

SWIM and Horizon 2020 Support Mechanism

Working for a Sustainable Mediterranean, Caring for our Future

A method to establish the frequency of environmental inspections

Tiberio Daddi



Scuola Superiore Sant'Anna

This Project is funded by the European Union



ENVIRONMENT AGENCY AUSTRIA umweltbundesamt®

ATKINS

Method to establish inspections frequencies

The frequency of inspections is an important matter in Europe.

The inspections agencies have very low human resources. So an objective method to establish the inspections frequencies i.e. to select how frequent a plant should be visited it could help in an efficient use of these resources.

Background: EU legislation on environmental inspections

27.4.2001

EN

Official Journal of the European Communities

L 118/41

II

(Acts whose publication is not obligatory)

EUROPEAN PARLIAMENT AND COUNCIL

RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 4 April 2001
providing for minimum criteria for environmental inspections in the Member States
(2001/331/EC)

Background: EU Recommendation 331/2001

2. For the purposes of this recommendation, 'environmental inspection' is an activity which entails, as appropriate:
 - (a) checking and promoting the compliance of controlled installations with relevant environmental requirements set out in Community legislation as transposed into national legislation or applied in the national legal order (referred to hereinafter as 'EC legal requirements');
 - (b) monitoring the impact of controlled installations on the environment to determine whether further inspection or enforcement action (including issuing, modification or revocation of any authorisation, permit or licence) is required to secure compliance with EC legal requirements;

Background: EU Recommendation 331/2001

- (c) the carrying out of activities for the above purposes including:
 - site visits,
 - monitoring achievement of environmental quality standards,
 - consideration of environmental audit reports and statements,
 - consideration and verification of any self monitoring carried out by or on behalf of operators of controlled installations,
 - assessing the activities and operations carried out at the controlled installation,
 - checking the premises and the relevant equipment (including the adequacy with which it is maintained) and the adequacy of the environmental management at the site,
 - checking the relevant records kept by the operators of controlled installations.

Background: Recommendation 331 type of inspections

3. Environmental inspections, including site visits, may be:
 - (a) routine, that is, carried out as part of a planned inspections programme; or
 - (b) non-routine, that is, carried out in such cases in response to complaints, in connection with the issuing, renewal or modification of an authorisation, permit or licence, or in the investigation of accidents, incidents and occurrences of non-compliance.



Let's see what the Recommendation suggest about the planning of inspections and if it gives indications on the frequency

Background: Recommendation 331 about the planning of inspections

Plans for environmental inspections

1. Member States should ensure that environmental inspection activities are planned in advance, by having at all times a plan or plans for environmental inspections providing coverage of all the territory of the Member State and of the controlled installations within it. Such a plan or plans should be available to the public according to Directive 90/313/EEC.
2. Such plan or plans may be established at national, regional or local levels, but Member States should ensure that the plan or plans apply to all environmental inspections of controlled installations within their territory and that the

Background: Recommendation 331 about the planning of inspections


3. Plans for environmental inspections should be produced on the basis of the following:
 - (a) the EC legal requirements to be complied with;
 - (b) a register of controlled installations within the plan area;
 - (c) a general assessment of major environmental issues within the plan area and a general appraisal of the state of compliance by the controlled installations with EC legal requirements;
 - (d) data on and from previous inspection activities, if any.

Background: Recommendation 331 about the planning of inspections

4. Plans for environmental inspections should:
 - (a) be appropriate to the inspection tasks of the relevant authorities, and should take account of the controlled installations concerned and the risks and environmental impacts of emissions and discharges from them;
 - (b) take into account relevant available information in relation to specific sites or types of controlled installations, such as reports by operators of controlled installations made to the authorities, self monitoring data, environmental audit information and environmental statements, in particular those produced by controlled installations registered according to the Community eco-management and audit scheme (EMAS), results of previous inspections and reports of environmental quality monitoring.

Background: suggested contents of the plan

5. Each plan for environmental inspections should as a minimum:
 - (a) define the geographical area which it covers, which may be for all or part of the territory of a Member State;
 - (b) cover a defined time period, for example one year;
 - (c) include specific provisions for its revision;
 - (d) identify the specific sites or types of controlled installations covered;
 - (e) prescribe the programmes for routine environmental inspections, taking into account environmental risks; these programmes should include, where appropriate, the frequency of site visits for different types of or specified controlled installations;
 - (f) provide for and outline the procedures for non-routine environmental inspections, in such cases in response to complaints, accidents, incidents and occurrences of non-compliance and for purposes of granting permission;
 - (g) provide for coordination between the different inspecting authorities, where relevant.



