



INZRAK

**Enhanced environmental protection inspection
for efficient control of air quality monitoring and
of all entities under obligation within system of
greenhouse gas emission allowance trading, in
order to achieve better quality of air in Republic
of Croatia**



REPUBLIKA HRVATSKA

MINISTARSTVO ZAŠTITE
OKOLIŠA I ENERGETIKE



 **safu** | SREDIŠNJA AGENCIJA ZA
FINANCIRANJE I UGOVARANJE



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EKONERG

Energy research and Environmental Protection Institute



11. INSPECTION MONITORING

11.4 INSPECTION MONITORING - UNANNOUNCED

Legal basis

Air Protection Act, Articles

31, 32, 33, 46 – legal basis for measurements

52, 54, 55 – method of measuring, permit for AQM

129, 131, 133, 134, 137, 138, 139 – inspection monitoring

145, 146 - misdemeanour provisions

Monitored person

Legal person polluter, testing / reference lab.

11.2 INSPECTION MONITORING OF POLLUTER

Regulations	<p>Ordinance on the Air Quality Monitoring, Articles</p> <p>11 to 15 – method of measuring, data quality</p> <p>21, 22 – reporting, annual report</p> <p>Regulation on the Pollutant Levels in Air, Articles</p> <p>5, 7, 8, 13 – interpretation of annual report</p>
Monitored person	Legal person polluter, testing / reference lab.

11.2 INSPECTION MONITORING OF POLLUTER

Other documents	<ul style="list-style-type: none">- Decision on environmental impact assessment- Decision on on environmental acceptability of the project- Decision on integrated environmental protection requirements- Decision on environmental permit
Monitored person	Legal person polluter, testing / reference lab.

11.4 INSPECTION MONITORING - UNANNOUNCED

RMCEI – non routine monitoring

- **Unplanned monitoring at location**

Every member state shall ensure that unplanned inspection monitoring is carried out in the following cases

- At serious complaints regarding environmental endangering and immediately after receiving such complaints
- In case of serious accidents and incidents and serious non-compliance with EU regulations and immediately after such information reaches the inspection body

RMCEI

**Monitored
person**

Legal person polluter, testing / reference lab.

11.4 INSPECTION MONITORING - UNANNOUNCED

RMCEI	RMCEI - non routine monitoring <ul style="list-style-type: none">• Unplanned monitoring at location<ul style="list-style-type: none">– before start-up of monitored plant and after permit issuance in order to determine whether the operator's activities are in accordance with measures and requirements from the permit– from the same reasons as at permit modification for monitored plant
Monitored person	Legal person polluter, testing / reference lab.

11.4 INSPECTION MONITORING - UNANNOUNCED

RMCEI	RMCEI - non routine monitoring Every member state shall ensure the research (monitoring) by the authorized body in case of serious accidents, incidents and non-compliances with EU regulations for the purpose of - resolution of events causes and responsibilities for the event if possible, and reporting of authorized bodies (state attorney's office) if necessary
Monitored person	Legal person polluter, testing / reference lab.

11.4 INSPECTION MONITORING - UNANNOUNCED

RMCEI

RMCEI - non routine monitoring

- reduce or remove the environmental impact through measures that should be taken by operators or authorized bodies
- identify measures so that the event would not be developed further in negative direction
- initiate the misdemeanour or criminal proceeding if necessary and ensure that appropriate measures are taken by the operator

Monitored person

Legal person polluter, testing / reference lab.

11.4 INSPECTION MONITORING - UNANNOUNCED

Citizens' complaints	CITIZENS' COMPLAINTS MAY BE <ul style="list-style-type: none">- based on the air quality monitoring results- based on organoleptic observations- complaints on AQM laboratory operation
Monitored person	Legal person polluter, testing / reference lab.

11.4 INSPECTION MONITORING - UNANNOUNCED

Citizens' complaints	ACCIDENTS MAY BE <ul style="list-style-type: none">- fires- gases discharge from production processes
Monitored person	Legal person polluter

11.4 INSPECTION MONITORING - UNANNOUNCED

A. preparation – data collection

1.

In order for inspector to obtain relevant information as quick as possible and without being contacted by monitored person in advance, it is required to look for them in preparation phase on CAEN's or MEPE's web pages. Data may be used for the purpose of realising the situation in air quality monitoring from information on stations, laboratories that carry out the measurements and on current state of air pollution.

11.4 INSPECTION MONITORING - UNANNOUNCED

A. Data collection

In order for inspector to obtain information on legal basis due to which the polluter is obliged to carry out AQM, the documents can be found on the following links :

1.

- Decision on environmental acceptability of the project or Decision on integrated environmental protection requirements, i.e. environmental permit (**CI 32 APA**)

<http://www.mzoip.hr/hr/okolis/okolisna-dozvola.html>

- action plan (**CI. 46 APA**) in which the latter is obliged to fulfil prescribed measures or decision on conducting the measurements of special purpose (**CI 32 APA**)

<http://iszz.azo.hr/iskzl/godizvrpt.htm?pid=0&t=4>

Information on prescribed measurement programme and time schedule can be obtained from these documents as well.

