IED Inspections

Guidance for the implementation of the IED in planning and execution of inspections

European Union Network for
the Implementation and Enforcement
of Environmental Law

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Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU Member States, acceding and candidate countries of the European Union and EEA countries. The association is registered in Belgium and its legal seat is in Brussels, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 6th Environment Action Programme and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its website at: www.impel.eu

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Executive summary:
This guidance was produced under the 2012 IMPEL project: *Environmental inspections of industrial installations in accordance with the Industrial Emissions Directive (IED)*
The main objective of this project was to organise an exchange of information concerning best practices for the implementation of article 23 of the IED taking into account the guidance on inspection planning and risk appraisal already developed by IMPEL and the requirements described in Article 23 of the IED.
Pursuant to the EU Recommendation providing for minimum criteria for environmental inspections (RMCEI) and the EU Industrial Emission Directive (IED) inspection activities should be planned in advance and conditions are set regarding the execution and reporting of inspections. This guidance takes as a starting point the Environmental Inspection Cycle. The inspection cycle was mainly developed within the IMPEL project "Doing the right Things". During the IED Inspections project it was adapted to the demands of the IED. In the last chapter of this guidance the inspection obligations derived from the IED are discussed and linked to the different steps of the previous chapters.

Disclaimer:
This report is the result of a project within the IMPEL network. The content does not necessarily represent the view of the national administrations or the European Commission.

Contents

Summary

This guidance was produced under the 2012 IMPEL project:
Environmental inspections of industrial installations in accordance with the Industrial Emissions Directive (IED)

Pursuant to the EU Recommendation providing for minimum criteria for environmental inspections (RMCEI) and the EU Industrial Emission Directive (IED) inspection activities should be planned in advance and conditions are set regarding to the execution and reporting of inspections. This guidance takes as a starting point the Environmental Inspection Cycle, which for the purpose of this document consists of the following seven steps:
1. Describing the context; 2. Setting priorities; 3. Defining objectives and strategies; 4. Planning and review; 5. Execution framework; 6. Execution and reporting; 7. Performance monitoring

The first 4 steps form the Planning Cycle. The output of the Planning Cycle is the inspection plan. In order to write the inspection plan the inspecting authority first has to identify the relevant activities that should be covered by the inspection plan and gather information on these activities. With this information the inspecting authority can perform an assessment of the risks of the identified activities and assign priorities to these activities. Typical criteria that are taken into account when setting priorities are environmental impact, operational complexity, compliance record, legal obligations to inspect, (national) policies and objectives and available resources. The priorities indicate what activities should get (the highest) attention. A following step is to define (measurable) inspection objectives and targets for the activities to be inspected and to choose the best inspection strategy to accomplish these targets.

All these steps contribute to the inspection plan. The inspection plan clearly indicates the time period and area it covers. An inspection plan outlines the context in which the inspecting authority performs its inspections. It describes the mission and objectives of the inspecting authority, its statutory tasks and inspection obligations and (national) policies to be implemented. An inspection plan furthermore gives an overview of the priorities that have been assigned and explains why and how these priorities were set. The plan also gives general information on inspection targets, strategies, procedures and the planned inspection activities themselves. The inspection programme describes where, when and by whom the different types of inspection activities will be executed. The inspection plan and the inspection programme need to be reviewed and - when appropriate - revised periodically.

Step 5, 6 and 7 form the execution part of the inspection cycle. In the fifth step the necessary conditions (like equipment and training) are put in place so inspectors can do their work. In step six the inspections are executed and reported. In the last step of the inspection cycle the planned activities are monitored against the executed activities and planned targets against the actual outcome of the inspection work.

The inspection cycle was mainly developed within the IMPEL project "Doing the right Things". During the IED Inspections project it was adapted to the demands of the IED. In the last chapter of this guidance the inspection obligations derived from the IED are discussed and linked to the different steps of the previous chapters.

1   Introduction

1.1 Background

In 2001 the European Parliament and the Council adopted the Recommendation providing for minimum criteria for environmental inspections (RMCEI). The purpose of the RMCEI is to strengthen compliance with, and to contribute to a more consistent implementation and enforcement of Community environmental law in all Member States. The RMCEI establishes guidelines for environmental inspections of installations, other enterprises and facilities whose air emissions, water discharges or waste disposal or recovery activities are subject to authorisation, permit or licensing requirements under Community law ('controlled installations'). All inspecting authorities in the Member States should apply these guidelines. They concern amongst others minimum criteria on establishing and evaluating plans for environmental inspections.

Nearly ten years later (in 2010) the European Parliament and Council adopted the Industrial Emission Directive (IED). The IED sets new requirements on the inspection of industrial installations as described in Article 23 of the Directive. The IED contains important elements of the RMCEI in art. 23. New in the IED is the use of risk appraisals for inspection planning.

This guidance aims at helping practitioners to answer the basic questions any inspecting authority has do deal with when implementing the IED. These questions are presented in the following figure:

E n v i r o n m e n t a l I n s p e c t i o n s

What do we have to do?   *What do we regard as most important?*   *What do we want to achieve, how and when?*

1.2 Structure of this guidance book

This guidance book starts on a general level and gradually becomes more specific.

Chapter 2 summarises the content of the minimum criteria of planning according to the RMCEI and the IED. It also explains that planning of inspections should be regarded as one of a number of succeeding steps that together form the environmental inspection cycle.

Chapter 3 starts with an introduction of the Environmental Inspection Cycle followed by a more elaborated description for each of the steps.

Chapter 4 focuses in more detail on the planning steps in the environmental inspection cycle that form by themselves the so-called "planning cycle".

In the different sections of chapter 3 and 4 you will also find boxes with the legal text of the Industrial Emission Directive. The sections should provide you the understanding and clarification of the different articles.
Please note that these chapters go beyond what is legally required according to the IED.

Chapter 5 gives an overview of all the inspection obligations from the IED. For each article the guidance explains how it should be understood and where it is linked in the environmental inspection cycle.

The map on the next page will help you navigate through the document. If you use this document electronically, you can click the boxes in the navigation map to go directly to the different sections. At the beginning of each section you find this link: - to navigation map - which will bring you back to the navigation map.

To get a good understanding of the planning cycle we advise to read at least both chapter 3 and 4. If you are already familiar with the environmental inspection cycle and want to know how the IED fits in we suggest starting with chapter 5.

1.3 NAVIGATION MAP

level of detail →

Chapter 2	Chapter 3	Chapter 4	Chapter 5	Annexes
RMCEI / IED	Environmental Inspection Cycle	Planning Cycle	IED	

Chapter 3 – Environmental Inspection Cycle
- 3.1 Introduction
- 3.2 1a. Describing the context
- 3.3 1b. Setting Priorities
- 3.4 1c. Defining objectives and strategies
- 3.5 1d. Planning and Review
- 3.6 2. Execution Framework
- 3.7 3. Execution and Reporting
- 3.8 4. Performance monitoring

Chapter 4 – Planning Cycle
- 4.1 Introduction
- 4.2 Identifying the scope
- 4.3 Information gathering
- 4.4 Risk assessment Ranking, classification and priorities
- 4.5 Objectives and measurable targets
- 4.6 Strategies
- 4.7 Inspection plan
- 4.8 Review and revision

Chapter 2 – RMCEI / IED
- 2.3 1. Planning
- 2.3 2. Execution
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Chapter 5 – IED
- Article 23(1)
- Article 8
- Article 23(4)
- Article 23(2)
- Article 23(3)
- Recital 26
- Article 3(22)
- Article 7
- Article 23(5)
- Article 23(6)

Annexes
- I Integrated Risk Assessment Method
- II IRAM (Excel-tool)
- III Impact criteria
- IV Operator Performance criteria
- V Case studies for inspection targets
- VI Organisational aspects insp. targets
- VII Training programme
- VIII Graduation of non-compliances
- IX Lay-out inspection report

2   Minimum criteria on planning in the RMCEI and the IED

The Environmental inspection cycle, as it will be explained in chapter 3, finds its bases in the EU recommendation providing for minimum criteria for environmental inspections (RMCEI) and article 23 of the Industrial Emissions Directive (IED). The text in this chapter gives a brief summary of the recommendation and the relevant parts of the directive.

2.1 Content of the minimum criteria on planning according to the RMCEI

Pursuant to the RMCEI all inspection activities should be planned in advance, by having inspection plans that cover the entire territory of the Member State and all the controlled installations.

The plans should be based on the EU legal requirements to be complied with, a register of controlled installations, a general assessment of major environmental issues in the area, and a general appraisal of the state of compliance of the controlled installations. Plans should take into account the risks and environmental impacts of installations and any available relevant information on the controlled installations, such as reports of operators, self-monitoring data, environmental audit information and environmental statements and results of previous inspections.

Each inspection plan should as a minimum:
* define the geographical area which it covers, which may be for all or part of the territory of a Member State,
* cover a defined time period, for example one year,
* include specific provisions for its revision,
* identify the specific sites or types of controlled installations covered,
* prescribe the programmes for routine inspections, taking into account environmental risks; these programmes should include, where appropriate, the frequency of site visits for different types of specified controlled installations,
* provide for coordination between the different inspecting authorities, where relevant.

Inspection plans should be available to the public according to the "Aarhus" convention (and the directive on public access to environmental information).

2.2 Content of the minimum criteria on planning of site visits according to IED

The Industrial Emission Directive (2010/75/EU), which came into force in January 2011, contains binding requirements for environmental inspections. An essential part of article 23 of the IED is the appraisal of environmental risks. "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."
The systematic appraisal of the environmental risks shall be based on at least the following criteria:

the potential and actual impacts of the installations concerned on human health and the environment taking into account

- levels and types of emissions
- sensitivity of the local environment
- risk of accidents
- record of compliance with permit conditions
- participation in the Union eco-management and audit scheme (EMAS)

2.3 Planning as a step within the inspection process

It is important to keep in mind that planning is not an isolated activity. It is closely interlinked with other activities, as the RMCEI clearly shows.

The topics the RMCEI addresses can be grouped under the following headings:

– *Planning:* Establishing plans for environmental inspections

– *Execution:* Performing inspections and investigating accidents, incidents and occurrences of non-compliance

– *Reporting:* Reporting on inspections, accidents and incidents and storing inspection data

– *Evaluation:* Evaluating the implementation of inspection plans for internal purposes and reporting to the European Commission or other 3rd parties.

The activities under these different headings form in the RMCEI four succeeding steps. See figure.

1. Planning

- inspection plan

4. Evaluation
- reporting to EU Commission
- evaluating the inspection plan

2. Execution
- routine inspections
- non-routine inspections
- investigations
  o accidents
  o incidents
  o occurrences of non-compliance

3. Reporting
- reporting on site visits
- keeping records
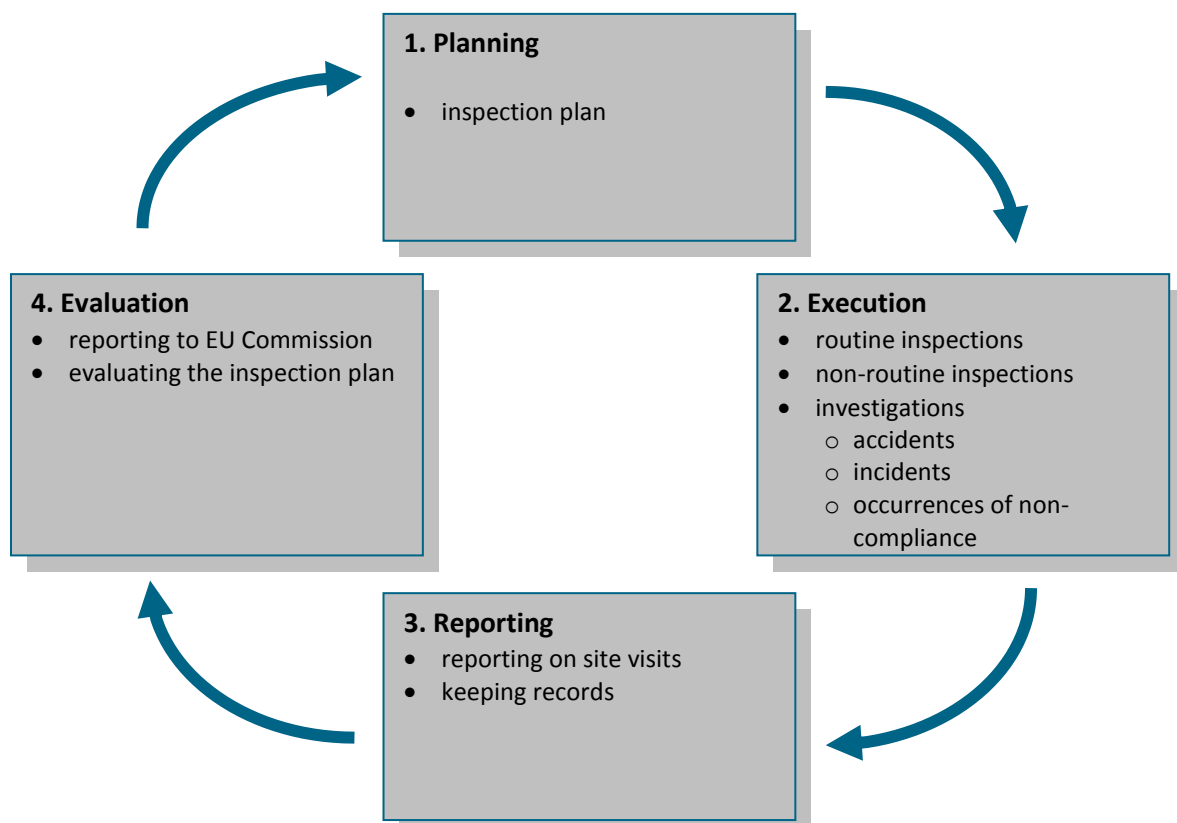
The succeeding steps from the recommendation in this figure form an environmental inspection cycle. This cycle is improved and modified in chapter 3. Chapter 3 discusses in some more detail the different elements of the cycle. It also introduces a new cycle, the planning cycle, which is part of the environmental inspection cycle.

3 Environmental Inspection Cycle

3.1 Introduction

When we look more closely at the environmental inspection cycle we notice that the process is more complicated and that it is useful to make a further distinction, resulting in the following seven steps:

1. Describing the context
2. Setting Priorities
3. Defining objectives and strategies
4. Planning and review

And:

5. Execution framework
6. Execution and reporting
7. Performance monitoring

Steps 1, 2, 3 and 4 form the planning process, which is a cyclic process, since review of the inspection plan may lead to developing a new inspection plan or modifying the existing one.

Steps 5, 6 and 7 take place after the inspection plan has been finalised. They provide input to the review of the inspection plan. Together with step 4 they also form a cycle. The next figure connects these 2 cycles.

1. Planning

1b. Setting priorities
- risk assessment
- allocating resources

1c. Defining objectives and strategies
- objectives and measurable targets
- inspection strategies to ensure compliance
- communication strategy

1a. Describing the context
- identifying the scope
- information gathering

1d. Planning and review
- organizational, human and financial conditions
- inspection plan (including inspection programme)
- review and revision

4. Performance monitoring
- monitoring
- accounting for effort, performance results
- comparing and auditing
- external reporting

2. Execution Framework
- work protocols and –instructions
- protocols for communication,
- information management and information exchange
- equipment and other resources

3. Execution and Reporting
- routine inspections
- non-routine
- investigation
  - accidents
  - incidents
  - occurrence of non compliance
- reporting

The first step in this cyclic process is "Describing the context" (box 1a). Here the inspecting authority looks amongst others at its statutory tasks. This part sets the scope of the inspection plan. In addition to the identification of the scope it is necessary to gather information for performing the risk assessment.

The second step is "Setting priorities (box 1b). This step starts with an assessment of selected environmental or other risks. The risk assessment will result in a list of installations or activities that are ranked and classified. In this step the priorities are also set. In other words, what installations or activities will get the necessary attention (and how much) and what will not. The output of this step, the listed priorities (for the specified period), is then the input for the next step.

The third step is "Defining objectives and strategies" (box 1c). Within this step the inspecting authority identifies inspection objectives and targets. These objectives and targets can be presented quantitatively and/or qualitatively. When it is clear what we want to achieve we can define or modify the inspection strategies in order to meet these objectives and targets. The output of this step, the objectives, measurable targets and the inspection strategies, will be part of the input of the next step.

The fourth step is "Planning and review" (box 1d). In this step the inspection plan is developed. The inspection plan covers a defined time period and describes and explains the steps taken in box 1a, 1b and 1c. Part of the inspection plan is the inspection programme. The inspection programme may stand as a working annex to the inspection plan, or as a separate document referenced within the inspection plan.

The fifth step is "Execution framework" (box 2). Before inspections can be executed we have to make sure that all necessary conditions are met. The appropriate working procedures and instructions, powers and competences and equipment should be in place.

The sixth step is "Execution and reporting" (box 3). In this step the inspection work is done. Here the routine and non-routine inspections are executed and reports of findings are written. Data on the inspections that are carried out and their outcomes and follow-up have to be stored in a good accessible database.

The seventh step of the process is "Performance monitoring" (box 4). To make sure we meet our objectives and targets we have to monitor the *output* (did we carry out the planned activities?) and the *outcome* (what were the effects of our activities?). This information will be used for reviewing the plans and for reporting to different stakeholders, for instance the minister responsible, parliament, the general public, the European Commission etc.

From the "Performance monitoring" step we return to the "Planning and review" step (box 1d). Based upon the monitoring results but also possible changes in box 1a (describing the context) the inspection plan (including the inspection schedule) will be reviewed and possibly be revised.

In the next 7 sections all the steps as described above will be elaborated in more detail.

3.2 Describing the context (box 1a)

Describing the context is a first step of the systematic approach for planning of inspections and a necessary input for identifying and analysing the risks. A full inventory of the context within which the authority has to operate is vital to define its activities and sets the scope of the inspection plan. This scope is normally identified by elements such as the general mission and objectives of the authority and in particular its statutory tasks and competences. It is important to keep in mind that the inspecting authority is also bound to national, regional or local policies, which are established by others. Furthermore an inspectorate may want to take into consideration particular opinions expressed by the general public, NGO's, industry or other stakeholders. On a more detailed level, information about companies and installations that fall under the competence of the authority concerned can be gathered, including data on their environmental impact; permit situation, compliance behaviour etc. Part of this information is collected through the execution of inspection activities (box 3). This data is also assessed in the process of performance monitoring. The data that is gathered in this step is used for carrying out the risk assessment process as outlined in the next step.

Input:	Relevant legislation and regulations, legal obligations to inspect, environmental and other governmental policies, environmental and other assessments, management reports, inspection reports, complaints, data from performance monitoring (box 4), operational complexity and location .
Output:	Data for the risk assessment.

3.3 Setting priorities (box 1b)

Setting priorities starts with a risk assessment. The method used for risk assessment should be objective in nature, simple to apply and can differ between inspecting authorities. Section 4.4 describes the Integrated Risk Assessment Method (IRAM) that is developed by IMPEL.

The main goal of a risk assessment is to prioritize the workload of an inspecting authority. The result of an assessment within the framework of the IED will result in an inspection frequency of site visits of inspection objects. The reason for prioritizing our workload is that inspecting authorities have limited resources (inspectors and finance), which should be distributed among the inspection objects in an accountable way. In a risk-based approach, most inspection effort should be expended on the objects with the highest risks (highest risk first).

Limited resources on the one hand and a multitude and variety of statutory tasks[1] on the other, make it necessary to set clear priorities. Priorities are set using the outcome of the risk assessment, which could be a list or an overview of all the identified/selected installations and activities and their respective risks. These installations and activities can on the basis of their assessed risks be classified, for example, in 'high risk', 'medium risk' and 'low risk'.

In addition the inspection approach for each level can differ: the higher the risk level, the more attention it will get from the inspecting authority.

The inspection approach will as a consequence also determine the claim on the available resources, and is therefore equally relevant for the inspection plan and in the inspection schedule.

A risk assessment can be carried out on different levels, see figures next page.

A unit within an inspecting authority that is only dealing with a specific area (e.g. Industrial installations under the IE Directive) and has no other tasks, might only want to do a detailed level risk assessment of these IED installations ("specific" risk assessment).

However an inspecting authority with a large variety of tasks may in the first instance carry out an "abstract level" risk assessment between general task areas it is charged with (e.g. inspection of IPPC installations versus inspection on illegal logging versus spatial planning). In this document we call this a "general" risk assessment. A specific risk assessment could then further refine the outcome of the

> **Industrial Emissions Directive**
>
> Article 23(4):
> 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.
>
> 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)
>
> The Commission may adopt guidance on the criteria for the appraisal of environmental risks.

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[1] While setting priorities the inspecting authority should only take the statutory tasks in to account for which they are responsible.

general risk assessment. For example, in the general risk assessment priorities have been set between the different statutory tasks like inspection of IPPC installations, inspection of SEVESO establishments, inspection against legal requirements on nature protection, inspection of waste transport etc. The outcome of the assessment is a risk score for every task that can then be used as a guide to allocate available inspection time. The outcome of the general risk assessment is now the input for the specific risk assessments.

