European Union Network for the Implementation and Enforcement of Environmental Law

Doing The Right Things (IED)

Combined guidance

2018/

A Step by step guidance for permitting and inspection

Date: 18-7-2018

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 Bruxelles, 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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Introduction

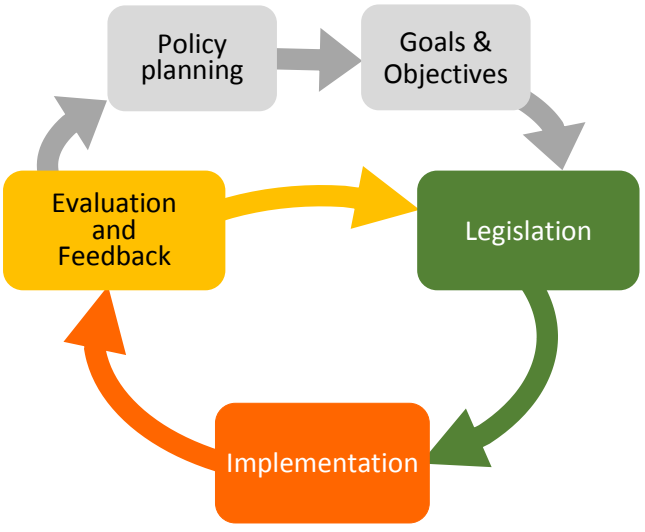
The Environmental Inspection Cycle is well known within IMPEL. It describes step by step how Environmental inspections should be planned and what to consider when undertaking inspections. The Environmental Inspection Cycle is also used by IMPEL as a framework for integrating other IMPEL inspection initiatives, creating better cohesion between the tools that are developed.

Although there is a lot of experience in Europe in environmental permitting (first IPPC and later IED), the permitting procedure has never been described in a step-by-step guidance. As a result there is no level playing field for the procedures of environmental permitting, there is no guidance for new permitting officers and there is less cohesion between the IMPEL initiatives on permitting.

The document that is now in front of you is a combined guidance for permitting and inspection.

Scope and purpose of the guidance

Although we strongly believe that this guidance can be used broadly we do focus on permitting and inspection in relation to the implementation of the Industrial Emission Directive (IED). To explain this we use the regulatory cycle as shown in fig 1. The Regulatory Cycle is used to assist government agencies in charge of regulating the impact to the environment and to develop strategies. It helps them, to work systematically towards a permitting, compliance and enforcement programme that will include structured feedback. Figure 1 shows the sequential steps. Activities within these steps are interrelated, and a missing or underdeveloped step immediately affects the step that follow. For example, inadequate permitting affects inspection and enforcement actions. Inspections are only effective if permitting can be used as a proper starting mechanism. Compliance checking and monitoring are only effective if an inspection system is in place and the consequences of non-compliance can be adequately addressed in the follow-up activities. When there are non-enforceable regulations or permit conditions in place, feedback may lead to adjustments in the legal framework or in the permit conditions to make them more enforceable.



In this guidance we will only cover the steps: Legislation; Implementation; and Evaluation and feedback. The implementation step represents Permitting and Inspection.

The guidance should be used in combination with the technical guidance from the European Commission that are already in place (and the formal/ informal Expert Groups), and the guidance already in place/ under development in your country. The guidance is written for inspectors, permit writers, their management but also for policy makers.

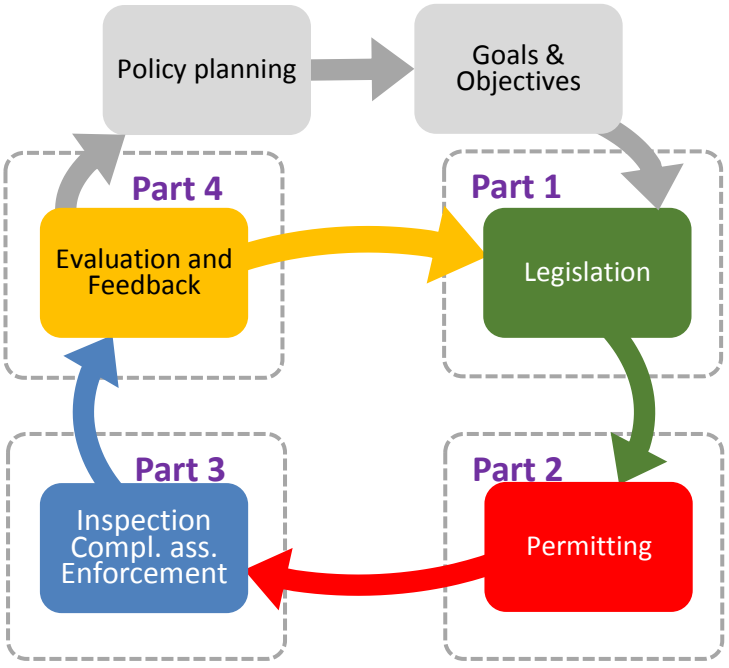
Main structure

The main structure of this guidance consists of the following 4 parts.

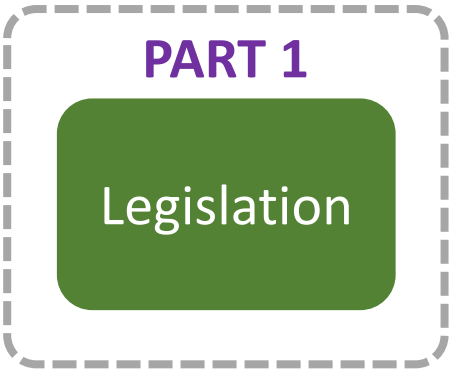
1. The first part is about legislation, it contains the general obligations from the Industrial Emissions Directive and is written for the policy makers;
2. The second part is about the permitting process, it contains a strategic, general and operational steps and is written for the permit officer and his or her management;
3. The third part is about the inspection process, this also contains a strategic, general and operational steps and is written for the inspector and his or her management;
4. The fourth part is about evaluation and feedback on the legislative process and its implementation and is written for the all target groups mentioned above.

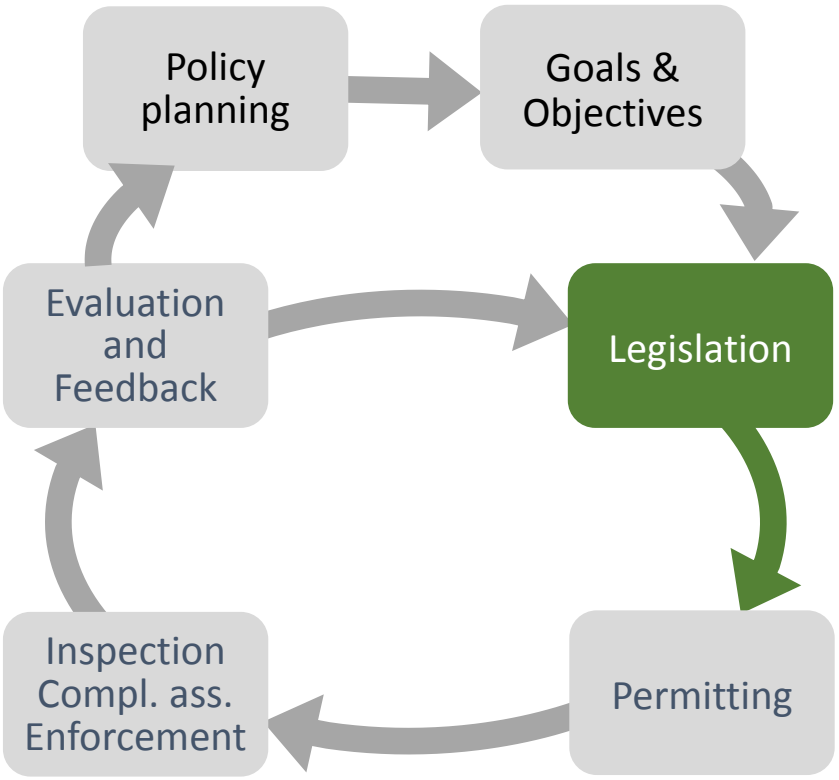
The 4 parts present the main body of this guidance. They can be seen as stepping stones to direct you to more detailed information that can be found in the linked factsheets, best practices and related IMPEL reports. Within part 2 and 3 you will also find operational and strategic cycles and corresponding steps. To keep the guidance readable we did our best to keep the mail body of this guidance as short as possible.

Enjoy reading !



PART 1. Legislation




Policy planning
Goals & Objectives
Legislation
Permitting
Inspection Compl. ass. Enforcement
Evaluation and Feedback

1. Industrial Emissions Directive 2010/75/EU

The Industrial Emissions Directive 2010/75/EU of the European Parliament and the Council (IED) is the main EU instrument regulating pollutant emissions from industrial installations. The IED was adopted on 24 November 2010 and entered into force on 6 January 2011.

1.1. Introduction

The IED aims to achieve a high level of protection of human health and the environment taken as a whole by reducing harmful industrial emissions across the EU, in particular through better application of Best Available Techniques (BAT). Around 50,000 installations undertaking the industrial activities listed in Annex I of the IED are required to operate in accordance with a permit (granted by the authorities in the Member States). This permit should contain conditions set in accordance with the principles and provisions of the IED. The IED is the successor of the Integrated Pollution Prevention and Control (IPPC) Directive.

1.2. IED principles

The IED is based on the following principles:

- ***An integrated approach:*** in which the regulation of installations takes into account environmental impacts as a whole including emissions to air, water and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, and restoration of the site upon closure.
- ***Best available techniques (BAT):*** where the permitting of installations and emission limit values are based on agreed BAT Conclusions and BAT Reference Documents (known as BREFs) published by the European Commission.
- ***Flexibility:*** by allowing the licensing authorities to set less strict emission limit values in specific cases where an assessment shows that the achievement of emission levels associated with BAT as described in the BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to geographical location or the local environmental conditions or the technical characteristics of the installation.
- ***A system for environmental inspections***: where Member States must set up a system of environmental inspections and draw up inspection plans. Site visits have to take place at least every 1 to 3 years, using risk-based criteria.
- ***Public participation:*** in decision-making and being informed of its consequences by having access to permit applications, the issued permits, the results of the monitoring of releases and the inspection actions that have been executed

1.3. IED implementation arrangements

The IED makes provisions for the establishment of two groups involving representatives from Member States to support the implementation of the IED. These are:

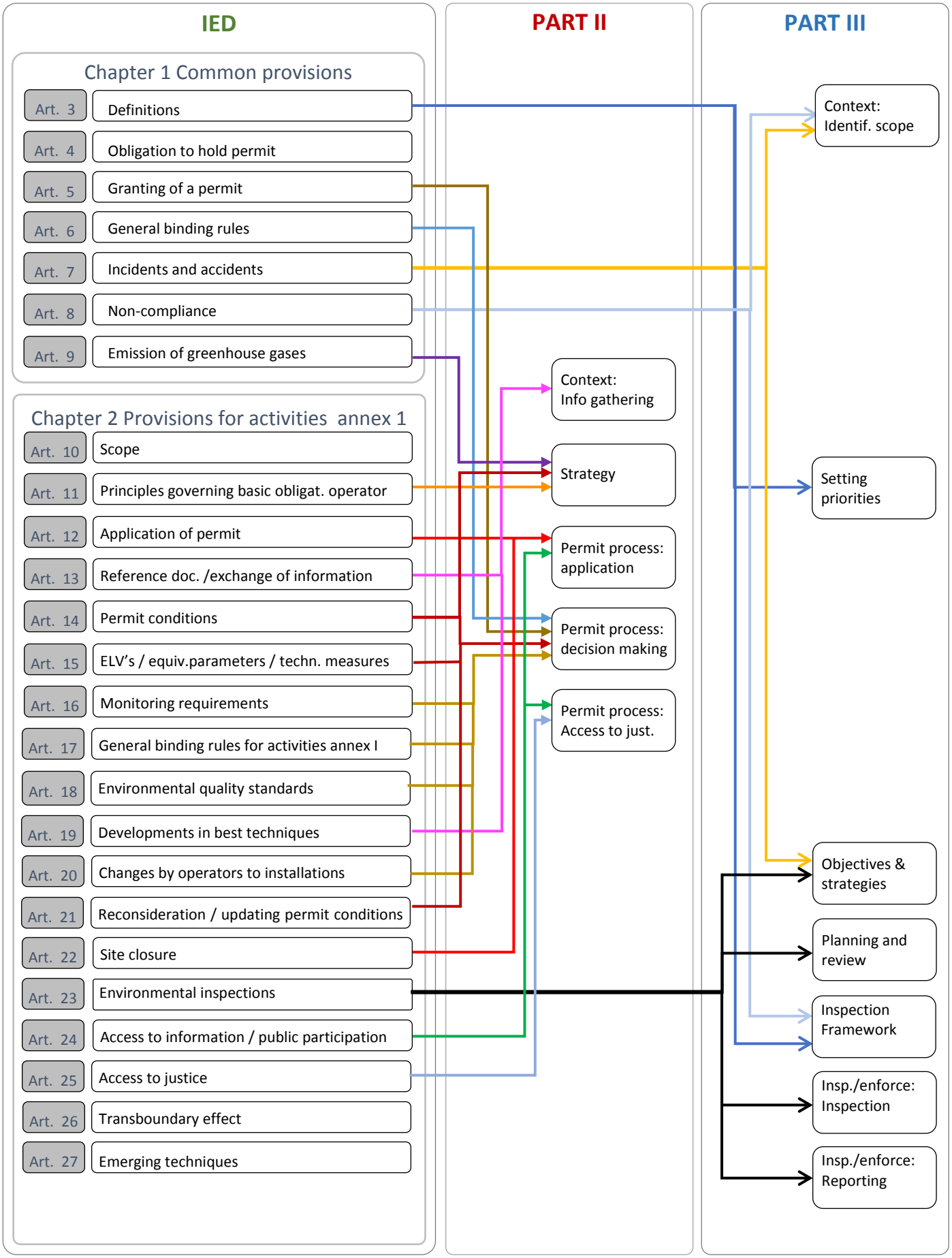
- ***The IED Article 13 Forum:*** a formal expert group set up to exchange of information between Member States, the industries concerned, non-governmental organisations promoting environmental protection and the Commission. The focus of this group is to review and form an opinion on the proposed content of the BAT reference documents.
- ***The IED Article 75 Committee:*** a formal Committee set up to assist the Commission by delivering opinions on implementing acts, including guidance on the collection of data and on the drawing up of BAT reference documents and on their quality assurance, BAT conclusions, implementing rules for large combustion plants and the type, format and frequency of reporting by Member States.
- ***The Industrial Emissions Expert Group (IEEG):*** An informal group established to facilitate the exchange of experiences and good practices concerning interpretation, transposition and implementation of the IED, and to advise the Commission during the preparation of delegated acts.

1.4. IED : article by article

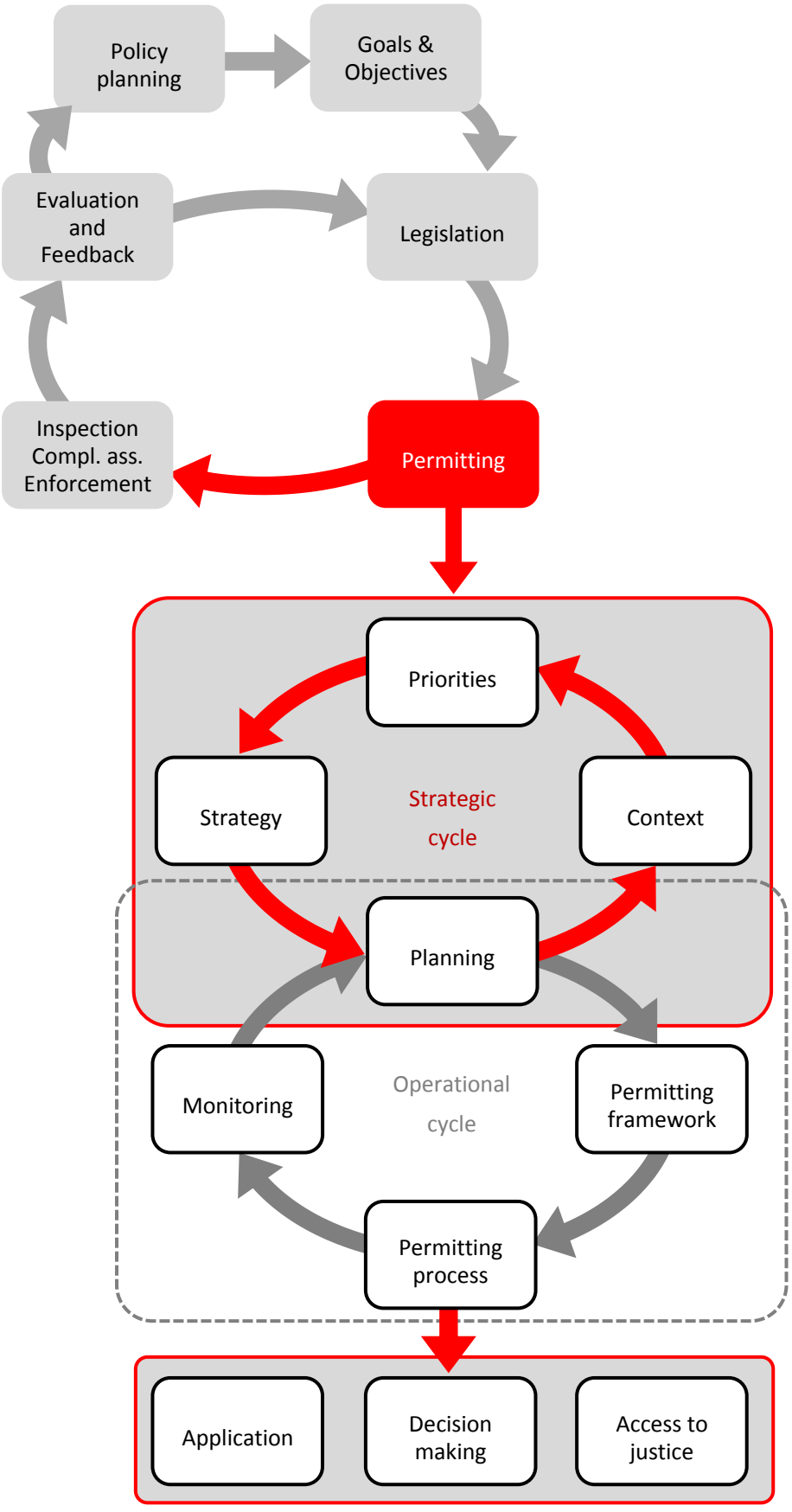
On the next page you will find a chart with all the relevant articles and the connecting sections in part II and III.

By clicking on the article you will be guided to the text of the IED (EUR-LEX).

Follow the lines to see what the relevant steps in the part II or part III are. Clicking on the boxes (or steps) you will jump to that step in Part II or III. In these steps you will also find the links to the factsheets and the good practices.

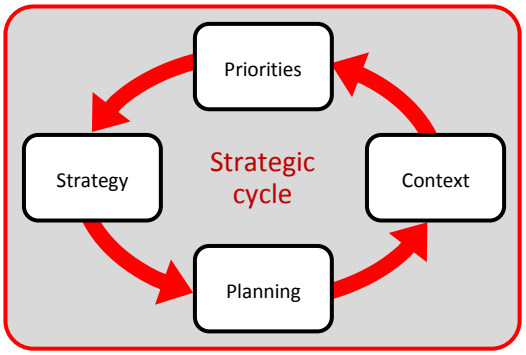

IED
PART II
PART III
Chapter 1 Common provisions
Art. 3 Definitions
Art. 4 Obligation to hold permit
Art. 5 Granting of a permit
Art. 6 General binding rules
Art. 7 Incidents and accidents
Art. 8 Non-compliance
Art. 9 Emission of greenhouse gases
Chapter 2 Provisions for activities annex 1
Art. 10 Scope
Art. 11 Principles governing basic obligat. operator
Art. 12 Application of permit
Art. 13 Reference doc. /exchange of information
Art. 14 Permit conditions
Art. 15 ELV's / equiv.parameters / techn. measures
Art. 16 Monitoring requirements
Art. 17 General binding rules for activities annex I
Art. 18 Environmental quality standards
Art. 19 Developments in best techniques
Art. 20 Changes by operators to installations
Art. 21 Reconsideration / updating permit conditions
Art. 22 Site closure
Art. 23 Environmental inspections
Art. 24 Access to information / public participation
Art. 25 Access to justice
Art. 26 Transboundary effect
Art. 27 Emerging techniques
Context: Info gathering
Strategy
Permit process: application
Permit process: decision making
Permit process: Access to just.
Context: Identif. scope
Setting priorities
Objectives & strategies
Planning and review
Inspection Framework
Insp./enforce: Inspection
Insp./enforce: Reporting

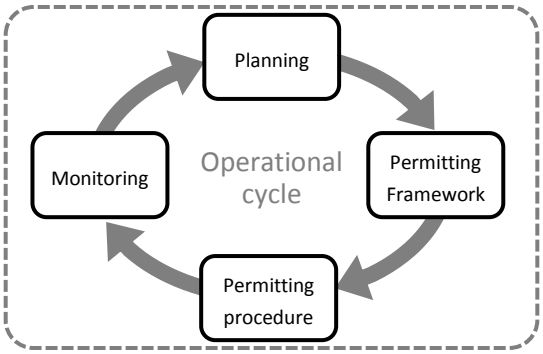
PART 2. Permitting


Policy planning
Goals & Objectives
Legislation
Permitting
Inspection Compl. ass. Enforcement
Evaluation and Feedback
Priorities
Strategy
Context
Strategic cycle
Planning
Monitoring
Permitting framework
Permitting process
Operational cycle
Application
Decision making
Access to justice

2. Permitting cycle

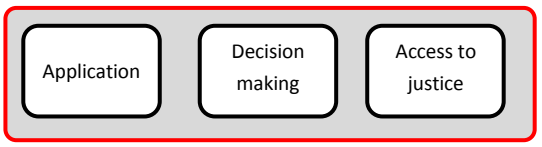
The structure can best be explained by first focussing on the Strategic cycle. The strategic cycle is for the managers. The first step here is the Context. In the Context we identify and describe the information that is needed to set the policy and the right priorities (step 2) and define our strategies (step 3). Based on these 3 steps we can prepare a well-balanced workload plan for the permit writer.





The operational cycle is based on Plan Do Check Act Cycle (PDCA). First step is preparing a plan for the workload of the permit writer (see strategic cycle above). Based on this plan we make sure all conditions are met to execute this work (Permitting Framework). Next step is the execution of this work (Permitting procedure, see next paragraph). Last step is the monitoring. Here we check if targets in the plan are met and if we need to make changes in the Planning step.

In the Permitting procedure the actual permitting takes place. Although the steps in this part are presented linear (with a clear beginning and an end) in most cases (especially with the IED) when the permit is granted there will be a moment in time the permit needs to be reviewed and possibly revised.