11.4 INSPECTION MONITORING - UNANNOUNCED

A. preparation – data collection

1.

In order for inspector to obtain information on stations and laboratories, it can be found in the following links :

- data on stations and laboratories carrying out the measurements and network they belong to (metadata) by zones and agglomerations
<http://iszz.azo.hr/iskzl/mreza.html?t=0#ta18>
- data on measuring scope for which the laboratory has valid MEPE permit
<http://popkez.azo.hr/PretragaSubiikti.aspx>

11.4 INSPECTION MONITORING - UNANNOUNCED

A. preparation – data collection

In order for inspector to obtain information on current and past state of air quality, it can be found on the following links :

1. - annual reports on AQM carried out in that area
<http://iszz.azo.hr/iskzl/godizvrot.htm?pid=0&t=2>
- current hourly concentrations of pollutants in the air in state and local networks by zones and agglomerations
<http://iszz.azo.hr/iskzl/index.html>
- validated data of all averaging times by stations
<http://iszz.azo.hr/iskzl/index.html>

Data may be indicated in excel or word format.

11.4 INSPECTION MONITORING - UNANNOUNCED

A. Preparation of inspection monitoring

1.

After collecting the information via Internet, inspector will be informed on polluters, their obligations regarding the AQM and engaged laboratories. He can conclude even before the inspection whether the polluter fulfils its obligations in prescribed manner.

He could be informed on the latter for other types of networks as well.

Based on measuring data on AQM in that area, he can conclude on the current and past state of air quality in that area.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – based on notification with known polluter

1.

If inspector establishes upon the unannounced monitoring that polluter is known in implementing such monitoring, he will conduct all the steps described in implementation of planned monitoring and determine whether there are irregularities in polluter's operation.

11.4 INSPECTION MONITORING - UNANNOUNCED

C. Conducting upon performed inspection monitoring based on notification with known polluter

1. If polluter did not act according to the regulations while fulfilling its AQM obligations, inspector shall conduct as at planned monitoring.

11.4 INSPECTION MONITORING - UNANNOUNCED

C. Conducting upon performed inspection monitoring based on notification with known polluter

Inspector shall order the known polluter to remove identified irregularities in operation due to which there was and there may be an exceeding of limit values (LV) for health protection in certain period.

2. If polluter does not conduct according to the inspector's decision as referred to in paragraph 1 of this Article, it will be punished. If polluter does not act according to the decision even after been punished, inspector shall forbid further plan operation which caused the exceeding of limit values (LV) for health protection.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – based on notification with unknown polluter

1. If inspector establishes upon the unannounced monitoring that there is a suspicion, expressed by citizens' notification, that there was an air pollution which quality may harm the human health, living quality and/or have a harmful impact on any environment component and the polluter is unknown, inspector shall ask of the executive body of the City of Zagreb, city and municipality to identify the justification of suspicion and to make a decision not later than five days on implementation of the special-purpose measurement, i.e. the assessment of pollution level.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – based on notification with unknown polluter

1.

This decision contains the period of measurement or assessment of pollution level as well as the method of payment of special measurement costs or costs of assessment of pollution level.

If it is established that there was no exceeding of pollution or that there was an exceeding of pollution and the polluter is unknown, the costs are born by the local self-government unit which executive body has made this decision.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – based on notification with unknown polluter

If it is established that there is an exceeding of air pollution and the polluter is known, the measurement or assessment costs are born by the polluter.

1. If executive body of the City of Zagreb, city and municipality does not make a decision, the Ministry shall ensure special-purpose measurements or assessments of pollution level and shall charge the local self-government unit which executive body has made a decision.

11.4 INSPECTION MONITORING - UNANNOUNCED

C. Conducting upon performed inspection monitoring based on notification with unknown polluter

1.

Further inspection monitoring and conducting in this case will depend on decision and its implementation.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – based on notification asking for AQM laboratory monitoring

1.

If inspector establishes in unannounced monitoring of AQM laboratory based on notification, he will take all the steps described in implementation of planned monitoring and establish whether there are irregularities in polluter operation.

11.4 INSPECTION MONITORING - UNANNOUNCED

C. Conducting upon performed inspection monitoring based on notification asking for AQM laboratory monitoring

1.

If AQM laboratory did not conduct according to provisions, inspector shall conduct as at planned monitoring.

11.4 INSPECTION MONITORING - UNANNOUNCED

Suitability of AQM networks for air quality evaluation in case of accidents

It should be indicated that AQM networks and systems are not intended for pollutant concentrations measurement in air in accidents such as fire or major gas leakage.

