

TAIEX-ECRAN
Capacity Building workshop
on compliance with environmental legislation



Content

- **Monitoring from IED installations**
- **Reporting on pollutant release, transfer and depositing into the environment and on waste**

Legal base

- Directive 2010/75/EU on industrial emissions (IED) → main EU instrument regulating pollutant emissions from industrial installations
- integrated approach → permits must take into account the whole environmental performance of installation covering emissions to air, water and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, restoration of the site upon closure.
- permit conditions - Art. 14., including emission limit values for polluting substances, must be based on the Best Available Techniques (BAT)



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3

Legal base

Article 14

Permit conditions

1. Member States shall ensure that the permit includes all measures necessary for compliance with the requirements of Articles 11 and 18.

Those measures shall include at least the following:

(a) emission limit values for polluting substances listed in Annex II, and for other polluting substances, which are likely to be emitted from the installation concerned in significant quantities, having regard to their nature and their potential to transfer pollution from one medium to another;

(b) appropriate requirements ensuring protection of the soil and groundwater and measures concerning the monitoring and management of waste generated by the installation;

(c) suitable emission monitoring requirements specifying:

- **(i) measurement methodology, frequency and evaluation procedure; and**
- **(ii) where Article 15(3)(b) is applied, that results of emission monitoring are available for the same periods of time and reference conditions as for the emission levels associated with the best available techniques;**

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4

Legal base

Permit should include appropriate requirements to protect the environment and monitoring requirements:

Article 16

Monitoring requirements

1. *The monitoring requirements referred to in Article 14(1)(c) shall, where applicable, be based on the conclusions on monitoring as described in the BAT conclusions.*
2. *The frequency of the periodic monitoring referred to in Article 14(1)(e) shall be determined by the competent authority in a permit for each individual installation or in general binding rules.*

Croatia – monitoring measures prescribed in Book of requirements/part of each EP



5

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Legal base

Regulation on environmental permit (Official gazette 8/14):

- **BAT conclusions** represent basis for determine requirements of environmental permit
- If BAT conclusions are not available then **chapters from BREFs** are used
- **Regulations (National)** are applied if provisions prescribe stringent requirements than BAT conclusions

Measures for monitoring of emissions, methodology of measurements, frequency measurement and evaluation of results from permit are based on BAT conclusions for monitoring



6

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Monitoring Example – Gas treatment Installation

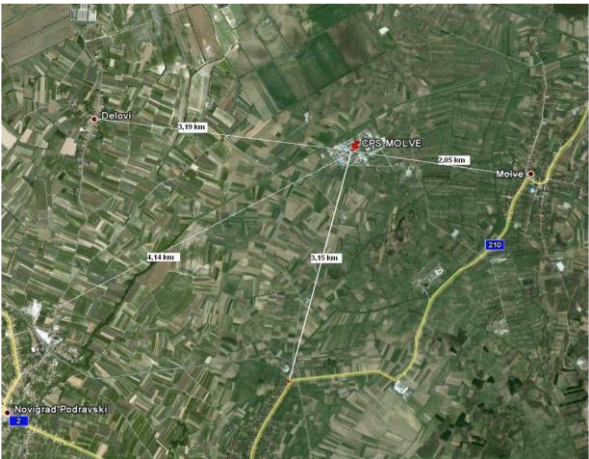


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7

Monitoring Example – Gas treatment Installation



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8

Technology

- Activity 1. - 1.2 of Regulation – Energy - Mineral oil refineries and gas
- 3 parallel gas treatment plants
- Capacity 8 mil. m3 gas/day – raw natural gas
- Products:
 - sales gas which is predominantly methane
 - C₂+ ethane and heavier hydrocarbons
- Technology:
 - separation (salt water from gas)
 - mercury removal (mercury adsorption – sulfur impregnated activated carbon) < 10 mg Hg
 - separation of acid gas (CO₂ and H₂S) – adsorption –aMDEA (metildietanolamina) Benfield strippers
 - gas dehydration – molecular sieves in three vessel system
 - liquefied super cooling – separation is done by condensing C₂+ at very low temp
 - acid gases treatment – Lo-Cat absorber
 - auxiliary processes

Legal base - Regulation on Environmental permit

1. Energy industries
 - 1.1. Combustion of fuels in installations with a total rated thermal input of 50 MW or more
 - 1.2. Refining of mineral oil and gas**
 - 1.3. Production of coke
 - 1.4. Gasification or liquefaction of:
 - (a) coal;
 - (b) other fuels in installations with a total rated thermal input of 20 MW or more.
2. Production and processing of metals
 - 2.1. Metal ore (including sulphide ore) roasting or sintering
 - 2.2. Production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2,5 tones per hour
 - 2.3. Processing of ferrous metals:
 - (a) operation of hot-rolling mills with a capacity exceeding 20 tons of crude steel per hour;
 - (b) operation of smitheries with hammers the energy of which exceeds 50 kilojoule per hammer, where the calorific power used exceeds 20 MW;
 - (c) application of protective fused metal coats with an input exceeding 2 tonnes of crude steel per hour.
 - 2.4. Operation of ferrous metal foundries with a production capacity exceeding 20 tonnes per day

Environmental Permit

- **Environmental Permit - Issued 11th April 2014 - issued for a period of 5 years**
- **Compliance with BAT (best available techniques) for all installation until 1st July 2013, exception if negotiated in pre-accession**