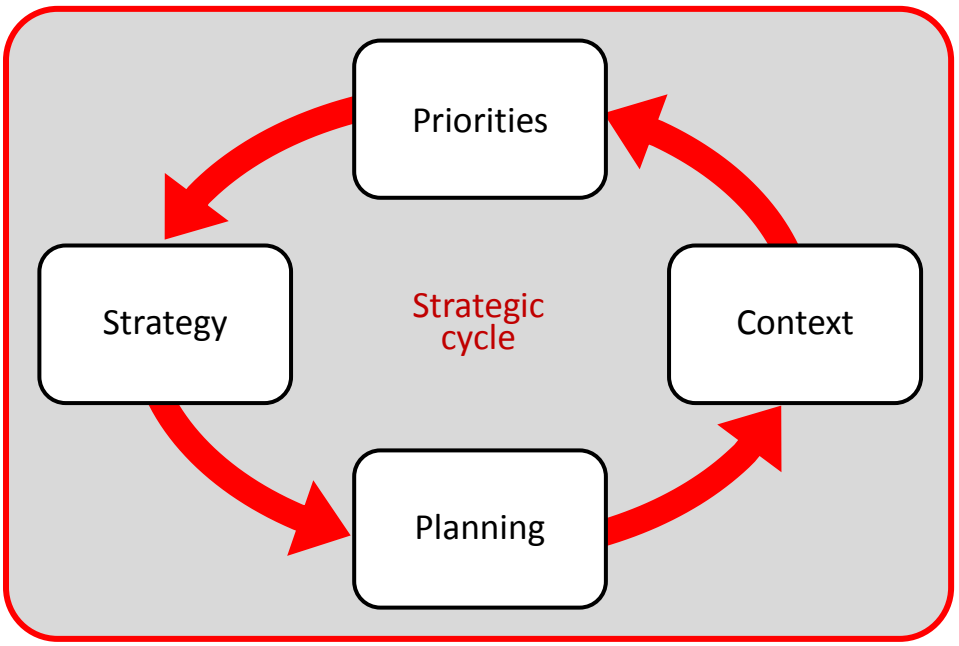


The target groups we address are:

- Strategic cycle: managers
- Operational cycle: permit writers
- Permitting procedure: Permit writers and inspectors

It's good practise that a permit writer and the inspector understands what is happening in the strategic part.

3. Strategic (permitting) cycle



Describing the context is a first step of the systematic approach for developing a work plan for permitting and a necessary input for setting policies, priorities and strategies. An inventory of the context within which the authority has to operate is vital to define its activities and sets the scope of the work plan. See chapter 3.1.

The second step is "Priorities". Setting priorities is necessary when first in, first out is not an option and to make best use of resources available. See chapter 3.2.

The third step is "Strategies". Strategy should be seen a method or plan chosen to achieve the desired goals and objectives that have been set by either national level or your own organisation. It will contain all kinds of actions that will contribute to these achievements. See chapter 3.3.

The fourth step is "Planning". In this step the work plan for permitting is developed and will include the priorities, the strategies and the activities that will be carried out within the defined time period. In contrast to inspection plans, the work plan for permitting is not mandatory by the IED. It's therefor also not mandatory to actively publish the plan. However we do encourage authorities to develop such a plan and make this publically available. See chapter 3.4.

3.1. Context

Describing the context is a first step of the systematic approach for developing a work plan for permitting and a necessary input for setting policies, priorities and strategies. An inventory of the context within which the authority has to operate is vital to define its activities and sets the scope of the work 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 authority is also bound to national, regional or local policies, which are established by others. Furthermore the authority 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. This data is also assessed in the process of monitoring. The data that is gathered in this step is used for setting policies and priorities as outlined in the next step.

For inspectors this first step is almost identical. It's therefor strongly advised to exchange information and look for cooperation between permit writers and inspectors.

3.1.1. Identifying the scope

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 working plan. Together with the element "information gathering" (section 3.1.2) it provides the input for setting priorities. Issues that are relevant here are for example: the geographic area; goals and objectives of the authority; and the statutory tasks and competences. For a full list of all relevant issues see fact sheet 2.01.

See Factsheet 2.01

3.1.2. Information gathering

This element is about collecting more detailed information on the areas that are identified in section 3.1.1 and are needed to prioritise the work load and develop a work plan for permitting. Issues that are relevant here are for example: data on the (local) environment; technical data on the IED installations in the controlled area; the permit situation of these installations; and upcoming changes in legislations and BAT conclusions. For a full list of all the relevant issues see fact sheet 2.01.

See Factsheet 2.01

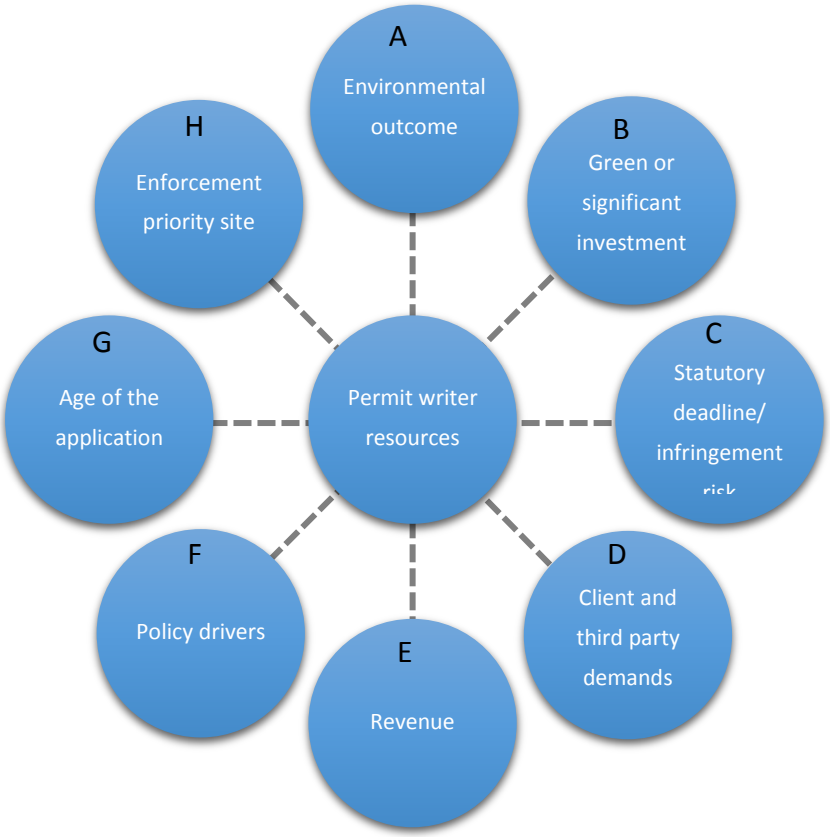
3.2. Priorities

In this step we look at priorities. Setting priorities is necessary in case we do not have enough resources and first in, first out is not an option for different kind of reasons.

Permitting Departments are responsible for a range of tasks which directly or indirectly relate to permitting. Available staff do not always provide for the operation of a first in first out application completion method. Where a first in first out method is not feasible a prioritisation model is required.

The aim of a prioritisation model is to identify the factors which influence the prioritisation of permit applications. These factors can then be used to rank permit applications received and those due to be received within the upcoming year.

The figure below is an example of a working set of prioritisation factors for permit applications. This model can be used as a starting point, however, due to variations across IMPEL Member countries these factors should be tailored to ensure relevance.



In random order:

a) Environmental Outcome: In some cases installations may be negatively impacting the environment due to e.g. historic contamination or current emissions. Inspection authorities bodies may wish to regulate activities at an installation that may be causing issues locally or perhaps the installation needs to be closed in a regulated manner.

b) Green or significant Investments: There may be a requirement nationally for a particular economic sector or emerging industry type to be given a priority where investments have been made in order to get these industries operational.
c) Statutory deadline/infringement risk: Applications may need to be prioritised where they have links to statutory deadlines (e.g. implementation of Commission Implementing Decisions relating to BAT conclusions), known infringements, any complaints being made to the Commission, petitions from the European Parliament, queries from MEPS or reports being submitted to the Commission which point to infringements of Community environmental law. Applications should be prioritised to ensure the risk of infringement is reduced.
d) Client and third party demand: Regulatory bodies may have a history of on-going communication with various clients and third parties. As a means of optimising stakeholder focus specific applications may need to be prioritised.
e) Revenue: It may be the case that applications which have higher fees are a priority depending on the financial climate of the regulatory body.
f) Policy drivers: Overall organisation policies require consideration in addition to local enforcement and permitting policies. National policies should also be considered e.g. circular economy, climate, greenhouse gases and national emission ceilings.
g) Age of the Application: If for any reason a permit application has not been progressed for an extended period of time it may need to be prioritised in order to ensure the information within the application remains relevant. Abandonment procedures may need to be progressed in some instances.
h) Enforcement Priority Sites: the Permitting Department should formalise a means of communication with the Permit Enforcement Department. This should ensure that enforcement staff relay their priorities with regard to specific installations and the justification for their prioritisation requirement.

Once the prioritisation model has been decided and agreed by management it can used to assess the current staffing level versus the permit applications which have been submitted and applications due to be submitted in the following year. This will enable permitting managers to allocate permit applications to permit writers with a justified priority ranking as part of the annual working plan for permitting.

It is important to note that this approach requires a certain degree of flexibility as factors which influence prioritisation of permit applications may change over the course of the year.

3.3. Strategy

In this step we look at strategy. Strategy should be seen a method or plan chosen to achieve the desired goals and objectives that have been set by either national level or your own organisation. It will contain all kinds of actions that will contribute to these achievements. The issues addressed in this section are not limited and more issues could be added

Applying BAT

The way permit conditions are set is by referencing the BAT conclusions, national guidelines, or by following national legislation. However the competent authority has the power to deviate from BAT conclusions as long as the performance levels i.e. the BAT AELs are met Derogations (setting less stricter ELV's than BAT AEL) are open to appeal in court and competent authorities should be able to defend this. The submitted EIA can also play an important role when defining the permit conditions. See fact sheet 2.02.

See Factsheet 2.02

Reviewing existing permits:

According to article 21 of the IED the competent authority has to reconsider or review all permit conditions, and where necessary to update these permit conditions. When reconsidering permit conditions, the competent authority shall use any information resulting from monitoring or inspections. The IED also sets a timeframe of 4 years after the publication of BAT conclusions. See fact sheet 03 reviewing existing permits for answers to questions about reviewing of permits.

See Factsheet 2.03

Objectives or targets for certain companies or industrial sectors

These objectives and targets that need to be reached are laid down in national legislation or in regional plans (e.g. air quality plan, action plans for noise reduction). Typical objectives or targets are set for air quality, risk reduction, odour, storm water runoff, waste management, reduction of greenhouse gases and energy efficiency. These objectives or targets should be translated in strategies within the permitting procedure.

Some examples are:

- The special requirements from legislation;
- The use of the EIA;
- According to the annual licensing plan;
- Control plan Air Quality;
- Industrial plans;
- Special guidelines that have to be followed. Deviation is possible in some circumstances;
- Regional programs for improving Air quality. There is an annual permitting plan which set priorities.

Encouraging and facilitating eco-innovations

Eco-innovations in terms of development and implementation of completely new processes and techniques leading to significantly improved monitoring, control or reduction of waste or emissions are key to achieving environmental goals and ambitions of Member States. Authorities can within the framework of IED permitting develop strategies and take various (organisational) measures aimed at proactively encouraging and facilitating operators who want to carry through eco-innovations.

See Factsheet 2.04

Relationship permitting and inspection

Establishing and encouraging a good level of communication, information exchange and relationship between permit writers and inspectors/enforcers is very important. Not only the quality of the permits will benefit from this, also work can be done more effective and more efficient. There are a number of opportunities the inspector can have a positive involvement in the permitting procedure.

See Factsheet 2.05

Transparency and visibility

Public visibility of the application, draft report and permit, submissions, objections and final report and permit. The permit procedure must be fully transparent and allow for public participation. This requirement is stated explicitly in the Industrial Emissions Directive and comes from the Aarhus Convention.

See Factsheet 2.06

Internal and external communication

- Some good practices for internal and external communication are:
- Communication plan that ensures the involvement of various stakeholders in the process;
- Protocols that describes how letters are formally stored and how communication through internet can take place;
- A customer charter, which is published on the website of the competent authority and includes all applicable documents, correspondence and decisions by the competent authority;
- An annual internal communication plan, that includes: media relations, website and intranet, publications, internal communications, internal newsletters, exhibitions, environmental surveys, education etc);
- A national web based communication system for all communication between competent authority and applicants.

3.4. Planning

In this last step of the strategic cycle we look at "Planning". In this step the work plan for permitting is developed and will include the priorities, the strategies and the activities that will be carried out within the defined time period. In contrast to inspection plans, the work plan for permitting is not mandatory by the IED. It's therefor also not mandatory to actively publish the plan. However we do encourage authorities to develop such a plan and make this publically available.

Annual work plan for permitting

Benefits and opportunities of an annual work plan are:

- It is a management tool for the organisation. It gives guidance for the desk officers (it is important for them to know the amount of work that is planned, time pressure);
- It presents de the priorities (dividing time between important and less important issues);
- Annual plan can be internal (practical) and external (communication tool);
- Annual plan can help implement the national environmental action plan;
- Input from inspection colleagues can present opportunities to identify priorities and outcomes;
- Factors that will influence the annual plan are: priorities from inspection colleagues;
- Age of application; economics.

Issues of importance:

A working plan needs some form of flexibility.

- Changing of plan because of changing priorities
- Influence of political priorities
- Changing legislation;
- The way objectives on environmental outcomes play a role in setting priorities is difficult;
- Focussing on environmental outcomes might be too high level for day to day work of permit writer;
- Environmental outcomes already have their place in specific policy and legislation, The way objectives on environmental outcomes play a role in setting priorities is difficult;
- Focussing on environmental outcomes might be too high level for day to day work of permit writer;
- Environmental outcomes already have their place in specific policy and legislation.

Data needed for planning could be collected through:

- pre-consultation (or pre-application discussion);
- number of permits with expired period;
- revision needed because of adoption BAT conclusions;
- based on permitting statistics in the past and inspection data.

Working plans could contain the following information:

- Multi-annual IED evaluations, taking into account the publication of the BAT conclusions;
- Permits on hand and permits that can be expected which will be progressed and finalised during the year. Reviews of existing permits;
- The plan also contains other work commitments assigned to permitting staff;

- The human, financial and other resources that are necessary and need to allocated;
- Priorities that have been set;
- Key data on time spend on the different types of applications.

Estimations on how much time is needed could be based on the average number of applications in the last 5 years, the knowledge of new applications that can be expected and, the knowledge of changes in legislation that can occur. Further we need to address that an annual working plan for new installations is sometimes difficult or not possible.

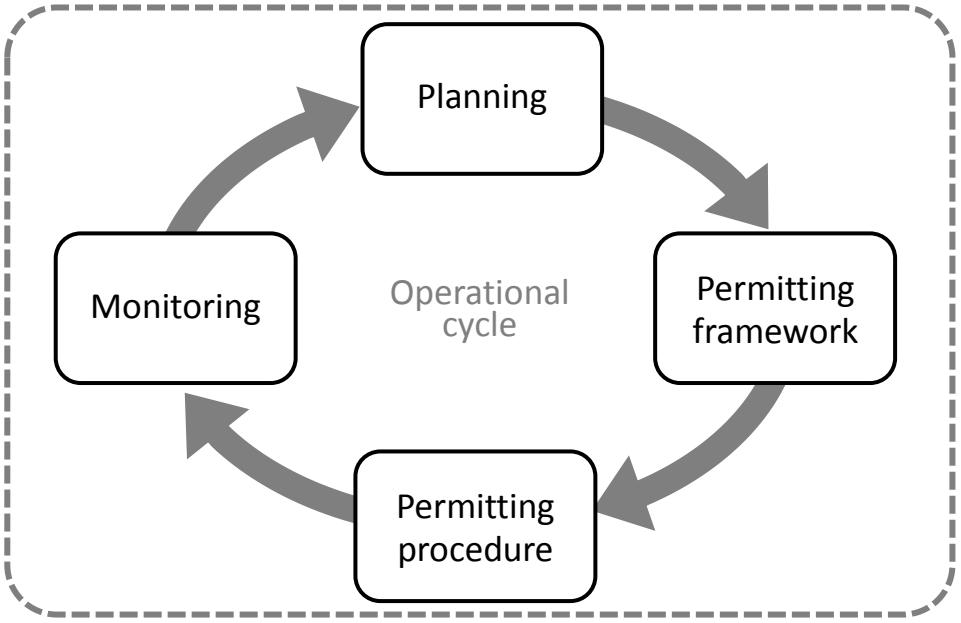
The annual work plan is to ensure that we reach our targets. There is not always a relation between budget and targets to be reached. Allocation of staff can be a solution. Input from lawyers and specialist should be part of the work plan. In case lawyers and specialist are not part of the same organisation a Service Level agreement could be helpful. A work plan for permitting is not (yet) mandatory and are often set up based on the planning of the revision of the BREFs. Publication of the work plan is also an issue we need to address)

Time allocation

Time required for the procedures and the maintenance of permits. Time spend depends on the quality of the application, the complexity of the activity, the need for further information from the applicant and the possible effect of public participation. In most cases the time frames are set by law and need to be respected.

Flexibility in a plan is necessary. You have to be sure the organisation can adapt to changes

4. Operational (permitting) cycle



In this step the work plan for permitting is developed and will include the priorities, the strategies and the activities that will be carried out within the defined time period. In contrast to inspection plans, the work plan for permitting is not mandatory by the IED. It's therefor also not mandatory to actively publish the plan. However we do encourage authorities to develop such a plan and make this publically available.

The second step is "Permitting Framework". In this step we make sure all necessary conditions are met so the permitting officers can do their work in an efficient and effective way. Conditions that are of importance are: education, training, competences, IT solutions, procedures and protocols, manuals and agreements for advise etc. See chapter 4.2.

The third step is "Permitting procedure". In this step the actual permitting work is done. This step includes the submission of the application, decision making and access to justice. See chapter 4.3.

The fourth step is "Monitoring". To make sure we meet the objectives we set in our work plan 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 "Monitoring" step we return to the "Planning" step. Based upon the monitoring results but also because of other influences (e.g. changes in the context) the working plan be reviewed and possibly be revised. See chapter 4.4.

4.1. Planning

In this first step the work plan for permitting is developed and will include the priorities, the strategies and the activities that will be carried out within the defined time period. In contrast to inspection plans, the work plan for permitting is not mandatory by the IED. It's therefor also not mandatory to actively publish the plan. However we do encourage authorities to develop such a plan and make this publically available.

This step is already described in chapter 3.4.

4.2. Permitting framework

The second step is "Permitting Framework". In this step we make sure all necessary conditions are met so the permitting officers can do their work in an efficient and effective way.

The following conditions should be in place:

- Adequate education and training
- Good guidance
- Agreements on coordination and internal and external advice
- Clear procedures
- Protocols for communication, information management and information exchange
- Clear instructions
- Checklists
- Technical literature
- IT systems for:
    - Planning
    - Monitoring procedures
    - Preparation of permits
    - Registration of applications, decisions (permits) and appeals
- Means of transport and communication
- Personal safety equipment

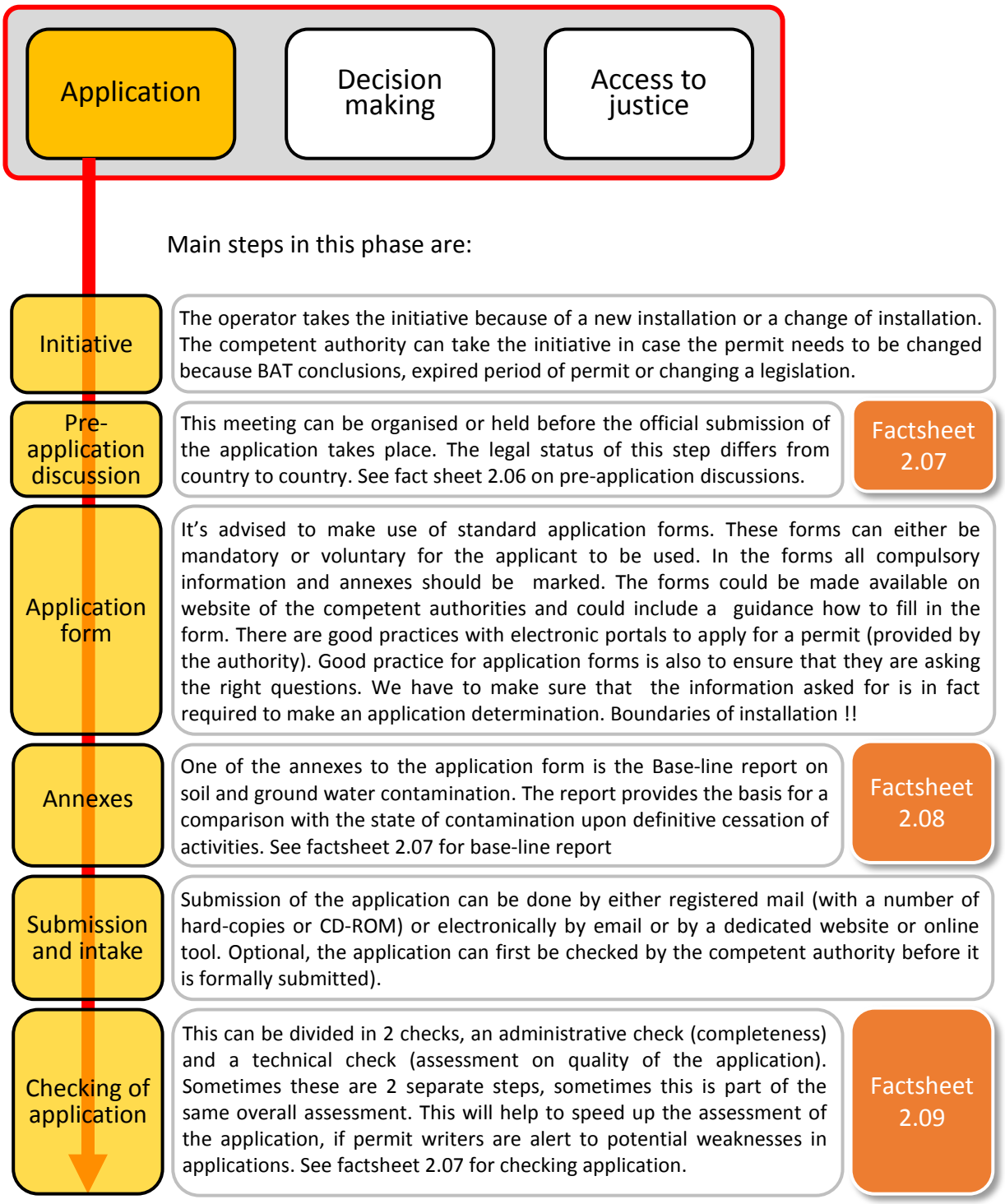
Ensuring good quality of the work can be done by:

- Making sure national legislation is not hindering the developments in Best Available Techniques;
- The development of national studies on BAT;
- Organising seminars for the permitting division;
- Enhancing the expertise of staff by participation in experts working groups;
- By combining the opinion of other advisory bodies into a joint opinion;
- Working with an authorised person;
- Cooperation with other governmental authorities;
- Improving the skills of the officers by specialisation in a specific part of industry;
- Peer reviewing of the permits, e.g. by a senior member;
- By training permitting officers and inspectors;
- Cooperation between colleagues, e.g. setting up a team with lawyers and different specialists and inspector that have input during the permitting procedure; Following clear procedures while issuing or refusing permits;
- Use of templates and standard text blocks for permit conditions that are maintained and up to date for use;
- Good communication and information exchange between departments and staff; By certification of the permitting procedure;
- Pre-consultation between the competent authority and the operator.

4.3. Permitting procedure

In this step we look at the "Permitting procedure". Here the actual permitting work is done. This step includes the submission of the application, decision making and access to justice.

