-300	Sufficient
19.	Branch Office Ub – Counter	Combined	230	150-300	Sufficient
20.	Branch Office Ub – hall for installers	Combined	253	150-300	Sufficient

21.	Branch Office Mionica – Office of Branch Head	Combined	304	150-300	Sufficient
22.	Branch Office Mionica – Office of Maintenance Head	Combined	157	150-300	Sufficient
23.	Branch Office Mionica – Counter	Combined	153	150-300	Sufficient
24.	Branch Office Mionica – hall for installers	Combined	232	150-300	Sufficient

Department for Technical Services Kraljevo - summer

No.	Measurement point	Monitoring			Note
		Lighting	Illumination (lx)		Illumination (lx)
			Measured	Measured	
1.	Counter	3	235	150-300	Sufficient
2.	Office of HV installers	3	170	150-300	Sufficient
3.	Gatekeeper's lodge	3	261	150-300	Sufficient
4.	Office of Maintenance Department Manager	3	303	150-300	Sufficient
5.	Calibration room	3	284	150-300	Sufficient
6.	Sijaće polje-Office of Warehouse clerk	3	165	150-300	Sufficient
7.	Sijaće polje-Warehouse	3	150	150-300	Sufficient
8.	Sijaće polje-Office for vehicles	3	326	150-300	Sufficient
9.	Sijaće polje-Mechanical workshop	3	185	150-300	Sufficient
10.	Siiiaće polje-Dispatch Center	3	165	150-300	Sufficient

Raška Plant

12.	Dispatch Center	3	165	150-300	Sufficient
13.	Counter	3	155	150-300	Sufficient
14.	Office of Inspection	3	155	150-300	Sufficient
15.	Vlasovo-Office of Maintenance Head	3	399	150-300	Sufficient
16.	Vlasovo-Fitters' workshop	3	290	150-300	Sufficient

Vrnjačka Banja Plant

18.	Counter	3	913	150-300	Sufficient
19.	Accounting	3	725	150-300	Sufficient
20.	Office of Plant and Maintenance Manager	3	467	150-300	Sufficient
21.	Office of Commercial Department	3	326	150-300	Sufficient

Department of Technical Services Lazarevac - summer

No.	Measurement point	Monitoring			Note
		Lighting	Illumination (lx)		Illumination (lx)
			Measured	Measured	
1.	Hall for electrical installers of maintenance	Combined	379	80-150	Sufficient
2.	Hall for electrical installers of maintenance – TS	Combined	643	80-150	Sufficient
3.	Auto-machanic workshop	Combined	185	80-150	Sufficient
4.	Transformer workshop	Combined	203	80-150	Sufficient
5.	Fitters' workshop	Combined	150	80-150	Sufficient
6.	Office of Warehouse clerk	Combined	326	150-300	Sufficient
7.	Warehouse	Combined	157	80-150	Sufficient
8.	Office of Managers and officers for maintenance	Combined	150	150-300	Sufficient
9.	Counter hall	Combined	150	150-300	Sufficient
10.	Department of legal affairs	Combined	860	150-300	Sufficient
11.	Office of clerks, accounting, head for vehicles and clerks for warehouse assignments	Combined	219	150-300	Sufficient
12.	Hall for installers – inspection	Combined	250	80-150	Sufficient
13.	Office of general affairs	Combined	150	150-300	Sufficient
14.	Office of Accounting and Finance	Combined	208	150-300	Sufficient
15.	Office of Finance	Combined	258	150-300	Sufficient
16.	Branch Office Ljig – Office of installers	Combined	108	80-150	Sufficient
17.	Branch Office Ljig – Counter	Combined	159	150-300	Sufficient
18.	Branch Office Ljig – Office of Branch Head	Combined	206	150-300	Sufficient
19.	Branch Office Lajkovac – Office of Branch Head	Combined	206	150-300	Sufficient
20.	Branch Office Lajkovac – Office of installers	Combined	254	80-150	Sufficient
21.	Branch Office Lajkovac – Office of clerk	Combined	223	150-300	Sufficient
22.	Branch Office Lajkovac – Counter	Combined	154	150-300	Sufficient

Department of Technical Services Čačak – Guča Plant

1.	Office No.13	Combined	564	150-300	Sufficient
2.	Office No.12	Combined	516	150-300	Sufficient

3.	Office No.11	Combined	556	150-300	Sufficient
4.	Canteen	Combined	487	150-300	Sufficient
Ivanjica Plant					
1.	Counter hall	Combined	451	150-300	Sufficient
2.	Office No.2	Combined	392	150-300	Sufficient
3.	Office No.7	Combined	702	150-300	Sufficient
4.	Warehouse	Combined	125	150-300	
5.	Office for installers	Combined	576	150-300	Sufficient
Sjenica Plant					
1.	Office No.1	Combined	650	150-300	Sufficient
2.	Lawyer's office	Combined	479	150-300	Sufficient
3.	Office of PGS clerk	Combined	511	150-300	Sufficient
4.	Counter hall	Combined	304	150-300	Sufficient
5.	Gatekeeper's lodge	Combined	628	150-300	Sufficient
1	Plant – Office of Maintenance Department Manager	Neon lighting	1048	150-300	Meets requirements
2	Plant-Office No.11	Neon lighting	1240	150-300	Meets requirements
3	Plant-Office No.9	Neon lighting	1630	150-300	Meets requirements
4	Plant-Gatekeeper's lodge	Neon lighting	1130	150-300	Meets requirements
5	Plant-Fitters' workshop	Neon lighting	275	80-150	Meets requirements
6	Plant-Auto-mechanic workshop	Neon lighting	893	80-150	Meets requirements
7	Plant-Warehouse	Neon lighting	137	80-150	Meets requirements
8	Plant-Office of Warehouse clerk	Neon lighting	321	150-300	Meets requirements
9	Head Office-Counter hall	Neon lighting	745	150-300	Meets requirements
10	Head Office-Canteen	Neon lighting	169	150-300	Meets requirements
11	Head Office-Office No.502	Neon lighting	359	150-300	Meets requirements
12	Head Office-Office No.509	Neon lighting	245	150-300	Meets requirements
13	Head Office-Office No.404	Neon lighting	444	150-300	Meets requirements
14	Head Office-Office No.412	Neon lighting	407	150-300	Meets requirements
15	Head Office-Office No.416	Neon lighting	405	150-300	Meets requirements
Gornji Milanovac Plant					
1	Plant-Office No.5	Neon lighting	1187	150-300	Meets requirements
2	Plant-Office of Warehouse clerk	Neon lighting	925	150-300	Meets requirements
3	Plant-Warehouse	Neon lighting	95	80-150	Meets requirements
4	Plant-Canteen	Neon lighting	291	150-300	Meets requirements
5	Plant-Gatekeeper's lodge	Neon lighting	912	150-300	Meets requirements

11.3.2. . Occupational Safety

▪ Training of Employees

Training of employees is carried out according to the Program of training of employees for safe and healthy work. Training of employees is presented in the Table 141 below and includes training of newly recruited employees and training of employees with narrow professional occupations.

Table 141

TECHNICAL CENTER KRALJEVO					
Training of employees in 2019					
Department of Technical Services / Facility	Number of employees	For training		Trained	
		No	%	No	%
Arandjelovac	60				
Safety and health at work training		60	100,00	71	100,00
Firefighting training		60	100,00	71	100,00
Valjevo	115				
Safety and health at work training		78	67,83	78	100,00
Jagodina	140				
Safety and health at work training		101	72,14	101	100,00
Kraljevo	174				
Safety and health at work training		27	15,52	27	100,00
Safety and health at work training-Norcev		48	27,59	48	100,00
Safety and health at work training –annual examination by tests		174	100,00	174	100,00
FF training		27	15,52	27	100,00
FF training-Norcev		48	27,59	48	100,00
Kruševac	148				
Safety and health at work training		99	66,89	99	100,00
Lazarevac	117				
Safety and health at work training		81	69,23	80	98,77
Loznica	109				
Safety and health at work training		55	50,46	45	81,82
FF training					
Novi Pazar	55				
Safety and health at work training (Fruška Gora)		4	7,27	4	100,00
FF training (Fruška Gora)		4	7,27	4	100,00
Examination by tests for safety and health at work		21	38,18	21	100,00
Examination by tests for safety and health at work Sequester Agency		9	16,36	9	100,00
Užice	197				
Safety and health at work training		130	65,99	130	100,00
FF training Arilje Plant and Požega Plant		32	16,24	32	100,00
Čačak	150				
Safety and health at work training		64	42,67	64	100,00
FF training		64	42,67	64	100,00
Safety and health at work training –Norcev		18	12,00	18	100,00
FF training-Norcev		18	12,00	18	100,00
Safety and health at work training –annual examination by tests		71	47,33	71	100,00
Šabac	126				
Safety and health at work training		103	81,75	98	95,15
Management	121				
Safety and health at work training		10	8,26	10	100,00
TOTAL: TECHNICAL CENTER KRALJEVO	1.512	1.436	94,97	1.420	98,89

▪ Work injuries

Table 142 provides data on number of injuries at work in 2019.

Table 142

TECHNICAL CENTER KRALJEVO						
Injuries at work in 2019						
Department of Technical Services/Facility	Number of employees	Injuries in relation to number of employees				
		Minor	Serious	Fatalities	Total	%
Arandjelovac	60	3	0	0	3	5,00
Valjevo	115	2	0	0	2	1,74
Jagodina	140	2	1	0	3	2,14
Kraljevo	174	4	0	0	4	2,30
Kruševac	148	2	0	0	2	1,35
Lazarevac	117	1	0	0	1	0,85
Loznica	109	1	0	0	1	0,92
Novi Pazar	55	4	0	0	4	7,27
Užice	197	1	2	0	3	1,52
Čačak	150	2	0	0	2	1,33
Šabac	126	0	0	0	0	0,00
Management TC Kraljevo	121	1	0	0	1	0,83
TOTAL: TECHNICAL CENTER KRALJEVO	1.512	23	3	0	26	1,72

11.3.3. Health

Results of periodic medical examinations are provided in Table 143.

Table 143

TECHNICAL CENTER KRALJEVO											
Work ability of employees in 2018											
Department of Technical Services/Facility	Number of employees	Periodical examination				Capability for work					
		Referred to examination		Examined/ Referred		Capable		Limited capability		Incapable	
		No	%	No	%	No	%	No	%	No	%
Arandjelovac	60	37	61,67	37	100,00	30	81,08	7	18,92	0	0,00
Valjevo	115	50	43,48	50	100,00	45	90,00	5	10,00	0	0,00
Jagodina	140	101	72,14	101	100,00	93	92,08	8	7,92	0	0,00
Kraljevo	174	144	82,76	141	97,92	135	95,74	6	4,26	0	0,00
Kruševac	148	119	80,41	118	99,16	76	64,41	40	33,90	2	1,69
Lazarevac	117	71	60,68	71	100,00	52	73,24	19	26,76	0	0,00
Loznica	109	55	50,46	53	96,36	43	81,13	10	18,87	0	0,00
Novi Pazar	55	34	61,82	34	100,00	26	76,47	8	23,53	0	0,00
Užice	197	132	67,01	132	100,00	131	99,24	1	0,76	0	0,00
Čačak	150	107	71,33	106	99,07	98	92,45	7	6,60	1	0,94
Šabac	126	107	84,92	103	96,26	85	82,52	17	16,50	1	0,97
Management	121	4	3,31	4	100,00	4	100,00	0	0,00	0	0,00
TOTAL: TECHNICAL CENTER KRALJEVO	1.512	961	63,56	950	98,86	818	86,11	128	13,47	4	0,42

11.4. Public complaints

There were no public complaints regarding environment in year 2019.

12. TECHNICAL CENTER KRAGUJEVAC

Technical Center Kragujevac comprises:

1. TC Kragujevac headquarters
2. Department for Technical Services (TSD) Kragujevac
3. TDS Požarevac
4. TDS Smederevo

in which the maintenance of the power facilities is performed based on the provision of services under the SLA Contract for the Distribution System Operator (DSO).

From the technical and technological aspects, maintenance is carried out in the following systems:

- Transformer station;
- Distribution – overhead cable lines;
- Distribution – underground cable lines;
- Measuring points (MP).

12.1. Overview and Status of Permits

Overview and status of permits, licenses and other required approvals, as well as new licence requests in 2019, Power facilities, are not in jurisdiction of TC Kragujevac, but in the jurisdiction of DSO as owner of Power facilities.

12.2. Monitoring and Environmental Impact

Environmental impact factors are the following:

- **Electromagnetic fields**
- **Environmental noise**
- **Waste**
- **Surface and ground waters quality**
- **Soil quality**

12.2.1. Electromagnetic Fields

Mesurements of electromagnetic field were not performed in 2019.

12.2.2. Noise

Mesurements of noise level were not performed in 2019.

Environmental Impact factors of TC Kragujevac are the following:

12.2.3. Waste

Waste was not generated in TC Kragujevac in year 2019.

12.2.4. Surface, Ground waters and Soil Monitoring

Monitoring of surface and underground waters, as well as monitoring of soil in 2019 was not performed.

12.3. Working Environment Monitoring, Health and Safety

Reports on occupational safety and health protection for 2019. include the following items:

- **Working Environment Monitoring**

- working environment noise measurements
- working environment electromagnetic fields
- working environment parameters

▪ Safety

- training of employees
- injuries at work

▪ Health

12.3.1. Working Environment Monitoring

▪ Working Environment noise measurement

Measurement of noise in working environment was performed in 2019, as provided in Table 144.

Table 144

TECHNICAL CENTER Kragujevac			
Noise in working environment in 2019 (winter)			
Department of Technical Services / Facility	Plant	Registered noise level (dB(A))	Allowed noise level (dB(A))
DTS Kragujevac	Auto-mechanic workshop – Beogradska Street nn	67	85
	Fitters' workshop Kragujevac – Divlje polje	94	85
DTS Smederevo	Fitters' workshop - Smederevo	84	85
	Auto-mechanic workshop – S. Palanka	75	85

Electromagnetic fields in the working environment

Testing of the electromagnetic field in the working environment was carried out in 2019, which is shown in Table 145.

Table 145

TECHNICAL CENTER Kragujevac			
Electromagnetic fields in working environment for 2019			
Department for Technical Services/Facility	Plant	Strength of electromagnetic field (V/m) Permitted (1000)	Density of magnetic flow B Permitted (μT) (500)
TSD Kragujevac	Duty service, Lapovo	14,5	66.0
TSD Požarevac	Duty service, Požarevac	6.5	37,0

▪ Working environment parameters

Testing of chemical hazards, microclimate, illumination both in workplace and in work environment was performed in 2019, as shown in Tables 146, 147 and 148.

Table 146

TECHNICAL CENTER KRAGUJEVAC				
Chemical hazard in working environment for 2019 (winter)				
Department for Technical Services/Facility	Plant	Benzene (mg/m3) Permitted (3,25)	Carbon monoxide (mg/m3) Permitted (55)	Mineral dust with less than 1% SiO ₂ (mg/m ³) Permitted (15)
Department for Technical Services Kragujevac	Auto-mechanic workshop, Divlje polje	/	2.6	/
Department for Technical Services Požarevac	Auto-mechanic workshop, POŽAREVAC	/	1,5	0,7

Department for Technical Services Smederevo	Auto-mechanic workshop S. Palanka, No. 2 Radmile Šišković Street	/	1,6	1,1
	Браварска радионица, Шалиначка бр.60	/	2,5	2,0

Table 147

TECHNICAL CENTER KRAGUJEVAC				
Microclimate in work environment for 2019 (winter)				
Department for Technical Services/Facility	Plant	Air temperature (C) Permitted (18-28)	Relative air humidity (%) Permitted (max. 75)	Air flow velocity (m/s) Permitted (max. 0,5)
HQ of TC Kragujevac	No. 7 Slobode Street			
	Office No. 307	21,0	35,2	0,03
	Office No. 303	22,0	33,0	0,05
	Office No. 222	23,5	36,5	0,08
	Office No. 231	23,0	27,1	0,08
	Office No. 238	22,6	28,0	0,05
	Office No. 105	23,9	27,6	0,05
	Office No. 147	24,2	27,9	0,05
	Office No. 121	24,0	28,0	0,03
	Office No. 75	23,6	32,5	0,07
	Office No. 23	23,5	30,8	0,06
	Office No. 36	23,5	32,6	0,05
	Office No. 32	23,2	31,5	0,06
Department for Technical Services Kragujevac	Divlje polje – Beogradska Street nn			
	Auto-mechanic workshop, Divlje polje	18,0	38,4	0,07
	Office for vehicles	19,0	35,4	0,04
	Office of VGM 3	23,0	40,5	0,03
	Office of VGM 1	22,0	39,4	0,08
	Office of GM	23,0	35,3	0,06
	Office of Department for maintenance of vehicles – Divlje polje	23,0	35,5	0,07
	Office of GM 3	21,0	40,0	0,07
	Fitters's workshop	20,0	33,7	0,14
	Branch Office Knić, Knić Street nn			
	Office of Knić Branch Head	22,0	31,4	0,04
	Counter Office	22,0	36,2	0,03
	Branch Office Lapovo			
	Counter Office – Njegoševa Street	24,3	42,0	0,03
	Office of Duty Service, No. 109 Karadjordjeva Street	21,0	36,5	0,07
	Branch Office Batočina – Kneza Miloša Obranovića Street nn			
	Duty Service Office	22,0	36,3	0,03
	Counter Office	23,4	44,5	0,02
	Branch Office Rača – Šumadijska Street nn			
	Office of clerk	22,3	38,7	0,04
	Counter	23,0	40,8	0,03
	Duty Service Office	20,0	35,5	0,05
Department for Technical Services Požarevac	No. 17 Jovana Šerbanovića Street			
	Duty Service	22,7	36,7	0,05
	Dispatch Center	23,2	34,8	0,07
	Auto-mechanic workshop	15,5	51,7	0,09
	Office No. 11	23,2	35,5	0,08
	Office No. 18	24,5	32,6	0,07

	Office of Warehouse clerk	21,5	42,3	0,06
	Warehouse	21,3	37,5	0,07
	Hangar	7,6	62,1	0,11
	Djure Djakovića Street nn			
	Main Warehouse of electrical material	7,6	64,9	0,07
	Petrovački put Street nn			
	Counter Malo Crniče	23,6	30,2	0,05
	Office of Branch Office Malo Crniče Head	21,3	42,8	0,05
	No. 18 Mlavka Street			
	Office of Branch Office Petrovac na Mlavi Head	22,4	42,8	0,05
	Duty Service Petrovac na Mlavi	18,6	41,5	0,07
	Workshop Petrovac na Mlavi	10	45,5	0,13
	Glavna Street nn			
	Duty Service Veliko Laole	18,3	37,5	0,05
	Counter – Veliko Laole	20,1	42,2	0,06
	Žike Popovića Street nn			
	Counter - Rabrovo	20,3	35,5	0,06
	Office of Branch Head – Rabrovo	20,0	46,7	0,09
	No. 256 Svetog Save Street			
	Office No. 4 – Kučevo	23,8	37,2	0,06
	Counter – Kučevo	24,0	31,8	0,05
	Workshop – Kučevo	15,4	46,7	0,09
	No. 4 Dunavski kej Street			
	Office of electrical installers - Golubac	21,0	33,0	0,05
	Counter – Golubac	22,4	32,5	0,04
	No. 11 Voje Bogdanovića Street			
	Counter hall – Veliko Gradište	22,3	39,9	0,05
	Duty Service – Veliko Gradište	18,7	39,8	0,06
	Room of electrical installers – Veliko Gradište	22,1	38,2	0,07
	Bože Dimitrijevića Street nn			
	Duty Service Kostolac	24,4	32,2	0,06
	Office of Head – Kostolac	23,1	30,2	0,04
	Kralja Aleksandra Obrenovića Street nn			
	Office of Branch Head – Aleksandrovac	21,5	36,9	0,08
	Counter – Aleksandrovac	21,7	36,3	0,05
Department for Technical Services Smederevo	No. 60 Šalinačka Street			
	Fitters' workshop	21,8	34,0	0,09
	Workshop of group for maintenance of transformer stations	15,8	55,8	0,1
	Warehouse	15,5	58,9	0,11
	Dispatch Center	25,0	30,3	0,06
	Counter hall	22,2	36,9	0,04
	Office No. 40	23,2	34,6	0,06
	Office No. 42	24,5	32,1	0,05
	Office No. 60	24,1	36,0	0,07
	No. 1 Momira Gajića Street			
	Office No. 8 – Velika Plana	25,8	32,6	0,06
	Office No. 9 – Velika Plana	23,8	31,4	0,05
	Office No. 17 – Velika Plana	22,7	35,0	0,05
	Office No. 22 – Velika Plana	20,2	37,6	0,04

	No. 2 Radmile Šišković Street			
	Auto-mechanic workshop – Smederevska Palanka	15,7	46,9	0,11
	Counter – Smederevska Palanka	23,0	36,1	0,07
	Office No. 9 – Smederevska Palanka	21,2	36,5	0,05
	Office No. 20 – Smederevska Palanka	24,2	28,5	0,07
	Office No. 29 – Smederevska Palanka	24,3	29,9	0,08
	Office of Warehouse clerk – Smederevska Palanka	21,0	35,9	0,06

Table 148

TECHNICAL CENTER KRAGUJEVAC			
Illumination in work environment for year 2019 (winter)			
Department of Technical Services/Facility	Department of Technical Services/Facility	Department of Technical Services/Facility	Department of Technical Services/Facility
HQ Kragujevac	No. 7 Slobode Street		
	Office No. 307	460	Office No. 307
	Office No. 303	384	Office No. 303
	Office No. 222	415	Office No. 222
	Office No. 231	310	Office No. 231
	Office No. 238	352	Office No. 238
	Office No. 105	610	Office No. 105
	Office No. 147	381	Office No. 147
	Office No. 121	375	Office No. 121
	Office No. 75	382	Office No. 75
	Office No. 23	349	Office No. 23
	Office No. 36	210	Office No. 36
	Office No. 32	230	Office No. 32
Department for Technical Services Kragujevac	Divlje polje – Beogradska Street nn		
	Auto-mechanic workshop, Divlje polje	155	Auto-mechanic workshop, Divlje polje
	Office for vehicles	665	Office for vehicles
	Office of VGM 3	218	Office of VGM 3
	Office of VGM 1	450	Office of VGM 1
	Office of GM	155	Office of GM
	Office of department for maintenance of vehicles – Divlje polje	120	Office of department for maintenance of vehicles – Divlje polje
	Office of GM ГМ 3	390	Office of GM ГМ 3
	Fitters' workshop	98	Fitters' workshop
	Branch Office Knić – Knić Street nn		
	Office of Knić Branch Head	330	Office of Knić Branch Head
	Counter Office	217	Counter Office
	Branch Office Lapovo		
	Counter Office – Njegoševa Street	213	Counter Office – Njegoševa Street
	Office of Duty Service No. 109 Karadjordjeva Street	205	Office of Duty Service No. 109 Karadjordjeva Street
	Branch Office Batočina – Kneza Miloša Obrenovića Street nn		

Office of Duty Service	241	Office of Duty Service
Counter Office	240	Counter Office
Branch Office Rača – Šumadijska Street nn		
Office of clerk	305	Office of clerk
Counter	400	Counter
Office of Duty Service	182	Office of Duty Service
No. 17 Jovana Šerbanovića Street		
Duty Service	210	Duty Service
Dispatch Center	215	Dispatch Center
Auto-mechanic workshop	113	Auto-mechanic workshop
Office No. 11	280	Office No. 11
Office No. 18	170	Office No. 18
Office of Warehouse clerk	310	Office of Warehouse clerk
Warehouse	325	Warehouse
Hangar	90	Hangar
Djure Djalvoća Street nn		
Main warehouse of electrical material	7	Main warehouse of electrical material
Petrovački put Street nn		
Counter Malo Crniće	164	Counter Malo Crniće
Office of Branch Malo Crniće Head	443	Office of Branch Malo Crniće Head
No. 18 Mlavska Street		
Office of Branch Petrovac na Mlavi Head	237	Office of Branch Petrovac na Mlavi Head
Duty Service Petrovac na Mlavi	327	Duty Service Petrovac na Mlavi
Workshop Petrovac na Mlavi	163	Workshop Petrovac na Mlavi
Glavna Street nn		
Duty Service Veliko Laole	170	Duty Service Veliko Laole
Counter – Veliko Laole	156	Counter – Veliko Laole
Žike Popovića Street nn		
Counter – Rabrovo	344	Counter – Rabrovo
Office of Branch Head – Rabrovo	535	Office of Branch Head – Rabrovo
No. 256 Svetog Save Street		
Office No. 4 – Kučevo	535	Office No. 4 – Kučevo
Counter – Kučevo	277	Counter – Kučevo
Workshop – Kučevo	667	Workshop – Kučevo
No. 4 Dunavski kej Street		
Office of electrical installers – Golubac	107	Office of electrical installers – Golubac
Counter – Golubac	254	Counter – Golubac
No. 11 Voje Bogdanovića Street		

	Counter hall – Veliko Gradište	203	Counter hall – Veliko Gradište
	Duty Service – Veliko Gradište	215	Duty Service – Veliko Gradište
	Room of electrical installers – Veliko Gradište	364	Room of electrical installers – Veliko Gradište
	Bože Dimitrijevića Street nn		
	Counter Kostolac	190	Counter Kostolac
	Office of Head – Kostolac	386	Office of Head – Kostolac
	Kralja Aleksandra Obrenovića Street nn		
	Office of Branch Aleksandrovac Head	356	Office of Branch Aleksandrovac Head
Department for Technical Services Smederevo	Counter – Aleksandrovac	165	Counter – Aleksandrovac
	No. 60 Šalinačka Street		
	Fitters' workshop	138	Fitters' workshop
	Workshop of team for maintenance of transformer stations	274	Workshop of team for maintenance of transformer stations
	Warehouse	235	Warehouse
	Dispatch Center	202	Dispatch Center
	Counter hall	323	Counter hall
	Office No. 40	503	Office No. 40
	Office No. 42	265	Office No. 42
	Office No. 60	515	Office No. 60
	No. 1 Momira Gajića Street		
	Office No. 8 – Velika Plana	220	Office No. 8 – Velika Plana
	Office No. 9 – Velika Plana	165	Office No. 9 – Velika Plana
	Office No. 17 – Velika Plana	166	Office No. 17 – Velika Plana
	Office No. 22 – Velika Plana	192	Office No. 22 – Velika Plana
	NO. 2 Radmile Šišković Street		
	Auto-mechanic workshop – Smederevska Palanka	341	Auto-mechanic workshop – Smederevska Palanka
	Counter – Smederevska Palanka	600	Counter – Smederevska Palanka
	Office No. 9 – Smederevska Palanka	414	Office No. 9 – Smederevska Palanka
	Office No. 20 – Smederevska Palanka	517	Office No. 20 – Smederevska Palanka
	Office No. 29 – Smederevska Palanka	307	Office No. 29 – Smederevska Palanka
	Office of Warehouse clerk – Smederevska Palanka	186	Office of Warehouse clerk – Smederevska Palanka

12.3.2. Occupational Safety

■ Training of employees

Training of employees is presented in Table 149.

Table 149

TECHNICAL CENTER KRAGUJEVAC					
Training of employees in 2019					
Department/Facility	Number of employees	For training		Trained	
		No	%	Број	No
TC HQ	118	61	51,69	61	100,00
Training for safe operation according to the Act on risk assessment – introduction to risks and protection measures, firefighting protection					
Training for safe and healthy operation at EEO and firefighting training		1	0,85	1	100,00
Kragujevac Department	135	65	48,15	65	100,00
Training for safe operation according to the Act on risk assessment – introduction to risks and protection measures, firefighting protection					
Training for safe and healthy operation at EEO and firefighting training		70	51,85	70	100,00
Požarevac Department	96	39	40,63	39	100,00
Training for safe and healthy operation at EEO and firefighting training					
Training for maintenance and inspection of measuring points		16	16,67	16	100,00
Smederevo Department	66	29	43,94	29	100,00
Training for safe and healthy operation at EEO and firefighting training					
TOTAL: TECHNICAL CENTER KRAGUJEVAC	415	281	67,71	281	100,00

Training of engaged persons is shown in Table 150.

Table 150

TECHNICAL CENTER KRAGUJEVAC				
Training of engaged persons in 2019				
Department/Facility	For training		Trained	
	No	%	No	%
TC HQ				
Training for safe and healthy operation for persons employed by Agency "Sequester Employment"	25	100,00	25	100,00
Training for safe and healthy operation for persons employed by Protent	27	100,00	27	100,00
Kragujevac Department				
Training for safe and healthy operation for persons employed by Agency "Sequester Employment"	24	100,00	24	100,00
Training for safe and healthy operation for persons employed by Protent	4	100,00	4	100,00
Požarevac Department				
Training for safe and healthy operation for persons employed by Agency "Sequester Employment"	15	100,00	15	100,00
Training for safe and healthy operation for persons employed by Protent	16	100,00	16	100,00
Training for "Jadran" d.o.o. Bg - mowing the grass	7	100,00	7	100,00
Smederevo Department				
Training for safe and healthy operation for persons employed by Agency "Sequester Employment"	26	100,00	26	100,00
Training for safe and healthy operation for persons employed by Protent	4	100,00	4	100,00
Training for "Jadran" d.o.o. Bg - mowing the grass	4	100,00	4	100,00
TOTAL: TECHNICAL CENTER KRAGUJEVAC	152	100,00	152	100,00

■ Injuries at work

Table 151 provides data on number of injuries at work in 2019.

Table 151

TECHNICAL CENTER KRAGUJEVAC						
Injuries at work in 2019						
Department/Facility	Number of employees	Injuries in relation to number of employees				
		Minor	Тешке	Minor	Укуп.	Minor
TC HQ	118	8	0	0	8	6.78
Kragujevac Department	135	4	2	0	6	4.44
Požarevac Department	96	2	1	0	3	3.13
Smederevo Department	66	6	0	0	6	9.09
TOTAL: TECHNICAL CENTER KRAGUJEVAC	415	20	3	0	23	5.54

12.3.3. Health

Results of periodical medical examinations are provided in Table 152.

Table 152

TECHNICAL CENTER KRAGUJEVAC											
Working capacity of employees in 2019											
Department/Facility	Number of employees	Previous and periodical examinations				Capability for work					
		Referred to examination		Examined		Referred to examination		Examined		Referred to examination	
		No	%	No	%	No	%	No	%	No	%
TC HQ	118	8	6,78	8	100,00	6	75,00	3	37,50	0	0,00
Kragujevac Department	135	94	69,63	94	100,00	84	89,36	9	9,57	0	0,00
Požarevac Department	96	70	72,92	70	100,00	55	78,57	4	5,71	11	15,71
Smederevo Department	66	52	78,79	52	100,00	46	88,46	6	11,54	0	0,00
TOTAL: TECHNICAL CENTER KRAGUJEVAC	415	224	53,98	224	100,00	191	85,27	22	9,82	11	4,91

12.4. Public complaints

There were no public complaints regarding environment in 2019.

13. TECHNICAL CENTER NIŠ

Distribution network has not become part of Technical Center Niš. Transformer stations and cable lines are owned by DSO "EPS Distribucija".

13.1. Overview and Status of Permits

Overview and status of permits, licences and other necessary approvals in 2019 were not carried out. There were no new applications for permits.

13.2. Monitoring and Environmental Impact

Environmental impact factors of TC Nis are:

- **Electromagnetic fields**
- **Environmental noise**
- **Waste**
- **Surface and groundwater quality**
- **Soil quality**

13.2.1. Electromagnetic Fields

Electromagnetic field measurements were not performed in 2019.

13.2.2. Environmental Noise

Environmental noise measurements were not performed in 2019.

13.2.3. Waste

Technical Center Niš did not generate waste in 2019.

13.2.4. Surface, Ground Waters and Soil Monitoring

Quality analysis of surface and ground water, as well as soil at territory of TC Niš was not performed in 2019.

13.3. Working Environment Monitoring, Occupational Health and Safety

Occupational Health and Safety Reports for 2018 include the following activities:

- **Working environment monitoring**
 - working environment noise measurements
 - electromagnetic fields in the working environment
 - Working environment parameters
- **Occupational Safety**
 - training of employees
 - injuries at work
- **Health**

13.3.1. Working Environment Monitoring

Measurements and testing of the Working Environment are performed in accordance with the Law on Safety and Health at Work („Official Gazette of RS“, No 101/05 and 91/15) and The Rulebook on Procedures for Inspection and Testing of Equipment for Work and Testing of the Working Environment („Official Gazette of RS“, No. 94/06, 108/06-correction, 114/14 and 102/15).

■ Measurement of noise in working environment

Testing of working environment for winter and summer period was performed in Technical Center Niš during 2019 and measurement results are shown in Tables 153 and 154. In premises not included in tables, noise is not damaging

Table 153

TECHNICAL CENTER NIŠ			
Noise in working environment in 2019 – winter			
Department of Technical Services	Department of Technical Services	Department of Technical Services	Department of Technical Services
TSD Vranje	TSD Vranje		
	Браварска радионица	74	85
TSD Zaječar	TSD Zaječar	TSD Zaječar	TSD Zaječar
	Погон Неготин – браварска радионица	84	85
	Погон Неготин – аутомеханичарска радионица	82	85
	Браварска радионица - Зајечар	77	85
	Пословница Бољевац – браварска радионица	77	85
	Погон Мајданпек – браварска радионица	80	85

Table 154

TECHNICAL CENTER NIŠ			
Noise in working environment in 2019 – summer			
Department of Technical Services	Department of Technical Services	Department of Technical Services	Department of Technical Services
TSD Prokuplje	TSD Prokuplje		
	Браварска радионица	74	85
TSD Leskovac	TSD Leskovac	TSD Leskovac	TSD Leskovac
	Погон Лесковац - Аутомеханичарска радионица	79	85
	Погон Лебане – Аутомеханичарска радионица	81	85
	Погон Сурдулица – Бело поље – Аутомеханичарска радионица	80	85
	Погон Сурдулица – Бело поље – Машинска радионица	79	85

■ Electromagnetic fields in the working environment

Measurements of environmental electromagnetic fields were not performed in 2019.

■ Working environment parameters

During year 2019 testing of working environment conditions for winter and summer was performed in Technical Center Niš, and measurement results are shown in provided Tables.

Monitoring of temperature, humidity and velocity parameters for winter and summer period 2018 are given in Tables 155 and 156.

Table 155

TECHNICAL CENTER NIŠ					
Temperature, relative humidity and velocity in 2019 – winter					
No.	Masurement point	Monitoring			Note
		t *C	Rh %	t *C	Rh %
Department of Technical Services Vranje					
1.	Marička Street nn, auto-mechanic workshop	18,7	36,2	0.06	Within zone
2.	Fitters’ workshop	18,9	35,0	0,08	Within zone
3.	Warehouse	19,4	34,7	0,04	Within zone
4.	Meeting room	21,4	35,7	0,04	Within zone
5.	Records storage	22,7	34,6	0,05	Within zone
6.	Preševo, Office of Branch Head	22,4	50,7	0,07	Within zone
7.	Preševo, Counter	23.1	44.2	0.04	Within zone

8.	Bujanovac, Counter	23,7	45,6	0,04	Within zone
9.	Bujanovac, Engineering Office	21,4	41,7	0,05	Within zone
10.	Trgovište, Office	20,4	51,1	0,04	Within zone
11.	Vranjska Banja, Counter	20,6	41,3	0,03	Within zone
12.	Vranje, Dispatch Center	20,4	38,7	0,05	Within zone
13.	Vranje, Records Storage	19,4	39,1	0,07	Within zone
14.	Vranje, Accounting	19,7	41,9	0,04	Within zone
15.	Vranje, Hall on 3rd floor	20,2	41,9	0,05	Within zone
16.	Vranje, Counter	21,3	33,7	0,04	Within zone
17.	Vranje, Office for accounting and charging – guaranteed supply	21,4	39,2	0,05	Within zone
18.	TKT Office	21,5	38,1	0,05	Within zone
19.	Office of Union President	20,5	37,2	0,07	Within zone
20.	Vladičin Han – Counter	21,2	34,8	0,05	Within zone
21.	Vladičin Han – Office of Branch Head	20,4	41,1	0,07	Within zone
Department of Technical Services Zaječar					
1	Office of Branch Svrlijig Head	22,1	33,5	0,04	Within zone
2	Counter of Branch Svrlijig	22,4	31,9	0,06	Within zone
3	Office of duty dispatch officer Svrlijig	22,5	34,0	0,12	Within zone
4	Auto-machanic workshop – Svrlijig	16,7	34,9	0,07	Within zone
5	Office of Plant Knjaževac Manager	21,5	47,9	0,04	Within zone
6	Office of Technical Service Knjaževac	21,4	35,0	0,04	Within zone
7	Canteen – Knjaževac Plant	17,2	48,8	0,10	Within zone
8	Counter hall – Knjaževac	24,5	30,9	0,07	Within zone
9	Gatekeeper's lodge* Knjaževac	21,1	42,2	0,05	Within zone
10	Auto-mechanic workshop – Knjaževac	21,5	47,9	0,04	Within zone
11	Office of Warehouse clerk – Knjaževac	21,4	35,0	0,04	Within zone
12	Warehouse – Knjaževac	17,2	48,8	0,10	Within zone
13	Office of senior associate for maintenance of EEO Branch Sokobanja	22,3	32,7	0,04	Within zone
14	Office of Accounting – Sokobanja	23,3	30,4	0,07	Within zone
15	Office of Branch Head – Sokobanja	22,6	34,5	0,07	Within zone
16	Office of clerk for warehouse operations Sokobanja	19,5	32,1	0,09	Within zone
17	Counter hall – Sokobanja	21,3	25,9	0,06	Within zone
18	Bor Plant – fitters' workshop	21,3	25,9	0,06	Within zone
19	Bor Plant – auto-mechanic workshop	18,8	50,8	0,10	Within zone
20	Bor Plant – gatekeeper's lodge	22,3	33,5	0,07	Within zone
21	Bor Plant – Counter hall	23,3	40,5	0,06	Within zone
22	Bor Plant – Counter hall, charging	23,6	38,8	0,04	Within zone
23	Bor Plant – Office of secretary	25,2	32,8	0,07	Within zone
24	Bor Plant – Office of Manager	23,2	32,6	0,04	Within zone
25	Bor Plant – Office of Technical Preparation	22,6	40,2	0,06	Within zone
26	Bor Plant – Office of Counter clerk	26,3	48,3	0,04	Within zone
27	Bor Plant – Office for Bank Transfer Customers	25,2	34,3	0,05	Within zone
28	Bor Plant – Dispatch Center	22,9	34,7	0,09	Within zone
29	Negotin Plant – Office of officer for EEO maintenance	21,3	29,4	0,06	Within zone
30	Negotin Plant – Office of senior associate for EEO maintenance	21,3	31,4	0,05	Within zone
31	Negotin Plant – room for electrical installers	19,7	37,3	0,08	Within zone
32	Negotin Plant – Fitters' workshop	22,7	33,5	0,10	Within zone
33	Negotin Plant – Gatekeeper's lodge, Head Office	22,2	28,0	0,10	Within zone
34	Negotin Plant – Counter hall	23,3	29,4	0,06	Within zone
35	Negotin Plant – Counter hall, charging 2	23,2	29,7	0,07	Within zone
36	Negotin Plant – Meeting Room	24,3	23,7	0,07	Within zone
37	Negotin Plant – Office of EPS Plant Manager	25,0	23,3	0,06	Within zone
38	Negotin Plant – Office of Administrative Secretary	24,3	24,2	0,06	Within zone
39	Garage of Branch Expert Services	19,0	56,2	0,08	Within zone
40	Head Office Zaječar – Gatekeeper's lodge	22,8	29,5	0,06	Within zone
41	Office No. 8	23,2	36,4	0,03	Within zone
42	Office of Financial Department Head	22,8	27,6	0,05	Within zone

43	Office of Department for legal and general affairs	27,2	32,5	0,01	Within zone
44	Meeting room – 2nd floor	23,7	30,1	0,07	Within zone
45	Office of Branch Manager	23,3	25,8	0,02	Within zone
46	Office of Department for legal and general affairs 2	23,1	29,5	0,07	Within zone
47	Coffee bar	20,8	29,9	0,05	Within zone
48	Office of Warehouse clerk	22,4	38,8	0,04	Within zone
49	Office of senior associate for OHS	21,8	33,4	0,05	Within zone
50	Main Warehouse – Office of Warehouse clerk	26,4	47,7	0,01	Within zone
51	Main Warehouse	25,2	49,8	0,03	Within zone
52	Main Warehouse 1	24,8	50,4	0,01	Within zone
53	Garage – Department for maintenance of equipment and vehicles	26,1	45,2	0,03	Within zone
54	Fitters' workshop – Zaječar	25,7	52,3	0,07	Within zone
56	Zaječar – Counter hall	25,6	40,9	0,01	Within zone
57	Main Counter Zaječar	24,8	38,8	0,03	Within zone
58	Office of electricity meter hand-over	24,5	44,9	0,07	Within zone
59	Department for cleaning of electricity meters	24,4	47,6	0,01	Within zone
60	Department for external cleaning of electricity meters – painting of electricity meters	24,3	45,3	0,12	Within zone
61	Gatekeeper's lodge Zaječar – No. 84 Generala Gambete Street	25,4	33,5	0,01	Within zone
62	Office of clerk for bank transfer customers – Zaječar	25,3	39,5	0,02	Within zone
63	Office of Head of Department for Technical operations – Zaječar	26,7	39,0	0,01	Within zone
64	Office of Department of relations with customers – Zaječar	25,3	43,9	0,05	Within zone
65	Office of Manager – Zaječar	27,1	33,4	0,07	Within zone
66	Canteen – Zaječar	27,1	29,7	0,08	Within zone
67	Office of Secretary – Zaječar, No. 84 Generala Gambete Street	25,3	37,6	0,03	Within zone
68	Laboratory for calibration of electricity meters 2	26,2	35,7	0,07	Within zone
69	Laboratory for calibration of electricity meters – inspection	27,7	29,3	0,03	Within zone
70	Office of Calibration Laboratory Head	27,2	27,9	0,03	Within zone
71	Laboratory for calibration of electricity meters - timers	27,0	33,7	0,02	Within zone
72	System hall of Department for information technologies	25,0	36,0	0,04	Within zone
73	Office of senior expert associate for relations with customers Zaječar	25,9	36,8	0,03	Within zone
74	Office for accounting and charging – Zaječar	26,0	36,2	0,01	Within zone
75	Office of Department for Economic affairs Zaječar	27,5	33,4	0,04	Within zone
76	Meeting room – Zaječar No. 84 Generala Gambete Street	27,0	33,8	0,03	Within zone
77	NORC – Gam. Banja	20,1	37,4	0,04	Within zone
78	NORC – Hall for trainings	20,5	33,2	0,05	Within zone
79	NORC – Canteen	19,0	40,7	0,08	Within zone
80	Boljevac Branch – Office of Branch Head	22,4	31,9	0,06	Within zone
81	Boljevac Branch – kitchenette	22,5	34,0	0,12	Within zone
82	Boljevac Branch – Counter hall	25,0	36,0	0,04	Within zone
83	Boljevac Branch – Office of officer for EEO maintenance	21,5	47,9	0,04	Within zone
84	Boljevac Branch – electrical workshop	21,4	35,0	0,04	Within zone
85	Boljevac Branch – fitters' workshop	17,2	48,8	0,10	Within zone
86	Kladovo Branch – Office of Technical Service	24,5	30,9	0,07	Within zone
87	Kladovo Branch – Office of Financial Department	21,1	42,2	0,05	Within zone
88	Kladovo Branch – Counter Hall	21,5	47,9	0,04	Within zone
89	Kladovo Branch – Office of Branch Head	21,4	35,0	0,04	Within zone
90	Kladovo Branch – Office of Secretary	17,2	48,8	0,10	Within zone
91	Kladovo Branch – Office of Financial Department	22,3	32,7	0,04	Within zone
92	Kladovo Branch – workshop	23,3	30,4	0,07	Within zone
93	Kladovo Branch – Gatekeeper's lodge	22,6	34,5	0,07	Within zone
94	Kladovo Branch – Office of Warehouse clerk	19,5	32,1	0,09	Within zone

95	Kladovo Branch – Office of Manager	21,3	25,9	0,06	Within zone
96	Donji Milanova – Office of Branch Head	21,3	25,9	0,06	Within zone
97	Donji Milanovac – Counter hall	18,8	50,8	0,10	Within zone
98	Donji Milanovac – room for workers	22,3	33,5	0,07	Within zone
99	Majdanpek Plant – Office of Technical Service	23,3	40,5	0,06	Within zone
100	Majdanpek Plant – Office of Plant Manager	23,6	38,8	0,04	Within zone
101	Majdanpek Plant – Office of Secretary	25,2	32,8	0,07	Within zone
102	Majdanpek Plant – Office of senior associate for trade	23,2	32,6	0,04	Within zone
103	Majdanpek Plant – Counter hall	22,6	40,2	0,06	Within zone
104	Majdanpek Plant – Fitter's workshop	26,3	48,3	0,04	Within zone

Note: In accordance with the Risk Assessment Act, the foreseen personal protective equipment for employees is provided for use (winter work clothing). The organization of work reduces the duration of exposure to low temperature in cases where employees stay within the premises, in order to perform a certain work assignment. Room for warming up employees is provided.