Integrated approach

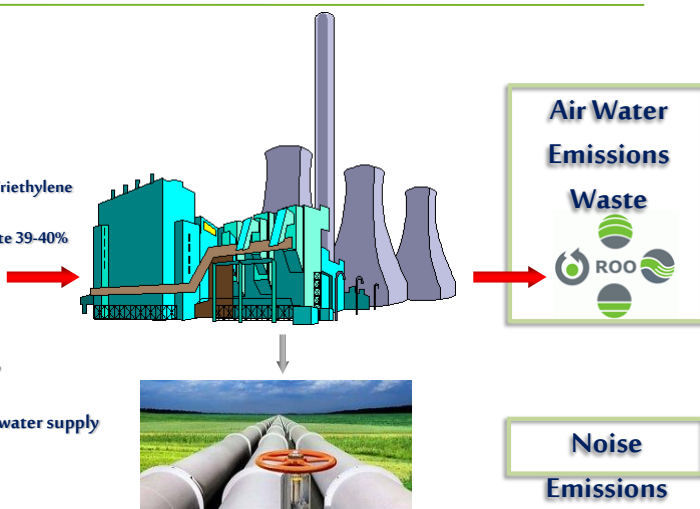
Raw material:

Natural gas

Auxiliaries:

Potassium carbonate Triethylene glycol
Sodium hydrogen sulfite 39-40%
Lo-Cat chemical
MDEA
aMDEA
Chlorinated acid 35%
sodium hydroxide 50%

Water: well+ public water supply



Elements of Environmental Permit

Integrated Environmental Conditions – Environmental Permit:

1. Environmental conditions
 - 1.1 Activities
 - 1.2 Processes
 - 1.3 Operating techniques - BAT
 - 1.4. Waste management
 - 1.5 Energy consumption and efficiency
 - 1.6 Accident prevention
 - 1.7 Monitoring (air, water, noise)
 - 1.8 Installation dismantling
2. ELVs
 - 2.1 Air
 - 2.2 Water and soil
 - 2.3 Noise
3. Condition outside of Installation
4. Improvement program
5. Safety work conditions – not specified
6. Data preservation obligation
7. Reporting to the public
8. Environmental fees



BREF/BAT

Kodna oznaka	BREF	RDNRT
REF	Reference Document on Best Available Techniques for Mineral Oil and Gas Refineries, IPPC, European Commission, February 2003	RDNRT za rafinerije mineralnih ulja i plinova, veljača 2003.
ICS	Reference Document on the application of Best Available Techniques to Industrial Cooling Systems, IPPC, European Commission, December 2001	RDNRT za industrijske rashladne sustave, prosinac 2001.
LCP	Reference Document on Best Available Techniques for Large Combustion Plants, IPPC, European Commission, July 2006	RDNRT za velika ložišta, srpanj 2006.
CWW	Reference Document on Best Available Techniques in Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector, IPPC, European Commission, February 2003	RDNRT za sustave pročišćavanja otpadnih voda i obradu otpadnih plinova/sustave upravljanja u kemijskom sektoru, veljača 2003.
MON	Reference Document on the General Principles of Monitoring, IPPC, European Commission, July 2003	RDNRT za opća načela monitoringa, srpanj 2003.

Environmental Permit - Croatia

- Operating techniques refers to Bref Document Chapter – hinders inspection
- Recognition of techniques on site require advanced knowledge of the plant – inspection is not a part of permitting
- extensive preparation for inspection



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15

Monitoring – air emissions

No	Source of emission to air	Pollutant	ELV mg/m3
Z1,Z2,Z3	Hot water boilers 3x6,5 MW	NO _x	300
		CO	100
		Bacharach smoke test	0
Z4, Z7	Gas heater 1,17 MW Gas heater 2,85 MW	NO _x	200
		CO	100
		Bacharach smoke test	0
Z5, Z6	Glycol regenerator combustion device 2x0,073 MW		< 0,1 MW /No monitoring
Z9,Z10	Gas combustion plant 2x 2,5 MW	NO _x	100 1.1.2016.
		CO	100 1.1.2016.
Z11,Z12,Z13	Hot water boilers 3x13,04 MW	NO _x	200 1.1.2016.
		CO	100
		Bacharach smoke test	0
Z14,Z15,Z16	Gas turbine generator (Cogeneration plants) 3x3,3 MW	particles	5 1.1.2016.
		NO _x	75 1.1.2016.
		SO ₂	35 1.1.2016.
		CO	100
		Bacharach smoke test	3 (<60000 m ³ /h) till end of 2015.
Z17	Gas turbine generator (Cogeneration plants) 3x3,5 MW	particles	5
		NO _x	75
		SO ₂	35
		CO	100
Z18	Regenerative thermal oxidizer	SO ₂	400-2000
		H ₂ S	<10
		NO _x	350 at 1800 g/h
		mercaptan	<100

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16

Monitoring – air emissions

- **Monitoring conditions – based on BAT conclusions and national regulation - discontinuous monitoring**

monitoring frequency; monitoring location and point of source; sampling referent methods; referent measurements methods; tolerance; calibration according the norms; persons certified by MENP;

MON BAT 5.1. Direct measurements

Monitoring – water emissions

- **EP (water condition) allows:**
 - wells 1.150.000 m³/year at max 148 l/s
 - Sampling and analysis before discharging to water stream
 - injection of formation water not subject to analysis
 - Water emission (sanitary, technological, cooling) up to 712 m³/day

BAT

- CWW (February 2003.)
- National water protection regulation
- National mining regulation

Parameters	ELV
pH	6,5 – 9,0
temp	30° C
sediment	0,5 ml/lh
Suspended solids	35 mg/l
BPK ₅	25 mgO ₂ /l
KPK _{C₂}	125 mgO ₂ /l
total organic carbon	10 mg/l
nonvolatile lipophilics substances	20 mg/l
total hydrocarbons	10 mg/l
phenols	0,1 mg/l
Hg	0,01 mg/l
total chlorine	0,5 mg/l
total phosphorus	2 mg/l
total nitrogen	15 mg/l

Monitoring- Noise and Other

ELV Noise - Housing area 60 dB(day) 50 dB (night),
Industrial area 80 dB

Noise measurement by certified person and to reporting obligation to Ministry of Health