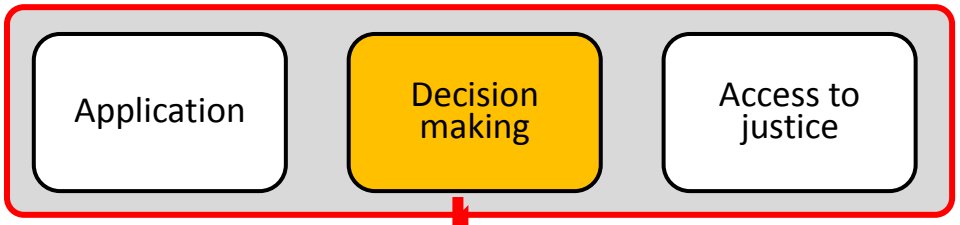
4.3.1. Application



Notification	in case the application is declared complete and admissible the applicant is notified by registered letter, by email or by a notification from a dedicated online tool, within a dedicated timeframe. After this the application (either all documents including the annexes or only an abstract) could be published on the website of the CA. The notification could contain the following information: ○ the statement that application was complete and admissible; ○ type of permit and procedure; date procedure starts; ○ information about public participation. ○ All forms of communication, formal or informal need to be recorded as they influence the evolution of the permit;
Public partici-pation	Public and other stakeholders can be informed about the application through official panels, newspapers, (dedicated) website of the competent authority and/or official electronic gazette. In some cases it's good practice to send letters to citizens that live within a certain radius of the installation. Other ways of public participation are public hearing or information meeting can also be organised by the competent authority (or the applicant) after the application is considered complete and admissible. Often the application and the annexes will be available for insight by public and interested parties for a dedicated time.
Type of procedure	The type of procedure is always given by legislation. The following types can be distinguished: ○ Procedure for a minor change; ○ Procedure for change of installation; ○ Procedure for a new installation; ○ Regular procedure; ○ Extended procedure.
Fees	This can be a fixed amount, an amount depending on the scale of the activity or the amount of hours spend on the permit. Fees can be paid in advance (before submitting the application or after it has been declared complete and admissible), or paid afterwards

4.3.2. Decision making

There are legal timeframes between the date the application was submitted and declared complete and admissible and the moment the decision is made. In some cases the permit is considered to be refused in case the timeframe is not met.

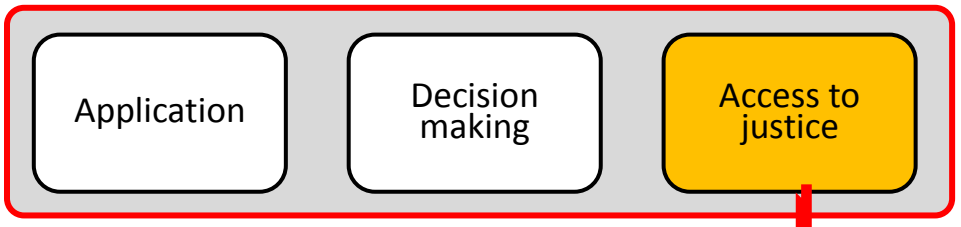


Main steps in this phase are:

Environmental Impact Assessment	In case the installation is classified as an IEA installation an IEA report has to be submitted. In some countries the report has to be written by an authorised person. Screening can be done by the competent authority or by a special authorities. The same is for the scoping and the evaluation of the report. In some countries the EIA is an integrated part of the application, for some it's a mandatory step that has to be finished before submitting an application, for others the conditions in the EIA will be part of the permit. In some countries EIA and AA can be joint together in one procedure, in other countries this is not possible.	
Appropriate assessment	It's advised to make use of standard application forms. These forms can either be mandatory or voluntary for the applicant to be used. In the forms all compulsory information and annexes should be marked. The forms could be made available on website of the competent authorities and could include a guidance how to fill in the form. There are good practices with electronic portals to apply for a permit (provided by the authority). Good practice for application forms is also to ensure that they are asking the	
Advise and consultancy	Advise and consultation: Advise could be explained as information that is needed to continue the process, while consultation is more an exchange of information and opinions. In some cases advise can be given by certain staff that is assigned with specialist responsibilities (e.g. EIA, AA, Baseline reports, BREF's, water, waste, safety, air) and can assist colleagues. For external knowledge and expertise special meetings could be attended that are organised by national or federal level. Consultation starts after the application is sent to the (legal) advisers or to experts (some internal some external, some compulsory) opinions are submitted within a certain timeframe to a commission, case manager, coordinator or permit officer. The following information can be used: Record of complains; incidents and accidents; Inspection reports; Emission data; Previous activities; and for waste installations criminal records could also be acquired.	
Boundaries of installation	There are two strands in defining the boundary of an Installation. This is defining the technical unit (TU) and identifying any directly associated activities (DAA). Together these two aspects will allow the boundary of an installation to be determined. See factsheet 2.09	Factsheet 2.10
Cost-benefit	A key component of Article 15(4) of the IED is the need to undertake an assessment that shows that the achievement of BAT-AELs would lead to disproportionately higher costs compared to the environmental benefits as a result of the criteria laid down in Article 15(4)(a) and (b). See factsheet 2.10	Factsheet 2.11

Derogations	The IED allows competent authorities some flexibility to set less strict emission limit values. This is possible only in specific cases where an assessment shows that achieving the emission levels associated with BAT described in the BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to the geographical location or the local environmental conditions or the technical characteristics of the installation. The competent authority is required to document its justification for granting such derogations. The provisions for derogation in the IED can be found in factsheet 2.12.	Factsheet 2.12
BAT assessment & Setting conditions	Setting conditions: Key list of conditions are: See factsheet 2.12 • Permissible values of emissions into water, air or soil; • Environmental protection measures and other conditions for the operation of installation; • Operator's obligations concerning the implementation of monitoring and reporting to the ministry; • Measures to ensure the maximum level of protection of the environment as a whole.	Factsheet 2.13
Use of General Binding Rules	Use of General Binding Rules: Use of General Binding Rules : GBR apply to all installations and should be resulting from BAT conclusions. GBR should be regularly updated and needs to be BAT proof. In addition to GBR installation local and specific conditions need to be set.	
Draft decision	An authority should use a standard format for a decision. It should at least include: • A reference to the opinions and the motivation why they are followed or not followed; • The conditions for operation; • The considerations of the competent authority about the conditions; • The expiration data in case the permit is limited in time. Reasons to refuse or end the permit are: • When the building permit is refused (only when there is a direct link the environmental permit); • In case the operation of the establishment (or part of the establishment) has not been taken into use within a certain timeframe (e.g. 3 years); • In case the installation has been destroyed by fire or explosion	
Enforceability check	An enforceability check is done on the draft permit by the inspector. In case standard conditions are used, the enforceability has already been checked on front. In case of non-standard conditions the enforceability check is done afterwards.	
Notification	The (draft) decision is send to the operator by mail, email or can be downloaded from a dedicated online tool. All involved persons will be informed. The notification can be send by letter, email or notification.	
Public partici-pation	The IED ensures that the public has a right to participate in the decision-making process, and to be informed of its consequences, by having access to permit applications, permits and the results of the monitoring of releases. A (draft) decision will be published for a certain timeframe at the regular locations (official boards, newspapers, websites). For more sensitive activities the CA can organise public meetings. There are a lot differences between the countries in the procedures for public participation; Some countries publish the application on the website but do not organise meetings. Some publish applications and will organise meetings on request; Some countries also publish the draft decision. Also here some countries do not organise meetings and some only do this on request.	
Fees	See application phase	

4.3.1. Access to justice



Main steps in this phase are:

Views	This is only relevant when the competent authority prepares a draft decision. Reasons to prepare a draft decision are: • it will help in the negotiation; • it gives the operator the chance to express his comments and remarks on the draft permit. In some cases only the operator and other governmental organisations are involved in this step. When this step is taken the permitting authority can use the views while writing the final decision.
Objection	In principle it should be possible to object against decisions. A special commission could be assigned to give advises if the decision should be reconsidered. In principle everybody can object (also public, NGO's and neighbours). The form an objection needs to be given could be different per country. There are also differences how to act on an objection. E.g. when the objections comes from an authority the competent authority must come with a solution.
Appeal	When objection is turned down, appeal in court is possible for those that have a direct concern with the activities to which the permit is issued. Appeal is possible for the (Administrative) court and the higher (administrative) court or State court. In most countries all involved parties can appeal (operator, other authorities, directly involved persons, NGO's). In some cases the appeal suspends the disputed decision, in other cases it doesn't. Against a decision in appeal in court can be appealed again for the higher court.
Judging	Judging is done by either the (administrative) court or the higher (administrative) court. Outcome of judging is: • Rejection of the decision and ask for a new decision by the component authority; Confirm the decision made by the competent authority; • Court comes with his own decision.

4.4. Monitoring

In this step we look at "Monitoring". To make sure we meet the objectives we set in our work plan we have to monitor the *output* (did we issue, review and revise the permits that was planned and we reach good quality) and the *outcome* (what were the effects of our activities?).

Output

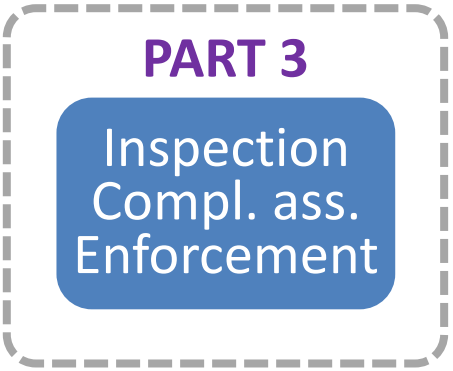
Execution of (personal) work plan can be checked in house on regular basis and on annual basis by the ministry:

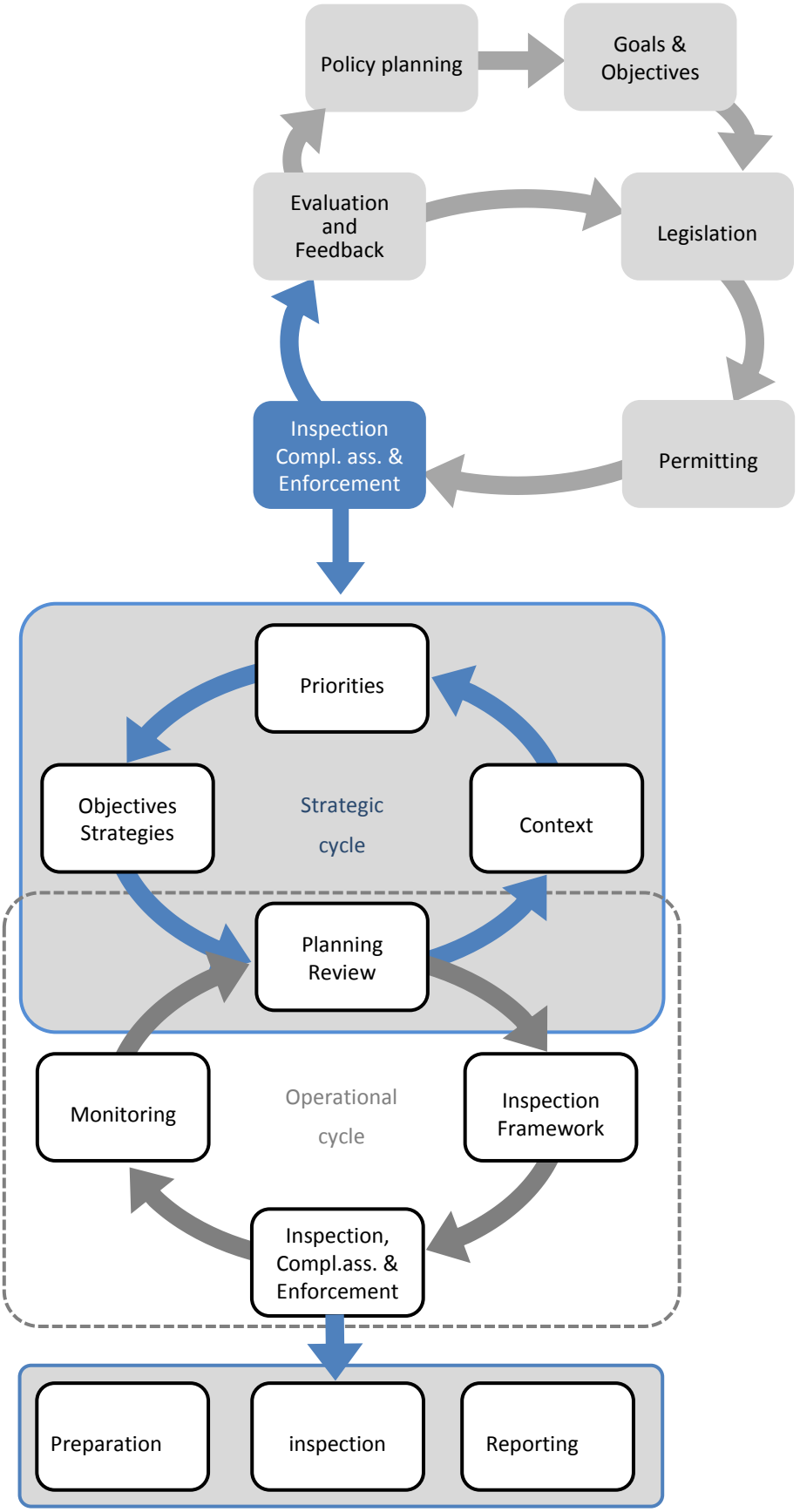
- Elements that can be monitored are:
- Timeframe of the permitting process
- Number of permits issued

Outcome

Here we should make a relation to monitoring and reporting of environmental quality.

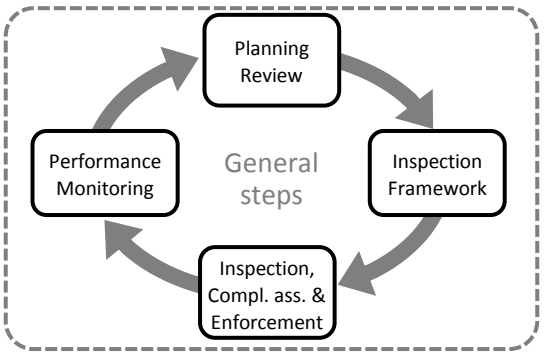
PART 3. Inspection cycle



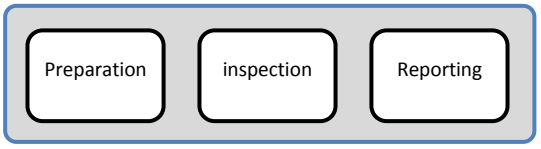

Policy planning
Goals & Objectives
Legislation
Permitting
Inspection Compl. ass. & Enforcement
Evaluation and Feedback
Priorities
Objectives Strategies
Strategic cycle
Context
Planning Review
Monitoring
Operational cycle
Inspection Framework
Inspection, Compl.ass. & Enforcement
Preparation
inspection
Reporting

5. Inspection cycle

The structure can best be explained by first focussing on the Strategic cycle. The strategic cycle are for the managers. The first step here is Describing the context. Here we identify and describe the information that is needed to set the right priorities (step 2) and define our objectives and strategies (step 3). Based on these 3 steps we can prepare the inspection plan.



In the operational cycle we see a Plan Do Check Act Cycle (PDCA). First step is preparing an inspection plan (see strategic cycle above). Based on this plan we make sure all conditions are met to execute this work (Execution Framework). Next step is the execution of the inspection, compliance assessment or enforcement. Last step is performance monitoring. Here we check if the inspection targets that are formulated in the plan are met and if we need to make changes in the Planning step.

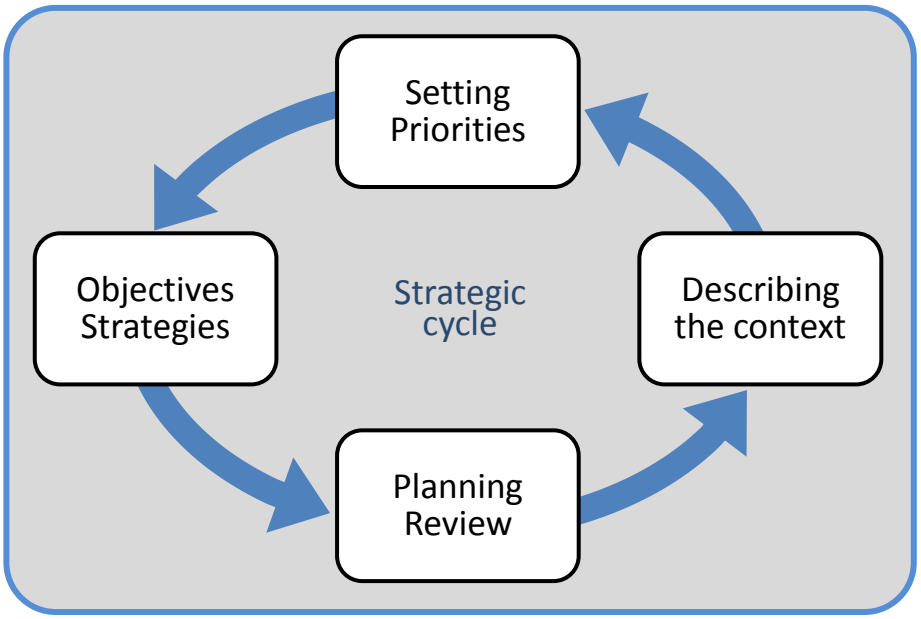


In the step Inspection, compliance assessment and Enforcement the actual work is executed ()actual inspection work (preparation, executions and reporting). Although the steps in this part could be linear (with a clear beginning and an end) in many cases inspection work for a certain object will never stop. This can be because a non-compliance is identified but also because the IED prescribes a certain frequency (based on risk) after which the object needs to be inspected again.

The target groups we address in part 3 are:

Strategic inspection cycle: Managers
Operational inspection cycle: Inspector and managers
Inspection, Compliance Assessment and Enforcement: Inspectors
It's of course expected from an inspector to understand what is happening in the strategic part.

6. Strategic (inspection) cycle



The first step in this cyclic process is "Describing the context". 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". 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". 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". 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.

6.1. Describing the context

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. 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 step priorities.

6.1.1. Identifying the scope

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 6.1.2) it provides the input for the risk assessment. The table in Factsheet 3.01 gives a list of all the relevant factors that the inspecting authority may have to consider when making the inventory.

See Factsheet 3.01

6.1.2. Information gathering

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 6.1.1. It provides the input 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. See factsheet 3.01 to find the issues that may be relevant to gather information of.

See Factsheet 3.01

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.

6.2. Setting Priorities

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. The information gathered in the previous step will be used as input. The output of the risk assessment are assigned priorities that can be defined as objectives.

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, for which they are responsible, 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.

6.2.1. 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:

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**[1]**.**

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.

Impact Criteria (IC)

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 for example: 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 or present; Local nuisance (noise, odour). See factsheet 3.02 for a full list of Impact criteria.

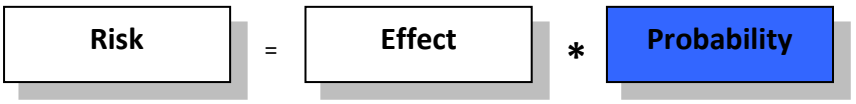
See Factsheet 3.02

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 or receptor.

Operator Performance Criteria (OPC)



[1] *We realize that in this concept, Impact criteria can also include some 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, for example: 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). See factsheet x for a full list of Operator performance criteria.

See Factsheet 3.03

Determination of the risk category

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

Types first 3 groups work as follow:

- Linear Mean Value: Risk = (C1W1 + C2W2 + … + CnWn)/n
- Mean Value of Risk: Risk = (C1W1 + C2W2 + … + CnWn)/n * P
- Maximum value : Inspection frequency = Max(IT1,IT2, …,ITn)

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

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.

Rule based method (IRAM)

The fourth group is the Rule based method, IRAM (Integrated Risk Assessment Method). This 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 Principles

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

See factsheet 3.04 for more details on IRAM.

See Factsheet 3.04

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

6.3. Defining objectives and strategies

Based upon the (assigned) 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.

6.3.1. Objectives and measurable targets

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 and that are input for the risk assessment.

6.3.2. Setting targets on inputs and outputs

Over recent years inspectorates have become increasingly interested in steering and assessing their performance.

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. See factsheet 3.05 on how targets on outcome should be set.

See Factsheet 3.05

6.3.3. 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.

See factsheet 3.06 on how to determine the best inspection strategy.

See Factsheet 3.06

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

6.4. Planning and review

Based upon the previous steps (describing the context, setting priorities and defining objectives and strategies), 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). The review and revision of the inspection plan is also part of this step. When we continue the process, after step "Performance monitoring", we return to this step. Based upon the monitoring and evaluation of the inspection plan (including the inspection programme), it will be reviewed and possibly be revised.

6.4.1. Inspection plan

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.

See factsheet 3.07 to find the required element for an inspection plan.

See Factsheet 3.07

6.4.2. Review and revision

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.

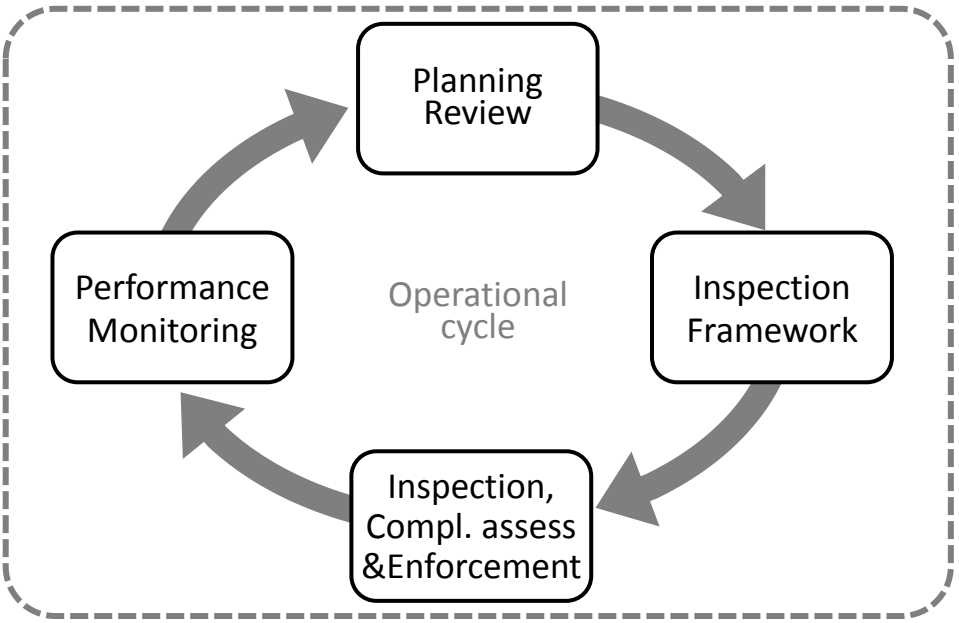
Where performance targets set are met (or not met), or where efforts expended through the inspection plan have not resulted in the expected improvements to the state of the environment, the authority may also wish to change the inspection plan (e.g. to change the strategy to be employed, the resources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

For the revision of the inspection plan the authority should go through the steps in the strategic cycle. 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.

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

7. Operational (inspection) cycle



The first step is "Planning and review". In this step the inspection plan is developed. The inspection plan covers a defined time period and describes how and when the inspection tasks will be executed. 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 second step is "Inspection framework". 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 third step is "Inspection and enforcement". 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. See operational steps (chapter 8 for more information).