Describing the context		
Detailed		
(specific) Risk assessment		
Allocation + priorities		
Defining objectives and strategies		

Describing the context		
Abstract	Detailed	
(general) Risk assessment	(specific) Risk assessment	
Allocation	Priorities	
Defining objectives and strategies		
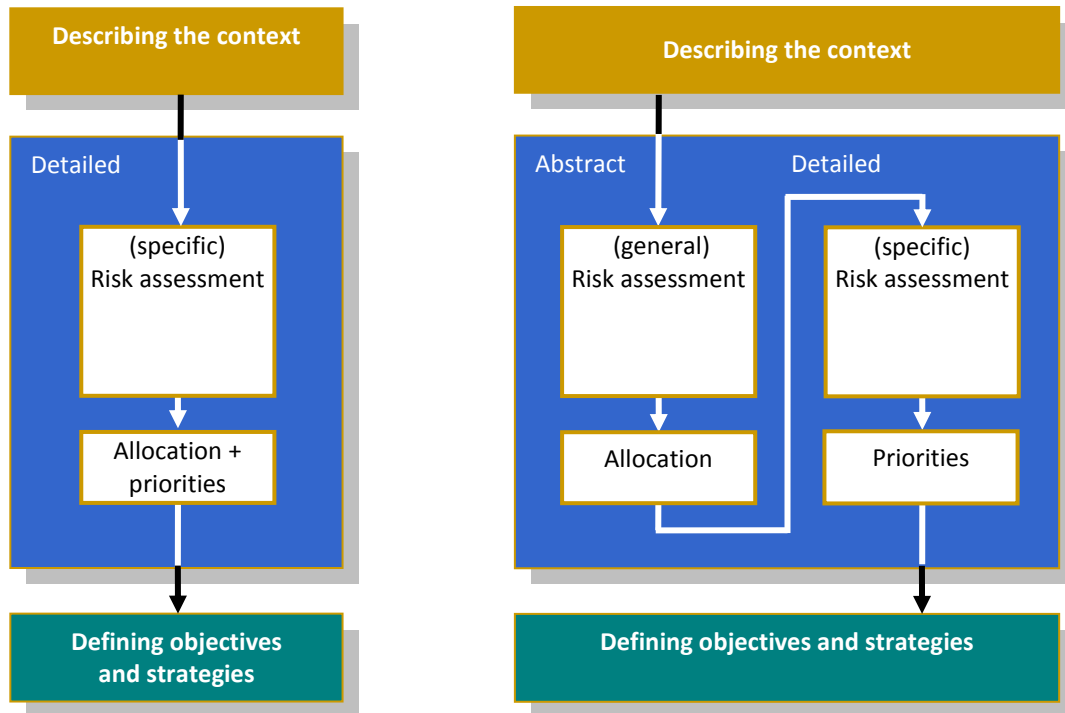
The results of either of these methods will be that the Inspecting Authorities, using a clear and systematic process, will be able to assign resources <u>between</u> overall task areas and also within the specific work to be carried out within each overall task area.

In other words, these different risk assessment processes are carried out in different levels of detail by the same or by different staff. Although the risk criteria might be different between these different levels of risk assessment the method could be the same.

An inspecting authority may want to consult third parties when performing a risk assessment. In particular consultation of other (inspecting) authorities can provide opportunities for sharing data, and performing joint risk assessments etc.

Input:	Data for the risk assessment.
Output:	Assigned priorities.

3.4 Defining objectives and strategies (box 1c)

Based upon the priorities, the inspecting authority sets targets and objectives. In order to establish whether these objectives and targets can be and will be met, the output and the outcome must be monitored. This is generally done by using performance indicators. Examples of performance indicators on outcome that may be useful are:

- The amount of incidents or complaints occurring;
- The level of compliance;
- The actual achievement of reduction targets for certain pollutants or certain risks at the sites that are directly regulated or enforced by the inspection authority;
- Improvement of air, land and water quality through the actions of the inspectorate to improve compliance.

The inspecting authority may want to link its objectives with certain inspection strategies to ensure that these objectives can be met in both an effective and efficient manner, causing minimal burdens for the company and the authority. It may furthermore want to adopt and use certain communication strategies for exchanging information internally and with other competent authorities.

Subjects that can be addressed are:

- co-operation and information exchange between inspecting organisations and other authorities;
- the character and form of inspection;
- the effect of the operator's behaviour on the inspection frequency;
- the path of administrative and/or criminal follow-up upon non-compliance, which must be firm, fair and unambiguous in case of non-compliance.

The term strategy in this document refers to the way objectives are to be reached.

Input:	Assigned priorities.
Output:	Objectives and measurable targets and inspection and communication strategies.

3.5 Planning and review (box 1d)

Based upon the previous steps (1a, 1b and 1c), the inspecting authority should then develop its inspection plan and inspection programme. The inspection plan can be seen as a strategic plan and does not contain operational information (e.g. does not include the planned and type/dates of inspections).

An inspection plan describes:
*   The objectives that the Inspecting authority, given its mission and tasks, wants to achieve;
*   The policy, environmental, legal, organizational, financial and other relevant conditions under which the inspecting authority has to perform its inspection activities;
*   The strategies which the inspecting authority has adopted for performing its inspection activities;
*   How priorities with regard to inspection activities are set, taking into account these objectives, conditions and strategies;
*   The priorities themselves;
*   And the additional items described in Article 23 of the IED.

The general public has the right to know what the inspecting authority has planned for the defined period (it should be transparent) and the plan should therefore be available to the public. However the inspecting authority may choose to withhold part of the plan (e.g. the Inspection Schedule). This could be typically due to the inclusion of unannounced Inspections or other unannounced enforcement actions which must be without warning in order to be effective.

The inspection plan will be used to compile the inspection programme. This programme should include information such as names of installations, dates, type of inspections, inspectors assigned, etc.

When developing the inspection plan and inspection programme it is necessary to consider the organisational, human and financial circumstances. Most importantly the inspection plan and the inspection programme should be in balance with the available resources and budgets and should be in line with the organizational structure.

The review and revision of the inspection plan is also part of this step. When we continue the process, after step "Performance monitoring" (box 4), we return to this step (box 1d). Based upon the monitoring and evaluation of the inspection plan (including the inspection programme), it will be reviewed and possibly be revised.

Input:	The context, risk assessment, priorities, objectives and measurable targets, inspection and communication strategies and the results of performance monitoring.
Output:	Inspection plan and inspection programme

3.6 Execution Framework (box 2)

The execution framework serves to facilitate the different inspection activities, e.g. compliance checking through site visits, enforcement actions like imposing sanctions, compliance assistance through organising information campaigns etc. Within this step, training, protocols and working instructions are developed and conditions for realisation. This step is necessary to make sure that inspection activities can be executed effectively, efficiently, professionally and consistently.

The execution framework should at least cover (in no order of preference):

- Training programme(s) for the inspectors (staff), based on a training needs assessment
- Protocols and working instructions for routine inspections
- Protocols and working instructions for non-routine inspections (how to react to incidents and accidents)
- Procedures for imposing sanctions
- Development of inspection and enforcement handbooks
- Protocols for communication with the public (access to information) and with Industry
- Information management (e.g. information systems) and information exchange (within the organization and with partner organizations)
- Provisions and memorandum of understandings for cooperation with relevant partners (other inspecting authorities)
- Conditions for realisation
    - Clear authorisations and competencies (e.g. legal right of access to site and information)
    - All necessary assistance from the operators to carry out any site visits, to take samples and to gather information necessary for the performance of their duties (legalised in legislation);
    - System for planning, programming and monitoring
    - Facilities and materials needed (e.g. computers, transport, means of communication)
    - Maintenance and calibration of equipment

Industrial Emission Directive

Recitals 26:
Member States should ensure that sufficient staff is available with the skills and qualifications needed to carry out those inspections effectively.

Article 7:
In the event of any incident or accident significantly affecting the environment, Member States shall take the necessary measures to ensure that:
(a) the operator informs the competent authority immediately;
(b) the operator immediately takes the measures to limit the environmental consequences and to prevent further possible incidents or accidents;
(c) the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to limit the environmental consequences and to prevent further possible incidents or accidents.

Article 8:
2. In the event of a breach of the permit conditions, Member States shall ensure that:
(a) the operator immediately informs the competent authority;
(b) the operator immediately takes the measures necessary to ensure that compliance is restored within the shortest possible time;
(c) the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to restore compliance.

Where the breach of the permit conditions poses an immediate danger to human health or threatens to cause an immediate significant adverse effect upon the environment, and until compliance is restored in accordance with points (b) and (c) of the first subparagraph, the operation of the installation, combustion plant, waste incineration plant, waste co-incineration plant or relevant part thereof shall be suspended.

Input: Inspection plan (containing information of step 1a, 1b and 1c) including the inspection programme.

Output: Conditions to execute inspections.

3.7 Execution and Reporting (box 3)

In this step the inspections are actually carried out: the various inspection activities (aimed at compliance checking and compliance assistance) are prepared and executed. Traditional inspection activities are the (physical) routine (site) inspections, non-routine (site) inspections and investigations of incidents. Many of these activities can and should be executed according to standard protocols and working instructions (that have been developed in the previous step). The cooperation and information exchange with partner organisations is also part of this step.

Information on the inspection activities carried out, their results and their follow up (imposed sanctions) should be stored in an accessible database.

Execution should at least cover (in no order of preference)

- Routine site visits
    - Examining environmental impact by following:
        - Inspection programme
        - EC legal requirements
        - Organisational arrangements of inspectorate
    - Promoting and reinforcing knowledge and understanding of operator
    - Evaluating permits and authorisations
    - Monitoring of emissions
    - Checks of internal reports
    - Follow-up documents
    - Verification of self-monitoring
    - Checking of the techniques used
    - Adequacy of the environment management of the installation
    - Additional inspection (follow-up inspection) in case of an important non-compliance has been identified (within 6 months after the initial inspection)
- Non-routine site visits
    - Complaints
    - Accidents and incidents
    - Occurrences of non-compliance
    - (The need for) issuing a new permit
    - (The need for) revising the permit
- Investigation of accident/incident / occurrence of non-compliance
    - To clarify the cause and its impact
    - Responsibilities, liabilities and consequences
    - Forward conclusions to the inspecting authority
    - Follow up that has to be taken

> **Industrial Emission Directive**
>
> Article 3(22):
> 'Environmental inspection' means all actions (including site visits, monitoring of emissions and checks of internal reports and follow-up documents, verification of self-monitoring, checking of the techniques used and adequacy of the environment management of the installation) undertaken by or on behalf of the competent authority to check and promote compliance of installations with their permit conditions and, where necessary, to monitor their environmental impact.

> **Industrial Emission Directive**
>
> Article 23(5):
> Non-routine environmental inspections shall be carried out to investigate serious environmental complaints, serious environmental accidents, incidents and occurrences of non- compliance as soon as possible and, where appropriate, before the granting, reconsideration or update of a permit.

- Actions to mitigate / remedy the impact
- Actions for prevention
- Actions taken by the operator
- Actions and enforcement actions
- Other compliance checking and compliance assistance activities like:
  - remote monitoring (on-line inspections)
  - theme inspections
  - surveillance
  - remote sensing assessing operator monitoring data
  - organising information campaigns.

It goes without saying that non-compliances identified during inspections need to be followed up. However in the case of a serious non-compliance (see annex VIII on graduation of non-compliances) an additional inspection has to be executed within 6 months.

Reporting should at least cover (in no order of preference)

- Reporting
  - After a site visit;
  - Process/ store inspection data;
  - Evaluation for further actions;
  - Finalised a.s.a.p.
  - Keep record of reports;
  - Accessible database;
  - Notified to the operator (within 2 months after an inspection is completed);
  - Publicly available (within 4 months after an inspection is completed).
- Exchange information with partner organisations

The audience of the inspection reports can be broad. Besides the inspectorate and the operator, also other competent authorities, ministries, public and the European Commission could be interested in the results of the inspection.

A report should therefore be written in plain language

> **Industrial Emission Directive**
>
> Article 23(4):
> 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.

> **Industrial Emission Directive**
>
> Article 23 (6):
> Following each site visit, the competent authority shall prepare a report describing the relevant findings regarding compliance of the installation with the permit conditions and conclusions on whether any further action is necessary.
> The report shall be notified to the operator concerned within 2 months of the site visit taking place. The report shall be made publicly available by the competent authority in accordance with Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information (OJ L 41, 14.2.2003, p. 26) within 4 months of the site visit taking place.
> Without prejudice to Article 8(2), the competent authority shall ensure that the operator takes all the necessary actions identified in the report within a reasonable period.

and not too technical. Commercial confidentiality and National security are also issues to take into account before publishing the report. Because of this, it may be considered appropriate to make specific reports excluding these issues available for external use (public). These summary reports could then be used without prejudice if non-compliance leads to a possible court case. Otherwise, the requirement to make a report publicly available within 4 months could easily be passed before while the outcome is being investigated by the inspectorate.

The lay-out of an inspection report that can be made publicly available can be found in annex IX

Input: Inspection schedule and execution frame work.

Output: Inspection activities and the results.

3.8 Performance monitoring (box 4)

The inspecting authority should act on the basis of systematic monitoring of the inspection and enforcement process and its result and effects.

Performance monitoring is necessary so the inspecting authority can report internally or at national or EU-level and check if objectives and targets have been met. It is important to use meaningful performance indicators to assess the effectiveness of the inspection plan. Insight into their effectiveness can help to determine which tools and strategies are working best to ensure compliance and to allow the public and stakeholders to examine whether the inspecting authority is meeting its responsibilities. This monitoring can take place on different levels.

On the inspection schedule level, regular monitoring of progress should be carried out in relation to performance indicators (e.g. planned number of inspections vs. actual inspections carried out). This should inform execution of the schedule and may be carried out for example on a six-monthly or quarterly basis. This should also include monitoring of actions taken as result of inspections or complaints e.g. legal notices issued.

Performance monitoring should also take place at a higher level in relation to the success of the plan. This could include measurement against plan outcomes, against the objectives and measurable targets (e.g. general environmental improvements, increase in compliance rate), and external reporting of plan outputs/outcomes to national or EU level etc.

Performance monitoring should at least cover (in no order of preferences):

- Monitoring
    - o Performance of staff (output)
    - o Monitoring of the results (outcome)
- Accounting for effort, performance results
    - o Annual reports
    - o Report on agreements with other inspecting organisations
    - o Input in the regulatory cycle
    - o Feedback on the results and recommendations
- Comparing and auditing
- External reporting
    - o Available to public
    - o Region and local level to public and National level
    - o National authority to Commission,
    - o Data about staffing and resources
    - o Role and performance in relation to inspection targets
    - o Summary of the inspections carried out
    - o Degree of compliance
    - o Actions taken as result of complaints, accidents and incidents
    - o Actions taken as result of occurrence of non-compliance

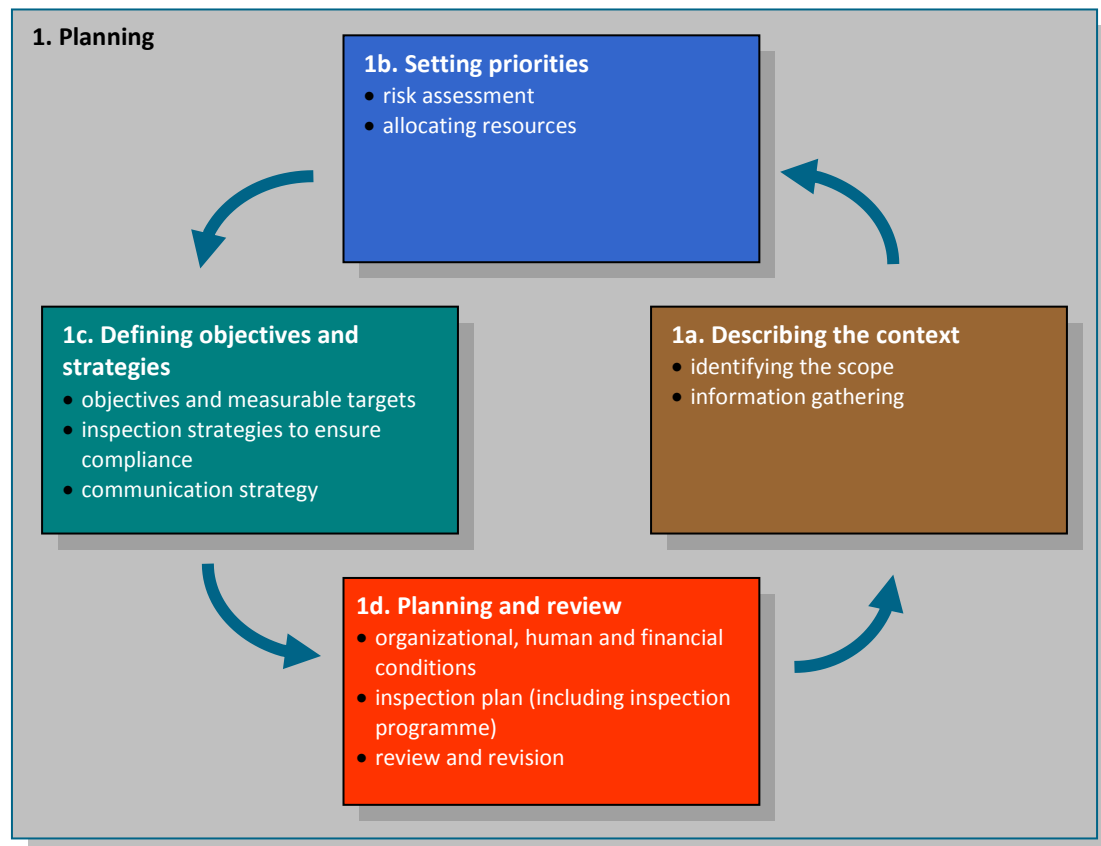|	
Input:	Information on inspection activities and their results.
Output:	Information for the review of the inspection plan (the outcome) and the inspection schedule (output) and reports for external use.

4 The Planning Cycle

4.1 Introduction

In sections 3.2 to 3.5 we gave a description of the four steps that form the planning cycle.

In the next 7 sections we will discuss in more detail these four steps. Within these steps different elements can be distinguished. The figure in the right upper corner at the beginning of each section indicates the position of the element in the planning cycle.

1. Planning

1b. Setting priorities
- risk assessment
- allocating resources

1c. Defining objectives and strategies
- objectives and measurable targets
- inspection strategies to ensure compliance
- communication strategy

1a. Describing the context
- identifying the scope
- information gathering

1d. Planning and review
- organizational, human and financial conditions
- inspection plan (including inspection programme)
- review and revision

4.2 Identifying the scope

Identifying the scope is part of box 1a "Describing the context".

This element is about identifying the areas and activities that should be looked at in the further stages of the planning process and sets the scope of the inspection plan. Together with the element "information gathering" (section 4.3) it provides the input for the risk assessment.
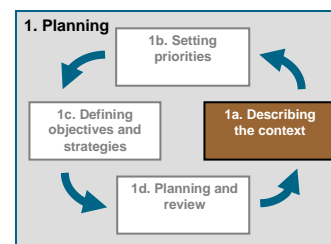
The next table gives a list of all the relevant factors that the inspecting authority may have to consider when making the inventory.

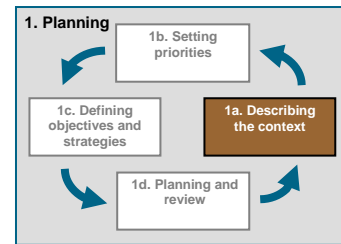*Table with relevant factors for identifying the scope*

Relevant factors in identifying the scope are (in random order):

- Geographical area for which the inspecting authority is competent
- Mission and goals[2] (in general) of the inspecting authority
- The environmental outcome the inspecting authority is trying to achieve
- Statutory tasks, competences and measures to enforce of the inspecting authority
- Applicable legislation, either originated from a EU-, national- or regional level, against which the inspecting authority is competent to inspect
- Obligations to inspect, laid down in specific (EU-)legislation
- Established environmental (national) policy and priorities
- Interests of stakeholders (e.g. NGO's, branches of industries)
- Public opinions
- Register of activities and installations for which the inspecting authority is competent to inspect (the level of detail needs to be tailored for the Member State):
  - o   Sectors of industries
  - o   Types and sizes
  - o   Numbers and geographical distribution of installations
- Relevant environmental issues (water, air, safety, etc) for which the inspecting authority is competent to inspect
- The inspection resources (financial and human) that are available for the inspecting authority
- Types of inspection activities (control, compliance promotion, information transfer etc) to be covered

Industrial Emission Directive

Article 8:
1. Member States shall take the necessary measures to ensure that the permit conditions are complied with.

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[2] From the document Minimum Criteria for Inspections - Planning and Reporting of Inspections: "The goals of the Inspecting Authority will vary depending on the unique set of circumstances that exist in the area of jurisdiction. Examples of the goals determined may include the improvement of the environment, a reduction in the number of pollution incidents, fish kills or complaints in addition to increased compliance within a given industrial sector"

4.3 Information gathering

Information gathering is part of box 1a "Describing the context".