Other

- water stream Komarica monitoring before and after discharge
- H₂S; SO₂ and mercaptan quality monitoring at 5 points outside Installation
- mercury monitoring at 4 points outside Installation
- Radioactivity monitoring at 3 Installation points
- Mercury monitoring in local grown and bred food; workers urine; organs of pheasant, rabbit and earthworms; blood and milk of local cow, urine
- Soil monitoring on heavy metals
- Forest ecosystem monitoring

Waste management

EP conditions:

- Waste management in accordance with ISO 14001:2004 Environmental management systems
- Management plan for wastes containing mercury and used active carbon
- Records on generation and waste flow
- Report EPR
- Keeping records for 5 years



Reporting

- ☐ Air emissions to EPR
- ☐ Water emission to EPR
- ☐ Waste water discharge to HRVATSKE VODE
- ☐ Waste water analysis to HRVATSKE VODE
- ☐ Waste management records to EPR
- ☐ Waste management plan CAENP
- ☐ All reports must be available to inspection
- ☐ Operator should record all complaints and procedure upon complaints



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21

Legal base

IED ensures - public right to participate in the decision-making process, and to be informed of its consequences, having access to permit applications, permits and the results of the monitoring of releases:

Article 24

Access to information and public participation in the permit procedure



3. The competent authority shall also make available to the public, including via the Internet:

...(b) the results of emission monitoring as required under the permit conditions and held by the competent authority.

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22

Pollutant Release and Transfer Register

In addition - through the **European Pollutant Release and Transfer Register (E-PRTR) emission data** reported by Member States are made accessible in a public register, which is intended to provide environmental information especially on major industrial activities



Croatia - Environmental Pollution Register (EPR)

Electronic software (application) - keep and maintain Croatian Agency for Environment and Nature

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23

Environmental Pollution Register (EPR)

Legal base:

- Regulation (EC) No 166/2006 of the European Parliament and of the Council of 18 January 2006 concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC – **binding entirely and directly applicable in all Member States**
- Ordinance on the Environmental Pollution Register (Official Gazette 87/15, 35/08) and new from 2015 (OG 87/15)

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24

Reporting

Who is obliged to report?

- facility/organisational unit performing 1 or more activities (Annex I) or produce waste

410 economic activities (industrial and non-industrial activities, **more than E-PRTR**) within the following 11 sectors:

- energy (01,02,03)
- production and processing of metals (04)
- mineral industry (05)
- chemical industry (06)
- waste and waste water management (07)
- paper and wood production and processing (08)
- intensive livestock production and aquaculture (09)
- animal and vegetable products from the food and beverage sector (10) and
- other activities (11).



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25

Reporting

1. Choose sector - subsector - activity (only 1, dominant influence on environment)

2. Determine following:

- Number of releases/sources
- Pollutants into air, water and land (according to Annex II)
- Calculate or estimate if pollutants exceed thresholds (prescribed in Annex II)

! VOC and greenhousegas emissions (ETS) – other Registers!

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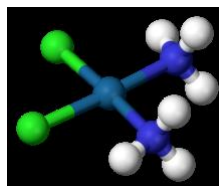
26

Environmental Pollution Register (EPR)

- amounts (kg/year) of pollutant emitted to air, water and soil as well as produced, collected and treated waste (t) – **thresholds in Annex II are lower than in E-PRTR Regulation**

- Information is provided on a list of **132 key pollutants** falling under the following 5 groups:

- General indicators
- Inorganic substances (SO₂, NO₂, CO, CO₂..)
- Organic substances (CH₄, HCFC..)
- Metals (Al, Cr, Pb..)
- Particulates (PM₁₀)



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27

Environmental Pollution Register (EPR)

How pollutants to each component are reported?

- **Emissions to air** – indicative list of pollutants (64) with reference to activity (EPR Guideline – A part Emissions to air)
- **Emissions to water** – determined by analysis of waste water according to water permit
- **Emissions to land** – only substances from waste treated by D2/D3 operations (61 pollutants)
- **Waste** – according to waste categories (Waste catalogue), complied with EU Waste statistics regulation

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28

Environmental Pollution Register (EPR)

A facility has to report data **until 31 March** if it:

- falls under at least **one of the economic activities** listed in Annex I and **release at least one of the pollutants** (Annex II)
- releases **pollutants which in total amount in reported year exceed threshold** (Annex II) specified for each media - air, water/sea and soil
- generates/transfers waste off-site in amount **more than 0,5t/year (hazardous) and 20t/year (non-hazardous)**

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29

Reporting - forms

Data are reported on forms:



- general (PI-1 for operator, PI-2 for each unit, E-PRTR)
- thematic:
 - for air (PI-Z-1 emissions to air from production process without fuel combustion, PI-Z-2 production process including fuel combustion and PI-Z-3 fuel combustion process for gain energy),
 - for water (PI-V , KI-V),
 - for land (PI-T-D2, PI-T-D3),
 - for waste producer/holder (PL-PPO),
 - for waste collector/carrier (PL-SPO)
 - for waste recovery/disposal operator (PL-OPKO) and
 - for municipal waste collector/carrier (PL-SKO)

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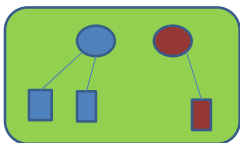
30

Reporting

Definition of organizational unit:

- operator determines itself taking into account technological and non-technological functions
- must have geographical location/coordinates

CASE (operator, unit, location):



On one location are 2 operators with more organizational units, join heating (plant) – who is reporting on emissions to air?

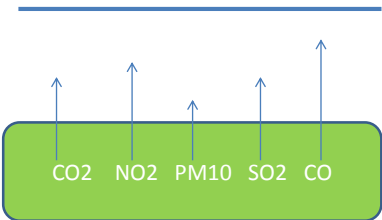
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31

Reporting - air

CASE (one unit, air, pollutants)

THRESHOLD



Report and what if total amount of each pollutant into air do not exceed threshold (for unit/location)?