The fourth step of the process is "Performance monitoring". 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.

7.1. Planning and review

In this step the inspection plan is developed. The inspection plan covers a defined time period and describes how and when the inspection tasks will be executed. 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. See section 6.4

7.2. Inspection Framework

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):

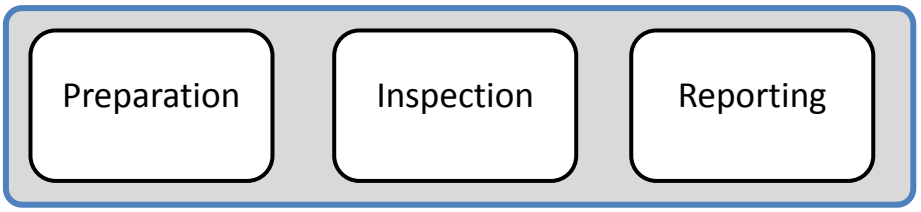
- Training programme(s) for the inspectors (staff), based on a training needs assessment ;
- Protocols and working instructions for routine inspections;
- Protocols and working instructions for non-routine inspections (how to react to incidents and accidents);
- Procedures for imposing sanctions;
- Development 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.

See factsheet 3.08 on training programme

See Factsheet 3.08

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

7.3. Inspection, compliance assessment and enforcement



In these steps the inspections, compliance assessment and or enforcement are actually carried out: the various inspection activities (aimed at compliance checking and compliance assistance) are prepared, executed and reported.

7.3.1. Preparation

Type of inspection, staff and (safety) equipment

The decision on the type of inspection and staff and equipment needed can either be decided on forehand, during the planning stage, or during the preparation of the inspections. Although the first option is recommended (the time needed for an inspection is very much connected to the type of inspection) the latter could also be necessary because of changing circumstances. In both cases the type of inspection will often be decided by the head of inspectors. He or she should also have an overview of the available and needed resources (human and equipment). See factsheet 3.09 on preparation inspection for the considerations that could be taken into account when deciding on the type of inspection, the staff and equipment needed.

See Factsheet 3.09

Gathering information and data

The inspection team should be fully prepared for the inspection. It should therefore gather all the relevant information and data that is available. The preliminary analysis of the collected documentation must enable a better understanding of the production cycle of the plant and its past and current critical points. Furthermore, the analysis of the technical data acquired during the desk study allows to better prepare the checklist and Inspection Agenda that will be used during the site visit. See factsheet 3.09 on preparation inspection for the type of information sources that can help you to prepare your inspection.

See Factsheet 3.09

Inspection tools

Now a days we see more and more electronic tools that can help the inspector to perform a good inspection. It will reduce the time necessary for preparation and make sure we will not

forget important aspects to inspect. Although we strongly believe this is the way forward we still need to understand how a good checklist and/or questionnaire is composed. In factsheet 3.09 on preparation of inspection you can find some issues you can take into account.

See Factsheet 3.09

Announce an inspection?

In some cases, from a practical point of view, it is worth announcing inspections shortly beforehand it is conducted. These cases are:

- when an inspector has to interview a specific person. This way they are sure the proper person will be available at their convenience;
- when an inspector wants to inspect the (technical) installation. Changes to technical installation will probably not be made that short in advance (because of the investment);
- while inspecting a single-person company;
- when there is a need to have some documentation be prepared for the inspector and this will result in a more efficient inspection.

In all other cases it could be argued that (if national legislation allows) unannounced inspections could be preferred.

7.3.2. Inspection

Issues to inspect

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. See factsheet 3.10 on inspections that lists the issues that have to be taken into account while executing the inspection.

See Factsheet 3.10

Checking Operator self-monitoring report

The IED sets requirements and provisions concerning operator self-monitoring and how this is reported to competent authorities as part of the inspection process. The analyse of the report by the inspector is essential for assessing environmental performance and compliance with the conditions set out in environmental permits. See factsheet 3.11 on operator self-monitoring.

See Factsheet 3.11

Level of non-compliance

It goes without saying that non-compliances identified during inspections need to be followed up. However in the case of a serious non-compliance an additional inspection has to be executed within 6 months. See factsheet 3.12 on levels of non-compliances.

See Factsheet 3.12

Cessation of operations, bankruptcy and site closure

Inspection work isn't limited to installations that are in operation. In the case of cessation of operation, bankruptcy and site closure the inspector needs to check if actions have been taken to avoid any risk and pollution and to make sure the site of operation is returned to satisfactory state. In factsheet 3.13 guidance is given on the requirements and provisions mentioned in the IED.

See Factsheet 3.13

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

7.3.1. Reporting

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 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.

See factsheet 3.14 for a further explanation on reporting on inspection findings.

See Factsheet 3.14

Input:	Inspection schedule and execution frame work.
Output:	Inspection activities and the results.

7.4. Performance monitoring

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.

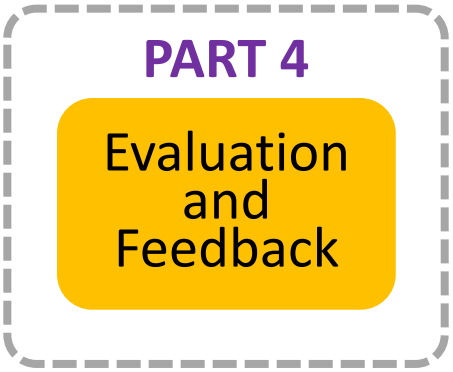
Performance monitoring should also take place at a higher level in relation to the success of the plan. This could include measurement against plan outcomes, against the objectives and measurable targets (e.g. general environmental improvements, increase in compliance rate), and external reporting of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

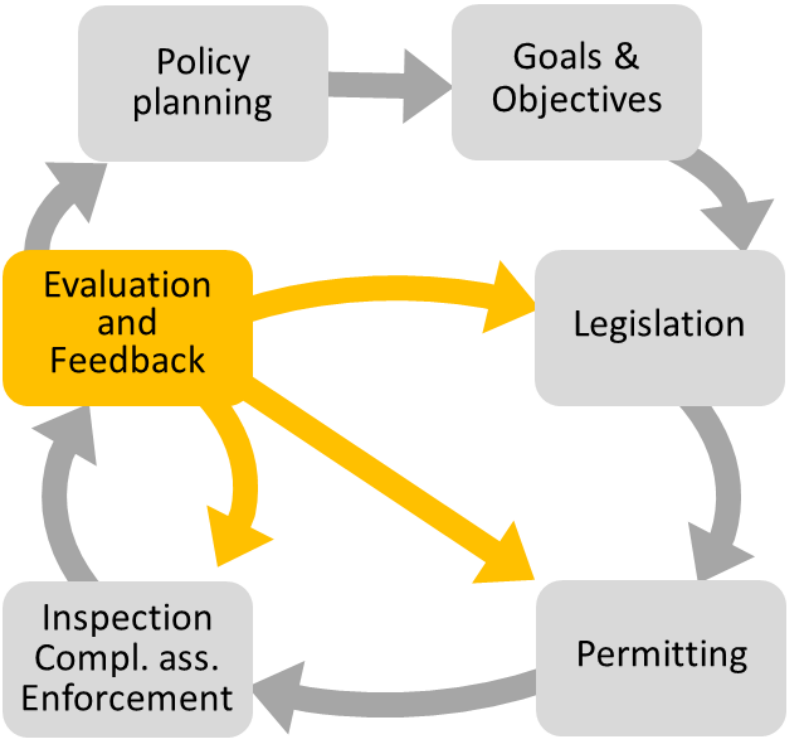
Performance monitoring should at least cover (in no order of preferences):

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

PART 4. Evaluation and feedback




Policy planning
Goals & Objectives
Evaluation and Feedback
Legislation
Inspection Compl. ass. Enforcement
Permitting

8. Evaluation and feedback

Part 4 of this guidance is about the evaluation and feedback given from practitioners of the (national) authorities competent for the implementation and enforcement to actors and stakeholders in the legislative process.

Evaluation and feedback mechanism can also be used between colleagues, e.g. the inspector giving feedback to the permit writer and the other way around.

8.1. Purpose and aim Feedback mechanism

We can define Evaluation and feedback as a mechanism used to gather evidence to assess how a specific intervention (legislation or policy) has performed or is working. The overall aim is improving the implementation of environmental law. It can provide data on e.g. practicability, enforceability, relevance, coherence, inconsistencies and high administrative burdens for businesses. Also this mechanism can be used to contribute in achieving EU and national ambitions, e.g. on transition to a circular economy and achieving climate goals. The outcomes of an evaluation may lead to modification to e.g. increase enforceability or may lead to repeal of the instrument.

For effective evaluation and feedback, planning and organisation of the legislative process at European and national level must provide adequate opportunities to gather and assess this evaluation and feedback properly from practitioners. Also the involvement of stakeholders (practitioners) needs to be organised to achieve timely input. The organisation structure may take different forms and can be achieved by using the feedback and evaluation mechanism within the regulatory cycle.

8.1.1. Practicability and enforceability

Problems of practicability arise when competent authorities for the implementation and enforcement encounter difficulties in the practical application of legislation, inspection and enforcement and permitting. These issues can arise because insufficient attention has been paid to the need for proper transposition into national law and application through individual administrative decisions, or to the need for adequate infrastructure and resources. Also problems of practicability may be faced by the regulated target group when their obligations, as defined by the legislator, are unclear or unrealistic.

8.1.2. Feedback mechanism

As shown in the presentation of the Regulatory Cycle, a systematic compliance and enforcement programme triggers a feedback mechanism. The information derived from enforcement response, compliance-promotion efforts and compliance checking need to be assessed so that the appropriate elements in the cycle can consider and improve the process. This could mean, in practice, reconsidering a law or its parts (returned to policy-makers and parliament), and changing the formulation of conditions in permits so that they become clearer and more enforceable (regulations applied by permitting bodies and

agencies). This will ensure that the continuous process shown in the Regulatory Cycle will work to improve laws and regulations for the environment and will be able to achieve the goals set in these same laws. Actors are national policy makers and legislators, national authorities competent for the implementation and enforcement, IMPEL and other Implementation and Enforcement networks and regulated target groups (businesses).

8.1.3. Evaluation and feedback on EU level

On EU level, the European Commission uses different mechanisms to assess the performance of EU policies, law or programmes. They are part of the Better regulation agenda which includes:

- Regulatory Fitness and Performance (REFIT) which focusses on removing red tape and lowering costs, especially for small businesses. Also it aims to make EU legislation simpler and more fit for purpose;
- Evaluation: this is used by the European Commission to evaluate specific laws or policies through public consultations;
- Fitness check: is an evaluation of a policy area that usually addresses how several related legislative acts have contributed (or otherwise) to the attainment of policy objectives. Fitness checks aim to identify overlaps, inconsistencies, synergies and the cumulative impacts of regulation.

Participation in the Better regulation agenda provides an opportunity for stakeholders, e.g. national or regional environmental inspection and/or permitting organisations, to be involved in the assessment of EU environmental law, policy or programmes.

8.1.4. Checklist on evaluation of regulatory activities

To assess short comings in the enforceability and practicability of regulatory activities and to give effective feedback to policy makers or between inspectors and permit writers, a set of questions relating to the enforceability and practicability can be used. The questions e.g. relate to the quality of the legislation (e.g. the used definitions and terms) and on the practicability of compliance by the targeted group (e.g. are the obligations easily achievable/realistic).

8.1.5. Organisation of feedback on short comings in regulatory activities

This can be done by:

- Direct feedback to the ministry because of close engagement but also by formal letters;
- Through conferences organised by national level;
- Periodic evaluation groups (4 to 5 times a year) that are established for this issue;
- Special activities upon request of national level. This was considered as one of the weakest links within the cycle

8.1.6. Support from MS in the IED Implementation

The IED makes provisions for the establishment of two groups involving representatives from Member States to support the implementation of the IED. These are:

- The IED Article 13 Forum: a formal expert group set up to exchange of information between Member States, the industries concerned, non-governmental organisations promoting environmental protection and the Commission. The focus of this group is to review and form an opinion on the proposed content of the BAT reference documents.
- The IED Article 75 Committee: a formal Committee set up to assist the Commission by delivering opinions on implementing acts, including guidance on the collection of data and on the drawing up of BAT reference documents and on their quality assurance, BAT conclusions, implementing rules for large combustion plants and the type, format and frequency of reporting by Member States.
- The Industrial Emissions Expert Group (IEEG: An informal group established to facilitate the exchange of experiences and good practices concerning interpretation, transposition and implementation of the IED)

FACT SHEETS

Part 2

- Factsheet 2.01 – Describing the context for permitting
- Factsheet 2.02 – Applying BAT
- Factsheet 2.03 – Review of existing permits
- Factsheet 2.04 - Eco-innovations
- Factsheet 2.05 – Relationship permitting and inspector
- Factsheet 2.06 – Transparency and visibility
- Factsheet 2.07 – pre-application discussion
- Factsheet 2.08 - Baseline reports
- Factsheet 2.09 – Checking of application
- Factsheet 2.10 – Boundaries of installation
- Factsheet 2.11 – Cost benefit
- Factsheet 2.12 – Derogations
- Factsheet 2.13 – Translating AEL's to ELV's

Part 3

- Factsheet 3.01 – Describing the context for inspections
- Factsheet 3.02 – Impact criteria
- Factsheet 3.03 – Operator performance criteria
- Factsheet 3.04 – Risk assessment - IRAM
- Factsheet 3.05 – Defining objectives
- Factsheet 3.06 – Defining inspection strategies
- Factsheet 3.07 – Inspection plan
- Factsheet 3.08 – Training programme
- Factsheet 3.09 – Preparation of inspections
- Factsheet 3.10 – Execution of inspections
- Factsheet 3.11 – Operator Self-monitoring
- Factsheet 3.12 – Level of non-compliance
- Factsheet 3.13 – Cessation of operations
- Factsheet 3.14 – Reporting of inspections

Factsheet 2.01 - Describing the context for permitting

Describing the context is the first step of the systematic approach for developing a work plan for permitting. In this fact sheet we list the issues that could be of interest while identifying the scope and on information that should be gathered.

Identifying the scope are (in random order):

- Geographical area for which the authority is competent
- Mission and (national) goals of the authority, It's important to define goals as environmental outcome. Goals can be set on either national level (e.g. ministry, national environmental institutes) or regional level (e.g. competent authorities themselves). Goals on environmental outcome are:
    - Laid down in special legislation through environmental quality standards;
    - Laid down in policy documents (e.g. programs to improve air quality, waste management);
    - Laid down in (strategic) plan (e.g. CO_2 reduction plan);
    - Specific environmental goals for single parameters relevant to a pollution problem within a certain area (e.g. NOx, PM10).We should define the term Environmental outcome in the guidance and give more examples
- The environmental outcome the authority is trying to achieve
- Statutory tasks and competences
- Applicable legislation, either originated from a EU-, national- or regional level, against which the authority has to issue permits
- Established environmental (national) policy and priorities. Some of the policy may come from EU or national level but the authority should also set her own policy. Issues that could be addressed are:
    - To set priorities on permitting tasks;
    - To make sure that all permits will comply to BAT and will be timely updated;
    - To establish and encourage a good level of cooperation between permitting and inspection and enforcement (e.g. exchange of information, joint inspections, collaboration within the permitting procedures)
    - To ensure all staff will have the appropriate skills and knowledge
    - Transparency and visibility towards public about the permitting procedure
    - To stimulate industry to go further then BAT requires
    - There where possible to have flexibility in the permit so industry can innovate (either in emerging techniques or products)
    - Applications will be of good quality
- Interests of stakeholders (e.g. NGO's, branches of industries)
- Public opinions
- Register of activities and installations for which the authority is the competent
- Sectors of industries
- Types and sizes
- Numbers and geographical distribution of installations
- Relevant environmental issues (water, air, safety, etc)

Gathering information are (in random order):

Environment

- 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)

Installations

- 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 competences of the authority
- Information on individual controlled activities/installations, such as information on:
    - Legal requirements and permit situation
    - Emissions/discharges (results from emission monitoring), environmental impact, risk, accidents/incidents
    - Complexity of installation
    - Location of installation
    - Compliance record / behaviour (inspection history)
    - Performance record (e.g. Environmental management systems, self monitoring and reporting, safety management systems, audits, experiences of inspection authorities)
    - Relevant complaints
- New applications for permits that can be expected in a certain time period. Although the number of new installations could be low, the authority can get insight in the new applications for permits that can be expected in a certain time period by or through:
    - The EIA reports that have been submitted;
    - Holding regular meetings with permit holders or representatives of Association of enterprises;
    - Inspections, changes of installation that are detected during an inspection;
    - Executing periodic surveys of the industrial sector;
    - Getting in contacts with trade associations;
    - Having extensive communication through authority's website;
    - Encouraging prospective applicants or existing permit holders to seek pre-application meetings. This can be done by the inspectors, through the website or consultants;
    - Agreements made with local authorities. In some cases permits for spatial planning issues are required with the local authority. They will either suggest the applicant to announce the plans to the competent authority or communicate this directly.
- (Significant) changes in installations that can be expected in a certain time period;
- Revisions of permits (this often happen because of changes in BAT conclusions).

- Expiring dates of permits. Depending on the legislation (and policy) some permits are issued for an unlimited time and some are issued for a limited time. For the latter permits could be limited for 5 years and others for 10 years. The difference in time could depend on the fact if a company is ISO-14001 (12 years) or EMAS (14 years) certificated. Sometimes permits are granted for a limited time due to special reasons (to test an operation). Unlimited time is as long as the installation is not changed or there's new BAT Conclusions for the main activity of the installation.

General

- Possible changes in BREF's or BAT conclusions. The authority can get insight in possible changes in BREF's or BAT conclusions by through:
    - Following new developments through newsletters and seminars;
    - The communications about new developments through national knowledge Centres, ministries or national technical working groups;
    - The website of the European IPPC Bureau and following BATIS news;
    - Participating in BREF review process;
    - Participating in national technical working groups;
    - Communication with trade associations or relevant sectors;
    - Appointing a staff member in the role of national BREF coordinator.
- New or changes in EU or national legislation that need to be implemented. The authority can get insight in possible changes in EU or national legislation by or through:
    - Special divisions within the organisation that monitor changes and are involved in relevant networks;
    - News feeds from EU, e.g. EU journals;
    - Following internal and external communication through email and websites;
    - Nationally collected and disseminated information within regular meetings;
    - News feeds from external companies;
    - News feeds from the ministry or knowledge centre;
    - Being engaged in drafting of new legislation by giving technical and practical input;
    - Follow up on Public debates or seminars;
    - Internal procedures that make sure all staff are informed.
- 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

Factsheet 2.02 – Applying BAT

BAT assessment and BAT reconsideration (the installation is BAT)

This can be done for new permits by:

- BAT appraisal is performed and the relevant BAT conclusions are referenced for the installation;
- Applicants are required to submit an assessment against relevant BAT conclusions as part of their permit application (operator provides evidence that the installation operates in a way that can meet any environmental objectives or performance levels (i.e. BAT-AELs) contained within the relevant BAT conclusions). Competent authorities carry out a BAT assessment on site before the permit is granted
- Local and installation specific conditions will be taken into account with adding special conditions; Internal quality procedures, e.g. before issuing, permits will be peer reviewed;

This can be done for existing permits by:

- In case general binding rules are used, they will be regularly updated on national level so they will stay BAT;
- When new BAT conclusions are published, existing permits must be reviewed within the required timeline (i.e . within 4 years from the date of publication of the BAT conclusion from the main activity of the installation) and if necessary updated
- Permits are regularly reviewed and if necessary updated based on a special program;
- Use of a special IED tool of app)

Further we need to address the definition of “BAT”. E.g. if you deviate from BAT-conclusion (with good motivation) is the permit considered to be BAT?

Factsheet 2.03 - Review of existing permits

Review should be done:

- Within 4 years from the publication date of the BAT Conclusions for the main activity of the installation. In order to allow the operator to make changes to the installation in order to adapt to the BAT Conclusions it is good practice to commence any review as soon as possible and at least within 1-2 years from the publication date.
- When there is a legislative change;
- When there is a request from the operator because of a change of installations (good practice to develop a detailed guidance for the permit holder so they can check if a technical amendment of their permit is possible or if a complete review of the permit is necessary);
- When local environmental situation requires an update of the permit;
- Based on annual environmental reports from the operator; based on inspections Sometimes it's an environmental NGO that initiates the process;
- The pollution caused by the installation is of such significance that the existing emission limit values need to be revised or new emission limit values need to be included in the permit;
- Operational safety requires other techniques to be used; or
- It's necessary to comply with a new or revised environmental quality standard.

Important questions that needs to be answered here are: what is the main activity of the company and which BAT-conclusions are leading with regard to 4-years term for amendment?

The BAT conclusions (BATc) for the main activity alone trigger the 4 year permit review period. The main activity at an installation should almost always be judged in the context of vertical BATc documents only, as horizontal BATc by definition cannot ordinarily cover the main activity at an installation.

While the trigger for the review period will be the publication of the BAT conclusions document for the main activity of the installation, this does not mean that this review is limited to just those BAT conclusions – it is possible that other BATc will also be applicable.

It is likely that the BATc covering the main activity of the installation will be within the scope of a vertical BATc where at least one vertical BATc document applies to the activities at the installation. Vertical BATc are those apply only to a discrete activity, group of activities, or an industrial sector.

Horizontal BATc (such as those addressing energy efficiency, industrial cooling systems etc.) cannot cover the main activity at an installation and consequently any review may also need to consider one or more horizontal BATc document, but publication of horizontal BATc will not be the trigger for a permit review at the installation.

Many installations will involve activities that are covered by just a single vertical BATc document, in which case there is no need to determine which activity is the main activity at the installation; the activity that is covered by the single relevant BATc document is considered to be the main activity.

However, at a relatively small number of installations, two or more vertical BATc apply, and the 'main activity' must be determined. Consideration should be made of the "primary activity" of the installation – for example, at an installation for the manufacture of chemicals with steam raising boilers and a waste water treatment plant, the main activity is the manufacture of chemicals rather, than the combustion of fuels or waste water treatment. This approach is fully consistent with one of the European Commission's suggestions in its FAQs.

Factsheet 2.04 – Eco-innovation

Introduction

Eco-Innovation can be defined as the introduction of a new or significantly improved product (good or service), process, organisational change or marketing solution that reduces the use of natural resources (including materials, energy, water and land) and/or decreases the release of harmful substances across the whole life-cycle. Eco-innovations are vital for helping to solve persistent environmental problems in the EU, for combatting climate change and in particular to act as a catalyst and scale-up in the transition to a circular economy. Product eco-innovation in particular concerns the introduction of less polluting, less resource-intensive products, including the substitution of dangerous substances by 'greener' ones, or the substitution of materials by less resource-intensive materials. Process eco-innovation is about introducing new technology for improved monitoring and reduction/ minimisation/control of waste and emissions, both from industry and other sources. Finally, particularly important for circular economy, are eco-innovations regarding the production of new secondary materials from waste.