Recommendation 331 did not say many things about the frequencies, more recently another important Directive, the Directive 75/2010 has focused on environmental inspections

Environmental inspections frequencies: Directive 75/10

Article 23

Environmental inspections

1. Member States shall set up a system of environmental inspections of installations addressing the examination of the full range of relevant environmental effects from the installations concerned.

Member States shall ensure that operators afford the competent authorities all necessary assistance to enable those authorities to carry out any site visits, to take samples and to gather any information necessary for the performance of their duties for the purposes of this Directive.

Environmental inspections frequencies: Directive 75/10

4. Based on the inspection plans, the competent authority shall regularly draw up programmes for routine environmental inspections, including the frequency of site visits for different types of installations.

Environmental inspections frequencies: Directive 75/10


The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned and shall not exceed 1 year for installations posing the highest risks and 3 years for installations posing the lowest risks.

If an inspection has identified an important case of non-compliance with the permit conditions, an additional site visit shall be carried out within 6 months of that inspection.

Environmental inspections frequencies: Directive 75/10

The systematic appraisal of the environmental risks shall be based on at least the following criteria:

- (a) the potential and actual impacts of the installations concerned on human health and the environment taking into account the levels and types of emissions, the sensitivity of the local environment and the risk of accidents;
- (b) the record of compliance with permit conditions;
- (c) the participation of the operator in the Union eco-management and audit scheme (EMAS), pursuant to Regulation (EC) No 1221/2009 ⁽¹⁾.



Based on these indications on how to assess the risk to establish the inspections frequencies, we have drafted and shared a method with ARPAT, i.e. the Regional Protection Agency of Tuscany Region to identify the environmental risk and the inspections frequencies

Method for establishing environmental inspections frequencies

The method aimed to be:

- ❖ Simple
- ❖ Easy to apply
- ❖ Replicable
- ❖ Based on objective data/criteria

Method for establishing environmental inspections frequencies

Three classes of criteria:

- a) Relevance of the sector
- b) Relevance of the plant
- c) Territorial and social relevance

For each class specific criteria have been identified with values ranging from 1 to 3.

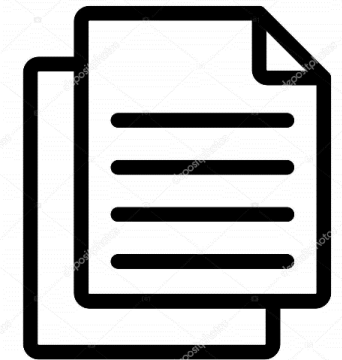
Relevance of the sector

CRITERION 1 ENVIRONMENTAL COMPLEXITY (International Accreditation Forum - IAF MD5: 2009)

The sector is considered to be of low complexity in the IAF classification 1

The sector is considered to be of medium complexity in the IAF classification 2

The sector is considered highly complex in the IAF classification 3



Relevance of the sector

CRITERION 2	
ENERGY CONSUMPTION / CO2 EMISSIONS	
The sector is not considered in the emissions trading directive	1
-	2
The sector is considered in the emissions trading directive	3

Relevance of the sector

CRITERION 3 LEAKAGE / WATER DISCHARGE	
The sector doesn't use water in the industrial process	1
-	2
The sector uses water in the industrial process	3

Relevance of the plant

CRITERION 4 IED RELEVANCE	
The plant exceeds the threshold of the scope of application of the IED directive of no more than 20%	1
The plant exceeds the threshold of the scope of application of the IED directive from 20% to 50%	2
The plant exceeds the threshold of the IED directive application range of over 50%	3

In the event that there is no threshold, the value 3 is automatically assigned

Example IED threshold

- 6.2. Pre-treatment (operations such as washing, bleaching, mercerisation) or dyeing of textile fibres or textiles where the treatment capacity exceeds 10 tonnes per day
- 6.3. Tanning of hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day
- 6.4. (a) Operating slaughterhouses with a carcass production capacity greater than 50 tonnes per day