Table 156

Table 100

TECHNICAL CENTER NIŠ					
Temperature, relative humidity and flow velocity in 2019 – summer					
No.	Measurement point	Monitoring			Note
		t *C	Rh %	t *C	Rh %
Department of Technical Services Prokuplje					
1.	Head Office, Office No. 18	25,6	59,2	0,05	Within zone
2.	Head Office, Office No. 21	26,5	57,9	0,02	Within zone
3.	Head Office, Office No. 23	26,8	58,5	0,04	Within zone
4.	Head Office, Office No. 3	26,4	58,9	0,06	Within zone
5.	Head Office, Office No. 5	26,5	50,1	0,07	Within zone
6.	Head Office, Manager's Office	26,6	59,4	0,09	Within zone
7.	Head Office, Office of Legal Affairs Department	26,1	44,3	0,03	Within zone
8.	Head Office, Office No.12	25,7	46,1	0,07	Within zone
9.	Head Office – Counter Hall	25,1	57,9	0,04	Within zone
10.	Head Office, Office of EPS supply	25,3	59,4	0,02	Within zone
11.	Head Office – room for installers	24,6	63,9	0,09	Within zone
12.	Head Office – Dispatch Center	24,0	64,6	0,11	Within zone
13.	Office of Plant Manager	26,2	58,7	0,02	Within zone
14.	Plant Prokuplje – room for electrical installers	26,1	59,1	0,04	Within zone
15.	Office of LW and MV Department	25,7	57,8	0,04	Within zone
16.	Office of Warehouse clerk	25,4	56,4	0,03	Within zone
17.	Head Office – Gatekeeper's lodge	25,1	58,8	0,03	Within zone
18.	Branch Kuršumlja – Office of Manager	26,4	59,0	0,05	Within zone
19.	Branch Kuršumlja – Counter hall	26,2	58,5	0,09	Within zone
20.	Branch Kuršumlja – Office No.9	26,4	59,1	0,07	Within zone
21.	Branch Kuršumlja – Workshop	25,5	58,5	0,11	Within zone
22.	Branch Blace – Office of Branch Manager	26,7	59,2	0,02	Within zone
23.	Branch Blace – Counter hall	26,2	58,8	0,03	Within zone
24.	Branch Blace – Room for installers	26,9	58,5	0,09	Within zone
25.	Branch Žitoradja – Office of officer for accounting and charging	27,4	45,3	0,04	Within zone
26.	Branch Žitoradja – Counter hall	27,9	46,1	0,07	Within zone
27.	Branch Žitoradja – Room for Installers	27,6	54,1	0,14	Within zone
28.	Branch Merošina – Office of Accounting clerk	26,9	57,1	0,07	Within zone
29.	Branch Merošina – Office of Branch Manager	27,4	53,8	0,05	Within zone
30.	Branch Merošina – Counter hall	27,8	53,2	0,03	Within zone
Department for Technical Services Leskovac					
1.	Leskovac Plant – Room of team for transmission line maintenance	24,7	64,1	0,06	Within zone
2.	Leskovac Plant – Room of team for TS transmission	26,9	50,2	0,04	Within zone
3.	Leskovac Plant – Office No. 1	25,7	59,4	0,04	Within zone
4.	Leskovac Plant – Office No. 2	25,0	59,5	0,07	Within zone
5.	Leskovac Plant – Office No. 16	25,4	48,1	0,06	Within zone
6.	Leskovac Plant – Room of installers' team	26,5	56,9	0,11	Within zone

7.	Leskovac Plant – Installers' Workshop	25,5	69,8	0,05	Within zone
8.	Leskovac Plant – Branch Turekovac	26,1	59,3	0,05	Within zone
9.	Leskovac Plant – Auto – mechanic workshop	24,9	62,1	0,09	Within zone
10.	Leskovac Plant – Calibration room	26,3	59,2	0,04	Within zone
11.	Leskovac Plant – Department for MM measurement	25,1	58,9	0,03	Within zone
12.	Leskovac Plant – Main Warehouse	24,8	54,1	0,05	Within zone
13.	Head Office Leskovac – Legal Department	26,3	57,6	0,06	Within zone
14.	Head Office Leskovac – Register	25,9	57,8	0,07	Within zone
15.	Head Office Leskovac – AOP	25,1	55,3	0,04	Within zone
16.	Head Office Leskovac – Branch Manager Office	25,5	57,9	0,08	Within zone
17.	Head Office Leskovac – Office of Accounting	26,5	59,1	0,09	Within zone
18.	Head Office Leskovac – IT Center	27,1	54,8	0,03	Within zone
19.	Head Office Leskovac – Counter hall	26,5	57,7	0,03	Within zone
20.	Head Office Leskovac – Office No. 47	27,3	53,8	0,06	Within zone
21.	Branch Vlasotince – Branch Manager Office	26,7	57,5	0,14	Within zone
22.	Branch Vlasotince – Department for EEO maintenance	26,8	58,7	0,07	Within zone
23.	Branch Vlasotince – Rooms of electrical installers	25,2	56,8	0,12	Within zone
24.	Branch Vlasotince – Counter hall	26,5	58,1	0,07	Within zone
25.	Branch Manojlovac – Rooms of electrical installers	27,5	54,2	0,12	Within zone
26.	Branch Manojlovac – Charging	27,8	52,7	0,05	Within zone
27.	Lebane Plant – Counter hall	27,4	52,9	0,09	Within zone
28.	Lebane Plant – Office of Department for EEO maintenance	27,1	53,4	0,11	Within zone
29.	Lebane Plant – Plant Manager Office	26,7	58,2	0,07	Within zone
30.	Lebane Plant – Auto-mechanic workshop	27,5	53,6	0,14	Within zone
31.	Branch Pečenjevce – Room of electrical installers	27,4	43,0	0,15	Within zone
32.	Branch Pečenjevce – Charging	27,1	44,7	0,07	Within zone
33.	Branch Bosilegrad – Branch Manager Office	25,6	54,6	0,06	Within zone
34.	Surdulica Plant – Office of Technical Service	25,9	52,9	0,14	Within zone
35.	Surdulica Plant – Auto – mechanic workshop	26,6	54,9	0,14	Within zone
36.	Surdulica Plant – Belo polje – Mechanical Workshop	26,6	52,6	0,11	Within zone
37.	Surdulica Plant – Belo polje – Room for installers	27,5	53,2	0,09	Within zone
38.	Surdulica Plant – Belo polje – Office of Warehouse clerk	26,5	55,2	0,14	Within zone
39.	Surdulica Plant – Room of Department for accounting and charging	26,2	48,1	0,06	Within zone
40.	Surdulica Plant – Counter hall	26,1	51,1	0,05	Within zone

Monitoring of parameters of chemical hazards for winter and summer period 2019 is given in Tables 157 and 158. In premises included in the table, the stated chemical hazards are not harmful.

Table 157

TECHNICAL CENTER NIŠ						
Chemical hazards – winter 2019						
No.	Measurement point	Type of chemical hazard	Measured concentration	Exposition (h)	MDK	Exceeding of concentration
Одсек за техничке услуге Врање						
1.	Marička Street nn, Auto-mechanic workshop	Mineral dust with less than 1% SiO ₂	0,34	8	15	Meets requirements
2.	Fitters' workshop	Mineral dust with less than 1% SiO ₂	0,07	8	15	Meets requirements
3.	Warehouse	Total dust	0,18	8	15	Meets requirements
4.	Meeting room	Total dust	0,04	8	15	Meets requirements
5.	Storage of Records	Total dust	0,08	8	15	Meets requirements
6.	Preševo, Branch Manager Office	Total dust	0,03	8	15	Meets requirements
7.	Preševo, Charging	Total dust	0,04	8	15	Meets requirements

8.	Bujanovac, Charging	Total dust	0,03	8	15	Meets requirements
9.	Bujanovac, Engineering Office	Total dust	0,02	8	15	Meets requirements
10.	Trgovište, Office	Total dust	0,04	8	15	Meets requirements
11.	Vranjska Banja, Charging	Total dust	0,03	8	15	Meets requirements
12.	Vranje, Dispatch Center	Total dust	0,05	8	15	Meets requirements
13.	Vranje, Records	Total dust	0,07	8	15	Meets requirements
14.	Vranje, Accounting	Total dust	0,04	8	15	Meets requirements
15.	Vranje, 3rd floor room	Total dust	0,05	8	15	Meets requirements
16.	Vranje, Charging	Total dust	0,10	8	15	Meets requirements
17.	Vranje, Office for Accounting and charging – guaranteed supply	Total dust	0,10	8	15	Meets requirements
18.	Office of TKT	Total dust	0,05	8	15	Meets requirements
19.	Office of Union's President	Total dust	0,03	8	15	Meets requirements
20.	Vladičin Han, Charging	Total dust	0,03	8	15	Meets requirements
21.	Vladičin Han, Office of Branch Manager	Total dust	0,02	8	15	Meets requirements

Department for Technical Services Zaječar

1.	Negotin Plant – Fitters' workshop	Mineral dust with less than 1% SiO ₂ / carbon monoxide	1,3/2,2		15/55	
2.	Negotin Plant – Auto-mechanic workshop	Carbon monoxide	6,7		55	
3.	Fitters' workshop - Zaječar	Mineral dust with less than 1% SiO ₂ / carbon monoxide	4,5/3,2		15/55	
4.	Branch Boljevac – Fitters' workshop	Mineral dust with less than 1% SiO ₂ / carbon monoxide	3,5/4,5		15/55	
5.	Majdanpek Plant – Fitters' workshop	Mineral dust with less than 1% SiO ₂	0,5		15	

Table 158

TECHNICAL CENTER NIŠ						
Chemical hazards - summer 2019						
No.	Measurement point	Type of chemical hazard	Measured concentration	Exposition (h)	MDK	Exceeding of concentration
Department for Technical Services Prokuplje						
1.	Kuršumlija Plant - Workshop	Mineral dust with less than 1% SiO ₂	0,2	8	15	

Monitoring of lighting for winter and summer 2019 in Technical Center Niš is provided in Tables 159 and 160.

Table 159

Table 100

TECHNICAL CENTER NIŠ					
Lighting in 2019 – winter					
No.	Measurement point	Monitoring			Note
		Lighting	Illumination (lx)		Illumination
			Measured	Measured	
Department for Technical Services Vranje					
1.	Marička Street nn, Auto-mechanic workshop	Combined	132	80-150	Sufficient
2.	Fitters' workshop	Combined	97	80-150	Sufficient

3.	Warehouse	Combined	241	80-150	Sufficient
4.	Meeting room	Combined	451	150-300	Sufficient
5.	Storage of records	Combined	194	150-300	Sufficient
6.	Preševo, Office of Branch Manager	Combined	824	150-300	Sufficient
7.	Preševo, Charging	Combined	196	150-300	Sufficient
8.	Bujanovac, Charging	Combined	232	150-300	Sufficient
9.	Bujanovac, Engineering Office	Combined	502	150-300	Sufficient
10.	Trgovište, Office	Combined	211	150-300	Sufficient
11.	Vranjska Banja, Charging	Combined	324	150-300	Sufficient
12.	Vranje, Dispatch Center	Combined	481	150-300	Sufficient
13.	Vranje, Records	Combined	157	150-300	Sufficient
14.	Vranje, Accounting	Combined	210	150-300	Sufficient
15.	Vranje, 3rd floor room	Combined	374	150-300	Sufficient
16.	Vranje, Charging	Combined	157	150-300	Sufficient
17.	Vranje, Office for accounting and charging – guaranteed supply	Combined	321	150-300	Sufficient
18.	Office of TKT	Combined	450	150-300	Sufficient
19.	Office of Union's President	Combined	196	150-300	Sufficient
20.	Vladičin Han, Charging	Combined	258	150-300	Sufficient
21.	Vladičin Han, Office of Branch Manager	Combined	591	150-300	Sufficient
Department for Technical Services Zaječar					
1	Office of Svrlijig Branch Manager	комбиновано	364	150-300	довољна
2	Counter of Svrlijig Branch	Combined	218	150-300	Sufficient
3	Office of Duty Dispatch officer Svrlijig	Combined	176	150-300	Sufficient
4	Auto-mechanic workshop – Svrlijig	Combined	289	80-150	Sufficient
5	Office of Knjaževac Plant Manager	Combined	377	150-300	Sufficient
6	Office of Technical Service Knjaževac	Combined	310	150-300	Sufficient
7	Canteen – Knjaževac Plant	Combined	202	80-150	Sufficient
8	Counter hall – Knjaževac	Combined	340	80-150	Sufficient
9	Gatekeeper's lodge – Knjaževac	Combined	353	80-150	Sufficient
10	Auto-mechanic workshop – Knjaževac	Combined	108	80-150	Sufficient
11	Office of Warehouse clerk – Knjaževac	Combined	445	150-300	Sufficient
12	Warehouse – Knjaževac	Combined	92	80-150	Sufficient
13	Office of senior associate for EEO maintenance Sokobanja Branch	Combined	1396	150-300	Sufficient
14	Office of Accounting – Sokobanja	Combined	1225	150-300	Sufficient
15	Office of Branch Head – Sokobanja	Combined	487	150-300	Sufficient
16	Office of clerk for Warehouse operations Sokobanja	Combined	156	150-300	Sufficient
17	Counter hall – Sokobanja	Combined	356	150-300	Sufficient
18	Bor Plant – Fitters' workshop	Combined	178	80-150	Sufficient
19	Bor Plant – Auto-mechanic Workshop	Combined	237	80-150	Sufficient
20	Bor Plant – Gatekeeper's lodge	Combined	157	150-300	Sufficient
21	Bor Plant – Counter hall	Combined	173	150-300	Sufficient
22	Bor Plant – Counter hall, Charging	Combined	417	150-300	Sufficient
23	Bor Plant – Office of Secretary	Combined	254	150-300	Sufficient
24	Bor Plant – Office of Manager	Combined	558	150-300	Sufficient
25	Bor Plant – Office of Technical Preparation	Combined	336	150-300	Sufficient
26	Bor Plant – Office of Charging clerk	Combined	268	150-300	Sufficient
27	Bor Plant – Office of Bank Transfer Customers	Combined	662	150-300	Sufficient
28	Bor Plant – Dispatch Center	Combined	675	150-300	Sufficient
29	Negotin Plant – Office of clerk for EEO maintenance	Combined	522	150-300	Sufficient
30	Negotin Plant – Office of senior associate for EEO maintenance	Combined	376	150-300	Sufficient
31	Negotin Plant – room for electrical installers	Combined	744	150-300	Sufficient
32	Negotin Plant – Fitters' workshop	Combined	653	80-150	Sufficient
33	Negotin Plant – Auto-mechanic workshop	Combined	245	80-150	Sufficient
34	Negotin Plant – Gatekeeper's lodge, Head Office	Combined	155	150-300	Sufficient
35	Negotin Plant – Counter hall	Combined	164	150-300	Sufficient
36	Negotin Plant – Counter hall, charging 2	Combined	287	150-300	Sufficient
37	Negotin Plant – Meeting Room	Combined	848	80-150	Sufficient

38	Negotin Plant – Office of EPS Plant Manager	Combined	350	150-300	Sufficient
39	Negotin Plant – Office of Business Secretary	Combined	541	150-300	Sufficient
40	Garage of Branch Expert Services	Combined	844	150-300	Sufficient
41	Head Office Zaječar – Gatekeeper's lodge	Combined	73	150-300	Average
42	Office No.8	Combined	875	150-300	Sufficient
43	Office of Financial Department Head	Combined	751	150-300	Sufficient
44	Office of Department for legal and general affairs	Combined	624	150-300	Sufficient
45	Meeting Room – 2nd floor	Combined	1234	150-300	Sufficient
46	Office of Branch Manager	Combined	470	150-300	Sufficient
47	Office of Department for legal and general affairs 2	Combined	980	150-300	Sufficient
48	Coffee bar	Combined	855	150-300	Sufficient
49	Office of clerk for Warehouse operations	Combined	508	150-300	Sufficient
50	Office of senior associate for OHS	Combined	671	150-300	Sufficient
51	Main Warehouse – Office of Warehouse clerk	Combined	254	150-300	Sufficient
52	Main Warehouse	Combined	111	150-300	Sufficient
53	Main Warehouse 1	Combined	108	150-300	Sufficient
54	Garage – Department for maintenance of equipment and vehicles	Combined	382	150-300	Sufficient
56	Fitters' workshop – Zaječar	Combined	207	150-300	Sufficient
57	Zaječar – Counter hall	Combined	268	150-300	Sufficient
58	Main Counter Zaječar	Combined	662	150-300	Sufficient
59	Office of electricity meter hand-over	Combined	675	150-300	Sufficient
60	Department for electricity meter cleaning	Combined	522	150-300	Sufficient
61	Department for external cleaning of electricity meters – painting of electricity meters	Combined	376	150-300	Sufficient
62	Gatekeeper's lodge Zaječar – No. 84 Generala Gambete Street	Combined	744	150-300	Sufficient
63	Office of clerk for calculations for bank transfer customers – Zaječar	Combined	653	80-150	Sufficient
64	Office of Technical Operation Department Head – Zaječar	Combined	245	80-150	Sufficient
65	Office of Department for relations with customers – Zaječar	Combined	155	150-300	Sufficient
66	Office of Manager – Zaječar	Combined	164	150-300	Sufficient
67	Canteen – Zaječar	Combined	287	150-300	Sufficient
68	Office of Secretary – Zaječar, No. 84 Generala Gambete Street	Combined	848	80-150	Sufficient
69	Laboratory of calibration of electricity meters 2	Combined	350	150-300	Sufficient
70	Laboratory for calibration of electricity meters - Inspection	Combined	541	150-300	Sufficient
71	Office of Calibration Laboratory Head	Combined	576	150-300	Sufficient
72	Laboratory for calibration of electricity meters – timers	Combined	73	150-300	Average
73	System hall of Department for Information Technologies	Combined	875	150-300	Sufficient
74	Office of Leading Expert Associate for Relations with Customers, Zaječar	Combined	751	150-300	Sufficient
75	Office for Calculation and Charging - Zaječar	Combined	624	150-300	Sufficient
76	Office of Department for Economic Affairs, Zaječar	Combined	1234	150-300	Sufficient
77	Meeting Room – Zaječar, No. 84 Generala Gambete Street	Combined	470	150-300	Sufficient
78	NORC – Gam. Banja	Combined	777	150-300	Sufficient
79	NORC – Hall for Training	Combined	707	150-300	Sufficient
80	NORC – Canteen	Combined	528	150-300	Sufficient
81	Branch Boljevac – Office of Branch Head	Combined	506	150-300	Sufficient
82	Branch Boljevac – Kitchenette	Combined	165	150-300	Sufficient
83	Branch Boljevac – Counter hall	Combined	503	150-300	Sufficient
84	Branch Boljevac – Office of clerk for EEO maintenance	Combined	336	150-300	Sufficient
85	Branch Boljevac – Electrical Workshop	Combined	774	150-300	Sufficient
86	Branch Boljevac – Fitters' workshop	Combined	599	80-150	Sufficient
87	Branch Kladovo – Office of Technical Service	Combined	201	150-300	Sufficient
88	Branch Kladovo – Office of Financial Department	Combined	433	150-300	Sufficient
89	Branch Kladovo – Counter hall	Combined	486	150-300	Sufficient
90	Branch Kladovo – Office of Branch Head	Combined	679	150-300	Sufficient
91	Branch Kladovo – Office of Secretary	Combined	853	150-300	Sufficient
92	Branch Kladovo – Office of Financial Department	Combined	443	150-300	Sufficient
93	Branch Kladovo – Workshop	Combined	592	80-150	Sufficient

94	Branch Kladovo – Gatekeeper's lodge	Combined	946	150-300	Sufficient
95	Branch Kladovo – Office of Warehouse clerk	Combined	517	150-300	Sufficient
96	Branch Kladovo – Office of Head	Combined	411	150-300	Sufficient
97	Donji Milanovac – Office of Branch Head	Combined	1051	150-300	Sufficient
98	Donji Milanovac – Counter hall	Combined	509	150-300	Sufficient
99	Donji Milanovac – Room for Workers	Combined	207	150-300	Sufficient
100	Majdanpek Plant – Office of Technical Service	Combined	951	150-300	Sufficient
101	Majdanpek Plant – Office of Plant Manager	Combined	842	150-300	Sufficient
102	Majdanpek Plant – Office of Secretary	Combined	682	150-300	Sufficient
103	Majdanpek Plant – Office of senior associate for trade	Combined	393	150-300	Sufficient
104	Majdanpek Plant – Counter hall	Combined	162	150-300	Sufficient
105	Majdanpek Plant – Fitters' Workshop	Combined	164	80-150	Sufficient

Table 160

TECHNICAL CENTER NIŠ					
Lighting for 2019 – summer					
No.	Measurement point	Monitoring			Note
		Lighting	Illumination (lx)		Illumination
			Measured	Sufficient	
Department of Technical Services Prokuplje					
1.	Head Office, Office No. 18	Combined	439	150-300	Sufficient
2.	Head Office, Office No. 21	Combined	371	150-300	Sufficient
3.	Head Office, Office No. 23	Combined	203	150-300	Sufficient
4.	Head Office, Office No. 3	Combined	224	150-300	Sufficient
5.	Head Office, Office No. 5	Combined	319	150-300	Sufficient
6.	Head Office, Office of Manager	Combined	158	150-300	Sufficient
7.	Head Office, Office of Legal Department	Combined	212	150-300	Sufficient
8.	Head Office, Office No. 12	Combined	453	150-300	Sufficient
9.	Head Office – Counter hall	Combined	158	150-300	Sufficient
10.	Head Office, Office of EPS Supply	Combined	217	150-300	Sufficient
11.	Head Office – room for installers	Combined	133	80-150	Sufficient
12.	Head Office – Dispatch Center	Combined	287	150-300	Sufficient
13.	Office of Plant Manager	Combined	362	150-300	Sufficient
14.	Prokuplje Plant – room for electrical installers	Combined	128	80-150	Sufficient
15.	Office of Department for LV and MV	Combined	177	150-300	Sufficient
16.	Office of Warehouse clerk	Combined	451	150-300	Sufficient
17.	Head Office – Gatekeeper's lodge	Combined	380	80-150	Sufficient
18.	Branch Kuršumljia – Office of Manager	Combined	783	150-300	Sufficient
19.	Branch Kuršumljia – Counter hall	Combined	714	150-300	Sufficient
20.	Branch Kuršumljia – Office No. 9	Combined	471	150-300	Sufficient
21.	Branch Kuršumljia – Workshop	Combined	115	80-150	Sufficient
22.	Branch Blace – Office of Branch Manager	Combined	1056	150-300	Sufficient
23.	Branch Blace – Counter hall	Combined	585	150-300	Sufficient
24.	Branch Blace – Room for installers	Combined	379	80-150	Sufficient
25.	Branch Žitordaja – Office of clerk for calculation and charging	Combined	423	150-300	Sufficient
26.	Branch Žitordaja – Counter hall	Combined	425	150-300	Sufficient
27.	Branch Žitordaja – room for installers	Combined	477	80-150	Sufficient
28.	Branch Merošina – Office of Accounting Department	Combined	350	150-300	Sufficient
29.	Branch Merošina – Office of Branch Manager	Combined	324	150-300	Sufficient
30.	Branch Merošina – Counter hall	Combined	182	150-300	Sufficient
Department for Technical Services Leskovac					
1.	Leskovac Plant – Room of team for maintenance of transmission line	Combined	784	150-300	Sufficient
2.	Leskovac Plant – Room of team for TS transmission	Combined	764	150-300	Sufficient
3.	Leskovac Plant – Office No. 1	Combined	310	150-300	Sufficient
4.	Leskovac Plant – Office No. 2	Combined	378	150-300	Sufficient
5.	Leskovac Plant – Office No. 16	Combined	455	150-300	Sufficient
6.	Leskovac Plant – Room for team of installers	Combined	739	150-300	Sufficient
7.	Leskovac Plant – Installers' workshop	Combined	694	150-300	Sufficient

8.	Leskovac Plant – Branch Turekovac	Combined	538	150-300	Sufficient
9.	Leskovac Plant – Auto-mechanic workshop	Combined	1892	80-150	Sufficient
10.	Leskovac Plant – Calibration room	Combined	363	80-150	Sufficient
11.	Leskovac Plant – Department for MM measurement	Combined	361	150-300	Sufficient
12.	Leskovac Plant – Main Warehouse	Combined	380	80-150	Sufficient
13.	Leskovac Head Office – Legal Department	Combined	587	150-300	Sufficient
14.	Leskovac Head Office – Records Storage	Combined	1276	150-300	Sufficient
15.	Leskovac Head Office - AOP	Combined	231	150-300	Sufficient
16.	Leskovac Head Office – Office of Branch Manager	Combined	399	150-300	Sufficient
17.	Leskovac Head Office – Office of Accounting	Combined	677	150-300	Sufficient
18.	Leskovac Head Office – IT Center	Combined	768	150-300	Sufficient
19.	Leskovac Head Office – Counter hall	Combined	351	150-300	Sufficient
20.	Leskovac Head Office – Office No. 47	Combined	512	150-300	Sufficient
21.	Branch Vlasotince – Office of Branch Head	Combined	239	150-300	Sufficient
22.	Branch Vlasotince – Department for EEO maintenance	Combined	271	150-300	Sufficient
23.	Branch Vlasotince – Rooms of electrical installers	Combined	392	150-300	Sufficient
24.	Branch Vlasotince – Counter hall	Combined	399	150-300	Sufficient
25.	Branch Manojlovac – Rooms of electrical installers	Combined	503	150-300	Sufficient
26.	Branch Manojlovac – Charging	Combined	381	150-300	Sufficient
27.	Lebane Plant – Counter hall	Combined	162	150-300	Sufficient
28.	Lebane Plant – Office of Department for EEO maintenance	Combined	322	150-300	Sufficient
29.	Lebane Plant – Office of Plant Manager	Combined	469	150-300	Sufficient
30.	Lebane Plant – Auto-mechanic workshop	Combined	360	80-150	Sufficient
31.	Branch Pečenjevce – Room of electrical installers	Combined	575	150-300	Sufficient
32.	Branch Pečenjevce – Charging	Combined	305	150-300	Sufficient
33.	Branch Bosilegrad – Office of Branch Head	Combined	710	150-300	Sufficient
34.	Surdulica Plant – Office of Technical Service	Combined	361	150-300	Sufficient
35.	Surdulica Plant – Belo polje – Auto-mechanic workshop	Combined	360	80-150	Sufficient
36.	Surdulica Plant – Belo polje – Mechanical Workshop	Combined	312	80-150	Sufficient
37.	Surdulica Plant – Belo polje – Room for installers	Combined	238	80-150	Sufficient
38.	Surdulica Plant – Belo polje – Office of Warehouse clerk	Combined	174	80-150	Sufficient
39.	Surdulica Plant – Room of Department for calculation and charging	Combined	326	150-300	Sufficient
40.	Surdulica Plant – Counter hall	Combined	360	150-300	Sufficient

13.3.2. Occupational Safety

■ Employee training

Training of employees is presented in the Table 161.

Table 161

TECHNICAL CENTER NIS					
Training in 2019					
Technical services department/Facility	Number of employees	For training		Trained	
		No.	%	бpoj	%
Technical services department Niš	158				
Safe work training		64	40,51	64	100,00
Training for newly employed and non-qualified workers		0	0,00	0	0,00
Safe work training of employees with Temporary Employment Contract		3	1,90	3	100,00
Technical services department Leskovac	145				
Safe work training		90	62,07	90	100,00
Training for newly employed and non-qualified workers		1	0,69	1	100,00
Safe work training of employees with Temporary Employment Contract		18	12,41	18	100,00
Technical services department Zaječar	201				
Safe work training		161	80,10	161	100,00
Training for newly employed and non-qualified workers		22	10,95	22	100,00

Safe work training of employees with Temporary Employment Contract		11	5,47	11	100,00
Technical services department Vranje	106				
Safe work training		65	61,32	65	100,00
Safe work training of employees with Temporary Employment Contract		0	0,00	0	0,00
Training for newly employed and non-qualified workers		0	0,00	0	0,00
Technical services department Pirot	75				
Periodical check of competences for health and safety at work		49	65,33	49	100,00
Safe work training-прелазак на друго радно место		1	1,33	1	100,00
Safe work training of employees with Temporary Employment Contract		8	10,67	8	100,00
Technical services department Prokuplje	76				
Safe work training		66	86,84	66	100,00
Training for newly employed and non-qualified workers		2	2,63	2	100,00
Safe work training of employees with Temporary Employment Contract		8	10,53	8	100,00
Headquarters	83				
Safe work training		0	0,00	0	0,00
Safe work training of employees with Temporary Employment Contract		0	0,00	0	0,00
Training for newly employed and non-qualified workers		0	0,00	0	0,00
TOTAL: TECHNICAL CENTER NIŠ	844	569	67,42	569	100,00

Additional trainings not related to permanent staff in TC Niš, which were held in 2019 are shown in Table 162.

Table 162

TECHNICAL CENTER NIŠ				
Additional trainings not related to permanent staff in TC Niš, which were held in 2018				
Branch/Unit	For training		Trained	
	No.	%	No.	%
Technical services department Pirot				
Periodical check of competences for health and safety at work engaged via Agency	28	100,00	28	100,00
Theoretical and practical training of employees through the Agency for Health and Safety at work during climbing and work on the pole (work on the height)	115	100,00	115	100,00
Theoretical and practical training of employees through the Agency for Health and Safety at work with a hydraulic mechanical hand lever hoist (driver and operator)	53	100,00	53	100,00
Getting to know the contractor of work with dangers and hazards, measures for health and safety work and rules of conduct	59	100,00	59	100,00
Getting to know students and pupils in practical teaching with measures for health and safety work and rules of conduct	4	100,00	4	100,00
Getting to know visitors and service providers with measures for health and safety work and rules of conduct	32	100,00	32	100,00
Theoretical and practical training of employees for health and safety at work on works of electric fitters on duty – power plant operator	8	100,00	8	100,00
Training for Health and safety at work – Norcev	24	100,00	24	100,00
Training for fire protection – Norcev	24	100,00	24	100,00
Technical services department Niš				
Safe work training of engaged persons „Sequester“	51	100,00	41	80,39

Safe work training of engaged persons „Work and care“	295	100,00	292	98,98
Safe work training of engaged persons „Diz higijena“	17	100,00	17	100,00
Safe work training of engaged persons „Tisten group“	7	100,00	3	42,86
Safe work training of engaged persons „Doberguard“	31	100,00	31	100,00
safe work training EPSS	47	100,00	43	91,49
Safe work training of engaged persons (PE TPP „Kosovo“ Obilić)	68	100,00	68	100,00
Safe work training of engaged persons (PE „Elektrokosmet“ Priština)	12	100,00	12	100,00
Safe work training of engaged persons (PE OCM „Kosovo“ Obilić)	27	100,00	23	85,19
Technical services department Prokuplje				
Safe work training of engaged persons	97	100,00	93	95,88
OHS Training – Norcev	16	100,00	16	100,00
FFP Training – Norcev	16	100,00	16	100,00
Getting to know the contractor of work with dangers and hazards, measures for health and safety work and rules of conduct	12	100,00	12	100,00
Getting to know students and pupils in practical teaching with measures for health and safety work and rules of conduct	4	100,00	4	100,00
Technical services department Vranje				
Safe work training of engaged agencies' persons	85	100,00	85	100,00
Technical services department Leskovac				
Periodical check of competences for health and safety at work engaged via Agency	72	100,00	72	100,00
Theoretical and practical training of employees for health and safety at work on works of electric fitters on duty – power plant operator	72	100,00	46	63,89
Getting to know the contractor of work with dangers and hazards, measures for health and safety work and rules of conduct	86	100,00	86	100,00
Getting to know students and pupils in practical teaching with measures for health and safety work and rules of conduct	24	100,00	24	100,00

• Work injuries

Number of work injuries in 2019 is presented in Table 163.

Table 163

TECHNICAL CENTER NIŠ						
Work injuries in 2019						
Technical services department/Facility	number of employees	injuries- number of employees ratio				
		light	serious	fatalities	total	%
Leskovac	145	2	1	0	3	2,07
Pirot	75	2	0	0	2	2,67
Zaječar	201	4	1	0	5	2,49
Vranje	106	2	0	0	2	1,89
Prokuplje	76	2	0	0	2	2,63
Niš	158	6	0	0	6	3,80
Headquarters TC Niš	83	1	0	0	1	1,20
TOTAL: TECHNICAL CENTER NIŠ	844	19	2	0	21	2,49

13.3.3. Health

Periodic medical examinations of employees, presented in Table 164 are carried out regularly for all newly recruited workers and employees working on jobs with special working conditions.

Table 164

TECHNICAL CENTER NIŠ											
Working capacity in 2019											
Technical services department/Facility	No. of employees	Periodical examination				Capability for work					
		Referred to examination		Examined		Capable		Limited capability		Incapable	
		No.	%	No.	%	No.	%	No.	%	No.	%
Leskovac	145	99	68,28	99	100,00	90	90,91	8	8,08	1	1,01
Pirot	75	54	72,00	54	100,00	45	83,33	9	16,67	0	0,00
Zaječar	201	153	76,12	153	100,00	134	87,58	17	11,11	2	1,31
Vranje	106	64	60,38	64	100,00	57	89,06	6	9,38	1	1,56
Prokuplje	76	54	71,05	54	100,00	51	94,44	1	1,85	2	3,70
Niš	158	64	40,51	64	100,00	61	95,31	3	4,69	0	0,00
Headquarters TC Niš	83	1	1,20	1	100,00	1	100,00	0	0,00	0	0,00
TOTAL: TECHNICAL CENTER NIŠ	844	489	57,94	489	100,00	439	89,78	44	9,00	6	1,23

13.4. Public complaints

There were no public complaints related to environmental protection in 2019.

14. PE EPS HQ

14.1. Working Environment Monitoring, Occupational Health and Safety

The 2019 Occupational Safety and Health Reports include the following elements:

- **Working environment monitoring**
 - Working environment noise measurements
- **Safety**
 - Employees training
 - Work injuries
- **Health**

14.1.1. Working Environment Monitoring

- **Working environment noise measurements**

At the measuring points at which measurements were made, the measured noise value does not exceed the limit values.

14.1.2. Occupational Safety

- **Employees training**

Specific Occupational Health and Safety training of employees is carried out according to the Training Programme, theoretically and practically. The following trainings were carried out in 2019:

- Health and Safety training of employees.....86

- **Work injuries**

Table 165 shows the 2019 work injuries data.

Table 165

PE EPS HQ						
Work injuries in 2019						
Organisational unit	Number of employees	Injuries – number of employees ratio				
		Light	Light	Light	Light	Light
PE EPS HQ	787	7	1	0	8	1,02
TOTAL: PE EPS HQ	787	7	1	0	8	1,02

14.1.3. Health

There are no employees in PE EPS HQ working in high-risk workplaces. Periodic medical examinations of employees are shown in Table 166.

Table 166

PE EPS HQ											
Work capability in 2019											
Organisational unit	Number of employees	Periodical examination				Capability for work					
		Referred to examination		Examined		Capable		Limited capability		Incapable	
		No.	%	no.	%	no.	%	no.	%	no.	%
PE EPS HQ	787	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
TOTAL PE EPS HQ	787	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00

14.2. Public complaints

Public complaints in 2019 are shown in Table 167.

Table 167

PE EPS HQ			
Public complaints in 2019			
Organisational unit	Complaint (number and date)/complainant	Subject of complaint	Undertaken measures
Service for internal regulations and relations with regulatory bodies and stakeholders	12.01-430379/1-19 05.08.2019. natural person	Information about slide in Zaovine village	Complainant is informed in due time of the allegations of the request
Service for internal regulations and relations with regulatory bodies and stakeholders	12.01-58980/1-19 25.10.2019. natural person by lawyer	Noise related to transformer station	informed that it is in charge of ODS
Service for internal regulations and relations with regulatory bodies and stakeholders	12.01.50275/1-19 28.01.2019. NGO „Tihi Lug“ by Ministry for energy and mining	Appeal related to mining activities of MB Kolubara and request for help and relocation of households in Veliki Crljeni	Complainant is informed in due time of the allegations of the request

15. EPS SNABDEVANJE BRANCH

15.1. Working Environment Monitoring, Occupational Health and Safety

The 2019 Occupational Safety and Health Reports include the following elements:

- **Working environment monitoring**
 - Working environment noise measurements
- **Safety**
 - Employees training
 - Work injuries
- **Health**

15.1.1. Working Environment Monitoring

- **Working environment noise measurements**

In 2019 Working environment noise measurements were not performed.

15.1.2. Occupational Safety

- **Training**

There was no training of employees in 2019.

- **Work injuries**

Table 168 shows the 2019 work injuries data.

Table 168

EPS SNABDEVANJE						
Work Injuries in 2019						
Organisational unit	Number of employees	Injuries- number of employees ratio				
		light	light	light	light	light
EPS SNABDEVANJE	1.101	10	1	0	11	0,10
TOTAL:EPS SNABDEVANJE	1.101	10	1	0	11	1,00

15.1.3. Health

Periodic medical examinations of employees are shown in Table 169.

Table 169

BRANCH EPS SNABDEVANJE											
Working capacity in 2019											
Organisational unit	Number of employees	Periodical examination				Capability for work					
		Referred to examination		Examined		Referred to examination		Examined		Referred to examination	
		no	%	no	%	no	%	no	%	no	%
EPS SNABDEVANJE	1.101	15	1,36	15	100,00	15	100,00	0	0,00	0	0,00
TOTAL:EPS SNABDEVANJE	1.101	15	1,36	15	100,00	15	100,00	0	0,00	0	0,00

15.2. Public complaints

There were no public complaints related to environmental protection in 2019.

III DISTRIBUTION SYSTEM OPERATOR “EPS DISTRIBUCIJA“

Pursuant to the status change as of 1st July 2015, made in accordance with the Reorganization Plan of Public Enterprise Electric Power Industry of Serbia, Belgrade, approved by the Government of Republic of Serbia dated 27th November 2014, Distribution System Operator „EPS Distribucija“ Ltd Beograd was formed through the acquisition of the companies for electricity distribution, as follows: the company for electricity distribution „Elektrovojvodina“ Ltd, Novi Sad, the company for electricity distribution „Elektrosrbija“ doo Kraljevo, the company for electricity distribution „Centar“ Ltd Kragujevac and the company for electricity distribution „Jugoistok“ Ltd Nis, the company for electricity distribution „Elektrodistribucija Beograd“ Ltd Belgrade.

DSO „EPS Distribution“ is comprised of the following:

- **DISTRIBUTION AREA BELGRADE**
- **DISTRIBUTION AREA NOVI SAD**
- **DISTRIBUTION AREA KRALJEVO**
- **DISTRIBUTION AREA KRAGUJEVAC**
- **DISTRIBUTION AREA NIŠ**

1. DISTRIBUTION AREA BELGRADE

Table 170 provides the structure of all facilities within the system of DA Belgrade.

Table 170

DISTRIBUTION AREA BELGRADE												
Facilities and systems in 2019												
Branch	Electricity distribution substations								Distribution network in km			
	110/10 KV	110/20 KV	110/35 KV	110/x/z KV	35/10 KV	20/0.4 KV	10/0.4 KV	Total:	Voltage level	Overhead	Cable	Total length
ED BELGRADE- CENTER									110 kV	0,000	0,000	0,000
									35 kV	0,000	0,000	0,000
									20 kV	0,000	0,000	0,000
									10 kV	858,000	2.329,000	3.187,000
									1,0 kV	0,000	0,000	0,000
									0,4 kV	3.908,000	4.373,400	8.281,400
Total	9	0	2	0	14	0	1.384	1.409	Total	4.766,000	6.702,400	11.468,400
ED BANOVO BRDO									110 kV	0,000	0,000	0,000
									35 kV	0,000	0,000	0,000
									20 kV	0,000	0,000	0,000
									10 kV	369,300	863,380	1.232,680
									1,0 kV	0,000	0,000	0,000
									0,4 kV	1.228,820	1.691,530	2.920,350
Total	3	0	3	1	15	0	1.374	1.396	Total	1.598,120	2.554,910	4.153,030
ED ZEMUN									110 kV	0,000	0,000	0,000
									35 kV	0,000	0,000	0,000
									20 kV	0,000	0,000	0,000
									10 kV	106,500	710,750	817,250
									1,0 kV	0,000	0,000	0,000
									0,4 kV	1.453,630	1.089,450	2.543,080
Total	4	0	1	0	17	0	1.212	1.234	Total	1.560,130	1.800,200	3.360,330

ED KRNJACA									110 kV	0,000	0,000	0,000
									35 kV	0,000	0,000	0,000
									20 kV	0,000	0,000	0,000
									10 kV	216,830	130,000	346,830
									1.0 kV	0,000	0,000	0,000
									0.4 kV	459,490	209,100	668,590
Total	0	0	1	0	6	0	306	313	Total	676,320	339,100	1.015,420
ED MLADENOVAC									110 kV	0,000	0,000	0,000
									35 kV	0,000	0,000	0,000
									20 kV	0,000	0,000	0,000
									10 kV	541,329	99,205	640,534
									1.0 kV	0,000	0,000	0,000
									0.4 kV	1.896,228	88,250	1.984,478
Total	0	0	1	1	11	0	601	614	Total	2.437,557	187,455	2.625,012
ED OBRENOVAC									110 kV	0,000	0,000	0,000
									35 kV	0,000	0,000	0,000
									20 kV	0,000	0,000	0,000
									10 kV	579,772	119,072	698,844
									1.0 kV	0,000	0,000	0,000
									0.4 kV	1.190,589	155,065	1.345,654
Укупно	1	0	1	0	6	0	508	516	Total	1.770,361	274,137	2.044,498
TOTAL: DISTRIBUTION AREA BELGRADE									110 kV	0,000	5,800	5,800
									35 kV	493,785	456,987	950,772
									20 kV	0,000	0,000	0,000
									10 kV	2.671,731	4.251,407	6.923,138
									1.0 kV	0,000	0,000	0,000
									0.4 kV	10.136,757	7.606,795	17.743,552
Total	17	0	9	2	69	0	5.385	5.482	Total	13.302,273	12.320,989	25.623,262

1.1. Overview and Status of Permits

Overview and status of permits, licences and other necessary approvals as well as new requests for permits in 2019 are shown in table 171.

Table 171

DISTRIBUTION AREA BELGRADE			
Overview and status of permits in 2019			
Branch	Obtained approvals and permits (number and date)	New requests for getting permits or prolongation of validity of the existing permits	Note
DISTRIBUTION AREA BELGRADE Planning and Investments Sector			
Replacement of 35 kV lines TS Belgrade 4- TS Sesta muska 1,2,3,4	Decision inter.no.IX- 20 351.41-499/2019 07.11.2019.		
Replacement of 35 kV lines TS Belgrade 6- TS Zeleni venac 1,2,3,4		ROP-BGDU-38609-LOC-2/2018 15.10.2019.	
Replacement of 35 kV lines TS Belgrade 6 - TS Technical Faculty 1 and 2	Decision IX-20 351.41-472/2019 dated 21.10.2019.		
Replacement of 35 kV lines TS Toplana – TS Banovo Brdo	Location conditions IX - 20 no. 350-1973/2019		
35kV line connection for TPP-HP Vozdovac	Decision inter.no.IX- 20 351.41-533/2019. 18.11.2019.		
TC 35/10 kV Kaludjerica		exploitation permit request ROP-BGDU-2309-IUP-9/2019	Refusal 19.10.2019.

Replacement of 35 kV lines TS Belgrade 6- TS Viline Vode		ROP-BGDU-24475-LOCH-2/2019	Refusal 14.10.2019.
Replacement of 35kV lines TS Belgrade 6 - TC Karaburma, lines 1, 2		ROP-BGDU-31601-LOC-1/2019	Refusal 30.10.2019.
Reconstruction of TS 110/35 kV Belgrade 2		ROP-MSGI-37280-ISAW-2/2018	Refusal 5.2.2019.
Reconstruction of TS 110/35 kV Belgrade 6	Decision	ROP-MSGI-6551-GR-4/2019	
Reconstruction of TS 110/35 kV Belgrade 10	Location conditions 350-02-00363/2019 -14 dated 17.9.2019.		
Reconstruction of TS 35/10 kV Zemun center		ROP-BGDU-364-LOC-2/2019	Refusal 2.4.2019.
Reconstruction of TS 35/10 kV Mladenovac 5	Decision ROP-MLA-16450-ISAW-1/2019. 20.6.2019		
Reconstruction of TS 35/10 kV Grocka		ROP-GRO-29427-LOCH-2/2019	Refusal 12.11.2019.
Reconstruction of TS 35/10 kV Smederevo road	Decision IX-20 351.41-206-2019 12.6.2019.		

1.2. Monitoring and Environmental Impact

EPS Distribution DA Beograd affects the environment by the following factors:

- **Electromagnetic fields**
- **Environmental noise**
- **Waste**
- **Surface and groundwater quality**
- **Soil quality**

1.2.1. Electromagnetic Fields

During 2019, measurement of electric and magnetic fields was performed for sources of non-ionizing radiation of substations:

- TS 110/35/10 kV „Sremcica“, Hanska bb, Sremcica, Electrical Engineering Institute Nikola Tesla, Laboratory for testing and calibration Belgrade (Report No 319241-L from 3.6.2019);
- TS 110/35 kV „Mladenovac“, Kajmakcalanska 57, Mladenovac, Electrical Engineering Institute Nikola Tesla, Laboratory for testing and calibration Belgrade (Report No 319240-L from 21.6.2019);
- TS 35/10 kV „Konjarnik“ Glasinacka no. 19, Electrical Engineering Institute Nikola Tesla, Laboratory for testing and calibration Belgrade (Report No 319370-L from 12.7.2019);
- TS 110/10 kV „Belgrade 33, Kaludjerica“, Vojvode Stepe Stepanovic no. 85 Kaludjerica, Electrical Engineering Institute Nikola Tesla, Laboratory for testing and calibration Belgrade (Report No 319369-L from 12.7.2019);
- TC 110/35/10 kV „Belgrade 1“, Husinskih rudara 19, Electrical Engineering Institute Nikola Tesla, Laboratory for testing and calibration Belgrade (Report No 319406-L from 5.8.2019).

1.2.2. Environmental Noise

TS 110/10 kV „Zarkovo“ Djordja Ognjanovica 43, Institute for testing of material Belgrade, Central laboratory for testing of material, Laboratory for acoustics and vibrations Bulevar Vojvode Misica 43, Belgrade (Report on testing no. LAV 5756/19, June 2019).

1.2.3. Waste

Waste production in 2019 is presented in Table 172, according to the Serbian waste management regulations.