This element is about collecting more detailed information that is needed to carry out the risk assessment on the areas and controlled activities/installations that were identified in Section 4.2. It provides the <u>input</u> for the risk assessment. In other words information which enables the authority to estimate and weigh the different risks connected to these areas and activities in order to assign priorities to certain areas and activities.

1. Planning		
	1b. Setting priorities	
1c. Defining objectives and strategies		1a. Describing the context
	1d. Planning and review	

Input → Risk Assessment → Output

Information on the following issues may be relevant in this respect:

<u>Environment</u>
- Environmental issues (environment, safety, public health, nature) particularly relevant for the area concerned
- Information on the state of and trends in the (ambient) environment (e.g. data from national or regional networks of pollution control sampling stations or monitoring devices)

<u>Installations</u>
- Sector-specific issues/needs, e.g. expertise, attitude, culture, compliance behaviour and economics of (industrial) target groups
- Information on the numbers, location and the branches of small and medium sized enterprises in the area that are regulated and falling under the scope of the inspection plan
- (Minimum) frequency of inspections based upon (national) legislation or national or local goals.
- Information on individual controlled activities/installations, such as information on:
  - o Legal requirements and permit situation
  - o Emissions/discharges (results from emission monitoring), environmental impact, risk, accidents/incidents
  - o Complexity of installation
  - o Location of installation
  - o Compliance record / behaviour (inspection history)
  - o Performance record (e.g. Environmental management systems, self monitoring and reporting, safety management systems, audits, experiences of inspection authorities)
  - o Relevant complaints

<u>General</u>
- Changes in legislation that need to be implemented

- Quality and enforceability of the requirements in legislation or permits
- Research on types of industry, objects and spatial planning done by third parties (e.g. Universities, Statistical boards or other Inspectorates)
- Coordination and cooperation with other (inspection) authorities
  - o Feedback and evaluation of past inspections
  - o Likelihood of offences (e.g. is there a big financial profit for not complying to legislation)

Table with relevant information

To gather, store and use all this information the inspecting authority should have an effective data management system. Software applications are a useful tool in this regard. It is important to keep these information systems updated. For example after every inspection, when installations have been changed or when complaints are received or accidents have occurred.

4.4 Risk assessment and allocating resources

Risk assessment and allocating resources is part of box 1b "Setting priorities" and involves analysing and determining the risks (this includes expert opinion), and defining frequencies and inspection time.
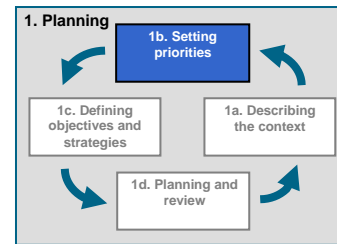
4.4.1 Risk assessment

There are many definitions for the concept "Risk".

For assessing risks of industrial activities we use the following definition: The Risk of an activity in inspection planning is defined as the (potential) impact of the activity on the environment or the human health during periods of non-compliance with the regulations by law or permit conditions
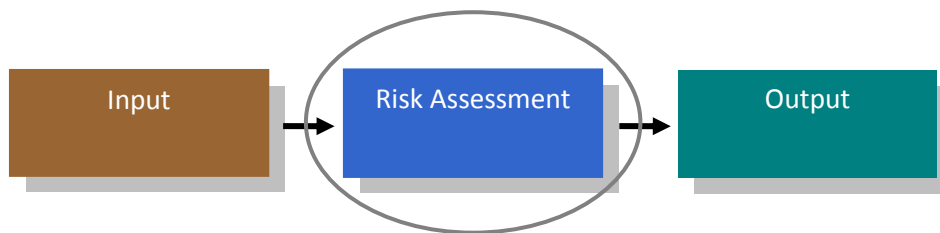
To begin, it is necessary to make some basic assumptions and to define concepts:

Risk is a function of the severity of the consequence (the effect) and the probability this consequence will happen: Risk = f (effect, probability)

In this guidebook, Risk is defined as:

$$\text{Risk} = \text{Effect} * \text{Probability}$$
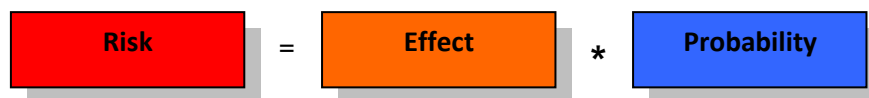
Effect depends on the source (how powerful is it?) and on the receptor (how vulnerable is it?); What is the impact of the source on the receptor? In this guidebook, effect is represented by **Impact Criteria[3].**

Probability is considered to be a function of the level of management, the level of compliance with laws, regulations, permits, attitude, the age of the installation, *etc.* In this guidebook, probability is represented by **Operator Performance Criteria.**

In this section Impact criteria, Operator Performance Criteria and the methods to determine the risk will be further explained. Because not all the criteria will have an equal importance we also address the topic weighting here.

Industrial Emission Directive

Article 23(4):
The systematic appraisal of the environmental risks shall be based on at least the following criteria:
(d) 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;
(e) the record of compliance with permit conditions;
(f) the participation of the operator in the Union eco-management and audit scheme (EMAS), pursuant to Regulation (EC) No 1221/2009(1)

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[3] *We realize that in this concept, Impact criteria can also include some probability.*

Impact Criteria (IC)

Risk	=	**Effect**	*	Probability
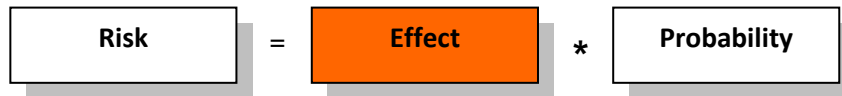
To assess the effect, the object is rated against impact criteria. The impact criteria can differ between inspecting authorities and tasks. When assessing the risk for IPPC (IED) installations examples of appropriate impact criteria include:

- Quantity/quality of air pollution
- Quantity/quality of water pollution
- (Potential) pollution of soil and ground water
- Waste production or waste management
- Amount of dangerous substances released? Present?
- Local nuisance (noise, odour)

In annex III, you will find a full list of impact criteria that could be used.

In assessing the impact, the severity of the consequence and the vulnerability of the receptor are taken into account.

> Please note that in order to account for both the magnitude of the emission and the sensitivity of the receptor, you must use 2 impact criteria for that item, e.g. Air:
> - IC1 = amount of the substance that is emitted
> - IC2 = the distance and vulnerability of the surroundings

Operator Performance Criteria (OPC)

Risk	=	Effect	*	**Probability**
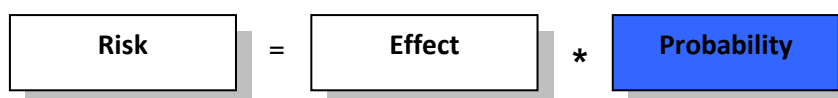
Probability is considered to be influenced by the quality of management, the level of compliance with laws, regulations, permits etc., the attitude of the operator, the age of the installation, etc. To take this into account, the object can be scored against operator performance criteria, e.g.:

- Attitude
- Compliance record
- The implementation of an environmental management system e.g. EMAS
- Age of the installation.

Operator performance criteria can influence the risk in a positive way (good compliance) or in a negative way (age of the installation).
In annex IV, you will find a full list of operator performance criteria that could be used.

Determination of the risk category

Different methods for risk based approach are being used across Europe. These methods can be classified in three groups: Linear Mean Value; Mean Value of Risk and; Maximum Value.

All systems work either with a database or a spreadsheet within a network or in a stand-alone system. Although most methods and tools are a copy from systems used in other organizations or Member states they all have been tailor made to fit the exact needs of the inspecting authority. There are no good or bad systems. They come with their own advantages and disadvantages.

Types of Risk Assessment Methods
1. Linear Mean Value: Risk = $(C_1W_1 + C_2W_2 + … + C_nW_n)/n$
2. Mean Value of Risk: Risk = $(C_1W_1 + C_2W_2 + … + C_nW_n)/n * P$
3. Maximum value : Inspection frequency = $Max(IT_1,IT_2, …,IT_n)$

C = impact criterion
W = weighting factor
P = probability of occurrence
Max = maximum of
IT = inspection task with fixed frequency

Rule based method (IRAM)

The Rule based method, IRAM (Integrated Risk Assessment Method) was developed by the IMPEL easyTools project team by combining the advantages of the three methods, while limiting the disadvantages.

IRAM also differentiates between impact criteria, probability criteria and risk categories. The scores of the impact criteria are directly linked to the risk categories and therefore to the inspection frequencies, similar to the maximum value method. In the maximum value method a specific inspection task - such as Seveso inspections - induce the highest inspection frequency, but in IRAM the inspection coordinator decides before the start of the assessment how many highest scores of an inspection task are needed to induce the highest inspection frequency. Within IRAM this is called "The Rule". The more impact criteria are used for the assessment the higher the number of highest scores that is "necessary" to induce the highest inspection frequency. This is a clear difference to the mean value methods; the highest scores cannot be levelled out by low scores of other criteria. IRAM comes with 4 important principles, see box below.

IRAM Principles
1. The inspection frequency is determined by value of the highest score;
2. The inspection frequency is reduced by one step, if the set minimum number of highest scores (called "the Rule") is not met;
3. The inspection frequency can be changed by only one step up or down based on operator performance;
4. The higher the sum of scores, the longer the inspection time.

A detailed description of all the steps within IRAM can be found in annex I.

Example Impact criteria and setting the Rule:

In the risk assessment for inspection object 1 and 2 the highest score for all impact criteria is "5" which equals to the highest risk category and the highest inspection frequency of (for instance) once a year. If the minimum number of highest score is 2, the inspection frequency of once a year is induced when at least two impact criteria have a maximum score of "5". In that case the risk category is also "5". If only one impact criteria has the maximum score of "5" the risk category will be lowered by one step to "4" and the inspection frequency is less than once a year.
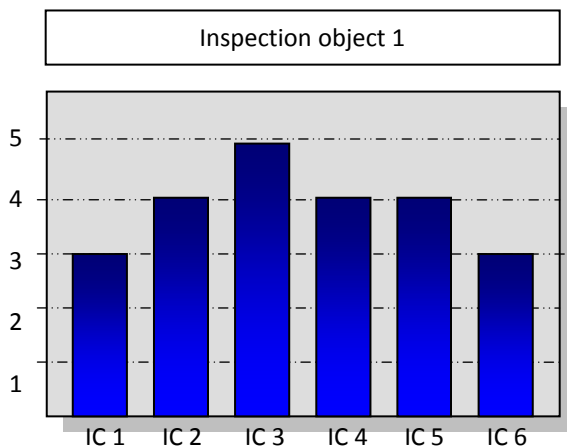
Inspection object 1

If the rule ="1", "only one highest score is enough", then the Risk category = 5

If the rule ="2", "two highest scores are needed", then the Risk category is lowered by one step (Risk category = 4).

If the rule = "1", "only one highest score is enough", then the Risk category = 5;
If the rule = "2", "two highest scores are needed", then the Risk category stays 5;
If the rule = "3", "three highest scores are needed", then the Risk category is lowered by one step (Risk category = 4).

Inspection object 2
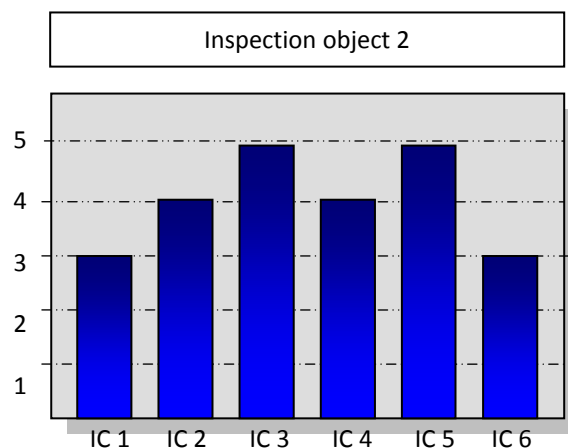
In IRAM, the operator performance criteria (OPC) are used as probability criteria. Their role is to shift the Risk category and therefore the inspection frequency. In case of good operator performance the shift will be to a lower inspection frequency and in case of bad operator performance the shift will be to a higher inspection frequency. For this reason the operator performance criteria can be scored with "-1" (good), "0" (moderate) and "+1" (bad). In case of good operator performance one point is subtracted from each impact score and in case of bad operator performance one point is added to each impact score. By introducing these probability criteria, the impact scores are transformed into risk scores.

As a result the inspection frequency will be one step lower or respectively one step higher. In case of more than one operator performance criterion the result of the scoring will be the average of all OPC scores, rounded to the integer. This avoids that the shift of the inspection frequency will be bigger than one step.

Example Probability Criteria

In the next 2 examples the role of the Probability Criteria becomes clear. The influence of a good or bad operator performance is explained for inspection object 1 and 2.

The operator performance of inspection object 1 is good: OPC = "-1"
This means: 1 point is subtracted from each impact score and the he impact scores are turned into risk scores.
Assume the rule = "1", then one highest score is enough", so the Risk category = 4

| Inspection object 1 | → | Inspection object 1 (OPC = -1) |
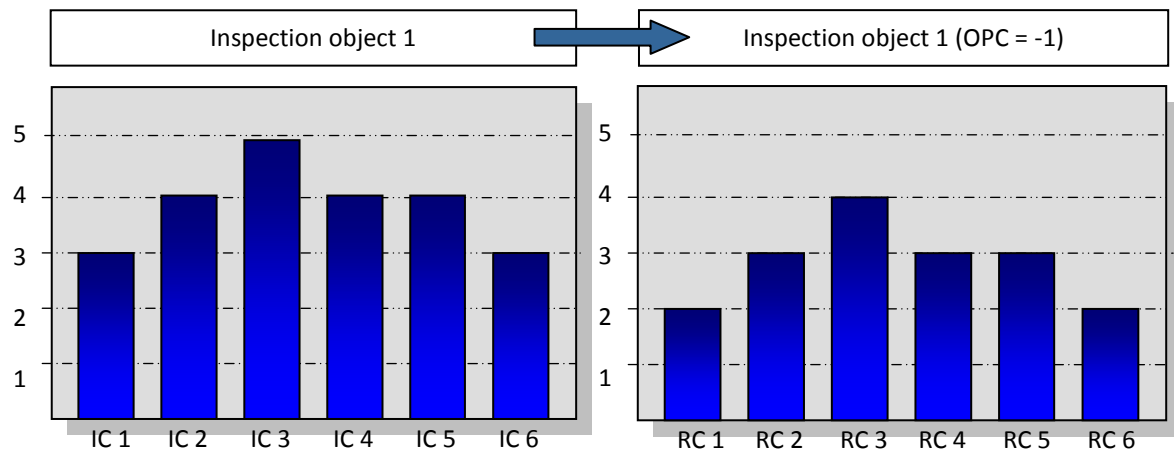
The operator performance of inspection object 2 is bad: OPC = +1;
This means: 1 point is added to each impact score.
Assume the rule ="1" again, then one highest score is enough, so the Risk category = 6.

| Inspection object 2 | → | Inspection object 2 (OPC = +1) |
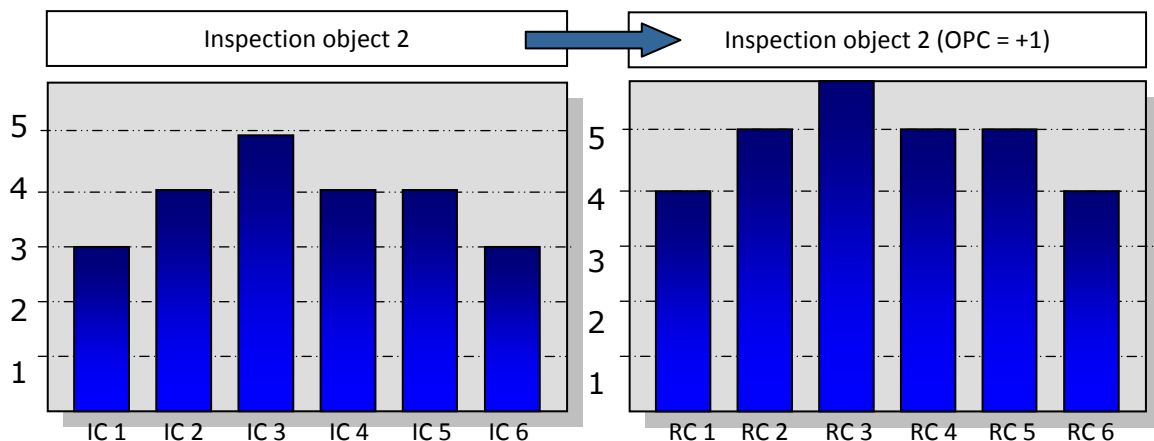
Note that if the maximum risk category was defined to be 5, then the final risk category for this inspection object will be the maximum = 5.

If so desired, the inspection authority can decide on a higher inspection frequency for this specific inspection object.

The result is a Risk profile that could be used by the inspector to choose the most important subjects for inspection.

Frequencies of site visits in IED

After assessing the risk of an inspection object and calculating the risk category, an inspection frequency can be assigned to the inspection objects.

Legal obligations with respect to the minimum inspection frequency per inspection object need to be taken into account. The IED sets the minimum site visit frequency for lowest risk installations at 1 inspection in 3 years and for highest risk installations at 1 inspection a year.

> **Industrial Emission Directive**
>
> Article 23(4):
> 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.

To make sure we comply with these legal obligations IRAM introduces a so called "safety net". This safety net will ensure that the inspection frequency for this inspection object will never be lower than the legal minimum inspection frequency.

Inspecting authorities should be aware that in order to do a risk assessment, up-to-date information is needed, including data on low risk installations/activities, gathered through inspections (e.g. minimum inspection frequency).

4.4.2   Allocating resources

As described above the outcome of the risk assessment sets the frequency of inspections. The frequency however doesn't tell us how much time we need for an inspection. A very complex inspection object may take more time to inspect than a simple object. Besides technical complexity we also have to take into account the scope of the inspection: will it be a fully integrated inspection or an inspection only on the most important environmental issues? This last part of complexity, the inspection profile, can be included in a risk assessment model and will give information on the question "how much time will this take me".

Example inspection profile

Inspection object 1 scores high on several impact criteria:

Inspection object 2 scores high on just one impact criterion:
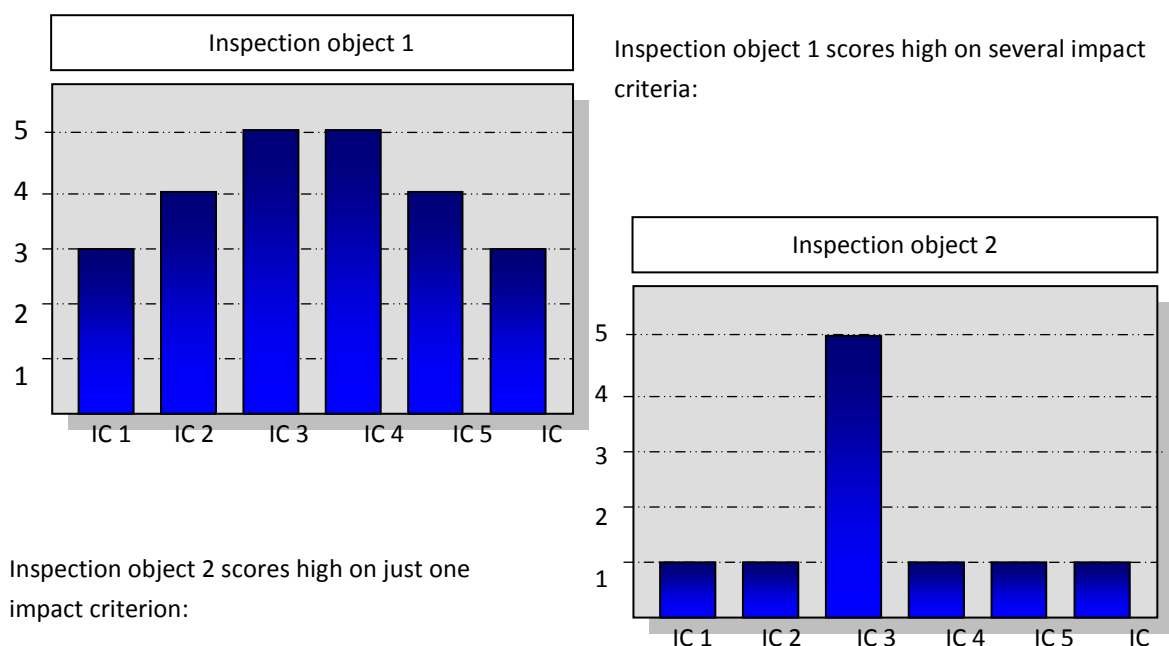
The (theoretical) maximum of all the scores = 5 + 5 + 5 + 5 + 5 + 5 = 30

The sum of the scores of inspection object 1 = 3 + 4 + 5 + 5 + 4 + 3 = 24 (= 80% of 30)

The sum of the scores of inspection object 2 = 1 + 1 + 5 + 1 + 1 + 1 = 10 (= 30% of 30)

"How much time will this take me" is reported in IRAM as an inspection %. The way to implement the inspection % is to define ranges or inspection effort categories.