It makes the measurement data from AQM networks quite unreliable indicator of air pollution in such situations from the following reasons:

- measurement range
- most often parameters which are monitored
- method of sampling
- representation of area which is monitored

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – in case of accidents and incidents

Measurement range

Measurement range of AQM instruments is adjusted to their function which is the monitoring of pollutant concentrations in common conditions of air pollution which means that in case of unusually high concentrations, the instruments will come out of their measurement range and will stop to send data which then will not be available to inspection.

11.4 INSPECTION MONITORING - UNANNOUNCED

Suitability of AQM networks for air quality evaluation in case of accidents

Usual measurement parameters

As at measurement range so the measurement parameters (pollutants) are adjusted to AQM in a way that poisonous gases that could be released in fires (facilities, warehouses, landfills, etc.) cannot be measured in AQM stations, because there are no instruments that could measure them. The one that could be measured by usual station (SO_2 , CO, PM_{10} , NO_x) may only serve as indicators that flue gases came up to the sampler head (up to the moment of coming outside the measurement area) while the chemical composition of these gases will be unknown.

11.4 INSPECTION MONITORING - UNANNOUNCED

Suitability of AQM networks for air quality evaluation in case of accidents

Method of sampling

The sampler heads (openings) in AQM stations are usually at 4 – 4.5 m above the ground area. Air sampling is conducted by light air streaming through the sampler via small ventilator which may cause the following :

- instruments get the air only from immediate vicinity of sampler head and if flue gases are not there, they will not be sampled
- all gases (at accidents with gases leakage) which are drained lower than 4 meters and heavier than air, e.g. H_2S , NH_3 will not be sampled or at least not in the concentration in which they are breathed

11.4 INSPECTION MONITORING - UNANNOUNCED

Suitability of AQM networks for air quality evaluation in case of accidents

Representation of monitored area

AQM stations are designed in a way to be representative for as larger area as possible only at normal (usual) moving of atmosphere, which is not in case of fire, as gases due to their heat go quickly to the top. It could happen that the station nearby the fire can sample usually polluted air. The known cases are fires of Puto and Cios warehouses.

11.4 INSPECTION MONITORING - UNANNOUNCED

Suitability of AQM networks for air quality evaluation in case of accidents

Still

In some cases even these data can be useful during inspection monitoring, especially when preparing the minute.

1. In case when there is an air with very diluted gases above the station, instruments can measure an exceeding pollution (mostly PM₁₀ or SO₂ in case of fire)
2. In case of minor accident with leakage of gases which are measured at AQM station

11.4 INSPECTION MONITORING - UNANNOUNCED

Suitability of AQM networks for air quality evaluation in case of accidents

Still

In some cases even these data can be useful during inspection monitoring, especially when preparing the minute.

1. In case when there is an air with very diluted gases above the station, instruments can measure an exceeding pollution (mostly PM₁₀ or SO₂ in case of fire)
2. In case of minor accident with leakage of gases which are measured at AQM station
3. In case when it can be proved that devices in AQM stations were under alarm due to exceeding of the measurement range maximum

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – at accidents

1.

Download from CEPA's portal all measurement data from stations that might have been under the accident impact. Data from stations which recorded exceeding of pollution can serve for mapping of pollution expansion caused by accident due to later sampling of biological material and assessment of accident impact on human health. Ask of laboratories that conducted the measurements at selected stations for emergency data validation immediately before and after the accident. After been validated by the laboratory, these data can be used as evidence material in potential misdemeanour proceeding. The data shall be enclosed in the monitoring minutes.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – at accidents

2.

Download from CEPA's portal all measurement data from stations that might have been under the accident impact. Data from stations that recorded exceeding of pollution by pollutants which could potentially be emitted in the accident (H₂S, NH₃, etc.). Ask of laboratories that conducted the measurements at selected stations for emergency data validation immediately before and after the accident with indication which hourly values have been under alarm due to exceeding of the measurement range maximum.

These data can be used for the same purpose as the one from step B1.

11.4 INSPECTION MONITORING - UNANNOUNCED

B. Implementation of inspection monitoring – at accidents

3.

Define together with CEPA all the stations and laboratories that could be under the accident impact and which stopped sending data or they sent the data due to alarm status.

Ask of laboratories that conducted the measurements at selected stations for emergency data validation immediately before and after the accident with indication which hourly values have been under alarm due to exceeding of the measurement range maximum.

These data can be used for the same purpose as the one from step B1.

Control of regulation implementation per phases

C. Conducting upon performed inspection monitoring - steps

Inspector shall, if possible, make conclusions from the data described in steps B1 to B3 into the inspection minutes in case of accident and enclosed these data in the minutes.

1. If further survey proves that the accident has been caused by certain physical or legal person, this minute can be used by the Ministry for initiating the misdemeanour proceeding to the State Attorney's Office.



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THANK YOU FOR YOUR ATTENTION

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