DISTRIBUTION AREA BELGRADE											Table 172
Waste in 2019.											
S.N.	Official Nomenclature of the Rulebook on categories, testing and classification of waste "Official Gazette RS", No. 56/10 and 93/2019	INDEX NO.	UNIT	BRANCH						TOTAL	NOTE
				ED BEOGRAD - CENTAR	ED BANOVO BRDO	ED ZEMUN	ED KRnjaČA	ED MLADENOVA C	ED OBRENOVAC	DA BEOGRAD	
				AMOUNTS							
1.	Concrete	17 01 01	t	0,000	0,000	0,000	0,000	28,761	47,542	76,303	Old concrete piles
2.	Copper, bronze, brass	17 04 01	t	0,000	0,000	2,640	0,000	0,000	0,000	2,640	Waste copper cables, copper waste and scrap, rail, copper wire, waste brass - worn tools
3.	Iron and steel	17 04 05	t	0,000	0,000	17,698	0,000	0,000	0,500	18,198	Miscellaneous old iron that occurs during overhaul or worn-out equipment, old Fe consoles with insulators, metal lattice pillars, waste galvanized sheets, etc..
4.	Bulk waste	20 03 07	t	0,000	0,000	0,161	0,000	0,000	0,000	0,161	Old office furniture
5.	Aluminum	17 04 02	t	0,000	0,000	6,994	0,000	0,000	1,150	8,144	Aluminum waste, worn cables, broken or burnt cables, parts of worn-out equipment
6.	Plastics	16 01 19	t	0,000	0,000	0,170	0,000	0,000	0,000	0,170	
7.	Mixed metals	17 04 07	t	0,000	0,000	3,800	0,000	0,000	2,036	5,836	Cord Al-Če
8.	Discarded equipment other than specified in 16 02 09 and 16 02 13	16 02 14	t	0,000	0,000	151,240	0,000	0,000	0,000	151,240	Old transformers
9.	Discarded equipment other than specified in 16 02 09 and 16 02 13	16 02 14	t	0,000	0,000	18,780	0,000	0,000	0,000	18,780	Waste counters and old measuring devices
10.	Clothes	20 01 10	t	0,000	0,000	0,180	0,000	0,000	0,000	0,180	Old clothes
11.	Lead batteries	16 06 01*	t	1,180	1,170	0,000	0,000	0,840	0,000	3,190	Waste lead batteries
12.	Other emulsions	13 08 02*	t	0,500	23,380	40,060	0,000	2,840	0,000	66,780	Oiled water from oil pits
13.	Soil and gravel containing hazardous substances	17 05 03*	t	8,000	0,000	0,000	0,000	0,000	0,000	8,000	Contaminated soil and gravel from the location of the transformer oil pouring

1.2.4. Surface, Ground Waters and Soil Monitoring

Monitoring of surface and groundwater, as well as monitoring of soil in 2019 was not performed.

1.3. Working Environment Monitoring, Occupational Health and Safety

The 2019 Occupational Safety and Health Reports include the following elements:

- **Working environment monitoring**
 - Working environment noise measurements
 - Electromagnetic fields in the working environment
 - Working environment parameters
- **Safety**
 - Employees training
 - Work injuries
- **Health**

1.3.1. Working Environment Monitoring

- **Working environment noise measurements**

Noise measurement in working environment was not performed in 2019.

- **Electromagnetic fields in the working environment**

Electromagnetic level measurements were not performed in 2019.

- **Working environment parameters**

Working environment parameters testing was not performed in 2019.

1.3.2. Occupational Safety

- **Training**

It is carried out in accordance with the Occupational Safety Qualification and Knowledge Improvement Programme.

Training of employees is presented in the Table 173 also including the training of newly recruited workers, as well as knowledge testing of workers in the aforementioned fields.

Table 173

DISTRIBUTION AREA BEOGRAD					
Training in 2019					
Branch	number of employees	for training		trained	
		no.	%	Број	no.
Beograd- centar	732				
Knowledge testing		239	32,65	234	97,91
Newly recruited workers		77	10,52	77	100,00
ED BANOVO BRDO	31	17	54,84	17	100,00
Knowledge testing					
ED ZEMUN	64	13	20,31	7	53,85
Knowledge testing					
ED KRNJACA	28	9	32,14	9	100,00
Knowledge testing					
ED MLADENOVAC	51	19	37,25	19	100,00
Knowledge testing					
ED OBRENOVAC	34	19	55,88	19	100,00
Knowledge testing					
TOTAL: DISTRIBUTION AREA BEOGRAD	940	393	41,81	382	97,20

Work injuries

The status of injuries for 2019 is presented in Table 174.

Table 174

DISTRIBUTION AREA BEOGRAD						
Injuries in 2019						
Branch	Number of employees	Injuries- number of employees ratio				
		Light	Serious	Fatalities	Total	%
ED BEOGRAD CENTAR	732	3	1	0	4	0,55
ED BANOVO BRDO	31	0	0	0	0	0,00
ED ZEMUN	64	0	0	0	0	0,00
ED KRnjača	28	3	0	0	3	10,71
ED MLADENOVAC	51	0	0	0	0	0,00
ED OBRENOVAC	34	1	0	0	1	2,94
TOTAL: DISTRIBUTION AREA BEOGRAD	940	7	1	0	8	0,85

1.3.3. Health

Periodical medical examinations of employees, presented in Table 175 are carried out regularly for all newly recruited workers and employees working on jobs with special working conditions.

Table 175

DISTRIBUTION AREA BEOGRAD											
Working capacity in 2019.											
Branch	Number of employees	Periodical examination				Capability for work					
		Referred to examination		Examined		Способно		Referred to examination		Examined	
		no.	%	Број	no.	%	%	no.	%	Број	no.
ED BEOGRAD CENTAR	732	239	32,65	239	100,00	236	98,74	0	0,00	3	1,26
ED BANOVO BRDO	31	17	54,84	17	100,00	17	100,00	0	0,00	0	0,00
ED ZEMUN	64	13	20,31	13	100,00	13	100,00	0	0,00	0	0,00
ED KRnjača	28	9	32,14	9	100,00	9	100,00	0	0,00	0	0,00
ED MLADENOVAC	51	19	37,25	19	100,00	19	100,00	0	0,00	0	0,00
ED OBRENOVAC	34	19	55,88	19	100,00	19	100,00	0	0,00	0	0,00
TOTAL: DISTRIBUTION AREA BEOGRAD	940	393	41,81	393	100,00	390	99,24	0	0,00	3	0,76

1.4. Public complaints

Public complaints during 2019 are given in Table 176.

Table 176

DISTRIBUTION AREA BELGRADE			
Public complaints in 2019			
Branch	Complaint (number and date)/ complainant	Subject of complaint	Undertaken measures
Banovo Brdo	Belgrade City Administration, Secretariat for Inspection Affairs, Sector for Environmental Protection and Water Inspection, Department for Protection against Environmental Noise, Non-Ionizing Radiation and Chemical Control (Report from 16.42019)	Ordered measurement of noise in the environment of TS 110/10 "Žarkovo" st. Đorđa Ognjanovića no. 43 on the basis of a petition of a natural person from Belgrade, which refers to endangering the environment with noise, the work of TS 110/10 "Žarkovo" st. Đorđa Ognjanovića 43	Measurement performed in accordance with accreditation methods defined by standards SRPS ISO 1996-1: 2010 and SRPS ISO 1996-2: 2010. The obtained results were evaluated according to the Regulation on noise indicators, limit values, methods for assessment of noise indicators, disturbance and harmful effects of noise in the environment, "Official Gazette no. 75/10, Annex 2, for day and night.

2. DISTRIBUTION AREA NOVI SAD

Table 177 provides the structure of all facilities within the system of DA Novi Sad

Table 177

DISTRIBUTION AREA NOVI SAD											
Facilities and systems in 2019.											
Electricity distribution substations								Distribution network in km			
110/10 kV	110/20 kV	110/35 kV	110/x/z kV	35/10 kV	20/0.4 kV	10/0.4 kV	TOTAL:	Voltage level	Overhead	Cable	Total length
ED SUBOTICA								110 kV	0,000	0,000	0,000
								35 kV	189,530	14,100	203,630
								20 kV	1.006,160	441,780	1.447,940
								10 kV	91,790	1,580	93,370
								1.0 kV	0,000	0,000	0,000
								0.4 kV	2.231,610	304,070	2.535,680
0	9	2	0	7	1.342	138	1.498	Total:	3.519,090	761,530	4.280,620
ED SOMBOR								110 kV	0,000	0,000	0,000
								35 kV	0,000	0,000	0,000
								20 kV	1.288,600	334,560	1.623,160
								10 kV	0,000	0,000	0,000
								1.0 kV	0,000	0,000	0,000
								0.4 kV	1.359,110	307,620	1.666,730
0	8	0	0	0	1.111	0	1.119	Total:	2.647,710	642,180	3.289,890
ED ZRENJANIN								110 kV	0,000	0,000	0,000
								35 kV	235,240	25,670	260,910
								20 kV	798,170	315,780	1.113,950
								10 kV	88,240	11,540	99,780
								1.0 kV	0,000	0,000	0,000
								0.4 kV	1.664,050	247,940	1.911,990
0	6	2	0	17	928	118	1.071	Total:	2,785,700	600,930	3,386,630
ED NOVI SAD								110 kV	0,000	0,000	0,000
								35 kV	162,730	89,100	251,830
								20 kV	772,550	786,960	1.559,510
								10 kV	97,700	68,660	166,360
								1.0 kV	0,000	0,000	0,000
								0.4 kV	2.411,430	1.090,170	3.501,600
0	9	6	0	19	1.704	156	1.894	Total:	3.444,410	2.034,890	5.479,300
ED SREMSKA MITROVICA								110 kV	0,000	0,000	0,000
								35 kV	53,330	5,270	58,600
								20 kV	295,320	194,990	490,310
								10 kV	5,690	0,630	6,320
								1.0 kV	0,000	0,000	0,000
								0.4 kV	400,330	139,060	539,390
0	2	1	0	5	388	13	409	Total:	754,670	339,950	1.094,620

ED RUMA								110 kV	0,000	0,000	0,000
								35 kV	0,000	0,000	0,000
								20 kV	600,710	543,140	1.143,850
								10 kV	0,000	0,000	0,000
								1.0 kV	0,000	0,000	0,000
								0.4 kV	1.188,060	182,840	1.370,900
0	8	0	0	1	921	0	930	Total:	1.788,770	725,980	2.514,750
ED PANCEVO								110 kV	0,000	0,000	0,000
								35 kV	226,800	22,860	249,660
								20 kV	854,960	409,130	1.264,090
								10 kV	42,040	18,420	60,460
								1.0 kV	0,000	0,000	0,000
								0.4 kV	1.963,620	575,290	2.538,910
0	7	2	0	8	931	173	1.121	Total:	3.087,420	1.025,700	4.113,120
TOTAL: DISTRIBUTION AREA NOVI SAD								110 kV	0,000	0,000	0,000
								35 kV	867,630	157,000	1.024,630
								20 kV	5.616,470	3.026,340	8.642,810
								10 kV	325,460	100,830	426,290
								1.0 kV	0,000	0,000	0,000
								0.4 kV	11.218,210	2.846,990	14.065,200
0	49	13	0	57	7.325	598	8.042	Total:	18.027,770	6.131,160	24.158,930

*Note: regarding electricity distribution substations and electricity distribution network length, facilities and cable lines in own property must be taken into consideration. Others not to take into consideration

2.1. Overview and Status of Permits

Overview and status of permits, licenses and other required approvals, as well as applications for permits in 2019, are shown in Table 178.

Table 178

DISTRIBUTION AREA NOVI SAD			
Overview and status of permits in 2019			
Branch	Obtained approvals and permits (Number and date)	New requests for obtaining new or extending of existing permits	Note
ED SUBOTICA			
Construction of 20 kV CL MBTS-434 to STS-480 Subotica	no.: ROP-SUB-38154- ISAW-1/2018 date: 03.01.2019.		Decision pursuant to Article 145
Construction of MBTS-9 with 20 kV cable line in Lovcenac	no: ROP-MID-17369- ISAWHA-3/2019 date: 10.01.2019.		Decision pursuant to Article 145
Construction of 20 kV CL for MBTS-10 Verusic	no: ROP-SUB-80-ISAW- 1/2019 date: 10.01.2019.		Decision pursuant to Article 145
Construction of 0,4 kV CL „City bilding“ Subotica	no: ROP-SUB-35973-ISAW- 2/2019 date: 30.01.2019.		Decision pursuant to Article 145
Construction of MBTS -318 in Subotica	no: ROP-SUB-61-ISAWHA- 2/2019 date: 22.02.2018.		Decision pursuant to Article 145
Construction of STS-8 with cable lines 0,4 kV Mali Idjos	no.: ROP-MID-34021-ISAW- 2/2019 date: 11.02.2019.		Decision pursuant to Article 145

Construction of 20 kV and CR column in Novi Knezevac	no.: ROP-NKN-36306- ISAW-2/2019 date: 13.02.2019..		Decision pursuant to Article 145
Construction of "STS-4" in Sterijino settlement -Ada	no.: ROP-ADA-36348- ISAW-2/2019 date: 19.02.2019..		Decision pursuant to Article 145
Construction of KBTS-51-N.Knezevac	Број: ROP-NKN-33952- ISAW-3/2019 date: 25.02.2019..		Decision pursuant to Article 145
LV connection cable line for High-School facility 'Dositej Obradovic' in Novi Knezevac	no : ROP-NKN-616-ISAW- 2/2019 date: 25.02.2019.		Decision pursuant to Article 145
Construction of connection 0,4kV „Herc-sped“ in Subotica	no: ROP-SUB-90-ISAW- 2/2019 date : 25.02.2019..		Decision pursuant to Article 145
Construction of STS-41 and 20 kV and 0,4 kV KV B.Vinogradi	no: ROP-SUB-3926-ISAW- 1/2019 date: 27.02.2019..		Decision pursuant to Article 145
Construction of STS-10 with associated 20 kV cable lines in Padeja	no: ROP-COK-23083-ISAW- 4/2019 date: 27.02.2019..		Decision pursuant to Article 145
Construction of 20 kV cable line from ČRS to ZTS-47 "LPO" in Ada	no.: ROP-ADA-66-ISAW- 2/2019 date: 29.03.2019..		Decision pursuant to Article 145
Construction of 20 kV cable lines from TS "Senta 2" to RP "Melasa",	no: ROP-SEN-7450-ISAW- 1/2019 date: 03.04.2019..		Decision pursuant to Article 145
Construction of LV connection 0.4 kV cable line for connection of the building, JNA Street no. 54 in Ada	no. : ROP-ADA-20295- ISAW-1/2018 date: 23.07.2018..		Decision pursuant to Article 145
Construction of "MBTS-31" with 20 kV Industrial Zone Ada	no: 351-46/2019-05 date: 22.04.2019..		Decision pursuant to Article 145
Construction of STS-36 with connecting 20 kV cable line in Feketić	no: ROP-MID-12004-ISAW- 1/2019 date: 14.05.2019..		Decision pursuant to Article 145
Construction of MBTS 544 in Subotica	no: ROP-SUB-82-ISAW- 2/2019 date: 16.05.2019..		Decision pursuant to Article 145
Adaptation of TS 35/10 kV "Industry", Tolminska in Subotica	no: ROP-SUB-11942-ISAW- 1/2019 date: 16.05.2019..		Decision pursuant to Article 145
Construction of 0.4 kV KV "K \$ S Petrol" Subotica	no: ROP-SUB-9679- ISAWHA-2/2019 date: 21.05.2019. год.		Decision pursuant to Article 145
Construction of LV connection 0.4 kV cable line for well shaft - B. Vinogradi	no: ROP-SUB-6279-ISAW- 2/2019 date: 31.05.2019..		Decision pursuant to Article 145
Construction of LV connection 0.4 kV cable line for the Šebešić pig farm in Subotica	no: ROP-SUB-5879-ISAW- 2/2019 date: : 31.05.2019..		Decision pursuant to Article 145
Construction of LV connecting underground 0.4 kV cable line for connection of the facility "Univerexport" Karadžević put in Subotica	no: ROP-SUB-4273-ISAW- 2/2019 date : 30.05.2019.		Decision pursuant to Article 145
Construction of LV connecting underground 0.4 kV cable line for connection of the facility "Univerexport" of Đ. Jakšić in Subotica	no. ROP-SUB-4274-ISAW- 2/2019 date: 14.06.2019..		Decision pursuant to Article 145
Construction of ZTS-244 in Subotica	no: ROP-SUB-10878-ISAW- 2/2019 date: 02.08.2019.		Decision pursuant to Article 145

Construction of MBTS-241 with 20 and 0.4 kV CL in Subotica	no: ROP-SUB-10881- ISAWHA-3/2019 date: 09.08.2019..		Decision pursuant to Article 145
Construction of MBTS-208 with 20 kV CL in Subotica	no: ROP-SUB-10886- ISAWHA-3/2019 date: 09.08.2019..		Decision pursuant to Article 145
Construction of MBTS-403 and 20 kV cable line in Bačka Topola	Број: ROP-BTP-13482- ISAW-2/2019 Дана: 28.08.2019..		Decision pursuant to Article 145
Construction of MBTS-345 with 20 kV CL in Subotica	no: ROP-SUB-23469- ISAWHA-2/2019 date: 28.08.2019..		Decision pursuant to Article 145
Construction of 20 kV cable line to MBTS-102 in Bačka Topola	no: ROP-BTP-14546-ISAW- 2/2019 date: 21.09.2019 .		Decision pursuant to Article 145
Construction of 0.4 kV cable line from MBTS-578 in Subotica	no: ROP-SUB-19210-ISAW- 2/2019 date: 01.10.2019 .год		Decision pursuant to Article 145
Construction of STS-408 in Subotica	Број: ROP-SUB-14545- ISAW-2/2019 Дана 07.10.2019.		Decision pursuant to Article 145
Construction of LV connecting underground 0.4 kV cable line for connection of the facility "Univerexport" Belgrade road in Subotica	no: ROP-SUB-22498-ISAW- 2/2019 date: 15.10.2019.		Decision pursuant to Article 145
Construction of connecting LV cable line in the settlement of Martonoš	no: ROP-KAN-29073-ISAW- 2/2019 date: 01.11.2019..		Decision pursuant to Article 145
Construction of MBTS-57 with associated 20 kV cable lines in Ada	no ROP-ADA-33036-ISAW- 1/2019 date: 04.11.2019..		Decision pursuant to Article 145
Construction of STS-8 Klisa -Telekom in Subotica	no: ROP-SUB-23432-ISAW- 2/2019 date: 04.11.2019..		Decision pursuant to Article 145
Construction of LV connection 0.4 kV cable line in P. Dobrojevića Street and Belgrade Road in Subotica	no: ROP-SUB-29326-ISAW- 2/2019 date: 20.11.2019..		Decision pursuant to Article 145
Construction of STS-20 N Žednik in Subotica	no: ROP-SUB-26497- ISAWHA-3/2019 date: 17.12.2019..		Decision pursuant to Article 145
ED SOMBOR			
LV connection cable for facility in R. Končara 32 Sombor	ROP-SOM-26438-ISAW- 2/2019 03.11.2019		Decision pursuant to Article 145
LV connection cable for facility in R. Končara 35 Sombor	ROP-SOM-19565-ISAW- 2/2019 09.09.2019		Decision pursuant to Article 145
LV connection cable for ul A. Čarnojevića 28 Sombor	ROP-SOM-19564-ISAW- 2/2019 09.09.2019		Decision pursuant to Article 145
LV connection line for facility in A.Čarnojevića 5, Sombor	ROP-SOM-11765-ISAW- 2/2019 16.07.2019		Decision pursuant to Article 145
LV line from MBTS P.Sandora to the facility at the address P. Sandor 19, Apatin	ROP-APA-21288-ISAW- 2/2019 06.09.2019		Decision pursuant to Article 145
LV line for the building in st. M. Alasa bb Odzaci	ROP-ODZ-14380-ISAW- 2/2019 16.07.2019		Decision pursuant to Article 145
HV line block 13-14 Tower	ROP-KUL-22696-ISAW- 3/2019 26.02.2019		Decision pursuant to Article 145
LV cable. network Roma settlement Apatin	ROP-APA-13581-ISAW- 1/2019 27.05.2019		Decision pursuant to Article 145
STS Sutjeska-Krađorđeva, Vajska	ROP-BAC-28886-ISAW- 2/2019 09.01.2019		Decision pursuant to Article 145

MBTS Kucura Center	ROP-VRB-28518-ISAWHA-3/2019 09.05.2019		Decision pursuant to Article 145
MBTS Center Savino selo	ROP-VRB-28516-ISAWHA-3/2019 09.05.2019		Decision pursuant to Article 145
STS Provalija Vrbas	ROP-VRB-22693-ISAWHA-4/2018 24.01.2019		Decision pursuant to Article 145
Reconstruction of RP Bezdan	ROP-SOM-16869-ISAW-2/2019 26.09.2019		Decision pursuant to Article 145
LV connection cable line for facility in P.M.N bb Sombor	ROP-SOM-10562-ISAW-2/2019 09.07.2019		Decision pursuant to Article 145
ED ZRENJANIN			
ROP-ZRE-27270-ISAW-4/2018	ROP-ZRE-27270-ISAW-4/2018 3.1.2019.		Decision pursuant to Article 145
TS with MV and LV denouement in Branka Radičevića Street no. 8 in Kikinda, plot no. 4430 KO Kikinda (CENTRAL MARKET)	ROP-KIK-17170-ISAW-4/2018 8.1.2019.		Decision pursuant to Article 145
MBTS, MV cable line and LV junction in Glavna Street in Nakovo (BORDER CROSSING)	ROP-KIK-17477-ISAW-3/2019 17.1.2019.		Decision pursuant to Article 145
STS 20 / 0.4 kV with MV and LV outlet in st. Boris Kidrič in Kuman, on cadastre parcel no. 2913 KO Kumane	ROP-NOB-2851-ISAW-2/2019 14.2.2019.		Decision pursuant to Article 145
Construction of connection and measuring point for the building residential building, (26 * apartment in a residential building, 3 * common consumption), new installation, KIKINDA, PERE SEGEDINCA 7, plot number 5419, K.O. Kikinda	ROP-KIK-36811-ISAW-2/2019 27.2.2019.		Decision pursuant to Article 145
STS, MV and LV denouement with public lighting in Kraljevića Marka Street in Kikinda	ROP-KIK-31844-ISAW-2/2019 28.3.2019.		Decision pursuant to Article 145
MV cable line from RTS-42 ZR to RTS-43 ZR in Miletićeva and Tomićeva streets in Zrenjanin	ROP-ZRE-4485-ISAW-1/2019 19.4.2019		Decision pursuant to Article 145
MBTS and MV denouement at the Bagljaš airport in Zrenjanin (TOWN OF ZRENJANIN)	ROP-ZRE-31619-ISAW-2/2019 30.5.2019.		Decision pursuant to Article 145
Cabling of a part of the 20 kV transmission line route over the plot of the roundabout at k.p. no. 21538/1 and 21697 KO Kikinda	ROP-KIK-4482-ISAW-2/2019 31.5.2019.		Decision pursuant to Article 145
KBTS, MV and LV denouement in Dr Emila Gavrilica Street in Zrenjanin (REMOVAL OF RTS-49 ZR)	ROP-ZRE-18126-ISAW-2/2019 10.6.2019.		Decision pursuant to Article 145
LV cable line from SSKPK in Tanaska Rajića Street in Aradac (BRANKO GRUBAČ)	ROP-ZRE-14074-ISAW-1/2019 10.6.2019.		Decision pursuant to Article 145
STS, MV and LV denouement with public lighting in Bratstva - jedinstva Street in Rusko Selo	ROP-KIK-6034-ISAWHA-3/2019 18.6.2019.		Decision pursuant to Article 145
Reconstruction of RTS-7 Tomaševac with construction of SSKPK EV-1P, construction of 0.4 kV connection line, construction of SSOMM PI-1 / c in Tomaševac	ROP-ZRE-16806-ISAW-1/2019 21.6.2019.		Decision pursuant to Article 145
Replacement of MV cable line from GRS to TS-600 ZR in Zrenjanin (GRS-NAFTAGAS)	ROP-ZRE-21032-ISAW-2/2019 26.6.2019.		Decision pursuant to Article 145
Cabling of two 20 kV transmission lines, Stajćevo terminal and Ečka terminal (LINGLONG)	ROP-ZRE-18812-ISAW-1/2019 12.7.2019.		Decision pursuant to Article 145
MV cable line from TS - 989 ZR to TS - 565 ZR	ROP-ZRE-21247-ISAW-1/2019 23.7.2019.		Decision pursuant to Article 145
MBTS-7 in st. Svetozara Miletić in Bašaid, on k.p. No.1445 K.O. Bashaid	ROP-KIK-6039-ISAWHA-3/2019 23.7.2019.		Decision pursuant to Article 145
KBTS RTS-72 (REPLACEMENT) in Dr K. Radulović in Zrenjanin	ROP-ZRE-16672-ISAW-1/2019 14.8.2019.		Decision pursuant to Article 145

LV cable lines from RTS-59 ZR with KPK and OMM in Pavla Aršinova Street in Zrenjanin (GIK INTERGRADNJA BANAT GROUP)	ROP-ZRE-31814-ISAW-1/2019 21.10.2019.		Decision pursuant to Article 145
Construction of LV network in Kolubarska and Marko Oreškovića streets in Zrenjanin on k.p. 9643/3, 8114 and 8128 KO Zrenjanin 1	ROP-ZRE-33066-ISAW-1/2019 6.11.2019.		Decision pursuant to Article 145
Transmission line, mixed line, MV cable line with two STS in Elemir (WEEKEND SETTLEMENT BABATOVO)	ROP-ZRE-3245-ISAW-2/2019 14.11.2019.		Decision pursuant to Article 145
Reconstruction of RO Bagljaš	ROP-ZRE-33016-ISAW-3/2019 26.11.2019.		Decision pursuant to Article 145
Double MV cable line from RTS-77 ZRENJANIN to the new MBTS in st. Pero Dobrinović in Zrenjanin	ROP-ZRE-19151-ISAW-2/2019 4.12.2019.		Decision pursuant to Article 145
STS 20 / 0.4 kV with MV and LV decoupling and reconstruction-construction of MV in Žitište, at k.p. no. 1814, 1791 and 1806 KO Žitište (Wastewater treatment plant)	ROP-ZIT-34688-ISAW-2/2019 5.12.2019.		Decision pursuant to Article 145
ED NOVI SAD			
STS "Kralja Petra I", Đurđevo	ROP-ZAL-17070-ISAWHA-2/2019 од 03.07.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Vondel capital", Novi Sad	ROP-NSD-5774-ISAWHA-1/2019 од 24.04.2019		Decision pursuant to Article 145
MBTS "Branka Radičevića 2" with 20 and 0.4 kV network, Futog	ROP-NSD-7592-ISAWHA-2/2019 од 17.06.2019		Decision pursuant to Article 145
Underground 20 kV lines for RO "Avijatičarska", TS "Vještica" and TS "Centralno groblje", Novi Sad	ROP-NSD-36105-ISAW-3/2019 од 01.07.2019		Decision pursuant to Article 145
20 kV measurement for TS "TIM KOP 2", Temerin	ROP-TEM-32638-ISAW-1/2019 од 30.10.2019		Decision pursuant to Article 145
STS "Čik" with 20 kV overhead distribution network, Bačko Petrovo Selo	ROP-BEC-14482-ISAW-1/2019 од 30.05.2019		Decision pursuant to Article 145
0.4 kV cable line from the existing STS "Bademova 2" to the pumping station "Bocke", Sremska Kamenica	ROP-NSD-37118-ISAW-1/2018 од 04.01.2019		Decision pursuant to Article 145
20 kV underground distribution network for TS "TS 71", Novi Sad	ROP-NSD-7437-ISAW-1/2019 од 03.04.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the gas station Koloseum on the road Novi Sad - Ruma, Petrovaradin	ROP-NSD-2951-ISAW-2/2019 од 27.05.2019		Decision pursuant to Article 145
Construction of underground 20 kV line of the "Neštin" outlet along the road Novi Sad - Bačka Palanka, Bačka Palanka	ROP-BAP-10157-ISAWHA-1/2019 од 27.05.2019		Decision pursuant to Article 145
Underground 20 kV lines for JTS "RTV", Petrovaradin	ROP-NSD-30996-ISAWHA-2/2019 од 25.10.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Pupinova palata", Novi Sad	ROP-NSD-32965-ISAW-2/2018 од 29.03.2018		Decision pursuant to Article 145
Underground 0.4 kV line to Braće Krkljuš Street No. 1, Novi Sad	ROP-NSD-33815-ISAW-1/2019 од 12.12.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Pumping station Obrovac", Obrovac	ROP-BAP-34397-ISAW-1/2018 од 05.02.2019		Decision pursuant to Article 145
MBTS "Dimitrija Bugaraskog" and LV network in Emanuela Jankovića Street, Nova 41, Nova 42 and Dimitrija Bugaraskog Street, Novi Sad	ROP-NSD-6121-ISAWHA-2/2019 од 13.06.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "SMB", Novi Sad	ROP-NSD-4672-ISAWHA-2/2019 од 10.06.2019		Decision pursuant to Article 145

TS "Šafarikova" with the associated MV and LV network, Bačka Palanka	ROP-BAP-34401-ISAW-1/2018 од 01.02.2019		Decision pursuant to Article 145
MBTS "Stražilovski put 2" with associated MV and LV network, Sremski Karlovci	ROP-SKA-34399-ISAW-2/2019 од 24.01.2019		Decision pursuant to Article 145
Underground 0.4 kV lines for the building on the corner of st. Olga Petrov and Boulevard of Europe, Novi Sad	ROP-NSD-4125-ISAW-1/2019 од 15.03.2019		Decision pursuant to Article 145
Underground 20 kV network for TS "Alfa interior", Rumenka	ROP-NSD-10772-ISAWHA-2/2019 од 19.06.2019		Decision pursuant to Article 145
Technical description and list of works on investment maintenance of STS "Mistral komerc", Backo Petrovo selo	ROP-BEC-2960-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Technical description and list of works on investment maintenance of STS "Obala", Backo Petrovo selo	ROP-BEC-2962-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Technical description and list of works on investment maintenance of STS "Petrovoselski put", Becej	ROP-BEC-2965-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Technical description and list of works on investment maintenance of STS "Topolski put", Becej	ROP-BEC-2968-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Technical description and list of works on investment maintenance of STS "Vodovod", Backo Petrovo selo	ROP-BEC-2970-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Technical description and list of works on investment maintenance of MBTS "Karadžićeva", Bačko Petrovo selo	ROP-BEC-2971-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Reconstruction of STS "Ada", Backo Petrovo selo	ROP-BEC-2972-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Reconstruction of STS "Mol", Backo Petrovo selo	ROP-BEC-2975-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Reconstruction of STS "Nikola Tesla", Backo Petrovo selo	ROP-BEC-2976-ISAW-1/2019 од 13.02.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building on the parc. no. 3761/86 from TS "Naselje Boškov", Veternik	ROP-NSD-20408-ISAW-1/2018 од 23.04.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Dunavska Street no. 26, Mladenovo	ROP-BAP-4496-ISAW-1/2019 од 07.03.2019		Decision pursuant to Article 145
Underground 0.4 kV lines from the existing TS "Laze Lazarevića" to the residential building in Ulica Laze Lazarevića bb, Novi Sad	ROP-NSD-15202-ISAWHA-6/2019 од 04.09.2019		Decision pursuant to Article 145
MBTS "Kamendinska" with associated MV and LV network, Sirig	ROP-TEM-25074-ISAWHA-2/2019 од 17.09.2019		Decision pursuant to Article 145
Underground 0.4 kV for the building in st. Kneza Mihajla 25, Sremska Kamenica	ROP-NSD-12688-ISAW-2/2018 од 26.05.2019		Decision pursuant to Article 145
Underground 0.4 kV network in Nova Street (branch from Vuka Karadžića Street), Čenej	ROP-NSD-440-ISAW-1/2019 од 15.01.2019		Decision pursuant to Article 145
Overhead LV network in Nova Street, Sremski Karlovci	ROP-SKA-16860-ISAW-1/2019 од 21.06.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the facility in Hilendarska Street 2, Novi Sad	ROP-NSD-32403-ISAW-1/2019 од 25.10.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in Petefi Šandora Street from no. 172 to no. 176, Novi Sad	ROP-NSD-33798-ISAWHA-2/2018 од 04.01.2019		Decision pursuant to Article 145
STS "Branko Radičevića" with LV network, Parage	ROP-BAP-37581-ISAW-3/2019 од 19.06.2019		Decision pursuant to Article 145
KBTS "Svetozara Miletića" with MV and LV network, Bačka Palanka	ROP-BAP-34125-ISAW-1/2019 од 04.12.2019		Decision pursuant to Article 145

KBTS "Šumska" with MV and LV network, Bačka Palanka	ROP-BAP-10721-ISA-1/2019 од 29.05.2019		Decision pursuant to Article 145
Underground 20 kV network for TS "Radbruch", Futog	ROP-NSD-29942-ISA-2/2019 од 22.10.2019		Decision pursuant to Article 145
Underground 0.4 kV container line at Rimski Šančevi, Cenej	ROP-NSD-9534-ISA-2/2018 од 11.02.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Soko Tim", Veternik	ROP-NSD-25376-ISA-2/2018 од 10.01.2019		Decision pursuant to Article 145
MBTS "Beljanska bara" and LV network, Turija	ROP-SRB-5342-ISA-2/2018 од 07.05.2019.		Decision pursuant to Article 145
STS "Krivajski salaši" with MV and LV network, Srbobran	ROP-SRB-5462-ISA-2/2019 од 24.05.2019		Decision pursuant to Article 145
Underground 0.4 kV network on the stretch Fester (branch of Dunavska Street), Veternik	ROP-NSD-15444-ISA-1/2019 од 03.07.2019		Decision pursuant to Article 145
MBTS "Bokternica" with MV and LV lines, Backa Palanka	ROP-BAP-19718-ISA-1/2019 од 17.07.2019		Decision pursuant to Article 145
TS "Duvan 3" with associated MV and LV network, Novi Sad	ROP-NSD-2015-ISA-1/2019 од 05.03.2019		Decision pursuant to Article 145
MBTS "Račkog 2" with 20 and 0.4 kV lines, Petrovaradin	ROP-NSD-29088-ISA-1/2019 од 07.10.2019		Decision pursuant to Article 145
Underground 0.4 kV line in st. Suvoborska bb, Veternik	ROP-NSD-21846-ISA-1/2019 од 24.09.2019		Decision pursuant to Article 145
TS "Kineska cetvrt" and TS "Kineska cetvrt 2" with associated 20 and 0.4 kV lines, Novi Sad	ROP-NSD-12514-ISA-2/2019 од 25.07.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building at 16 Patrijarha Čarnojevića Street, Novi Sad	ROP-NSD-1019-ISA-1/2019 од 29.01.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Laze Lazarevića 17, Novi Sad	ROP-NSD-110-ISA-1/2019 од 14.02.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Grba", Futog	ROP-NSD-29198-ISA-2/2018 од 21.01.2019		Decision pursuant to Article 145
TS "Železnička 2" with associated 20 kV and 0.4 kV underground network, Futog	ROP-NSD-33065-ISA-2/2018 од 31.01.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building on the corner of Ul. Bate Brkić and Andje Ranković, Novi Sad	ROP-NSD-38159-ISA-2/2019 од 24.01.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "NTP Novi Sad", Novi Sad	ROP-NSD-9880-ISA-1/2019 од 14.05.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Vulkan Guma Belt", Srbobran	ROP-SRB-26419-ISA-4/2019 од 13.12.2019		Decision pursuant to Article 145
Underground 20 kV network for TS "Farma Drlja", Backa Palanka	ROP-BAP-37730-ISA-2/2019 од 05.04.2019		Decision pursuant to Article 145
Underground 20 kV network for TS "Futura", Novi Sad	ROP-NSD-6067-ISA-1/2019 од 07.05.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building on Bulevar Patrijarha Pavla no. 11-13, Novi Sad	ROP-NSD-2826-ISA-1/2019 од 09.04.2019		Decision pursuant to Article 145
MBTS "Braće Ribnikara" with associated MV and LV network, Bačka Palanka	ROP-BAP-6764-ISA-1/2019 од 03.04.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Jerneja Kopitara 43, Novi Sad	ROP-NSD-38081-ISA-1/2018 од 17.01.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Futoški put 5, Novi Sad	ROP-NSD-22984-ISA-2/2019 од 10.12.2019		Decision pursuant to Article 145
Underground 0.4 kV line for facilities in Janka Čmelika Street 8 and 10, Novi Sad	ROP-NSD-37593-ISA-1/2018 од 23.01.2019		Decision pursuant to Article 145
STS "Gajićeva bara" with the associated LV network, Obrovac	ROP-BAP-8271-ISA-1/2019 од 18.04.2019		Decision pursuant to Article 145

Underground 20 kV lines in the roundabout on the corner of Bulevar Cara Lazara and Fruškogorska streets, Novi Sad	ROP-NSD-16033-ISAW-1/2019 од 03.07.2019		Decision pursuant to Article 145
Underground 0.4 kV line for business facility in the industrial zone from TS "Transped", Backa Palanka	ROP-BAP-24895-ISAW-1/2019 од 29.08.2019		Decision pursuant to Article 145
Underground LV network for the building in Heroja Pinkija Street no. 33-35, Novi Sad	ROP-NSD-14288-ISAW-1/2019 од 25.06.2019		Decision pursuant to Article 145
Investment maintenance of TS "Heroja Pinkija" in Jerneja Kopitara bb, Novi Sad	ROP-NSD-14287-ISAW-1/2019 од 07.08.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building on the parc. 5465/4 in st. Bul. Patriarch Pavle, Novi Sad	ROP-NSD-38620-ISAW-1/2018 од 25.01.2019		Decision pursuant to Article 145
Underground 0.4 kV line for a double residential building in st. Šumska bb, Novi Sad	ROP-NSD-1103-ISAW-1/2019 од 29.01.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Bele Njive 33, Novi Sad	ROP-NSD-4834-ISAW-1/2019 од 12.04.2019		Decision pursuant to Article 145
Overhead LV network in st. Nova (parallel to Erzebet Juhas), Rumenka	ROP-NSD-3789-ISAW-1/2019 од 10.04.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Branka Radičevića 3-5 and 11, Novi Sad	ROP-NSD-37881-ISAW-1/2019 од 18.12.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Jastrebacka 38-44, Novi Sad	ROP-NSD-11404-ISAW-1/2019 од 18.06.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Pavla Stamatovića bb, Novi Sad	ROP-NSD-3784-ISAW-1/2019 од 21.02.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Limprodukt novi", Novi Sad	ROP-NSD-38217-ISAW-1/2018 од 21.02.2019		Decision pursuant to Article 145
Underground 0.4 kV line on the stretch "Gajić", Bačka Palanka	ROP-BAP-16028-ISAW-2/2019 од 14.11.2019		Decision pursuant to Article 145
STS "Rate Dugonjića" with associated 20 and 0.4 kV network, Parage	ROP-BAP-24900-ISAW-1/2019 од 18.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Okrugiceva 17, Petrovaradin	ROP-NSD-8304-ISAWA-2/2019 од 03.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Heroja Pinkija Street no. 18, Novi Sad	ROP-NSD-14290-ISAWHA-2/2019 од 24.09.2019		Decision pursuant to Article 145
TS "Radna zona Čelarevo" with 20 and 0.4 kV lines, Čelarevo	ROP-BAP-26258-ISAW-1/2019 од 18.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for raft on Keje skojevaca, Petrovaradin	ROP-NSD-1600-ISAW-1/2019 од 31.01.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building on the corner of st. Nova and Jerneja Kopitara bb, Novi Sad	ROP-NSD-20031-ISAW-1/2019 од 09.08.2019		Decision pursuant to Article 145
Underground 0.4 kV network in st. Miloš Crnjanski, Bečej	ROP-BEC-12373-ISAW-1/2019 од 14.05.2019		Decision pursuant to Article 145
Underground 0.4 kV lines from TS "Njive Futog" (for the building on plot no. 5636/1), Futog	ROP-NSD-1149-ISAWHA-2/2019 од 03.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Žarka Zrenjanina Street no. 21, Backa Palanka	ROP-BAP-22008-ISAW-1/2019 од 05.08.2019		Decision pursuant to Article 145
Underground 0.4 kV network from TS "Donje zemlje" to the building on plot no. 10336 k.o. Futog, Futog	ROP-NSD-2755-ISAW-1/2019 од 29.03.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building on Bulevar patrijarha Pavla bb (plot no. 4737/4 k.o. Novi Sad II), Novi Sad	ROP-NSD-1599-ISAW-1/2019 од 14.02.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in Preradovićeve Street no. 27, Petrovaradin	ROP-NSD-15452-ISAW-1/2019 од 05.07.2019		Decision pursuant to Article 145
TS "Jerneja Kopitara 2" with MV and LV network, Novi Sad	ROP-NSD-2958-ISAWA-2/2019 од 10.12.2019		Decision pursuant to Article 145

Underground 0.4 kV network in st. Ilariona Ruvarca No. 27-29 and 31, Novi Sad	ROP-NSD-7967-ISAW-1/2019 од 08.05.2019		Decision pursuant to Article 145
Underground 0.4 kV network for facilities in Bele njive 33-37, Novi Sad	ROP-NSD-4834-ISAW-1/2019 од 12.04.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in Bogdana Gavrilovića bb, Sremska Kamenica	ROP-NSD-12327-ISAW-1/2019 од 05.07.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building on cadastral parcel no. 2500 K.O. Chennai, Chennai	ROP-NSD-26205-ISAW-1/2019 од 01.11.2019		Decision pursuant to Article 145
Underground 0.4 kV network in Braće Miladinov Street, Novi Sad	ROP-NSD-4888-ISAW-1/2019 од 12.04.2019		Decision pursuant to Article 145
Underground 20 kV network, steel lattice pole and delivery point facility for power plant, Bačka Palanka	ROP-BAP-32354-ISAWHA-3/2019 од 15.08.2019		Decision pursuant to Article 145
Overhead 0.4 kV network in Cvetna Street, Rakovac	ROP-BEO-21115-ISAW-1/2019 од 22.11.2019		Decision pursuant to Article 145
MBTS "Okrugićeva 2" with associated MV and LV lines, Petrovaradin	ROP-NSD-26114-ISAW-1/2019 од 25.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Vršačka Street No. 13, Novi Sad	ROP-NSD-15445-ISAW-1/2019 од 03.07.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Str. Prešernova 5a, Novi Sad	ROP-NSD-38621-ISAW-1/2018 од 06.02.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Str. Vojvode Mišića br.20, Novi Sad	ROP-NSD-9606-ISAW-1/2019 од 09.05.2019		Decision pursuant to Article 145
Underground 0.4 kV line in Str. Nova (extension from Dositeja Obradovića Street), Sremski Karlovci	ROP-SKA-16724-ISAW-1/2019 од 20.06.2019		Decision pursuant to Article 145
Underground 0.4 kV network in Sokolska Street, Veternik	ROP-NSD-111-ISAW-1/2019 од 23.01.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Rapid", Novi Sad	ROP-NSD-5249-ISAWHA-2/2019 од 17.04.2019		Decision pursuant to Article 145
TS "Patrijarha Rajačića 2" with associated 20 and 0.4 kV underground lines, Petrovaradin	ROP-NSD-19257-ISAW-1/2019 од 28.08.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Mileks", Rumenka	ROP-NSD-4065-ISAW-1/2019 од 09.04.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Zlatarićeva br. 22 and 26, Petrovaradin	ROP-NSD-20421-ISAWHA-2/2019 од 04.09.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Naftno skladište", Sremski Karlovci	ROP-SKA-15354-ISAW-2/2019 од 11.09.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in Ulica sestara Ninković br.10, Novi Sad	ROP-NSD-26111-ISAW-1/2019 од 27.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Novosadska 437, Temerin	ROP-TEM-26451-ISAW-1/2019 од 10.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Str. Tihomira Ostojica 12, Novi Sad	ROP-NSD-7923-ISAW-1/2019 од 08.05.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Lasla Gala 3-5, Novi Sad	ROP-NSD-9884-ISAW-1/2019 од 10.06.2019		Decision pursuant to Article 145
Installation of a 20 kV switchyard in TS "Fadip LO-2", Bečež	ROP-BEC-28256-ISAW-1/2019 од 22.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Jugoslovenske armije Street no. 71, Backa Palanka	ROP-BAP-32405-ISAW-1/2019 од 25.10.2019		Decision pursuant to Article 145
UZTS "Gajeva 2" with underground 20 and 0.4 kV lines, Novi Sad	ROP-NSD-11956-ISAWHA-3/2019 од 12.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the garage in st. Vojvodjanska, Novi Sad	ROP-NSD-16034-ISAW-1/2019 од 02.07.2019		Decision pursuant to Article 145

Underground 0.4 kV network for business premises at Bulevar oslobođenja 30, Novi Sad	ROP-NSD-350-ISAW-2/2019 од 22.02.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the Parking service facility in Filipa Višnjića bb, Novi Sad	ROP-NSD-22005-ISAW-1/2019 од 13.09.2019		Decision pursuant to Article 145
STS "Dr Milana Nikolić" with the associated MV and LV network, Futog	ROP-NSD-23285-ISAW-1/2019 од 24.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Ulica patrijarha Černojevića 18, Novi Sad	ROP-NSD-35484-ISAW-1/2019 од 06.01.2020		Decision pursuant to Article 145
Underground 0.4 kV lines from the existing TS "Zmaj Ognjena Vuka" to the residential building in the street Zmaj Ognjena Vuka 24, Novi Sad	ROP-NSD-20512-ISAW-1/2019 од 06.09.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the facility in Ulica Bele njive 30, Novi Sad	ROP-NSD-22028-ISAW-1/2019 од 24.09.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Express gas", Novi Sad	ROP-NSD-8952-ISAW-1/2019 од 22.04.2019		Decision pursuant to Article 145
Underground 20 kV line in st. Novi Sad at house number 279, Temerin	ROP-TEM-18572-ISAW-1/2019 од 05.07.2019		Decision pursuant to Article 145
Underground 0.4 kV network in st. Golub Babić, Futog	ROP-NSD-27281-ISAW-1/2019 од 30.09.2019		Decision pursuant to Article 145
Underground 0.4 kV network for local B3 in lamella B in Marka Miljanova Street no.3, Novi Sad	ROP-NSD-4114-ISAW-1/2019 од 20.03.2019		Decision pursuant to Article 145
Underground 0.4 kV network for local A3 in lamella A in Marka Miljanova Street no.3, Novi Sad	ROP-NSD-4109-ISAW-1/2019 од 01.03.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Nova II plot no. 4229 к.о. Rumenka, Rumenka	ROP-NSD-4628-ISAW-2/2019 од 11.06.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Ulica Stevana Pešića 42, Kovilj	ROP-NSD-16459-ISAW-1/2019 од 03.07.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in Braće Bošnjak Street (along 30 Jovana Dučića Street), Futog	ROP-NSD-20354-ISAW-1/2019 од 02.08.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Darzal", Beocin	ROP-BEO-15972-ISAW-1/2019 од 19.06.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Kopernikova 30, Novi Sad	ROP-NSD-31589-ISAW-1/2019 од 31.10.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Dalmatinska 34-36, Novi Sad	ROP-NSD-29482-ISAW-1/2019 од 16.10.2019		Decision pursuant to Article 145
MBTS "Kish Ernea 2" with associated MV and LV network, Novi Sad	ROP-NSD-8943-ISAW-4/2018 од 04.02.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the facility at 12 Janka Čmelika Street, Novi Sad	ROP-NSD-4668-ISAW-1/2019 од 12.04.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Rakovačka 25, Novi Sad	ROP-NSD-16988-ISAW-1/2019 од 03.09.2019		Decision pursuant to Article 145
Underground 0.4 kV lines for the building in st. Privrednikova bb, Novi Sad	ROP-NSD-31085-ISAWA-4/2019 од 15.04.2019		Decision pursuant to Article 145
Underground 35 kV, 20 kV and 10 kV lines in Marka Miljanova Street, Novi Sad	ROP-NSD-22868-ISAWHA-2/2019 од 15.10.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Dalmatinska 31-33, Novi Sad	ROP-NSD-31260-ISAW-1/2019 од 18.10.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the facility from the future TS "Okrugiceva 2" for the facility in st. Okrugiceva 12, Petrovaradin	ROP-NSD-26114-ISAW-1/2019 од 25.09.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Gradilište FV", Novi Sad	ROP-NSD-6706-TCPI-1/2019 од 28.03.2019		Decision pursuant to Article 145