32

Reporting - methods

Methods according to EPR:

1 Results of measurements of emissions

2a Calculation based on mass balance (e.g. SO₂ emissions from fuel consumption and amount of Sulphur)

2b Calculation based on emission factors (e.g. when the process varies throughout the year)

(International guidelines for calculation of emissions to air like EMEP/EEA air pollutant emission inventory guidebook 2013 and 2006 IPPC Guideline)

2c Calculation – others

3 Estimation



33

Reporting - air

- Determine sources – pollutants – methods
- Help: EPR Guideline – A Part (contains list of activities and expected air pollutants from that activities, detailed methods for determining emissions to air)



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34

Reporting - air

CASE – production of brick (capacity 170 000 t/year), used 7 000 000 m³ of natural gas, pollutants (NO₂, CO, CO₂ and PM 10)

- measurements: $c(\text{NO}_2) = 130 \text{ mg/m}^3$ waste gas and $c(\text{CO}) = 30 \text{ mg/m}^3$ waste gas

Emissions of NO₂:

$$E = \frac{B \times c \times f_{op}}{1000000} \quad (20)$$

gdje je:

E	– ispuštanja onečišćujuće tvari kg/god
B	– količina potrošenoga prirodnog plina od 7 000 000 m^3/god
c	– srednja vrijednost izmjerenih koncentracija NO ₂ u otpadnome plinu od 130 mg_a/m_g^a
f_{op}	– faktor otpadnih plinova za plinovita goriva prema tablici 4-2 od 10 $\text{m}_g^a/\text{m}_g^a$;

$$E = \frac{7000000 \times 130 \times 10}{1000000} = 9100 \text{ kgNO}_2/\text{god}$$

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35

Reporting - air

Emissions of CO:

- same formula

$$E = \frac{B \times c \times f_{op}}{1000000} \quad (20)$$

gdje je:

E	– ispuštanja onečišćujuće tvari kg/god
B	– količina potrošenoga prirodnog plina od 7 000 000 m^3/god
c	– srednja vrijednost izmjerenih koncentracija CO u otpadnome plinu od 30 mg_a/m_g^a
f_{op}	– faktor otpadnih plinova za plinovita goriva prema tablici 4-2 od 10 $\text{m}_g^a/\text{m}_g^a$;

$$E = \frac{7000000 \times 30 \times 10}{1000000} = 2100 \text{ kg CO/god}$$

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36

Reporting - air

Emissions of CO₂:

- calculation is always according to emissions factors (Part A of EPR Guideline)

$$Ei = \frac{EFi \times A}{1000} \quad (2)$$

$$A = \frac{B \times Hd}{1000000} \quad (5)$$

gdje je:

Ei – godišnja ispuštanja CO₂ kg / god
EFi – faktor emisije CO₂ od 50 000 g/GJ prirodnoga plina
A – GJ utrošenog prirodnoga plina
B – količina potrošenoga prirodnoga plina od 7 000 000 m³ / god
Hd – donja ogrjevna vrijednost prirodnoga plina od 33 338 kJ / m³ – tablica 2-1 i Prilog 6 Pravilnika o ROO

$$A = \frac{7000000 \times 33338}{1000000} = 233\,366 \text{ GJ utrošenoga prirodnoga plina}$$

$$Ei = \frac{50000 \times 233366}{1000} = 11\,668\,300 \text{ kg CO}_2/\text{god}$$

ETS – CO₂ data from Report for monitoring greenhouse gas emissions!

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37

Reporting - air

Emissions of PM₁₀:

- Calculation is according to emissions factors (Part A of EPR Guideline)

$$Ei = \frac{EFi \times A}{1000} \quad (2)$$

gdje je:

Ei – godišnja ispuštanja PM₁₀ u kg / god
EFi – faktor emisije PM₁₀ od 435 g / t proizvedenoga opekarskoga proizvoda
A – proizvedena količina opekarskoga proizvoda od 170 000 t / god

$$Ei = \frac{435 \times 170000}{1000} = 73\,950 \text{ kg PM}_{10}/\text{god}$$

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38

Reporting - air

Finally – Form for air :

4. Podaci o vrsti i količini ispuštanja					
Šifra	Onečišćujuća tvar	Metoda određivanja		Količina ispuštanja (kg/god)	
		Osnova	Norma / Metodologija	Ukupna	Uslijed izvanrednih događaja
1210121	Oksidi dušika izraženi kao dušikov dioksid (NO ₂)	1_1_1	HRN EN 14792:2005	9 100	0
1210131	Ugljikov monoksid (CO)	1_1_1	EN 15058:2004	2 100	0
1210141	Ugljikov dioksid (CO ₂)	1_2b_1		11 668 300	0
1510111	Čestice (PM ₁₀)	1_2b_1		73 950	0
1_1_1_1_1		1_1_1			

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39

Reporting - waste

Not reported – waste which is not covered by Waste Act:

- radioactive waste
- waste water
- gaseous substances
- carcasses of dead animals
- feces
- natural non-hazardous agricultural material
- GMO waste
- waste from excavation, search, treatment and storage of mineral resources
- explosives which are not for further use.

40

Reporting - waste

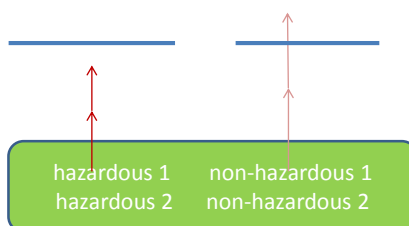
- **Method for determine amount of waste (t) – only measurement (weighing)**
- **Waste reported from produced – must be clearly stated waste managed on location from transferred waste**
- **Exported waste – must be stated data of person for recovery/disposal**

Reporting - waste

CASE - waste used again on location in production process - to be reported or not?

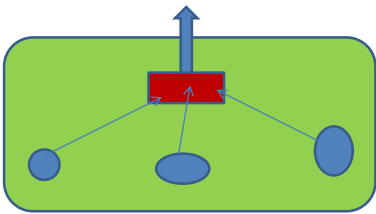
CASE – more waste categories, total amount (not) exceed threshold – what to report?