Example inspection effort category

Here the inspection % output is reported as a range of 4 categories in 25% increments. The highest range (100%-75%) is termed 'D' and the lowest (0%-25%) is 'A'. If the required inspection time for a full integrated inspection would be 40 hours then:

Calculation	Resulting inspection effort category
Inspection object 1 requires 24/30 = 0,8 = **80 %** of 40 hours	Category D
Inspection object 2 requires 10/30 = 0,36 = **30 %** of 40 hours	Category B

- **Integrated inspections** might be directed where the inspection profile is larger than 50% (i.e. Categories C&D)
- **Inspection on themes** (e.g. inspection focussing only on Impact Criteria 3 above) might be directed where the inspection profile is lower than 50% (i.e. Categories A&B)

In addition to the required inspection time that is allocated to the different inspection objects, the inspection authority can also use the "inspection profile" to determine the focus of the inspection.

Example inspection focus

For object 1 this would be the environmental aspects under impact criteria 2, 3, 4 and 5, while the inspection for object 2 focuses on the aspect under impact criterion 3.

Another way to deal with complex inspection objects such as object 1 is to work with a multi annual inspection plan:

  IC3 and IC4 are inspected every year;

  IC2 and IC5 are inspected every second year additionally;

  IC1 and IC6 are inspected every third year additionally

Industrial Emission Directive

Article 23 (1):

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.

Normally the total amount of staff available is limited and does not necessarily match with the staff time needed for carrying out all prioritised inspection activities. It is important that we bridge this gap along the planning process and that we give account for this in the inspection plan. We can choose to adjust our priorities. But we may also want to adjust our targets or inspection strategies for certain prioritised inspection activities, or to reconsider the inspection schedule.

In any case we need to know the total staff time needed to perform all the prioritised inspections. And we must assess the average amount of time required for carrying out different types of inspection activities. For instance we need to know for each type of controlled installation the

average time needed for performing a certain type of routine inspection, including preparation, travelling, the actual site visit, reporting, (possible) enforcement actions and court cases. The enforcement actions (e.g. sanctions or repressive actions) cannot be planned in advance and average time based on experience has to be used.

This will be dependent on the size and complexity of a certain type of installation and the average compliance record of the sector, etc[4].

In addition to the inspections outlined above, we must include information on staff time which is needed for administrative and legal support and for follow up actions (e.g. enforcement actions). Often a simple percentage of the total inspection time is taken for this.

Resources will also have to be allocated for non-routine inspections (e.g. responding to complaints and accidents). It is important to reserve an amount of time for non-routine inspections. On average the amount of time needed for non-routine inspections could be between 20% and 40% of the total time of an inspectorate. The exact percentage is to be determined by experience, achieving a good balance between routine and non-routine inspections.

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[4] Inspection units can be useful here. Inspection units can be defined as logical units that are dimensioned in such a way that 1 inspector is able to carry out an inspection within a given time.

4.5 Objectives and measurable targets

Objectives and measurable targets are part of box 1c "Defining objectives and strategies".

The priorities that we have set in the previous chapter tell us what activities/installations need our attention. Having set these priorities it is now time to define the objectives and targets.
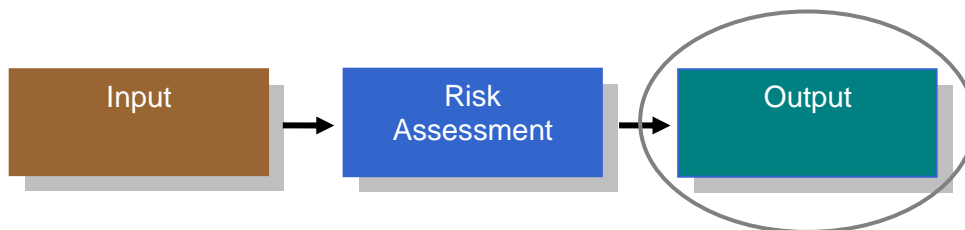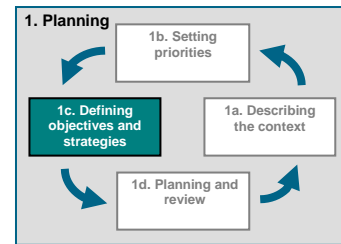
The objectives that we define here should not be confused with the overall goals that inspecting authorities have to take into account as part of the context (Section 4.2) and are input for the risk assessment.

4.5.1 Setting targets on inputs and outputs

Over recent years inspectorates have become increasingly interested in steering and assessing their performance. IMPEL concluded in 2012 a project on the use of qualitative and quantitative assessment tools and their associated indicators[5]. The report of that project examines the use of various tools, targets and indicators to (I) compare inspectorates, (ii) provide assurance that inspectorates are capable of meeting certain minimum standards, and (iii) allow an inspectorate to assess its own performance in order to drive improvements (business efficiency).

At its most straightforward, an inspectorate can assess its performance against targets on inputs and outputs. Targets on inputs could for example relate to a certain amount of staff time to be allocated to specific supervision activities. Targets on outputs could, for example, relate to the number of site inspections to be carried out, or the number of emission reports to be validated within a certain time period. These indicators help to steer the timely delivery of the planned activities without exceeding the allocated resources. These targets can be periodically adjusted to increase the amount of activity for a set level of resource or to maintain the level of activity against a reduction in available resource. Managing performance against input and output targets in this way encourages an inspectorate to carry out its work in a planned and efficient way. However, that's not to say that the activities that the inspectorate has chosen to undertake and measure will necessarily be the most effective in terms of achieving Policy or environmental outcomes. Using appropriate input and output targets can be useful but inspection authorities need to recognise the risks and limitations of over-reliance on them. If used without any reference to outcomes they can simply lead to an inspectorate doing ineffective activity more efficiently.

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[5] Exploring qualitative and quantitative assessment tools to evaluate the performance of environmental inspectorates across the EU. Report 2011/08

4.5.2 Setting targets on outcomes

Inspection authorities need to show that they are effective, that their activities solve problems, prevent harm or lead to environmental improvement. Authorities that are unable to show how they make a positive difference may face budget cuts or even run the risk of discontinuation. For that reason authorities may want to introduce **targets describing certain desired outcomes** and assess their efforts against these targets. The challenge here is to identify outcomes that are relevant, that can be influenced by the inspection authority's activities, and that are capable of being measured.

To illustrate the use of the terms "objectives "and "targets on outcome" we can consider a simple situation where an inspection authority wants to see an improvement in the quality of water in local rivers; that's the outcome and can be set-out as an objective. The objective could be expressed qualitatively – that the rivers are to be capable of supporting certain species of fish, or quantitatively – that the concentration of key pollutants does not exceed a particular level. This would be an appropriate objective if the inspection authority can influence the outcome. In this example, the outcome is realistic if we assume that the water quality is mainly influenced by discharges from regulated facilities and that if all of these facilities complied with their permit conditions the objective would be met. This suggests that an appropriate target on outcome would be for the inspection authority to ensure compliance with discharge limits from facilities it regulates. [6]

In the real World, some authorities are nervous about setting targets that they are not completely and exclusively in control of. They are worried that they will be criticised if targets are not met because of an unpredictable incident for example. However, it is extremely unlikely that an inspectorate will ever define outcomes that are completely in its control. What matters is that their work is targeted at achieving the desired outcome and that deviations caused by external factors are understood and can be explained. Equally important is that an authority both internally and externally communicates clearly on outcomes achieved and how and to what extent its works has contributed to these. An authority can and should claim successes when it can show that its efforts have led to concrete results.

Inspection authorities can decide to use targets on outcomes in combination with targets on inputs and outputs. Targeting and monitoring inputs can help an authority to show "the price" for achieving certain outcomes or how efficient certain inputs are in relation to the achieved outcomes. Targeting and monitoring outputs can help an authority to demonstrate the effectiveness of certain actions carried out in relation to the outcomes achieved. The main focus of this guidance is however on setting targets on outcomes.

It should be noted that in practice not all inspection time will be spent on planned activities and not all planned inspections activities will be linked to targets as defined in the guidance. It should be noted that inspection authorities have to set their targets taking into account the obligations under the IED.

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[6] Note that in the IMPEL project report, mentioned in section 2.1 and footnote 2, the distinction is made between "final outcome" and "intermediate outcome". One could argue that in the terminology of this guidance an **objective** describes a desired final outcome, like a certain improvement of the environment. A **target (on outcome)** describes a desired intermediate outcome, in terms of a certain improvement in compliance leading to the final outcome of improvement of the environment. We have chosen not to use the terms final outcome and intermediate outcome in this guidance, but to stick to the terms objectives and targets as defined in the "Doing the right things" Guidance Book.

It is also important to stress here that inspection authorities primarily exist to ensure compliance with environmental legislation and their interventions are geared to that aim. Compliance behaviour can be directly influenced by supervision interventions, although there are other factors that influence compliance too. Better compliance can in turn lead to an environmental improvement. It therefore makes sense to set targets which are directly or indirectly related to safeguarding or improving compliance.

Improving compliance becomes particularly meaningful when it leads to solving actual environmental problems or reducing actual environmental risks. When an authority decides to start steering (part of) its activities on the basis of outcome targets, it is important that it makes the right choices. It needs to make sure that it has a clear understanding of the legislation for which it is competent, its mission and tasks, and the goals towards which it wants to strive. It should also have reliable, evidence-based knowledge of the current state of the environment so that it can identify areas where environmental problems are occurring. There may be political or community pressure for the authority to take action in all of these areas without regard to their relative importance, their cause, the competence of the authority or the cost of intervening. It is therefore crucial that the authority gathers information to identify the causes of these environmental problems. In particular, it should examine the current state of compliance with relevant environmental legislation. In cases where the problem is significant and mainly the result of a lack of compliance the authority would want to intervene but will also need to consider the resources available to it and the relative importance of competing demands.

Equally, when new legislation comes into force, an inspecting authority may want to focus its interventions on those provisions in the new law where a lack of compliance poses the highest environmental risks. It can then set outcome targets stating a certain level of compliance with these provisions to be achieved within a certain period of time. Or when a law has been in force for some time but a certain target group systematically does not comply with certain provisions, thereby causing a high environmental risk, an authority can set a target stating a certain improvement in compliance within a certain period of time.

4.5.3 Compliance outcomes

This guidance focuses on targets related to the following types of compliance outcomes:

- ***improving compliance leading to an improvement of the environment***

  This is about raising compliance with certain environmental legislation across a particular target group within a defined period of time, resulting in a measurable improvement of the environment or solving a specific environmental problem.

- ***improving compliance leading to control or reduction of risks of environmental deterioration***

  This is about helping establish or improving compliance with certain environmental legislation in order to control or reduce the risks of environmental deterioration. Such a target may be helpful where new legislation is introduced or substantially amended and supervision efforts need to address the most urgent, high risk issues. Under legislation which has been in place for some time, there may be an urgent need to target supervision activities towards a high risk sector of industry with a documented record of sustained poor compliance. In that case a target could be to achieve gradually a higher percentage of all regulated facilities within that sector that comply

with certain specific regulatory requirements. Another target could be to reduce the recidivism rate within that sector i.e. the percentage of offenders in that sector that are found to have violated the law again during a specified observation period.

It is usually easier for an inspection authority to show how its interventions to tackle non-compliance have led to environmental improvements rather than how its work to maintain compliance have prevented harm. The community will usually recognise the cleaner air that results from a heavily polluting installation being brought into compliance with emission limits. In contrast, the authority's work in reducing the likelihood or consequences of another installation failing is unlikely to be noticed. One of the major challenges that all regulators face – and this applies beyond environmental inspectorates - is to effectively communicate about their work aimed at preventing harm and demonstrate that this work is effective.

The following figure shows examples of targets on inputs and outputs and the main outcome targets this guidance document is focussing on.
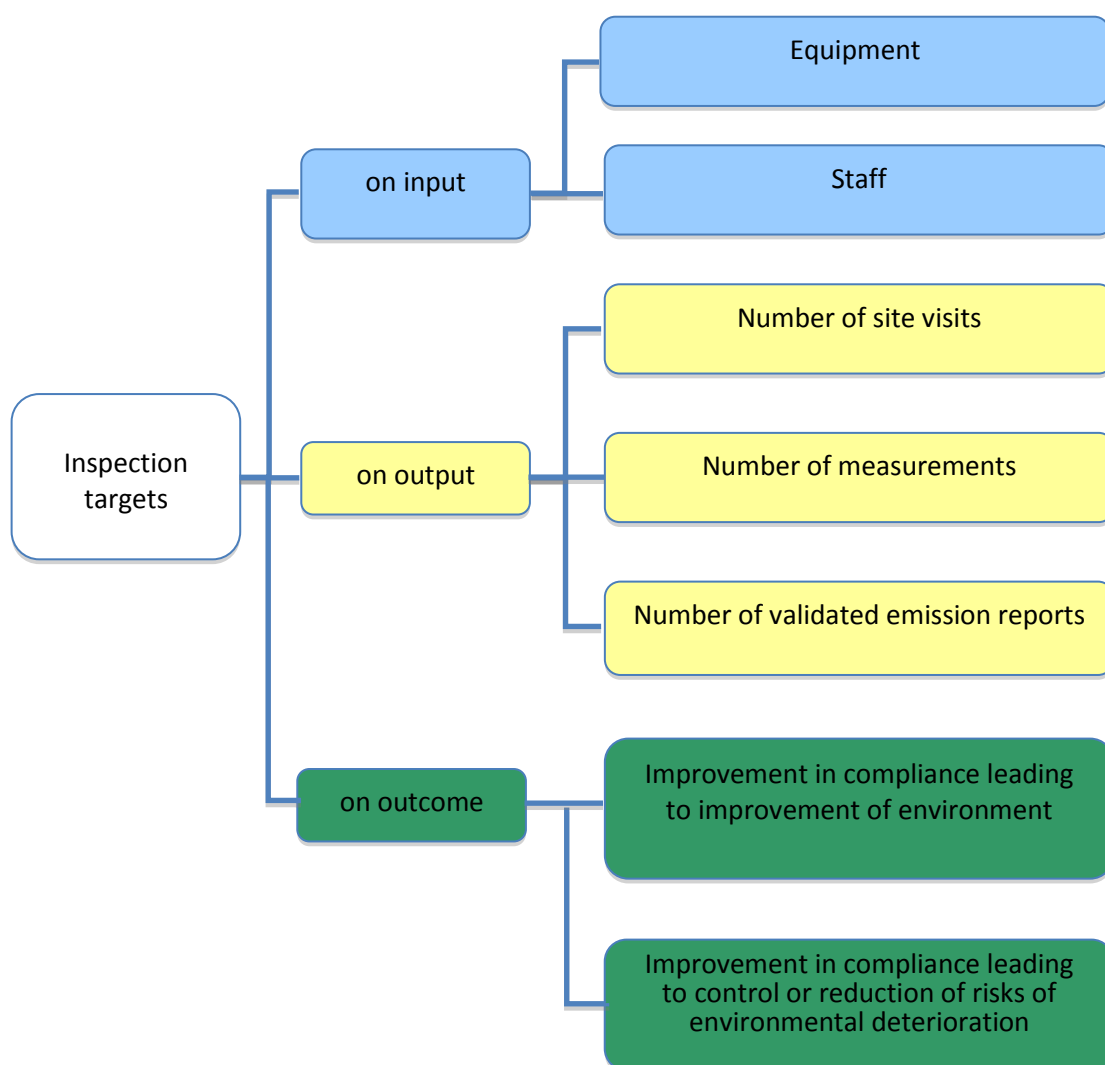
Since there may be a number of competing areas that the authority could improve through specifically targeted actions, it will have to set priorities, based on an assessment of the severity/scale of the environmental problem/risks in the areas concerned. Targeted interventions will often require substantial resources. The authority at this stage needs to make at least a rough estimate of what the special attention given to the selected high priority areas will cost. It also will have to take into account that some resources will be not available because they need to be allocated to non routine inspections. It may come to the conclusion that it would be more efficient to use the available resources for high priority areas other than the ones selected initially.

For the selected high priority areas where the authority can predict with a sufficient degree of certainty that compliance will move to a more satisfactory level within a certain period of time due to the authority's interventions, it can set targets. These will state a certain improvement of compliance or achieving certain compliance levels. The authority will also define related performance indicators to monitor on a regular basis the progress in achieving the targets. Before it can set meaningful and realistic targets the baseline situation has to be established; where is the authority starting from? Performance monitoring is only possible when both the baseline situation and target are sufficiently clear.

In order to achieve the target, the authority will have to determine the right intervention strategy, i.e. what mix of supervision interventions (activities) it will deploy. For determining the right strategy the authority needs to analyse what factors determine the (poor) compliance. At the stage of establishing the baseline situation it is often useful to gather in parallel more detailed information on the compliance behaviour of the target group which can be used as further input for determining the intervention strategy. It should be noted that when determining an intervention strategy, obligations by law to perform certain inspection activities, may limit the room to use different types of interventions.

To summarise

The two following schemes present the terms used and steps described above in a systematic order.

Describing the context	**Goals**	A goal states in general terms a situation or state of play the authority wishes to achieve. A goal is derived from the mission of the authority and is set on a strategic level.
Setting priorities	**Priorities**	Priority areas are identified on the bases of a risk assessment, looking at compliance and environmental impacts/risks.
	Resources	The final selection of priority areas will need to take account of the resources (money, staff, skills, equipment, etc) available.
Defining objectives and strategies	**Objectives**	An objective specifies a goal for a certain priority area.
	Baseline situation	Establishing the baseline situation refers to the process of defining the current situation /starting point from which the target can be defined.
	Targets / **Performance Indicators**	• A target is linked to an objective and defines a concrete outcome in terms of an improvement of compliance or of the environment. • Performance indicator on outcome: a quantitative or qualitative criterion stating a certain outcome at a certain moment, used for monitoring and demonstrating progress in achieving a target.
	Strategies	The mix of interventions that aim at influencing the compliance behaviour and engaging stakeholders to help achieving the target.
Planning-execution	**Planned/ implemented**	The inspection plan describes the objectives, targets, indicators and strategy; the inspection schedule describes the planned actions. Planned actions are implemented during execution.
Performance monitoring	**Monitoring with Performance Indicators**	Performance is monitored on the basis of data gathered during execution and with the use of performance indicators previously defined. The results of the monitoring may trigger a review/revision of the targets, strategies, actions and inspection plan for the next year.

1B. Setting priorities

Priorities

Resources

1C. Defining objectives and strategies

Objectives

Baseline situation

Targets & Performance Indicators

Strategies

1A. Describing the context

Goal

1D. Planning and review

Planned Actions

4. Performance Monitoring

Monitoring with Performance Indicators

2. Execution Framework

**3. Execution and Reporting**

Actions

4.6 Strategies

Strategies are part of box 1c "Defining objectives and strategies".

Inspection strategies to ensure compliance

In order to actually achieve a certain target we need to determine what inspection activities in that particular case have the greatest positive effect on compliance. By doing so we can further determine
the resources needed and use our resources in the most effective and efficient way. In many cases a mix of activities is the most appropriate strategy. In some cases however an inspecting authority may be limited in its choices because it is obliged to perform specific inspection activities, based on national legislation.
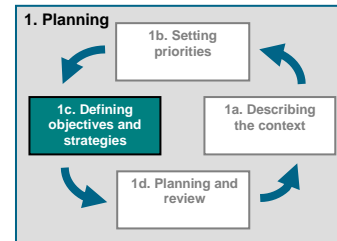
An inspection strategy to help ensure compliance may include:

- specific ways of compliance checking (e.g. certain routine and non-routine inspections, in-depth investigations, verification of self monitoring data),
- specific compliance promotion activities,
- specific approaches and ways to remedy and sanction (repeated) non-compliances.

To determine the best inspection strategy it can be useful to assess the following elements:

Industrial Emission Directive

Article 3(22):
'Environmental inspection' means all actions (including site visits, monitoring of emissions and checks of internal reports and follow-up documents, verification of self-monitoring, checking of the techniques used and adequacy of the environment management of the installation) undertaken by or on behalf of the competent authority to check and promote compliance of installations with their permit conditions and, where necessary, to monitor their environmental impact.

Element 1
Clearly define the target group and the rules they have to comply with.

Element 2
Gather information about the compliance behaviour of the target group.
The aim is to get an insight into the target group compliance behaviour and the motives for that behaviour.
The following factors may influence the compliance behaviour of the target group:

- The familiarity with and clarity of legislation among the target group.
- The tangible/intangible advantages and disadvantages arising from compliance or non-compliance with the rule(s), expressed in time, money and effort.
- The extent to which the policy and legislation is considered acceptable by the target group.
- The extent to which the target group respects the government's authority.
- The risk, as estimated by the target group, of positive or negative reactions on their behaviour from others than the authorities. The risk, as estimated by the target group, of a violation detected by persons or bodies other than the authorities, being reported to a government body.
- The risk, perceived by the target group, of an inspection by the authorities.