Underground 20 kV line for TS "SC 1", Novi Sad	ROP-NSD-22872-ISAW-1/2019 од 23.09.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Glasmaks", Temerin	ROP-TEM-26771-ISAWHA-2/2019 од 18.09.2019		Decision pursuant to Article 145
STS "Jožefa Atila" with the associated MV and LV network, Bačko Petrovo Selo	ROP-BEC-21102-ISAW-1/2019 од 23.07.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Armstil", Rumenka	ROP-NSD-21664-ISAW-1/2019 од 07.08.2019		Decision pursuant to Article 145
TS "Prešernova 2" with associated 20 and 0.4 kV lines, Novi Sad	ROP-NSD-32406-ISAW-1/2019 од 27.12.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Vuka Karadžića Street 19-21, Novi Sad	ROP-NSD-32808-ISAW-1/2019 од 10.12.2019		Decision pursuant to Article 145
STS "Merna stanica 4" with associated MV and LV network, Žabalj	ROP-ZAL-21726-ISAW-3/2019 од 04.11.2019		Decision pursuant to Article 145
JTS "Pupinova palata" with MV and LV cable network, Novi Sad	ROP-NSD-12167-ISAW-1/2019 од 14.05.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the building in st. Okrugiceva 7, Petrovaradin	ROP-NSD-27276-ISAW-1/2019 од 30.09.2019		Decision pursuant to Article 145
STS "Mita" with the associated MV and LV network, Backo Petrovo selo	ROP-BEC-37187-ISAW-1/2019 од 04.12.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building at 38 Lukijana Musickog Street, Novi Sad	ROP-NSD-16729-ISAW-1/2019 од 03.09.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Lidl", Bečej	ROP-BEC-30105-ISAW-2/2019 од 06.11.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Dalmatinska 33, Novi Sad	ROP-NSD-31260-ISAW-1/2019 од 18.10.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "Izostaklo", Futog	ROP-NSD-15784-ISAWHA-4/2019 од 01.11.2019		Decision pursuant to Article 145
Underground 20 kV lines for TS "8. Oktobar", Bečej	ROP-BEC-23118-ISAW-2/2019 од 25.09.2019		Decision pursuant to Article 145
Overhead 20 kV line for TS "Ekonomija Đukić", Šajkaš	ROP-TIT-13079-ISAW-2/2019 од 26.06.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building on Bulevar oslobođenja bb near TC "Dalton", Novi Sad	ROP-NSD-31820-ISAW-1/2019 од 09.12.2019		Decision pursuant to Article 145
Underground 20 kV lines for RP 20 kV "Heineken-Mercator", Novi Sad	ROP-NSD-28073-ISAW-1/2019 од 23.10.2019		Decision pursuant to Article 145
STS "Biserni vinogradi" with associated MV and LV network, Novi Becej	ROP-NOB-25624-ISAW-1/2019 од 29.08.2019		Decision pursuant to Article 145
Construction of pillar substation "Blok stanica 16" with 20 and 0.4 kV underground lines, Bečej	ROP-BEC-21972-ISAW-3/2019 од 07.10.2019		Decision pursuant to Article 145
Underground 0.4 kV network for the building in st. Janka Čmelika 32, Novi Sad	ROP-NSD-24051-ISAW-1/2019 од 26.09.2019		Decision pursuant to Article 145
Underground 0.4 kV line for store number 2 in Kraljevića Marka Street 32, Novi Sad	ROP-NSD-22222-ISAW-2/2019 од 13.08.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Str. boulevard of Patrijarha Pavla bb, Novi Sad	ROP-NSD-33817-ISAW-1/2019 од 12.12.2019		Decision pursuant to Article 145
Underground 0.4 kV line for the facility in Str. Tekelijina br. 13, Novi Sad	ROP-NSD-33009-ISAW-1/2019 од 10.12.2019		Decision pursuant to Article 145
Underground 0.4 kV lines for the building of TC "Dalton", Novi Sad	ROP-NSD-31820-ISAW-1/2019 од 09.12.2019		Decision pursuant to Article 145
Underground 20 kV line for TS "Borko Čelik", Šajkaš	ROP-TIT-21112-ISAWA-3/2019 од 17.12.2019		Decision pursuant to Article 145

Underground 20 kV lines for TS "Gradilište Avenija", Novi Sad	ROP-NSD-28655-TCPI-1/2019 од 26.09.2019		Decision pursuant to Article 145
Underground 20 kV lines for UZTS "Autovojvodina", Novi Sad	ROP-NSD-34158-ISAW-1/2019 од 15.11.2019		Decision pursuant to Article 145
ED RUMA			
LV network and LV cable line in Klenku	ROP-RUM-1642-ISAW-1/2019 од 04.02.2019		Decision pursuant to Article 145
STS 20 / 0.4 kV "Jezero" with CL 20 kV in Rivica	ROP-IRI-9402-ISAW-1/2019 од 17.04.2019.		Decision pursuant to Article 145
MBTS 20 / 0.4 kV "Crpna stanica" and CL 20 kV in Stari Banovci	ROP-SPZ-2927-ISAW-2/2019 од 08.01.2019		Decision pursuant to Article 145
ED SREMSKA MITROVICA			
Reconstruction of LV overhead network 0.4 kV in the part of Železnička, N. Tesla and F. Višnjića - Lačarak	ROP-SMI-3423-ISAW-2019 22.02.2019.		Decision pursuant to Article 145
Double CL 0.4 kV in the part from the cable junction 0.4 kV to the CCP on the building "B" and OHL 0.4 kV from the CCP on the building "B" to the CCP on the building "A" in the street Stari sor number 121 ("Primip" d.o.o. Sremska Mitrovica)	ROP-SMI-9806-ISAW-1/2019 18.04.2019.		Decision pursuant to Article 145
Reconstruction of 0.4 kV LV overhead electrical network in the part of Fruškogorska Street in Šuljmo	ROP-SMI-9813-ISAW-1/2019 19.04.2019.		Decision pursuant to Article 145
MBTS 20 / 0.4 kV "Stari Sor", double connection cable line 20 kV and LV junction in S. Mitrovica	ROP-SMI-19725-ISAW-1/2019 16.07.2019.		Decision pursuant to Article 145
Double CL 0.4 kV from cable. connectors to KPK on facility 1 and KV 0.4 kV from KPK on facility 1 to KPK on facility 2 (Anras Investment D.O.O.) in ul. Jupiterova br. 104 y C. Mitrovica	ROP-SMI-19727-ISAW-1/2019 16.07.2019.		Decision pursuant to Article 145
0.4 kV cable lines from MBTS "Kamenjar 1" for power supply of apartment buildings, lamellas "A1" and "B1", "A2" and "B2" and "V" in the settlement of M. Pericin Kamenjar in S. Mitrovica	ROP-SMI-19728-ISAW-1/2019 17.07.2019.		Decision pursuant to Article 145
STS 20 (10) /0.4 kV "Moharač 1", STS 20 (10) /0.4 kV "Moharač 2", 20 kV connecting cable line and 0.4 kV LV overhead network east of the lake Moharac in Erdevik	ROP-SID-24076-ISAW-1/2019 21.08.2019.		Decision pursuant to Article 145
STS 20 / 0.4 kV "RBS Kuzmin 2" with connecting cable line 20 kV in k.o. A liar	ROP-SMI-16733-ISAW-2/2019 04.10.2019.		Decision pursuant to Article 145
STS 20 / 0.4 kV "RBS Adaševci" with connecting cable line 20 kV in k.o. Kuzmin	ROP-SMI-16734-ISAW-2/2019 04.10.2019.		Decision pursuant to Article 145
0.4 kV transmission line from MBTS 20 / 0.4 kV "Matije Hudi 5" to KPK on a new residential and business building in Arsenija Čarnojevića Street in Sremska Mitrovica	ROP-SMI-29502-ISAW-2/2019 04.10.2019.		Decision pursuant to Article 145
KV 20 kV from KS 20 kV near the street Dj.Daničića to KS 20 kV near M. Street. Kostića - 20 kV "Fudin" outlet in Sremska Mitrovica	ROP-SMI-36529-ISAW-1/2019 05.12.2019.		Decision pursuant to Article 145
KV 0.4 kV from MBTS 20 / 0.4 kV "Zh. Zrenjanin" to KPK on building number 1 and to KPK on building number 2 in Ulica Cvetna 39 in Sremska Mitrovica ("Stil gradnja inženjering")	ROP-SMI-38573-ISAW-1/2019 24.12.2019.		Decision pursuant to Article 145
MBTC 20 / 0.4kV "BORACAY" with associated MV and LV network in st. Bul. Arsenija Čarnojevića bb in S. Mitrovica	ROP-SMI-696-ISAW-3/2019 29.05.2019.		Decision pursuant to Article 145
Connection line 0.4 kV from STS "Teodora Bekića" to OMM (POMM-4 on SABP-600) in st. T. Bekić in S. Mitrovica	ROP-SMI-6678-ISAW-2/2019 17.04.2019.		Decision pursuant to Article 145

Connection line 20 kV and STS 20 / 0.4 kV "Palamar" in Šid	ROP-SID-27161-ISAW-4/2019 14.10.2019.		Decision pursuant to Article 145
Connection line 20 kV from ČRS in ul. Desanka Maksimović to STS 20 / 0.4 kV "Frueko - Kukujevc" in Kukujevc	ROP-SID-15647-ISAW-1/2019 11.06.2019.		Decision pursuant to Article 145
Connection line 20 kV and MV block in MBTS 10 (20) /0.4 kV "Plastika Ratić" in S. Mitrovica	ROP-SMI-73-ISAW-1/2019 13.02.2019.		Decision pursuant to Article 145
KV 20 kV and RP 20 kV "Big Bull Foods" in Bacinci	ROP-SID-14791-ISAW-1/2019 17.06.2019.		Decision pursuant to Article 145
ED PANCEVO			
Decision on approval for execution of works (LV cables from MBTS "Karadordeva" in Pancevo)	ROP-PAN-38523-ISAW-1/2018 03.01.2019		Decision pursuant to Article 145
Decision on approval for execution of works (STS "Pumping station Jabuka 1")	ROP-PAN-3472-ISAW-1/2019 19.02.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV cable in the south)	ROP-PAN-3475-ISAW-1/2019 21.02.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV cable in Ivo Kurjački)	ROP-PAN-3470-ISAW-1/2019 19.02.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV cable in Starčevo)	ROP-PAN-5034-ISAWHA-2/2019 15.03.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV cable in Miloš Obrenović)	ROP-PAN-5737-ISAW-1/2019 13.03.2019		Decision pursuant to Article 145
Decision on approval for execution of works (MBTS "Sterijina")	ROP-PAN-5928-ISAW-1/2019 18.03.2019		Decision pursuant to Article 145
Decision on approval for execution of works (MBTS "Branko Radičević")	ROP-PAN-11158-ISAWHA-2/2019 od 15.05.2019		Decision pursuant to Article 145
Decision on approval for execution of works (HV cables for Vršačke ritove)	ROP-VRS-15300-ISAW-1/2019 10.06.2019		Decision pursuant to Article 145
Decision on approval for execution of works (KTS "Crni Jovan")	ROP-VRS-14234-ISAW-1/2019 04.06.2019		Decision pursuant to Article 145
Decision on approval for execution of works (STS "B. Karlovac 20")	ROP-ALI-17292-ISAW-1/2019 05.07.2019		Decision pursuant to Article 145
Decision on approval for execution of works (cable in Proleterska in B. Karlovac)	ROP-ALI-17287-ISAW-1/2019 05.07.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV cables from MBTS "Kopaonička")	ROP-PAN-19166-ISAW-1/2019 09.07.2019		Decision pursuant to Article 145
Decision on approval for execution of works (STS "Vladimirovac 13")	ROP-ALI-17293-ISAWHA-3/2019 30.07.2019		Decision pursuant to Article 145
Decision on approval for execution of works (MBTS "Banatski Karlovac 19")	ROP-ALI-28490-ISAW-1/2019 02.10.2019		Decision pursuant to Article 145
Decision on approval for execution of works (HV cable in B. Karlovac)	ROP-ALI-28489-ISAW-1/2019 02.10.2019		Decision pursuant to Article 145

Decision on approval for execution of works (LV cable for GSA in Glogonj)	ROP-PAN-36530-ISAW-1/2018 29.11.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV cable from MBTS "Misa 36" in Pancevo)	ROP-PAN-38232-ISAW-1/2019 16.12.2019		Decision pursuant to Article 145
Decision on approval for execution of works (LV network in Vojvode Stepe Street in B. Brestovac)	ROP-PAN-38686-ISAW-1/2019 19.12.2019		Decision pursuant to Article 145
Decision on approval for execution of works (MV cable from Ts "Masarikova" to TS "Tržni centar")	ROP-PAN-29023-ISAW-1/2018 30.09.2019		Decision pursuant to Article 145

2.2. Monitoring and Environmental Impact

Factors by which the DP Novi Sad influences the environment and which are not fully covered by the monitoring are:

- Electromagnetic fields
- Environmental noise
- Waste
- Ground and surface waters quality
- Soil quality

2.2.1. Electromagnetic Fields

During 2019, no measurements of the electric and magnetic fields were performed.

2.2.2. Environmental Noise

Table 179 show data of measured and applicable levels of noise in environment for 2019.

Table 179

ДИСТРИБУТИВНО ПОДРУЧЈЕ НОВИ САД								
Ниво буке у 2019. години (dB)(A)								
Limit values of the noise indicator Decree on noise indicators, limit values, methods for assessing noise indicators, harassment and harmful effects of noise in the environment, "Official Gazette of RS" no. 75/10	open space				for day		for night	
					50		40	
					50		45	
					55		45	
					60		50	
					65		55	
					At the border of this zone, the noise must not exceed the limit value in the zone with which it borders			
ED SOMBOR Noise measurement in living environment was not performed in 2019.								
measuring point		measuring point		measuring point		measuring point		
	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)		
MEASURED VALUES								
LVM								
ED SUBOTICA Noise measurement in living environment was not performed in 2019.								

Мерна места						
	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)
MEASURED VALUES						
LVM						
ED SREMSKA MITROVICA Noise measurement in living environment was not performed in 2019						
measuring point						
	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)
MEASURED VALUES						
LVM						
ED ZRENJANIN Noise measurement in living environment was not performed in 2019						
measuring point						
	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)
MEASURED VALUES						
LVM						
ED RUMA Noise measurement in living environment was not performed in 2019.						
measuring point						
	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)
MEASURED VALUES						
LVM						
ED NOVI SAD Noise measurement in living environment was not performed in 2019						
measuring point						
Bedroom	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)
MEASURED VALUES						
LVM						
ED PANCEVO Noise measurement in living environment was not performed in 2019.						
measuring point						
	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)	measured level Leq dB(A)	applicable level dB(A)
MEASURED VALUES						
LVM						

2.2.3. Waste

Characterization, categorization and partial sale of waste in 2019 is given in Table 180.

Table 180

DISTRIBUTION AREA NOVI SAD												
Waste in 2019.												
S.N.	RULEBOOK ON CATEGORIES, TESTING AND CLASSIFICATION OF WASTE <i>Official Gazette RS No. 56/10 and 93/19</i>	INDEX NO.	UNIT	Unit							Total	NOTE
				SUBOTICA	SOMBOR	ZRENJANIN	NOVI SAD	SREMSKA MITOVICA	RUMA	PANCEVO	TOTAL DISTRIBUTION AREA NOVI SAD	
				AMOUNTS								
1	Waste toner for printing other than that listed in 08 03 17	08 03 18,	t	0,320	0,160	0,000	0,340	0,140	0,000	0,000	0,960	
2	Other oils for insulation and heat transfer	13 03 10*	t	1,115	0,500	0,400	1,640	0,000	0,000	3,060	6,715	Transformer oil
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste kits for the detection of PCBs - uncontaminated
3	Other emulsions	13 08 02*	t	68,450	4,950	39,000	54,040	0,000	0,000	30,300	196,74	Oily water from oily pits
4	Packaging containing remains of hazardous substances or contaminated with hazardous substances	15 01 10*	t	0,096	0,000	0,000	0,000	0,000	0,000	0,000	0,096	Waste plastic bottles used for testing of transformer oil in the workshops
5	Absorbents, filter materials(including the oil filters which are not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste absorption resources with oil and heavy fuel oil, oily gravel
6	Waste tires	16 01 03	t	0,790	0,280	0,000	0,000	1,800	0,000	0,000	2,870	Waste tires
7	Waste vehicles that do not contain liquids and other hazardous substances	16 01 06	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
8	Oil filters	16 01 07*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
9	Ferrous metals	16 01 17	t	6,220	0,000	4,900	21,820	12,780	0,000	2,380	48,100	Waste iron
10	Transformers and condensers containing PCB	16 02 09*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste PCB transformers



11	Equipment containing hazardous components other than specified in 16 02 09 to 16 02 12	16 02 13*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Condensers batteries
12	Rejected equipment other than specified in 16 02 09 to 16 02 13	16 02 14	t	3,360	0,000	0,000	0,000	0,000	13,760	4,530	21,650	Waste meters
				40,100	0,000	19,28	0,000	0,000	0,000	12,720	72,100	Waste transformers not containing oils
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Electrical devices
				3,214	0,000	0,000	0,000	0,000	0,000	0,000	3,214	Measuring cabinets
				0,430	0,000	0,000	0,000	0,000	0,000	0,000	0,430	Measuring devices (ammeters, voltmeters)
				1,550	0,000	0,000	0,000	0,000	0,000	0,000	1,550	Disconnecter 20 kV
				5,700	0,000	0,000	0,000	0,000	0,000	0,000	5,700	LV and HV units
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste HV and LV fuse
13	Lead batteries	16 06 01*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Batteries
14	Waste containing oil	16 07 08*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste kits for testing transformer oil on PCB
15	Oily water	16 10 01*		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Oily water from oily pit
16	Concrete	17 01 01	t	72,500	52,640	11,000	0,000	49,080	151,860	0,000	337,080	Concrete poles
17	Wood	17 02 01	t	16,436	4,320	10,200	0,000	23,320	0,000	0,000	54,276	Wooden poles - poles
				0,000	0,000	0,000	0,000	0,000	0,000	0,040	0,040	Waste mixed wood
18	Plastic	17 02 03	t	0,080	0,520	0,000	0,580	0,580	0,000	0,000	1,760	
19	Glass, plastic and wood containing hazardous substances or contaminated by dangerous substances	17 02 04*	t	1,150	0,000	0,000	0,000	0,000	0,000	0,000	1,150	Wooden poles with impregnation
20	Copper bronze brass	17 04 01	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste and residues of copper and brass
				0,017	0,000	0,100	0,000	1,660	0,000	0,000	1,777	Waste copper
				0,642	3,100	0,000	0,300	1,260	0,000	0,000	5,302	Waste copper cables
21	Aluminum	17 04 02	t	0,000	0,180	0,200	0,520	0,000	0,000	0,000	0,900	Waste aluminum
				1,055	0,000	0,200	0,000	0,900	1,140	1,660	4,955	Waste aluminum cables
22	Iron and steel	17 04 05	t	0,000	8,020	0,000	0,000	0,000	0,000	0,000	8,020	Waste pieces of equipment TC
23	Mixed metals	17 04 07	t	5,360	4,840	0,000	2,940	8,440	46,820	1,300	69,700	Al - Fe
24	Cables containing oil, tar and other hazardous substances	17 04 10*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Oily cable
25	Oily gravel	17 05 03*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	



26	Insulation materials other than specified in 17 06 01 and 17 06 03	17 06 04	t	3,325	7,800	0,200	1,520	10,700	11,555	11,940	47,040	Waste ceramic insulators
27	Construction materials containing asbestos	17 06 05*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste asbestos panels
28	Paper and card board	20 01 01	t	0,700	0,000	0,000	0,160	1,200	0,000	1,180	3,240	
29	Glass	20 01 02	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
30	Fluorescent pipes and the mercury-containing waste	20 01 21*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Fluorescent pipes, light balls containing mercury
31	Rejected electrical and electronic equipment other than that listed in 20 01 21 и 20 01 23 containing hazardous components	20 01 35*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste computers, keyboards, monitors, electronic meters
32	Bulky waste	20 03 07	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste office furniture
33	Waste soil and concrete contaminated with PCB oil	17 05 03*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
34	Ferrous metal	16 01 17	t	2,710	0,000	0,000	0,000	0,000	0,000	0,000	2,710	Switches
35	Dangerous components removed from discarded equipment	16 02 15*	t	0,015	0,000	0,000	0,000	0,000	0,000	0,000	0,015	Lead seals

2.2.4. Surface, Ground Waters and Soil Monitoring

Surface and groundwater monitoring in 2019 is not defined-covered by tests. Land monitoring is shown in Table 181.

Table 181

DISTRIBUTION AREA NOVI SAD									
ED ZRENJANIN									
THE RESULTS OF PHYSICAL - CHEMICAL LAND TESTS IN 2019									
Land	Method tags	Unit	Monitorig						Note
Parameter			Suface waters	MLV	underg round waters	MLV	Land	MLV	The highest measured values are given
date	17.05.2019.								
Ait temperature									
Humidty	SRP EN 12880:2007						25.17 %	-	
Turbidity	1.1.69-S								
pH	1.1.6-S								
Nitrates	1.1.52-S								
Nitrities	1.1.53-S								
Ammonium ion	1.1.18-S								
Chlorides	1.1.36-S								
Consumption of <i>KMnO₄</i>	1.1.10-S								
Anionic detergents	1.1.28-S								
Phosphates	1.1.31-S								
Oxigen	1.1.14-S								
HPK	1.1.11-S								
BPK ₅	1.1.15-S								
Content organ. mater	VM 106						22.48 %	-	
Residual evaporation of unfiltred water	1.1.7-C								
Residual evaporation of filtred water	1.1.7-C								
Suspendova mat.	1.1.9-C								
Sedimentary mat.	1.1.8-C								
Polychlorinated biphenyls (PCB-28,PCB-52, PCB-101, PCB-118, PCB-138, PCB-153, PCB-180)	VM 099-1						<0.002 mg/kg	0.04 mg/kg	
Phenols	1.1.29-C								
Mineral oils	VM 056						27000 mg/kg	11240 mg/kg	
Polychlorinated biphenyls (PCB) as archloride1260	VM 052						<0.010 mg/kg	-	

*IM-Inter method

2.3. Monitoring of the Working Environment, Occupational Safety and Health Protection

Reports on occupational safety and health protection for the year 2019 include the following elements:

- **Working environment monitoring**
 - working environment noise measurement
 - working environment electromagnetic fields
 - working environment parametere

▪ Occupational Safety

- training
- work injuries

▪ Health

2.3.1. Working Environment Monitoring

▪ Working Environment Noise Measurement

The results of noise levels measurements in the year 2019 are shown in 182.

Table 182

DISTRIBUTION AREA NOVI SAD			
Noise in the working environment in the year 2019			
Branch	Unit	Recorded noise level in work rooms, (dB)	Permitted noise level in (dB (A))
ED PANCEVO	Measurements were not performed in 2019		
ED RUMA	Measurements were not performed in 2019		
ED SREMSKA MITROVICA	Measurements were not performed in 2019		
ED SOMBOR	Measurements were not performed in 2019		
ED SUBOTICA	Measurements were not performed in 2019		
ED ZRENJANIN	Measurements were not performed in 2019		
ED NOVI SAD	Underground lines preparation workshop	74 ± 2,20	85
	Underground lines workshop	69 ± 2,10	85
	Workshop 110 kV	75 ± 2,30	85
	Workshop of public lighting	76 ± 2,30	85
	Electrical repair workshop	69 ± 2,10	85
	Computing and Printing center	80 ± 2,40	85

▪ Working environment electromagnetic fields

Electromagnetic fields measurements were not performed in the year 2019.

▪ Working environment parameters

- Working environment parameters are given in the Table 183.

Table 183

Table 100

DISTRIBUTION AREA NOVI SAD																		
Working environment parameters in 2019																		
Branch/Facility	Number of tested working environments		Number of working environments where parameters exceed permissible limits		Number of working environments where parameters are within permissible limits		Total number of recorded parameters		Number of parameters exceeding permissible limit		Distribution of unsatisfactory parameters							
											Dust		Harmful gasses		Noise		Vibrations	
	Number	%	Number	%	Number	%	Number	%	Number	%								
ED SUBOTICA	Measurements were not performed in 2019																	
ED SOMBOR	Measurements were not performed in 2019																	
ED ZRENJANIN	Measurements were not performed in 2019																	
ED NOVI SAD	Measurements were not performed in 2019																	
ED RUMA	Measurements were not performed in 2019																	
ED S.MITROVICA	Measurements were not performed in 2019																	
ED PANCEVO	Measurements were not performed in 2019																	
HQ Winter period		0	0,00				0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
HQ Summer period		0	0,00				0	0,00	0	0,00	0	0,00	0	0,00	0	0,00	0	0,00
TOTAL: DISTRIBUTION AREA NOVI SAD		0	0,00				0	0,00	0	0,00					0	0,00		

Chemical hazards parameters are given in the Table 184.

Table 184

DISTRIBUTION AREA NOVI SAD				
Chemical hazards in working environment for the year 2019				
Branch	Working place	Detected chemical compounds	Registered level of chemical hazards in workplaces. (mg/m3)	Emitted level of chemical identification \pm measurement uncertainty (mg/m3)
ED NOVI SAD	Underground lines preparation workshop	benzene	0,01	3,25
		toluene	0,02	192
		n-hexane	0,16	72
	Underground lines workshop	vinyl chloride	0,10	7,77
	Workshop 110 kV	ethyl acetate	0,02	1400
		iso-propanol	0,16	980
		acetone	0,03	1210
	Workshop of public lighting	ethyl acetate	0,07	1400
		iso-propanol	0,06	980
		acetone	0,01	1210
		xylene	0,08	221
	Electrical repair workshop	benzene	0,15	3,25
		n-hexane	1,30	72

	Computer and Printing center	styrene	0,18	215
	Overhead lines workshop	toluene	0,01	192
		n-hexane	0,03	72
	SS Maintenance workshop 20/10/0,4 kV	iso-propanol	0,01	980
		acetone	0,02	1210
	Distribution warehouse	carbon monoxide	2,47	55
	IT 1	carbon monoxide	0,12	55
	Carbonation of chemical analysis of insulation oil	n-hexane	1,63	72
	Meters repair workshop	ethyl acetate	0,01	1400
		iso-propanol	0,12	980
		acetone	0,02	1210

2.3.2. Occupational Safety

■ Training

Training data are given in the Table 185.

Table 185

DISTRIBUTION AREA NOVI SAD						
Training in the year 2019						
No	Branch /Facility	Number of employees	Planned for training		Trained	
			Number	%	Number	%
	ED Novi Sad	153	105	68,63	105	100,00
	ED Subotica	96	60	62,50	60	100,00
	ED Sombor	56	35	62,50	35	100,00
	ED Zrenjanin	72	36	50,00	36	100,00
	ED Ruma	50	32	64,00	32	100,00
	ED Sremska Mitrovica	21	15	71,43	15	100,00
	ED Pančevo	61	42	68,85	42	100,00
	HQ	218	38	17,43	38	100,00
	TOTAL: DISTRIBUTION AREA NOVI SAD	727	363	49,93	363	100,00

■ Work injuries

The state of work injuries in the year 2019 are provided in the Table 186.

Table 186

DISTRIBUTION AREA NOVI SAD						
Work injuries in the year 2019						
Branch /Facility	Number of employees	Injuries - number of employees ratio				
		Light	Light	Light	Light	Light
ED Novi Sad	153	0	0	0	0	0.00
ED Subotica	96	0	0	0	0	0.00
ED Sombor	56	1	0	0	1	1.79
ED Zrenjanin	72	2	0	0	2	2.78
ED Ruma	50	0	0	0	0	0.00
ED Sr. Mitrovica	21	0	0	0	0	0.00
ED Pančevo	61	1	0	0	1	1.64
HQ	218	4	0	0	4	1.83
TOTAL: DISTRIBUTION AREA NOVI SAD	727	8	0	0	8	1,10

2.3.3. Health

Periodical medical examinations of employees shown in Table 187. are carried out regularly for all new workers and the employees working under high risk conditions.

Table 187

DISTRIBUTION AREA NOVI SAD											
Work capability of employees in 2019											
Branch /Facility	Employees number	Periodical examination				For work					
		Referred to examination		Examined/ Referred		Capable		Partially Capable		Incapable	
		No.	%	No.	%	No.	%	No.	%	No.	%
ED Novi Sad	153	108	70,59	108	100,00	105	97,22	3	2,78	0	0,00
ED Subotica	96	59	61,46	59	100,00	59	100,00	0	0,00	0	0,00
ED Sombor	56	32	57,14	32	100,00	30	93,75	2	6,25	0	0,00
ED Zrenjanin	72	36	50,00	36	100,00	35	97,22	1	2,78	0	0,00
ED Ruma	50	32	64,00	32	100,00	30	93,75	2	6,25	0	0,00
ED Sr. Mitrovica	21	21	100,00	21	100,00	21	100,00	0	0,00	0	0,00
ED Pančevo	61	42	68,85	42	100,00	40	95,24	2	4,76	0	0,00
HQ	218	36	16,51	36	100,00	36	100,00	0	0,00	0	0,00
TOTAL: DISTRIBUTION AREA NOVI SAD	727	366	50,34	366	100,00	356	97,27	10	2,73	0	0,00

2.4. Public complaints

Public complaints in 2019 are shown in the Table 188.

Table 188

DISTRIBUTION AREA NOVI SAD				
Public application in the year 2019				
Public complaint				
OBJECT	Objection (number and date) and from whom it has been delivered.	Subject of the complaint	Measures taken	Note
OPD ED SUBOTICA	No public complaints			
OPD ED SOMBOR	No public complaints			
OPD ED ZRENJANIN	No public complaints			
OPD ED NOVI SAD	IV 02 501-1-15/2018 25.05.2018.	The analysis of the testing area and non-ionizing radiation performed		KBTS Hajduk Veljkova 2 has not been put into operation, it is new. Some measures should be taken after commissioning.
OPD ED RUMA	No public complaints			
OPD ED S.MITROVICA	No public complaints			
OPD ED PANCEVO	No public complaints			
DP AREA NOVI SAD TOTAL	1			

3. DISTRIBUTION AREA KRALJEVO

Table 189. indicates the structure of all facilities and systems within DP Kraljevo.

Table 189

DISTRIBUTION AREA KRALJEVO												
Facilities and system in 2019												
Branch	Electricity distribution substations								Distribution network length in km			
	110/10 kV	110/20 kV	110/35 kV	110/x/z kV	35/10 kV	20/0,4 kV	10/0,4 kV	Total:	Voltage level	Overhead	Cable	Total length
ED ARANDJELOVAC									110 kV	0,000	0,000	0,000
									35 kV	49,600	0,000	49,600
									20 kV	22,400	32,200	54,600
									10 kV	495,600	9,700	505,300
									1,0 kV	0,000	0,000	0,000
									0,4 kV	1.606,800	46,800	1.653,600
Total	0	0	0	2	6	71	419	498	Total:	2.174,400	88,700	2.263,100
ED VALJEVO									110 kV	0,000	0,000	0,000
									35 kV	121,300	36,300	157,600
									20 kV	0,000	0,000	0,000
									10 kV	124,300	187,200	311,500
									1,0 kV	0,000	0,000	0,000
									0,4 kV	5.353,300	800,100	6.153,400
Total:	0	0	3	0	23	0	873	899	Total:	5.598,900	1.023,600	6.622,500
ED JAGODINA									110 kV	0,000	0,000	0,000
									35 kV	261,400	14,500	275,900
									20 kV	526,200	122,500	648,700
									10 kV	736,800	133,100	869,900
									1,0 kV	0,000	0,000	0,000
									0,4 kV	3.428,800	709,200	4.138,000
Total	1	0	3	3	31	394	894	1.326	Total	4.953,200	979,300	5.932,500
ED KRALJEVO									110 kV	0,000	0,000	0,000
									35 kV	180,800	25,000	205,800
									20 kV	92,300	39,000	131,300
									10 kV	1.044,700	203,000	1.247,700
									1,0 kV	0,000	0,000	0,000
									0,4 kV	4.054,600	207,900	4.262,500
Total	2	0	2	3	21	155	1,031	1.214	Total	5.372,400	474,900	5.847,300
ED KRUSEVAC									110 kV	0,000	0,000	0,000
									35 kV	224,800	18,200	243,000
									20 kV	0,000	0,000	0,000
									10 kV	1.471,700	396,500	1.868,200
									1,0 kV	0,000	0,000	0,000
									0,4 kV	5.285,900	471,000	5.756,900
Total	0	0	1	4	22	0	1,289	1,316	Total	6.982,400	885,700	7.868,100
ED LAZAREVAC									110 kV	0,000	0,000	0,000
									35 kV	125,800	4,900	130,700
									20 kV	0,000	24,100	24,100
									10 kV	822,100	117,700	939,800
									1,0 kV	0,000	0,000	0,000
									0,4 kV	3.163,800	89,700	3.253,500

Total	0	0	1	1	12	6	741	761	Total	4.111,700	236,400	4.348,100
ED LOZNICA									110 kV	0,000	0,000	0,000
									35 kV	193,600	21,900	215,500
									20 kV	0,000	0,000	0,000
									10 kV	849,500	120,000	969,500
									1,0 kV	0,000	0,000	0,000
									0,4 kV	3.093,400	71,600	3.165,000
Total	0	0	2	2	19	0	829	852	Total	4.136,500	213,500	4.350,000
ED NOVI PAZAR									110 kV	0,000	0,000	0,000
									35 kV	79,800	1,000	80,800
									20 kV	1,500	1,700	3,200
									10 kV	348,000	1,300	349,300
									1,0 kV	0,000	0,000	0,000
									0,4 kV	2.132,200	15,100	2.147,300
Total	0	0	1	1	9	8	610	629	Total	2.561,500	19,100	2.580,600
ED UZICE									110 kV	0,000	0,000	0,000
									35 kV	365,300	16,400	381,700
									20 kV	0,000	0,000	0,000
									10 kV	2.438,600	392,200	2.830,800
									1,0 kV	0,000	0,000	0,000
									0,4 kV	7.293,400	640,200	7.933,600
Total	0	0	7	0	48	0	2.121	2.176	Total	10.097,300	1.048,800	11.146,100
ED CACAK									110 kV	0,000	0,000	0,000
									35 kV	302,900	54,500	357,400
									20 kV	0,000	0,000	0,000
									10 kV	1.839,200	263,500	2.102,700
									1,0 kV	0,000	0,000	0,000
									0,4 kV	6.426,600	215,000	6.641,600
Total	0	0	3	3	37	0	1.801	1.844	Total	8.568,700	533,000	9.101,700
ED SABAC									110 kV	0,000	0,000	0,000
									35 kV	101,500	26,100	127,600
									20 kV	676,100	115,000	791,100
									10 kV	382,400	54,800	437,200
									1,0 kV	0,000	0,000	0,000
									0,4 kV	2.297,500	173,200	2.470,700
Total	0	2	0	4	8	744	296	1.054	Total	3.457,500	369,100	3.826,600
TOTAL: DISTRIBUTIVE AREA KRALJEVO									110 kV	0,000	0,000	0,000
									35 kV	2.006,800	218,800	2.225,600
									20 kV	1.318,500	334,500	1.653,000
									10 kV	10.552,900	1.879,000	12.431,900
									1,0 kV	0,000	0,000	0,000
									0,4 kV	44.136,300	3.439,800	47.576,100
Total	3	2	23	23	236	1.378	10.904	12.569	Total	58.014,500	5.872,100	63.886,600

3.1. Overview and Permits Status

Overview and status of permits, licenses and other required approvals, as well as new applications for permits in 2019. are presented in Table 190.

Table 190

DISTRIBUTION AREA KRALJEVO			
Overview and status of permits in 2019			
Branch	Obtained approvals and permits (number and date)	Applications for obtaining of new or extension of the existing permits	Note
ED Arandjelovac			
Reconstruction of LV network Belice and Ranitovici - G. Satornja	ROP-TOP 2973-ISAW-1/2019 No.351-25/2019-02 dated 22.02.2019		
Reconstruction of LV network Panjevac, Varosica i Calane, Zabare	ROP-TOP 1225-ISAW-1/2019 No.351-15/2019-02 dated 08.02.2019		
SBTS 10/0,4 kV Milanovic, Donja Trnava	ROP-TOP 672-ISAW-1/2019 No.351-10/2019-02 dated 29.01.2019		
SBTS 10/0,4kV Urosevici, Zabare	ROP-TOP 673-ISAW-1/2019 No.351-11/2019-02 dated 29.01.2019		
Construction of LV network Balabanac 1	ROP-ARA-2909- ISAW-1/2019		
Construction of LV network Vrbica, Zlutar	ROP-ARA -3353-ISCAW-1/2019		
Construction of LV network Visegradska 1, Arandjelovac	ROP-ARA - 2578- ISAW -1/2019		
Construction of LV network Mesna kancela, Jelovik	ROP-ARA -4908- ISAW -1/2019		
Construction of LV network Stublina, Orasac	ROP-ARA -3132- ISAW -1/2019		
Construction of LV network Bukovik 4, Bukovik	ROP-ARA -4323- ISAW -1/2019		
ED Valjevo			
LVN from TS 10/0,4 kV, Babina Luka 5	ROP-VAL-37578-ISAWHA-2/2019 351-82/19-07 12.02.2019.		
KB 35 kV from TS 35/10 kV, Y6 I to TS 35/10 kV Y6 II, (planned TS 110/35/10 kV Y6)	ROP-UB-24357-CPI-3/2019 09.12.2019.		
KB 1 kV from TS 10/0,4 kV „Uzor“ to KPK on the resident building in the Hajduk Veljkova Street No.10.	ROP-VAL-35322-ISAW-1/2019 351-1504/19-07 03.12.2019.		
Two underground lines 35 kV from TS 110/35 kV „Valjevo II“ to TS 35/10 kV „Valjevo VII“ (line 1), and from TS 110/35 kV „Valjevo 2“ to MRP 35 kV „Valjevo XIII“ (line 2).	ROP-VAL-14762-ISAW-5/2019 351-1301/2019-07 24.10.2019.		
1. ZTS 10/0,42 kV 1x630 kVA „Sveta Popovic 2“- Roundabout (dislocation of TS 10/0,4 kV „Strela“) 2. KB 10kV and 1 kV fot fitting the TS into the existing IV and LV network 3. Double KB 1 kV from ZTS 10/0,4 kV „Свете поповић 2“ до КПК1 и КПК2 „Свете Поповић“ за прикључење пословно-стамбеног објекта на к.п. бр. 27/1 и 26/1 К.О. Уб.	ROP-UB-25780-ISAW-2/2019 13.09.2019.		
KB 1 kV from MBTS 10/0,4 kV „Muzej“ to KPK on the existing building in the Vojvode Misica Str.No.	ROP-VAL-16747-ISAWHA-2/2019 351-9562019-07 03.09.2019.		
Reconstruction of the part of the existing LVN from STS 10/0,4 kV „Banjani 6“	ROP-UB-2006-ISAW-1/2019 05.02.2019.		
Double KB 1 kV from TS 10/0,4 kV „Pop Lukina“ to KPK and KPK on the object „Pop Lukina 32“	ROP-VAL-12878-ISAW-1/2019 351-503/2019-07 17.06.2019.		
Construction of STS 10/0,4 kV 50(160) kVA „Vrhovine 7“ and SN line 10 kV	ROP-UB-7314-ISAWHA-3/2019 01.08.2019.		

Construction of STS 10/0,4 kV 250(250) kVA „Popucka 26“ and SN line 10 kV	ROP-VAL-31229-ISAW-2/2019 351-261/2019-07 02.04.2019.		
Construction of the following: 1.MBSS 10/0,42 kV 1x630 kVA „7.jula“- Daycare center type: CVTS BSC 1x630 (1000) kVA Double connecting cable line 10 kV for MBSS 10/0,42 kV „7.jula“-Daycare center from joints on the cutting point pf the cable 10 kV from SS 35/10 kV „Ub I“to SS 10/0,42 kV „Djunis“ 2. Double cable line 1 kV from MBSS 10/0,42 kV „7.jula“ Daycare center to KPK1and KPK2 „Obdaniste“ 3. Triple cable line 1 kV from MBSS 10/0,42 kV „7.jula“	ROP-UB-5173-ISAW-2/2019 22.05.2019		
KB 1kV from TS 10/0,4 kV „Radnicka kolonija 1“ to KPK on the exisitng resident building in the Luj Paster Str.no. 29	ROP-VAL-14405-ISAW-1/2019 351-590/2019-07 01.07.2019.		
Construction of SBTS 10/0,4 kV 50 kVA „Gornji Taor 2“ Bele Vode and ground MV 10 kV and LV 1 kV line	ROP-VAL-34080-ISAW-3/2019 351-682/2019-07 28.06.2019.		
Construction of MBTS 10/0,42 kV 1x630 kVA „Peti Puk 11“- Rudnicka, type: CVTS-B 1x630 (1000) kVA, Double connecting cable line 10 kV for MBTS 10/0,42 kV „Peti Puk 11“-Rudnicka, to the existing column no.5 and joints with KB 10 kV from TS 10/0,4 kV „Peti Puk 2“ and KB 1 kV from MBTS 10/0,42 kV „Peti Puk 11“-Rudnicka, to the KPK on the object „Odri Print“	ROP-VAL-21320-ISAWHA-3/2019 351-386/2019-07 22.05.2019.		
Reconstruction of LVN from STS 10/0,4 kV „Murgas“	ROP-UB-13225-ISAW-1/2019 24.05.2019.		
KBTS 10/0,4 kV 1x630 kVA „Ljubise Jocica“ – Sandic residence, type: KBTS 1x630 kVA BLOKO CS with fitting into MV and LV networks	ROP-UB-6405-ISAW-2/2019 16.05.2019.		
Construction of the ground MV line 10kV for SBTS 10/0,4 kV „Lelic 6“	ROP-VAL-7973-ISAW-1/2019 351-302/2019-07 08.05.2019.		
Construction of KB 1 kV from TS 10/0,4 kV „Ubska dolina“ to MRO on the new LV concrete el.column	ROP-UB-1017-ISAW-2/2019 05.04.2019.		
Reconstruction of the part of the existing MVN from STS 10/0,4 kV „Novaci 1“	ROP-UB-9699-ISAW-1/2019 22.04.2019.		
Adaptation of the isolated LV line 1 kV из TC 10/0,4 „Cucuge“ for the connection of the agricultural object	ROP-UB-7959-ISAW-1/2019 05.04.2019.		
ED Jagodina			
KV Cuprija	ROP-DES-18296-ISAW-2/2019, 16.08.2019.		
KV Cuprija	ROP-DES-11552-ISAW-1/2019, 13.05.2019.		
KV Cuprija	ROP-DES-2406-ISAW-2/2019, 01.04.2019.		
KV Cuprija	ROP-DES-17065-ISAW-1/2019, 26.06.2019.		
KV Cuprija	ROP-CUP-15499-ISAWHA-3/2019, 04.10.2019.		
KV Cuprija	ROP-JAG-23327-ISAW-2/2019, 04.10.2019.		
KV Paracin	ROP-PAR-15462-ISAW-3/2019, 18.09.2019.		

KV Paracin	ROP-PAR-363-ISAW-3/2019, 09.04.2019.		
KV Paracin	ROP-PAR-25041-ISAW-2/2019, 27.08.2019.		
KV Paracin	ROP-PAR-14037-ISAW-2/2019, 27.08.2019.		
KV Paracin	ROP-PAR-14043-ISAW-2/2019, 27.08.2019.		
KV Paracin	ROP-PAR-35499-ISAW-2/2019, 27.08.2019.		
ED Kraljevo			
ED Kraljevo	ROP-KRA-3832-ISAW-1/2019, 25.02.2019		
ED Kraljevo	ROP-KRA-7859-ISAW-1/2019, 4.4.2019		
ED Kraljevo	ROP-KRA-8240-ISAW-1/2019, 4.4.2019		
ED Kraljevo	ROP-KRA-27787-ISAWHA-1/2019, 1.10.2019		
ED Kraljevo	ROP-KRA-37936-ISAW- 1/2019, 17.12.2019		
ED Kraljevo	ROP-KRA-9251-ISAW-1/2019, 16.4.2019		
ED Kraljevo	ROP-KRA-32337-ISAW-1/2019, 25.10.2019		
ED Kraljevo	ROP-KRA-39699-ISAW-1/2019, 30.12.2019		
Vrnjačka Banja Plant			
ED Vrnjačka Banja	ROP-VBN-9328-ISAW-2/2019		
ED Vrnjačka Banja	ROP-VBN-14531-ISAW-2/2019		
ED Vrnjačka Banja	ROP-VBN-20968-ISAW-4/2019		
Raška Plant			
ED Raska	ROP-RAS-33030-ISAW-1/2019, 30.10.2019.		
ED Raska	ROP-RAS-5094-ISAW-1/2019, 07.03.2019.		
ED Raska	ROP-RAS-16819-ISAW-1/2019, 21.06.2019.		
ED Raska	ROP-RAS-8761-ISAW- 1/2019, 10.04.2019.		
ED Raska	ROP-RAS-12116-ISAW-1/2019, 14.05.2019.		
ED Raska	ROP-RAS-5097-ISAW-1/2019, 07.03.2019.		
ED Raska	ROP-RAS-7083-ISAW-1/2019, 27.03.2019.		
ED Raska	ROP-RAS-12928-ISAW-1/2019, 21.05.2019.		
ED Raska	ROP-RAS-14410-ISAW-1/2019, 31.05.2019.		
ED Raska	ROP-MSGI-34709-ISAWHA- 6/2019, 03.06.2019.		
ED Raska	ROP-RAS-38907-ISAW-1/2019, 20.12.2019.		
ED Raska	ROP-RAS-39308-ISAW-1/2019, 25.12.2019.		
ED Raska	ROP-RAS-39986-ISAW-1/2019, 13.01.2020.		
ED Raska	ROP-RAS-25288-ISAW-1/2019, 29.08.2019.		