TRESHOLD

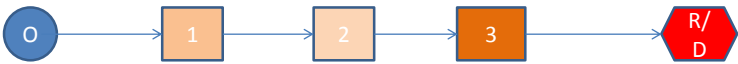


Reporting - waste

CASE (more operators, one location/waste storage) – how to report?



Reporting - waste



CASE – one producer, more collectors – who is reporting?

Reporting – EPR

ROO

Prijava

Korisničko ime: Inspekcija_Manenica

Lozinka:

Prijavi se

Ukoliko nemate korisnički račun prijaviti se možete [OVDJE](#).

Obveznici koji su poslali prijavu imaju mogućnost samostalno provjeriti dodijeljeno korisničko ime [OVDJE](#).

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49

Reporting - EPR

ROO

Prikaži/Sakrij izbornik

Pregled podataka

Pregled podataka za godinu: 2014

OIB

27759560625

Traži

I

ILI


NE

Spređeni kriterij

Kako koristiti filter

Broj zapisa: 468

	Tvrtka ili sklad	OIB	MBS/MBG	MBPS/MBDG	Naziv	Naselje	Županija	Org. jedinica	Šifra org. jed.	Org. jed. naselje	Org. jed. žup.	Status postrojenja	Za u g
Označi	Tvrtka	27759560625	080000604	3586243	INA-Industrija nafte, d.d.	10000 Zagreb	Grad Zagreb	P.J. punilista i prihv. ZC.cjev. i teg Sisak	5001074	44000 Sisak	Sisačko-moslavačka		Da
Označi	Tvrtka	27759560625	080000604	3586243	INA-Industrija nafte, d.d.	10020 Zagreb- Novi Zagreb	Grad Zagreb	CPS I, II, III	92061	48326 Vrhje	Koprivničko-križevačka	IPPC,ETS	Da
Označi	Tvrtka	27759560625	080000604	3586243	INA-Industrija nafte, d.d.	10000 Zagreb	Zagrebačka	Rafinerija nafte Sisak	50001178	44000 Sisak	Sisačko-moslavačka	IPPC,Seveso,ETS,LCP	Da
Označi	Tvrtka	27759560625	080000604	3586243	INA-Industrija nafte, d.d.	10000 Zagreb	Zagrebačka	SEKTOR MAZIVA	5000128608	51000 Rijeka	Primorsko-goranska	Seveso	Da

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50

Reporting example

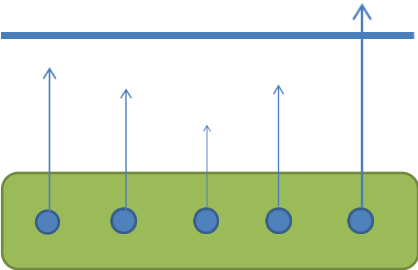


Detalji o korisniku			Korisnik je popunio sljedeće obrasce:		
Podaci o korisniku:	Tvrtka ili Obrt subjekta	080000604	Obrazac	Stanje	Verifikacija
	Matični broj poslovnog subjekta	3586243	PI-2	Verificirano dana 19.6.2015. 10:08:59	
Naziv tvrtke	Adresa	INA d.d.	PI-Z-1	Verificirano dana 11.6.2015. 12:06:45	
	Podaci o organizacijskoj jedinici	Naziv: CPS I, II, III Sifra: 92061	PI-Z-1	Verificirano dana 11.6.2015. 12:06:48	
Podaci o osobi koja je unosila podatke	Adresa:	Virje bb	PI-Z-1	Verificirano dana 11.6.2015. 12:07:00	
	Ime	Marina Franković	PI-Z-2	Verificirano dana 11.6.2015. 12:06:50	
Tip unositelja podataka obveznik dostave podataka	Prezime	Samostalni inž. zaštite	PI-Z-2	Verificirano dana 11.6.2015. 12:07:05	
	Funkcija	048 872 244	PI-Z-3	Verificirano dana 11.6.2015. 12:06:52	
	Telefon	048 892 156	PI-Z-3	Verificirano dana 11.6.2015. 12:07:08	
	Fax	marina.frankovic@ina.hr	PI-Z-3	Verificirano dana 11.6.2015. 12:07:11	
	E-mail	48326 Virje	PI-Z-3	Verificirano dana 11.6.2015. 12:07:13	
	Tip unositelja podataka obveznik dostave podataka	Županijska, Koprivničko-križevačka	PI-Z-3	Verificirano dana 11.6.2015. 12:07:16	
			PI-Z-3	Verificirano dana 11.6.2015. 12:07:18	
			PI-Z-3	Verificirano dana 11.6.2015. 12:07:23	
			PI-Z-3	Verificirano dana 11.6.2015. 12:07:25	
			PI-V	Verificirano dana 3.7.2015. 13:33:26	
			PL-PPO PL-PPO (otpad)	Verificirano dana 11.6.2015. 12:20:48	
			PL-PPO PL-PPO (otpad)	Verificirano dana 11.6.2015. 12:20:50	
			E-PRTR	Verificirano dana 9.5.2016. 18:23:58	

Reporting – general unit form (air sources)

CASE – one source exceeds threshold – how many sources air emissions do you report in general form?