- The risk, as estimated by the target group, of a violation being detected in an inspection carried out by the authorities.
- The perceived risk of inspection and detection of a violation resulting from being selected for inspection out of a larger population.
- The risk, as estimated by the target group, of a sanction being imposed if an inspection reveals that a rule has been broken.
- The severity and nature of the sanction associated with the violation and additional disadvantages of being sanctioned.

Table 8, factors that influence compliance behaviour

Element 3
Determining the inspection strategy

Based on insights on the compliance behaviour the proper inspection strategy can be determined. Generally speaking the strategy will depend on the specific tendency of the target group to comply or not to comply and the factors that lead to this tendency. The figure here below shows a general distinction in tendencies, motives and strategies.

	Not knowing	Not able to	Not willing
Inclination to comply	Advise	Facilitate	Reward or tempt
Inclination to violate	Advise in combination with inspection and enforcement	Facilitate in combination with inspection and enforcement	(Repeated) Inspection and enforcement

Table with the relation compliance behaviour - strategy

Communication strategy
The inspecting authority can only perform in an effective, transparent and accountable way when it has a communication strategy: a set of adequate provisions and arrangements for internal information exchange and for communication with other authorities, stakeholders and the general public.

The general public should have access to information on the inspecting authorities' activities and environmental performance of the regulated community. Beyond passively responding to requests for information, the inspecting authority should pro-actively issue news releases and otherwise disseminate information. The general public should have the right to provide information to the inspectorate (for example complaints) and to have its concerns addressed.
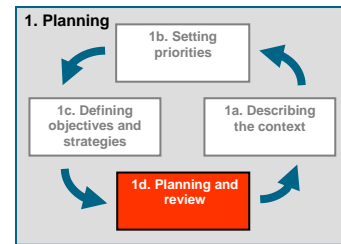
Good communication will allow the inspecting authority to inform, understand, engage with and influence all the people who can contribute to improving the environment. Effective communication cannot be taken for granted, nor does it "just happen". It requires a systematic approach.[7]

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[7] From Management Reference Book for Environmental Inspectorates

4.7. Inspection plan

Inspection plan is part of box 1d "Planning and review"

In this step of the planning cycle the information that is assessed and developed in step 1a, 1b and 1c will now find its place within a document (s), the inspection plan. The inspection plan is not only for internal use, it also available for public and therefore gives justification of what and how the inspecting authority is dealing with her responsibilities. Most elements in this chapter are obligations from the RMCEI, and all of them are to be considered as good practice.

1. Planning

| 1b. Setting priorities |
| 1c. Defining objectives and strategies | 1a. Describing the context |
| **1d. Planning and review** |

Defined time period and area

The inspecting authority needs to develop an inspection plan that covers a defined time period and a defined geographic area. A common time period is 1 year but multi-annual inspection plans are used. As the competence of an inspecting authority is also bound to a geographic area (municipality, region or MS) it is common to use this geographic area also in the inspection plan. Depending on the size and tasks of the inspecting authority sub-inspection plans can be developed covering all a different part of the area.

Scope

Besides time period and area the inspecting authority should give a clear picture of the scope of the inspection plan. It should describe:
* the tasks, competences and obligations it has
* its mission and goals
* the (national) policies and priorities
* the applicable legislation (EU or national)
* the controlled activities and installations
* the range of different inspection activities that can take place

Industrial Emission Directive

Article 23(2):
Member States shall ensure that all installations are covered by an environmental inspection plan at national, regional or local level and shall ensure that this plan is regularly reviewed and, where appropriate, updated.

Article 23(3):
Each environmental inspection plan shall include the following:
(a) a general assessment of relevant significant environmental issues;
(b) the geographical area covered by the inspection plan;
(c) a register of the installations covered by the plan;
(d) procedures for drawing up programmes for routine environmental inspections pursuant to paragraph 4;
(e) procedures for non-routine environmental inspections pursuant to paragraph 5;
(f) where necessary, provisions on the cooperation between different inspection authorities.

Priorities

The inspection plan should describe the method used for the risk assessment, the classification and ranking of activities and installations and the priorities arising from these.

This means that besides the outcome also the process needs to be described. In other words the inspection plan should not only give the priorities itself but also the justification how the inspecting authority came to these priorities. Here the gap between available and needed resources also finds its pace.

Objectives and targets

Based on the priorities the inspection plan should describe the objectives and the measurable targets for the activities. It is important the targets are formulated in a way so they can be monitored and evaluated.

Inspection activities

The inspection plan should provide information on the numbers and types of routine environmental inspections to be carried out, including:

- frequency of site visits for different types of specified controlled installations
- key figures/indicators on necessary inspection capacity

Strategies and procedures

The inspection plan should describe or refer to the strategies and the procedures[8] that will be taken into account. The inspection plan should at least include reference to:

- procedures for routine inspections, which can include site visits as well as other kind of inspection activities
- procedures on reporting
- procedures for non-routine inspections in case of
  - o Complaints
  - o Accidents and incidents
  - o Occurrences of non-compliance
  - o Inspections or activities as part of the permit procedure
- procedures for coordination between the different inspecting authorities;
- provisions for review of the inspection plan
- agreements with operators on the notification of non-compliances

Inspection programme

The inspection programme can be part of the inspection plan. The inspection plan however is public available. Therefore the inspecting authority might want to decide to include the programme as an annex or separate document. This way the programme can stay confidential.

The inspection programme at least covers:

- a defined time period

> **Industrial Emission Directive**
>
> Article 8:
> 2. In the event of a breach of the permit conditions, Member States shall ensure that:
> (d) the operator immediately informs the competent authority;
> (e) the operator immediately takes the measures necessary to ensure that compliance is restored within the shortest possible time;
> (f) the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to restore compliance.
>
> Where the breach of the permit conditions poses an immediate danger to human health or threatens to cause an immediate significant adverse effect upon the environment, and until compliance is restored in accordance with points (b) and (c) of the first subparagraph, the operation of the installation, combustion plant, waste incineration plant, waste co-incineration plant or relevant part thereof shall be suspended.

> **Industrial Emission Directive**
>
> Article 23 (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.

---

[8] Procedures are developed in box 2 "the execution framework".

- a list of all installations to be inspected, including:
  - Inspectors or inspection unit
  - Type of routine inspections
  - Date (days/weeks/months), time and frequency
  - Amount of time and staff needed
  - Co-operation with other authorities

Sample Inspection Plan; Table of contents

Note that some issues are not an obligation according to the IED. These are marked as optional.

1. Scope of this inspection plan
   1.1. Time period and geographic area covered by the plan
   1.2. Tasks, competences and (Statutory) Inspection Obligations <optional>
   1.3. (National) policies and priorities that have to be taken into account <optional>
   1.4. Applicable legislation <optional>
   1.5. Organisational structure <optional>
       1.5.1. Range of inspection activities
       1.5.2. Resources
       1.5.3. Budget *

2. The environment, activities and installations **
   2.1. State of the environment
       2.1.1. General assessment of relevant significant environmental issues
       2.1.2. Specific, topical environmental issues in the area
   2.2. Register of controlled Installations
       2.2.1. Environmental impact and performance
       2.2.2. Compliance behaviour

3. Last years performance <optional>
   3.1. Objectives and targets we had to reach
   3.2. Input, Output and Outcome
   3.3. Evaluation

4. This years planned performance
   4.1. Procedure if the Risk assessment method
   4.2. Outcome of risk assessment <optional>
   4.3. Priorities <optional>
   4.4. Resources <optional>
   4.5. Objectives and targets <optional>
   4.6. Inspection and Communication strategies <optional>
   4.7. Procedures for routine inspections <optional>
   4.8. Procedures for non-routine inspections
   4.9. Procedures for review of this plan
   4.10. Procedures for drawing up the inspection programme
   4.11. Provisions on the cooperation and coordination with different inspection authorities

---

5. Overview of inspection activities for the coming year <optional>

    5.1. Routine inspections

        5.1.1. Installations

    5.2. Non routine inspections

        5.2.1. Complains

        5.2.2. Accidents and incidents

        5.2.3. permits

    5.3. Compliance assistance and other inspection activities

Annex: Inspection programme

- Routine inspections
  - Installations
- Non routine inspections
  - Complaints
  - Accidents and incidents
  - Permits
  - Compliance assistance and other inspection activities

* Note that some inspecting authorities do not include budget issues in their plan, as this is not part of their responsibility.

** The description here should be general and not too detailed

Table with an example index of an inspection plan

4.8 Review and revision

Review and revision are part of box 1c "Planning and review".

The inspection plan should be reviewed and if necessary revised periodically. In evaluating the success of the inspection plan the inspecting authority should determine the extent to which it achieved the objectives and targets set out in the plan. Where they have not been met the inspecting authority should determine the factors that have impacted on the completion of the tasks.
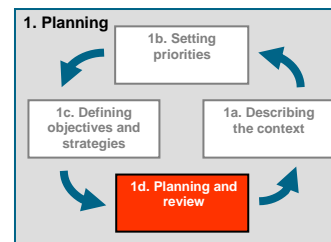
As the inspection plan is a more strategic document it is envisaged that revision may only be required in response to significant changes to policies, significant changing activity in given industrial/work sectors, or other changing situations. However, changes to the plan may also be made as a result of performance monitoring.

Where performance targets set are met (or not met), or where efforts expended through the inspection plan have not resulted in the expected improvements to the state of the environment, the authority may also wish to change the inspection plan (e.g. to change the strategy to be employed, the resources to be assigned, or the objectives/targets set).

> **Industrial Emission Directive**
>
> Article 23(2):
> Member States shall ensure that all installations are covered by an environmental inspection plan at national, regional or local level and shall ensure that this plan is regularly reviewed and, where appropriate, updated.

For the revision of the inspection plan the authority should go through the steps 1a, 1b and 1c.

When only the inspection programme has to be revised, revision of the entire plan may not be necessary (e.g. where the only change is to the number of planned inspections to be carried out – i.e. changes in desired output). The inspection programme however will normally change on an annual basis.

The requirement to revise and evaluate the implementation of previous plans in order to develop the plan for the coming period is the application of a management systems approach. In defining the priorities and targets within the inspection plan, the inspecting authority should put in place the means to track and evaluate their performance with respect to the plan. The inspection plan should contain the targets to be achieved during the year to allow for ongoing evaluation of activities during the execution of the plan. In addition to the numerical targets inspecting authorities should also consider how they are going to evaluate performance in relation to the priorities that they set in their plans so that the environmental outcome of their activities is checked in addition to the activities themselves.

5 Implementation issues IED

5.1 Introduction

In this section we discuss the articles that are mentioned in the IED and refer to inspection. On the left side you will find the articles itself. We have underlined the text that needs some extra explanation or clarification. In the blue box on the right side you can find this explanation and clarification. In the yellow box the reference is made to the previous chapters

Recitals (26)

In order to ensure the effective implementation and enforcement of this Directive, operators should regularly report to the competent authority on compliance with permit conditions. Member States should ensure that the operator and the competent authority each take necessary measures in the event of non-compliance with this Directive and provide for a system of environmental inspections. Member States should ensure that sufficient staff is available with the skills and qualifications needed to carry out those inspections effectively.

> **What it means:**
>
> Report on compliances: With the obligation to report on compliance the IED refers to Environmental Reports. Often these reports need to be sent in annually. This obligation for the operator to report to a competent authority needs to be addressed in legislation or permit conditions.
>
> System of environmental inspections: With a system of environmental inspections the IED refers to the whole of organisational, financial, legal and technical aspects (e.g. responsibilities, competences, duties, available budget, strategies and procedures) that have to be in place or allocated so that an inspecting authority is able to do its work, see clarification in article 23(1).
>
> Skills and qualifications: The skills and qualifications of staff (inspectors) depend on the exact tasks and the industry that has to be inspected. Therefore every competent authority needs to identify the needs of their staff and develop their own training programme that will be executed and reviewed regularly. See IMPEL report "Best practices concerning training and qualification for environmental inspectors".

> **Where to find it**
>
> Skills and qualifications: Training needs assessments and training programmes are part of the Execution Framework (Box 2). Issues that could be addressed in a training programme are listed in annex VII

Article 3 (22): Definition of inspections

'Environmental inspection' means all actions (including site visits, monitoring of emissions and checks of internal reports and follow-up documents, verification of self-monitoring, checking of the techniques used and adequacy of the environment management of the installation) undertaken by or on behalf of the competent authority to check and promote compliance of installations with their permit conditions and, where necessary, to monitor their environmental impact.

Where to find it

All actions: Inspection activities are part of Execution and Reporting (Box 3).

Check and promote: the choice of instrument (through compliance checking or compliance promotion) is a strategic one and part of Strategies (Box 1c).

What it means:

All actions: the list with inspection activities is not limited and should be seen as examples. Other activities are: remote monitoring or on-line inspections; verification inspections (after issuing a permit); theme inspections; surveillance and remote sensing.

Check and promote: Measures to promote compliance are also part of environmental inspections as defined in IED and could include:

- advice and guidance given by the regulator to operators;
- actions taken by the regulator in the boardrooms of operators;
- approaches to regulating 'good performers';
- actions by third-parties on behalf of the authorities to deliver regulatory objectives e.g. third parties carrying out inspections;
- use of 'proxy measures' or tools for understanding a site's performance without relying on site visits;
- a combination of these or other approaches

See IMPEL report "Explore the use and effectiveness of complimentary approaches to inspection for ensuring compliance".

Necessary: means here that it's not always the case that inspections need to include monitoring of the environmental impact but this may be relevant where the installation significantly affects environmental quality. .

Article 7: Incidents and accidents

Without prejudice to Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage in the event of any incident or accident significantly affecting the environment, Member States shall take the necessary measures to ensure that:

(a) the operator informs the competent authority immediately;

(b) the operator immediately takes the measures to limit the environmental consequences and to prevent further possible incidents or accidents;

(c) the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to limit the environmental consequences and to prevent further possible incidents or accidents.

Where to find it

Necessary measures: the duties and responsibilities of the competent authority are part of Identifying the scope (box 1a). The way competent authorities should react towards incidents and accidents should be described in procedures or protocols and are part of Execution Framework (box 2).

What it means:

Significantly: Significant here indicates that consequences of the incident or accident are not negligible, but provides a degree of discretion for the competent authorities for assessing this.(See also Article 7)

Necessary measures: The obligation for the operator to inform the competent authority (a) and to take immediate action (b), and the right of the competent authority to require additional measures (c) has to be legalised in either legislation or permits.

Note, that in some Member States the competent authority that should be informed (a) or could require additional measures (c) is not necessarily the same as the competent authority that is responsible for inspections (the inspecting authority as mentioned in article 23). In that case this should be made clear to the operator.

Article 8: Non-compliance

1. Member States shall take the necessary measures to ensure that the permit conditions are complied with.

2. In the event of a breach of the permit conditions, Member States shall ensure that:

(a) the operator immediately informs the competent authority;

(b) the operator immediately takes the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) the competent authority requires the operator to take any appropriate complementary measures that the competent authority considers necessary to restore compliance.

Where the breach of the permit conditions poses an immediate danger to human health or threatens to cause an immediate significant adverse effect upon the environment, and until compliance is restored in accordance with points (b) and (c) of the first subparagraph, the operation of the installation, combustion plant, waste incineration plant, waste co-incineration plant or relevant part thereof shall be suspended.

> Where to find it
>
> Measures: the instruments an inspection authority should have available is part of Identifying the Scope (box 1a).
>
> Immediately informs: The agreements an inspection authority makes with operators is part of the Inspection Plan (Box 1d)
>
> Graduation of non-compliances can be found in annex VIII

> What it means:
>
> Measures: This is normally done by inspections as defined in Article 3 but Member States should also make sure that different types of sanctions (e.g. fines, closing down an installation) are available to the inspecting authority so permit conditions can be enforced, and that the MS legislation obliges the operator to comply with the permit conditions.
>
> Immediately informs: to lower the administrative burden of this article the inspecting authority could define what type of relevant non-compliances should be reported directly and the non-compliances that can be reported at a different time interval. In annex VIII the graduation of non-compliances are listed. Category A could fall in the list that will be reported at a different time interval, while category B and C should be reported directly.
>
> Significant: For definition see blue box of Article 7.

Article 23 (1): 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.

Where to find it

Full range: is part of inspection profile (box 1B)

All necessary assistance: is part of Execution Framework (Box 2)

What it means:

Set up a system: In this article the Member States are addressed. They have to set up a system of inspections. Note that in some Member States [or regions] there is more then one organisation involved in inspecting IED installations. These Member States should allocate responsibilities and competences to make sure that all relevant environmental effects are covered.

Full range: The full range of environmental effects is to be examined by the organisations that are within the system of environmental inspections. Annex III gives a good overview of the effects that are relevant for IED installations.

All necessary assistance: the obligation for the operator to give all necessary assistance has to be legalised in legislation.

Article 23 (2): Environmental inspections

Member States shall ensure that all installations are covered by an environmental inspection plan at national, regional or local level and shall ensure that this plan is regularly reviewed and, where appropriate, updated.

<div style="background:yellow">

Where to find it

Inspection plan: is part of Inspection Plan (Box 1d)
Review and update: is part of Review and Revision (Box 1d)

</div>

What it means:

Inspection plan: In some Member States the environmental inspections are executed by regional and local authorities. This article addresses the Member States to make sure that the sum of all plans (in case of regional and local competent authorities) covers all IED installations.

Reviewed and updated: inspection plans needs to be reviewed and if necessary revised regularly. Next to a regularly review also significant changes to policies, the regulated community, the environmental situation or the fact that the planned activities will not lead to the defined inspection targets could trigger a review and possible update.

Article 23 (3): Environmental inspections

Each environmental inspection plan shall include the following:
(a) a general assessment of relevant significant environmental issues;
(b) the geographical area covered by the inspection plan;
(c) a register of the installations covered by the plan;
(d) procedures for drawing up programmes for routine environmental inspections pursuant to paragraph 4;
(e) procedures for non-routine environmental inspections pursuant to paragraph 5;
(f) where necessary, provisions on the cooperation between different inspection authorities.

Where to find it

Inspection plan: is part of Inspection Plan (Box 1d)
Procedures and cooperation: is part of Execution Framework (Box 2)

What it means:

Inspection plan: Section 4.7 of this guidance gives a full list of all the issues (including issues (a) to (f) of article 23(3)) that are relevant for an inspection plan.

Relevant: relevant here means that it should be related to IED installations and not other sources (e.g. traffic).

Procedures: the procedures (or work instructions) itself are part of the execution framework. These (often detailed) work instructions should be part of a quality management system of an organisation. In the inspection plan the existence and general layout of the procedures could be mentioned.

Cooperation: comes in different forms, for example by joint inspections, informing exchange, or in assistance. Provisions or memorandums of understandings of cooperation can exist between the inspecting authority and the police, the public prosecutor, authorities for health and safety etc.

Article 23 (4): Environmental inspections

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.

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.

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)

The Commission may adopt guidance on the criteria for the appraisal of environmental risks.

Where to find it

Programme: is part of Inspection plan (Box 1d)

Important Case of non compliance: the additional inspections are part of Execution and Reporting (Box 3). The different levels or graduation of non-compliance can be found in annex VIII

Systematic appraisal: is part of Setting Priorities (Box 1b) – Risk Assessment

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What it means:

Programme: the programme is part of the inspection plan and provides an overview of the different inspection activities, including the planning of foreseen site visits. In practice this is often a table or schedule with the names of the installations, the type of inspection, the date or time frame (week or month) the type and additional information needed to execute inspections.

Frequency: could also be read here as the inspection dates mentioned in the programme. In the case the frequency of a group of installations (industrial sector) could be determined, this frequency could be mentioned in the inspection plan.

Important case of non-compliance: these are non-compliances that fall in the category C of annex VIII. The aim of the permit is not achieved, permit conditions are violated, and emission limits and environmental quality standards are not achieved.

Systematic appraisal of environmental risks: or risk appraisal is used to prioritise the inspection activities of an inspecting authority based on the environmental risk of the different installations. For the risk appraisal the IRAM programme developed by IMPEL can be used (see Annex I). However, this is optional and Member States can use their own approach providing it covers the IED requirements.

Potential and actual impact: to assess this, the impact criteria from Annex III can be used.

Article 23 (5): Environmental inspections

Non-routine environmental inspections shall be carried out to investigate serious environmental complaints, serious environmental accidents, incidents and occurrences of non- compliance as soon as possible and, where appropriate, before the granting, reconsideration or update of a permit.

Where to find it

Non-routine: is part of Execution and Reporting (Box 3)

What it means:

Non-routine: inspections that are not planned in advance. Non-routine inspections can be more than only site visits.

Serious: is linked not only to environmental complaints but also to accidents, incidents and occurrences of non-compliance. For an event is to be considered serious it is up to the inspection authority. In case the complaint can be linked to non-compliance the table in Annex VIII could be used for guidance.

Article 23 (6): Environmental inspections

Following each site visit, the competent authority shall prepare a report describing the relevant findings regarding compliance of the installation with the permit conditions and conclusions on whether any further action is necessary.