ED Raska	ROP-RAS-25287-ISAW-1/2019, 29.08.2019.		
ED Raska	ROP-RAS-27545-ISAW-1/2019, 16.09.2019.		
ED Raska	ROP-RAS-27545-ISAW- 1/2019, 13.09.2019.		
ED Raska	ROP-RAS-38457-ISAW-1/2019, 17.12.2019		
ED Raska	ROP-RAS-32445-ISAW-1/2019, 24.10.2019.		
ED Raska	ROP-RAS-31649-ISAW-1/2019, 17.10.2019.		
ED Raska	ROP-KRA-30389-ISAW-1/2019, 10.10.2019.		
ED Raska	ROP-RAS-32444-ISAW-1/2019, 23.10.2019.		
ED Raska	ROP-RAS-32476-ISAW-1/2019, 28.10.2019.		
ED Raska	ROP-RAS-36129-ISAW-1/2019, 26.11.2019.		
ED Raska	ROP-RAS-36130-ISAW-1/2019, 26.11.2019.		
ED Raska	ROP-RAS-32475-ISAW-1/2019, 28.10.2019.		
ED Raska	ROP-RAS-38785-ISAW-1/2019, 20.12.2019.		
ED Raska	ROP-RAS-39717-ISAW-1/2019, 30.12.2019.		
ED Raska	ROP-RAS-39716-ISAW-1/2019, 30.12.2019.		
ED Kruševac			
1. Decision for works for KB 1 kV power of the objects on the parcels: 6064; 2412/100; 2412/98; 2412/1 and 2412/94 KO Krusevac from SS 10/0,4 kV „Dostojevski“ in Krusevac.	ROP-KRU-34084-ISAW-2/2018 351-5166/2018 04.01.2019.		
2. Location conditions for works for KB 10 from SS 10/0,4 kV „Buci 3“ to SS 10/0,4 kV „Jastrebac 1“ City of Krusevac.	ROP-KRU-36724-LOC-1/2018 350-664/2018 14.01.2019.		
3. Location conditions for works for SB SS 10/0,4 kV „Poljana Stanjevo 2“ with LV network in Aleksandrovac.	ROP- ALK-36744-LOC-1/2018 350-99/2018 15.01.2019.		
4. Decision for works on building the LVN from SS 10/0,4 kV „ZDRAVINJE 5“ in Zdravinje, the city of Krusevac.	ROP-KRU-269-ISAWHA-2/2019 351-38/2019 29.01.2019.		
5. Decision for works on reconstructing the LVN from SS 10/0,4 kV „MODRICA 4“ in Modrica, the city of Krusevac.	ROP-KRU-1400-ISAW-1/2019 351-40/2019 29.01.2019.		
6. Decision for works on reconstructing the LVN from SS 10/0,4 kV „Novo Selo“ in Glagov, the city of Krusevac.	ROP-KRU-1401-ISAW-1/2019 351-41/2019 29.01.2019.		
7. Location conditions for works for SB SS 10/0,4 kV „Poljana Stanjevo 2“ with LV network in Aleksandrovac.	ROP- ALK-9456-ISAW-1/2019 351-532/2019 15.04.2019.		
8. Application for works for SB SS 10/0,4 kV „Obrez 21“ with connecting line 10 kV from SB SS 10/0,4 kV „Obrez 11“ to SBSS 10/0,4 kV „Obrez 21“ and SB SS 10/0,4 kV „Obrez 23“ with connecting line from SB SS10/0,4 kV „Obrez 21“ and SB SS 10/0,4 kV „Obrez 23“ in Obrez, municipality Varvarin	ROP-VAR-9468-WA-1/2019 Internal no.: 351-36/2019 - BAP 15.04.2019.		

9. Decision for works on installing the cable line 10 kV from the existing SS 10/0,4 kV „Buci 3“ to the existing SS 10/0,4 kV „Jastrebac 1“ city of Krusevac.	ROP-KRU-9464-ISAW-1/2019 351-302/2019 18.04.2019.		
10. Decision for works on installing the SB SS CBTG 10/0,4 kV „Krvavica 6“ in Krvavica, city of Krusevac.	ROP-KRU-10906-ISAW-1/2019 351-341/2019 21.05.2019.		
11. Location conditions for works on SB SS 10/0,4 kV „Krvavica 5“ with connecting line 10 kV in Krvavica, city of Krusevac.	ROP- KRU-10882-LOC-1/2019 351-283/2019 06.06.2019.		
12. Decision for works on installing the SB SS 10/0,4 kV „Krvavica 5“ with connecting line 10 kV in Krvavica, city of Krusevac.	ROP-KRU-10882-ISAW-2/2019 351-954/2019 20.08.2019.		
13. Decision for displacement of a part of the trase DB 10 kV via cable line 10 kV on the output 10 kV Radosevac branch for Lovacko Polje from SS 35/10 kV „Stalac“ in Cicevac, municipality Cicevac.	ROP-CIC-23409-ISAW-1/2019 351-64/2019 21.08.2019.		
14. Decision for works on reconstructing the LVN and installing the cable bundle 10 kV from SB SS 10/0,4 kV „Lomnica 4“ to SS 10/0,4 kV „Lomnica 2“ in Lomnica, city of Krusevac.	ROP-KRU-30725-ISAW-1/2019 351-1278/2019 09.10.2019.		
15. Location conditions for works on SB SS 10/0,4 kV „Smilovac 4“ with 10 kV bundle and LVN in Smilovac, municipality Razanj	ROP- RAZ-11816-LOC-1/2019 350-24/2019 05.06.2019.		
16. Location conditions for works on SB SS 10/0,4 kV „Donji Stupanj 5“ with mandatory LV distribution network in Donji Stupanj, municipality Aleksandrovac.	РОП- АЛК-28117-ЛОЦ-1/2019 350-90/2019-04 11.10.2019.		
17. Decision for works on installing the distribution network 1 kV from SS 10/0,4 kV „Rasadnik DZ“ city of Krusevac.	ROP-KRU-19524-ISAW-2/2019 351-1356/2019 23.10.2019.		
18. Application for works on SBSS 10/0,4 kV „Krvavica 6“ in Krvavica, city of Krusevac	ROP-KRU-10906-WA-2/2019 Internal no.: 351-1366/2019 23.10.2019.		
19. Application for works on the connecting line 10 kV for SBSS 10/0,4 kV „Mali Siljegovac 4“ in Mali Siljegovac, city of Krusevac	ROP-KRU-37763-WA-2/2019 Internal no.: 351-1402/2019 28.10.2019.		
20. Application for works on the LVN reconstruction from SBSS 10/0,4 kV „Mali Siljegovac 5“ in Mali Siljegovac, city of Krusevac	ROP-KRU-29933-WA-2/2019 Internal no.: 351-1421/2019 31.10.2019.		
21. Application for works on the LVN reconstruction from SBSS 10/0,4 kV „Mali Siljegovac 4“ in Mali Siljegovac, city of Krusevac	ROP-KRU-29935-WA-2/2019 Internal no.: 351-1429/2019 31.10.2019.		
22. Application for works on cable lines distribution network 1 kV from SS 10/0,4 kV „Rasadnik DZ“ city of Krusevac	ROP-KRU-19524-WA-3/2019 Internal no.: 351-1428/2019 31.10.2019.		
23. Location conditions for works on SB SS 10/0,4 kV „Mala Raklja 1“ with 10 kV line and LVN in Mala Raklja, municipality Aleksandrovac.	ROP- ALK-14125-LOC-1/2019 350-55/2019-04 24.06.2019.		
24. Location conditions for works on SB SS 10/0,4 kV „Mala Raklja 2“ with 10 kV line and LVN in Mala Raklja, municipality Aleksandrovac.	ROP- ALK-14132-LOC-1/2019 350-56/2019-04 24.06.2019.		
25. Decision for works on SB SS 10/0,4 kV „Mala Raklja 1“ with 10 kV line and LVN in Mala Raklja, municipality Aleksandrovac.	ROP- ALK-32413-ISAW-1/2019 350-757/2019-04 28.10.2019.		
26. Decision for works on SB SS 10/0,4 kV „Mala Raklja 2“ with 10 kV line and LVN in Mala Raklja, municipality Aleksandrovac.	ROP- ALK-32413-ISAW-1/2019 350-758/2019-04 25.10.2019.		

27. Application for works on installing SBSS 10/0,4 kV „Mali Siljegovac 5“ in Mali Siljegovac, city of Krusevac	ROP-KRU-31291-WA-2/2019 Internal no.: 351-1500/2019 07.11.2019.		
28. Application for works on installing SBSS 10/0,4 kV „Krvavica 5“ with connecting line 10 kV and mandatory LV distribution network in Krvavica, city of Krusevac	ROP-KRU-10882-WA-3/2019 Internal no.: 351-1502/2019 07.11.2019.		
29. Application for works on installing SBSS 10/0,4 kV from SBSS 10/0,4 kV „Mali Siljegovac 4“ to SBSS 10/0,4 kV „Mali Siljegovac 5“ in Mali Siljegovac, city of Krusevac	ROP-KRU-33419-WA-2/2019 Internal no.: 351-1504/2019 12.11.2019.		
30. Application for works on installing KB 10 kV from SBSS 10/0,4 kV „Buci 3“ to SS 10/0,4 kV „Jastrebac 1“ city of Krusevac	ROP-KRU-9464-WA-2/2019 Internal no.: 351-1505/2019 12.11.2019.		
31. Application for works on the LVN reconstruction and the construction of KB 10 kV (bundle) from SBSS 10/0,4 kV „Lomnica 4“ to SS 10/0,4 kV „Lomnica 2“ city of Krusevac	ROP-KRU-30725-WA-2/2019 Internal no.: 351-1365/2019 23.10.2019.		
32. Location conditions for works on SBSS 10/0,4 kV „Donji Stupanj 5“ with 10 kV line (bundle) and mandatory distribution network in Donji Stupanj, municipality Aleksandrovac.	ROP- ALK-28117-LOC-1/2019 350-90/2019-04 11.10.2019.		
33. Location conditions for works on SBSS 10/0,4 kV „Varnica“ with 10 kV line (bundle) and mandatory distribution network, municipality Razan.	ROP- RAZ-36572-LOC-1/2019 350-62/2019-02 06.12.2019.		
34. Decision for works on SBSS 10/0,4 kV „Varnica“ with 10 kV line (bundle) and mandatory distribution network, municipality Razanj.	ROP- RAZ-38711-ISAW-1/2019 351-69/2019-02 18.12.2019.		
ED Lazarevac			
Decision for works on constructing the MBSS 10(20)/0,4 kV „Dom Zdravlja“ Gornja Toplica	ROP-MIO-30169-ISAWHA-4/2019 dated 04.01.2019.		
Confirmation on the commencement of works on constructing MBSS 10(20)/0,4 kV „Dom Zdravlja“ Gornja Toplica	ROP-MIO-30169-WA-6/2019 dated 15.04.2019.		
Decision for works on constructing the DV 10 kV, SB SS 10/0,4 kV „Simici“ Moravci	ROP-LIG-33720-ISAW-3/2019 dated 23.01.2019.		
Confirmation on the commencement of works on constructing DV 10 kV, SB SS 10/0,4 kV „Simici“ Moravci	ROP-LIG-33720-WA-5/2019 dated 14.03.2019.		
Decision for works on constructing the cable line 10 kV from SS 35/10 kV „Lazarevac 3“ to SS 10/04 kV „Bolnica 2“ – Lazarevac	ROP-LAZ-11775- ISAW-2/2019 dated 16.07.2019.		
Confirmation on the commencement of works on constructing the cable line 10 kV from SS „Sud“ Lazarevac	ROP-LAZ-3015-WA-3/2019 dated 08.11.2019.		
Confirmation on the commencement of works on constructing the cable line 10 kV, MBSS 10/0,4 kV „Bazen“ Lajkovac Decision for works on constructing the	ROP-LAJ-1533-WA-4/2019 dated 12.03.2019.		
DB 10 kV „Kosovac“ Berkovac	ROP-MIO-10228-ISAW-2/2019 dated 05.06.2019.		
Decision for works on constructing the SBSS 10/0,4 kV, 160 kVA „Kosovac“ Berkovac	ROP-MIO-10160-ISAW-1/2019 dated 30.04.2019.		
Decision for works on constructing the cable line SS 10/0,4 kV, 1000 kV „Hotel“ Lajkovac	ROP-LAJ-7660-ISAWHA-2/2019 dated 03.05.2019.		
Confirmation on the commencement of works on constructing the cable line KBSS 10/0,4 kV, 1000 kV „Hotel“ Lajkovac	ROP-LAJ-7660-WA-4/2019 dated 25.12.2019.		

Decision for works on constructing the DV 10 kV and SBSS 10/0,4 kV „Trudelj 1“ in Trudelj	ROP-GML-10433-ISAW-2/2019 dated 24.07.2019.		
Confirmation on the commencement of works on constructing the DV 10 kV and SBSS 10/0,4 kV „Trudelj 1“ in Trudelj	ROP-GML-10433-WA-4/2019 dated 28.11.2019.		
Solution of the approval of works on constructing the SBSS 10/0,4 kV „Skola“ Brancic	ROP-LIG-21675-WA-3/2019 dated 04.12.2019.		
Confirmation on the commencement of works on constructing the SBSS 10/0,4 kV „Skola“ Brancic	ROP-LIG-21675-ISAW-1/2019 dated 12.08.2019.		
Solution of the approval of works on constructing the SBSS 10/0,4 kV „Igraliste“ Celije	ROP-LAJ-15182-ISAWHA-3/2019 dated 10.10.2019.		
Decision for works on constructing the DV 20 kV , SBSS 20(10)/0,4 „Kanava“ Ivanovci	ROP-LIG-36545-ISAW-1/2019 dated 13.12.2019.		
Location conditions for constructing the MBSS MBTC 20(10)/0,4 kV, cable line KB 20 kV „Skola“ Gornja Toplica	ROP-MIO-36546-LOC-1/2019 dated 12.12.2019.		
Confirmation on the commencement of works on constructing the DV 10 kV, SBSS 10/0,4 kV „Stevanovici“ Stepanje	ROP-LAJ-24770-ISAWHA-2/2019 dated 10.10.2019.		
ED Loznica			
MBSS 10/04 kV Sreski sud 2" Loznica	351-53/2019-V 30.01.2019.		
DV 10 kV for the new SBSS 10/04 kV "Vocnjak" Ribari	353-4-45/2019-11 18.03.2019.		
V 10 kV for the new SS 10/04 kV Azbuka in Trsic	351-776/2019-V 20.08.2019.		
Cable line 10 kV and IV units for the car covers factory "Adient automotive" in Loznica	351-1151/2019-V 27.11.2019.		
Cable line 10 kV from the surface network, distribution network „Vodovod“ from SS 35/10 kV Ljubovija 1 on the parcel 3322 to SBSS 10/04 kVB/400kVA „MM Sistem“ Ljubovija	351-90/19-04 26.07.2019.		
Cable line 10/0,4 kV for supplying MBSS 10/0,4 KV "NATURA TRADE" Loznica	351-174/2019-V 11.03.2019.		
Underground cable line 6/10 kV from SS 110/35/10 kV Ljubovija, from the underground cable- distribution network „Plastika-Stark“ Lonjin to SBSS 10/04 kV/250 kVA „KM Manufaktur Rene“ Ljubovija	351-89/19-04 04.07.2019.		
LVN from SS 10/0.4 kV „Vrhpolje-Etno selo“ G.Bukovica	351-100/19-04 25.07.2019.		
LVN from SS 10/04 kV "Stara ambulanta" Lesnica	351-523/2019-V 21.06.2019.		
LVN from MBSS 10/04 kV "Sulovaca" Loznica	351-625/2019-V 17.07.2019.		
ED Novi Pazar			
Surface line 10 kV SBTS 10/0,4 Ivanca 3	ROP-NPA-5011-ISAW-4/2019- 30.7.19.		
Surface line 10 kV SBTS 10/0,4 Buce 2	ROP-NPA-9502-ISAW-3/2019- 4.9.19.		
Surface line 10 kV SBTS 10/0,4 Vojnice 3	ROP- ISAW-239177/2019-4.9.19.		
Cable line 10 kV MBTS Postenje 2 -SS Postenje 3	ROP-NPA-6526-ISAW-5/2019- 23.8.19.		
Double DV 35 kV SS NP 1-Jug and NP 2 – Centar	ROP-NPA-5285-ISAW-1/2019- 14.3.19.		
DV 35 kV TS HP 1-SS Sever	ROP-NPA-29939-ISAW-1/2019- 4.9.19.		

DV displacement, LV and SBTS Dojevice 2	ROP-NPA-335-ISAWHA-4/2019-10.7.19.		
Cable line 10(20) kV SBTS Pobrđe1	ROP-NPA-14510-ISAW-2/2019-28.8.19.		
Connecting line 10(20) kV for SS Djerekare 3	ROP-TUT-5577-ISAW-1/2019-11.3.19.		
Part of the surface line 10 kV SS Rijek2 – SS Pokrvenik	ROP-TUT-8281-ISAW-1/2019-3.4.19.		
Ground DV 10 kV SS Banjska Petlja – SS Banja 2	ROP-NPA-25636-ISAW-3/2019-13.11.19.		
IV line 10 kV and SBSS Rajakovice	ROP- ISAW-324359/2019-14.10.19.		
LV line with SBSS Paralovo 2	ROP- ISAW-318718/2019-7.10.19.		
Part of LVN with SBSS Gucevice	ROP-TUT-4160-ISAW-1/2019-25.2.19.		
LV line with SBSS Mur – Vade	ROP- NPA-36890-ISAW 3/2019-22.4.19.		
Part of LVN with SS Lukovica 2	ROP-TUT-9486-ISAW-1/2019-12.4.19.		
Part of LVN with SS Popice	ROP-TUT-14485-ISAW-1/2019-29.5.19.		
Part of LVN with SS Suvi Do Do 2	ROP-TUT-15899-ISAW-1/2019-10.6.19.		
ED Užice			
Displacement of 10kV line from the pile SS Kragovo – SS M.Bondzulica – SS Kapetanovina	Decision per art. 145 6poj 351-268/19-02 dated 09.07.2019.		
SS 10/0,4 kV Market with connecting cable line 10 kV	Decision per art. 145 6p.351-228/19-02 dated 04.07.2019.		
connecting cable line 1 kv for connecting the office building on the parcel no. 9163 KO Uzice	Decision per art. 145 6p.351-380/19 -02 29.08.2019.		
connecting cable line 1 kv for connecting the residential and office building on the parcel no 9096 KO Uzice	Decision per art. 145 6p. 351-353/19-02 20.08.2019.		
connecting cable line 1 kv for connecting the residential building on the parcel no 21198 KO Uzice	Decision per art. 145 6p. 351-354/19 -02 19.08.2019.		
connecting cable line 1 kv for connecting the residential building on the parcel no. 21194 KO Uzice	Decision per art. 145 6p. 351-466/19 -02 27.09.2019.		
Nova Varoš Plant			
SS 10/0,4 kV „Debelja - Kolibe“	Decision no.351-480/2019-06 dated 30.08.2019.		
Prijepolje Plant			
SS 10/0,4 kV, IV and LV cables with OMM on border crossing Gostun	ROP-PRP-38371-ISAW-3/2019 dated 28.03.2019.		
connecting cable lines 1 kV PP00-A 2x(4x150) mm ² from SS 10/0,4 kV Svetlost 2 to residential and office building on the parcel no.329/4 KO Prijepolje	ROP-PRP-18212- ISAW-2/2019 dated 09.08.2019.		
connecting cable lines 10kV and SS 10/0,4 kV 1x630kVA „MDG“	ROP-PRP-25883- ISAW-1/2019 dated 06.09.2019.		
Power supply cable line 1 kV for the residential and office building on the parcel no. 608 KO Prijepolje	ROP-PRP-28205-ISAW-2/2019 dated 14.11.2019.		
Arilje Plant			

SBSS 10/0,4 kV „Tresnjevica“ and mixed line 10 kV and 1 kV „first time in operation 13.11.2019.	Decision on construction approval: ROP-ARI-22360-ISAW-2/2017 dated 19.09.2017		
SBSS 10/0,4 kV „Planojevici“ Miroslajci and mixed line 10 kV and 1 kV „first time in operation 26.11.2019.	Decision on construction approval: ROP-ARI-26825- ISAW-2/2018 dated 23.11.2018.		
SBSS 10/0,4 kV „VIP“ Kuscica and mixed line 10 kV and 1 kV „first time in operation 18.12.2019.	Decision on construction approval: ROP-ARI-27902- WA-7/2019 dated 04.11.2019.		
Kosjerić Plant			
SBSS 10/0,4 kV „Repetiror- Subjel“ and connecting cable line 1kV first time in operation 24.12.2019.	Decision on construction approval: ROP-KOS-27533-ISAW-1/2019 dated 01.10.2019.		
SBSS 10/0,4 kV „Vulovic“ Kosjeric, Tulimirsko polje and connecting cable line 21.10.2019.	Decision on construction approval: ROP-KOS-15814-ISAW-1/2019 dated 13.06.2019.		
SBSS 10/0,4 kV „Aqua Lines“Kosjeric, Olge Grbic street and connecting cable line 10kV first time in operation 01.11.2019.	Decision on construction approval: ROP-KOS-19781-ISAW-1/2019 dated 16.07.2019.		
Požega Plant			
SBSS 10/0,4 kV „BMF Company“ –Djordjevic Branko PR, Zdravci and connecting cable line 10 kV first time in operation 03.07.2018.	Decision on construction approval: ROP-POZ-12899-ISAWHA-3/2018 for SS; ROP-POZ-13049-ISAW-2/2018 for the line, issued 20.06.2018.		
SBSS 10/0,4 kV „Ginko“ – Markovic Svetolik PR, Radovci and connecting cable line 10 kV first time in operation 25.06.2019.	Decision on construction approval: ROP-POZ-23816-IUPH-18/2019 for SS; ROP-POZ-23816-IUPH-17/2019 for the line, issued 04.02.2019.		
Čačak Plant			
SS 35/10 kV/kV „Mrcajevci“ in Mrcajevci	ROP-CAC-6311-ISAW-3/2019 26.06.2019.		
Connecting cable line KB 35 kV for SS 35/10 kV/kV „Mrcajevci“ in Mrcajevci	ROP-CAC-15105-CPI-2/2019 26.06.2019.		
Distribution connection 10 kV in Lucani –Dljin area for SBSS 10/0,4 kV/kV „Vodovod Dljina“ and Zeta Dljina	ROP-LUC-8701-ISAW-3/2019 27.07.2019.		
Reconstruction of connecting line 10 kV for PSS 10/0,4 kV/kV „Delici“ in Lipnica	ROP-CAC-3950-ISAW-2/2019 21.02.2019.		
Reconstruction of connecting line 10 kV for PSS 10/0,4 kV/kV „Delici“ in Lipnica	ROP-CAC-3950-WA-3/2019 15.03.2019.		
Reconstruction of connecting line 10 kV for PSS 10/0,4 kV/kV „Cirovaca“ in Zaocani	ROP-CAC-4836-ISAW-2/2019 04.03.2019.		
EE lines 10 kV и 1 kV , cable sewage and free standing cabinets SSO in the street 10 profile in Cacak	ROP-CAC-9539-ISAW-3/2019 30.05.2019.		
EE lines 10 kV и 1 kV , cable sewage and free standing cabinets SSO in the street 10 profile in Cacak	ROP-CAC-9539-WA-4/2019 04.07.2019.		
SBSS 10/0,4 kV/kV „Euroline“ with the connecting line 10 kV	ROP-CAC-19304-LOCA-2/2019 08.03.2019.		
SBSS 10/0,4 kV/kV „Euroline with the connecting line 10 kV	ROP-CAC-19304-ISAW-3/2019 17.04.2019.		
SBSS 10/0,4 kV/kV „Euroline“ with the connecting line 10 kV	ROP-CAC-19304-WA-4/2019 28.05.2019.		
Consumers supply shift from the existing SS 10/0,4 kV/kV „Car Lazar“ to the existing SS 10/0,4 kV/kV „Prag“ in Cacaky	ROP-CAC-33376-ISAW-3/2019 28.02.2019.		
Consumers supply shift from the existing SS 10/0,4 kV/kV „Car Lazar“ to the existing SS 10/0,4 kV/kV „Prag“ in Cacaky	ROP-CAC-33376-WA-4/2019 15.03.2019.		

SBSS 10/0,4 kV/kV „Prodel Team“ Mrcajevci	ROP-CAC-35788-WA-3/2019 15.01.2019.		
Connecting line 10 kV for MBSS 10/0,4 kV/kV „Hladnjaca Locevci“ Locevci – Gornji Milanovac	ROP-GML-36958-ISAW-2/2019 17.01.2019.		
Connecting line 10 kV for MBSS 10/0,4 kV/kV „Hladnjaca Locevci“ Locevci – Gornji Milanovac	ROP-GML-36958-WA-3/2019 28.01.2019.		
Cable line 10 kV „Hipordom - Moka„in Preljina	ROP-CAC-37516-LOC-1/2018 04.01.2019.		
Cable line 10 kV „Hipordom - Moka„in Preljina	ROP-CAC-37516-ISAW-2/2019 10.01.2019.		
Cable line 10 kV „Hipordom - Moka„in Preljina	ROP-CAC-37516-WA-3/2019 24.01.2019.		
Cable line 10 kV „Trbusani – Prijevorska III„ in Trbusani	ROP-CAC-2765-WA-6/2019 29.03.2019.		
SBSS 10/0,4 kV/kV „Sirela“ with connecting cable line 10 kV n Preljina	ROP-CAC-8356-LOCH-2/2019 11.04.2019.		
SBSS 10/0,4 kV/kV „Sirela“ with connecting cable line 10 kV n Preljina	ROP-CAC-8356-ISAW-5/2019 17.05.2019.		
SBSS 10/0,4 kV/kV „Sirela“ with connecting cable line 10 kV n Preljina	ROP-CAC-8356-WA-6/2019 28.05.2019.		
SS 10/0,4 kV/kV „Promlek“ with connecting cable line 10 kV for supplying the milk factory in Kosutnici	ROP-GML-10310-LOC-1/2019 14.05.2019.		
SS 10/0,4 kV/kV „Promlek“ with connecting cable line 10 kV for supplying the milk factory in Kosutnici	ROP-GML-10310-ISAW-2/2019 03.06.2019.		
SS 10/0,4 kV/kV „Promlek“ with connecting cable line 10 kV for supplying the milk factory in Kosutnici	ROP-GML-10310-WA-3/2019 04.07.2019.		
cable line 10 kV for SS 10/0,4 kV/kV „Arifrukt“ in Donja Kravarica	ROP-LUC-14229-LOC-1/2019 11.06.2019.		
cable line 10 kV for SS 10/0,4 kV/kV „Arifrukt“ in Donja Kravarica	ROP-LUC-14229-ISAW-2/2019 14.07.2019.		
cable line 10 kV for SS 10/0,4 kV/kV „Arifrukt“ in Donja Kravarica	ROP-LUC-14229-WA-3/2019 08.07.2019.		
SBSS 10/0,4 kV/kV „Fleksostil“ in Prijedor	ROP-CAC-18664-LOC-1/2019 03.07.2019.		
SBSS 10/0,4 kV/kV „Fleksostil“ in Prijedor	ROP-CAC-18664-ISAW-2/2019 20.08.2019.		
SBSS 10/0,4 kV/kV „Fleksostil“ in Prijedor	ROP-CAC-18664-WA-3/2019 09.10.2019.		
cable line 10 kV „Institutovo imanje – Savkovici“ in Ljubici	ROP-CAC-25252-LOC-1/2019 30.08.2019.		
cable line 10 kV „Institutovo imanje – Savkovici“ in Ljubici	ROP-CAC-25252-LOCH-2/2019 02.10.2019.		
cable line 10 kV „Institutovo imanje – Savkovici“ in Ljubici	ROP-CAC-25252-ISAW-3/2019 22.11.2019.		
cable line 10 kV from CRS on parcel no. 110/2 KO Vranici to SS 10/0,4 kV/kV „Akvapan“ on parcel no 745/1 KO Vranici with inlet in the SS 10/0,4 kV/kV „Mehanizacija Vranici“ on parcel no 696/1 KO Vranici	ROP-CAC-25255-LOC-1/2019 13.09.2019.		
MBSS 10/0,4 kV/kV „Balkanska“ with connecting cable lines 10 kV and 1 kV in Cacak	ROP-CAC-29097-LOC-1/2019 30.09.2019.		
SBSS 10/0,4 kV/kV „Lider“ with connecting cable line 10 kV in Vapa and Zablac	ROP-CAC-27960-LOC-1/2019 02.10.2019.		
connecting cable line 10 kV for MBSS 10/0,4 kV/kV „Kamenolom 2“ in Lisa	ROP-IVA-28266-LOC-1/2019 07.10.2019.		
connecting cable line 10 kV for MBSS 10/0,4 kV/kV „Kamenolom 2“ in Lisa	ROP-IVA-28266-ISAW-2/2019 09.10.2019.		

Reconstruction and additional construction of SS 10/0,4 kV/kV „Ratko Stefanovic“ on the parcel no 165/2 KO Cacak	958-971/19-IV-2-01 16.10.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Kamp 1“ on the parcel no 865/1 KO Pakovrace from the existing long distance line 10 kV in front of SS 10/0,4 kV/kV „Sutici“ on the parcel no 793 KO Pakovrace	ROP-CAC-19972-LOCH-8/2019 17.10.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Kamp 1“ on the parcel no 865/1 KO Pakovrace from the existing long distance line 10 kV in front of SS 10/0,4 kV/kV „Sutici“ on the parcel no 793 KO Pakovrace	ROP-CAC-19972-TCPI-9/2019 23.10.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Kamp 1“ on the parcel no 865/1 KO Pakovrace from the existing long distance line 10 kV in front of SS 10/0,4 kV/kV „Sutici“ on the parcel no 793 KO Pakovrace	ROP-CAC-19972-WA-10/2019 31.10.2019.		
Connecting line 10 kV between the long distance line for Kamenolom and Lisa on the parcel no 3929/2 KO Lisa and 72/12 KO Sume	ROP-IVA-31976-LOC-1/2019 22.10.2019.		
Connecting line 10 kV between the long distance line for Kamenolom and Lisa on the parcel no 3929/2 KO Lisa and 72/12 KO Sume	ROP-IVA-31976-LOC-2/2019 19.11.2019.		
Cable line 10 kV for SS 10/0,4 kV/kV „Rtari Kamp 3“ on the parcel no 899/1, 823/4 KO Rtari from the existing long distance line 10 kV for SS 10/0,4 kV/kV „Rtari 1“	ROP-LUC-33415-LOC-1/2019 15.11.2019.		
Cable line 10 kV for SS 10/0,4 kV/kV „Rtari Kamp 3“ on the parcel no 899/1, 823/4 KO Rtari from the existing long distance line 10 kV for SS 10/0,4 kV/kV „Rtari 1“	ROP-LUC-33415-ISAW-2/2019 23.12.2019.		
Construction of SS TC 10/0,4 kV/kV „Bircaninova“ on the parcel no 1931/2 KO Cacak	958-1116/19-IV-2-01 19.11.2019.		
Displacement of the part of the cable line 10 kV from SS 10/0,4 kV/kV „Autoprevoz“ to SS 10/0,4 kV/kV „Graficar“ in Ivanjica	ROP-IVA-32209-LOC-1/2019 21.11.2019.		
Displacement of the part of the cable line 10 kV from SS 10/0,4 kV/kV „Autoprevoz“ to SS 10/0,4 kV/kV „Graficar“ in Ivanjica	ROP-IVA-32209-ISAW-2/2019 26.12.2019.		
Displacement – replacement of the surface line with the cable line 10 kV for SBSS 10/0,4 kV/kV „Milutinovici“ in Prilike - Ivanjica	ROP-IVA-36006-LOC-1/2019 04.12.2019.		
Displacement – replacement of the surface line with the cable line 10 kV for SBSS 10/0,4 kV/kV „Milutinovici“ in Prilike - Ivanjica	ROP-IVA-36006-ISAW-2/2019 17.12.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Lidl“ on the parcel no 600/7 KO Gornji Milanovac	ROP-GML-37710-LOC-1/2019 10.01.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Lidl“ on the parcel no 600/7 KO Gornji Milanovac	ROP-GML-37710-ISAW-2/2019 04.04.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Lidl“ on the parcel no 600/7 KO Gornji Milanovac	ROP-GML-37710-WA-4/2019 17.04.2019.		
Connecting cable line 10 kV for SS 10/0,4 kV/kV „Lidl“ on the parcel no 600/7 KO Gornji Milanovac	ROP-GML-37710-IUP-6/2019 03.12.2019.		
LVN Objects			

Reconstruction of LVN from SS 10/0,4 kV/kV „Komadine“ – lines 1 and 4	ROP-IVA-3106-ISAW-1/2019 19.02.2019.		
Reconstruction of LVN from SS 10/0,4 kV/kV „Komadine“ – lines 1 and 4	ROP-IVA-3106-WA-2/2019 19.03.2019.		
Connecting cable line 1 kV for supplying the upcoming office building over the parcel no 30725/1,30719/3, 31397/5, 30727/6, 30727/7, 30727/4 and 30730/2 KO Gornji Milanovac from SS 10/4 kV/kV „Mlekara“	ROP-GML-38606-LOC-1/2019 23.01.2019.		
Connecting cable line 1 kV for supplying the upcoming office building over the parcel no 30725/1,30719/3, 31397/5, 30727/6, 30727/7, 30727/4 and 30730/2 KO Gornji Milanovac from SS 10/4 kV/kV „Mlekara“	ROP-GML-38606-ISAW-2/2019 27.02.2019.		
Connecting cable line 1 kV for supplying the upcoming office building over the parcel no 30725/1,30719/3, 31397/5, 30727/6, 30727/7, 30727/4 and 30730/2 KO Gornji Milanovac from SS 10/4 kV/kV „Mlekara“	ROP-GML-38606-WA-3/2019 15.03.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 373 KO Cacak in Moravska street from the pole on the parcel no 2159 KO Cacak	ROP-CAC-2701-LOC-1/2019 25.02.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 373 KO Cacak in Moravska street from the pole on the parcel no 2159 KO Cacak	ROP-CAC-2701-ISAW-2/2019 04.03.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 373 KO Cacak in Moravska street from the pole on the parcel no 2159 KO Cacak	ROP-CAC-2701-WA-3/2019 15.03.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 4284/6 KO Cacak in Obiliceva street from SS 10/0,4 kV/kV „7. juli 2“	ROP-CAC-14058-LOC-1/2019 19.06.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 4284/6 KO Cacak in Obiliceva street from SS 10/0,4 kV/kV „7. juli 2“	ROP-CAC-14058-ISAW-2/2019 04.07.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 4284/6 KO Cacak in Obiliceva street from SS 10/0,4 kV/kV „7. juli 2“	ROP-CAC-14058-ISAWH-3/2019 09.07.2019.		
Connecting cable line 1 kV for multi families residential building on the parcel no 4284/6 KO Cacak in Obiliceva street from SS 10/0,4 kV/kV „7. juli 2“	ROP-CAC-14058-WA-4/2019 19.07.2019.		
Connecting cable line 1 kV (two cables) to SSRO with MRO on the parcel no 1567/20 KO Preljina for supplying the residential buildings on the parcel no 1567/14 KO Preljina from SS 10/0,4 kV/kV „Autotrejd“	ROP-CAC-16939-LOC-1/2019 04.07.2019.		
Connecting cable line 1 kV (two cables) to SSRO with MRO on the parcel no 1567/20 KO Preljina for supplying the residential buildings on the parcel no 1567/14 KO Preljina from SS 10/0,4 kV/kV „Autotrejd“	ROP-CAC-16939-ISAW-2/2019 09.07.2019.		
Connecting cable line 1 kV (two cables) to SSRO with MRO on the parcel no 1567/20 KO Preljina for supplying the residential buildings on	ROP-CAC-16939-WA-3/2019 19.07.2019.		

the parcel no 1567/14 KO Preljina from SS 10/0,4 kV/kV „Autotrejđ“			
Connecting cable line 1 kV to IMO-SSO for industrial object (workshop) on the parcel no 2508 KO Ljubic from SS 10/0,4 kV/kV „Tatovic“	ROP-CAC-20801-LOC-1/2019 08.08.2019.		
Connecting cable line 1 kV to IMO-SSO for industrial object (workshop) on the parcel no 2508 KO Ljubic from SS 10/0,4 kV/kV „Tatovic“	ROP-CAC-20801-ISAW-2/2019 19.08.2019.		
Connecting cable line 1 kV to IMO-SSO for industrial object (workshop) on the parcel no 2508 KO Ljubic from SS 10/0,4 kV/kV „Tatovic“	ROP-CAC-20801-WA-3/2019 04.11.2019.		
Connecting cable line 1 kV to KPK on the fasade of the residential and office building on the parcel no 916 KO Cacak in Dobracina street from SS 10/0,4 kV/kV „Pariz“	ROP-CAC-23564-LOC-1/2019 27.08.2019.		
Connecting cable line 1 kV to KPK on the fasade of the residential and office building on the parcel no 916 KO Cacak in Dobracina street from SS 10/0,4 kV/kV „Pariz“	ROP-CAC-23564-ISAW-2/2019 06.09.2019.		
Connecting cable line 1 kV to KPK on the fasade of the residential and office building on the parcel no 916 KO Cacak in Dobracina street from SS 10/0,4 kV/kV „Pariz“	ROP-CAC-23564-WA-3/2019 23.09.2019.		
Connecting cable line 1 kV for supplying the collective residential building on the parcel no 612/1 KO G.Milanovac from SS10/0,4 kV/kV „Objekat A“	ROP-GML-25262-LOC-1/2019 16.09.2019.		
Connecting cable line 1 kV for supplying the collective residential building on the parcel no 612/1 KO G.Milanovac from SS10/0,4 kV/kV „Objekat A“	ROP-GML-25262-ISAW-2/2019 20.09.2019.		
Connecting cable line 1 kV for supplying the collective residential building on the parcel no 612/1 KO G.Milanovac from SS10/0,4 kV/kV „Objekat A“	ROP-GML-25262-WA-3/2019 03.10.2019.		
Connecting cable line 1 kV from SS 10/0,4 kV/kV „Apoteka“ from LV line – KPK Soliter next to the church for office building in Prote Gucanina street on the parcel no127/5 KO Guca	ROP-LUC-28287-LOC-1/2019 15.10.2019.		
Connecting cable line 1 kV from SS 10/0,4 kV/kV „Apoteka“ from LV line – KPK Soliter next to the church for office building in Prote Gucanina street on the parcel no127/5 KO Guca	ROP-LUC-28287-ISAW-2/2019 06.11.2019.		
Connecting cable line 1 kV from SS 10/0,4 kV/kV „Apoteka“ from LV line – KPK Soliter next to the church for office building in Prote Gucanina street on the parcel no127/5 KO Guca	ROP-LUC-28287-WA-3/2019 28.11.2019.		
Connecting cable line 1 kV for residential and office building on the parcels no 1329 and 1332/1,both in KO Cacak in Kneza Milosa street from SS 10/0,4 kV/kV „Rade Azanjac“	ROP-CAC-30086-LOC-1/2019 22.10.2019.		
Connecting cable line 1 kV for residential and office building on the parcels no 1329 and 1332/1,both in KO Cacak in Kneza Milosa street from SS 10/0,4 kV/kV „Rade Azanjac“	ROP-CAC-30086-ISAW-2/2019 18.11.2019.		
Connecting cable line 1 kV for residential and office building on the parcels no 1329 and 1332/1,both in KO Cacak in Kneza Milosa street from SS 10/0,4 kV/kV „Rade Azanjac“	ROP-CAC-30086-WA-3/2019 04.12.2019.		

Connecting cable line 1 kV for industrial building - workshop on the parcel no 2099/1 KO Preljina from SS 10/0,4 kV/kV „Intertrejd“	ROP-CAC-30087-LOC-1/2019 23.10.2019.		
Connecting cable line 1 kV for supplying IMO storage and production object with administration on the parcel no 4576/14 KO cacak from SS 10/0,4 kV/kV „Cer Hala 1,2“	ROP-CAC-30900-LOC-1/2019 24.10.2019.		
Connecting cable line 1 kV for supplying IMO storage and production object with administration on the parcel no 4576/14 KO cacak from SS 10/0,4 kV/kV „Cer Hala 1,2“	ROP-CAC-30900-ISAW-2/2019 13.11.2019.		
Connecting cable line 1 kV for supplying IMO storage and production object with administration on the parcel no 4576/14 KO cacak from SS 10/0,4 kV/kV „Cer Hala 1,2“	ROP-CAC-30900-WA-3/2019 28.11.2019.		
Connecting cable line 1 kV for supplying residential and office building on the parcel no 1044 KO Ivanjica in 13.septembra street from SS 10/0,4 kV/kV „13. septembar“	ROP-IVA-31934-LOC-1/2019 31.10.2019.		
Connecting cable line 1 kV for supplying residential and office building on the parcel no 1044 KO Ivanjica in 13.septembra street from SS 10/0,4 kV/kV „13. septembar“	ROP-IVA-31934-ISAW-2/2019 13.11.2019.		
Connecting cable line 1 kV for supplying residential and office building on the parcel no 1044 KO Ivanjica in 13.septembra street from SS 10/0,4 kV/kV „13. septembar“	ROP-IVA-31934-WA-2/2019 29.11.2019.		
Connecting cable line 1 kV for supplying elementary school „Momcilo Nastasijevic“ on the parcel no 29/4 KO G.Milanovac from SS 10/0,4 kV/kV „Osnovna skola“	ROP-GML-34318-LOC-1/2019 18.11.2019.		
Connecting cable line 1 kV for supplying elementary school „Momcilo Nastasijevic“ on the parcel no 29/4 KO G.Milanovac from SS 10/0,4 kV/kV „Osnovna skola“	ROP-GML-34318-ISAW-2/2019 05.12.2019.		
Connecting cable line 1 kV for supplying elementary school „Momcilo Nastasijevic“ on the parcel no 29/4 KO G.Milanovac from SS 10/0,4 kV/kV „Osnovna skola“	ROP-GML-34318-WA-3/2019 19.12.2019.		
Connecting cable line 1 kV to KPK on the fasade of residential and office building on the parcel no 1689 KO Cacak from SS 10/0,4 kV/kV „ABCD“ on the parcel no 4273 KO Cacak	ROP-CAC-33871-LOC-1/2019 21.11.2019.		
Connecting cable line 1 kV to KPK on the fasade of residential and office building on the parcel no 1689 KO Cacak from SS 10/0,4 kV/kV „ABCD“ on the parcel no 4273 KO Cacak	ROP-CAC-33871-ISAW-2/2019 04.12.2019.		
Connecting cable line 1 kV to KPK on the fasade of residential and office building on the parcel no 1689 KO Cacak from SS 10/0,4 kV/kV „ABCD“ on the parcel no 4273 KO Cacak	ROP-CAC-33871-WA-3/2019 17.12.2019.		
Connecting cable line1 kV to SSMO for office building workshop on the parcel no 928 KO Konjevici from SS 10/0,4 kV/kV „Rastoke Konjevici“ on the parcel no 929 KO Konjevici	ROP-CAC-36007-LOC-1/2019 27.11.2019.		
Connecting cable line1 kV to SSMO for office building workshop on the parcel no 928 KO Konjevici from SS 10/0,4 kV/kV „Rastoke Konjevici“ on the parcel no 929 KO Konjevici	ROP-CAC-36007-ISAW-2/2019 05.12.2019.		
Connecting cable line1 kV to SSMO for office building workshop on the parcel no 928 KO	ROP-CAC-36007-WA-3/2019 17.12.2019.		

Konjevici from SS 10/0,4 kV/kV „Rastoke Konjevici“ on the parcel no 929 KO Konjevici			
Connecting cable line 1 kV for supplying SSMO office building – customs warehouse on the parcel no 4576/16 KO Cacak from SS 10/0,4 kV/kV „Cer Hala 1,2“ on the parcel no 4576/1 KO Cacak	ROP-CAC-34849-LOC-1/2019 27.11.2019.		
Connecting cable line 1 kV for supplying SSMO office building – customs warehouse on the parcel no 4576/16 KO Cacak from SS 10/0,4 kV/kV „Cer Hala 1,2“ on the parcel no 4576/1 KO Cacak	ROP-CAC-34849-ISAW-2/2019 05.12.2019.		
Connecting cable line 1 kV for supplying SSMO office building – customs warehouse on the parcel no 4576/16 KO Cacak from SS 10/0,4 kV/kV „Cer Hala 1,2“ on the parcel no 4576/1 KO Cacak	ROP-CAC-34849-WA-3/2019 19.12.2019.		
ED Šabac			
MBSS 20/0,4 kV Centar 5 in Sabac	ROP-SAB-4858-ISAWHA-3/2019 dated 05.04.2019.		
MB 20 kV and 0,4 kV, BSSS Grusic VII and LVN in Gornja mala in Grusic	ROP-SAB-1024-ISAW-2/2019 dated 20.03.2019.		
Connecting line 20 kV, for supplying BSSS 20/0,4 kV Badovinci 29 in Badovinci	ROP-BOG-183-ISAW-1/2019 dated 14.01.2019.		
BSSS 20/0,4 kV Badovinci 29 in Badovinci	ROP-BOG-28536-IUPH-9/2019 dated 03.07.2019.		
Installation of the second transformer and blocks 20 kV and 0,4 kV into the existing 3SS 20/0,4 kV Bogatic-Mlinska industrija 1 in Bogatic	ROP-BOG-32631-ISAW-2/2019 dated 18.11.2019.		
Connecting line 20(10) kV for supplying MBSS 20(10)/0,4 kV Krnic 10-Mlin union 2 in Krnic.	ROP-VLA-34783- ISAW-1/2019 dated 15.11.2019.		