- TRESHOLD



General information on organizational unit - Form PI-2 (2)

2.7. Podaci o vodopravnoj dozvoli za ispuštanje otpadnih voda:	
2.7.1. Za predmetnu lokaciju potrebna je dozvola:	Da
2.7.2. Ishodena dozvola:	Da
2.7.2.1. Oznaka dozvole, Klasa:	UP/I-351-03/12-02/104 Urbroj: 517-06-2-2-14-24
2.7.2.2. Datum izdavanja dozvole:	11.04.2014
2.7.2.3. Datum važenja dozvole:	11.04.2019
2.7.2.4. Naziv tijela koje je izdalo dozvolu:	RH, Ministarstvo zaštite okoliša i prirode
2.8. Broj zaposlenih:	113
2.9. Podaci o osobi odgovornoj za ROO na razini organizacijske jedinice na lokaciji	
2.9.1. Ime i prezime:	Marina Franković
2.9.2. Funkcija:	Vodeći spec. za zaštitu i sigurnost
2.9.3. Telefon/Fax:	048 872 244 / 048 892 156
2.9.4. E-mail:	marina.frankovic@ina.hr

General information on organizational unit - Form PI-2 (3)

3. Podaci o ispuštima u zrak					
Broj ispusta iz proizvodnih procesa bez izgaranja goriva; iz procesa koji uključuju izgaranje goriva kod kojih se produkti izgaranja koriste izravno u proizvodnom procesu; iz procesa obrade otpada (Z-1)		Broj ispusta iz proizvodnih procesa koji uključuju izgaranje goriva bez izravnog kontakta produkata izgaranja sa sirovinom (Z-2)		Broj ispusta iz procesa izgaranja goriva za dobivanje toplinske i/ili električne energije (Z-3)	
3		2		8	
4. Podaci o ispuštima otpadnih voda					
4.1. Broj ispusta otpadnih voda sa lokacije:					1
4.2. Broj ispusta otpadnih voda sa lokacije u sustav odvodnje u vlasništvu druge pravne osobe:					0
5. Podaci o ispuštima u tlo					
5.1. Broj lokacija na koje se otpad unosi u tlo radi zbrinjavanja otpada (D2):					0
5.2. Broj lokacija na koje se otpad dubinski utiskuje u tlo (D3):					0
6. Podaci o vrstama otpada					
Proizvedeni		Skupljeni		Obradeni	
Opasni	Neopasni	Opasni	Neopasni	Opasni	Neopasni
10	15				

General information on organizational unit -
Form PI-2 (4)

No	Source of emission to air	Pollutant	ELV mg/m3
Z1,Z2,Z3	hot water boilers 3x6,5 MW	NOx	300
		CO	100
		Bacharach smoke test	0
Z4, Z7	gas heater 1,17 MW/ gas heater 2,85 MW	NOx	200
		CO	100
		Bacharach smoke test	0
Z5, Z6	glycol regenerator combustion device 2x0,073 MW		< 0,1 MW /No monitoring
Z9,Z10	gas combustion plant 2x 2,5 MW	NOx	100 1.1.2016.
		CO	100 1.1.2016.
Z11,Z12,Z13	hot water boilers 3x13,04 MW	NOx	200 1.1.2016.
		CO	100
		Bacharach smoke test	0
Z14,Z15,Z16	Gas turbine generator (Cogeneration plants) 3x3,3 MW	particles	5 1.1.2016.
		NOx	75 1.1.2016.
		SO ₂	35 1.1.2016.
		CO	100
		Bacharach smoke test	3 (<60000 m ³ /h) till end of 2015.
Z17	Gas turbine generator (Cogeneration plants) 3x3,5 MW	particles	5
		NOx	75
		SO ₂	35
		CO	100
Z18	Regenerative thermal oxidizer	SO ₂	400-2000
		H ₂ S	<10
		NOx	350 at 1800 g/h
		mercaptan	<100

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL
AND NATURE PROTECTION

57

General information on organizational unit -
form PI-2 (5)

8. Podaci o ispuštanjima onečišćujućih tvari				
8.1. Ispuštanja u zrak				
Šifra	CAS broj	Onečišćujuća tvar	Prag (kg/god)	Prelazi Neprelazi
201	05.09.7446	Oksidi sumpora izraženi kao sumporov dioksid (SO ₂)	100	<input checked="" type="checkbox"/> <input type="checkbox"/>
202	10102-44-0	Oksidi dušika izraženi kao dušikov dioksid (NO ₂)	30	<input checked="" type="checkbox"/> <input type="checkbox"/>
203	630-08-0	Ugljikov monoksid (CO)	30	<input checked="" type="checkbox"/> <input type="checkbox"/>
204	124-38-9	Ugljikov dioksid (CO ₂)	30.000	<input checked="" type="checkbox"/> <input type="checkbox"/>
501		Čestice (PM 10)	1.000	<input checked="" type="checkbox"/> <input type="checkbox"/>
8.2. Ispuštanja u vode/more				
Šifra	CAS broj	Onečišćujuća tvar	Prag (kg/god)	Prelazi Neprelazi
101		Ukupna suspendirana tvar	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
102		Kemijska potrošnja kisika-dikromatom (kao O ₂) (KPKCr)	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
103		Biokemijska potrošnja kisika nakon n dana (BPKn)	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
104		Ukupni organski ugljik (TOC) (kao ukupni C ili COD/3)	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
217		Ukupni dušik	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
224		Ukupni fosfor	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
355	108-95-2	Fenoli (kao ukupni C)	20	<input type="checkbox"/> <input checked="" type="checkbox"/>
377		Ukupna ulja i masti	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
378		Mineralna ulja	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
407		Živa i spojevi (kao Hg)	NO	<input type="checkbox"/> <input checked="" type="checkbox"/>
8.3. Ispuštanja u tlo				

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL
AND NATURE PROTECTION

58

Air emission from production process without
fuel combustion - form PI-Z-1 (1)

1.6.	Šifra ispusta unutar organizacijske jedinice na lokaciji:		47
1.7.	Vrsta ispusta: RTO jedinica, HADEN		
1.8.	Gauss-Krügerove koordinate ispusta:		
	Y:	5655528	X: 5109185
1.9.	Visina ispusta (m): 30		
2.	Podaci o proizvodnom procesu ili procesu obrade otpada		
2.1.	Podaci o procesima pri kojima dolazi do ispuštanja		
	Šifra djelatnosti	Naziv djelatnosti	Postupak
	05 03 04	Uklanjanje ugljikovog dioksida (CO2) iz prirodnog plina	
2.2.	Podaci o glavnim proizvodima		
	Šifra proizvoda	Naziv proizvoda	Količina (t/god)
	11 10 20 08 00	Prirodni plin iz pl. ležišta (m3/god)	826233920
	11 10 10 02 00	Kondenzat zemnog plina	26292
	11 10 10 02 00	Ukapljeni zemni plin C2+ (NGL)	52862
2.3.	Podaci o vrsti i potrošnji goriva kod procesa koji uključuju izgaranje goriva		