Perceived challenges in permitting, inspection and enforcement

Between the environmental ambitions and the day to day practice where businesses and authorities try to carry through eco-innovations there is a significant gap. Competent authorities in the Member States face challenges when applying and enforcing current EU environmental legislation. This may cause uncertainty and delays in decision-making. Possible barriers include:

- Rules which are unnecessarily inflexible, detailed, complex or which change very frequently.
- The absence of rules or standards.
- Rules which in practice are misinterpreted easily or rules stetting very general criteria the application of which requires from authorities considerable technical and legal expertise and experience.
- The interface between different directives and regulations, for instance those regarding products, chemicals and waste. In practice these directives and regulations may not be well attuned or there may be gaps.
- Obstacles in case of cross border activities (f.i. marketing products and secondary materials across MS borders), because authorities from different MS interpret and or implement the EU legislation differently.
- Lack of responsiveness (insufficient alertness to eco-innovations, lack of cooperative attitude, lack of understanding of the needs of innovators)
- Lacking capability to properly handle risks related to innovations including weighing different environmental interests and getting timely political backing
- Lack of cooperation between different competent authorities. Unclear allocation of responsibilities to different layers of government and lack of feedback and evaluation from practice to policy makers and vice versa

Possible adjustments in the permitting, inspection and enforcement process to facilitate eco-innovations

Possible adjustments in the permitting, inspection and enforcement processes may include:

- Learn, train and secure in the organisation to recognize eco-innovation and, when necessary scale up towards policy makers timely;
- At an early stage, a standard preliminary consultation involving all relevant competent authorities and stakeholders;
- A coordinator at the competent authority to facilitate and support those who have to deal with an eco-innovation;
- Address eco-innovation explicitly in how permitting, inspections and enforcement are organized and carried out (in work processes and procedures).
    - For permitting: appoint for each major eco-innovation a case manager/single point of contact; engage all relevant competent authorities from the start; share all information between these authorities; escalate timely; seek timely guidance or decision at higher level.
    - For inspections and enforcement: attune inspections and enforcement to the sort of risks foreseen or experiments or pilots authorized; in particular clarify upfront what compliance is expected (possibly what non-compliances under what conditions may be condoned) and how authorities will respond to non-compliances;
- Active feedback and evaluation between practitioners and policy makers on practicability and enforceability of legislation;
- Use of existing room for controlled experimentation;
- Embed in the authority's organization and make accessible for others knowledge on eco-innovations
- Establishing partnerships between authorities and businesses in order to facilitate innovation process.
- Other arrangements on organizational level to facilitate innovations. E.g. to establish a Rapid Response Team: It can be valuable to create a team of experts on a green innovative cases. Such a 'rapid response team' can be used in cases where a) is to be decided quickly; b) vital knowledge is missing from the relevant parties and c) mediation is required.

Factsheet 2.05 - Relationship permitting and inspection

The following issues could be helpful while establishing and encouraging a good level of cooperation between permit writers and inspectors:

- Inspection reports, documents and risk priorities can be used in the application phase;
- Complains received by the inspector about existing installation can be reported to the permit writer and be taken into account while defining the conditions;
- In case of a new installation the involvement of the inspector could be common site visit by the inspector and the permitting officer;
- A shared databases for permitting and inspections where information and inspection history can be found would be helpful;
- The enforceability check of the permit conditions by the inspectors should be mandatory action. This could also be done by other authorities. A library of standard set of conditions (standard requirements) would be very helpful in this;
- Inspectors can be the eyes and ears of the permit officers;
- Inspectors can use the information from the permitting officers to shift their priorities or focus of their inspection work.

Although we believe that all actions above will have a positive influence in the relationship and the work, for some of them it will mean additional work. The lack of resources could form a risk in this cooperation.

Sharing the same objectives, targets and priorities will not always be easy or possible. However knowing these objectives, targets and priorities from each other could be very useful especially for the work of the inspector.

Involvement and good communication between inspection and permitting is very important and this can have different forms and structures. In general it's not good practice to have the same person for permitting and inspection. Although this might be seen as a very effective way of working, it can also be seen as a potential cause of loss of sight, since details non addressed in the permitting procedure could also be undervalued in the inspection.

A rotation system in where the roles (permitting officer or inspector) change at a certain moment could also help in the understanding of each others work. Of course this can only be done if both persons work for the same organisations and there are no legal constrains.

Factsheet 2.06 – Transparency and Visibility

Public visibility of the application, draft report and permit, submissions, objections and final report and permit. The permit procedure must be fully transparent and allow for public participation. This requirement is stated explicitly in the Industrial Emissions Directive and comes from the Aarhus Convention. Relevant documentation should be made available online throughout the entire permitting process. This includes the following elements:

- Permit application
- Environmental Impact Statement, where relevant
- Natura Impact Statement, where relevant
- All correspondence between the regulator and other relevant statutory bodies.
- All correspondence with, and submissions and objections received from, third parties, including interested members of the public
- All further information received from the applicant
- Draft Permit
- Report of the permit writer
- Technical report considering any objections
- Final Permit

Applicants should be made aware that all information is made publicly available; therefore confidential information should not be generally submitted. In the event that an applicant requires information to be kept confidential, it must be strongly justified. If is it not necessary for the consideration of the permit application, it is returned to the applicant.

It is also possible to interact with the permitting process online, using a facility to make online submissions and objections at the appropriate parts of the process.

<u>Internal and external communication</u>

Some good practices for internal and external communication are:

- Communication plan that ensures the involvement of various stakeholders in the process;
- Protocols that describes how letters are formally stored and how communication through internet can take place;
- A customer charter, which is published on the website of the competent authority and includes all applicable documents, correspondence and decisions by the competent authority;
- An annual internal communication plan, that includes: media relations, website and intranet, publications, internal communications, internal newsletters, exhibitions, environmental surveys, education etc);

- A national web based communication system for all communication between competent authority and applicants.

Factsheet 2.07 - Pre-application discussion

Pre-application discussions or pre-consultations:

- should be an informal step (advised but not mandatory) in case of new installations. The advantages: better applications and to explain the specific procedure to the operator.
- should be a formal step in case of changes in existing installation. Here it's necessary to decide by the authority if it's major or minor change and if an application is necessary or not.

Especially in the first case (informal step) the permit writer should stay in his or her role as regulator and not step in the role as a private consultant (companies will use this as free advice on their application).

Issues to discuss during the pre-consultation discussions are:

- to explain how to fill in the application form;
- to discuss the information that is required;
- to explain the (type) permitting process;
- to discuss the main environmental issues;
- to discuss the future plans and the requirements with respect to the IED, EIA (scoping) and AA;
- to discuss if any data is confidential; to ensure the application is of high quality;
- to visit of the site.

Factsheet 2.08 – Base-line report on soil and groundwater contamination

This Factsheet provides guidance on the requirements for Baseline Reports on soil and groundwater contamination under the Industrial Emissions Directive. The main requirements are set out in Article 22 of the IED where activities that involve the production or release of hazardous substances that may lead to the possibility soil or groundwater contamination should be subject to the submission of a report by the operator before starting operation of an installation or before a permit for an installation is updated for the first time. The report provides the basis for a comparison with the state of contamination upon definitive cessation of activities.

Article 22 (2) states that: where the activity involves the use, production or release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare and submit to the competent authority a baseline report before starting operation of an installation or before a permit for an installation is updated for the first time after 7 January 2013.

The baseline report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for under paragraph 3.

The baseline report shall contain at least the following information:

(a) information on the present use and, where available, on past uses of the site;
(b) where available, existing information on soil and groundwater measurements that reflect the state at the time the report is drawn up or, alternatively, new soil and groundwater measurements having regard to the possibility of soil and groundwater contamination by those hazardous substances to be used, produced or released by

Article 22 contains provisions for the definitive cessation of activities involving the use, production or release of relevant hazardous substances. A key tool in this respect is the establishment of the Baseline Report. Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the Baseline Report, the operator must take the necessary measures to address this pollution so as to return the site to that state.

Article 22 (3) states that: Upon definitive cessation of the activities, the operator shall assess the state of soil and groundwater contamination by relevant hazardous substances used, produced or released by the installation. Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the baseline report referred to in paragraph 2, the operator shall take the necessary measures to address that pollution so as to return the site to that state. For that purpose, the technical feasibility of such measures may be taken into account.

Without prejudice to the first subparagraph, upon definitive cessation of the activities, and where the contamination of soil and groundwater at the site poses a significant risk to human health or the environment as a result of the permitted activities carried out by the operator before the permit for the installation is updated for the first time after 7 January 2013 and taking into account the conditions of the site of the installation established in accordance with Article 12(1)(d), the operator shall take the necessary actions aimed at the removal, control, containment or reduction of relevant hazardous substances, so that the site, taking into account its current or approved future use, ceases to pose such a risk.

European Commission guidance on baseline reports

According to the last subparagraph of Article 22(2) of the IED, 'the Commission shall establish guidance on the content of the baseline report.'

Accordingly, the Commission has published a Communication on European Commission Guidance concerning baseline reports[2]. This guidance provides information on the legal provisions concerning a baseline report and covers the following elements of Article 22 of the IED that should be addressed in the baseline report:

- Determining whether a baseline report is required to be produced;
- Designing baseline investigations;
- Designing a sampling strategy;
- Developing the baseline report.

The guidance sets out 8 key stages in the development of the report:

Stage 1: Identifying the hazardous substances that are currently used, produced or released at the installation – to determine whether or not hazardous substances are used, produced or released in view of deciding on the need to prepare and submit a baseline report.

[2] European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions. 2014/C 136/03.

Stage 2: Identifying the relevant hazardous substances - to restrict further consideration to only the relevant hazardous substances in view of deciding on the need to prepare and submit a baseline report.

Stage 3: Assessment of the site-specific pollution possibility - to identify which of the relevant hazardous substances represent a potential pollution risk at the site based on the likelihood of releases of such substances occurring. For these substances, information must be included in the baseline report.

Stage 4: Site history – to identify potential sources which may have resulted in the hazardous substances identified in Stage 3 being already present on the site of the installation.

Stage 5: Environmental setting – to determine where hazardous substances may go if released and where to look for them. Also, to identify the environmental media and receptors that are potentially at risk and where there are other activities in the area which release the same hazardous substances and may cause them to migrate onto the site.

Stage 6: Site characterisation- to identify the location, nature and extent of existing pollution on the site and to determine which strata and groundwater might be affected by such pollution. Compare with potential future emissions to see if areas are coincident.

Stage 7: Site investigation – to collect additional information as necessary to allow a quantified assessment of soil and groundwater pollution by relevant hazardous substances.

Stage 8: Production of the baseline report

IMPEL project on baseline reports

An IMPEL project[3] is in progress to assess the procedures that are already being implemented in countries in relation to the production of baseline reports and to identify good practice. <add summary of IMPEL project>

[3] IMPEL Project: IED Baseline Report. Number 2015/24 - 2016/10 - 2017/11.

Factsheet 2.09 – Checking of application

<Not finished>

Completeness and admissible: After submission the first check is to see if the application form is complete (all mandatory fields are filled in). Based on this the application will be further assessed or the applicant will be notified about information missing. After the check for completeness the application will be further assessed if it's admissible. In case it's not admissible the operator is requested for additional information. In most cases there is a dedicated (legal) time to check if the application is complete and admissible. When the application is declared complete and admissible the permit procedure starts. This step can also be used by the competent authority to carry out a screening for appropriate assessment under the habitat directive and a screening under the IEA.

- What is the minimum required information?
- What is the quality standard (when is application good enough?
- Should we advise that a site visit should take place in the this step?
- What are the weaknesses in an application and what are the pitfalls

Factsheet 2.10 - Boundaries of an installation

The technical unit consists of the plant or machinery where one or more activities listed in Annex 1 of the IED is undertaken. Machinery includes equipment for monitoring for releases, control rooms, and equipment needed to run the plant and move materials around the Installation. Plant may include static items such as tanks concrete pads and lagoons. The technical unit must include enough plant and machinery to allow the Activity to take place in a controlled manner for a sufficient period of time for the operation to reach its designed or intended output.

Therefore the "technical unit" can be taken to mean something which is functionally self-contained in the sense that the unit – which may consist of one component or a number of components functioning together – can carry out the Annex 1 activity or activities on its own.'

If there are two or more technical units on the same site they will be treated as a single TU if they are technically connected and one of the following criteria is met:
(a) They carry out successive steps in an integrated activity;
(b) One of the listed activities is a Directly Associated Activity (DAA) of the other; or
(c) Both units are served by the same DAA.

Directly associated activities

Directly associated activities are activities are those being carried out in conjunction with the Annex 1 IED activity. DAAs should also be included within the installation. The following 3 criteria must all be met before an activity will be regarded as a DAA of the TU:

a) The activity must be directly associated with the stationary technical unit;
b) The activity must have a technical connection with the listed activities carried out in or by the stationary technical unit; and
c) The activity must be capable of having an effect on emissions.

In addition to meeting criteria (a), (b) and (c) the activity must also take place on the same site as the TU. Two parcels of land do not need to touch physically to form the same site, provided that the parcels are technically connected, so a site would not become two sites merely because two parcels of land were separated by a barrier such as a stream or a road.

Factsheet 2.11 – Cost-benefit methodologies

The quantitative analysis of costs and benefits will usually require that a range of possible information sources are considered to draw relevant data. In assigning values to environmental harm, useful references may exist in national publications.

Article 15(4) places an obligation on the competent authority to make a judgement about what constitutes disproportionately higher costs compared to the environmental benefits. This has close links to the issue of cost-benefit analysis. However, the results of any cost-benefit analysis will not necessarily provide an answer as to what is disproportionate for a particular installation.

Factors that could be considered in deciding on disproportionality:

- Payback periods for investments to be made to comply with BAT-AELs;
- The impact of compliance with the BAT-AELs on product prices;
- Cross-media impacts of compliance with the BAT-AELs including energy costs and resource consumption;
- Cost-effectiveness of the measures proposed to be implemented;
- Disproportionality may vary by installation and by sector given the wide variety of activities covered by the IED.

Factsheet 2.12 – Derogation from BAT-AELs

Article 15(3) of the IED provides for a specific role for BAT conclusions and BAT-AELs when setting emission limit values in permits. The expectation is that, in general, emission limit values will be set in permits so that emissions from the installation do not exceed the BAT-AELs. However, Article 15(4) of the IED provides the possibility to derogate from the requirements of Article 15(3) and, thereby, to allow emissions to be higher than the BAT-AELs where an assessment shows that the achievement of BAT-AELs would lead to disproportionately higher costs compared to the environmental benefits due to:

a) the geographical location or the local environmental conditions of the installation concerned; or
b) the technical characteristics of the installation concerned.

Under Article 21(3) of the IED, within 4 years of publication of decisions on BAT conclusions competent authorities must reconsider and, if necessary, update the permit to ensure compliance with the Directive and in particular Article 15(3) and 15(4) and that the installation complies with its permit. The first two sets of BAT conclusions for the manufacture of glass and iron and steel production were published on 08 March 2012 and competent authorities are now under pressure to reconsider and update permits for these sectors by the 2016 deadline.

Finally, Article 15(5) of the IED provides for temporary derogations for the testing and use of emerging techniques for a total period of time not exceeding 9 months, after which either the technique is stopped or the activity achieves at least the BAT-AEL. The IED does not stipulate any technical criteria for the using this derogation provision.

Technical characteristics, local environment and geographic factors

Article 15(4) of the IED makes clear that derogations can only be justified where one or more of the following factors would mean that the achievement of the emissions levels associated with the best available techniques would lead to disproportionately higher costs compared to the environmental benefits:

I. The geographical location of the installation concerned;
II. The local environment of the installation concerned;
III. The technical characteristics of the installation concerned.

Participants in the IMPEL project provided examples where derogations might be applied with respect to these factors.
With regard to technical characteristics, examples given were:

- production of specialist products that are not adequately covered by the BAT conclusions,
- configuration of a plant on a given site and lack of space to fit equipment,
- practicability of installing equipment within four years,
- intended operational lifetime of parts of an installation,
- application of BAT to short-run / batch activities,
- specificity of process gases,

- failure of the application of the BAT concerned to achieve the BAT-AELs and
- plants designed to use specific local raw materials.

With regard to geographic characteristics, examples given were:

- remote locations (such as islands) involving high transport costs for waste treatment,
- availability of process water, and
- size, type and flow of surface water were given as examples.

With regard to local environment examples given were:

- The availability of water and quality of the surrounding environment including location of sensitive receptors.

Factsheet 2.13 – BAT assessment and setting conditions

BAT Conclusions (BATc) have a key role in the permitting process as they must be the reference for setting permit conditions. In basic terms the BATc will describe the issues to be considered and the expected performance levels of an installation. It is then for the operator to demonstrate and ensure that the installation can meet these performance levels.

Despite this, it is important to note that the BATc include a statement declaring that they are not prescriptive regarding the particular techniques that should be used, and that other techniques can also be used. This means that they are not exhaustive in describing techniques but rather provide the focus on the areas to pay attention to and performance expectations to reference when determining a permit application or reviewing a permit – and not the means of achieving those outcomes.

BAT is the Best Available Techniques and is defined as the most effective and advanced stage in the development of activities and their methods of operation that indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent, and where that is not practicable, reduce emissions and the impact on the environment as a whole.

There is a misconception that BAT is all about having the right types of technologies, kit and abatement plant at an installation. This is not the case. BAT is all about the optimisation of site-specific performance. It may be the case that an installation has all the most modern technologies and abatement equipment, but if it is not operated or maintained correctly, the performance of this equipment is not optimised, and it may not be BAT. Similarly an installation could use older technologies, but is operated in such a way that their performance is optimised and is BAT for that installation.

The BATc do not define which techniques or technologies should be used by an installation. The practical suitability of particular techniques will vary on a case by case basis and will be site specific – dependent upon the technical characteristics of the installation, operational limitations, local conditions and any environmental outcomes that are merited necessary to minimise impact and protect the environment as a whole.

The BATc will contain BAT - associated emission levels (BAT-AELs). Typically BAT-AELs will be presented as a range. It should be noted that due to the principle of optimisation where the BATc present a range of emission limits it is not appropriate to simply set the ELV at the top of the BAT-AEL range. The appropriate ELV from the BAT-AEL range is what protects the environment and can be achieved by the normal optimised performance of the installation.

This means that as part of our BAT assessment we must assess and ensure that site specific performance is optimised and can achieve the performance levels within the range of the BAT- AELs. If we conclude as part of our assessment that site-specific performance is optimised, then BAT for that installation will be reflected by the emission levels associated with this optimised performance.

BAT Assessment

While the BATc do not specify that a particular technology or technique is utilised by an installation, it lists various technologies and techniques that may be applicable. This is not an exhaustive list and just because a technique has not been identified by the BATc this does not mean that it is not BAT.

Where a technology or technique has been listed in the BATc, BAT associated emission levels or BAT associated performance levels may also be included. These will present what is considered to be the normal operating range for BAT techniques or technologies and should be the reference for setting the permit conditions. These are also a useful reference for determining whether the performance of a particular installation is optimised and should form the basis of any discussions with the operator. It should be noted that the BATc may prohibit the use of certain technologies or techniques, however this will be unusual.

Just because a technique or technology is not mentioned in the BATc it does not mean that it is not BAT. Permit conditions can be set on the basis of techniques that are not described in any of the relevant BATc – however we must be satisfied that the proposed approach represents BAT.

Where an alternative technique is proposed, you should utilise Annex III of the IED which contains criteria for determining Best Available Techniques. You should consider these criteria and assess whether the proposed alternative technique satisfies these criteria, based on sufficient justification from the operator and can be considered to be BAT.

These criteria include:

1. the use of low-waste technology;
2. the use of less hazardous substances;
3. the furthering of recovery and recycling of substances and used in the process and of waste, where appropriate;
4. comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
5. technological advances and changes in scientific knowledge and understanding;
6. the nature, effects and volume of the emissions concerned;
7. the commissioning dates for new or existing installations;
8. the length of time needed to introduce the best available technique;
9. the consumption and nature of raw materials (including water) used in the process and energy efficiency;
10. the need to prevent or reduce to minimum the overall impact of the emissions on the environment and the risks to it;
11. the need to prevent accidents and to minimise the consequences for the environment; and
12. information published by public international organisations.

If we consider that an alternative technique satisfies these criteria, and is BAT, you must also set emission limit values that ensure that under normal operating conditions the emissions do not exceed the BAT-AELs which are described in the BATc.

Where it is assessed that an installation is not currently BAT, the operator must undertake an assessment of the options to minimise the emissions and specify the steps that will be

taken to employ BAT at the installation by the end of the BATC review period. This process is called optioneering.

Considering a Range of Options

It is likely that in most cases that the options for achieving BAT can be addressed in a number of ways – BAT will vary on a site by site basis. A basic principle of BAT assessment is to consider a range of options to address BAT and to carry out an options appraisal – optioneering. Without considering a range of options it is not possible to determine if the chosen approach represents the most suitable option, and therefore represents BAT.

Optioneering should always include at least one option for reducing the emissions to within the BAT-AEL range within the BATc review deadline (where this is technically feasible). Where appropriate the operator may also need to consider options that would allow the installation to achieve the BAT-AELs after the BATc review deadline – these options should be assessed on the basis of other options resulting in disproportionate costs of dis-benefits to the environment. Under these circumstances the "do nothing – status quo" option may also be considered as an appropriate alternative approach.

Crucially any options that are being considered must be considered to represent the Best Available Techniques (BAT).

Optioneering, Costs and Benefits

The consideration of costs and benefits of credible options is an important aspect of optioneering. The operator should ensure that an analysis of costs and benefits is made available for the range of credible options considered. It is acknowledged that there may be challenges in producing accurate costs and, more particularly monetising net benefits. As a consequence it may not always be possible to conduct an assessment that relies fully on a quantitative analysis.

Where a cost benefit analysis is required to justify derogation, the operator should provide a CBA for both the selected upgrade option **and** for the option that would allow the installation to achieve emissions within the BAT-AEL ranges within the BATc review deadline. This is required in order to demonstrate disproportionate costs. See further factsheet 9.

Justification for Preferred Option

The operator will have a preferred option and should indicate the reason(s) the proposed option has been selected.

As part of this justification the operator should state the reason that an option is being selected and where necessary give details of any benefits and risks associated with the option, and why they are preferred over other options, including why other possible options are not selected and are therefore not the best options for the site specific circumstances.

The operator should as part of its justification provide evidence to support understanding of underlying cause as to why a particular option has been selected. This could take the form of technical assessments, monitoring data, photographs, historic maps or survey data.

The operator should demonstrate that the proposed upgrades will provide the intended benefits e.g. these benefits may include the protection of important infrastructure and buildings, valuable land resource, or renewable energy production – but most importantly why the preferred option is BAT and will achieve emissions within the BAT-AEL range.

Derogation (and deviation from the BAT-AELs) can only be considered after the site specific BAT assessment has been concluded, and if the BAT assessment and optioneering does not demonstrate any BAT option that will achieve emissions within the BAT-AEL range.

The need to consider derogation will arise only if it is concluded that an operator's BAT Assessment adequately demonstrates that BAT in those operators specific circumstances might be defined by an ELV that exceeds the upper end of the applicable BAT-AEL range. This can be either on an ongoing basis, or on a time limited basis in order to allow the investment necessary to eventually reduce emissions to an appropriate point within the BAT-AEL range.

It is a common misconception that derogation is from both BAT, the BAT Conclusions and the full requirements of the IED – this is not the case.

Types of Derogation

The IED specifies only 2 types of derogation.

- Article 15(4) derogation - allows the setting of less strict ELVs that exceed the BAT-AEL range. This derogation can be granted only if on-site operations are considered to be BAT (an article 15(4) derogation is not derogation from BAT). Furthermore this should ordinarily not be considered to be an indefinite derogation from the BAT-AELs, but rather a temporary relaxation of the ELVs.
  The operator must justify any derogation with firm plans to bring operations to within the BAT-AEL range (within an appropriate timescale) and cease the requirement for derogation. This type of derogation would need to be reappraised again at any future BATc review, and the status of BAT at these future reviews is uncertain. As a consequence the operator may ultimately be faced with greater upgrade requirements in the future.
- Article 15(5) derogation – allows for the testing and use of emerging techniques. This derogation can be granted if site operations are not BAT – however this derogation can only be granted for a period of 9 months. It is considered unlikely that this type of derogation will be appropriate for BATc reviews.