3.2. Monitoring and Environmental Impact

The factors by which DA Kraljevo is affecting the environment are:

- **Electromagnetic fields**
- **Environmental noise**
- **Waste**
- **Ground and surface waters quality**
- **Soil quality**

3.2.1. Electromagnetic Fields

Electromagnetic field measurements were carried out on 6 locations during the year 2019 and they are given in the table 191.

Table 191

DISTRIBUTION AREA KRALJEVO			
Electromagnetic field in the environment in 2019			
Branch	Source and position in space	Electric field	Magnetic field
		E _{max} V/m	B _{max} μT
ED Valjevo	TS 35 / 10kV „Valjevo 5“ Examination of human exposure to environmental low frequency of non- ionizing radiation	0,77 V/m	0,43 μT

ED Kraljevo	TS 110 / 10kV „Kraljevo” 6 (Ribnica) Examination of human exposure to environmental low frequency of non- ionizing radiation	485,3 V/m	0,295 μT
ED Kraljevo	TS 110 / 10kV „Kopaonik” Examination of human exposure to environmental low frequency of non- ionizing radiation	158,0 V/m	0,14 μT
ED Loznica	TS 35 / 10kV „Loznica 4” Examination of human exposure to environmental low frequency of non- ionizing radiation	15,8 V/m	0,49 μT
ED Cacak	TS 35 / 10kV „Kosutnjak” Examination of human exposure to environmental low frequency of non- ionizing radiation	145 V/m	0,74 μT
ED Uzice	TS 35 / 10kV „Terazije” Examination of human exposure to environmental low frequency of non- ionizing radiation	204 V/m	0,19 μT
		E (V/m)	B (μT)
DIN / VDE 1995 – Germany		-	-
NRPB 1993 – United Kingdom		12	1.600
CENELEC 1995 – European pre-standard		12	640
ICNIRP 1998 – International Recommendations		5	100

3.2.2. Environmental Noise

Environmental noise measurements were carried out on 6 locations during the year 2019 and they are given in the table 192.

Table 192

DISTRIBUTION AREA KRALJEVO								
Environmental noise in the year 2019								
SrNO	Branch Measuring place and measuring point	Work regime	Daily measurement		Night measurement		Allowed noise level (dB(A))	
			L_{eq} (dB(A))	L_A (dB(A))	L_{eq} (dB(A))	L_A (dB(A))	Daily measur.	Night measur.
1.	ED Kraljevo, Cerska nn TS 110/35/10kV Kraljevo 2	I shift	43,7	43,5	40,0	40,1	55	45
2.	ED Kraljevo, Konarevo nn TS 110/35/10kV Kraljevo 1	I shift	46,4	46,2	42,1	42,3	55	45
3.	ED Kraljevo, Raska TS 110/35/10kV Raska	I shift	56,1	56,4	48,2	48	65	55
4.	ED Kraljevo, Kopaonik TS 110/35/10kV Kopaonik	I shift	44	43,3	38,8	37,3	50	40
5.	ED Kraljevo, Ribnica TS 110/35/10kV Kraljevo 6	I shift	44		41,4		55	45
6.	ED Kraljevo, Kraljevo TS 110/35/10kV Kraljevo 5	I shift	58,2	54,2	51,7	50,4	65	55

3.2.3. Waste

Characterization, categorization and partial sale of waste in 2019 is given in the Table 193.

Table 193

DISTRIBUTION AREA KRALJEVO																	
Generated waste types in 2019																	
No.	RULES DEFINING WASTE CATEGORIES, ITS TESTING AND CLASSIFICATION <i>Issued in “Official Gazette of RS”, № 56/2010 and 93/2019).</i>	Index no.	UNIT	Branch												Note	
				HQ	ED Arandelovac	ED Valjevo	ED Jagodina	ED Kraljevo	ED Kruševac	ED Lazarevac	ED Loznica	ED Novi Pazar	ED Čačak	ED Užice	ED Šabac		TOTAL EPS DISTRIBUTION AREA KRALJEVO
				Amounts													
1.	Sulfuric Acid	06 01 02*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste sulfuric acid
2.	Base NaOH and KOH	06 02 04*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,000	0,010	Waste KOH
3.	Waste cartriges other than the stated in 08 03 17	08 03 18	t	0,700	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,050	0,100	0,000	0,000	0,850	Used cartriges
4.	Waste oil containing PCB	13 03 01*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	PCB contaminated transformer oils
5.	Mineral non chlorinated motor oils, gearbox oil and lubrication oils	13 02 05*	t	0,000	0,000	0,000	0,000	0,000	0,460	0,000	0,000	0,000	0,400	0,040	0,000	0,900	Motor oil
6.	Mineral non chlorinated oils for isolation and heat transfer	13 03 07*	t	0,000	0,000	0,000	0,000	0,000	1,440	0,000	0,000	0,000	1,800	0,000	0,000	3,240	Trafo oil
7.	Packaging materials containing residues of hazardous substances or contaminated with hazardous substances	15 01 10*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste contaminated packaging from chemicals



8.	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing, which are contaminated with hazardous substances	15 02 02*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Отпадно адсорпциона средства са уљем и мазутом
9.	Waste tyres	16 01 03	t	0,200	0,000	0,332	0,000	0,100	0,000	0,840	0,230	0,300	1,840	0,200	1,725	5,767	Old car tyres
10.	Waste vehicles	16 01 04*	t	0,000	0,000	0,000	1,0	0,000	0,000	0,000	0,000	0,000	0,000	0,000	3,500	4,500	Old vehicles
11.	Waste vehicles not containing liquid and other hazardous substances	16 01 06	t	0,000	0,000	0,000	0,000	0,400	5,000	0,000	0,000	0,000	15,000	1,200	0,000	21,600	Old vehicles
12.	Oil filters	16 01 07	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,000	0,010	Old filters
13.	Antifreeze containing hazardous substances	16 01 14*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Antifreeze
14.	Ferrous materials	16 01 17	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Ferrous material (power switches breakers and disconnectors)
15.	Transformers and condensers containing PCB	16 02 09*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	PCB contaminated equipment
16.	Rejected equipment other than the stated in 16 02 09 up to 16 02 13	16 02 14	t	0,000	0,000	0,000	0,000	6,800	0,000	0,400	0,000	0,000	7,500	0,600	0,000	15,300	Old transformers
17.	Lead-acid batteries	16 06 01*	t	0,000	0,000	0,000	0,000	0,100	0,000	0,003	0,000	0,000	0,180	0,020	0,000	0,303	Lead –acid batteries
18.	Nickel-cadmium batteries	16 06 02*	t	0,000	0,000	0,000	0,000	0,200	0,000	0,000	0,000	0,000	0,030	0,000	0,000	0,230	Waste nickel-cadmium batteries
19.	Concrete	17 01 01	t	0,000	0,000	5,000	2,410	2,000	0,000	0,000	0,000	0,000	9,000	0,000	2,401	20,811	Old concrete piles
20.	Roof tiles and ceramics	17 01 03	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Ceramics
21.	Insulation materials other than the stated in 17 06 01 and 17 06 03	17 06 04		0,000	0,000	0,000	0,000	0,000	0,000	0,300	0,000	0,000	2,000	0,000	0,203	2,503	Old insulators
22.	Plastic	17 02 03	t	0,000	0,000	0,019	0,000	0,200	0,000	0,000	0,000	0,000	0,050	0,000	0,002	0,271	Waste plastic



23.	Copper	17 04 01	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Pure copper pieces and cooper wires
				0,000	0,000	0,000	0,000	0,000	0,100	0,000	0,000	0,000	0,000	0,000	0,000	0,100	Light copper
24.	Aluminum	17 04 02	t	0,000	0,000	0,270	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,270	Waste aluminum
25.	Iron and steel	17 04 05	t	0,000	0,000	0,024	0,000	0,100	3,000	0,000	5,320	0,070	1,500	0,250	5,233	15,497	Waste parts of equipment in TS, etc
26.	Mixed metals	17 04 07	t	0,000	0,000	0,000	0,000	0,200	3,700	4,581	0,000	2,674	0,800	0,000	19,125	31,080	Al-Fe rope
27.	Cables containing oil, tar from oil and other hazardous substances	17 04 10	t	0,000	0,000	0,000	3,000	0,000	0,000	0,165	0,000	0,000	0,300	0,000	0,000	3,465	Oiled cables
28.	Cables other than the stated in 17 04 10	17 04 11	t	0,000	0,000	0,000	4,000	0,150	0,000	1,597	0,000	0,000	0,400	0,000	0,464	6,611	Waste aluminum cables
				0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,150	0,000	0,156	0,306	Waste copper cables
29.	Paper and cardboarad	20 01 01	t	0,000	0,000	0,000	0,000	0,200	0,000	0,300	0,000	0,100	0,000	0,000	0,009	0,609	Old paper and cardboard
30.	Fluorescent tubes and other mercury containing waste	20 01 21*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,010	0,020	0,000	0,001	0,031	Waste fluorescent tubes
31.	Batteries and accumulators including in 16 06 01,16 06 02 and 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Waste batteries



32.	Rejected electric and electronic equipment other than the stated in 20 01 21, 20 01 23 and 20 01 35	20 01 35*	t	2,000	0,000	0,385	0,000	0,400	0,000	0,200	0,000	0,050	0,180	0,400	0,408	4,023	Computers, monitors
33.	Rejected electric and electronic equipment other than the stated in 20 01 21, 20 01 23 and 20 01 35	20 01 36	t	0,000	0,000	0,000	1,000	1,390	0,000	0,400	0,000	0,400	2,300	0,100	0,000	5,590	EEO not containing the hazardous components
34.	Wood containing hazardous substances	20 01 37*	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,300	0,000	0,000	7,490	7,790	Waste water proof poles-black water-proofing
35.	Wood other than in 20 01 37	20 01 38	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	1,500	1,000	0,000	2,460	4,960	Waste water proof poles-green water-proofing
36.	Bulky waste	20 03 07	t	1,000	0,000	0,000	0,000	0,150	0,000	0,000	0,000	0,100	0,300	0,000	0,000	1,550	Old joinery, etc
37.	Oily water	13 08 02*	t	0,000	30,140	40,800	68,26	0,000	0,000	57,180	10,100	0,000	0,000	6,280	19,600	232,360	Waste water from oiled sumps

3.2.4. Surface, Groundwater and Soil Monitoring

In DA Kraljevo during the year 2019 water at the outlet from the new separators was tested at 7 locations. The testing was performed by the accredited laboratory „Mol“, and it was determined that the facility is in operation and that during the sampling the outlet was in accordance with the relevant regulations.

3.3. Working Environment Monitoring, Health and Safety at Work

Occupational Health and Safety Reports for the year 2019 include the following activities:

- **Working environment monitoring**
 - Working environment noise measurements
 - Working environment electromagnetic fields
 - Working environment parameters
- **Safety**
 - Training
 - Injuries
- **Health**

3.3.1. Working Environment Monitoring

- **Working environment noise measurement**

Noise measurements in working environment were not performed in the year 2019.

- **Electromagnetic fields in working environment**

Electromagnetic fields measurements were not performed in the year 2019.

- **Working environment parameters**

In the year 2019 working environment parameters were measured in facilities of branches for DA Kraljevo.

3.3.2. Occupational Safety

- **Training**

Training of employees is carried out in accordance with the Occupational Safety Qualification and Knowledge Improvement Program. Knowledge testing of the employees on the positions with increased risk is performed every fifth year in accordance with Risk Assessment Act.

Training of employees is shown in Table 194, and it includes both the training of new employees and the training for the employees for specific expert positions.

Table 194

DISTRIBUTION AREA KRALJEVO					
Training of employees in 2019					
Branch/Facility	Number of employees	For training		Trained	
		Number	%	Number	%
ED Arandelovac	34				
Health and Safety training		34	100,00	34	100,00
Turbine operator training		34	100,00	1	2,94
ED Valjevo	48				
Health and Safety training		48	100,00	46	95,83
Training for electrical fitters for operating the TS 110/35 kW		48	100,00	2	4,17

ED Jagodina	73				
Health and Safety training		73	100,00	73	100,00
ED Kraljevo	66				
Health and Safety training		66	100,00	0	0,00
Fire protection training		66	100,00	0	0,00
ED Kruševac	95				
Health and Safety training		95	100,00	0	0,00
ED Lazarevac	42				
Health and Safety training		42	100,00	42	100,00
ED Loznica	58				
Health and Safety training		58	100,00	47	81,03
ED Novi Pazar	38				
Health and Safety training		38	100,00	38	100,00
Training for project managers and orderers		38	100,00	20	52,63
Fire protection training		38	100,00	38	100,00
ED Užice	128				
Health and Safety training		128	100,00	128	100,00
Fire protection training		128	100,00	22	17,19
ED Čačak	120				
Health and Safety training		120	100,00	104	86,67
ED Šabac	43				
Health and Safety training		43	100,00	31	72,09
Training for project managers and orderers		43	100,00	2	4,65
HQ	113				
Health and Safety training		113	100,00	111	98,23
TOTAL: DISTRIBUTION AREA KRALJEVO	858	858	100,00	654	76,82
Health and Safety training					
Training for project managers and orderers	858	858	100,00	22	2,56
Fire protection training	858	858	100,00	60	6,99
Training for electrical fitters for operating the TS 110/35 kW	858	858	100,00	2	0,23
Turbine operator training	858	858	100,00	1	0,12

Work injuries

Data on work injuries in the year 2019 are provided in the Table 195.

Table 195

DISTRIBUTION AREA KRALJEVO						
Work injuries in the year 2019						
Branch/Facility	Number of employees	Work injuries in relation to the number of employees				
		Light	Light	Light	Light	Light
ED Arandelovac	34	0	0	0	0	0,00
ED Valjevo	48	1	0	0	1	2,08
ED Jagodina	73	0	1	0	1	1,37
ED Kraljevo	66	0	0	0	0	0,00

ED Kruševac	95	0	0	0	0	0,00
ED Lazarevac	42	1	0	0	1	2,38
ED Loznica	58	0	0	0	0	0,00
ED Novi Pazar	38	0	0	0	0	0,00
ED Užice	128	1	1	0	2	1,56
ED Čačak	120	2	0	0	2	1,67
ED Šabac	43	0	0	0	0	0,00
HQ of DA	113	1	0	0	1	0,88
TOTAL: DISTRIBUTION AREA KRALJEVO	858	6	2	0	8	0,93

3.3.3. Health

Results of periodic examinations are given in Table 196.

Table 196

DISTRIBUTION AREA KRALJEVO											
Work capability of employees in the year 2019											
Branch/Facility	Number of employees	Periodic examination				Periodic examination					
		Referred to examination		Referred to examination		Capable		Limited capability		Not capable	
		No	%	No	%	No	%	No	%	No	%
ED Arandelovac	34	20	58,82	20	100,00	20	100,00	0	0,00	0	0,00
ED Valjevo	48	27	56,25	27	100,00	24	88,89	3	11,11	0	0,00
ED Jagodina	73	47	64,38	47	100,00	42	89,36	5	10,64	0	0,00
ED Kraljevo	66	34	51,52	34	100,00	29	85,29	4	11,76	1	2,94
ED Kruševac	95	60	63,16	60	100,00	52	86,67	8	13,33	0	0,00
ED Lazarevac	42	27	64,29	27	100,00	26	96,30	0	0,00	1	3,70
ED Loznica	58	47	81,03	44	93,62	44	100,00	0	0,00	0	0,00
ED Novi Pazar	38	30	78,95	30	100,00	24	80,00	6	20,00	0	0,00
ED Užice	128	90	70,31	90	100,00	83	92,22	7	7,78	0	0,00
ED Čačak	120	78	65,00	78	100,00	71	91,03	6	7,69	1	1,28
ED Šabac	43	31	72,09	30	96,77	29	96,67	1	3,33	0	0,00
HQ of DA	113	17	15,04	17	100,00	14	82,35	3	17,65	0	0,00
TOTAL: DISTRIBUTION AREA KRALJEVO	858	508	59,21	504	99,21	458	90,87	43	8,53	3	0,60

3.4. Public complaints

There were no public complaints during the year 2019.

4. DISTRIBUTION AREA KRAGUJEVAC

The structure of all facilities and systems within DA Kragujevac is shown in table 197.

Table 197

DISTRIBUTION AREA KRAGUJEVAC												
Facilities and systems in the year 2019												
Branch	Power distribution Substations							Total:	Distribution network			Distribution network total length in km
	110/10 kV	110/20 kV	110/35 kV	110/x/z kV	35/10 kV	20/0,4 kV	10/0,4 kV		Voltage level	Overhead in km	Cable in km.	
ED Kragujevac									110 kV	0,000	0,000	0,000
									35 kV	193,000	37,300	230,300
									20 kV	0,000	0,000	0,000
									10 kV	1.185,230	582,482	1.767,712
									1,0 kV	0,000	0,000	0,000
									0,4 kV	4.243,010	819,427	5.062,437
Total	1	0	1	5	14	0	910	931	Total	5.621,240	1.439,209	7.060,449
ED Požarevac									110 kV	0,000	0,000	0,000
									35 kV	253,300	36,140	289,440
									20 kV	0,000	0,000	0,000
									10 kV	1.060,470	239,210	1.299,680
									1,0 kV	0,000	0,000	0,000
									0,4 kV	4.090,280	473,620	4.563,900
Total	0	0	4	0	23	0	919	946	Total	5.404,050	748,970	6.153,020
ED Smederevo									110 kV	2,060	0,000	2,060
									35 kV	179,550	30,040	209,590
									20 kV	0,000	0,000	0,000
									10 kV	855,019	215,920	1.070,939
									1,0 kV	0,000	0,000	0,000
									0,4 kV	2.682,640	73,610	2.756,250
Total	1	0	4	0	26	0	970	1.001	Total	3.719,269	319,570	4.038,839
TOTAL: DISTRIBUTION AREA KRAGUJEVAC									110 kV	2,060	0,000	2,060
									35 kV	625,850	103,480	729,330
									20 kV	0,000	0,000	0,000
									10 kV	3.100,719	1.037,612	4.138,331
									1,0 kV	0,000	0,000	0,000
									0,4 kV	11.015,930	1.366,657	12.382,587
Total	2	0	9	5	63	0	2.799	2.878	Total	14.744,559	2.507,749	17.252,308

4.1. Overview and status of permit

Overview and status of permits, licenses and other required approvals as well as new requests for obtaining permits in the year 2019 are presented in the Table 198.

Table 198

DISTRIBUTION AREA KRAGUJEVAC			
Permits Overview and Status in the year 2019			
Branch	Obtained approvals and permits (Number and date)	Applications for obtaining new or extending existing permits	Note
ED KRAGUJEVAC			
1 kV cable lines for connecting the object in the Crvene Zastave street no. 7 to KP 10806 KO:KG 4	ROP-KRG-312-ISAW-1/2019 15.01.2019.		Decision on works approval
Adaptation of SS 110/35/10 kV KG0018 Lapovo to kp 13373/2 KO Lapovo	ROP-MSGI-17691-ISAW-3/2018 (no. 351-05-00890/2018-07) 23.01.2019.		Decision on works approval
Construction of SBSS no.200812 „Zdraljica-Zelena Dolina" to kp 14506 KO:KG 1 on the connecting surface line 10 kV	ROP-KRG-2512-ISAW-1/2019 11.02.2019.		Decision on works approval
1 kV cable lines for connecting the two objects (I phase) of the national apartment building on Denino hill	ROP-KRG-6283-ISAW-1/2019 19.03.2019.		Decision on works approval
10 kV cable lines for connecting the switch station no. 200820 „Lidl Stanovo" and distribution unit into MBSS 200820	ROP-KRG-8658-ISAW-1/2019 10.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj. in Srpskih Dobrovoljaca street bb to KP 14303/4, 4303/2, 4302/4, 4301/2, 4301/3 and 4335 KO:KG 3	ROP-KRG-8659-ISAW-1/2019 09.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Jovana Ristica street no.126 to KP 6590 and 6566/1 KO:KG 1	ROP-KRG-9106-ISAW-1/2019 12.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Tanaska Rajica street no. 34 and RO in Tanaska Rajica street no. 28 to KP 2970, 2967/3, 2885 and 2980/1 KO:KG 3	ROP-KRG-9108-ISAW-1/2019 12.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Milutina Markovica street no.4	ROP-KRG-15893-ISAW-1/2019 12.06.2019.		Decision on works approval
Construction of SBSS no. 200816 „Printeks" on kp 2215 KO:KG4, displacement of the long distance power line from the pole 17 to the pole 29 and the construction of 10 kV connecting power line	ROP-KRG-16191-ISAW-1/2019 17.06.2019.		Decision on works approval
Construction of the LV network at TR SS 231067 „Malo Krcmare -Vulovici", line Vulovici	ROP-RAC-34139-ISAW-2/2019 351-45/2019/IV-02-1 03.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Kolubarska street no.16 to KP 9530 KO KG 4	ROP-KRG-18845-ISAW-1/2019 03.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Crvene Zastave street no.7 to KP 10806 KO:KG 4	ROP-KRG-312-ISAW-1/2019 15.01.2019.		Decision on works approval
Adaptation od SS 110/35/10 kV KG0018 Lapovo to kp 13373/2 KO Lapovo	ROP-MSGI-17691-ISAW-3/2018 (br. 351-05-00890/2018-07) 23.01.2019.		Decision on works approval
Construction of SBSS no. 200812 „Zdraljica-Zelena Dolina " to kp 14506 KO:KG1 with the connecting surface line 10 kV	ROP-KRG-2512-ISAW-1/2019 11.02.2019.		Decision on works approval

1 kV cable lines for connecting the two objects (I phase) of the national apartment building on Denino hill	ROP-KRG-6283-ISAW-1/2019 19.03.2019.		Decision on works approval
10 kV cable lines for connecting the switch station no. 200820 „Lidl Stanovo" and distribution unit into MBSS 200820	ROP-KRG-8658-ISAW-1/2019 10.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj. in Srpskih Dobrovoljaca street bb to KP 14303/4, 4303/2, 4302/4, 4301/2, 4301/3 and 4335 KO:KG 3	ROP-KRG-8659-ISAW-1/2019 09.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Jovana Ristica street no.126 to KP 6590 and 6566/1 KO:KG 1	ROP-KRG-9106-ISAW-1/2019 12.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Tanaska Rajica street no. 34 and RO in Tanaska Rajica street no. 28 to KP 2970, 2967/3, 2885 and 2980/1 KO:KG 3	ROP-KRG-9108-ISAW-1/2019 12.04.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Milutina Markovica street no.4	ROP-KRG-15893-ISAW-1/2019 12.06.2019.		Decision on works approval
Construction of SBSS no. 200816 „Printeks" on kp 2215 KO:KG4, displacement of the long distance power line from the pole 17 to the pole 29 and the construction of 10 kV connecting power line	ROP-KRG-16191-ISAW-1/2019 17.06.2019.		Decision on works approval
Construction of the LV network at TR SS 231067 „Malo Krcmare -Vulovici", line Vulovici	ROP-RAC-34139-ISAW-2/2019 351-45/2019/IV-02-1 03.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Kolubarska street no.16 to KP 9530 KO KG 4	ROP-KRG-18845-ISAW-1/2019 03.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Vojvode Misica street no.16-18 to kp 15288 KO KG 3"	ROP-KRG-18846-ISAW-1/2019 08.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Srpskih Dobrovoljaca street no. 7 to KP 4288/1 KO KG 3	ROP-KRG-18839-ISAW-1/2019 10.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Bozane Prpic street no. 5-7 to kp 4893 and 4890/2 KO KG 3	ROP-KRG-20323-ISAW-1/2019 16.07.2019.		Decision on works approval
Construction of 10 kV ground lines from SS 110/35/10 kV KG 001 „Illicevo" to SS 10/0,4 kV no.200567 „Majdan" to kp no. 4762 KO Luznice	ROP-KRG-20319-ISAW-1/2019 16.07.2019.		Decision on works approval
Construction of RO in the Kralja Aleksandra I Karadjordjevic street no. 112	ROP-KRG-22125-ISAW-1/2019 31.07.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Gavril Principa 24 street to KP 4739, 4751 KO KG 3	ROP-KRG-22121-ISAW-1/2019 31.07.2019.		Decision on works approval
Displacement of MBSS no.200604 „Svetlost" from kp 2914/2 to kp 2903/9 KO:KG3 with the connecting medium voltage lines and output lines 1 kV	ROP-KRG-22126-ISAW-1/2019 01.08.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Daniceva street no. 97 to KP5222/1 KO KG 3	ROP-KRG-22112-ISAW-1/2019 01.08.2019.		Decision on works approval
Adaptation of SS 35/10 kV KG 08 in Lapovo in Kraljice Marije street to kp no. 6697/2 KO Lapovo	ROP-LAP-24034-IUP-1/2019 20.08.2019.		Exploitation permit
10 kV cable line from the new connecting point to the existing power line for Medna in Zdraljica	ROP-KRG-24612-ISAW-1/2019 27.08.2019.		Decision on works approval

1 kV cable lines for connecting the obj.in Dragoljiba Milovanovica Bene street no. 103	ROP-KRG-24618-ISAW-1/2019 27.08.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Rudnicka street no.7, kp 936/1 KO KG 3	ROP-KRG-24614-ISAW-1/2019 27.08.2019.		Decision on works approval
10 kV cable lines (double power) for connecting the SS 10/0,42 kV 2x2000 kVA "CTP"	ROP-KRG-25848-ISAW-1/2019 04.09.2019. ROP-KRG-25848-GR-1/2019 04.09.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Laze Marinkovica, Dimitrija Tucovica, Prvoslava Stojanovica, kp 5344 KO KG 3-PANORAMA-Erdogljia	ROP-KRG-30792-ISAW-1/2019 23.10.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Vojvode Gligora street no.1, kp 5143 KO KG 3	ROP-KRG-30805-ISAW-1/2019 23.10.2019.		Decision on works approval
Construction of MBSS no. 200822 „Panorama“ Kragujevac to KP 5344/4 KO:KG4 and ground cable lines 10 kV for connecting the switch station	ROP-KRG-30795-ISAW-1/2019 23.10.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Dr Zorana Djindjica street 27, kp 3776 и 3772/1 KO KG 3	ROP-KRG-30798-ISAW-1/2019 23.10.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Kopaonicka street no.8, kp and SRP in Kopaonicka street no. 22 KO KG 3	ROP-KRG-31732-ISAW-1/2019 24.10.2019.		Decision on works approval
1 kV cable lines for connecting SRO for Deprom in Industrijska street, kp 1518/47 KO KG 1	ROP-KRG-30952-ISAW-1/2019 24.10.2019.		Decision on works approval
Adaptation of SS 35/10 kV KG 08 in Lapovo in Kraljice Marije street to kp no. 6697/2 KO Lapovo	ROP-LAP-24034-IUP-1/2019 20.08.2019.		Exploitation permit
10 kV cable line from the new connecting point to the existing power line for Medna in Zdraljica	ROP-KRG-24612-ISAW-1/2019 27.08.2019.		Decision on works approval
1 kV cable lines for connecting the obj.in Dragoljiba Milovanovica Bene street no.103	ROP-KRG-24618-ISAW-1/2019 27.08.2019.		Decision on works approval
ED SMEDEREVO			
MBSS 10/0,4kV „Mali Krivak“ Smederevo with the connecting ground line 10 kV	ROP-SMD-36835-ISAW-2/2019 dated 04.02.2019.		Decision on works approval
SSS 10/0,4kV „Blok Stanica 9“ Lugavcina with the connecting ground line 10kV	ROP-SMD-19161-ISAWHA- 3/2019 dated 11.09.2019.		Decision on works approval
MBSS 10/0,4kV „Holivud“, Смедерево with the connecting ground line 10kV	ROP-SMD-40051-ISAW-1/2018 dated 03.01.2019.		Decision on works approval
Construction of ground line 1kV for connecting the building in Petrijeviski potok street (MGM STIL building) in Smederevo	ROP-SMD-14401-ISAW-2/2019 dated 07.10.2019.		Decision on works approval
SSS 10/0,4kV „Vinarija Ratari“ Ratari with the connecting ground line 10 kV	ROP-SPA-10-CPI-2/2019 dated 19.02.2019.		Decision on works approval
SSS 10/0,4kV „Blok Stanica 8“ Porodin with the connecting ground line 10kV	ROP-ZAB-29710-ISAW-2/2019 од 12.11.2019		Decision on works approval
SSS 10/0,4kV „Cistacka stanica “ Porodin with the connecting ground line 10kV	ROP-ZAB-29713-ISAW-2/2019 dated 22.10.2019		Decision on works approval
SSS 10/0,4kV „Blok“ Velika Plana with the connecting ground line 10kV	ROP-VPL-4523-ISAW-3/2019 dated 15.04.2019		Decision on works approval
SSS 10/0,4kV „NIS“ Velika Plana with the connecting ground line 10kV	ROP-VPL-7058-ISAW-2/2019 dated 25.04.2019		Decision on works approval

KBSS 10/0,4kV „Industrijska zona 3" Velika Plana with the connecting ground line 10kV	ROP-VPL-30096-ISA-2/2019 dated 01.11.2019		Decision on works approval
Construction of 10 KV line for SSS 10/0,4 kV „Blok Stanica 9" Lugavcina	ROP-SMD-19161-ISA-WHA- 3/2019 dated 11.09.2019.		Decision on works approval
Construction of 10 KV line for SSS 10/0,4 kV „Vinatija Ratari" Ratari	ROP-SPA-10-CPI-2/2019 dated 19.02.2019.		Decision on works approval
Construction of 10 KV line for SSS 10/0,4 kV „Blok Stanica 8" Porodin	ROP-ZAB-29710-ISA-2/2019 dated 12.11.2019		Decision on works approval
Construction of 10 KV line for SSS 10/0,4 kV „Cistacka stanica" Porodin	ROP-ZAB-29713-ISA-2/2019 dated 22.10.2019		Decision on works approval
Construction of 10 KV line for SSS 10/0,4 kV „NIS" Velika Plana	ROP-VPL-7058-ISA-2/2019 dated 25.04.2019		Decision on works approval
ED POŽAREVAC			
10 kV surface line for BSTS 10/0,4 kV „Krvije 3"	ROP-PML-13565-ISA-1/2019 dated 27.5.2019.		Decision on works approval
Construction of 10 kV ground line for MBSS 10/0,4kV „Pristaniste" in Kostolac	ROP-PZR-34025-ISA-1/2018 (04-351-777/2018 dated 20.11.2018.)		Decision on works approval
Construction of 10 kV ground line from MBSS 10/0,4kV „Priveziste" to KBSS 10/0,4kV „Ostrovo 2"	ROP-VGR-26120-ISA-2/2019, 351-349/2019-06 dated 8.10.2019.		Decision on works approval
Construction of 10 kV ground line from SS 10/0,4kV „Milivoja Zivanovica" to UZSS 10/0,4kV „Suvoborska" in Pozarevac	ROP-PZR-36822-ISA-2/2019 dated 8.5.2019.		Decision on works approval
Construction of 10 kV ground line from SS 35/10kV Pozarevac 2 to UZSS 10/0,4kV Suvoborska and from SS 35/10kV Pozarevac 2 to MBSS 10/0,4kV Djura 1 in Pozarevac	ROP-PZR-22805-ISA-1/2019 dated 5.8.2019.		Decision on works approval
Construction of 10 kV ground line from KBSS 10/0,4kV „Ostrovo 2" to MBSS 10/0,4kV „Vodoizvoriste Ostrovo" in Ostrovo	ROP-VGR-26120-ISA-2/2019, 351-349/2019-06 dated 8.10.2019.		Decision on works approval
SS 10/0,4 kV „Suvoborska" in Pozarevac	ROP-PZR-682-CPI-3/2017; 04-351-340/2017 dated 23.6.2017.		Decision on works approval
KBSS 10/0,4kV „Ostrovo 2" in Ostrovo	ROP-VGR-26120-ISA-2/2019, 351-349/2019-06 dated 8.10.2019.		Decision on works approval
SS 10/0,4 kV „Krvije 3" in Krvije	ROP-PML-13565-ISA-1/2019 dated 27.5.2019.		Decision on works approval
LV network from BSSS 10/0,4kV „Krvije 3"	ROP-PML-13565-ISA-1/2019 dated 27.5.2019		Decision on works approval
Construction of LV cable lines from KBSS 10/0,4kV „Kneza Lazara" towards the Kneza Lazara street in Pozarevac	ROP-PZR-13823-ISA-3/2018, 04-351-887/2018 dated 26.12.2018.		Decision on works approval
Construction of LV network from KBSS 10/0,4kV „Ostrovo 2" in Ostrovo	ROP-VGR-26120-ISA-2/2019, 351-349/2019-06 dated 8.10.2019		Decision on works approval

4.2 . Monitoring and Environmental Impact

DE Kragujevac affect the environment via following factors:

- **Electromagnetic Fields**
- **Environmental Noise**
- **Waste**
- **Surface and ground waters quality**
- **Soil quality**

4.2.1. Electromagnetic Fields

Measurements of electric and magnetic fields size in the environment were carried out during the year 2019 on the following locations:

1. SS 35 /10 kW „Veliko Laole"- within permissible limits
2. SS 35 /10 kW „Veliko Gradiste 2"- within permissible limits
3. SS 35 /10 kW „Veliko Gradiste 1"- within permissible limits
4. SS 35 /10 kW „Veliko Gradiste 3"- within permissible limits
5. SS 35 /10 kW „Petrovac 2"- within permissible limits
6. SS 35 /10 kW „Petrovac 1"- within permissible limits
7. SS 35 /10/6 kW „KG04-21 oktobar"- within permissible limits

4.2.2 .Environmental Noise

Measurements of environmental noise were not carried out in the year 2019.

4.2.3. Waste

Waste amounts generated in Distribution Area Kragujevac in the year 2019 are presented in the Table 199.

Table 199

DISTRIBUTION AREA KRAGUJEVAC								
Generated waste types in 2019								
No.	RULES DEFINING WASTE CATEGORIES, ITS TESTING AND CLASSIFICATION ("Official Gazette RS", № 56/2010 and 93/2019)	Index number	Measurement unit	Branch				NOTE
				ED KRAGUJEVAC	ED POŽAREVAC	ED SMEDEREVO	TOTAL: DISTRIBUTION AREA KRAGUJEVAC	
1.	Waste that has not been specified otherwise	08 03 99	t	0,740	0,720	0,000	1,460	Waste toners
2.	Mineral non chlorinated motor oils for gears and lubrication	13 02 05*	t	0,000	0,000	0,000	0,000	
3.	Mineral non chlorinated oils for insulation and heat transportation	13 03 07*	t	0,000	0,350	0,000	0,350	Transformer oil
4.	Paper and cardboard packaging	15 01 01	t	0,000	0,000	0,000	0,000	Paper and cardboard
5.	Wooden packaging	15 01 03	t	1,000	0,000	0,000	1,000	Wooden packaging
6.	Packaging containing residual hazardous substances or is contaminated by hazardous substances	15 01 10*	t	0,000	0,000	0,000	0,000	Waste contaminated PVC packaging used for chemicals
			t					Waste metal packaging from used oils and lubricants
7.	Absorbents, filter materials (including oils filters not specified otherwise), wiping cloths, protection clothes, contaminated by hazardous substances	15 02 02*	t	0,000	0,000	0,000	0,000	Waste absorption agent with oil and Severe fuel oil
8.	Waste tires	16 01 03	t	0,300	0,300	0,300	0,900	Auto tires
9.	Colored metals	16 01 18	t	0,000	0,000	0,000	0,000	Copper residues (racks, ropes and wires)
10.	Transformers and condensers containing PCB	16 02 09*	t	0,000	0,000	0,000	0,000	Waste and used transformers with PCB oil
11.	Discarded equipment containing hazardous components other than specified in 16 02 09 to 16 02 12	16 02 13*	t	0,000	4,200	0,000	4,200	Lead batteries
12.	discarded equipment other than the one specified in 16 02 09 to 16 02 13	16 02 14	t	10,020	1,720	5,360	17,280	Discarded meters
13.	Lead batteries	16 06 01*	t	0,000	0,000	0,000	0,000	Accu-batteries
14.	Ni-Cd batteries	16 06 02*	t	0,000	0,000	0,000	0,000	
15.	Concrete	17 01 01	t	16,820	3,000	17,600	37,420	Old concrete poles, pole foundations
16.	Tiles and ceramics	17 01 03	t	0,000	0,000	0,000	0,000	(porcelain insulators)



17.	Wood	17 02 01	t	4,400	5,890	2,660	12,950	Wooden poles - green
18.	Copper, bronze, brass	17 04 01	t	0,000	8,660	0,075	8,735	Cu, brass
19.	Iron and steel	17 04 05	t	14,810	11,170	9,840	35,820	Waste parts of SS
20.	Mixed metals	17 04 07	t	1,850	4,530	4,600	10,980	Mixed metals, Al Fe rope
21.	Cables containing oil, oil tar and other hazardous substances	17 04 10*	t	0,000	0,000	0,000	0,000	
22.	Cables different than listed in 17 04 10	17 04 11	t	0,580	4,650	0,000	1,045	Waste aluminum cables
23.	Soil and stones containing dangerous substances	17 05 03*	t	0,000	0,000	0,000	0,000	Oily soil
24.	insulation materials other than specified in 17 06 01 and 17 06 03	17 06 04	t	0,870	0,820	0,000	1,690	Ceramic insulators
25.	paper and cardboard	20 01 01	t	1,625	0,470	0,460	2,555	
26.	Waste clothes and footwear	20 01 10	t	0,000	0,140	0,300	0,440	
27.	Fluorescent tubes and other waste containing mercury	20 01 21*	t	0,000	0,000	0,030	0,000	
28.	Discarded electric and electronic equipment other than specified in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	t	0,000	0,000	0,000	0,000	Discarded electronic and electric equipment
29.	Discarded electric and electronic equipment other than specified in 20 01 21, 20 01 23 and 20 01 35	20 01 36	t	0,000	0,000	0,000	0,000	Electronic and induction meters, disconnectors, lamps and power switches
30.	Wood containing hazardous substances	20 01 37*	t	0,000	4,000	0,000	4,000	Impregnated wooden poles
31.	Wood other than specified in 20 01 37	20 01 38	t	0,000	0,000	0,000	0,000	Commercial waste

4.2.4. Surface, Ground Waters and Soil Monitoring

In 2019, in accordance with the public procurement 169-17 regarding the Oil Sump Monitoring Project, on the territory of DA Kragujevac, the tracking of liquid hazardous waste in transformer facilities was being performed on the following locations:

1. DA Kragujevac- 110/x kV TS Smederevo 1 – Buline vode
A separator was installed and quality testing of effluents was performed.
Based on item 11 of the report no.I 613/19-4 dated 29th July 2019 issued by „Institut Mol Ltd.“, the following conclusion can be drawn: the levels of measured values DO NOT EXCEED limit values.
2. DA Kragujevac- 110/10/10 kV KG 005 TS – Divlje Polje. A separator was installed and quality testing of effluents was performed.
Based on item 11 of the report no.I 404/19-4 dated 14th June 2019 issued by „Institut Mol Ltd.“ the following conclusion can be drawn: the levels of measured values DO NOT EXCEED limit values.
3. DA Kragujevac- 110/35 kV TS Metino brdo
A separator was installed and quality testing of effluents was performed
Based on item 11 of the report no.I 635/19-2 dated 15th August 2019 issued by „Institut Mol Ltd.“, the following conclusion can be drawn: the levels of measured values DO NOT EXCEED limit values..
4. DA Kragujevac- KG 001 110/35 kV TS Iličevo. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities.
5. DA Kragujevac–35/10 kV TS Požarevac 1. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities
6. DA Kragujevac–35/10 kV TS Požarevac 2. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities
7. DA Kragujevac–35/10 kV TS Gruža. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities
8. DA Kragujevac–35/10 kV TS Češko groblje. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities
9. DA Kragujevac–35/10 kV TS Mlekara. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities
10. DA Kragujevac–35/10 kV TS Azanja. Installing the system for tracking the accumulation of liquid hazardous waste in oil sumps of transformer facilities

4.3. Working Environment Monitoring, Occupational health and Safety

2019 Occupational Health and Safety Reports include the following items:

- **Working Environment Monitoring**
 - Working environment noise measurements
 - Working environment electromagnetic fields
 - Working environment parameters
- **Safety**
 - training of employees
 - work injuries
- **Health protection**

4.3.1. Working Environment Monitoring

- **Working environment noise measurements**

There were no working environmental noise measurements performed in 2019.

▪ Working environment electromagnetic fields

Measurements of electromagnetic field level were not performed in 2019.

• Working environment parameters

Working environment parameters within the buildings of ED Kragujevac were not measured in 2019.

4.3.2. Occupational Safety

▪ Training

Training data are given in Table 200 je y Табели 200.

Table 200

DISTRIBUTION AREA KRAGUJEVAC					
Training in 2019					
Branch Distribution area Kragujevac	Number of employees	For training		Trained	
		No	%	No	%
Occupational health and safety training	66	66	100,00	66	100,00
Elektrodistribucija Požarevac	55	55	100,00	55	100,00
Occupational health and safety training					
Elektrodistribucija Smederevo	73	73	100,00	73	100,00
Occupational health and safety training					
DA HQ	90	90	100,00	90	100,00
TOTAL: DISTRIBUTION AREA KRAGUJEVAC	284	284	100,00	284	100,00

▪ Work injuries

The data regarding the number of injuries in 2019 is presented in Table 201.

Table 201

DISTRIBUTION AREA KRAGUJEVAC						
Work injuries in 2019						
Branch /Facility	Number of employees	Injuries related to the number of employees				
		Light	Light	Light	Light	Light
ED Kragujevac	66	0	0	0	0	0,00
ED Požarevac	55	0	0	0	0	0,00
ED Smederevo	73	0	0	0	0	0,00
DA HQ	90	0	0	0	0	0,00
TOTAL: DISTRIBUTION AREA KRAGUJEVAC	284	0	0	0	2	0,00

4.3.3. Health

Periodical medical examinations of employees are shown in Table 202.

Table 202

DISTRIBUTION AREA KRAGUJEVAC											
Work capability of employees in 2019											
Branch /Facility	Number of employees	Previous and periodical examinations				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Not capable	
		No.	%	No.	%	No.	%	No.	%	No.	%
ED Kragujevac	66	40	60,61	40	100,00	30	75,00	10	25,00	0	0,00
ED Požarevac	55	39	70,91	39	100,00	21	53,85	17	43,59	1	2,56
ED Smederevo	73	47	64,38	47	100,00	46	97,87	0	0,00	1	2,13

DA HQ	90	20	22,22	20	100,00	19	95,00	1	5,00	0	0,00
TOTAL: DISTRIBUTION AREA KRAGUJEVAC	284	146	51,41	146	100,00	116	79,45	28	19,18	2	1,37

4.4 Public Complaints

There were no public environmental complaints in 2019 in DA Kragujevac.

5. DISTRIBUTION AREA NIŠ

The structure of all facilities within the system of Distribution Area Niš is presented in table 203.

Table 203

DISTRIBUTION AREA NIS												
Facilities and systems in 2019												
Branch	Power distribution substations								Length of Power distribution network in km.			
	110/10 KV	110/20 KV	110/35 KV	110/x/z KV	35/10 KV	20/0.4 KV	10/0.4 KV	Укупно:	Voltage level	Overhead in km	Cable in km.	Total length
ED ZAJEČER									110 kV	0,000	0,000	0,000
									35 kV	588,145	19,020	607,165
									20 kV	0,000	0,000	0,000
									10 kV	2.223,470	409,470	2.632,940
									1,0 kV	0,000	0,000	0,000
									0,4 kV	5.196,620	269,220	5.465,840
Total	0	0	10	3	51	0	1.667	1.731	Total	8.008,235	697,710	8.705,945
ED PROKUPLJE									110 kV	0,000	0,000	0,000
									35 kV	172,680	9,900	182,580
									20 kV	0,000	0,000	0,000
									10 kV	755,870	88,660	844,530
									1,0 kV	0,000	0,000	0,000
									0,4 kV	2.101,050	94,230	2.195,280
Total	0	0	2	0	14	0	632	648	Total	3.029,600	192,790	3.222,390
ED NIŠ									110 kV	0,000	0,000	0,000
									35 kV	204,634	36,685	241,319
									20 kV	0,000	0,000	0,000
									10 kV	972,202	664,035	1.636,237
									1,0 kV	0,000	0,000	0,000
									0,4 kV	4.494,710	496,367	4.991,077
Total	3	0	3	2	27	0	1.484	1.519	Total	5.671,546	1.197,087	6.868,633
ED PIROT									110 kV	0,000	0,000	0,000
									35 kV	184,000	32,550	216,550
									20 kV	0,000	0,000	0,000
									10 kV	740,280	99,000	839,280
									1,0 kV	0,000	0,000	0,000
									0,4 kV	1.349,340	154,920	1.504,260
Total	0	0	3	0	19	0	510	532	Total	2.273,620	286,470	2.560,090
ED LESKOVAC									110 kV	0,000	0,000	0,000
									35 kV	340,376	7,500	347,876
									20 kV	0,000	0,000	0,000
									10 kV	1.618,100	279,465	1.897,565
									1,0 kV	0,000	0,000	0,000
									0,4 kV	3.751,800	142,895	3.894,695
Total	2	0	3	2	34	0	1.241	1.282	Total	5.710,276	429,860	6.140,136
ED VRANJE									110 kV	0,000	0,000	0,000
									35 kV	127,500	23,700	151,200
									20 kV	0,000	0,000	0,000
									10 kV	1,484,180	193,500	1,677,680
									1,0 kV	0,000	0,000	0,000

									0.4 kV	3.010,530	122,100	3.132,630
Total	2	0	1	3	12	0	971	989	Total	4.622,210	339,300	4.961,510
TOTAL: DISTRIBUTION AREA NIS									110 kV	0,000	0,000	0,000
									35 kV	1.617,335	129,355	1.746,690
									20 kV	0,000	0,000	0,000
									10 kV	7.794,102	1,734,130	9.528,232
									1.0 kV	0,000	0,000	0,000
									0.4 kV	19.904,050	1.279,732	21.183,782
Total	7	0	22	10	157	0	6.505	6.701	Total	29.315,487	3.143,217	32.458,704

Note: Data provided on 31st December 2019. Only power facilities owned by EPS Distribution are taken into account, while facilities owned by EMS, EPS, other users are facilities with split ownership on the territory of DA Niš are not taken into account.