Air emission from production process without
fuel combustion - form PI-Z-1 (2)

2.4. Vrsta uređaja za pročišćavanje otpadnih plinova					
Šifra uređaja	Naziv uređaja	Stupanj djelovanja uređaja - nazivni (%)	Stupanj djelovanja uređaja - izmjereni (%)		
102	Uređaj za suho odsumporavanje otpadnih plinova	100	100		
3. Podaci o rezultatima mjerenja ispuštanja					
Šifra tvari	Naziv tvari	Rezultat mjerenja (mol/m ³)	Vrsta mjerenja		
Z18	Regenerative thermal oxidizer	SO ₂	400-2000		
		H ₂ S	<10		
		NOx	350 at 1800 g/h		
		mercaptan	<100		
4. Podaci o vrsti i količini ispuštanja					
Šifra tvari	Onečišćujuća tvar	Osnova	Norma / metodologija	Količina ispuštanja: ukupna (kg/god)	Količina ispuštanja: uslijed izvanrednih događaja (kg/god)
202	Oksidi dušika izraženi kao dušikov dioksid (NO2)	1	HRN ISO 10849	49406.87	
203	Ugljikov monoksid (CO)	1	DIN 12039	7941.75	
204	Ugljikov dioksid (CO2)	2c		357340757.7	
201	Oksidi sumpora izraženi kao sumporov dioksid (SO2)	1	HRN ISO 7935:1997	62961.31	

Waste - form PL-PPO

PRIJAVNI LIST ZA PROIZVOĐAČA/POSJEDNIKA PROIZVODNOG OTPADA Izvješće za 2014 godinu Obrazac PL-PPO

List br. 1 od ukupno 3

Ključni broj otpada	Naziv otpada	Osnovna oznaka otpada kodirane	Proizvedeno u izvještajnoj godini (t)	Stanje privremenog skladišta na dan (t)		Postupanje s otpadom na mjestu nastanka	Predano										Izvor (t)	
				1.1.	31.12.		Skupljaču		Oporavitelju / zbrinjavatelju									
							Količina (t)	Postupak	Količina (t)	Naziv i adresa skupljača	na odgađanje postupak D1		na druge postupke D2-D7		na druge postupke D7	Naziv i adresa oporavitelja / zbrinjavatelja odnosno lokacije oporaviteljstva		Naziv i adresa oporavitelja / zbrinjavatelja odnosno lokacije oporaziteljstva
											Količina (t)	Postupak	Količina (t)	Naziv i adresa skupljača				
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o				
01 05 99	otpad koji nije specificiran na drugi način	1	24,24					24,24	INA - Industrija nafte d.d., Avenija Vedemarska Hrgovčica 10 10, 10060 Zagreb, Hrvatska			24,24	D3	INA d.d., Sektor proizvodnje i isporuke nafte za JBE, PRISPL, Kal-6				
05 07 02	otpad koji sadrži sumpor	1	409,86					409,86	C.I.A.K. d.o.o., Jovska Lončara 371, 10090 Zagreb-Dušenograd, Hrvatska									
19 08 14	nužni iz ostalih obrada industrijskih otpadnih voda, koji nisu navedeni pod 19 08 13	1	805,98					805,98	INA - Industrija nafte d.d., Avenija Vedemarska Hrgovčica 10 10, 10060 Zagreb, Hrvatska			805,98	D3	INA d.d., Sektor proizvodnje i isporuke nafte za JBE, PRISPL, Kal-6				
15 01 03	ambalaža od drveta	1	1,98					1,98	CE-ZAV Center za reciklazu d.o.o., Otoka 22, KOPRIVNICA									

Environmental Pollution Register (EPR)

- Data reported by individual facilities on-line (>95%) via **Accounts to the relevant competent authorities - administrative body in a counties (21)**
- Since 2007 the EPR contains data reported annually by **5300 facilities**
- The counties authorities compile, check the quality, together with Environmental Protection Inspection, and **verify on-line reported data by 15th May**
- All counties submit then data to CAEN for compilation and further dissemination



Reporting - data

Reported data:

- have to include **method/norm for determent** amount of emitted pollutant
- must be based on **best available information** (monitoring, calculation including emissions factors/mass balance, permits..)
- must be **credible**: measurements – calculation - estimation

Data quality

Quality assurance system:

- activities for checking completeness, consistency and credibility of data
- recognizing and correct errors
- documenting and archiving data



General activities: checking measurement, calculations..

Specific activities: technical checking of sources, equipment..

Data quality



- **Completeness:**
 - Are all pollutants reported (e.g. check measurements, products of production process..)
 - Compare data with data from other documents (e.g. water permit, waste permit..)
 - Compare data with previous years

Data quality



- **Consistency:**
 - Are same methods, calculations used as previous years,
 - Check if there are derogations in reported data compared with previous years
 - Compliance of data related to time of production, operation time of equipment, used fuel...