The report shall be notified to the operator concerned within 2 months of the site visit taking place. The report shall be made publicly available by the competent authority in accordance with Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information (OJ L 41, 14.2.2003, p. 26) within 4 months of the site visit taking place.

Without prejudice to Article 8(2), the competent authority shall ensure that the operator takes all the necessary actions identified in the report within a reasonable period.

> **Where to find it**
>
> Report, notification and publicly available: is part of Execution and Reporting (Box 3)
>
> Lay-out of an inspection report can be found in Annex IX

What it means:

Report: the outline of the contents of an inspection report that can be made publicly available can be found in annex IX.

Notified: An inspection can consists of more than 1 site visit. It's also possible relevant inspection results (e.g. monitoring results) are not directly available after the site visits. For those cases the report has to be sent to the operator 2 months after the first site visit and a follow-up after the further results are available.

Publicly available: reports of routine and non-routine inspections have to be made actively available (for instance on the internet) 4 months after the site visit. If the 4 months pass and results are not yet available then only mention the relevant findings and follow-up later.

Annex IX shows the lay-out of an inspection report that can be made publicly available.

ANNEX I

IRAM: The integrated risk assessment method

The next figure shows the basic steps of the Risk Assessment model. Risk assessments start by first defining your criteria and settings. The criteria and Weighting Factors and Terms are defined in step 1a, 1b, 2a and 2b. Next, define "the Rule" (the minimum number of highest scores), the classification of the risk category (in combination with the inspection frequency) the legal obligations and the weighting factor for inspections. This is done in steps 3 to 6. These settings are normally made by a coordinator and will apply to all the inspection objects that are being assessed under a specific inspection task. In the final steps (7 and 8) the actual data relating to each of the inspection objects are entered.
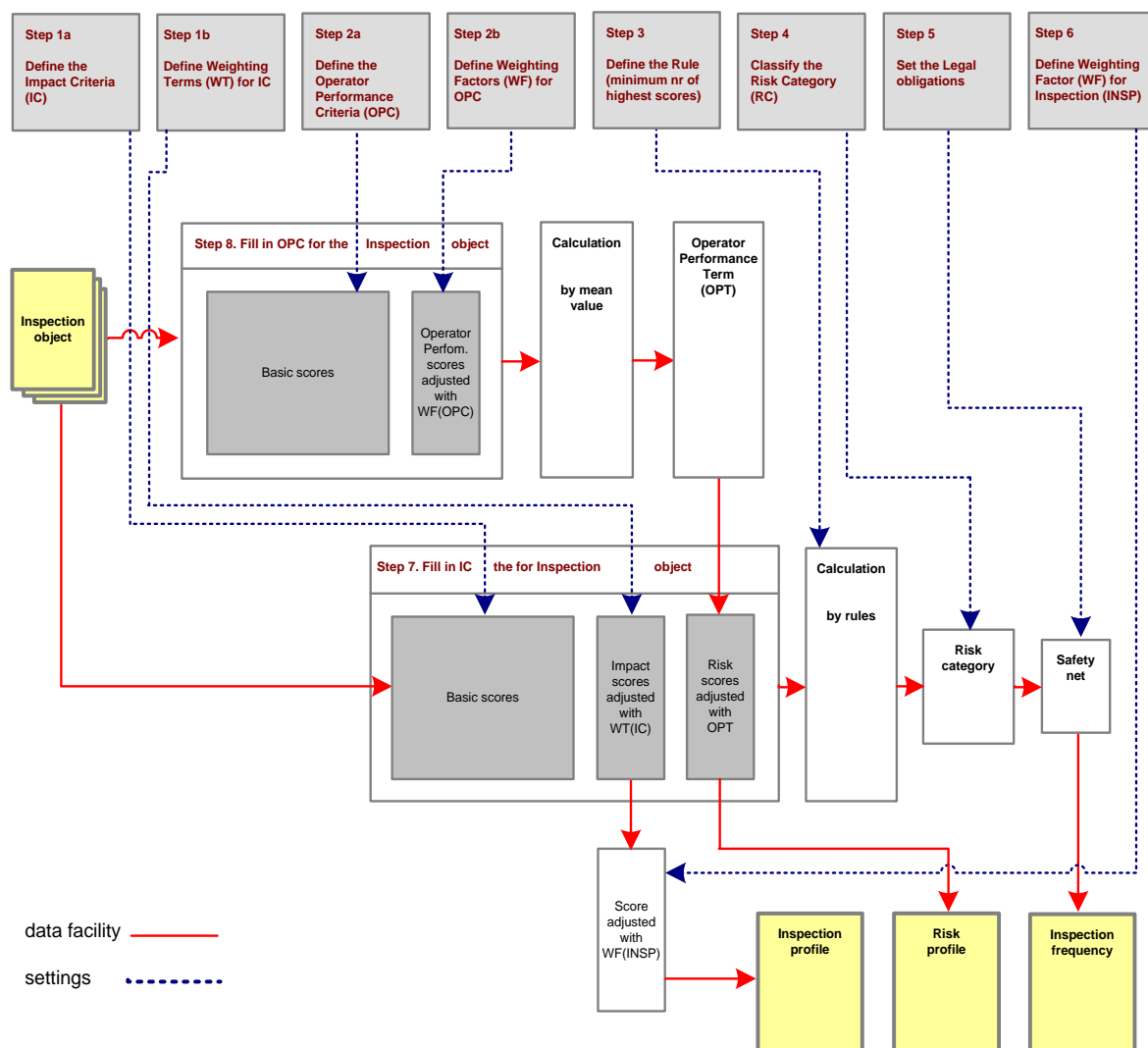
IRAM Principles
1. The inspection frequency is determined by value of the highest score;
2. The inspection frequency is reduced by one step, if the set minimum number of highest scores (called "the Rule") is not met;
3. The inspection frequency can be changed by only one step up or down based on operator performance;
4. The higher the sum of scores, the longer the inspection time.

Step 1a – Define the Impact Criteria

In step 1a the impact criteria are defined.

Each inspection object is scored against a set of impact criteria, and every impact criterion itself is defined with a set of sub criteria (often with thresholds).

In section 2.1 a list of possible Impact criteria is given. If we take the Impact criterion "emission to air" as an example, the set of sub-criteria and the scoring range could look like this:

Example emission to Air

Score	Definition
0	Activity **is not mentioned** in Annex 1 of the EPRTR Regulation and there are **no releases** to air
1	Activity **is mentioned** in Annex 1 of the EPRTR Regulation but **no threshold** of Annex 2, column 1a, is exceeded and there are **no other releases** to air
2	Activity **is or is not mentioned** in Annex 1 of the EPRTR Regulation, **no threshold** of Annex 2, column 1a, is exceeded but there are **other releases** to air
3	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to air - normalised to the thresholds* of Annex 2, column 1a - is **>1**
4	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to air - normalised to the thresholds* of Annex 2, column 1a - is **>5**
5	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to air - normalised to the thresholds* of Annex 2, column 1a - is **>10**
* Ratio of release to threshold value	

In this example the range is set from 0 to 5

The number of Impact criteria that will be used in the assessment is up to the inspecting authority. This can be different per organisation and per task. Note that "the Rule" (see section 3.5) is closely linked to the number of criteria that are used and that the scores are directly related to the Risk categories and therefore to the inspection frequencies.

Other examples of Impact criteria for IED can be found in annex III.

Step 2a – Define the Operator Performance criteria

Along with the impact criteria, the inspection object is also assessed against operator performance criteria, see section 2.2 for examples. Here the criteria are also defined with a set of sub-criteria and a scoring range.

The scoring range of the operator performance is different from the one used for impact. The impact is the main driver and can only be adjusted by the operator performance. This effect can be positive, negative or neutral and can be regulated by the scoring range of the operator performance criteria. Within IRAM a range of -1 to + 1 is used.

If we take the operator performance criterion "compliance" as an example the set of the sub-criteria and scoring range could look like this:

Example compliance

Score	Definition
-1	No relevant non compliances of the installation with the permit conditions or violation of the operator duties
0	One relevant non compliance of the installation with the permit conditions or violation of the operator duties
1	More than one relevant non compliance or one important non compliance with the permit conditions or violation of the operator duties

An inspection object with a high impact and a bad operator performance will receive more attention than an inspection object with a similar impact but with a good operator performance.

Other examples of Operator performance criteria for IPPC/IED and Seveso can be found in annex 2 and 3.

Step 1b and 2b – Define the Weighting Term and Factor

Impact criteria and operator performance criteria don't always have the same importance. For that reason, weighting is introduced, so one criterion can get a higher weight in the calculation than another. Weighting terms and factors are part of the steering mechanisms.

The importance of weighting is explained in section 2.3.

By introducing a weighting term, for example 2, for the impact criterion "emission to air", a score of 2 is added to the defined impact criterion. That way, we define air as two categories more important than the other impact criteria.

In the operator performance criteria, weighting is done with a weighting factor; the criterion is multiplied by the factor. For example, if the weighting factor for the operator performance criterion "compliance" is 2, the score of this criterion would be multiplied by 2. The importance of "compliance" is doubled compared to other OPC.

Another way to steer is to use a (temporary) ceiling on one or more impact criteria, the risk ceiling. For these impact criteria it will not be possible to give a higher score than the defined ceiling. For example, if we set the ceiling for the impact criterion 'noise' on 3, it will not be possible to give 'noise' a higher score than 3, although the remaining criteria could have a maximum of 5. In this example noise will normally not be responsible for a high risk classification and the resulting inspection frequency (see section 3.5 for risk classification). This step is also part of the steering mechanism.

Step 3 – Define "the Rule"

In step 3 we define "the Rule". In section 2.5 and 3.1 we already mentioned that the Rule is closely linked to the number of Impact criteria and that the more impact criteria we use the higher the Rule will be.

"The Rule" is a number (1 or higher) and works like this:
- Rule 1 means: there is only one highest score (of an impact criterion) required to equate the score of this impact criterion to same risk category.

- Rule 2 means: there are at least two highest scores (of impact criteria) required to equate the score of these impact criteria to the same risk category.
- Rule 3 means: there are at least three highest scores (of impact criteria) required to equate the score of these impact criteria to the same risk category.

If the number of highest scores does not meet the Rule, the Risk category will be lowered by a maximum of 1 step. This step is part of the steering mechanism.

Step 4 – Classify the Risk Category

In this step we link the risk category to the inspection frequency. Within IRAM there is a direct relation between the Risk Category and the inspection frequency.

This relationship is a policy decision of the inspecting authority, for example:
- RC0 = no routine inspections
- RC1 = min 1 inspection in 5 years
- RC2 = min 1 inspection in 4 years
- RC3 = min 1 inspection in 3 years
- RC4 = min 1 inspection in 2 years
- RC5 = min 1 inspection every year

The risk category can also be used in allocating (human) resources for different inspection tasks.
This step is part of the steering mechanism.

Note that this step is not part of the internet IRAM tool – rather a policy decision for the inspecting authority as to how to use the outputs of IRAM.

Step 5 – Set the Legal Obligations and Policy (safety net)

In step 5 we set the legal obligations and or policy (per inspection object) with respect to the minimum and the maximum inspection frequency. In section 2.6 we mentioned that this "safety net" is necessary to make sure we will stay within the boundaries of national and European legislation and the policies of an organization.

The safety net will limit the drop in the risk category to a defined lowest risk category. This would be the case where the actual result of the risk assessment is lower than a given limit (e.g. if one cannot inspect a given facility less that once every three years). On the other hand an inspection authority may choose a highest inspection frequency that should not be exceeded. In this case a highest risk category can be set. This setting will change the risk category to the highest risk category if the result of the risk assessment is higher than that. These steps are part of the steering mechanism.

Step 6 – Define the Weighting Factors for Inspections

With weighting factors for inspections we can influence the inspection profile, see section 2.3). Some environmental aspects (that are linked to a certain impact criteria) will take more time to inspect than others (because of size or complexity). For example if we would set the weighting factor for inspections for the impact criterion for waste management on 2, the scoring of waste will have a bigger influence on the inspection profile. This step is also part of the steering mechanisms.

Step 7 – Fill in the Impact Criteria scores

In step 7 we fill in the impact scores for the inspection objects. The impact scores are combined with the weighting terms.

The table below gives a simplified impact score of 2 inspection objects.
We use 6 Impact criteria, set the weighting term of Air on 1 and the Rule on 1.

Impact criterion	Air	Water	Waste	Safety	Health	Quality
Weighting Term	1	0	0	0	0	0
Range	<0, 5>	<0, 5>	<0, 5>	<0, 5>	<0, 5>	<0, 5>
Inspection object 1	3	3	3	3	3	3
Inspection object 2	5	1	4	1	5	1
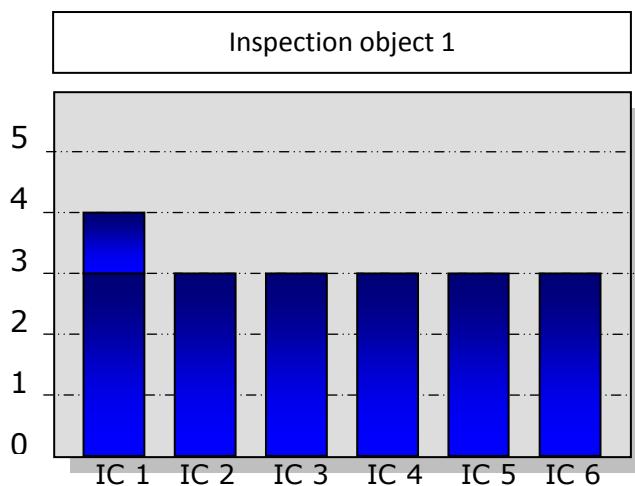
Inspection object 1

For inspection object 1 the score would look like this:

The Risk category for this object (without the influence of other mechanisms) would be 4. If the Rule would be set on 2, the risk category would be 3.

And for inspection object 2 the score would look like this:

The Risk category for this object (without the influence of other mechanisms) would be 6. If the Rule would be set on 2, the risk category would be 5
Note: If the highest risk category is set to "5" also the first result will be 5.

Inspection object 2
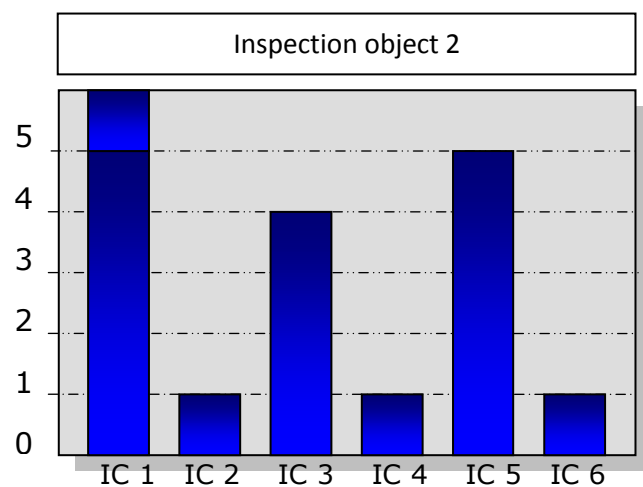
Step 8 – Fill in the Operator Performance scores

In step 8 we fill in the scores for the operator performance for the inspection objects. The operator performance scores are combined with the weighting factors. The table on the next page gives a simplified operator performance score of the same 2 inspection objects. We use 3 criteria and set the weighting factor on compliance on 2. Note that the Rule is only applicable to the impact criteria and <u>not</u> here.

Operator Performance criterion	Attitude	Compliance	EMAS	Operator performance term
Weighting factor	1	2	1	
Range	<-1, +1>	<-1, +1>	<-1, +1>	<-1, +1>
Inspection object 1	1	0	1	1
Inspection object 2	0	-1	0	-1

From the scores, an average operator performance score is calculated, the operator performance term (OPT).

In the table above, inspection object 1 scores an operator performance term of 1, and inspection object 2 scores an operator performance term of -1.

The calculation with the weighting factor (in case of object 2) worked as follow: compliance with factor 2 scored two times -1, the other criteria both scored 0. Operator performance term is -2 divided by 4 = -0.5, which is rounded to the integer: -1. In case the weighting factor would be 1 the operator performance term would be 0 because -1/3 = -0.33, which is rounded to the integer: 0.

The way the operator performance (term) influences the risk assessment is that it induces a shift on the impact score. The impact scores, combined with the OPT-score (that results from the operator performance scores), give Risk scores!

A good operator performance term (-1) lowers the risk, so it leads to a risk score that's lower than the impact score. A bad operator performance term (+1) raises the risk and will lead to a higher risk score. An average operator performance term (0) will not change the risk.

If we look at the same inspection objects the graphs (after adjusting the impact criteria with the operator performance term) would now look like the following:

Inspection object 1
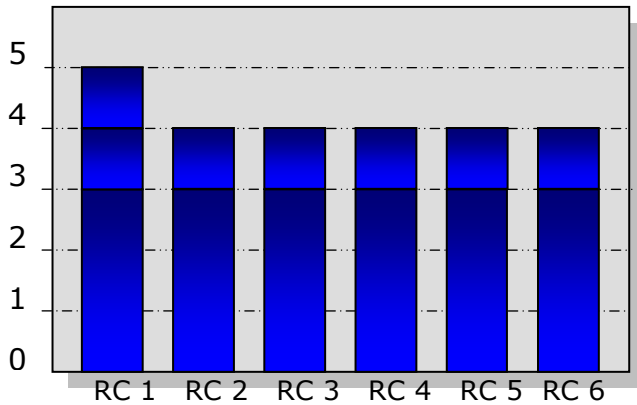
For inspection object 1 the score would look like this because the OPT is added to every criterion: +1.

The Risk category for this object would be 5. If the Rule would be set on 2, the risk category would be 4.

And for inspection object 2 the score would look like this because the OPT is added to every criterion: -1.

The Risk category for this object would be 5. If the Rule would be set on 2, the risk category would be lowered to 4.

Inspection object 2
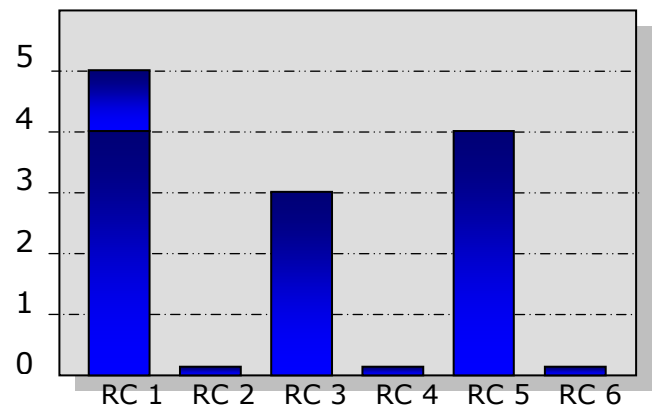
ANNEX II

Description of the Excel tool for the Integrated Risk Assessment Method (IRAM)

The Excel tool was developed by the easyTools project as an example of a database for the assessment results with the full functionality of the IRA Method. The data can be read in from the csv files of the internet based programme and are processed in the Excel tool. The steering values can be changed by the inspection coordinator to study how they influence the full set of assessed inspection objects.

Inspection Coordinators Page

On the first table "Steer" of the Excel programme nearly all steering parameters can be entered by the inspection coordinator. They are valid for all inspection objects under assessment in a specific inspection task. Up to 15 impact criteria and up to 5 operator performance criteria that shall be used by the inspectors for the assessment can be entered here. The inspection coordinator can choose these criteria from the guidance book or create new ones. They have to be identical with the criteria used in the internet based programme.

To each impact criterion the maximum score has to be entered because from that the maximum inspection effort is calculated. If there is a need to change the weight of some impact criteria, weights can be entered in the next column under "shift of score (weight)". It is also possible to enter an inspection weight on each impact criterion, as the inspection efforts related to the criteria can differ.

From the "number of highest scores" the risk category is calculated. From the number of highest scores on forward the risk category is identical to the highest score (the Rule); otherwise the risk category is "highest score - 1".

It is also possible to put a weight on the operator performance criteria. The weight will be multiplied with the score.

In the following column the possible scores regarding risk categories are entered. To every risk category an inspection frequency has to be assigned. In the following two columns fractions of the maximum inspection effort and the corresponding allocated inspection times are entered by the inspection coordinator.

Inspectors Page

On the table "IRAM" the name and the identification number of the inspection object, the settings for the lowest and highest risk category and the scores of the impact and operator performance criteria can be read in from the corresponding csv-files of the IRAM web application by using the input button of the "Data input" table. The data are displayed on the IRAM table. All csv files can be opened, and imported together in one action. On this page the date of the first inspection has to be entered by the inspector for each inspection object. These data are needed for the calculation of the follow up inspections.

Assessment Results

On the table "Results" the calculated risk scores for every impact criterion of every inspection object are displayed in the "Risk Profile" box. No impact criterion scored with "0" can be increased or decreased by the mean operator performance or a weighting factor. No risk score can be lower than "0".