5.1. Overview and Status of Permits

Review and statuses of permits, licenses and other required approvals as well as new requests for obtaining permits in 2019 are presented in Table 204

Table 204

DISTRIBUTION AREA NIŠ			
Overview and Permits Status in 2019			
Branch	Obtained approvals and permits (Number and Date)	New applications for obtaining new or extending existing permits	Note
ED ZAJEČAR			
Decision on usage permit TS 110/35/10 kV Svrlijig - Ostrovica	351-44-5/2019 dated 21.11.2019		Svrlijig
Decision on usage permit TS 110/35 kV Mosna		ROP-MSGI-40087-IUP-1/2019 dated 31.12.2019.	Majdanpek
Decision on construction permit for the relocation of part of the 35 kV transmission line from TS 35/10 kV „Boljevac“ to TS 35/10 kV „Bogovina okno VIII“	ROP-BOL-8020-CPI-1/2019 351-1115/2019-III-02 2.04.2019.		Boljevac
Decision on works approval on the investment maintenance of mixed CONNECTION LINE from SS 35/10 kV „Negotin 2“ – TS 10/0,4 kV „Fekalna 2“ – 10/0,4 kV TS „Karadorđevo“ – TS 10/0,4 kV „Moravska“	351-2193/2018-IV/02 09.01.2019		Negoitn
Decision on works approval on the investment maintenance of LV network „Nestorov potok“ – section C (terminal C) in Šabanovac	351-7-69/18-III/05 08.01.2019		Bor
Decision on works approval on construction of double 10kV connection cable line for the supply of TS 10/0,4 kV „Jezava“	Number: ROP-KNJ-38408-ISAW-1/2018 08.01.2019		Knjaževac
Decision on works approval on the investment maintenance of LV network „Baljevina 1“ – section C (terminal C) in Zlot	351-7-68/18-III/05 08.01.2019		Bor
Construction permit for the infrastructure of power utility installations– phase I in Fetislam fortress in Kladovo	ROP-KLA-21640-CPI-1/2019 30. 07. 2019.		Kladovo
Decision on works approval on construction of the connection to the LV distribution network, 1kV cable line which crosses over the following cadastral plots: 130/2, 130/1, 140, 149/1, 150 cadastral municipality Boljevac	ROP-BOL-9819-ISAW-1/2019 351-1130/2019-III-02 16.04.2019		Boljevac
Decision on works approval for MBTS 10/0,4 kV Cionci with 10 kV connecting transmission line	ROP-SVR-2738-ISAW-1/2019 19.09.2019.		Svrlijig
Decision on works approval for erecting a 35 kV distribution switchgear facility (which is located in functional and technical	ROP-BOR-23502-ISAWA-10/2019		Bor

unit no. 2), as well as the construction of the 35 kV connection line within TS 35/10 Čukuru Peki	Number: 351-5-16/19-III/05 30.12. 2019.		
Decision on works approval on construction of the part of the distribution network (up to 1 kV) – LV cable line of 0,4 kV from existing standard TS 10/0,4 kV „Dugmetara“, across, that is, underground bellow cadastral plot no. 4082/1 and 3957 cadastral municipality Kladovo (over the length of 130 m), all the way to the connection cabinet on cadastral plot no. 3944 cadastral municipality Kladovo where connection location is planned.	ROP-KLA-12648- ISAW-2/2019 18. 06. 2019.		Kladovo
Decision on works approval on construction of the connection underground lines (1) and (2), 10kV voltage level for the supply of RP 10kV, TS 10/0,4kV „Retail park“.	ROP-ZAJ-12860- ISAW-1/2019 IV/03 Number 351- 979/2019 17.05.2019.		Zaječar
Decision on works approval on reconstruction of the part of the 10,0 kV transmission line (tower replacement), in Brestovac – the city of Bor	no. ROP-BOR-37669- ISAW-1/2018 dated 21. 01. 2019. (Number: 351-2-79/18-III/05),		Bor
Decision on works approval on construction of the RP 10 kV with connection cable lines for SHP Mezdreja	no.351-05- 00747/2019-07 dated 03.06.2019.		Knjaževac
Decision on works approval on construction of the LV network from TS „Ivan Milutinović“ to the junction box on the facade of the Fire department building.	ROP-ZAJ-25509- ISAW-1/2019 IV/03 Number 351- 1551/2019 02.09.2019.		Zaječar
ED NIŠ			
Decision on construction permit for TS 110/10 kV Niš 6 – Ratko Pavlović	351-02-00121/2019-07 dated 27.06.2019.		Niš
Decision on usage permit of 10 kV cables for the Bancarevo tunnels		ROP-NISP-11240-IUP-5/2019 dated 30.12.2019.	Niška Banja
Decision on usage permit for the transmission line 35 kV Svrlijig - Ostrovica		ROP-NISP-6626-IUP-13/2019 dated 30.12.2019.	Niš
Expansion of the LV network on IV terminal from TS 10/0,4 kV „Jelašinac 2“	351-777/2019-06 05.09.2019.		
Relocation of the reconstructed part of the LV network from the sixth terminal from 10/0,4 kV TS „Toma Roksandić“	351-952/2019-06 23.10.2019.		
Relocation of the part of 10 kV transmission line Gornjomatejevačka from 110/35/10 kV TS „Niš 13“ in the direction of TS 10/0,4 kV „Užička 1“-10/0,4 kV TS „Borska 2“ section to 10/0,4 kV TS „Kotorska Tržnica“	351-988/2019-06 31.10.2019.		
Forming the new LV terminal from TS 10/0,4 kV „Medijana servis“ and the construction of a new SRO	351-598/2019-06		
Expansion of the LV network at the second terminal from TS 10/0,4 kV "Put za radio predajnik" and the construction of SRO	351-214/2019-06 16.04.2019.		
Reconstruction of the part of LV network from fourth and seventh LV terminal from 10/0,4 kV TS „Sretna Stefanovića“	351-909/2019-06 14.10.2019.		
Reconstruction of the LV network at the VII terminal from 10/0,4 kV TS „Aleksinac - Citroen 1“	III/07-351-355/2019 21.05.2019.		
Reconstruction of the 10/0,4 kV TS „Krive livade 1“ constructing an annex of the LV board with 2 terminals, forming the LV terminal from the same TS	351-313-2019-06		
Forming the new LV terminal from 10/0,4 kV TS "Al-Bobovište 4" and construction of a new SRO	III/07-351-644/2019 dated 08.08.2019.		
ED PROKUPLJE			

Decision on the approval of works on the connecting line 10 kV and BSTS 10/04 kV „Tasić kop“ with metering for billing purposes on the 10 kV side	351-166/2019-05 12.04.2019.		Prokuplje
Decision on usage permit for connection line 10 kV и BSTS 10/04 kV TASIĆ KOP with metering for billing purposes on the 10 kV side		351-723/2019-05 27.12.2019.	Prokuplje
Decision on the approval of works on KBTS 10/04 kV „Donja Draganja“	351-719/10-05 30.12.2019.		Prokuplje
Decision on the approval of works KBTS 10/04 kV „Đurđevački put 8“	351-720/10-05 30.12.2019.		Prokuplje
ED PIROT			
Decision on usage permit for 10 kV cables for the Sarlah tunnel	03-Y-351-1544/2019 dated 15.11.2019.		Pirot
Decision on the approval of works on STS 10/0,4 kV Toplik parking and 10 kV line	351-30/2019-IV/02 dated 31.05. 2019.		Bela Palanka
Decision on the approval of works on STS 10/0,4 kV Crvena reka parking and 10 kV line	351-29/2019-IV/02 dated 28.05. 2019.		Bela Palanka
Construction of MBTS „Lavanda“ – Tamnjanica (usage permit)	351-47/2019-IV/02 dated 31.07.2019. .		Bela Palanka
Construction of LV cable line from TS 10/0,4 kV „Dom JNA“ to the facility Marmil (Usage permit)	03-Y-351-1600/2019 dated 29.11.2019. .		Pirot
Construction of LV cable line from TS 10/0,4 kV „Slavonska“ to the facility „Edi Pro“ (Usage permit)	03-Y-351-1432/2019 dated 27.12.2019. .		Pirot
Construction of STS parking „Crvena reka“ with connecting 10 kV line (Decision on the approval of works)	351-29/2019-IV/02 dated 28.05.2019. .		Bela Palanka
Construction of TS 10/0,4 kV „Varmont“ with connecting 10 kV line (Usage permit)	03-Y-351-687/2019 dated 16.08.2019. .		Pirot
Construction of STS parking „Toplik“ with connecting 10 kV line (Decision on the approval of works)	351-30/2019-IV/02 dated 31.05.2019. .		Bela Palanka
Construction of STS rest area Barje with connecting 10 kV line (Decision on the approval of works)	03-Y-351-7970/2018 dated 04.01.2019. .		Pirot
Construction of TS 10/0,4 kV „Densi“ with connecting 10 kV line (Usage permit)	03-Y-351-1476/2019 dated 23.10.2019. .		Pirot
Construction of RP 35 kV Dolac (Usage permit)	351-83/2019-IV/02 dated 12.12.2019. .		Bela Palanka
Construction of LV cable line from TS 10/0,4 kV „Vašarište 1“ to the facility Peronica JCG (Usage permit)	03-Y-351-1522/2019 dated 07.11.2019.		Pirot
Construction of LV cable line from TS 10/0,4 kV „Košarkaško“ to the facility Stojanović (Decision on the approval of works)	03-Y-351-1085/2019 dated 10.07.2019. .		Pirot
ED LESKOVAC			
Decision on usage permit TS 35/10 kV Grdelica - nova	351-04-01370/2019-14 dated 22.05.2019.		Leskovac
Decision on the approval of works on the 35 kV line Predejane – Momin kamen	351-05-00767/2019-07 dated 07.08.2019.		Leskovac and Vladičin Han
Decision on usage permit for TS 35/10 kV „Grdelica – nova“, in Grdelica, the city of Leskovac	ROP-MSGI-6324-IUP- 17/2019, No. 351-04- 01370/2019-14, dated 22.05.2019.		City of Leskovac
Certificate on the validity of the usage permit for TS 35/10 kV "Grdelica - nova", in Grdelica, the city of Leskovac	ROP-MSGI-6324-IUP- 17/2019, ROP-MSGI- 6324-GR-18/2019., No. 351-04- 01370/2019-14, dated 30.07.2019.		City of Leskovac
Certificate on works approval for the construction of the distribution system from TS 10/0,4 kV „Suva reka“ (relief of TS 10/0,4 kV „Bosiljke Đurića“ and TS 10/0,4 kV „Jovana Živkovića“), in Leskovac, the city of Leskovac	ROP-LES-20229-WA- 3/2019, No. 351- 19978/19-02, dated 09.01.2019.		City of Leskovac

Certificate on works approval the construction of the distribution system from TS 10/0,4 kV „Učitelja Josifa“ (relief of TS 10/0,4 kV "7 juli" and TS 10/0,4 kV „Moša Pijade“), in Leskovac, the city of Leskovac	ROP-LES-20216-WA-3/2019, No. 351-19977/19-02, dated 09.01.2019.		City of Leskovac
Certificate on works approval for part of the 35 kV cable line from TS 35/10 kV Grdelica to TS 35/10 kV Predejane	ROP LES 35308 WA-11/2019, BR 351-20570/19-02 dated 10.9.2019		City of Leskovac
Decision on works approval of the construction of medium voltage overhead network with the column transformer station for the supply of the irrigation system of the members of „Angels“ association in Vinarac	ROP LES 29693 ISAWHA-4/209, NO. 351-20609/19-02 dated 26.9.2019.		City of Leskovac
Certificate on works approval for the construction of the masonry TS 10/0,4 kV „Brestovac “ and 10 kV connecting line	ROP LES 13939-WA-4/2019, NO. 351-20792/19-02 dated 12.11.2019		City of Leskovac
Decision on usage permit for MBTS 10/0,4 kV „HP Vučje“	ROP LES 38720-IUP-1/2019, NO. 351-20943/19-02 dated 23.12.2019		City of Leskovac
Decision on usage permit for MBTS 10/0,4 kV „Leskoživ“ and 10 kV cable connection line	ROP LES -29760-IUPH-2/2019, NO. 351-20654/19-02 dated 29.10.2019		City of Leskovac
Decision on works approval on construction of 10/0,4 kV TS „Nova“, 10 kV connection underground cable and the distribution system of 1 kV cables from TS	ROP-VLS-19053-ISAWA-2/2019, NO. 03-351—45/2019 dated 3.5.2019		City of Vlasotince
Decision on usage permit for MBTS 10/0,4 kV „Miodrag Pešić“ and 10 kV underground connection cable.	ROP-LES 7698-IUP-4/2019 NO. 351-20576/19-02 dated 17.9.2019.		City of Leskovac
Decision on usage permit for MBTS 10/0,4 kV „Stanković Boško“	ROP-LES 4769-IUP -7/2019, NO. 351-20484/19-02 dated 27.8.2019.		City of Leskovac
Decision on usage permit for TS 35/10 kV „Rikačevo“	ROP-BOS-15965-IUP-2/2019, NO. 351-94/19 dated 15.7.2019		City of Bosilegrad
Decision on usage permit for 10 kV cable line for the connection of MHP „Trlište“	ROP-SUR-38064-IUPH-3/2019, NO. 351-1-184/19-03 dated 26.12.2019		City of Surdulica
ED VRANJE			
Decision on usage permit for the 35 kV cable Momin kamen – Vladičin Han 1	351-1428/19-03 dated 08.10.2019.		Vladičin Han
Construction of MBTS 10/0,4 kV Petlja Vranje	ROP-VRE-36-GR-4/2019		Vranje

5.2. Monitoring and Environmental Impact

Distribution Area Niš affects the environment by following factors that are currently not completely covered by the monitoring:

- **Electromagnetic fields**
- **Environmental noise**
- **Waste**
- **Surface and ground waters quality**
- **Soil quality**

5.2.1. Electromagnetic Fields

Environmental electromagnetic fields measuring was not carried out during 2019.

5.2.2. Environmental Noise

Environmental Noise measuring at the territory of DA Niš was not carried out during 2019.

5.2.3. Waste

Waste production in 2019 is presented in Table 205 according to the Serbian waste management regulation.

Table 205

DISTRIBUTION AREA NIŠ											
Defined waste categories in 2019											
РЕДНИ. NUMBER	Rules defining waste categories, its testing and classification (Official Gazette of RS No 56/2010 and 93/2019)	Index number	Unit	Branch						Total	NOTE
				ED ZAJECAR	ED PROKUPLJE	ED NIS	ED PIROT	ED LESKOVAC	ED VRANJE	DISTRIBUTION AREA NIS	
				Amounts							
1	Mineral non-chlorinated motor oils, oils for gears and lubrication oils	13 02 05*	t	0,000	0,000	0,000	0,020	0,000	0,000	0,020	Motor oil
2	Mineral non-chlorinated oils for insulation and heat transfer	13 03 07*	t	1,620	0,000	0,000	0,260	0,000	0,000	1,880	Transformer oil
3	Waste not otherwise specified	13 08 99*	t	0,000	0,000	0,000	0,060	0,000	0,000	0,060	Oily soil and absorbents
4	Wooden packaging	15 01 03	t	1,580	0,000	0,000	12,300	0,000	0,000	42,920	(wooden packaging)
5	Waste tires	16 01 03	t	2,115	0,000	0,000	3,010	12,66	0,000	22,505	Car and truck tires
6	Discarded vehicles not containing fluids or other hazardous components	16 01 06	t	25,690	0,000	0,000	2,300	0,000	0,000	67,130	Old vehicles without hazardous fluids
7	Ferrous materials	16 01 17	t	0,030	0,000	0,000	0,000	0,000	0,000	0,030	Switchers and disconnectors
8	Hazardous components other than specified in 16 01 07 - 16 01 11 and 16 01 13 and 16 01 14	16 01 21*	t	0,425	0,000	0,000	0,050	0,000	0,000	0,475	Waste vehicles components
9	Discarded equipment containing hazardous components other than specified in 16 02 09 - 16 02 12	16 02 13*	t	1,180	0,000	0,000	0,200	0,000	0,000	1,380	Transformers. cable heads
10	Lead batteries	16 06 01*	t	1,370	0,000	0,000	0,100	0,000	0,000	1,470	Batteries
11	Ni-Cd batteries	16 06 02*	t	0,02	0,000	0,000	0,000	0,000	0,000	0,020	Ni-Cd batteries
12	Concrete	17 01 01	t	4,000	0,000	0,000	3,000	0,000	51,900	58,900	Old concrete columns. column foundation
13	Tiles and ceramics	17 01 03	t	1,328	0,000	0,000	0,020	0,000	0,314	1,662	(porcelain insulators)
14	Copper, bronze, brass	17 04 01	t	0,211	0,000	0,000	2,450	13,577	0,000	16,238	Copper
15	Aluminum	17 04 02	t	1,910	0,000	0,000	0,820	0,738	8,900	12,438	Waste wire – aluminum-steel
16	Iron and steel	17 04 05	t	2,725	0,000	24,300	36,500	0,000	3,258	66,783	Pieces
17	Cables other than specified in 17 04 10	17 04 11	t	0,020	0,000	0,000	0,130	0,000	0,000	0,150	Waste cables with plastic protection



18	Paper and card board	20 01 01	t	0,000	0,000	0,000	0,000	0,000	0,000	0,000	Paper and card board
19	Fluorescent pipes and other waste containing mercury	20 01 21*	t	0,016	0,000	0,000	0,001	0,000	0,000	0,017	Fluorescent pipes
20	Discarded electrical and electronic equipment other than specified in 20 01 21 and 20 01 23 containing hazardous substances	20 01 35*	t	0,665	0,000	0,000	0,050	0,000	0,000	0,715	(Electricity meters)
21	Discarded electrical and electronic equipment other than specified in 20 01 21, 20 01 23, 20 01 35	20 01 36	t	0,395	0,000	0,000	0,050	0,000	0,000	0,445	(Computers, monitors)
22	Wood containing hazardous substances	20 01 37*	t	0,000	0,000	0,000	0,200	0,000	30,200	30,400	(Impregnated wooden poles)

5.2.4. Surface, Ground Waters and Soil Monitoring

Surface, Ground Waters and Soil Monitoring was not performed in 2019.

5.3. Working Environment Monitoring, Occupational Health and Safety

Occupational Health and Safety Reports for 2019 include following items:

- **Working Environment Monitoring**
 - working environment noise measurement
 - working environment vibration measurement
 - working environment chemical hazards measurement
 - working environment electromagnetic fields
 - working environment parameters
- **Safety**
 - training
 - work injuries
- **Health**

5.3.1. Working Environment Monitoring

Measurements and testing of working environment conditions were carried out according to the Occupational Safety and Health Law ("Official Gazette of RS", No 101/05) and the Rules on procedure of inspection and testing of working equipment and testing of working environment conditions ("Official Gazette of RS", No 94/06, 108/06 and 102/2015).

▪ Working environment noise measurement

During 2019 in DA Niš has been conducted noise measurements in the working environment for winter period. The measured results show that the noise is not harmful, i.e. during the measuring, the obtained results are within the permissible values.

Measurement results are presented in Table 206.

Table 206

DISTRIBUTION AREA NIŠ			
Noise in working environment in 2019			
Branch	Location	Registered noise level in working premises in ((dB (A))	Permitted noise level in (dB (A))
ED LESKOVAC	Dispatch Center - field dispatcher	Noise is not harmful	
	Dispatch Center	Noise is not harmful	
	Dispatch Center – Head of the Department's office	Noise is not harmful	
	Dispatch Center – МИЗ и automation ДЕЕС	Noise is not harmful	
	Dispatch Center – management associate's office	Noise is not harmful	
	Dispatch Center – Office of the Associate for Measurement and Protection and Remote Control System	Noise is not harmful	
	Dispatch Center – server room	Noise is not harmful	
	HQ building – office no. 17	Noise is not harmful	
	HQ building – office no. 16	Noise is not harmful	
	HQ building – office no. 15	Noise is not harmful	
	HQ building – office no. 14	Noise is not harmful	
	HQ building – office no. 13	Noise is not harmful	
	HQ building – office no. 12	Noise is not harmful	

	HQ building – office no. 11	Noise is not harmful
	HQ building – office no. 10	Noise is not harmful
	HQ building – office no. 9	Noise is not harmful
	HQ building – Loss Reduction Department	Noise is not harmful
	HQ building – office no. 7	Noise is not harmful
	HQ building – office no. 8	Noise is not harmful
	HQ building – office no. 5	Noise is not harmful
	HQ building – office no. 6	Noise is not harmful
	HQ building – electric fitter's break room	Noise is not harmful
	HQ building – Loss Reduction Department	Noise is not harmful
	HQ building – warehouse	Noise is not harmful
ED PIROT	Measurements were not performed in 2019	
ED ZAJEČAR	Measurements were not performed in 2019	
ED VRABHE	Measurements were not performed in 2019	
ED PROKUPLJE	Measurements were not performed in 2019	
ED NIŠ	HQ building - office no. 306	Noise is not harmful
	HQ building - office no. 304	Noise is not harmful
	HQ building - office no. 221	Noise is not harmful
	HQ building - office no. 201	Noise is not harmful
	HQ building - office no. 219	Noise is not harmful
	HQ building - office no. 218	Noise is not harmful
	HQ building - office no. 216	Noise is not harmful
	HQ building - office no. 214	Noise is not harmful
	HQ building - office no. 211	Noise is not harmful
	HQ building - office no. 111	Noise is not harmful
	HQ building - office no. 205	Noise is not harmful
	HQ building - office no. 113	Noise is not harmful
	HQ building - office no. 116	Noise is not harmful
	HQ building - office no. 114	Noise is not harmful
	HQ building - office no. 112	Noise is not harmful
	HQ building - office no. 110	Noise is not harmful
	HQ building - office no. 107	Noise is not harmful
	HQ building - office no. 106	Noise is not harmful
	HQ building - room no. 120	Noise is not harmful
	HQ building - office no. 104	Noise is not harmful
	HQ building - office no. 103	Noise is not harmful
	HQ building - pay desk	Noise is not harmful
	HQ building - office no. 13	Noise is not harmful
	HQ building - office no. 8	Noise is not harmful
	HQ building - office no. 5	Noise is not harmful
	HQ building - office no. 2	Noise is not harmful
	Old HQ building – office no. 9	Noise is not harmful
	Old HQ building – office no. 15	Noise is not harmful
	Old HQ building – office no. 17	Noise is not harmful
	Old HQ building – office no. 2	Noise is not harmful
	Old HQ building – office no. 25 B	Noise is not harmful
	Old HQ building – office no. 4	Noise is not harmful
	Old HQ building – office no. 212	Noise is not harmful
	Old HQ building – office no. 215	Noise is not harmful
	Dispatch Center – office no. 301	Noise is not harmful
	Dispatch Center – office no. 302	Noise is not harmful
	Dispatch Center – office no. 303	Noise is not harmful
	Dispatch Center – office no. 304	Noise is not harmful
	Dispatch Center – office no. 305	Noise is not harmful
	Dispatch Center – conference room no. 202	Noise is not harmful
	Dispatch Center – office no. 206	Noise is not harmful
	Dispatch Center – office no. 207	Noise is not harmful
	Dispatch Center – counter hall	Noise is not harmful

	Calibration Department – repair shop office 1	Noise is not harmful
	Calibration Department – meter repair shop warehouse	Noise is not harmful
	Calibration Department – repair shop office 2	Noise is not harmful
	Calibration Department – meter repair shop	Noise is not harmful
	Calibration Department – fuse box repair shop	Noise is not harmful
	Calibration Department – counter hall	Noise is not harmful
	Calibration Department – meter repair shop	Noise is not harmful
	Fire department– office no. 7	Noise is not harmful
	Fire department– office no. 4	Noise is not harmful
	Fire department– office no. 8	Noise is not harmful
	Fire department– office no. 12	Noise is not harmful
	Fire department– office no. 10	Noise is not harmful

• Working Environment Vibrations

During 2019 vibration measurements were performed in working environment in DA Niš. Measuring has been performed in the area of the Branch Niš, on the locations of business-service facility ,new and old HQ buildings, dispatch center building, calibration department building and HQ building in Leskovac. The measured results show that the vibrations are not harmful. Measurement results are presented in Table 207.

Table 207

DISTRIBUTION AREA NIŠ			
Noise in working environment in 2019			
Branch	Location	Registered noise level in working premises in ((dB) (A))	Permitted noise level in (dB (A))
ED LESKOVAC	Dispatch Center - field dispatcher	Vibrations are not harmful	
	Dispatch Center	Vibrations are not harmful	
	Dispatch Center – Head of the Department's office	Vibrations are not harmful	
	Dispatch Center – Measurement and Protection and the automation of the Electric Power Distribution System	Vibrations are not harmful	
	Dispatch Center – management associate's office	Vibrations are not harmful	
	Dispatch Center – Office of the Associate for Measurement and Protection and Remote Control System	Vibrations are not harmful	
	Dispatch Center – server room	Vibrations are not harmful	
	HQ building – office no. 17	Vibrations are not harmful	
	HQ building – office no. 16	Vibrations are not harmful	
	HQ building – office no. 15	Vibrations are not harmful	
	HQ building – office no. 14	Vibrations are not harmful	
	HQ building – office no. 13	Vibrations are not harmful	
	HQ building – office no. 12	Vibrations are not harmful	
	HQ building – office no. 11	Vibrations are not harmful	
	HQ building – office no. 10	Vibrations are not harmful	
	HQ building – office no. 9	Vibrations are not harmful	
	HQ building – Loss Reduction Department	Vibrations are not harmful	
	HQ building – office no. 7	Vibrations are not harmful	
	HQ building – office no. 8	Vibrations are not harmful	
	HQ building – office no. 5	Vibrations are not harmful	
	HQ building – office no. 6	Vibrations are not harmful	
	HQ building – electric fitter's break room	Vibrations are not harmful	
	HQ building – Loss Reduction Department	Vibrations are not harmful	
	HQ building – warehouse	Vibrations are not harmful	
ED PIROT	Measureings were not performed in 2019		
ED ZAJEČAR	Measureings were not performed in 2019		
ED VRANJE	Measureings were not performed in 2019		

ED PROKUPLJE	Measureings were not performed in 2019	
ED NIŠ	HQ building - office no. 306	Vibrations are not harmful
	HQ building - office no. 304	Vibrations are not harmful
	HQ building - office no. 221	Vibrations are not harmful
	HQ building - office no. 201	Vibrations are not harmful
	HQ building - office no. 219	Vibrations are not harmful
	HQ building - office no. 218	Vibrations are not harmful
	HQ building - office no. 216	Vibrations are not harmful
	HQ building - office no. 214	Vibrations are not harmful
	HQ building - office no. 211	Vibrations are not harmful
	HQ building - office no. 111	Vibrations are not harmful
	HQ building - office no. 205	Vibrations are not harmful
	HQ building - office no. 113	Vibrations are not harmful
	HQ building - office no. 116	Vibrations are not harmful
	HQ building - office no. 114	Vibrations are not harmful
	HQ building - office no. 112	Vibrations are not harmful
	HQ building - office no. 110	Vibrations are not harmful
	HQ building - office no. 107	Vibrations are not harmful
	HQ building - office no. 106	Vibrations are not harmful
	HQ building - room no. 120	Vibrations are not harmful
	HQ building - office no. 104	Vibrations are not harmful
	HQ building - office no. 103	Vibrations are not harmful
	HQ building - pay desk	Vibrations are not harmful
	HQ building - office no. 13	Vibrations are not harmful
	HQ building - office no. 8	Vibrations are not harmful
	HQ building - office no. 5	Vibrations are not harmful
	HQ building - office no. 2	Vibrations are not harmful
	Old HQ building – office no. 9	Vibrations are not harmful
	Old HQ building – office no. 15	Vibrations are not harmful
	Old HQ building – office no. 17	Vibrations are not harmful
	Old HQ building – office no. 2	Vibrations are not harmful
	Old HQ building – office no. 25 B	Vibrations are not harmful
	Old HQ building – office no. 4	Vibrations are not harmful
	Old HQ building – office no. 212	Vibrations are not harmful
	Old HQ building – office no. 215	Vibrations are not harmful
	Dispatch Center – office no. 301	Vibrations are not harmful
	Dispatch Center – office no. 302	Vibrations are not harmful
	Dispatch Center – office no. 303	Vibrations are not harmful
	Dispatch Center – office no. 304	Vibrations are not harmful
	Dispatch Center – office no. 305	Vibrations are not harmful
	Dispatch Center – conference room no. 202	Vibrations are not harmful
	Dispatch Center – office no. 206	Vibrations are not harmful
	Dispatch Center – office no. 207	Vibrations are not harmful
	Dispatch Center – counter hall	Vibrations are not harmful
	Calibration Department – repair shop office 1	Vibrations are not harmful
	Calibration Department – meter repair shop warehouse	Vibrations are not harmful
	Calibration Department – repair shop office 2	Vibrations are not harmful
	Calibration Department – meter repair shop	Vibrations are not harmful
	Calibration Department – fuse box repair shop	Vibrations are not harmful
	Calibration Department – counter hall	Vibrations are not harmful
	Calibration Department – meter repair shop	Vibrations are not harmful
	Fire department– office no. 7	Vibrations are not harmful
	Fire department– office no. 4	Vibrations are not harmful
	Fire department– office no. 8	Vibrations are not harmful
	Fire department– office no. 12	Vibrations are not harmful
	Fire department– office no. 10	Vibrations are not harmful

• Working Environment Chemical Hazards

During 2019 chemical hazards measurements were performed in working environment in DA Niš. Measuring has been performed in the area of the Branch Niš, on the location of business-service facility, new and old HQ building, dispatch center building, calibration department building and HQ building in Leskovac. The measured results show that chemical hazards are not harmful. Measurement results are presented in the Table 208.

Table 208

DISTRIBUTION AREA NIŠ			
Chemical hazards in working environment in 2019			
Branch	Measuring location	Measured value (mg/m3)	LV (TLV) (mg/m3)
ED LESKOVAC	Dispatch Center - field dispatcher	Chemical hazards are not harmful	
	Dispatch Center	Chemical hazards are not detected	
	Dispatch Center – Head of the Department's office	Chemical hazards are not detected	
	Dispatch Center – Measurement and Protection and the automation of the Electric Power Distribution System	Chemical hazards are not detected	
	Dispatch Center – Management Associate's office	Chemical hazards are not harmful	
	Dispatch Center – Office of the Associate for Measurement and Protection and Remote Control System	Chemical hazards are not harmful	
	Dispatch Center – server room	Chemical hazards are not detected	
	HQ building – office no. 17	Chemical hazards are not harmful	
	HQ building – office no. 16	Chemical hazards are not harmful	
	HQ building – office no. 15	Chemical hazards are not harmful	
	HQ building – office no. 14	Chemical hazards are not harmful	
	HQ building – office no. 13	Chemical hazards are not detected	
	HQ building – office no. 12	Chemical hazards are not harmful	
	HQ building – office no. 11	Chemical hazards are not harmful	
	HQ building – office no. 10	Chemical hazards are not harmful	
	HQ building – office no. 9	Chemical hazards are not harmful	
	HQ building – Loss Reduction Department	Chemical hazards are not harmful	
	HQ building – office no. 7	Chemical hazards are not detected	
	HQ building – office no. 8	Chemical hazards are not harmful	
	HQ building – office no. 5	Chemical hazards are not harmful	
	HQ building – office no. 6	Chemical hazards are not harmful	
	HQ building –electric electric fitter's break room	Chemical hazards are not harmful	
	HQ building – Loss Reduction Department	Chemical hazards are not harmful	
HQ building – warehouse	Chemical hazards are not harmful		
ED PIROT	Measureings were not performed in 2019		
ED ZAJEČAR	Measureings were not performed in 2019		
ED VRANJE	Measureings were not performed in 2019		
ED PROKUPLJE	Measureings were not performed in 2019		
ED NIŠ	HQ building - office no. 306	Chemical hazards are not detected	
	HQ building - office no. 304	Chemical hazards are not harmful	
	HQ building - office no. 221	Chemical hazards are not detected	
	HQ building - office no. 201	Chemical hazards are not harmful	
	HQ building - office no. 219	Chemical hazards are not detected	
	HQ building - office no. 218	Chemical hazards are not harmful	
	HQ building - office no. 216	Chemical hazards are not detected	
	HQ building - office no. 214	Chemical hazards are not harmful	
	HQ building - office no. 211	Chemical hazards are not detected	
	HQ building - office no. 111	Chemical hazards are not harmful	
	HQ building - office no. 205	Chemical hazards are not harmful	
	HQ building - office no. 113	Chemical hazards are not harmful	
	HQ building - office no. 116	Chemical hazards are not harmful	
	HQ building - office no. 114	Chemical hazards are not harmful	

HQ building - office no. 112	Chemical hazards are not harmful
HQ building - office no. 110	Chemical hazards are not harmful
HQ building - office no. 107	Chemical hazards are not harmful
HQ building - office no. 106	Chemical hazards are not harmful
HQ building - room no. 120	Chemical hazards are not harmful
HQ building - office no. 104	Chemical hazards are not harmful
HQ building - office no. 103	Chemical hazards are not harmful
HQ building - pay desk	Chemical hazards are not harmful
HQ building - office no. 13	Chemical hazards are not harmful
HQ building - office no. 8	Chemical hazards are not harmful
HQ building - office no. 5	Chemical hazards are not harmful
HQ building - office no. 2	Chemical hazards are not harmful
Old HQ building – office no. 9	Chemical hazards are not harmful
Old HQ building – office no. 15	Chemical hazards are not harmful
Old HQ building – office no. 17	Chemical hazards are not harmful
Old HQ building – office no. 2	Chemical hazards are not harmful
Old HQ building – office no. 25 B	Chemical hazards are not harmful
Old HQ building – office no. 4	Chemical hazards are not harmful
Old HQ building – office no. 212	Chemical hazards are not harmful
Old HQ building – office no. 215	Chemical hazards are not harmful
Dispatch Center – office no. 301	Chemical hazards are not detected
Dispatch Center – office no. 302	Chemical hazards are not detected
Dispatch Center – office no. 303	Chemical hazards are not harmful
Dispatch Center – office no. 304	Chemical hazards are not harmful
Dispatch Center – office no. 305	Chemical hazards are not harmful
Dispatch Center – conference room no. 202	Chemical hazards are not harmful
Dispatch Center – office no. 206	Chemical hazards are not harmful
Dispatch Center – office no. 207	Chemical hazards are not harmful
Dispatch Center – counter hall	Chemical hazards are not harmful
Calibration Department – repair shop office1	Chemical hazards are not detected
Calibration Department – meter repair shop warehouse	Chemical hazards are not harmful
Calibration Department – repair shop office2	Chemical hazards are not harmful
Calibration Department – meter repair shop	Chemical hazards are not harmful
Calibration Department – fuse box repair shop	Chemical hazards are not detected
Calibration Department – counter hall	Chemical hazards are not harmful
Calibration Department – meter repair shop	Chemical hazards are not harmful
Fire department– office no. 7	Chemical hazards are not detected
Fire department– office no. 4	Chemical hazards are not harmful
Fire department– office no. 8	Chemical hazards are not harmful
Fire department– office no. 12	Chemical hazards are not harmful
Fire department– office no. 10	Chemical hazards are not harmful

▪ Working environment electromagnetic fields

During 2019 electromagnetic fields measurements were performed in working environment in DA Niš. The measured results show that electromagnetic fields are not harmful, i.e. when measuring obtained results are within acceptable limits. Measurement results are presented in the Table 209.

Table 209

DISTRIBUTION AREA NIŠ					
Electromagnetic fields in working environment in 2019					
Branch	Subject testing	Strength of electric field E		Density of magnetic flux B	
		Measured V/m	Allowed V/m	Measured V/m	Allowed V/m
ED PIROT	Measurements were not performed in 2019	---	---	---	---
ED LESKOVAC	Dispatch Center - field dispatcher	Harmful radiation is not damaging			
	Dispatch Center	Harmful radiation is not detected			

	Dispatch Center – Head of the Department's office	Harmful radiation is not damaging			
	Dispatch Center – Measurement and Protection and the automation of the Electric Power Distribution System	Harmful radiation is not damaging			
	Dispatch Center – Management Associate's office	Harmful radiation is not damaging			
	Dispatch Center – Office of the Associate for Measurement and Protection and Remote Control System	Harmful radiation is not damaging			
	Dispatch Center – server room	Harmful radiation is not detected			
	HQ building – office no. 17	Harmful radiation is not damaging			
	HQ building – office no. 16	Harmful radiation is not damaging			
	HQ building – office no. 15	Harmful radiation is not damaging			
	HQ building – office no. 14	Harmful radiation is not damaging			
	HQ building – office no. 13	Harmful radiation is not damaging			
	HQ building – office no. 12	Harmful radiation is not damaging			
	HQ building – office no. 11	Harmful radiation is not damaging			
	HQ building – office no. 10	Harmful radiation is not damaging			
	HQ building – office no. 9	Harmful radiation is not damaging			
	HQ building – Loss Reduction Department	Harmful radiation is not damaging			
	HQ building – office no. 7	Harmful radiation is not detected			
	HQ building – office no. 8	Harmful radiation is not damaging			
	HQ building – office no. 5	Harmful radiation is not damaging			
	HQ building – office no. 6	Harmful radiation is not damaging			
	HQ building – electric fitter's break room	Harmful radiation is not detected			
	HQ building – Loss Reduction Department	Harmful radiation is not damaging			
	HQ building – warehouse	Harmful radiation is not damaging			
ED ZAJEČAR	Measurements were not performed in 2019	---	---	---	---
ED VRANJE	Measurements were not performed in 2019	---	---	---	---
ED PROKUPLJE	Measurements were not performed in 2019	---	---	---	---
ED NIŠ	HQ building - office no. 306	Harmful radiation is not damaging			
	HQ building - office no. 304	Harmful radiation is not damaging			
	HQ building - office no. 221	Harmful radiation is not damaging			
	HQ building - office no. 201	Harmful radiation is not detected			
	HQ building - office no. 219	Harmful radiation is not damaging			
	HQ building - office no. 218	Harmful radiation is not damaging			
	HQ building - office no. 216	Harmful radiation is not damaging			
	HQ building - office no. 214	Harmful radiation is not detected			
	HQ building - office no. 211	Harmful radiation is not damaging			
	HQ building - office no. 111	Harmful radiation is not damaging			
	HQ building - office no. 205	Harmful radiation is not damaging			
	HQ building - office no. 113	Harmful radiation is not damaging			
	HQ building - office no. 116	Harmful radiation is not damaging			
	HQ building - office no. 114	Harmful radiation is not damaging			
	HQ building - office no. 112	Harmful radiation is not damaging			
	HQ building - office no. 110	Harmful radiation is not damaging			
	HQ building - office no. 107	Harmful radiation is not damaging			
	HQ building - office no. 106	Harmful radiation is not damaging			
	HQ building - room no. 120	Harmful radiation is not damaging			

HQ building - office no. 104	Harmful radiation is not damaging
HQ building - office no. 103	Harmful radiation is not damaging
HQ building - pay desk	Harmful radiation is not damaging
HQ building - office no. 13	Harmful radiation is not damaging
HQ building - office no. 8	Harmful radiation is not damaging
HQ building - office no. 5	Harmful radiation is not damaging
HQ building - office no. 2	Harmful radiation is not detected
Old HQ building – office no. 9	Harmful radiation is not damaging
Old HQ building – office no. 15	Harmful radiation is not damaging
Old HQ building – office no. 17	Harmful radiation is not damaging
Old HQ building – office no. 2	Harmful radiation is not damaging
Old HQ building – office no. 25 B	Harmful radiation is not damaging
Old HQ building – office no. 4	Harmful radiation is not damaging
Old HQ building – office no. 212	Harmful radiation is not damaging
Old HQ building – office no. 215	Harmful radiation is not detected
Dispatch Center – office no. 301	Harmful radiation is not damaging
Dispatch Center – office no. 302	Harmful radiation is not damaging
Dispatch Center – office no. 303	Harmful radiation is not damaging
Dispatch Center – office no. 304	Harmful radiation is not detected
Dispatch Center – office no. 305	Harmful radiation is not detected
Dispatch Center – conference room no. 202	Harmful radiation is not damaging
Dispatch Center – office no. 206	Harmful radiation is not damaging
Dispatch Center – office no. 207	Harmful radiation is not damaging
Dispatch Center – counter hall	Harmful radiation is not damaging
Calibration Department – repair shop office1	Harmful radiation is not damaging
Calibration Department – meter repair shop warehouse	Harmful radiation is not damaging
Calibration Department – repair shop office2	Harmful radiation is not damaging
Calibration Department – meter repair shop	Harmful radiation is not detected
Calibration Department – fuse box repair shop	Harmful radiation is not damaging
Calibration Department – counter hall	Harmful radiation is not damaging
Calibration Department – meter repair shop	Harmful radiation is not damaging
Fire department– office no. 7	Harmful radiation is not detected
Fire department– office no. 4	Harmful radiation is not damaging
Fire department– office no. 8	Harmful radiation is not detected
Fire department– office no. 12	Harmful radiation is not damaging
Fire department– office no. 10	Harmful radiation is not damaging

▪ Working environment parameters

In DA Niš the testing of working environment parameters for winter period in was carried out by the Institute “1. Maj” – Niš.

Parameters monitoring of temperature, relative humidity and velocity for winter period in 2019 in DA Niš is given in Table 210.

Table 210

DISTRIBUTION AREA NIŠ					
Temperature, relative humidity and velocity					
Branch ED NIŠ					
№	Measuring location	Monitoring			Note
		t *C	Rv %	Vm/s	Comfort zone
1.	HQ building - office no. 306	25,1	56,7	0,07	Within zone
2.	HQ building - office no. 304	25,4	54,2	0,12	Within zone
3.	HQ building - office no. 221	25,3	51,4	0,04	Within zone
4.	HQ building - office no. 201	25,4	55,7	0,09	Within zone
5.	HQ building - office no. 219	25,4	56,1	0,10	Within zone
6.	HQ building - office no. 218	25,6	51,9	0,14	Within zone
7.	HQ building - office no. 216	25,4	55,9	0,14	Within zone
8.	HQ building - office no. 214	25,3	55,4	0,17	Within zone
9.	HQ building - office no. 211	25,1	56,7	0,07	Within zone
10.	HQ building - office no. 111	25,2	55,4	0,18	Within zone
11.	HQ building - office no. 205	25,4	54,9	0,07	Within zone
12.	HQ building - office no. 113	25,0	57,4	0,05	Within zone
13.	HQ building - office no. 116	25,2	56,4	0,10	Within zone
14.	HQ building - office no. 114	25,1	56,4	0,05	Within zone
15.	HQ building - office no. 112	24,9	57,1	0,10	Within zone
16.	HQ building - office no. 110	25,4	54,8	0,17	Within zone
17.	HQ building - office no. 107	25,4	54,2	0,10	Within zone
18.	HQ building - office no. 106	24,9	57,2	0,21	Within zone
19.	HQ building - room no.. 120	25,3	58,1	0,05	Within zone
20.	HQ building - office no. 104	25,7	54,2	0,04	Within zone
21.	HQ building - office no. 103	25,8	55,4	0,04	Within zone
22.	HQ building - pay desk	25,3	51,7	0,11	Within zone
23.	HQ building - office no. 13	27,3	54,4	0,11	Within zone
24.	HQ building - office no. 8	24,8	57,9	0,17	Within zone
25.	HQ building - office no. 5	24,8	58,3	0,14	Within zone
26.	HQ building - office no. 2	24,7	58,9	0,06	Within zone
27.	Old HQ building – office no. 9	24,8	57,4	0,17	Within zone
28.	Old HQ building – office no. 15	25,1	55,4	0,11	Within zone
29.	Old HQ building – office no. 17	26,1	56,4	0,07	Within zone
30.	Old HQ building – office no. 2	24,9	55,1	0,03	Within zone
31.	Old HQ building – office no. 25 B	24,1	59,4	0,07	Within zone
32.	Old HQ building – office no. 4	23,9	60,4	0,04	Within zone
33.	Old HQ building – office no. 212	25,1	56,6	0,02	Within zone
34.	Old HQ building – office no. 215	24,1	51,1	0,04	Within zone
35.	Dispatch Center – office no. 301	27,2	47,1	0,10	Within zone
36.	Dispatch Center – office no. 302	26,1	44,1	0,07	Within zone
37.	Dispatch Center – office no. 303	26,1	52,7	0,10	Within zone
38.	Dispatch Center – office no. 304	26,1	54,4	0,09	Within zone
39.	Dispatch Center – office no. 305	25,4	53,9	0,10	Within zone
40.	Dispatch Center – conference room no. 202	24,1	51,1	0,04	Within zone
41.	Dispatch Center – office no. 206	25,1	58,0	0,11	Within zone
42.	Dispatch Center – office no. 207	26,0	52,7	0,11	Within zone
43.	Dispatch Center – counter hall	24,6	59,1	0,17	Within zone
44.	Calibration Department – repair shop office1	27,7	49,4	0,04	Within zone
45.	Calibration Department – meter repair shop warehouse	27,9	54,1	0,04	Within zone
46.	Calibration Department – repair shop office2	27,1	51,4	0,07	Within zone
47.	Calibration Department – meter repair shop	27,4	49,1	0,08	Within zone
48.	Calibration Department – fuse box repair shop	26,9	52,5	0,07	Within zone
49.	Calibration Department – counter hall	26,9	48,3	0,07	Within zone
50.	Calibration Department – meter repair shop	26,4	47,1	0,09	Within zone
51.	Fire department– office no. 7	24,7	51,9	0,07	Within zone
52.	Fire department– office no. 4	23,4	47,1	0,06	Within zone
53.	Fire department– office no. 8	23,4	47,1	0,06	Within zone

54.	Fire department– office no. 12	24,4	44,1	0,07	Within zone
55.	Fire department– office no. 10	24,6	43,9	0,09	Within zone
Branch ED Piroć					
Temperature, relative humidity and velocity					
№	Measuring location	Monitoring			Note
		t *C	Rv %	Vm/s	Comfort zone
1.	Measurements were not performed in 2019	---	---	---	---
ED Leskovac Branch					
Temperature, relative humidity and velocity					
№	Measuring location	Monitoring			Note
		t *C	Rv %	Vm/s	Comfort zone
1.	Dispatch Center - field dispatcher	24,8	60,9	0,06	Within zone
2.	Dispatch Center	24,9	60,9	0,07	Within zone
3.	Dispatch Center – Head of the Department's office	25,1	58,7	0,04	Within zone
4.	Dispatch Center – Measurement and Protection and the automation of the Electric Power Distribution System	24,7	57,4	0,05	Within zone
5.	Dispatch Center – Management Associate's office	24,3	57,4	0,05	Within zone
6.	Dispatch Center – Office of the Associate for Measurement and Protection and Remote Control System	24,7	54,1	0,06	Within zone
7.	Dispatch Center – server room	22,3	52,5	0,06	Within zone
8.	HQ building – office no. 17	25,8	54,7	0,06	Within zone
9.	HQ building – office no. 16	24,4	45,3	0,07	Within zone
10.	HQ building – office no. 15	25,9	56,7	0,04	Within zone
11.	HQ building – office no. 14	25,7	55,3	0,07	Within zone
12.	HQ building – office no. 13	26,8	52,6	0,04	Within zone
13.	HQ building – office no. 12	25,1	54,7	0,04	Within zone
14.	HQ building – office no. 11	25,2	58,4	0,07	Within zone
15.	HQ building – office no. 10	25,7	56,7	0,06	Within zone
16.	HQ building – office no. 9	26,1	56,2	0,07	Within zone
17.	HQ building – Loss Reduction Department	25,3	56,1	0,04	Within zone
18.	HQ building – office no. 7	25,6	41,3	0,07	Within zone
19.	HQ building – office no. 8	26,4	60,1	0,04	Within zone
20.	HQ building – office no. 5	26,1	54,4	0,06	Within zone
21.	HQ building – office no. 6	26,3	51,7	0,07	Within zone
22.	HQ building – electric fitter's break room	24,1	63,9	0,08	Within zone
23.	HQ building – Loss Reduction Department	24,9	61,7	0,08	Within zone
24.	HQ building – warehouse	26,6	52,6	0,05	Within zone
ED Zaječar Branch					
Temperature, relative humidity and velocity					
№	Measuring location	Monitoring			Note
		t *C	Rv %	Vm/s	Comfort zone
1.	Measurements were not performed in 2019	---	---	---	---
ED Vranje Branch					
Temperature, relative humidity and velocity					
№	Measuring location	Monitoring			Note
		t *C	Rv %	Vm/s	Comfort zone
1.	Measurements were not performed in 2019	---	---	---	---
ED Prokuplje Branch					
Temperature, relative humidity and velocity					
№	Measuring location	Monitoring			Note
		t *C	Rv %	Vm/s	Comfort zone
1.	Measurements were not performed in 2019	---	---	---	---

Illumination monitoring data for the summer period of 2019 in DA Niš is presented in Table 211.