Circumstances in which Derogation may be Justified

If BAT may be represented by an ELV that exceeds a BAT-AEL range in the case of a specific installation, competent authorities it can set an ELV that exceeds the upper end of the BAT-AEL range. Competent authorities can only set such an ELV if it can be demonstrated that reducing the comparable emissions to within the BAT-AEL range would lead to disproportionately higher cost compared to the environmental benefits for the installation concerned due to:

- the geographical location or the local environmental conditions of the installation, and/or

- the technical characteristics of the installation.

The reasons that could justify derogation to be considered on the grounds of the geographical location or the local environmental conditions might include:

- higher construction and/or energy costs due to remote location;
- the installation uses a locally available raw material that affects the emissions, and importing the raw material upon which compliance with BAT-AEL depends would require substantial infrastructure investment and increased transport costs;
- the uses of alternative techniques at the installation would require additional infrastructure locally (e.g. remote locations without interconnector for power supply);
- the built up nature of the local area may result in higher costs (e.g. because of higher land prices);
- local planning restrictions limit the nature of developments or their costs; or
- the installation is located where there are fewer people or environmental receptors, resulting in lower impacts (and damage costs) than would apply to a typical installation.

The reasons that might justify derogation to be considered on the grounds of the technical characteristics of the installation might include:

- atypical cross media impacts would arise whereby reducing the emissions of one pollutant increase the emissions of another;
- the configuration of the plant within the site results in practical difficulties and increased costs, including lack of space for the construction of additional plant;
- the history of recent investment in techniques designed to reduce emissions;
- the remaining operational life of the plant;
- the product must be produced to meet a specific and atypical specification that necessitates e.g. additional purification steps, different reaction chemistry etc.; or
- the characteristics of the gaseous or liquid effluents are atypical.

In order for competent authorities to entertain the possibility of derogation the optioneering BAT assessment should include at least one option for reducing the emissions to within the BAT-AEL range and meet BAT within the BATc review deadline. This assessment will need to demonstrate that the reason such an option was rejected as BAT, or whose introduction is delayed, can be linked to at least one of the relevant qualification criteria mentioned above. If this is not the case then competent authorities cannot consider the possibility of derogation and would therefore have no option but to set the ELV within the BAT-AEL range.

Translating BAT Associated Emission Levels (AELs) into Emission Limit Values (ELVs)

This part provides guidance on how to translate the BAT Associated Emission Levels (AELs) published at EU-level into Emission Limit Values (ELVs) that are specific to the permitting of individual installations.

The IED requires that Emission Limit Values (ELVs) are set for polluting substances likely to be emitted in significant quantities (Article 14, para 1). The ELVs must reflect the principle that that Best Available Techniques (BAT) is applied in the operation of the installation (Article 11). The BAT conclusions agreed at EU-level provide the reference for setting ELVs, including the requirements for the monitoring of emissions (Article 14, para 3). In particular, the BAT-AELs provide the basis for setting the ELVs for individual installations (Article 15, para 3).

Article 3

Definitions

(5) 'emission limit value' means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time;

(10) 'best available techniques' means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole […]

Article 11

General principles governing the basic obligations of the operator

Member States shall take the necessary measures to provide that installations are operated in accordance with the following principles:

[…]

(b) the best available techniques are applied;

Article 15

Emission limit values, equivalent parameters and technical measures

[…]

3. The competent authority shall set emission limit values that ensure that, under normal operating conditions, emissions do not exceed the emission levels associated with the best available techniques as laid down in the decisions on BAT conclusions referred to in Article 13(5) through either of the following:

(a) setting emission limit values that do not exceed the emission levels associated with the best available techniques. Those emission limit values shall be expressed for the same or shorter periods of time and under the same reference conditions as those emission levels associated with the best available techniques; or

(b) setting different emission limit values than those referred to under point (a) in terms of values, periods of time and reference conditions.

Where point (b) is applied, the competent authority shall, at least annually, assess the results of emission monitoring in order to ensure that emissions under normal operating conditions have not exceeded the emission levels associated with the best available techniques.

To put the IED requirements into practice it is necessary to derive a mass or concentration limit (single value) from the BAT-AEL range (level A to level X). This single value should not exceed the range under normal operating conditions. In order to comply with the basic obligation to apply BAT, this mass or concentration limit needs to reflect the best technically and economically viable option to protect the environment.

If the ELV is expressed for another time period or under reference conditions other than those stated in the BAT-AELs, an additional calculation by the operator is required to prove that the level of protection is equivalent.

The implementation of BAT-AELs can be split into three steps:

- Translating BAT-AELs into a single ELV (from a range to a number) or several ELVs for different operational conditions.
- Setting monitoring requirements, and in case of other reference conditions, setting additional monitoring/reporting requirements.
- Setting compliance rules, like reference periods and conditions and allowed exceedances during other than normal operating conditions.

Under certain limited conditions, Article 15, para 4, allows an ELV to exceed the upper value of a BAT-AEL range. See factsheet2.11 for further information on derogations

Conditions in permits, general binding rules, national/regional Brefs

The IED provides the options to implement BAT-AELs in individual permit conditions or in general binding rules. In the permitting option, BAT-AELs are translated into ELVs for an individual installation. In the general binding rules option, BAT-AELs are translated into ELVs for a sector. Examples from Member States show that general binding rules are prepared by

working groups with experts from competent authorities and the member state. Operators and trade associations are consulted.

Article 6

General binding rules

Without prejudice to the obligation to hold a permit, Member States may include requirements for certain categories of installations, combustion plants, waste incineration plants or waste co-incineration plants in general binding rules.

Where general binding rules are adopted, the permit may simply include a reference to such rules.

Article 17

General binding rules for activities listed in Annex I

1.When adopting general binding rules, Member States shall ensure an integrated approach and a high level of environmental protection equivalent to that achievable with individual permit conditions.

2. General binding rules shall be based on the best available techniques, without prescribing the use of any technique or specific technology in order to ensure compliance with Articles 14and 15.

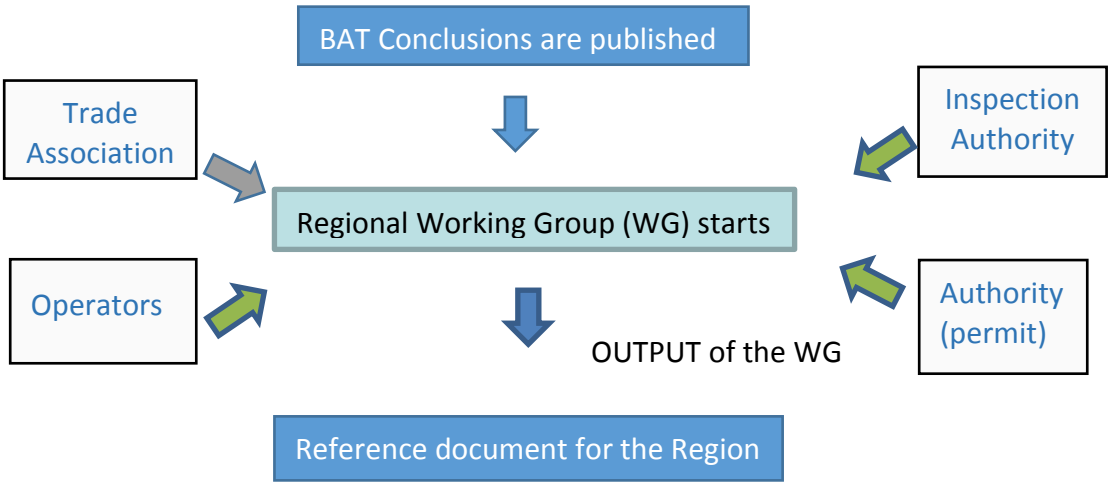
3. Member States shall ensure that general binding rules are updated to take into account developments in best available techniques and in order to ensure compliance with Article 21.

4.General binding rules adopted in accordance with paragraphs 1 to 3 shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication.

Examples in Member States show two approaches, combining permits and general binding rules:

The general binding rules set ELVs that are considered to reflect best available techniques for the majority of the installations. In the permits of individual installation these ELVs are checked and if deemed necessary amended in permit conditions. The ELVs in the general binding rules are sometimes at the upper level of the BAT-AEL and sometimes at a more stringent level depending on the performance of the installations and environmental circumstances in the area covered by the general binding rules.

An option in between (not mentioned in the IED) are national/regional Brefs which provide guidance to set ELVs for a specific sector or region. Like general binding rules national/regional Brefs are developed by working groups consisting of experts from competent authorities and the member state and in co-operation / consultation with industry.



Step 1: Translating BAT-AELs into an ELV

To set ELVs based on BAT-AELs the emission performance of a whole sector needs to be compared with the performance level of an individual installation or, in the case of general binding rules, of the group of installations covered under the scope of the general binding rules. For this analysis, detailed and good quality information is needed. The IED provides the legal basis to require the operator to submit the necessary information:

- Permit application (Article 12)
- Monitoring plan and data (Article 14)
- Possibility to require operator information for reconsidering permit conditions (Article 21)
- Inspection reports (Article 23).

To carry out the analysis, the information needs to include in particular:

- Technical details on the installation (existing/new, continuous / non-continuous operations).
- Substances emitted, including information on quantities of individual and categories of substances and monitoring methods and reference conditions.
- Nature of the emissions, like fluctuations, point / diffuse source, normal / other than normal operating conditions.
- Emission reduction techniques (to be) implemented.

Practical examples in Member States show that requiring the operator to draw up a plan, including on implementing BAT and monitoring and in some cases following formats or criteria, contributes to good quality and quantity information collection.

If a first check, also in comparison with the BREF, shows that the quality and/or quantity of information is not sufficient, the competent authority may, **before** granting or revising the permit, request additional information. A better understanding of the specific situation may also require additional information. For example, the reference conditions and monitoring methods that underlie the emission data must be clear to be able to use them for setting an ELV

Article 12

Applications for permits

1. Member States shall take the necessary measures to ensure that an application for a permit includes a description of the following:

the installation and its activities;

the raw and auxiliary materials, other substances and the energy used in or generated by the installation;

the sources of emissions from the installation;

the conditions of the site of the installation;

where applicable, a baseline report in accordance with Article 22(2);

the nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment;

the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation;

measures for the prevention, preparation for re-use, recycling and recovery of waste generated by the installation;

further measures planned to comply with the general principles of the basic obligations of the operator as provided for in Article 11;

measures planned to monitor emissions into the environment;

the main alternatives to the proposed technology, techniques and measures studied by the applicant in outline.

An application for a permit shall also include a non-technical summary of the details referred to in the first subparagraph.

Article 21

Reconsideration and updating of permit conditions by the competent authority

2. At the request of the competent authority, the operator shall submit all the information necessary for the purpose of reconsidering the permit conditions, including, in particular, results of emission monitoring and other data, that enables a comparison of the operation of the installation with the best available techniques described in the applicable BAT conclusions and with the emission levels associated with the best available techniques.

When comparing the information with a BREF/BAT-AEL five outcomes can be distinguished:

The installation uses the same techniques as described in the BAT conclusion. In this case the next step is to check if the emission level of the installation is within the BAT-AEL. If so, that emission level can be set as an ELV.

The installation uses the techniques described in the BAT conclusions, but emission levels exceed the BAT-AEL. The emission level in the operator information cannot be automatically set as the ELV (article 15). The competent authority could consider to deviate from the application and set the ELV at the upper level of the BAT-AEL or a lower level considered appropriate looking at the technical characteristics of the installation or comparable installations in the BREFs or elsewhere. This requires consultation with the operator to prevent objections and to guarantee enforceability.

The installation uses techniques other than those described in the BAT-conclusion. In this case the emission level must be compared to the BAT-AEL and additionally the technique must be tested against the Annex III criteria to determine BAT (article 14, para 5). This second test can identify cross-media effects possibly leading to interference with other BAT conclusions. If this is not the case and the emission level is within the BAT-AEL, that emission level can be set as an ELV.

The installation uses techniques other than those described in the BAT-conclusion and emission levels exceed the BAT-AEL. The emission level in the operator information cannot be automatically set as the ELV (article 15). The competent authority could consider deviating from the application and set the ELV at the upper level of the BAT-AEL or a lower level considered appropriate looking at the technical characteristics of the installation or comparable installations in the BREFs or elsewhere. Alternatively, the competent authority may refuse to grant the permit or require the operator to send in a justified application for an article 15(4) derogation. This must be distinguished from processes and environmental effects not covered by BAT conclusions. In that situation, competent authorities and operators must derive an ELV using the criteria of Annex III IED (article 14, para 6, IED).

The operator applies for an article 15, para 4, derogation to use a less stringent ELV than the BAT-AEL. See factsheet 2.11. See factsheet 2.11.

In all situations, the quality of the permit application needs to be checked thoroughly:

Does the emission level reflect the best available techniques looking at the installation and its activities, the materials and energy and the conditions of the site?

Are the proposed emissions reduction techniques acceptable in terms of appropriate design, operation and maintenance and optimal capacity and availability?

The BREF chapters on techniques to consider in the determination of BAT and on emerging techniques provide useful information for this check. Other sources may also be used, for example:

Comparable installations elsewhere in or outside Europe

The operator, competent authority or both can investigate the feasibility of applying other or additional techniques that potentially can reduce the emissions.

In particular, in the case of general binding rules, information from technology institutes, universities and industry representatives (both the IED sectors and material suppliers/suppliers of emission reduction technology).

In summary, the ELV is normally set with respect to the actual emissions from the installation under normal operating conditions. This level is a single value, not a range for each operating window/scenario/product. It is within the range of the BAT-AEL and not necessarily at the upper level of the range. The collection and analyses of information by the operator, competent authority and/or legislator (in the case of general binding rules) is aimed at setting the ELV at a realistic, practicable and enforceable level.

All activities of the competent authority to define the ELV must be clearly reported, by means of a technical report or included in the permit itself. This justification is part of the requirement to make information available to the public and to enable public participation (article 24, para 2).

Article 24

Access to information and public participation in the permit procedure

2. When a decision on granting, reconsideration or updating of a permit has been taken, the competent authority shall make available to the public, including via the Internet in relation to points (a), (b) and (f), the following information:

the content of the decision, including a copy of the permit and any subsequent updates;

the reasons on which the decision is based;

the results of the consultations held before the decision was taken and an explanation of how they were taken into account in that decision;

the title of the BAT reference documents relevant to the installation or activity concerned;

how the permit conditions referred to in Article 14, including the emission limit values, have been determined in relation to the best available techniques and emission levels associated with the best available techniques;

where a derogation is granted in accordance with Article 15(4), the specific reasons for that derogation based on the criteria laid down in that paragraph and the conditions imposed.

Step 2 Setting monitoring requirements

The IED requires operators to make and submit a monitoring plan as part of the permit application (article 12, para 1j). The competent authorities are required to set conditions on monitoring that enable verification of compliance with the permit. The conditions should cover methodology, frequency, evaluation, data processing, recording and presentation. BAT conclusions on monitoring provide the reference for setting the monitoring conditions.

Article 14

Permit conditions

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

Those measures shall include at least the following:

[…]

(c) suitable emission monitoring requirements specifying:

(i) measurement methodology, frequency and evaluation procedure; and

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

Article 16

Monitoring requirements

1. The monitoring requirements referred to in Article 14(1)(c) shall, where applicable, be based on the conclusions on monitoring as described in the BAT conclusions.

[…]

The monitoring plan should be checked and, where necessary, modified by the competent authority **before** granting the permit in order to improve the reliability of the plan.

Frequently used criteria to check monitoring plans are:

- Conformity with BAT conclusions on monitoring.
- *Conformity with the goals of the monitoring, which should meet the goal of the BAT conclusion and verify compliance.*
- Consistency of the complete monitoring system, not only the monitoring of separate parameters.
- Inclusion of obligations regarding Monitoring Data Quality Assurance (e.g. UNI EN 14181 for CEMS, laboratory/operators qualification, sampling methods and procedures …).
- Application of CEN standards or, if CEN standards are not available, ISO, national or other international standards which ensure the provision of data of an equivalent quality level.
- Check if acknowledged (legal) persons do the monitoring or at least the testing of the monitoring system.

Check if the monitoring plan is sufficiently risk-based: The frequency increases with the impact of a failure of abatement techniques. Another approach is to take into consideration the sensitivity of the receptor in question to determine which method to choose based on its limit of quantification and error.

Monitoring plans can also be compared w*ith existing monitoring programs in similar installations to check the quality.*

General binding rules often include monitoring requirements. In addition to these general binding rules, d*etails (such as parameters, reference conditions, intervals, reporting requirements and monitoring methods) might be specified in the permit.* After the publication of BAT conclusions for a sector, a comparison is made between the monitoring requirements in general binding rules and the monitoring requirements in the BAT conclusions. Based on this comparison, a proposition is made for implementing additional monitoring requirements in the general binding rules.

Sometimes BAT conclusions allow alternative methodologies and sometimes operators would prefer to use other monitoring methods or frequencies:

Often the least stringent monitoring method and frequency is taken where the BAT conclusions allow alternatives. When existing permits and general binding rules are already more stringent, the existing conditions are reaffirmed.

In case of BAT conclusions which provide alternative methods of monitoring, all methods are usually allowed.

If the operator proposes an alternative method to the one specified in the permit (and/or in the monitoring plan) he must prove, with the application of international procedures, the equivalence of the alternative method (in terms of LOQ, LOD, …).

For the specific situation of another period and/or other reference conditions than in the BAT conclusions (article 15, para 3) in advance it is checked if the method allows recalculation to the same circumstances (reference conditions) of the BAT conclusion.

The competent/control authority can also change monitoring methods and/or frequency **after** the permit issue, depending on the specific situations, the monitoring results, the results of inspections, the number and type of non-compliances, and any incidents/ accidents that have occurred.

Individual Competent Authorities/Member States have developed guidance for specific sectors on the interpretation of the BAT conclusions on monitoring.

In summary, a good quality monitoring plan and a thorough check of the monitoring plan in advance of granting the permit can, to a great extent, ensure that compliance with the permit conditions can be verified reliably.

Step 3 Setting compliance rules

The IED requires, on the one hand, that ELVs should be set for normal operating conditions (Article 15, para 3) and, on the other, that measures should be included for other than normal operating conditions (Article 14, para 1f). For this, again, good quality and detailed information is needed, for example:

Installation specific

Permit application (Article 12)

Monitoring plan and data (Article 14)

Notifications on incidents, accidents and non-compliance (Articles 7, 8).

Sector information

Background information on the BAT-AELs in the BREFs

CEN standards or other technical standards for maintenance, good operation, etc.

Comparable installations elsewhere in or outside Europe

Article 14

Permit conditions

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

Those measures shall include at least the following:

[…]

(f) measures relating to conditions other than normal operating conditions such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations;

Article 7

Incidents and accidents

[…]

(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

Non-compliance

[…]

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.

[…]

In particular, the following information is needed:

Reference period: the time period to which the ELV refers, e.g. half hour or daily average, average over half hour sampling period, (non-)continuous process.

Reference conditions: the ELV must include reference conditions to be used for the compliance check (e.g. pressure, temperature, oxygen concentration, humidity ...).

In principle, emission limit values are expressed for the same or shorter period of time and under the same reference conditions as the BAT-AEL. If not, additional monitoring is required to prove yearly that the level of protection is equivalent.

Monitoring methods: for each ELV/emission point, including QA procedure (e.g. UNI EN 14181 for CEMS);

Other than normal operating conditions such as start-up and shut-down of operations, leaks, malfunctions, temporary stoppages and definitive cessation of operations in order to determine:

if emissions from non-routine operations are relevant and different from routine operations, and

if so (examples from Member States show that this is not always the case), to set higher ELVs for defined parameters and non-routine operations including limits on frequency and duration for other than normal operating conditions in order to make clear when the ELV based on the BAT-AEL applies and when it doesn't apply.

Not all other than normal operating conditions can be anticipated. That is why the IED includes the obligation to inform the competent authority in case of incidents and (possible) non-compliance (article 8 and 9). Based on these notifications the permit conditions may be reviewed to ensure more effective regulation. During one "emergency situation", usually during a short period after one exceptional event, the operator may exceed the ELV and the compliance rules but should take immediate measures to rectify the situation and identify its causes so that future incidents can be prevented. The operator also has to communicate what happened and the actions that are being implemented to the permitting and inspections authorities e.g. on a 24h limit.

Examples from Member States show that general binding rules often do not include rules on other than normal operating conditions. The permits for individual installations cover these conditions.

In summary, the challenge in setting compliance rules is to check if other than normal operating conditions leading to higher emission levels are expected and, if so, to distinguish these clearly from normal operating conditions to which the BAT-AELs apply.

Factsheet 3.01 - Describing the context for inspections

Identifying the scope

Relevant factors are (in random order):

- Geographical area for which the inspecting authority is competent
- Mission and goals (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):
    - Sectors of industries
    - Types and sizes
    - 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

Gathering Information

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:
    - Legal requirements and permit situation
    - Emissions/discharges (results from emission monitoring), environmental impact, risk, accidents/incidents
    - Complexity of installation
    - Location of installation
    - Compliance record / behaviour (inspection history)
    - Performance record (e.g. Environmental management systems, self monitoring and reporting, safety management systems, audits, experiences of inspection authorities)
    - Relevant complaints

General

- 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
    - Feedback and evaluation of past inspections
    - Likelihood of offences (e.g. is there a big financial profit for not complying to legislation)

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.

Factsheet 3.02 - Impact criteria

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*

Factsheet 3.03 - 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

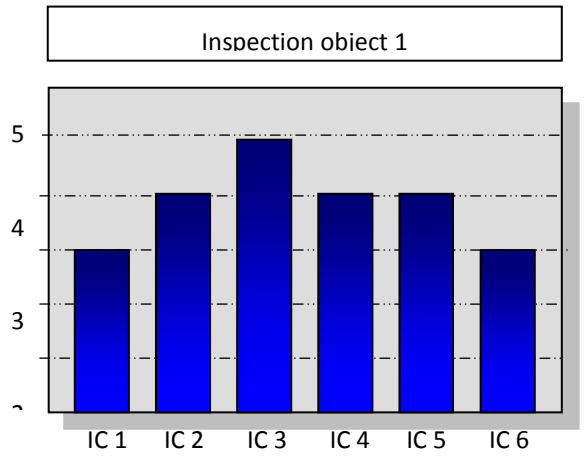
Score	Definition
-1	The installation is exceeding BAT requirements
0	The installation does reflect the BAT requirements
1	The installation does not reflect the BAT requirements

Factsheet 3.04 - IRAM

The scores of the impact criteria are directly linked to the risk categories and therefore to the inspection frequencies. 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. 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. See example below.

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.