In the box "Inspection Profile" the weighted impact criteria (shift of score and inspection weight: see "Steer" page) are displayed. The scores tell us how much inspection effort is needed for every criterion in relation to the other criteria.

The next two columns under "Results" display the highest scores of all risk criteria and the numbers of highest scores for every inspection object. If the number is bigger than or equal to "number of highest score" the risk category will be identical to the highest score. If the number is smaller than that, the risk category will be

identical to the highest score minus 1. If the risk category is bigger than "highest risk category" it will be reduced to "highest risk category". If - on the other hand - the risk category is lower than "lowest risk category" it will be increased to "lowest risk category" (i.e. the so-called 'safety net').

From the sum of weighted impact scores (sum of inspection profile) the "inspection effort (%)" is calculated as a percentage of the "sum of maximum inspection profile" (see above). The inspection % output from IRAM (i.e. how much time to inspect) is reported as a range of 4 categories in 25% increments. The highest range (100%-75%) is termed 'D' and the lowest (0%-25%) is 'A'.

Inspection Programme

On the table "Plan" the calculated risk categories and inspection efforts are linked to the inspection frequencies and inspection hours set by the inspection coordinator on the "Steer" table.

Under "Inspection date" the date of the first planned routine inspection is displayed. The dates of the two following inspections are calculated by the programme.

The inspection objects can be sorted e.g. in decreasing risk categories.

Data Import

On the Import table the import of data from downloaded IRAM csv files are managed. How it works is specified on the table. It is also possible to delete imported files.

Linear Assessment Results

On the table "Linear" an alternative approach to risk assessment is used. It is independent from the IRAM method and should only be used if the IRAM method appears inadequate for the specific inspection task. In the linear assessment approach all risk criteria are considered as equal and are combined in a linear equation together with weighting factors (i.e. there is no difference between impact and operator performance criteria).

In this case Operator Performance Criteria have to be entered just as Impact Criteria in the "Steer" table according to the settings in the internet based programme because only the scores of the Impact Criteria from the "IRAM" table are used for calculation.

It is possible to enter a weight on each criterion (blue field between criteria names and calculated scores), since the priorities or the risks of the criteria can differ.

Inspection frequencies are allocated to the calculated "Linear mean values" according to the steering box on top of the "Linear" table.

Under "First inspection" the inspector has to enter the date of the first planned routine inspection. The dates of the two following inspections are calculated by the programme.

The inspection objects can be arranged in proper order, e. g. decreasing risk categories.

ANNEX III

Example Impact criteria for IPPC/IED installations

1. Type and kind of installation

Score	Definition
0	Non-IPPC installation without need of an environmental permit
1	Non-IPPC installation without need of an environmental permit but object of environmental regulations
2	Non-IPPC installation that needs an environmental permit
3	IPPC installation; Non-IPPC installation as relevant part of a lower tier Seveso establishment
4	IPPC installation as relevant part of an upper tier Seveso establishment or with obligatory environmental impact assessment
5	IPPC installation as relevant part of an upper tier Seveso establishment and with obligatory environmental impact assessment

2. Impacts on human health or the environment

Score	Definition
0	No environmental complaints, environmental accidents or incidents in the last 5 years
1	At least one minor environmental complaint, minor environmental accident or incident in the last 5 years
2	More than two minor environmental complaints, minor environmental accidents or incidents in the last 5 years
3	At least one relevant environmental complaint, relevant environmental accident or incident in the last 5 years
4	One important or more than two relevant environmental complaints, environmental accidents or incidents in the last 5 years
5	One important or more than two relevant environmental complaints, environmental accidents or incidents in the last 2 years

3. Releases to air

Score	Definition
0	Activity **is not mentioned** in Annex 1 of the EPRTR Regulation and there are **no releases** to air
1	Activity **is mentioned** in Annex 1 of the EPRTR Regulation but **no threshold** of Annex 2, column 1a, is exceeded and there are **no other releases** to air
2	Activity **is or is not mentioned** in Annex 1 of the EPRTR Regulation, **no threshold** of Annex 2, column 1a, is exceeded but there are **other releases** to air
3	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to air - normalised to the thresholds* of Annex 2, column 1a - is **>1**
4	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to air - normalised to the thresholds* of Annex 2, column 1a - is **>5**
5	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to air - normalised to the thresholds* of Annex 2, column 1a - is **>10**
* Ratio of release to threshold value	

4. Releases to water / off-site transport in waste water

Score	Definition
0	Activity **is not mentioned** in Annex 1 of the EPRTR Regulation and there are **no releases** to water or off-site transports in waste water
1	Activity **is mentioned** in Annex 1 of the EPRTR Regulation but **no threshold** of Annex 2, column 1b, is exceeded and there are **no other releases** to water or off-site transports in waste water
2	Activity **is or is not** mentioned in Annex 1 of the EPRTR Regulation, **no threshold** of Annex 2, column 1b, is exceeded but there are **other releases** to water or off-site transports in waste water

3	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to water or off-site transports in waste water - normalised to the thresholds* of Annex 2, column 1b - is **>1**
4	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to water or off-site transports in waste water - normalised to the thresholds* of Annex 2, column 1b - is **>5**
5	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to water or off-site transports in waste water - normalised to the thresholds* of Annex 2, column 1b - is **>10**

* Ratio of release or off-site transport to threshold value

5. Releases to land

Score	Definition
0	Activity is **not mentioned** in Annex 1 of the EPRTR Regulation and there are **no releases** to land
1	Activity **is mentioned** in Annex 1 of the EPRTR Regulation but **no threshold** of Annex 2, column 1c, is exceeded and there are **no other releases** to land
2	Activity **is or is not mentioned** in Annex 1 of the EPRTR Regulation, **no threshold** of Annex 2, column 1c, is exceeded but there are **other releases** to land
3	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to land - normalised to the thresholds* of Annex 2, column 1c - is **>1**
4	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to land - normalised to the thresholds* of Annex 2, column 1c - is **>5**
5	Activity **is mentioned** in Annex 1 of the EPRTR Regulation and **the sum** of the releases to land - normalised to the thresholds* of Annex 2, column 1c - is **>10**

* Ratio of release to threshold value

6. Off-site transfer of waste

Score	Definition
0	No activity specific waste
1	Non-hazardous waste <2,000 t/y or hazardous waste <2 t/y
2	Non-hazardous waste >2,000 t/y or hazardous waste >2 t/y
3	Non-hazardous waste >20,000 t/y or hazardous waste >5,000 t/y
4	Non-hazardous waste >50,000 t/y or hazardous waste >10,000 t/y
5	Non-hazardous waste >100,000 t/y or hazardous waste >20,000 t/y

In case of transfrontier shipment of waste into foreign countries (at risk) the limits for scoring are lower:

3	TFS: non-hazardous waste >1,000 t/y or hazardous waste >100 t/y
4	TFS: non-hazardous waste >5,000 t/y or hazardous waste >500 t/y
5	TFS: non-hazardous waste >20,000 t/y or hazardous waste >5,000 t/y

7. Input of waste

Score	Definition
0	No waste input
1	Non-hazardous waste <2,000 t/y and hazardous waste <2 t/y
2	Non-hazardous waste >2,000 t/y or hazardous waste >2 t/y
3	Non-hazardous waste >50,000 t/y or hazardous waste >1,000 t/y
4	Non-hazardous waste >100,000 t/y or hazardous waste >5,000 t/y
5	Non-hazardous waste >250,000 t/y or hazardous waste >10,000 t/y

In case of transfrontier shipment of hazardous waste from foreign countries (at risk) the limits for scoring are lower:

3	TFI: hazardous waste >500 t/y
4	TFI: hazardous waste >1,000 t/y
5	TFI: hazardous waste >5,000 t/y

8. Quality of the local environment

Score	Definition
0	There is no contribution by the installation and therefore no influence on the environmental quality
2	There is contribution by the installation but the environmental quality is better than the ambient standard
3	There is contribution by the installation and the environmental quality is kept at the ambient standard
4	There is contribution by the installation to the violation of environmental quality standards by less then 3%
5	There is contribution by the installation to the violation of environmental quality standards by more then 3%

9. Sensitivity of the local environment

Residential area, schools, kindergartens, hospitals, homes for the elderly, drinking water catchment areas, flood areas, nature conservation areas* or FFH-areas (nature 2000)*, and wetland programmes*.
In case of more than one object/area the smallest distance counts.
*: Shall be assessed one score lower than the others.

Score	Definition
0	No sensitive areas in the surroundings or distance is >10 km
1	Sensitive areas outside the influence sphere of emissions or distance is <10 km
2	Sensitive areas within the influence sphere of emissions or distance is <5 km
3	Sensitive areas within the influence sphere of mayor accidents or distance is <1,5 km
4	Sensitive areas close to facility premises, the distance is <100 m
5	Facility lies within a sensitive area or in the direct vicinity

10. Risk of accidents

Score	Definition
0	No (categories of) dangerous substances covered by Annex I of the Seveso-II Directive
1	Sum of (categories of) dangerous substances covered by Annex I of the Seveso-II Directive - normalised to the thresholds of Column 2*) - is >1
2	Sum of (categories of) dangerous substances covered by Annex I of the Seveso-II Directive - normalised to the thresholds of Column 2*) - is >2
3	Sum of (categories of) dangerous substances covered by Annex I of the Seveso-II Directive - normalised to the thresholds of Column 2*) - is >4 or - normalised to the thresholds of Column 3 - is >0.75
4	Sum of (categories of) dangerous substances covered by Annex I of the Seveso-II Directive - normalised to the thresholds of Column 3*) - is >1
5	Sum of (categories of) dangerous substances covered by Annex I of the Seveso-II Directive - normalised to the thresholds of Column 2*) - is >50
*) Ratio of managed amount to threshold value	

11. Noise

Score	Definition
0	No relevant emissions
1	Noise emissions are more than 5 dB(A) below limit value
2	Noise emissions are more than 1 to 5 dB(A) below limit value
3	Noise emissions are plus or minus 1 dB(A) around limit value
4	Noise emissions exceed limit value by 1 to 5 dB(A)
5	Noise emissions exceed limit value by more than 5 dB(A)*) *) This can't only be handled by routine inspection, action is needed

ANNEX IV
Example Operator Performance Criteria

1. Compliance

Score	Definition
-1	No relevant non compliances of the installation with the permit conditions or violation of the operator duties
0	One relevant non compliance of the installation with the permit conditions or violation of the operator duties
1	More than one relevant non compliance or one important non compliance with the permit conditions or violation of the operator duties

2. Attitude of the operator

Score	Definition
-1	Operator reacts immediately after recognising a condition of relevant non-compliance
0	Operator reacts after receiving a warning letter form the competent authority
1	Operator reacts only after repeated warning letters or after a formal administrative decree of the competent authority

3. Environmental management system

Score	Definition
-1	Site is registered under EMAS and the operator is working successfully with this environmental management system
0	Site is not registered under EMAS but the operator is working successfully with an accepted environmental management system
1	Site is not registered under EMAS and the operator is not working with an accepted environmental management system

4. Application of BAT

Score	Definition
-1	The installation is exceeding BAT requirements
0	The installation does reflect the BAT requirements
1	The installation does not reflect the BAT requirements

ANNEX V
Case Studies Setting targets on outcomes

In this annex we explain in more detail how an authority can organise its supervision activities by setting targets and monitoring its performance against these targets. We will use a case to illustrate the different steps the authority takes in the Environmental Inspection Cycle as outlined in chapter 2.

Introduction of case 1

The case – described in the blue boxes - is about bringing illegal waste management sites into compliance. This case illustrates that the general methodology set-out in this guidance can be used by inspection authorities across the full range of its competencies, not just the inspection of permitted sites.

> *The inspectorate has worked for a number of years to bring illegal waste sites into compliance or close them down in order to reduce the risks they pose to the environment, communities and legitimate businesses. Last year, over 1,000 illegal sites were closed down which demonstrates the inspectorate's commitment to tackling this problem. However, the net reduction in illegal sites has been modest because each year new illegal sites emerge. The inspectorate decides that a more targeted approach is required to*

Targeting supervision activities will often start with the acknowledgement that a certain urgent and often persistent environmental problem occurs which is caused by a lack of compliance. Often such a situation can only be remediated through targeted action by the inspecting authority. In our case, the authority has already made considerable efforts to remedy the issue of illegal waste sites, but these efforts have not had the desired impact on the degree of compliance or the reduction of harm. A sustainable solution can only be reached by a more focused, targeted approach.

Describing the context

> *Step 1A: Assessing applicable legislation; Defining mission, tasks and goals of the authority; Gathering data on the environment and compliance*
>
> *In the region concerned there are many legitimate waste management companies who operate several thousand waste storage, transfer, treatment and disposal sites. These operators hold the necessary permits, comply with the relevant waste management legislation and incur the necessary compliance costs. However, they face unfair competition from operators of illegal waste management sites. These sites are often relatively small and particularly associated with the dismantling of end-of-life vehicles, processing of scrap metal and burning and disposing of waste from skip hire businesses*
>
> *These activities cause local air pollution and soil and water contamination. Illegal waste sites close to residential areas also cause noise and odour nuisance.*

> *The Inspectorate is competent for enforcing the legislation concerning waste management and disposal. The mission of the Inspectorate in this situation is to protect the environment by enforcing compliance with the provisions of the Waste legislation.*

In our case the environmental problem is pollution and nuisance caused by waste sites that are deliberately being operated in breach of the relevant legislation. The inspectorate is competent to enforce the relevant Waste legislation. One of the goals of the Inspectorate is to help create a situation in which the operators of these sites either bring their sites into compliance with the legislation or stop operating (either at the original sites or elsewhere). This goal is based on the overall mission of the Inspectorate to protect the environment by ensuring compliance with environmental legislation.

Setting priorities

> *Step 1B: performing a risk assessment to decide on priority areas, taking account of available resources*
>
> *The Inspectorate is faced with a number of competing demands for its attention and must decide how to allocate its limited resources in order to reduce risk to the environment or tackle actual environmental harm. The Inspectorate decides therefore to perform a risk assessment to determine the issues to prioritise. In the risk assessment, illegal waste management sites score high in terms of environmental damage and the economic harm done to legitimate operators and investment in high quality waste management infrastructure. The inspectorate's assessment is that resource spent on tackling the illegal waste sites will deliver a greater environmental impact than spending more resource on, for example, additional inspections at permitted facilities.*
>
> *Prior to establishing the project, the Inspectorate performs an initial scoping exercise to determine the size of the task, resources required, the governance arrangements, phasing and duration of the project.*
>
> *The Inspectorate considers that it can make sufficient resources available for tackling the problem of illegal waste sites – this will involve recruiting additional staff with specialist intelligence gathering and analysis skills, initially on a temporary basis. This is made possible because of efficiency savings elsewhere in the organisation, and the Inspectorate's policy of maximising the share of its resources directed to 'frontline' activities that deliver environmental outcomes.*

At this stage illegal waste sites are assessed by the Inspectorate to be a high risk issue and consequently identified as high priority. When it comes to assessing risks of different types of installations, the Integrated Risk Assessment Method (IRAM), developed by IMPEL under the 'easyTools' project, can be useful. The tool works with a set of rules and a number of steering mechanisms. Inspecting authorities can use this tool for free; it is available online through the IMPEL website.

The inspectorate in our case makes an estimation of the resources needed for targeting illegal waste sites. The available resources of an inspecting authority may already at this stage constitute a compelling reason for the Inspectorate to adjust its priorities. Note that in our case the Inspectorate has both the will and the possibility to allocate sufficient resources for targeting the problem area.

Defining Objectives

> **Step 1C**
>
> *Given the high priority assigned to illegal waste sites, the Inspectorate sets an objective to bring illegal waste management sites into compliance or close them down in order to reduce the risks they pose to the environment, communities and legitimate businesses.*

The Inspectorate has set as objective to significantly reduce the number and impact of illegal waste management sites. This is consistent with the more general goal of the organisation to ensure compliance with the waste legislation.

Establishing the baseline situations

> **Step 1C**
>
> *Following discussion with central Government and legitimate operators, the inspectorate decides to establish a task force focusing solely on illegal waste sites. A project structure is put in place involving a project manager, the inspectorate's national enforcement service, local enforcement teams and oversight from senior managers. The first activity of the task force is to develop the intelligence picture, including confirming the number, type, and risk profile of the illegal waste sites.*

Before targets can be set, it is important to establish the baseline situation. It is about determining the baseline from which the target can be defined – in our case the number of existing illegal waste sites at the start of the project. It may also include, as in our case, further clarifying the characteristics of the prioritized area: detailed classification of the illegal waste sites, corresponding risk profiles, etc.

Setting targets on outcomes and defining performance indicators

> **Step 1C**
>
> *The Inspectorate sets a target that the number of known illegal waste sites is reduced by 50% between 2011 and 2013, based on the number of known illegal waste sites in 2011. The target is very challenging and not only takes account of illegal waste sites known about at the beginning of the project but also any new sites that emerge during the life of the project. So for example, if there were 600 known illegal waste sites, the aspirational target would be to close 300 sites during the project. However, if between 2011 and 2013, another 500 illegal sites open or identified, the aspirational target would be to close 850 sites.*
>
> *To monitor what progress is made in achieving the target the following performance indicators are chosen:*

- *Reduction in the number of known illegal sites (linked to 2011 baseline);*

- *Number of sites which have been closed or brought into compliance;*

- *Positive feedback from legal operators and communities (i.e. that they think the situation has significantly improved; fewer reports of illegal sites);*

- *Feedback from field officers;*

- *Increase in the permitted capacity or throughput at permitted sites.*

The target in our case is based on the objective to reduce illegal waste sites. The longer term target is to be achieved in 2013 and is, a reduction of illegal waste sites by fifty percent, compared to the baseline of 2011. A number of quantitative and qualitative performance indicators have been selected to help assess progress in achieving the target. Note that the Inspectorate could also have set targets and performance indicators on inputs and outputs.

Defining Strategies

Step 1C

The inspectorate after a thorough analysis of the problem, the sector and its compliance behavior decides to apply systematically and consistently the following interventions:

- *To develop the national and local intelligence picture on illegal waste sites to understand both the symptoms and the causes of the problem. This intelligence will be used to inform both end of pipe enforcement activity and up-stream disruption activities;*

- *To speed up the closure of sites. As part of doing this, the inspectorate will ensure that the criminal activity is stopped and not displaced to a new site;*

- *To engage with the inspectorate's partners and stakeholders. This will include working with partner organisations to improve effectiveness in dealing with the problem. The inspectorate will also work with industry so that they understand their role in helping to tackle the problem;*

- *To use innovative interventions and approaches to tackling illegal waste sites. Through this work the inspectorate will understand which are the most effective, leaving a legacy of a more informed toolbox for dealing with the problem;*

- *To use the project resource to help intelligence-led enforcement gain greater momentum across the organisation. Where appropriate, facilitate the transfer of knowledge and skills from the project to the wider inspectorate helping to ensure long-lasting benefits. This will include careful planning and management of the project closure;*

- *To ensure environmental outcomes are sought, clearing the sites of waste where possible.*

The strategy outlines the combination and/or succession of interventions applied. In our case a range of interventions is used: prevention, providing information, transfer of knowledge, disruption, enforcement, communicate progress, spread best practice, engage stakeholders, etc. The selected interventions will often have a different timing and duration, and will require different resources. Together they form a mix, a combination that is expected to help achieve the target.

Planning

> ### *Step 1D*
>
> *The Inspectorate decides that the project will run in three distinct phases:*
>
> *Phase I (November 2011 to March 12) - developing the intelligence picture, including confirming the number, type, and risk profile of the illegal waste sites.*
>
> *Phase II (April 12 to March 13) - acting on the intelligence – prevention, disruption and enforcement activities guided by the inspectorate's intelligence picture as well as further intelligence development.*
>
> *Phase III (April 13 to September 13) – embedding new approaches developed during phase II and closing the project in an orderly transition.*
>
> *A workshop will take place in March 2012 to review the intelligence held by the inspectorate and select the prevention, intelligence and enforcement activities that will be undertaken in Phase II.*
>
> *This planning will be incorporated in the yearly inspection plans and schedules for 2011, 2012 and 2013. These documents contain special sections dedicated to this particular project.*

Often the necessary interventions and actions are interrelated and reinforce each other. Almost always they have to be implemented over a period of more than one year to be really effective. Therefore, a target will usually be set for a longer time horizon than one year, as in our case. To manage the project properly it is important to break down the process into several phases and incorporate these in the yearly inspection plans and schedules. Based on the chosen strategy, interventions are outlined and concrete actions are described (indicating numbers, timing and duration of actions, allocated staff, equipment and other resources, etc.) in the successive inspection plans and inspection schedules. The inspection plan will also describe the targets and indicators which have been set.