Data quality



- **Credibility :**
 - **Clear and detail specification** of used methods/norms,
 - In calculations are **representative formulas and emission factors** used
 - Compliance of reported data with **internal operator quality system**

National reporting

- Croatia through CAENP reported for the first time - **2014 reporting year**
- Data / **Report** submitted (**Annex III of E-PRTR Regulation**)
- **detailed feedback** concerning the quality of the E-PRTR data
 - **checks covered** an evaluation of the number of facilities and release reports, amounts of releases and transfers reported, confidentiality claims, accidental releases, etc.
- In case errors are found - possibility to correct the data reported

EPR data

- Provide coherent and wide industrial release and transfers database
- Used by Fund FEPEE to calculate and charge fee for release of CO₂, SO₂ and NO₂
- Used for Annual Report on the monitoring of air pollutants from stationary sources (in accordance with the national regulations)
- Used for making other reports under international treaties and EU directives - Annual report on greenhouse gas inventory, UN Framework Convention on Climate Change UNFCCC, Convention on Transboundary Air Pollution (CLRTAP) and accompanying protocols, Basel Convention on the control of Transboundary Movements of Hazardous Wastes and Convention on the protection and Sustainable Use of the Danube River (ICPDR)



28.6.2016.

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL
AND NATURE PROTECTION

69

EPR – public access

Public access to EPR data available on several ways:

- **Direct access via allocated User Account (cca 56770 visits/year) and 2 internet browsers: Preglednik ROO and HNPROO (linked to E-PRTR)**

Preglednik registra onečišćavanja okoliša

Preglednik Upite za korištenje Preglednik bilaznika Poglednik Preglednika ROO

Potraživanje za godinu: 2014

Upit: Opći podaci o organizacijskim jedinicama (PI-2)

Filtr: Županija = Grad Zagreb Dodaj filtr

Kriterij: ☒ Označi sve kriterije ☐ Već je korišten

☒ Podaci o operativnosti

☒ Godina

☒ Županija

☒ Matični broj subjekta (MBR) ili matični broj objekta (MBO)

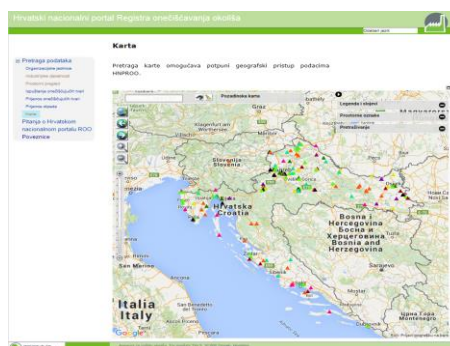
☒ Ostalo

Izveštaj Izveštaj u Excel

28.6.2016.

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL
AND NATURE PROTECTION

70



Croatian National Portal of the Environmental Pollution Register

Hrvatski nacionalni portal Registra onečišćavanja

Detalji na razini organizacijske jedinice

Prethodna godina 2012

Naziv operatera:
INA-Industrija nafte, d.d.

Organizacijska jedinica:
CPS I, II, III

Adresa:
Virje bb, 48326, Virje

Država:
Croatia

Godina:
2012 (Objavljeno: 11. travnja 2014.)

Propisi:
Zakon o potvrdjivanju protokola o registrima ispuštanja i prijenosa onečišćujućih tvari uz Konvenciju o pristupu informacijama, sudjelovanju javnosti u odlučivanju i pristupu pravosuđu u pitanjima okoliša (NN MU 4/2008)

Pozadinska karta

Karta ulica

Satelitska snimka

Prijavi pogrešku na karti

Detalji o organizacijskoj jedinici:

Naziv operatera:
INA-Industrija nafte, d.d.

Geografske koordinate:
(46.108669425315931°;
17.001975914033964°)

Glavna djelatnost (NACE):
Proizvodnja

Broj zaposlenih:
135

Radno vrijeme:
8352

Razlog tajnosti:
N/A

Oznaka države:
HR010228799

Nadležno tijelo:
Županija:

Koprivničko-križevačka

Sadržaji

Detalji

Ispuštanje onečišćujućih tvari

Prijenos onečišćujućih tvari

Prijenos otpada

Tajnost

REPUBLIC OF CROATIA

MINISTRY OF ENVIRONMENTAL AND NATURE PROTECTION

71

Croatian National Portal of the Environmental Pollution Register

Hrvatski nacionalni portal Registra onečišćavanja

Detalji na razini organizacijske jedinice

Prethodna godina 2012

Naziv operatera:
INA-Industrija nafte, d.d.

Organizacijska jedinica:
CPS I, II, III

Ispuštanje u zrak

Naziv onečišćujuće tvari	Ukupno	Usljed iznenadnih događaja	Usljed iznenadnih događaja (%)	Metoda određivanja
Ugljikov dioksid (CO2)	495.599 t	0	0 %	Izračun
Oksidi dušika izraženi kao dušikov dioksid (NO2)	136 t	0	0 %	Mjerenje

Ispuštanje u vodu i/ili more

Nema prijavljenih podataka

Ispuštanje u tlo

Nema prijavljenih podataka

Sadržaji

Detalji

Ispuštanje onečišćujućih tvari

Prijenos onečišćujućih tvari

Prijenos otpada

Tajnost

REPUBLIC OF CROATIA

MINISTRY OF ENVIRONMENTAL AND NATURE PROTECTION

72

36

EPR – public access

- **Indirect access via Annual reports** on EPR, form „**Request for information**“ according to Act on right to access information (OG 25/13), phone or e- mail (info@azo.hr and roo@azo.hr), **EPR help desk** (<http://helpdesk.azo.hr/>)





28.6.2016.

73

EPR - problems

Problems appearing in practice:

- Reporting of incorrect and/or incomplete data
- Delays in submission/reporting of data
- Verification of incorrect/incomplete data by competent authorities
- Delay in verification of data
- coordination of all parties, expert and IT support of system

Aplikacija Industrija help desk



- **twinning project for 2016** „Improvement of Environment Pollutant Register in Croatia and its integration into Croatian Environmental Information System CEIS“

74

Thank you for attention

BRIGITTE MRVELJ ČEČATKA

Ministry of environmental and nature protection

Directorate for inspection

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Fax. +385 1 3717 212

JELENA MANENICA

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Directorate for inspection

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Email: jelena.manenica@mzoip.hr

Fax. +385 1 3717 212

28.6.2016.



75