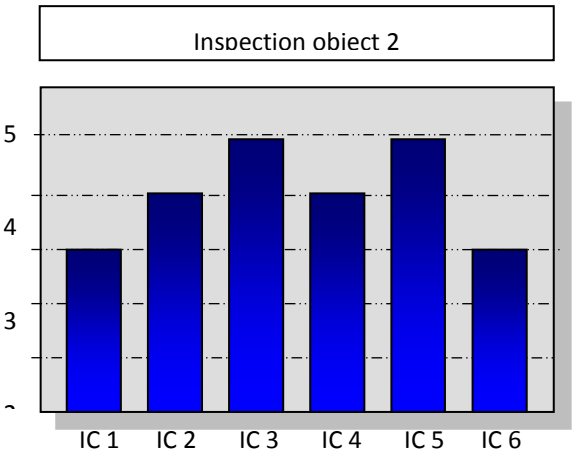
If the rule =“1”, “only one highest score is enough”, then the Risk category = 5

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).

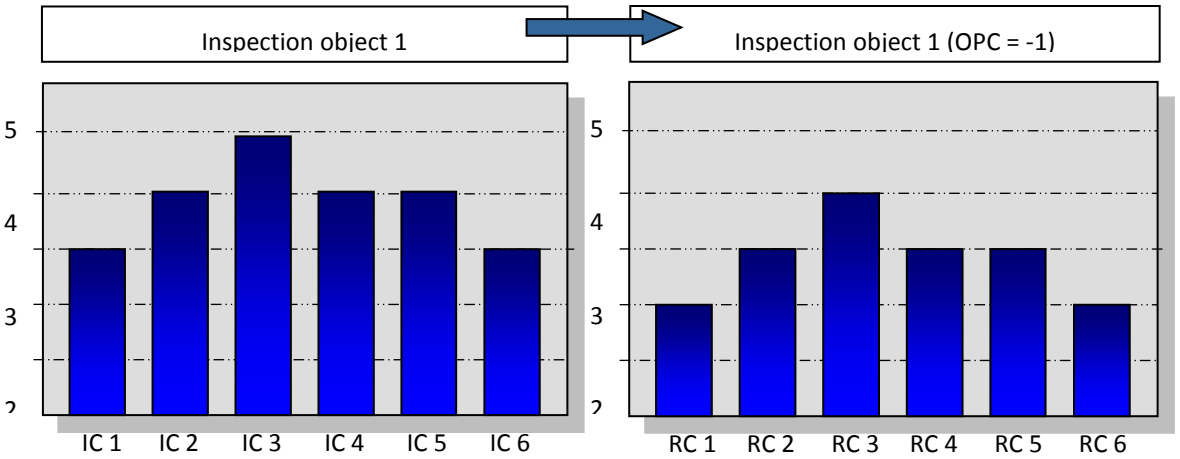


In IRAM, the operator performance criteria (OPC) are used as probability criteria. Their role is to shift the Risk category and therefore the inspection frequency. In case of good operator performance the shift will be to a lower inspection frequency and in case of bad operator performance the shift 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.

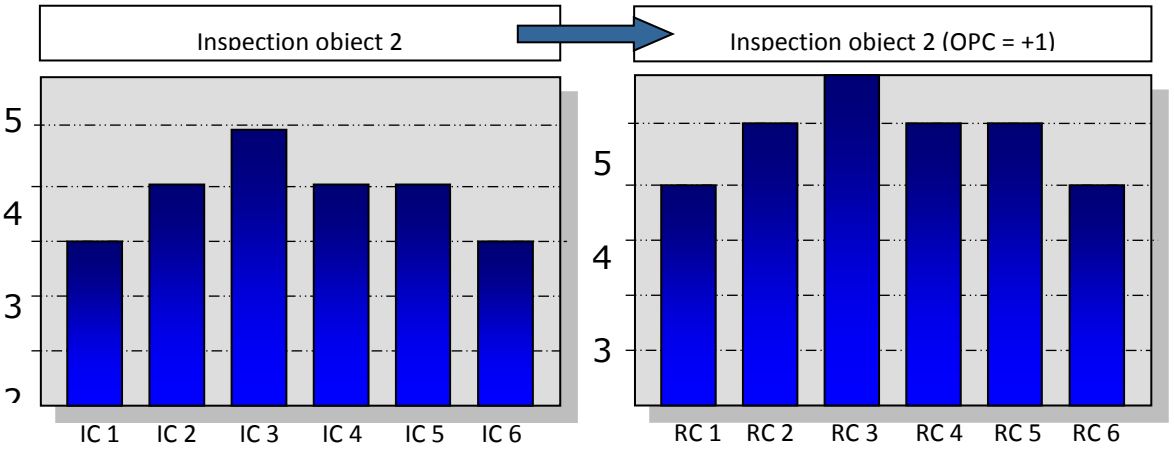
As a result the inspection frequency will be one step lower or respectively one step higher. In case of more than one operator performance criterion the result of the scoring will be the average of all OPC scores, rounded to the integer. This avoids that the shift of the inspection frequency will be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



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.



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.

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.

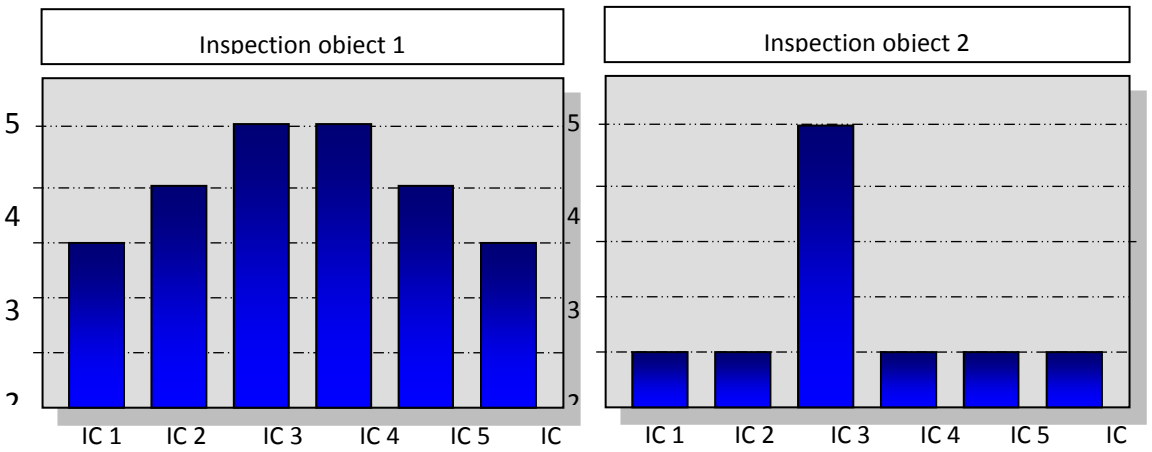
Inspecting authorities should be aware that in order to do a risk assessment, up-to-date information is needed, including data on low risk installations/activities, gathered through inspections (e.g. minimum inspection frequency).

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

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].

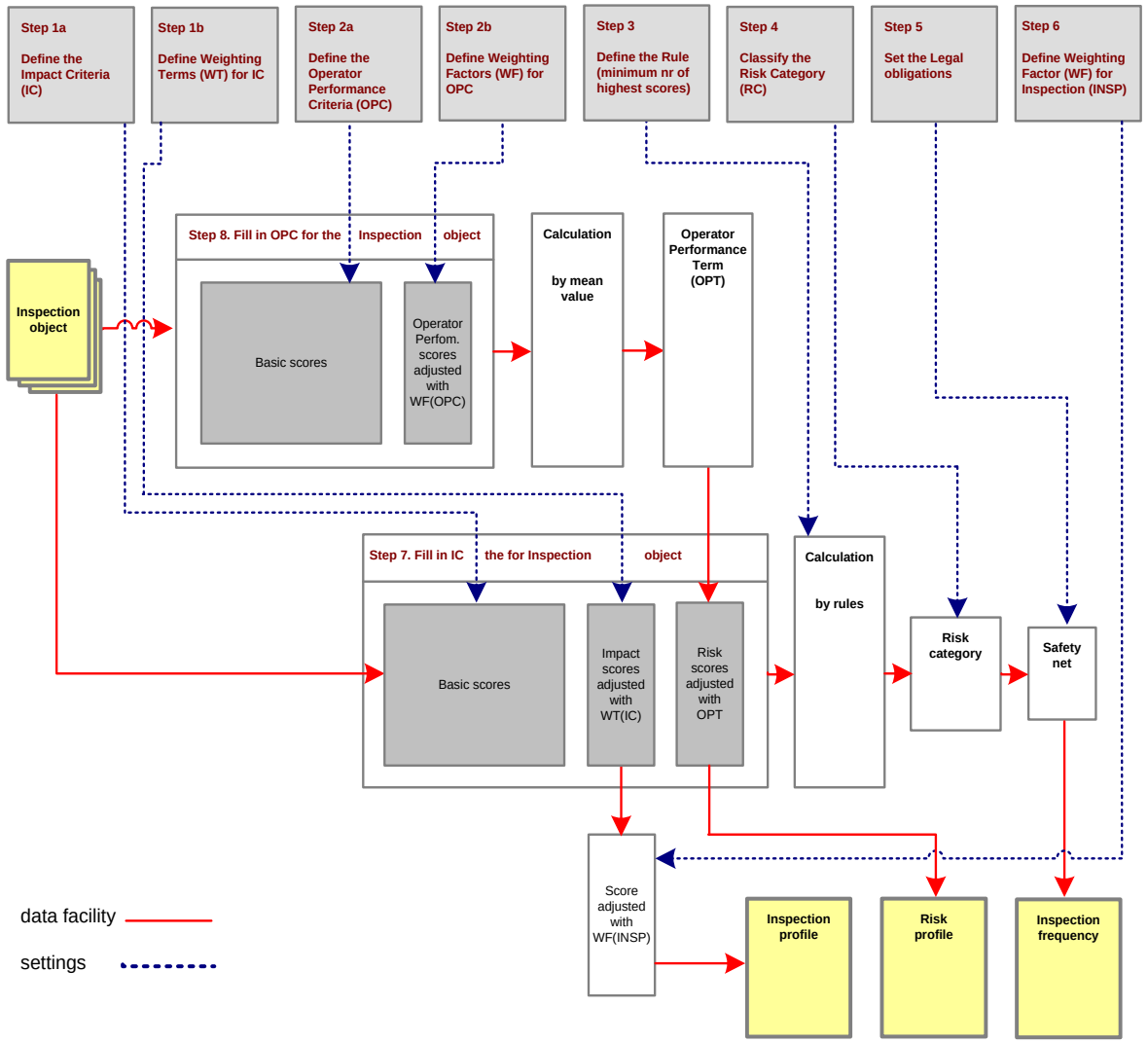
In addition to the inspections outlined above, we must include information on staff time which is needed for administrative and legal support and for follow up actions (e.g. enforcement actions). Often a simple percentage of the total inspection time is taken for this.

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.

[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.

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.



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.

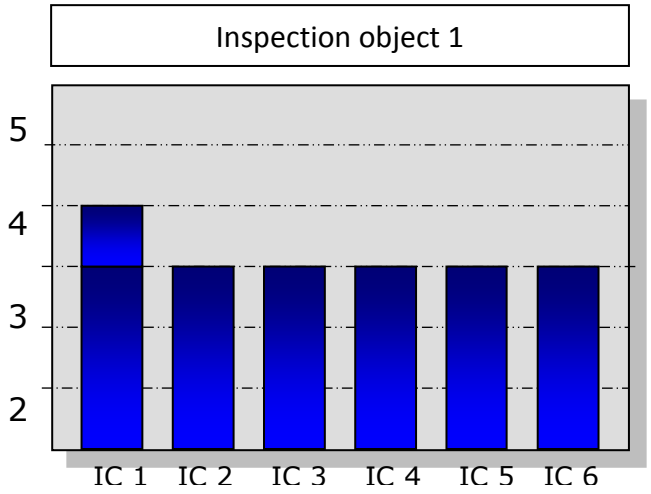
Step 7 – Fill in the Impact Criteria scores

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.

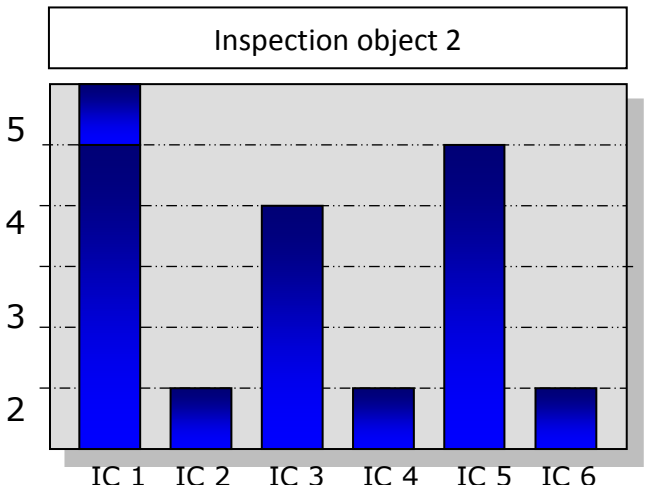
We use 6 Impact criteria, set the weighting term of Air on 1 and the Rule on 1.

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



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.

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 not here.

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

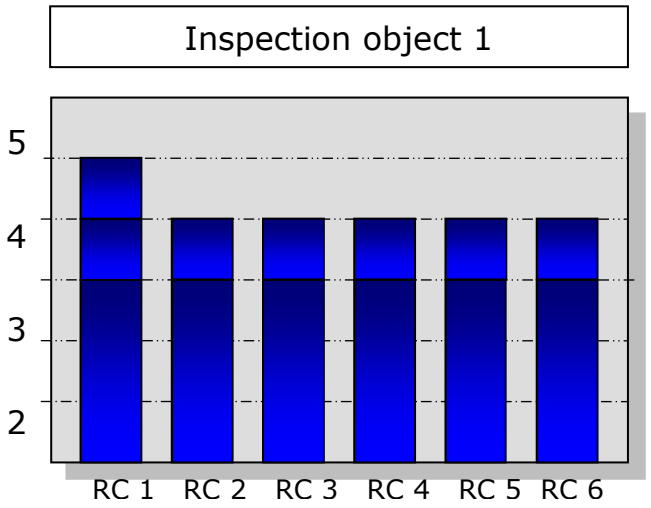
In the table above, inspection object 1 scores an operator performance term of 1, and inspection object 2 scores an operator performance term of -1.

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:

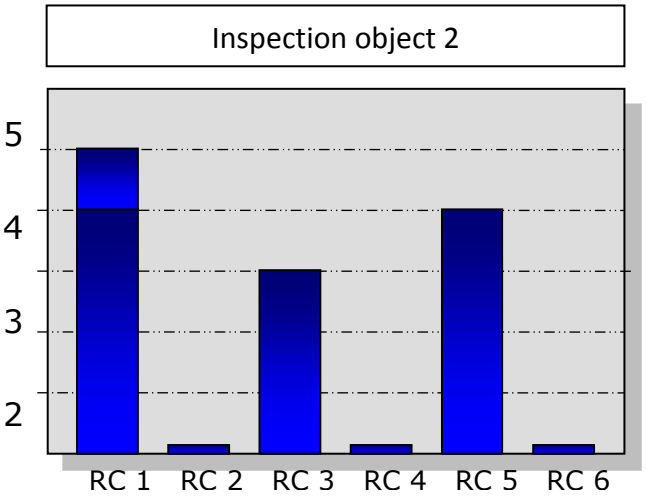


For inspection object 1 the score would look like this because the OPT is added to every criterion: +1.

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.



Factsheet 3.05 - Defining Objectives

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. [5]

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

[5] 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.

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.

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.

Compliance outcomes

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

improving compliance leading to an improvement of the environment

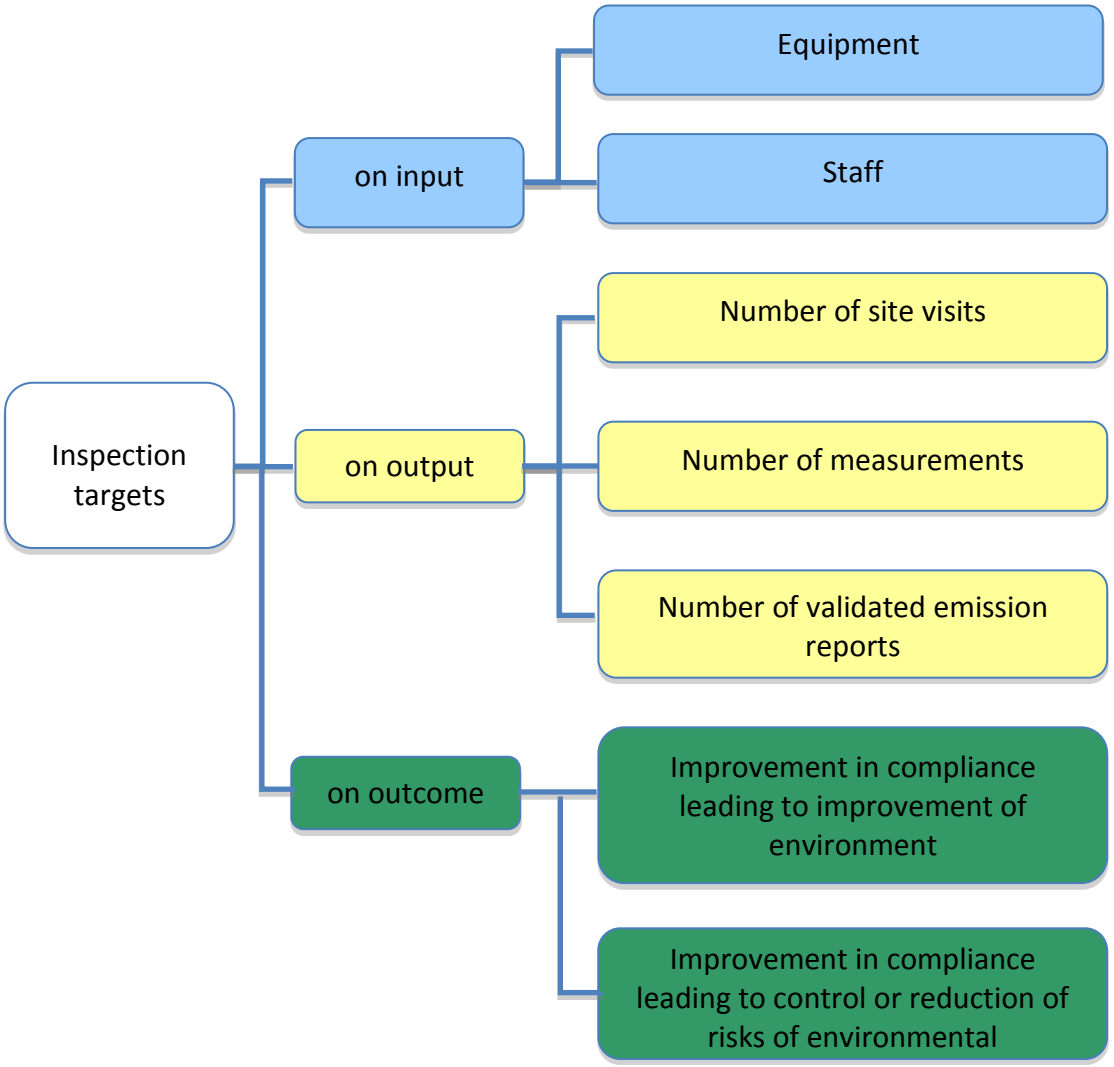
This is about raising compliance with certain environmental legislation across a particular target group within a defined period of time, resulting in a measurable improvement of the environment or solving a specific environmental problem.

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.

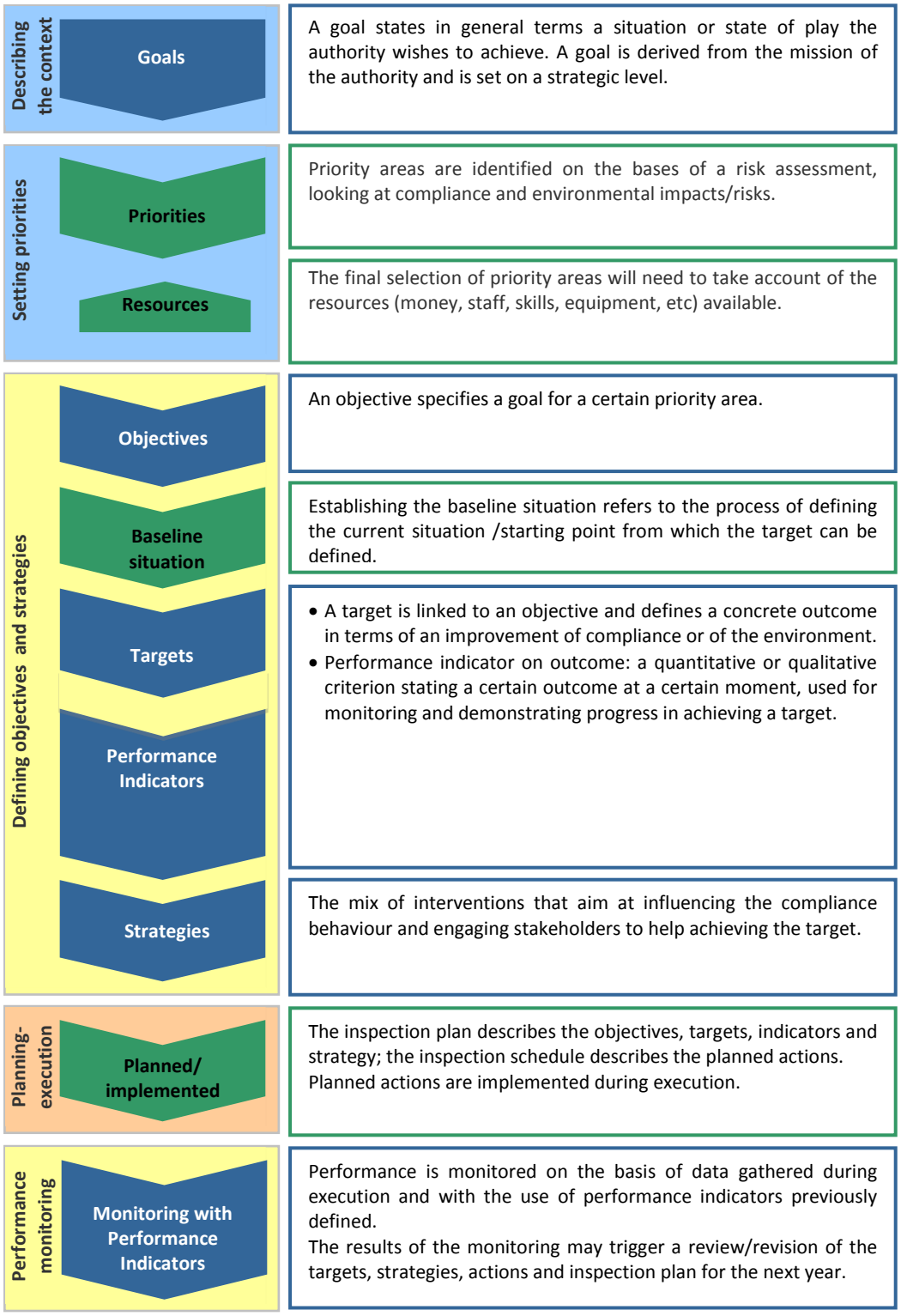
For the selected high priority areas where the authority can predict with a sufficient degree of certainty that compliance will move to a more satisfactory level within a certain period of time due to the authority's interventions, it can set targets. These will state a certain improvement of compliance or achieving certain compliance levels. The authority will also