Table 211

Table 27

DISTRIBUTION AREA NIŠ					
Illumination for summer period of 2019					
Branch ED Niš					
№	Measuring location	Monitoring			Note
		Illumination	Average Illumination (lx)		Illumination
			Measured	Request by SRPS	
1.	HQ building - office no. 306	combined	321	150-300	sufficient
2.	HQ building - office no. 304	combined	311	150-300	sufficient
3.	HQ building - office no. 221	combined	461	150-300	sufficient
4.	HQ building - office no. 201	combined	254	150-300	sufficient
5.	HQ building - office no. 219	combined	162	150-300	sufficient
6.	HQ building - office no. 218	combined	213	150-300	sufficient
7.	HQ building - office no. 216	combined	274	150-300	sufficient
8.	HQ building - office no. 214	combined	451	150-300	sufficient
9.	HQ building - office no. 211	combined	321	150-300	sufficient
10.	HQ building - office no. 111	combined	458	150-300	sufficient
11.	HQ building - office no. 205	combined	283	150-300	sufficient
12.	HQ building - office no. 113	combined	713	150-300	sufficient
13.	HQ building - office no. 116	combined	271	150-300	sufficient
14.	HQ building - office no. 114	combined	286	150-300	sufficient
15.	HQ building - office no. 112	combined	328	150-300	sufficient
16.	HQ building - office no. 110	combined	595	150-300	sufficient
17.	HQ building - office no. 107	combined	312	150-300	sufficient
18.	HQ building - office no. 106	combined	172	150-300	sufficient
19.	HQ building - room no.. 120	combined	137	150-300	sufficient
20.	HQ building - office no. 104	combined	301	150-300	sufficient
21.	HQ building - office no. 103	combined	282	150-300	sufficient
22.	HQ building - pay desk	combined	145	150-300	insufficient
23.	HQ building - office no. 13	combined	457	150-300	sufficient
24.	HQ building - office no. 8	combined	291	150-300	sufficient
25.	HQ building - office no. 5	combined	430	150-300	sufficient
26.	HQ building - office no. 2	combined	441	150-300	sufficient
27.	Old HQ building – office no. 9	combined	311	150-300	sufficient
28.	Old HQ building – office no. 15	combined	450	150-300	sufficient
29.	Old HQ building – office no. 17	combined	204	150-300	sufficient
30.	Old HQ building – office no. 2	combined	531	150-300	sufficient
31.	Old HQ building – office no. 25 B	combined	269	150-300	sufficient
32.	Old HQ building – office no. 4	combined	254	150-300	sufficient
33.	Old HQ building – office no. 212	combined	588	150-300	sufficient
34.	Old HQ building – office no. 215	combined	430	150-300	sufficient
35.	Dispatch Center – office no. 301	combined	945	150-300	sufficient
36.	Dispatch Center – office no. 302	combined	1051	150-300	sufficient
37.	Dispatch Center – office no. 303	combined	1486	150-300	sufficient
38.	Dispatch Center – office no. 304	combined	1517	150-300	sufficient
39.	Dispatch Center – office no. 305	combined	1407	150-300	sufficient
40.	Dispatch Center – conference room no. 202	combined	430	150-300	sufficient
41.	Dispatch Center – office no. 206	combined	831	150-300	sufficient
42.	Dispatch Center – office no. 207	combined	843	150-300	sufficient
43.	Dispatch Center – counter hall	combined	241	150-300	sufficient
44.	Calibration Department – repair shop office1	combined	825	150-300	sufficient
45.	Calibration Department – meter repair shop warehouse	combined	53	80-150	insufficient
46.	Calibration Department – repair shop office2	combined	347	150-300	sufficient
47.	Calibration Department – meter repair shop	combined	536	150-300	sufficient
48.	Calibration Department – fuse box repair shop	combined	665	150-300	sufficient
49.	Calibration Department – counter hall	combined	839	150-300	sufficient

50.	Calibration Department – meter repair shop	combined	768	150-300	sufficient
51.	Fire department– office no. 7	combined	468	150-300	sufficient
52.	Fire department– office no. 4	combined	222	150-300	sufficient
53.	Fire department– office no. 8	combined	872	150-300	sufficient
54.	Fire department– office no. 12	combined	326	150-300	sufficient
55.	Fire department– office no. 10	combined	421	150-300	sufficient

ED Pirot Branch

№	Measuring location	Monitoring			Note
		Illumination	Average Illumination (lx)		Illumination
			Measured	Sufficient	
1.	Measurements were not performed in 2019	---	---	---	---

ED Leskovac Branch

№	Measuring location	Monitoring			Note
		Illumination	Average Illumination (lx)		Illumination
			Measured	Sufficient	
1.	Dispatch Center - field dispatcher	combined	457	150-300	sufficient
2.	Dispatch Center	combined	808	150-300	sufficient
3.	Dispatch Center – Head of the Department's office	combined	623	150-300	sufficient
4.	Dispatch Center – Measurement and Protection and the automation of the Electric Power Distribution System	combined	702	150-300	sufficient
5.	Dispatch Center – Management Associate's office	combined	919	150-300	sufficient
6.	Dispatch Center – Office of the Associate for Measurement and Protection and Remote Control System	combined	982	150-300	sufficient
7.	Dispatch Center – server room	combined	403	150-300	sufficient
8.	HQ building – office no. 17	combined	985	150-300	sufficient
9.	HQ building – office no. 16	combined	475	150-300	sufficient
10.	HQ building – office no. 15	combined	533	150-300	sufficient
11.	HQ building – office no. 14	combined	408	150-300	sufficient
12.	HQ building – office no. 13	combined	848	150-300	sufficient
13.	HQ building – office no. 12	combined	373	150-300	sufficient
14.	HQ building – office no. 11	combined	433	150-300	sufficient
15.	HQ building – office no. 10	combined	307	150-300	sufficient
16.	HQ building – office no. 9	combined	701	150-300	sufficient
17.	HQ building – Loss Reduction Department	combined	227	150-300	sufficient
18.	HQ building – office no. 7	combined	371	150-300	sufficient
19.	HQ building – office no. 8	combined	577	150-300	sufficient
20.	HQ building – office no. 5	combined	613	150-300	sufficient
21.	HQ building – office no. 6	combined	737	150-300	sufficient
22.	HQ building – electric fitter's break room	combined	172	80-150	sufficient
23.	HQ building – Loss Reduction Department	combined	384	150-300	sufficient
24.	HQ building – warehouse	combined	480	150-300	sufficient

ED Zaječar Branch

№	Measuring location	Monitoring			Note
		Illumination	Average Illumination (lx)		Illumination
			Measured	Sufficient	
1.	Measurements were not performed in 2019	---	---	---	---

ED Vranje Branch

№	Measuring location	Monitoring			Note
		Illumination	Average Illumination (lx)		Illumination
			Measured	Sufficient	
1.	Measurements were not performed in 2019	---	---	---	---

ED Prokuplje Branch

№	Measuring location	Monitoring			Note
		Illumination	Average Illumination (lx)		Illumination
			Measured	Sufficient	
1.	Measurements were not performed in 2019	---	---	---	---

5.3.2. Occupational Safety

■ Training

Training report is presented in Table je y Табели 212.

Table 212

DISTRIBUTION AREA NIŠ					
Training in 2019					
Branch/Facility	Number of employees	For training		Trained	
		№	%	№	%
ED NIŠ	131				
Knowledge testing in HSTP		120	91,60	120	100,00
Safety training		8	6,11	8	100,00
ED Leskovac	73				
Knowledge testing in HSTP		44	60,27	44	100,00
Safety training		8	10,96	8	100,00
ED Zaječar	119				
Safety training		2	1,68	2	100,00
Knowledge testing in HSTP		67	56,30	67	100,00
Safety training for newly employed workers		1	0,84	1	100,00
ED Vranje	32				
Knowledge testing in HSTP		12	37,50	12	100,00
Training for operating the new MILLER harness in divison for reception and control of measuring points		11	34,38	11	100,00
Safety training for operating the new HV facility – employees in control department		10	31,25	10	100,00
ED Pirot	28				
Knowledge testing in HSTP		18	64,29	18	100,00
ED Prokuplje	40				
Knowledge testing in HSTP		32	80,00	32	100,00
Training for operating the new MILLER harness in divison for reception and control of measuring points		15	37,50	15	100,00
Training for operating the new ladders		17	42,50	17	100,00
Management DA Niš	127				
Safety training		22	17,32	22	100,00
TOTAL NUMBER OF TRAININGS OF EMPLOYEES IN 2019 DA NIŠ					
Safety training	550	40	7,27	40	100,00
Knowledge testing in HSTP		293	53,27	293	100,00
Safety training for newly employed workers		1	0,18	1	100,00
Training for operating the new MILLER harness in divison for reception and control of measuring points		26	4,73	26	100,00
Safety training for operating the new HV facility – employees in control department		10	1,82	10	100,00
Training for operating the new ladders		17	3,09	17	100,00

Note: The number of employees on 31st December 2019

Additional trainings which are not connected to permanently employed in DA Niš but which were conducted in 2019 are presented in Table 213.

Table 213

DISTRIBUTION AREA NIŠ				
Additional trainings which are not connected to permanently employed in DA Niš but which were conducted in 2019				
Branch/Facility	For training		Trained	
	No	%	No	%
ED NIŠ				
Safety training of Agency-employed workers	13	100,00	13	100,00
Acquainting contractors with dangers and hazards, OHS measures and rules of conduct	155	100,00	155	100,00
ED Zaječar				
Training of employees from the department of technical services in Zaječar as a support to Electric Power Distribution System management department based on SLA contract	2	100,00	2	100,00
Acquainting contractors with dangers and hazards, OHS measures and rules of conduct	87	100,00	87	100,00
Acquainting visitors and service providers with OHS measures and rules of conduct	37	100,00	37	100,00
Safety training of agency-employed workers	1	100,00	1	100,00
ED Leskovac				
Acquainting contractors with dangers and hazards, OHS measures and rules of conduct	150	100,00	150	100,00
ED Pirot				
Safety training of agency-employed workers	1	100,00	1	100,00
Acquainting contractors with dangers and hazards, OHS measures and rules of conduct	52	100,00	52	100,00
Acquainting visitors and service providers with OHS measures and rules of conduct	24	100,00	24	100,00
ED Vranje				
Safety training of Agency-employed workers	1	100,00	1	100,00
Annual knowledge testing in HSTP of EPS employees based on SLA contract	3	100,00	3	100,00
Acquainting contractors with dangers and hazards, OHS measures and rules of conduct	100	100,00	100	100,00
ED Prokuplje				
Safety training of agency-employed workers	5	100,00	5	100,00
Annual knowledge testing in HSTP of EPS employees, based on SLA contract	10	100,00	10	100,00
Management DA Niš				
Safety training of agency-employed workers	14	100,00	14	100,00
TOTAL: DISTRIBUTION AREA NIŠ				
Safety training of agency-employed workers	35	100,00	35	100,00
Training of employees from the department of technical services in Zaječar as a support to Electric Power Distribution System management department based on SLA contract	2	100,00	2	100,00
Acquainting contractors with dangers and hazards, OHS measures and rules of conduct	394	100,00	394	100,00
Annual knowledge testing in HSTP of EPS employees based on SLA contract	13	100,00	13	100,00
Acquainting visitors and service providers with OHS measures and rules of conduct	61	100,00	61	100,00

▪ Work injuries

The number of injuries in 2019 is presented in Table 214.

Table 214

DISTRIBUTION AREA NIŠ						
Work injuries in 2019						
Branch	Number of employees	Work injuries in relation to the number of employees				
		Light	Light	Light	Light	Light
ED Niš	131	2	1	0	3	2,29
ED Leskovac	73	0	0	0	0	0,00
ED Zaječar	119	0	1	0	1	0,84
ED Vranje	32	1	0	0	1	3,13
ED Pirot	28	0	0	0	0	0,00
ED Prokuplje	40	0	0	0	0	0,00
HQ DA Niš	127	1	0	0	1	0,79
TOTAL: DISTRIBUTION AREA NIŠ	550	4	2	0	6	1,09

5.3.3. Health

Periodic medical examinations of employees are presented in Table 215 and they are performed regularly for all newly employed workers and for employees working on posts with special working conditions.

Table 215

DISTRIBUTION AREA NIŠ											
Work capability of the employees in 2019											
Branch	Number of employees	Periodic examination				Work capability					
		Referred to examination		Examined		Capable		Limited capability		Incapable	
		No.	%	No.	%	No.	%	No.	%	No.	%
ED Niš	131	82	62,60	80	97,56	72	90,00	8	10,00	0	0,00
ED Leskovac	73	44	60,27	44	100,00	44	100,00	0	0,00	0	0,00
ED Zaječar	119	67	56,30	67	100,00	58	86,57	9	13,43	0	0,00
ED Vranje	32	21	65,63	21	100,00	20	95,24	1	4,76	0	0,00
ED Pirot	28	18	64,29	18	100,00	13	72,22	5	27,78	0	0,00
ED Prokuplje	40	27	67,50	27	100,00	24	88,89	3	11,11	0	0,00
Management DA Niš	127	17	13,39	15	88,24	15	100,00	0	0,00	0	0,00
TOTAL DISTRIBUTION AREA NIS	550	276	50,18	272	98,55	246	90,44	26	9,56	0	0,00

5.4. Public complaints

There were no public complaints regarding the environment in 2019 in DA Niš.

APPENDIX 1 EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT ENVIRONMENTAL MODEL REPORT

Coal Production, Processing and Transportation Facilities

For each mining company:

- Summarize the Status of permits, licenses and other approvals required for each major facility (e.g. coal mine). Note any incidents of non-compliance with the applicable national environment, health and safety requirements.
- Identify any new permits required during reporting year or permits that will expire in less than a year and therefore require renewal.

Please provide data on the following parameters for each facility.

- Air Emissions (key air emissions, permitted limits, actual emissions)
- Solid wastes (type and quantity of waste)
- Water use (quantities of water used, permitted limits)
- Liquid effluents (key liquid effluents, permitted limits, actual effluents produced)
- Noise
- Summarize the health and safety record, including the accident rate and any initiatives implemented or planned during the reporting period, including training programs
- Summarize public complaints, if any, relating to the project, take steps to address these.

Power Generation Facilities

For each Power Plant:

- Summarize the status of permits, licenses or other approvals required for each plant. Note any incidents of non-compliance with the applicable national environment, health and safety requirements.
- Identify any new permits required during reporting year or permits that will expire in less than a year and therefore require renewal.

Please provide data on the following parameters for each plant:

Air Emissions

	Actual emissions	Limited values
Content of particulate matter		
CO ₂ (Sulphur Dioxide)		
NO _x (NO ₂) Nitrogen Oxides		

Identified negative impact on river flow and ecological system below the reservoir

- Solid Wastes (type and quantity of waste);
- Water Use (quantities of water used, permitted limits);
- Liquid effluents (key liquid effluents, permitted limits, actual effluents produced);
- Noise
- Summarize the Health and Safety record, including the accident rate and any initiatives implemented or planned during the reporting period, including training programs
- Summarize Public Complaints, if any, relating to the project, steps taken to address these.

Power Transmission

- Summarize the status of permits, licenses or other approvals required for each facility. Note any incidents of non-compliance with the applicable national environment, health and safety requirements.
- Identify any new permits required during reporting year or permits that will expire in less than a year and therefore require renewal.
- Summarize the health and safety record, including the accident rate and any initiatives implemented or planned during the reporting period, including training programs
- Summarize public complaints, if any, relating to the project, steps taken to address these.

Power Distribution

- Summarize the status of permits, licenses or other approvals required for each facility. Note any incidents of non-compliance with the applicable national environment, health and safety requirements;
- Identify any new permits required during reporting year or permits that will expire in less than a year and therefore require renewal.
- Summarize the health and safety record, including the accident rate and any initiatives implemented or planned during the reporting period, including training programs.
- Summarize public complaints, if any, relating to the project, steps taken to address these.

APPENDIX 2. SERBIAN ENVIRONMENTAL LEGISLATION

LAWS

1. Law on environmental protection "Official Gazette RS", No.135/2004, 36/2009, 36/2009- other law, 72/2009, 43/2011- Constitutional Court decision и 14/2016, 76/2018, 95/2018 - other law)
2. Law on Environmental Impact Assessment "Official Gazette RS", No. 135/04 and 36/2009)
3. Law on environmental impact strategic assessment ("Official Gazette RS", no 135/2004 and 88/2010)
4. Law on integrated environmental pollution prevention and control, ("Official Gazette RS", No.135/2004 and 25/2015)
5. Air protection law ("Official Gazette RS" no.36/2009 and 10/2013)
6. Law on noise environmental protection ("Official Gazette RS" no. 36/2009 and 88/2010)
7. Law on non-ionizing radiation protection ("Official Gazette RS", no. 36/2009)
8. Law on packaging and packaging waste ("Official Gazette RS", no. 36/2009, 95/2018)
9. Law on Biocidal Products ("Official Gazette RS", no. 36/2009, 88/2010 and 92/2011 and 25/2015)
10. Law on chemicals ("Official Gazette RS", no. 36/2009,88/2010, 92/2011 and 93/2012 and 25/2015)
11. Law on waste management ("Official Gazette RS", no. 36/2009, 88/2010 and 14/2016, 95/2018)
12. Law on Environmental Protection ("Official Gazette RS", no. 36/2009, 88/2010, 91/2010 14/2016, 95/2018)
13. Water Law ("Official Gazette RS", no. 30/02010, 93/2012 and 101/2016, 95/2018 and other law)
14. Law on meteorological and hydrological activities ("Official Gazette RS", no. 88/2010)
15. Law on protection and sustainable use of fish stocks, ("Official Gazette RS", No 128/2014, 95/2018)
16. Law on Mining and Geological Research ("Official Gazette RS", No 101/2015, 95/2018)
17. Law on planning and construction ("Official Gazette RS", no. 72/2009, 81/2009- correction, 64/2010- Constitutional Court decision, 24/2011,121/2012, 42/2013 – Constitutional Court decision, 50/2013 – Constitutional Court decision, 98/2013 - Constitutional Court decision, 132/2014 and 145/2014,83/2018, 31/2019, 37/2019, 9/2020)
18. Agricultural Land Law ("Official Gazette RS", No. 62/2006, 65/2008 and 41/2009, 112/2015 и 80/2017, 95/2018)
19. Law on forests ("Official Gazette RS", No. 30/2010, 93/2012 and 89/2015,95/2018)
20. Law on confirmation of the convention on access to information, public participation in decision-making and access to justice in environmental matters („Official Gazette RS“, No. 38/09, 8/2011)
21. Law on confirmation of the Protocol of the pollutants registration and release within the convention on access to information, public participation in decision-making and access to justice in environmental matters („Official Gazette RS“, No. 8/2011)
22. Occupational Safety and Health Protection Law („Official Gazette RS“, No. 101/2005, 91/2015 and 113/2017)
23. Law on Fees for Use of Public Goods („Official Gazette RS“, No. 95/2018, 49/2019 and 86/2019 – adjusted amounts in RSD)

REGULATIONS

1. Regulation on establishing the list of projects which require environmental impact assessment and list of projects which may require environmental impact assessment ("Official Gazette of the RS", No. 114/2008)
2. Regulation on noise indicators, limit values, method for assessment of noise indicators, disturbance and harmful environmental impact of noise ("Official Gazette of the RS", No.75/2010)
3. Air Quality Monitoring Conditions and Requirements Regulation ("Official Gazette RS", № 11/2010, 75/2010 and 63/2013)
4. Regulation on Emissions Limit Values of Pollutants in the Air from stationary sources of pollution other than combustion plants ("Official Gazette of the RS", No. 111/2015,6/2016)
5. Regulation on the Methodology for Data Collection for the National Inventory of Unintentional Emissions of Persistent Organic Pollutants ("Official Gazette RS", No. 76/2010)

6. Regulation on the Methodology for Data Collection for the National Greenhouse Gases Inventory ("Official Gazette RS", No. 81/2010)
7. Regulation on ozone depleting substances management, as well as on conditions for license issuance to import and export of such substances („Official Gazette", No. 114/2013, 23/2018, 44/2018 other regulation 95/2018 other regulation)
8. Regulation on zones and agglomerations classification ("Official Gazette RS", no. 58/2011 and 98/2012)
9. Regulation on determining program of air quality control in national network ("Official Gazette RS", no. 58/2011)
10. Regulation on types of waste subject to thermal treatment, conditions and criteria for determination of location, technical and technological conditions for projecting, construction, equipping and work of the thermal waste treatment plants and handling of combustion residues ("Official Gazette of RS", No. 102/2010 and 50/2012)
11. Regulation on the landfill of waste ("Official Gazette RS", no. 92/2010)
12. Regulation on Non hazardous waste List for which the permit is not issued with the documentation accompanying trans-boundary shipments. („Official Gazette", No.102/2010)
13. Regulation on determination of certain types of hazardous waste that can be imported as secondary raw material ("Official Gazette RS", no. 60/2009)
14. Regulation on products that become special waste streams after use, form of daily record on the amount and type of produced and imported products and annual report, manner and deadlines for submission of annual report to the persons liable, calculation criteria, amount of compensation and method for calculation and payment of compensation ("Official Gazette RS", no. 54/2010, 86/2011, 15/2012, 41/2013, 3/2014, 8/2014 and 31/2015, 44/2016, 43/2017 state rulebook, 45/2018 – state rulebook, 67/2018 – state rulebook and 95/2018 state law)
15. Regulation on limit values of priority and priority hazardous substances polluting surface water and deadlines for their achievement ("Official Gazette RS", No. 24/2014)
16. Regulation on types of activities and facilities for which integrated permit is issued ("Official Gazette RS", No. 84/2005)
17. Regulation on content of the program for adaptation measures of the existing facilities or activities by prescribed conditions ("Official Gazette RS", No. 84/2005)
18. Regulation on the criteria for determination of the best available techniques, for the implementation of quality standards, as well as for determination of limit values of emissions in integrated permit ("Official Gazette RS", No. 84/2005)
19. Regulation on establishing the program for dynamics of completing the application for integrated permit ("Official Gazette RS", No. 108/2008)
20. Regulation establishing a program of systematic soil quality monitoring, indicators for assessing the risk of soil degradation and remediation programs development methodology ("Official Gazette RS", No. 88/2010, 30/2018)
21. Regulation on Limit Values for Polluting, Harmful and Hazardous Substances in Soil („Official Gazette RS" No. 30/2018 and 64/2019)
22. Regulation on Systemic Monitoring of Condition and Quality of the Soil ("Official Gazette RS" No. 73/2019)
23. Regulation on Establishing Criteria for Determining of the Status of Endangered Environment and Priorities for Sanitation and Remediation ("Official Gazette RS", No. 22/2010)
24. Regulation on Determining the Activities that Affect the Environment According to the Amount of Pollution ("Official Gazette RS" No. 86/2019 and 89/2019)
25. Regulation on the waste lists for trans-boundary shipments, content and layout of documents accompanying the transboundary transport of the waste with the instructions how they should be filled in ("Official Gazette RS", No. 60/2009)
26. Regulation on Determination of Activities with Impact on the Environment ("Official Gazette RS", No.109/2009 and 8/10)
27. Regulation on the Criteria for Determination of the Best Available Techniques, for the Implementation of Quality Standards, as well as for Determination of Limit Values in the integrated permit ("Official Gazette RS", No 84/2005)

28. Regulation on Content of the Program for Adaptation Measures of the Existing facilities or Activities by Prescribed Conditions ("Official Gazette RS", No. 84/2005)
29. Regulation on types of activities and facilities for which the integrated permit is issued ("Official Gazette RS", no.135/04 and 84/2005)
30. Decree on establishing the list of projects which require environmental impact assessment and list of projects which may require environmental impact assessment ("Official Gazette of the RS", No. 114/2008)
31. Regulation on amount and conditions for allocation of stimulation funds ("Official Gazette RS", No. 88/2009, 67/2010, 101/2010, 86/2011, 35/2012, 48/2012, 41/2013 и 81/2014, 30/2015, 44/2016, 43/2017, 45/2018)
32. Regulation on products that become special waste streams after use, form of daily record on the amount and type of produced and imported products and annual report, manner and deadlines for submission of annual report to the payers of such fees, calculation criteria, fee amount and manner of fee calculation and payment ("Official Gazette RS", no. 54/2010, 86/2011, 15/2012, 3/2014, 31/2015, 44/2016, 43/2017, 45/2018-other regulation, 67/2018 – other regulation, 95/2018 – other regulation)
33. Regulation on termination of the Regulation on way and procedures for management of waste containing asbestos ("Official Gazette RS", No. 74/10)
34. Regulation on the list of industrial facilities and activities which control emission of volatile organic compounds, on the value of volatile organic compounds at certain consumption of solvents and total allowed emissions, as well as the emission reduction scheme ("Official Gazette RS", No. 100/2011)
35. Regulation amending the air quality monitoring conditions and requirements regulation ("Official Gazette RS", No 11/10, 75/2010 и 63/2013)
36. Regulation on the criteria and method for counting of the programs and projects being realized within the mechanism of clean development ("Official Gazette RS", No. 44/2010)
37. Regulation on emission limit values in waters and deadlines for the achievement thereof ("Official Gazette RS", No. 67/11 ,48/12 and 1/2016)
38. Regulation on emission limit values of polluting substances in surface and groundwaters and deadlines for their achievement (Official Gazette of the RS, no. 50/2012, 67/2011,48/2012, 1/2016)
39. Regulation on establishing the program for systematic testing of non-ionizing radiation levels in the environment for the period from 2017 to 2018. ("Official Gazette RS", no. 105/2015)
40. Regulation on the content and methods of management of environmental information system, methodology, structure, common grounds, categories and levels of data acquisition, as well as the content of information the public is regularly and necessarily informed about ("Official Gazette RS", No. 112/09)
41. Regulation on termination of the Regulation on waste management ("Official Gazette RS", no 71/2010)
42. Regulation on determination of activities which performing affect to the environment ("Official Gazette of the RS, no. 101/2009, 8/2010)
43. Regulation on detailed conditions which should be fulfilled by beneficiaries of funds, on conditions and on methods of distribution of funds, on criteria and measures for evaluating the requests for the distribution of funds, on the method of monitoring the use of funds and contracted rights and obligations, and other Issues significant for the allocation and use of funds Green Fund ("Official Gazette of the RS, no. 25/2018)
44. Regulation on management of greenhouse gases with fluorinated gases as well as the conditions for import and export of these gases.(" Official Gazzette RS" No 120/2013, 44/2018)
45. Regulation on methodology for the preparation of inventory of emissions and the projections of pollutants in the air ("Official Gazzette RS" No. 3/2016)
46. Regulation on measuring of the emission of air pollutants from stationary sources of pollution ("Official Gazzette RS" No. 5/2016)
47. Regulation on measurements of the emissions of pollutants in the air from stationary pollutants ("Official Gazzette RS" No. 6/2016)
48. Regulation on the establishment of the Packaging waste reduction plan for the period 2015-2019 ("Official Gazzette RS" No. 144/2014)
49. Regulation on the amount of fees, payers, as well as the manner of payment of fees for assessment and verification of data on biocidal products ("Official Gazzette RS" No 90/2015)

50. Regulation on the establishment of Annual Water monitoring program for 2008("Official Gazzette RS" No. 35/2018)
51. Regulation on the establishment of Annual Water monitoring program for 2019("Official Gazzette RS" No. 48/2019)
52. Regulation on the establishment of the Water management program in 2018 ("Official Gazzette RS" No. 13/2018, 52/2018, 94/2018)
53. Regulation on placing under control of the use and trade of wild flora and faune ("Official Gazzette RS" No. 31/2005, 45/2005, 22/2007, 38/2008, 9/2010, 69/2011, 95/2018)

RULEBOOKS

1. Rulebook stipulating the emission limit values, measuring and data recording methods and time limits ("Official Gazette RS", number 30/1997, 35/1997)
2. Rulebook on contents, appearance and method of keeping the public book of implemented procedures and taken decisions on environmental impact assessment, "Official Gazette RS", No. 69/2005)
3. Rulebook on public insight, presentation and public discussion about the EIA Study,("Official Gazette of the RS", No. 69/2005)
4. Rulebook on work of technical committee for environmental impact assessment study, ("Official Gazette of the RS", No. 69/2005)
5. Rulebook on contents of the request for necessity of environmental impact assessment and contents of the request for defining the scope and content of EIA Study ("Official Gazette of the RS", No. 69/2005)
6. Rulebook on contents of the Environmental Impact Assessment Study ("Official Gazette of the RS", No. 69/2005)
7. Rules on methods of noise measurement, content and scope of report on noise measurement "Official Gazette RS", No. 72/2010)
8. Rules on conditions which have to be complied by the expert organization for noise measurement, as well as on the documents submitted together with the request for authorization for noise measurement ("Official Gazette RS"; No. 72/2010)
9. Rules on methodology for determining of acoustic zones "Official Gazette RS", No. 72/2010)
10. Rules on content and methods for preparation of strategic noise maps and the manner of their presentation to the public ("Official Gazette RS", No. 80/2010)
11. Rules on methodology for preparation of action plans ("Official Gazette RS ", No. 72/2010)
12. Rules on manner of the exchange of information about the metering points in state and local network, measurement techniques, as well as the manner of the exchange of data obtained during the monitoring of air quality in state and local network ("Official Gazette RS", no. 84/2010)
13. Rulebook on contents of air quality plans ("Official Gazette of the RS", No. 21/2010)
14. Rulebook on contents of short-term air action plans ("Official Gazette of the RS", No. 65/2010)
15. Rules on categories, testing and classification of waste ("Official Gazette RS", No. 56/10, 93/2019)
16. Rules on form of document for movement of waste and instruction for its completion ("Official Gazette RS", No.114/2013, 17/2017)
17. Rules on form of request for the issuance of permit for treatment, i.e.waste storage, the reuse and disposal of waste ("Official Gazette RS", no. 38/18.
18. Rules on the content and the design of the permits for the storage, the treatment and disposal of hazardous waste („Official Gazette RS" No.96/2009, 93/2019)
19. Rules on the content, manner of record keeping and design of the register of issued permits for waste storage, treatment and disposal ("Official Gazette RS", no.95/2010)
20. Rules on the content of the certificate on exemption from the obligation to obtain the permit for of internal non-hazardous waste storage ("Official Gazette RS", no. 73/2010)
21. Rules on daily evidence form and annual waste report form with the instruction for its completion ("Official Gazette RS", No.88/2015)
22. Rules on the form of the document on hazardous waste transport, on the form of the previous report,the way of its delivery and instructions how to fill in the form („Official Gazette RS" No.17/2017)

23. Rules on hazardous waste storage, packing and labelling method („Official Gazette RS“, no. 92/2010)
24. Rules on conditions, method and procedure for waste oil management, ("Official Gazette RS", No. 71/2010)
25. Rules on the way and procedure of old batteries and accumulators management ("Official Gazette RS", No. 86/10)
26. Rules on the way and procedure of waste tires management ("Official Gazette RS"; No.104/2009 and 81/2010)
27. Rules on manner and procedure for management end-of-life vehicles ("Official Gazette RS", No. 98/10)
28. Rules on method and procedure for the management of waste fluorescent tubes containing mercury ("Official Gazette RS", No. 97/10)
29. Rules on the management the waste containing asbestos ("Official Gazette RS", no. 75/2010)
30. Rules on medical waste management ("Official Gazette RS", no. 78/2010, 48/2019)
31. Rules on conditions and way of collecting, transportation, storage and treatment of waste used as secondary raw material or for energy generating "Official Gazette RS ", No.98/2010, 97/2013, 23/2016)
32. Rules on methodology for collection of data on the content and amounts of municipal waste on the territory of local self-government unit ("Official Gazette RS", no. 61/2010)
33. Rules on the management with devices and waste containing PCB ("Official Gazette RS", no. 37/2011)
34. Instructions defining preventive measures for safe keeping, storage, i.e. use of extremely hazardous chemicals ("Official Gazette RS", no.6/2017)
35. Rules on import and export of extremely hazardous chemicals ("Official Gazette RS", 89/2010,15/2013 and 114/2014)
36. Rules on the content of the safety list ("Official Gazette RS", No. 100/11)
37. Rules on chemical registry ("Official Gazette RS", No.100/2011, 16/2012, 47/2012, 15/2013, 115/2013, 1/2015, 16/2016, 6/2017 и 117/2017, 44/2018, 7/2019, 93/2019)
38. Rules on bans and restrictions of production, placement on the market and use of chemicals ("Official Gazette of RS", no.90/2013, 25/2015, 2/2016 and 44/2017, 36/2018, 9/2020)
39. Rules on the criteria to identify substances as PBT or vPvB ("Official Gazette RS" no. 23/2010)
40. Rules on permits allowing transactions, i.e. on permits allowing the use extremely hazardous chemicals ("Official Gazette RS", no.29/2018)
41. Rules on detergents („Official Gazette RS“ no. 25/2015)
42. List of surfactants for which an approval has been issued or an act has been adopted allowing the use of surfactants in detergent in the EU and list of surfactants for which a request for approval has been rejected and surfactants banned in the EU ("Official Gazette RS" no. 94/2010)
43. Rules on the manner of chemical record keeping ("Official Gazette", no. 31/2011)
44. Rules on classification, packaging, labelling and advertising of certain chemicals and products ("Official Gazette RS", no. 59/2010, 25/2011 and 5/2012)
45. Rules on classification, packaging, labelling, and advertising of certain chemicals and products in line with globally harmonized classification and marking system of the UN ("Official Gazette RS", No. 105/2013,52/2017, 21/2019)
46. Rules on detailed conditions how to store hazardous chemicals in shops and the manner how to label those shops ("Official Gazette RS", No. 31/2011 and 16/2012)
47. Rules on the content and form of request for the issuance of water acts and content of the opinion in the procedure of water conditions issuance and the content of the report in the procedure of issuing of permits ("Official Gazette RS", no.72/2017, 44/2018)
48. Regulation on water information system that defines data collection, methodology, structure, categories and procedures, and form of information to be presented to public ("Official Gazette RS", no. 54/2011)
49. Rules on water facilities/ structures cadaster ("Official Gazette RS", no. 34/2011)
50. Rules on the content and manner of keeping the register of issued integrated permits ("Official Gazette RS" no. 69/2005)
51. Rules on the content, layout and manner of completing the application for integrated permit ("Official Gazette RS", no. 30/2006 and 32/2016, 44/2018)

52. Rules on the content and layout of integrated permit ("Official Gazette RS", no. 30/2006, 44/2018 – state law)
53. Rules on the methodology for the preparation of national and local register of pollution sources as well as the methodology for types, manners and deadlines of data collection ("Official Gazette RS", no. 91/2010 and 10/2013, 98/2016)
54. Rulebook on the limits of exposure to non-ionizing radiation ("Official Gazette of the RS", no. 104/2009)
55. Rulebook on the sources of non-ionizing radiation of special interest, types of sources, manner and period of their examination ("Official Gazette of the RS" No. 104/2009)
56. Rulebook on the content of records of the sources of non-ionizing radiation of special interest ("Official Gazette of the RS" No. 104/2009)
57. Rulebook on the content and appearance of the form of the report on systematic examination of the levels of non-ionizing radiation in the environment ("Official Gazette of the RS" No. 104/2009)
58. Rulebook on conditions to be fulfilled by legal entities performing tasks of examination of the levels of non-ionizing radiation of the sources of special interest in the environment ("Official Gazette of the RS" No. 104/2009)
59. Rulebook on conditions to be fulfilled by legal entities performing tasks of systematic examination of the levels of non-ionizing radiation, and the manner and methods of systematic examination in the environment ("Official Gazette of the RS" No. 104/2009)
60. Rulebook on the methodology for the development of rehabilitation and remediation projects ("Official Gazette of the RS" No. 74/2015)

STRATEGIES

1. Waste Management Strategy for period 2010-2019 ("Official Gazette RS", № 29/2010)
2. The National Strategy for Sustainable Use of Natural Resources and Goods ("Official Gazette RS", № 33/2012)
3. National Environmental Approximation Strategy of the RS ("Official Gazette RS", № 80/2011)
4. Strategy of Cleaner Production Introduction in the RS ("Official Gazette RS", № 17/2009)
5. Strategy for Convention introduction on access to information, public participation in decision – making, and access to justice in Environmental Matters – The Aarhus Convention ("Official Gazette RS", № 103/2011)
6. National Sustainable Development Strategy ("Official Gazette RS", № 57/2008)
7. National Strategy on the Inclusion of the Republic of Serbia into Clean Development Mechanism of the Kyoto Protocol for the Waste Management Sector, Agriculture and Forestry ("Official Gazette RS", № 8/2010)
8. Strategy of Mineral Resources Management in the Republic of Serbia by 2030 (Official Gazette of the RS, no. 09/2010)
9. Biodiversity Strategy of the Republic of Serbia for the period 2011 – 2018 (Official Gazette of the RS, no. 13/2011)
10. National Strategy for Sustainable Use of Natural Goods and Resources ("Official Gazette of RS" no. 33/2012)
11. Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 with Projections by 2030 ("Official Gazette of the RS", no. 101/2015)

PROVISIONS FROM OTHER AREAS APPLIED IN THE AREA OF ENVIRONMENTAL PROTECTION

Ratified International treaties of significance for the Republic of Serbia

1. Law on confirmation of the Kyoto Protocol with United Nations Framework Convention on Climate Change, "Official Gazette RS", No. 88/07
2. Law Ratifying the Convention on Environmental Impact Assessment in a Transboundary Context, ("Official Gazette RS", No. 102/2007, 4/2016)

3. Law on confirmation of the Stockholm Convention on Persistent Organic Pollutants „Official Gazette RS“, No. 42/09
4. Law ratifying the Convention on Biological Diversity ("Official Journal of SRJ - International Treaties ", No. 11/01)
5. Law ratifying the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("Official Journal of SRJ - International Treaties ", No. 11/01)
6. Law ratifying the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal ("Official gazette of FNRY– International Treaties", № 2/99)
7. Law ratifying The United Nations Framework Convention on Climate Change, with Annexes ("Official Journal of SRJ - International Treaties ", No. 2/97)
8. The Montreal Protocol on Substances that Deplete the Ozone Layer ("Official Journal of SFRY - International Treaties", No. 16/90 "Official Journal of Serbia and Montenegro - International Treaties ", No. 24/04)
9. The Vienna convention for the protection of the ozone layer, with Appendices I and II ("Official Journal of SFRY - International Treaties ", No. 1/90)
10. International Convention on bird protection ("Official Journal of SFRY- International Treaties ", No. 6/73)
11. Convention on swamps of international significance, especially as habitat of water birds - ("Official Journal of SFRY - International Treaties ", No. 9/77)
12. European Convention on the protection of animals in international transportation ("Official Journal of SRY "- International Treaties ", No. 1/92)
13. Convention on cooperation for the protection and sustainable use of the Danube River ("Official Journal of SCG"- International Treaties ", No. 4/2003)
14. Montreal amendment to Vienna Convention on substances damaging the ozone layer ("Official Journal of SCG- International Treaties ", No. 2/2004)
15. Regulation on fish stock and waters of the Danube between the Government of FNRY, National Republic of Bulgaria, the Romanian National Republic and the Union of Soviet Republics ("Official Journal of FNRY" International Treaties, No. - 8/58)
16. Law ratifying the Convention for the protection of world cultural and natural heritage "Official Journal of SFRY" International Treaties, No. 8/74
17. Law ratifying the Convention for the Protection of Cultural Property in the Event of Armed Conflict "Official Journal of SFRY" International Treaties, No. 4/56
18. Law ratifying the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property "Official Journal of SFRY" International Treaties, No. 50/73
19. Law ratifying the Vienna Convention on Civil Liability for Nuclear Damage "Official Journal of SFRY" International Treaties, No. 5/77
20. Regulation on ratification of the Convention on establishing European organization for plant protection "Official Journal of SFRY" International Treaties, No.12/57
21. Regulation on ratification of the International Plant Protection Convention "Official Journal of SFRY" International Treaties, No.7/55
22. Law Ratifying the Convention on Environmental Protection from Pollution of the Tisa River and its tributaries "Official Journal of SFRY" International Treaties, No.1/90
23. Law Ratifying the Convention on Long-range Trans-boundary Air Pollution "Official Journal of SFRY" International Treaties, No.11/86
24. Law Ratifying the Protocol with the Convention on Long-range Trans-boundary Air Pollution on Long-term Financing of the Cooperative Program for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) "Official Journal of SFRY "- International Treaties, No. 2/87
25. Law Ratifying The Montreal Protocol on Substances that Deplete the Ozone Layer ("Official Gazette of Serbia and Montenegro - International Treaties, No. 24/04)
26. Law on confirmation of the amendments and supplements to the Convention on the Physical Protection of Nuclear Material (Official Gazette of the RS - International Treaties, No. 04/ 2016)

27. Law on the Conventions adopted based on Versailles treaty 8 June 1919, and based on appropriate provisions of other treaties adopted on International labor conferences, held in Washington, Geneva and Genoa 1919-1926) "Official Gazette of The Kingdom of Yugoslavia", No. 44 XBI/30
28. Regulation on Ratification of the Convention on Protection against Benzol Poisoning "Official Journal of SFRY "- International Treaties, No. 16/76
29. Law Ratifying the Convention for prohibition and control of professional risks caused by carcinogens substances and agents "Official Journal of SFRY "- International Treaties, No. 3/77
30. Law on prohibition of experiments with nuclear weapons into the atmosphere, cosmos and under water "Official Journal of SFRY "- International Treaties, No. 11/63)
31. Law Ratifying the Convention for prohibition of development, production and stockpiling of bacteriological (biological and toxic) weapons and their destruction "Official Journal of SFRY "- International Treaties, No. 43/74
32. Law Ratifying the Convention for protection of employees from professional risks in working environment caused by air pollution, noise and vibration "Official Journal of SFRY "- International Treaties, No. 14/82
33. Law Ratifying the Convention for occupational health, medical protection and working environment "Official Journal of SFRY "- International Treaties, No. 7/87
34. Law Ratifying the Convention for safe use of asbestos "Official Gazette SRJ "- International Treaties, No. 4/89
35. Law Ratifying the European Convention for the Protection of the Archaeological Heritage "Official Gazette SRJ "- International Treaties, No. 9/90
36. Law Ratifying the European Convention for the Protection of the Architectural Heritage "Official Gazette SRJ "- International Treaties, No. 4/91
37. Law Ratifying the Agreement between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Russian Federation on cooperation in the field of environment protection and improvement "Official Gazette SRJ"- International Treaties, No. 6/96)6poj 6/96)

APPENDIX 3.ABBREVIATIONS

BOD	Biological Oxygen Demand
LEV	Limit Emission Value
MPC	Maximum Permissible Concentration
MP	Measuring Point
FGD	Flue Gas Desulfurization
OCM	Open Cast Mine
MB	Mining Basin
PSHPP	Pumped Storage Hydro Power Plant
TPP	Thermal Power Plant
TPP-OCM	Thermal Power Plant – Open Cast Mine
TPP- HP	Thermal Power Plant – Heating Plant
TS	Transformer Substation
TPM	Total Particulate Matters
HPP	Hydro Power Plant
COD	Chemical Oxygen Demand
DA	Distribution Area
OU	Organisation Unit
CP	Cadastral Plot
MME	Ministry of Mining and Energy
PS	Powdery Substances
RV	Referential Value
IPH	Institute for Public Health
PPE	Personal Protective Equipment
MCTI	Ministry of Construction, Transport and Infrastructure
SKO	<i>Srednje Kosačko Ostrvo</i>