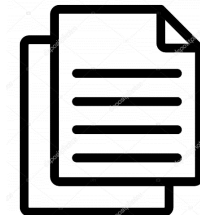
Relevance of the plant

CRITERION 5 RELEVANCE AIR EMISSIONS

The pollutants in air emissions belong to the first two categories mentioned in Annex II of the Industrial Emissions Directive (75/2010) 1

The pollutants in air emissions belong to categories 3 to 6 of Annex II of the Industrial Emissions Directive (75/2010) 2

The pollutants in air emissions belong to categories higher than 6 of Annex II of the Industrial Emissions Directive (75/2010) 3



Relevance of the plant

CRITERION 6 NUMBER OF EMPLOYEES

The plant has less than 50 employees 1

The plant has between 50 and 200 employees 2

The plant has more than 200 employees 3

Relevance of the plant

CRITERION 7 ENVIRONMENTAL SANCTIONS

The ratio:
between the number of times that the plant has received
sanctions from inspections/number of inspections carried out
in the last 5 years
ratio < 0.2

1

The ratio:
between the number of times that the plant has received
sanctions from inspections/number of inspections carried out
in the last 5 years
0.2 < Ratio < 0.5

2

between the number of times that the plant has received
sanctions from inspections/number of inspections carried out
in the last 5 years
Ratio > 0.5

3

Or the plant has never been inspected in the last 5 years

Relevance of the implant

CRITERION 8 SOIL AND SUBSTRATE

The site is not subject to reclamation and the risks of the presence of contaminated soil are minimal 1

The site has a process of characterization or remediation in progress 2

The site is a clear risk of contamination but the company does not carry out the necessary checks to ascertain the presence or absence of contamination 3

Relevance of the implant

CRITERION 9

SEVESO DIRECTIVE (Major Accidents hazard Directive)

The plant is not part of the SEVESO directive 1

The plant is part of the art. 6 of the national decree implementing the SEVESO Directive 2

The plant is part of the art. 6 and 8 of the national decree implementing the SEVESO Directive or has had acute incidents in the last 5 years 3

Relevance of the implant

CRITERION 10

BAT

The organization has implemented BAT in its process as described in the BAT conclusions of the last available BREF 1

- 2

The organization has not implemented BAT in its process as described in the BAT conclusions of the last available BREF 3

Territorial and social relevance

CRITERION 11 TERRITORIAL SENSITIVITY

The plant is located in an industrial area or at a distance greater than 5 km from protected natural areas or with particular environmental sensitivity 1

The plant is located at a distance of more than 3 km from protected natural areas or with particular environmental sensitivity 2

The plant is located at a distance of less than 3 km from protected natural areas or with particular environmental sensitivity 3

Territorial and social relevance

CRITERION 12 SOCIAL SENSITIVITY

The plant is located in an industrial area or at a distance of more than 3 km from resident/inhabited areas 1

The plant is located at a distance between 1 and 3 km from resident/inhabited areas 2

The plant is located at a distance of less than 1 km from resident/inhabited areas or has been the subject of at least 3 reports in the last year or are constituted Committees of protest against the site for environmental reasons 3

Total 12 criteria

SUMMING	
SIGNIFICANCE OF THE SECTOR	Criterion 1
	Criterion 2
	Criterion 3
RELEVANCE OF THE PLANT	Criterion 4
	Criterion 5
	Criterion 6
	Criterion 7
	Criterion 8
	Criterion 9
	Criterion 10
ENVIRONMENTAL AND SOCIAL RELEVANCE	Criterion 11
	Criterion 12

Identification of risk

(Average of sector relevance) + (Average plant relevance) + (Average territorial and social relevance)

3

Or give greater weight to the relevance of the system:

20% x (Average of sector relevance) + 60% x (Average plant relevance) +
20% x (Average territorial and social relevance)

In any case, there will be a risk value that
will range from 1 to 3

Risk reduction thanks to EMAS environmental certification



The value of the risk given by the application of the formula is reduced by 0,5

(in this case the value could go below the threshold of 1)

Frequency identification

Value of risk	Risk class	Frequency
$R \leq 1,7$	Low risk	Period between two visits does not exceed 3 years but is higher than 2
$1,7 < R \leq 2,2$	Medium risk	Period between two visits does not exceed 2 years and is still higher than 1
$R > 2,2$	High risk	Period between two visits does not exceed 1 year