Execution and reporting, Performance Monitoring and Review

> ### *Step 3, 4 and 1D*
>
> *The Special Task force on illegal Waste Sites of the Inspectorate is in charge of implementing the section in the inspection plan and schedule dealing with this particular project. The Taskforce is well connected with the inspectors on the ground. The Taskforce checks regularly whether all planned actions are carried out according to the plan and the necessary data coming out of these actions are properly recorded. It takes care of a periodic review of the intelligence gathered, the latest assessment on the number and type of illegal waste sites and resource requirement.*
>
> *Progress is periodically monitored using the performance indicators defined earlier and reported to senior management and stakeholders. Unexpected problems quickly are escalated by the Taskforce for resolution. Thorough project review is foreseen at the end of each year. This may lead to adjustment of the target, the strategies and the actions for the next year.*

In our case a project and taskforce are established to manage the process of organising and carrying out targeted supervision activities. The project is given special, separate attention in the overall yearly inspection plans and schedules of the Inspectorate. The senior management of the Inspectorate and relevant stakeholders are involved and play their role in keeping the project on the right track. The commitment and expertise of the inspectors are sought from the start of the project. A successful outcome is also dependent on the robust implementation of planned project activities, carefully monitoring by the taskforce, well organised collection of data on actions carried out, regular monitoring against the performance indicators and procedure for review/ revision of the project target, strategy and actions.

The next three cases will further illustrate how in practise inspection targets are used.

Case 2: IED

In Region A, there are 800 IED installations. To implement article 23 of the Industrial Emission Directive (IED), the Environmental Inspectorate has chosen to work with the Integrated Risk Assessment Method (IRAM) developed by IMPEL under the "Easytools" project. To establish a baseline situation, the inspectorate undertook integrated inspections of the 800 installations following the criteria set in article 23 of the IED. The information collected allowed the inspectorate to place each installation into one of three risk categories (High risk, Medium risk and Low risk).

The Inspectorate wants to focus on compliance as a mean to reduce the overall environmental risks of the installations. Therefore the criteria "compliance", (as part of the operator performance in IRAM) was given a higher weighting factor. The results of the risk assessment were 20% high risk (HR), 30% medium risk (MR) and 50% low risk (LR).

The compliance classification scheme allows the classification of sites into 3 categories: high compliance (HC), medium compliance (MC) and low compliance (LC). The first visit gave the following classification in compliance: HC 60%, MC 25% and LC 15%.

Describing the context

Goals

To control or reduce the risk of environmental deterioration by improving compliance of the sites with highest potential risk for the environment

Setting priorities

Priorities

Inspection of IED sites focusing on the installations with the highest risk (HR and MR) and on installations with a lower level of compliance (the latter meaning the installations with the risk criteria compliance classified as LC)

Resources

60% of the inspectors will be allocated to this project.

Defining objectives and strategies

Objectives

Reduce the risk of environmental damage by the IED sites and increase the level of compliance of the IPPC sites scoring a worst classification on the compliance risk criteria

Baseline situation

Region with 800 IED sites
Risk classification 2012: 20% HR. 30% MR and 50% LR
Compliance Criteria classification in 2012: 60% HC, 25% MC and 15%LC

Targets

By the end of 2013
- The LC sites will be reduced in 60% of the level in 2012
- The HR sites will be reduced in 40%of the level in 2012

By the end of 2014
- The LC sites will be reduced in 80% of the level in 2012
- The HR sites will be reduced in 60% of the level in 2012
- 30% of the sites classified MC in 2012 will improve category to HC
- 20% of the sites classified MR in 2012 will improve category to LR

Performance monitoring

Strategies

Inspection frequency based on risk classification.
Adequate enforcement actions on the LC sites to reduce its non compliances
Analysis of the reason that leads to the actual level of compliance of the high risk sites that are simultaneously LC

Planning and execution

Planned actions & Actions

_2012_
- Integrated inspection at all installations to collect information and assess the risk.

_2013_
- Adequate enforcement actions on all the LC sites, especially the ones with high risk classification in order to reduce the non compliances.
- Inspection of all high risk sites
- Inspection visit to 50% of MR sites and 33% LR sites

_2014_
- Follow-up inspections in order to check whether the measures were implemented and if compliance has improved (in case of HR and LC sites) and inspection of the MR and MC sites that have the highest risk classification within the respective group.

Performance monitoring

Monitoring with Performance Indicators

- % of sites in each risk category (HR, MR, LR)
- % of sites in each (risk criteria) compliance category (HC, MC, LC)

Case 3: Odour nuisance

In Region B, a severe odour nuisance resulted in the inspecting authority receiving many complaints. The Inspecting authority performed a general risk assessment (on the level of legislation/tasks) in which the odour problem was scored as "high risk". The source(s) of the odour problem was not known. A project was set up as part of the inspection plan to solve this problem over a period of 3 years.

| **Describing the context** | **Goals** | The goal of the Regional Authority is to contribute to a healthy and clean environment by improving ambient air, water and soil, preventing the production of waste and promoting the recycling of waste and securing compliance with environmental law by the operators. |

| **Setting priorities** | **Priorities** | By running a general risk assessment the different tasks and responsibilities of the authority have been reviewed. Odour nuisance in the region was identified as one of the highest priority areas. |
| | **Resources** | Number of hours needed for this campaign is estimated on 600 hours for 2012 and 400 hours for 2013 and 400 hours for 2014. |

Defining objectives and strategies

Objectives

To reduce odour nuisance in region A by mid 2014

Base line situation

The baseline situation will be established by conducting an ambient odour study and characterise the episodes of odour nuisance to define the number of odour units and verified odour nuisance complaints..

Targets

Performance monitoring

- Target 1: All installations and activities that are identified as the main source of the odour nuisance comply with legislation or permit conditions by 1-7-2014;
- Target 2: The number of odour units does not exceed two on any day in the first half of 2014;
- Target 3: The average monthly number of verified odour nuisance complaints in the period 1-1-2014 till 1-7-2014 is reduced by 50% compared to the average monthly number of verified odour nuisance complaints in the period 1-1-2012 till 1-7-2012.
- Performance indicators: number of verified odour complaints, number of odour units per day, number of non compliances to legislation or permit conditions by installations identified as the main source of the odour nuisance.

Strategies

- Gathering information
- Building relations and communicating with authorities, companies and local community,
- Inspection and enforcement

Planning and execution

Planned actions & Actions

2012
- Setting the baseline situation and identify main sources

2013
- Inspection of sites and activities
- Impose measures on companies
- Inspect if measures have been implemented

2012 -2013 -2014
- Registration of complaints
- Working together in a project team of representatives of the Inspecting authority, local administration and companies
- Informing the local community about the project

Performance monitoring

Monitoring with performance indicators

Yearly monitoring on
- Number of verified odour complaints
- Number of odour units per day
- Number of non compliances to legislation or permit conditions by installations identified as the main source of the odour nuisance.

Case 4: High level of PM10

In Region C, the air quality was poor because of a concentration of PM10 in the ambient air that exceeded the air quality norm by 50%. In the general risk assessment (on the level of legislation/tasks) the high concentration of PM10 got a high score and was therefore considered to be a high priority issue. Focussing on industrial sources, the inspecting authority performed a specific risk assessment on the level of industrial installations, applying an increased weighting factor for fine dust. Ten installations that had substantial fine dust emissions were labelled high risk installations. Estimations showed that full compliance by this specific group of installations with the requirements concerned would result in a significant overall reduction of fine dust emissions and reduce the exceedance of the air quality norm to about 10%. A special campaign was set up to bring these installations into full compliance.

This action is taken as part of a larger programme to improve the air quality in Region C according to EU legislation.

Describing the context	**Goals**	The goal is ambient air quality that meets the PM10 concentration that meets the EU Legislation
Setting priorities	**Priorities**	By increasing the weight factor of PM 10 the risk assessment identified 10 installations in the high risk category that potentially emit PM 10.
	Resources	Number of hours needed for this campaign is estimated on 300 hours a year.
Defining objectives and strategies	**Objectives**	To ensure that the PM 10 concentration established in the European norm (max 50 µmg/m3 day average) is complied with.
	Baseline situation	The baseline situation is the day average PM 10 concentration (73 µmg/m3) that has been monitored in Region B on 1-1-2012.
	Targets **Performance Indicators**	Target: Four years after the start of the campaign the 10 prioritised industrial installations fully comply with PM 10 provisions in their permit, leading to a situation in which the exceedance of the PM 10 concentration norm is no more than 10 percent in the region. Performance Indicators: • Actual average level of PM 10 concentration in region B and actual exceedance of PM 10 norm and • Actual number of prioritised installations in full compliance with the PM concentration ELV on 1-1-2012, 1-1-2013, 1-1-2014 and 1-1-2015
	Strategies	• Communicating with industry about the project upfront • Inspections and advise • Enforcement • Initiate permit revisions where necessary • -
Planning and execution	**Planned actions & Actions**	• Organise meeting with industry • Inspection of sites • Provide advise • Impose measures on companies • Inspect if measures have been implemented • Advise to change permits
Performance monitoring	**Monitoring with performance indicators**	Yearly monitoring on • Compliance behaviour of the 10 installations in what respects PM ELV. • Concentration on PM 10 as a day average.

ANNEX VI

Practical and organisational aspects for setting targets

In this annex you can find some organisational and practical issues an inspecting authority should take into consideration when engaging in the process of setting targets and performance monitoring.

Organising the process

Targets raise expectations both externally and internally, expectations that need to be satisfied. Targets as a steering instrument will require from the authority long-term commitment, discipline and in many cases a change of working processes and culture. In short: introducing targets can have a profound impact on the organisation and how it is perceived. Setting targets is therefore a serious matter and cannot be a stand-alone exercise, separate from the other steps in the process of planning and executing supervision activities. If a target is set in isolation there is a serious risk that it will be ill founded and will prove to be not relevant and/or not achievable.

The authority will also need to consider what organisational format is going to be the most appropriate for managing its work. Can these actions best be managed through a specific project, programme or (thematic) campaign or as an integrated part of routine inspection activities? Using a specific organisational format like a project helps in keeping sufficient focus but at the same time bears the risk of being perceived as not part of the core business of the authority and therefore management may be more easily tempted to terminate it prematurely.

All important decisions in the process should have the explicit backing of senior management; their continuing support is required to retain commitment from across the inspectorate and to safeguard the necessary resources. Early involvement of staff and key stakeholders is also essential for getting the necessary support for the target-based project and ensuring that it is realistic and understood.

For an authority it is key to properly manage its own and others' ambitions and expectations: it is better to start small, to learn by doing, to engage only in matters you can influence and to be conscious of possible constraints or risks of failure.

When setting up a project for targeted action in a certain area it is advisable to consider the following issues:

o   Identify the areas the targeted actions can contribute to solve environmental problems or reduce risks

o   Identify and describe the relevant legislation and in particular key requirements and any draft legislation which is likely to come into force shortly;

o   Assess what information is available on the target group, their compliance record and behaviour and the connected environmental impact/risks;

o   Assess what information is still missing and how that information should be collected; consider performing additional fact finding inspections, taking additional samples, making further measurements or carrying out more detailed surveys to collect the necessary information; consider asking inspectors for their expert judgments as an additional source of information;

o   Assess any necessary involvement of other authorities;

o   Assess the possible supporting or obstructing role stakeholders (trade unions, consumer and industry associations) can/might play

o   Assess if there will be sufficient expertise and skills available for carrying out the project;

o   Assess how management and staff can be properly informed and trained;

o   Assess how inspectors can be actively involved in the process, including asking feedback from the inspectors at the different stages of the project (on the workload, issues related to data collection etc);

o   Consider establishing a communication plan and appointing a spokesman for the project;

o   Assess the information needs of the different internal and external audiences who have an interest in the project at the different stages of the project.

Communication

During each of the different stages (i.e. when identifying the area concerned as high priority, defining the objectives and targets, establishing the baseline situation, choosing the right strategy, carrying out the actions, monitoring performance and assessing achievements) good internal and external communication is important. Effective communication is about developing a dialogue that encourages the sharing of information. It involves seeking opinions and feed back, providing information (facts and figures) and explaining decisions and actions. Proper internal communication will encourage everyone within the authority to adopt the same line and create support and commitment throughout the organisation. Clear and timely external communication, for instance by using social media, will make the authority transparent and enables it to explain what it is doing. It can also be used to get the cooperation from relevant stakeholders, other competent authorities and the target groups concerned.

Priorities

The priorities can be set by using a risk assessment. Different methods for assessing risks related to industrial installations exist in Europe. This information, including the new developed methodology IRAM, can be found in the final report of the IMPEL project easyTools. The authority should also decide which criteria (for impact and probability) are going to be used to assess the priority areas. Although the criteria are likely to remain more or less the same throughout the years within an authority, the weighting factors of the different criteria might change as the environmental problems change.

Targets

Targets should be set in such a way that progress in achieving the targets can be monitored. The following aspects should be considered:

o   Define the targets as SMART (Specific, Measurable, Achievable, Realistic, Timely) as possible, taking into account the baseline situation;

     ▪   Select the key regulatory requirements that should be complied with;

- Select the targeted population – in many cases a certain segment of the regulated community;

- Select the proper timeframe – in many cases it's more suitable to use multi annual target;

- Make sure the targets are realistic in the sense that they can be achieved when applying the chosen intervention strategy (compliance promotion, compliance checking, enforcement);

- When targets are related to risk categories of inspection objects (e.g. lowering the risk category of a facility from high to a lower level) one should previously identify if a high classification is related to a situation an inspection authority has a certain degree of influence on (like compliance behaviour);

- Make sure the targets are realistic in the sense that they can be achieved given the available resources.

o   Consider setting different targets for different moments in time. Consider distinguishing different phases/steps

Performance monitoring

An inspection authority will want to know how it is performing in view of the objectives and targets it has set. Especially in the situation of multiple annual objectives an inspection authority might find it necessary to monitor its performance against certain performance indicators. Performance indicators need to be meaningful (*i.e. linked to the targets*), clear and easy to measure. Ideally the monitoring system will make maximum use of systems and data that are already in use in order to avoid disproportionate administrative burdens. The authority will need to consider whether data needs to be externally verified, how it will be collected, and how often it will be reviewed. It is important to recognise that monitoring performance won't just rely of numerical information. Qualitative feedback from the public, operators and field staff can be a valuable tool in assessing performance (and how the performance is being perceived). In assessing the progress made towards the desired outcome, the authority needs to understand the contribution its activities have made. If outcome targets are missed, does this suggest the authority has not been effective or have targets been missed because of one or more external factors beyond the authority's control or competence? What are these factors, can their impact be quantified and is it possible to revise the authority's work plan to counteract their impact?

In cases where multiple annual objectives have been defined an inspecting authority might find it necessary to also review on a regular basis if the targets that have been set, are still valid, taking into account changes to resources, risk or population size.

Performance monitoring is a process to measure whether you are achieving your targets and objectives. Here are the main steps in the process:

1. Decide which areas you need to measure;

2. Collect relevant and reliable data;

3. Analyse the data and turn it into useful information;

4. Understand your performance and assess the need for corrective action.

The following aspects should be considered when establishing performance indicators:

- Comparison – a single number is not a performance indicator. It needs to be set in context by comparing with past performance or a future target;

- Objective – the data used must be unbiased and complete;

- Evidence – the data you are going to assess to identify performance;

- Degree – indicators will be more powerful when they can identify smaller changes in performance. For example, measuring customer satisfaction on a scale of 1-10; provides more information than measuring customer satisfaction as a simple yes / no;

- Performance result – measure what you should, can and will do something about;

- Over time – measuring performance over time and plotting it on a graph, allow you to identify trends and predict future events.

ANNEX VII

Issues that could be addressed in a training programme

Before developing a training programme for an inspector or a group of inspectors a training needs assessment to be performed. This assessment will show the gap(s) between the required and existing skills and qualifications for job. Based on this assessment a training programme <u>could</u> include the following issues:

Knowledge:
• of work and production process within governmental organisations
• of procedures, methods and systems in the field of environmental inspections
• of Industrial sectors
• of the applicable legislation
• of the procedures in court
• of environmental management systems

Specific skills:
• basic inspection skills
• sampling of emissions, soil and waste
• assessment of administrations and data management (e.g. maintenance, monitoring, waste management)
• basic information technology
• social skills, especially for dealing with difficult stakeholders
• communication skills to communicate with industry, present enforcement action to the public and provide evidence in a court of law
• management skills to ensure a high quality and effective inspectorate, including planning skills

The inspecting authority should look into the possibility for joint or mutual training with staff from other relevant authorities.

ANNEX VIII

Levels of non-compliances

Indicative list

	Levels of non-compliance	Permit conditions complied with?	Or emission limit values complied with?	Or environmental quality standards complied with?		Aim of the permit achieved?
A	Minor cases of non-compliance	No	Yes	Yes		🙂
B	Relevant or significant cases of non-compliance	No	No	Yes		🙂
C	Important or serious cases of non-compliance	No	No	No		🙂

🙂 No (or negligible) offences

🙂 To be assessed from case to case; measures necessary

🙂 Enforcement required

A - Compliance or minor cases of non-compliance
- No or only minor violations of permit conditions /legal obligations/operator duties with no consequences on the protection and precaution against pollution.
- Emission limit values, environmental quality standards and other limitations are still met.
- The aim of the permit (to protect the human health and the environment against pollution and to take precautionary measures against pollution) is still achieved.
- The competent authority gives a note to the operator.

Examples
- Operations diary is not kept orderly or only with delay
- Missing work instructions
- Pipelines are not labelled properly
- Documentation of stipulated maintenance work is not directly available

B - Relevant or significant cases of non-compliance
- Significant violations of permit conditions/violations of legal obligations/operator duties which can have consequences on the precaution against pollution.
- It is unclear if the emission limit values are complied with.
- The aim of the permit (to protect the human health and the environment against pollution and to take precautionary measures against pollution) is in question.

- The competent authority ensures that the operator takes all the necessary actions identified to restore compliance within a reasonable period of time.
- According to Articles 8 (2a) and 20 (1) (IED) the operator has to notify the competent authority of the non-compliance.

Examples
- Frequency of maintenance is not complied with
- Orders from inspection reports are not fulfilled
- Maintenance work on an exhaust gas cleaning facility was not carried out
- Failure of monitoring systems
- Failure of a noise protection facility without exceeding of ambient noise limit values

C - Important or serious cases of non-compliance
- Serious violations of permit conditions/violations of legal obligations/operator duties which derogate the precaution or the protection against pollution.
- Emission limit values, environmental quality standards or other limitations are not met.
- The aim of the permit (to protect the human health and the environment against pollution and to take precautionary measures against pollution) is not met.
- According to Article 23 (5) a non-routine environmental inspection will be carried out as soon as possible in cases mentioned in Article 23 (5).
- According to Article 23 (4) an additional site visit will be carried out within 6 months after the important case of non-compliance has been detected.
- According to Article 8 (2) the competent authority considers to suspend the operation of the installation until compliance is restored.
- According to Article 20 (2) no substantial change planned by the operator shall be made with out a permit granted in accordance with the IED.

Examples
- Evidence of maintenance or monitoring of environmentally relevant parts of the installation does not exist or is not available
- Operation of an installation without permit or a substantial change of an installation without changes of the permit
- Relevant exceeding of the maximum permitted waste storage capacity
- Operation of a malfunctioning filter installations or protection systems with exceeding of emission limit values
- Storage of dangerous (liquid) waste on unprotected soil
- Operation of an old single-walled sub soil pipeline for hazardous substances without proper protection against corrosion

Please note that all given **examples** shall be related to the definition given under A, B und C. Deviations can lead to a lower or higher classification of specific examples.

ANNEX IX

Lay-out inspection report

Minimum requirements for publishing a report actively on the internet are:
- Permit number or identification;
- Site or installation name (not full address)
- Date of visit
- Location
- Scope (what was inspected)
- Summary of the outcome (level of compliance, follow up requirements)
- Hi-level summary

Optional requirements for reports are:
- full form report
- Other assessment types (e.g. data audit, non routine)

Example see next page

Inspection Report

1. Motive

According to Article 23 of the Industrial Emissions Directive (IED) the competent inspection authorities are obliged to carry out routine on-site inspections. The period between two site visits is 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.

The purpose of routine inspections is to check compliance of the inspected installations with legal requirements and permit conditions. In case of non-compliance the competent authority will require the operator to take measures necessary to ensure that compliance is restored.

Following each site visit, the competent authority prepares a report describing the relevant findings regarding compliance of the installation with the permit conditions and conclusions on whether any further action is necessary. The report shall be made publicly available by the competent authority within 4 months of the site visit taking place.

2. Description

- Inspection basis (permit, legal regulations)
- Competent inspection authority, cooperating inspection authorities
- Kind of installation (e. g. power plant or chemical plant)
- Operator (Name of the company)
- Address
- Date of inspection
- Length of inspection time
- Scope of the inspection (e. g. integrated inspection, media that were inspected, parts of the installation that were inspected)
- Expected or unexpected inspection

3. Results / compliance

- No or only minor non-compliances
- Significant or relevant non-compliances
- Serious or important non-compliances

(The definitions of non-compliances are given in Annex VIII)

4. Measures

Initiated measures (e. g. warning letter, (supplementary) decree, fine, closing down of (parts of) the installation, cancellation of the permit)

(Inspection reports for publication shall not contain information that violates the rights of third parties, like protected data, information on business secrets and so on)