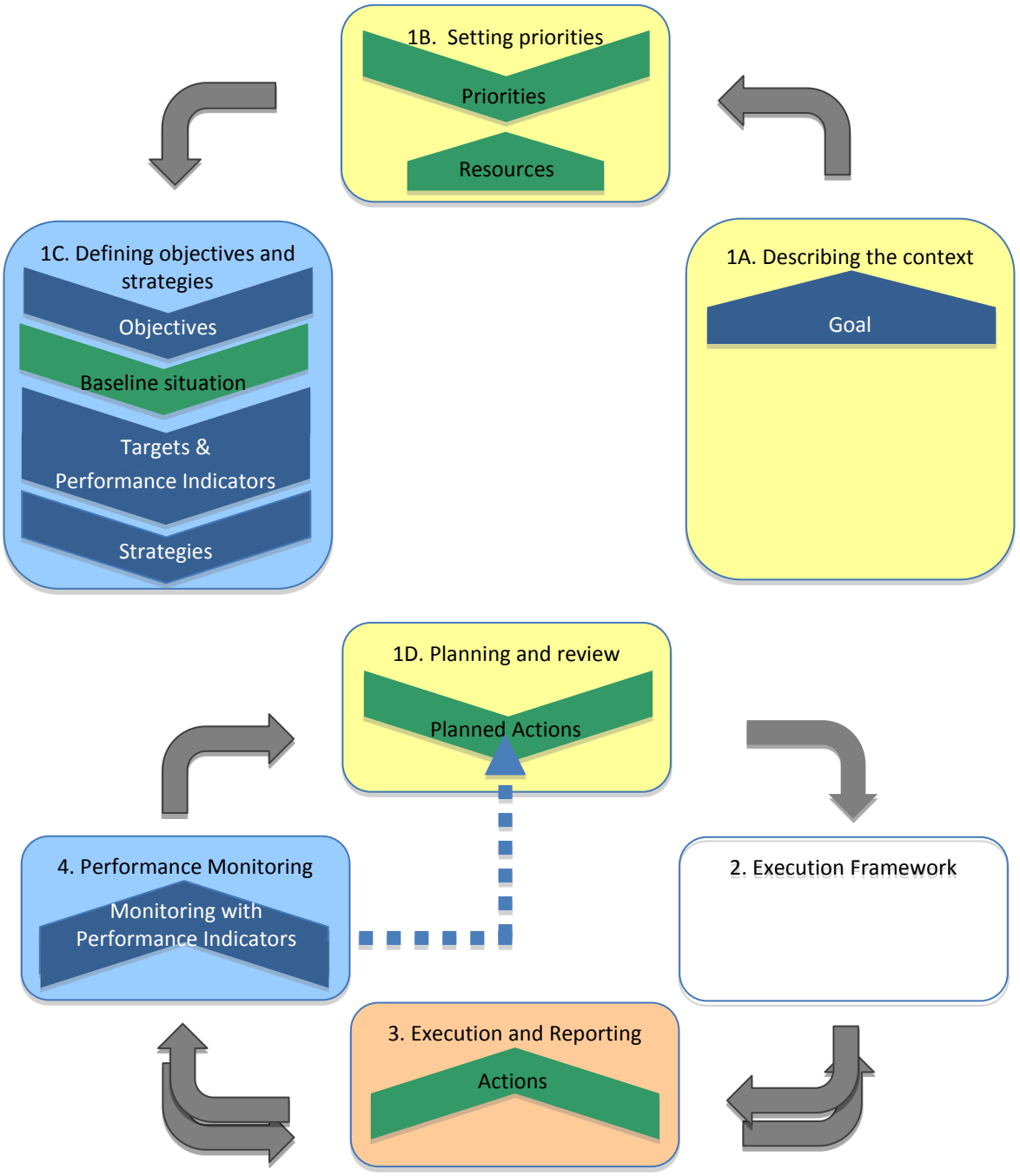
define related performance indicators to monitor on a regular basis the progress in achieving the targets. Before it can set meaningful and realistic targets the baseline situation has to be established; where is the authority starting from? Performance monitoring is only possible when both the baseline 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.




1B. Setting priorities
Priorities
Resources
1A. Describing the context
Goal
1C. Defining objectives and strategies
Objectives
Baseline situation
Targets &
Performance Indicators
Strategies
1D. Planning and review
Planned Actions
2. Execution Framework
3. Execution and Reporting
Actions
4. Performance Monitoring
Monitoring with
Performance Indicators

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.

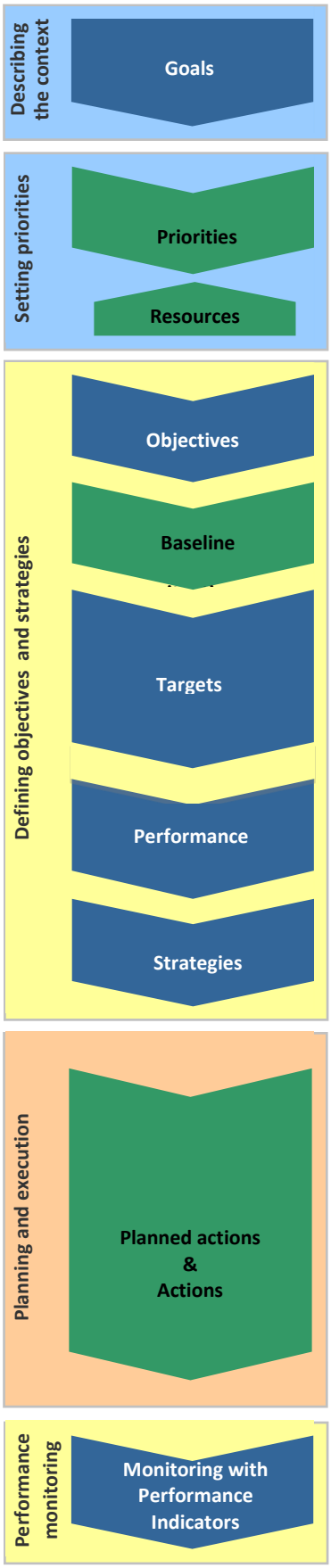
The next three cases will further illustrate how in practise inspection targets are used.

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%.



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

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)

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

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

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

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*

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

<u>2012</u>

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

<u>2013</u>

- *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*

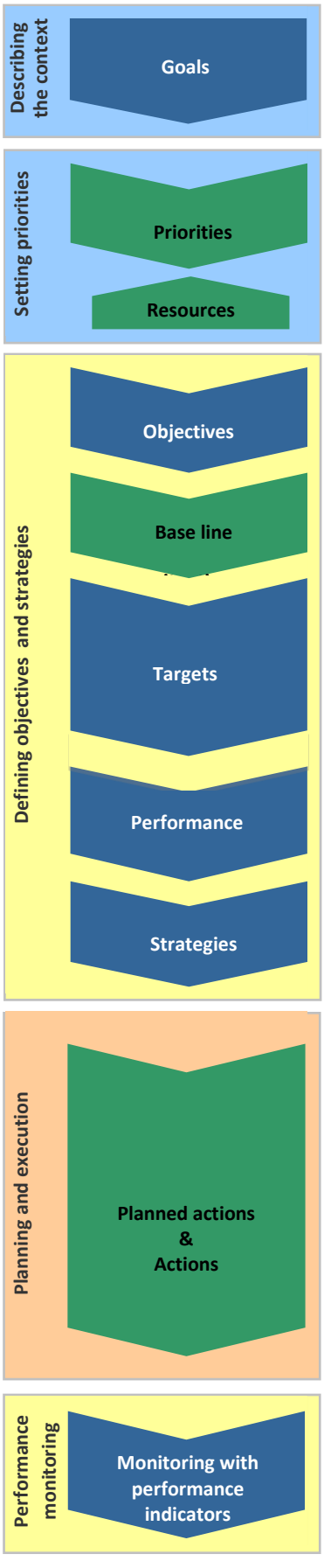
<u>2014</u>

- *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.*

- *% 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.



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.

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.

Number of hours needed for this campaign is estimated on 600 hours for 2012 and 400 hours for 2013 and 400 hours for 2014.

To reduce odour nuisance in region A by mid 2014

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..

- *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.*

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

<u>2012</u>
- *Setting the baseline situation and identify main sources*

<u>2013</u>
- *Inspection of sites and activities*
- *Impose measures on companies*
- *Inspect if measures have been implemented*

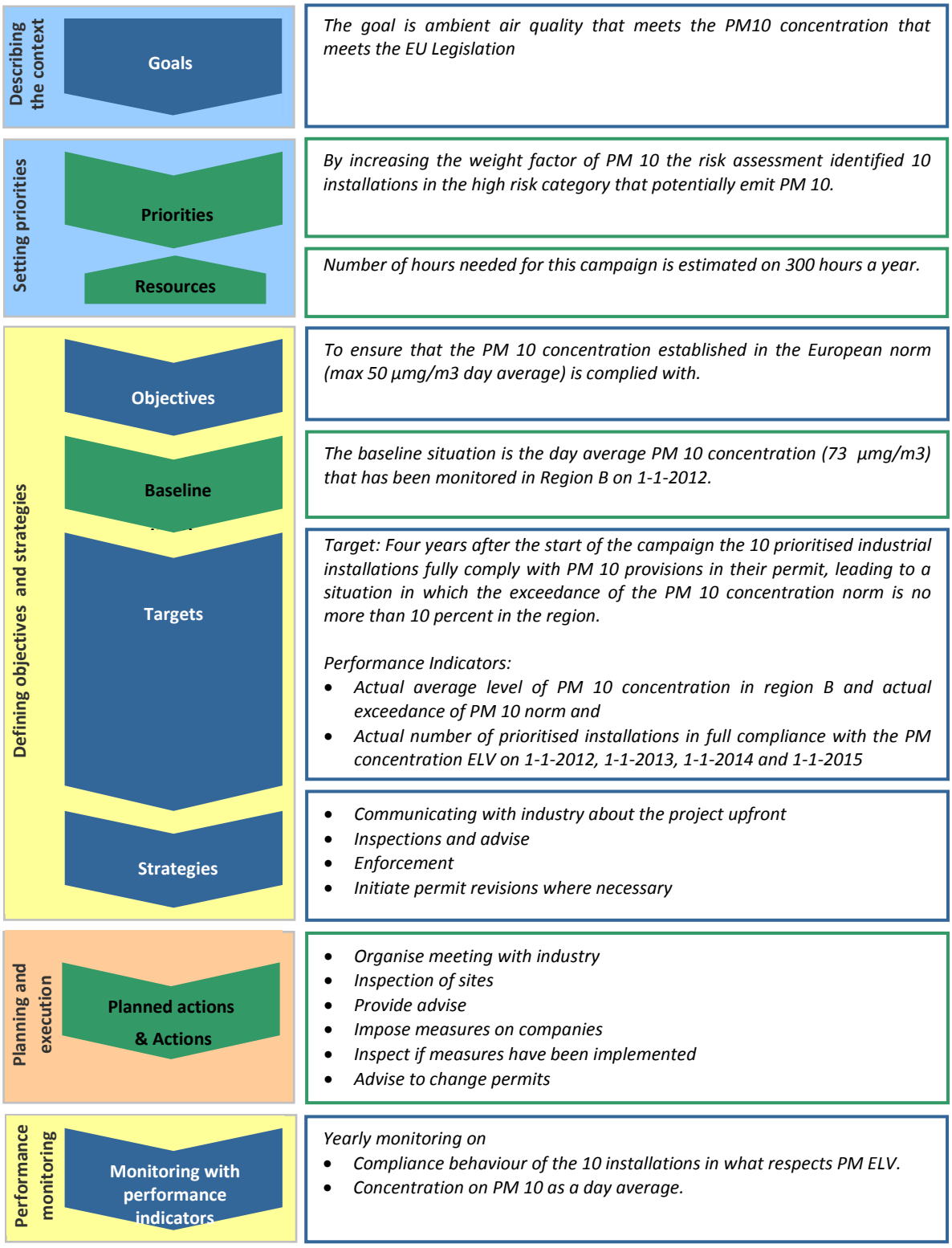
<u>2012 -2013 -2014</u>
- *Registration of complaints*
- *Working together in a project team of representatives of the Inspecting authority, local administration and companies*
- *Informing the local community about the project*

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
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
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.

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:

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

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

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

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;

Assess any necessary involvement of other authorities;

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

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

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

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);

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

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:

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.

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:

Decide which areas you need to measure;

Collect relevant and reliable data;

Analyse the data and turn it into useful information;

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.

Factsheet 3.06 - Inspection strategy

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

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.

Factsheet 3.07 - Inspection plan

This factsheet presents the elements for an inspection plan that either are obligation from the RMCEI or are to be considered as good practice.

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

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 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
- Complaints
- Accidents and incidents
- Occurrences of non-compliance
- 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
- 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

Factsheet 3.08 - 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 could 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.

Factsheet 3.09 - Preparation inspection

In this factsheet you will find information on the following topics:

- Type of inspection
- Inspection team
- Equipment
- Gathering information
- Inspection tools
- Checklist
- Inspection agenda

Type of inspection

- Some considerations that could be taken into account when deciding on the type of inspection, the staff and equipment needed:
- The focus of the inspection – not all issues might be relevant to inspect;
- The inspection targets that need to be achieved;
- The inspection strategy that has to be followed;
- The complexity of an installation – complex installation might require additional experts in the team;
- Situations with high risk – some extraordinary inspections, especially conducted upon complaints, incidents or accidents could lead to higher (personal) risk. Allocating more resources could be necessary (e.g. more inspectors);
- The resources needed (man-power/equipment, safety precautions);
- In relation to the previous point, it is recommended to have a check-list of the equipment needed (including safety gear, sampling equipment in case sample taking is required, laptop if available and convenient…);
- Weather condition as well as the time of a year - some additional equipment might be needed (e.g. torches, protective clothes, etc.).

Inspection team

Once the complexity of the inspection has been assessed, the inspection team is defined.

For the more complex inspections it can be decided to compose a small inspection team. It could include core and specialist competencies necessary for the effective performance of the inspection. A leader of the team should be identified, who does not necessarily have a hierarchical role with respect to the rest of the team but is the responsible for coordinating the inspection and drafting of the final inspection report.

Equipment

The inspection team identifies the equipment needed to perform the in situ inspection and it is regarded as necessary to prepare a set of documents containing at least:

- IED permits;
- Drawings of the plant;
- Technical reports;
- Recent self-monitoring report.

Gathering information and data

Information sources that will help a good preparation of an inspection are:

- Environmental Impact Assessment;
- Application for the permit;
- Environmental permits;
- Applicable legislation
- Reports of previous inspections;
- Environmental reports submitted by operators;
- Complaints received from the society;
- Communications sent by the operator (incidents, modifications, requests, etc.);
- BAT Reference documents - Technical aspects on the production cycle from the point of view of the process, on its articulation in phases and for each stage of the process related flows of material (input and output); main environmental impacts, also in terms of consumption;
- PRTR and other register;
- Information on installations received from other competent authorities;
- Internet (website of company);
- Environmental Management System (EMAS or ISO14001): relevant procedures useful for the inspection and validity of the certificate;
- Maps.

Inspection tools

On the basis of the evaluation of the collected information the following has to be prepared:

- A comprehensive questionnaire which will be used for the operator's interview
- A checklist to facilitate the inspection
- An outline of the "critical" ELV (i.e. those parameters which significantly contribute to the pollution load coming out of the installation)
- The list of BATs (according to the issued permit) which the operator should have installed and operated
- The list of documentation to be provided by the operator (e.g. self-monitoring records, annual reports submitted to the authorities)
- The inspection minutes and report templates (tailor-made for the installation) to be filled in at the end of the inspection
- Agenda of the inspection

Principles of preparing a checklist

A good checklist can facilitate inspections considerably. A checklist is the result of all the information that is assessed during the desktop study (see also section 3.3.1.2, Desktop study – gathering information and data) combined with points of interest of the inspection. Advantages of using checklists are:

- to ensure all necessary aspects will be inspected;
- a better organisation of the interview and site visit;
- time rationalisation;
- fast assessment of the non-compliance situations.

A simple “yes” / “no” if the installation is compliant with a certain provision is often used. This means that the checklist should be prepared in a way that it is possible to answer yes or no. However, it often happens the answer is not so simple - therefore additional space should be reserved on the checklist to make comments. For example to be able to specify location, good practices, problems observed, cause of non-conformity, etc.

Also be aware that checklists made for a specific installation and/or specific legislation could run out-of-date. So always check if the checklist is still up-to-date.

Checklists may include:

- the unique number of the inspection;
- the type of inspection;
- the name(s) of the inspector(s) and who is leader of the inspection team;
- the name of the company or inspection object;
- the name and function of the interviewed person(s);
- the date and time (start and finish) of the inspection;
- the inspected installation and/or area;
- the list with documents that need to be checked;
- the provisions/obligations the operator has to comply with;
- the samples that have been taken during the inspection;
- The pictures that have been taken;
- Space for notes.

A useful tip is to start an interview with general issues and end with the detailed ones.

It must be kept in mind that checklists are an important tool but cannot replace the critical mind of an experienced inspector. They can serve as a useful road map or reminder but should not restrict the inspector from changing direction based on unexpected observations.

Preparation of a short inspection agenda

A short agenda can be a very useful tool that will help to execute an inspection. Providing an operator with an agenda in advance may result in more smooth coordination of the inspection from his/her side because the operator will be aware of how many resources and people have to be available for the inspector. Preparing such a document before an inspection is not time-consuming.

The inspection agenda could consist of:

- Time schedule of each single step of the inspection.
- The type issues that will be inspected (e.g. waste management, air pollution).
- Eventual samples to be taken.
- Distribution of competencies of the members of the inspection team.
- The documents that need to be presented by the operator.
- The installations that will be inspected.
- The staff of the company that will be interviewed.
- Closure meeting of the inspection.

Factsheet 3.10 - Execution of inspections

In this factsheet inspection types are listed with the elements that could be covered during the execution of the inspection.

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
- 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)
- Data from Operator self-monitoring (see also factsheet 3.11)
- 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.

Factsheet 3.11 - Operator self-monitoring

This Factsheet provides practical guidance on the requirements for the recording and reporting of the results of the monitoring of emissions from industrial installations by the operator. Proper monitoring planning, execution and reporting is a fundamental aspect of good operational and environmental management. It is essential for assessing environmental performance and compliance with the conditions set out in environmental permits. This Factsheet covers the requirements and provisions of the Industrial Emissions Directive (IED) concerning operator self-monitoring and how this is reported to competent authorities as part of the inspection process. In particular, it addresses the minimum content of the operator self-monitoring report and the analysis and follow-up of the report by inspectors.

Recital 26 of IED states that*: "*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".

Article 3 (22) of the IED Directive states that environment inspection covers all actions, including verification of self- monitoring.

Article 14 (1c) of the IED requires that conditions in environmental permits should include suitable emission monitoring requirements specifying:

(i) measurement methodology, frequency and evaluation procedure; and

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

Article 14(1d) includes an obligation to supply the competent authority regularly, and at least annually, with:

(i) information on the basis of results of emission monitoring referred to in point (c) and other required data that enables the competent authority to verify compliance with the permit conditions; and

Self-monitoring (including monitoring undertaken on behalf of operators by contractors) involves repeated measurements or observations, at an appropriate frequency in accordance with documented and agreed procedures, to obtain the required information on emissions. This information may range from simple visual observations (for example, visible emissions to air from doors, flanges or valves, or the alteration of the colour of a discharge) to precise numerical data (such as the concentration or load of a pollutant).

IMPEL has carried out a body of work to define minimum criteria for environmental inspections. This included guidance on operator self-monitoring[6] which stated that: "*The monitoring of industrial processes, their releases and their impact on the environment are key elements of regulatory control. Such monitoring may be undertaken by the competent authorities responsible for inspection duties. Industrial process operators may also be required to carry out monitoring themselves and report their results to the competent authorities. This is known as operator self-monitoring*".

The IMPEL project on supporting IED implementation included a working group that looked at operator self-monitoring reporting in 2016[7]. This guidance is based on the report from that group.

Minimum content of the operator self-monitoring report

Usually, the frequency for the operator to report self-monitoring data to the competent authority is set in the permit to be on a yearly basis.

The self-monitoring report is usually based on the content of the self-monitoring plan and/or the permit conditions. The required content of the report is often included in the permit, and, in some cases, there is also a template that sets out the required structure and content for the submission of the report. The monitoring report should include information about compliance with all permit conditions. Emissions monitoring results and waste management data are also necessary to comply with the Pollutant Release and Transfer Register (PRTR) register.

Effective reporting of self-monitoring involves the production of an Executive Summary, supported by the detailed monitoring results (raw data), relevant information concerning the operation of the specific process, and assessment of compliance with the required permit conditions. The raw data should be accompanied by a more detailed description and interpretation of the underlying process trends and conditions. Other relevant information to be presented may include, for example, maintenance measures, data on materials and energy consumption, and the production of waste.

The production of the following tools/templates is recommended to ensure consistent reporting of operator monitoring:

Description of minimum content and frequency of the self-monitoring report

Self-monitoring report templates

Identification of the necessary data to comply with PRTR register requirements.

[6] IMPEL report on Operator Self-Monitoring. February 1999.
[7] IMPEL report on Supporting Implementation of the Industrial Emissions Directive. Project 2016/1, October 2016.

Analysis of self-monitoring report to be performed by inspectors

A common approach has been identified and it is recommended that this should be applied to ensure that key components of the self-monitoring reports are included in the analysis. The assessment of the self-monitoring report submitted by the operator should usually cover the following aspects:

whether the report was submitted by the agreed date and according to the required frequency of reporting as set out in the permit conditions

the use of appropriate templates for reporting, if required

the completeness of data and parameters required, including frequency and extent of measurements

the adequacy of the operator to self-monitor its emissions: whether measurements were carried out on-site or not, by the required person or institution (internal or external laboratories, with appropriate quality control, with certification or accreditation, if necessary), by appropriate sampling at specified locations, using appropriate analytical methods and instrumentation, at a clearly defined operation status of the installation

a review of calculations and statistical analysis of the monitoring data (especially in more complex reports).

The nature and scope of the analysis should include, as a minimum, an assessment of compliance with the emission limit values set out in the permit. It may also include:

a check of overall compliance of the installation with environmental permit conditions

an analysis of the trends in environmental parameters (e.g. material and energy consumption, emissions, amount of waste produced) in order to check the operational performance of the installation so that timely action can be taken to ensure that it continues to operate within the definition of BAT

an assessment of critical conditions to be focused on in the next inspection

a comparison of the performance of the installation with other installations in the specific sector

a comparison of the performance of the installation with BAT.

Useful tools for the analysis are:

appropriate templates for the assessment and reporting on self-monitoring reports to simplify and standardize the analysis

use of a (national) database for the storage and exchange of the operator reports and of the assessment process (which may involve several experts)

independent monitoring to cross-check the operator self-monitoring, e.g. by analysing samples taken during on-site visits, including split samples.

As far as the output of the self-monitoring report analysis is concerned, the IED has no specific requirements for the preparation of the report of the evaluation. Consequently, EU Member States use different approaches in the reporting of the results of the analysis of the operator's self-monitoring:

some produce the report according to a standard template and others take a free-form approach,

some produce the report as a separate document outside the site-inspection, and others incorporate the self-monitoring analysis with the reports from on-the-spot inspections,

in some countries, the reporting of the evaluation is a formal requirement, but in others it is not.

In some countries, a report on the analysis of the self-monitoring report is produced only in cases where non-compliances have occurred. In others, a report is produced even if no non-compliances are reported or detected. In these cases, the document provides evidence that supports confirmation of compliance with the conditions of the permit and the requirements of the regulations (such as: compliance with ELVs and other required parameters set in the permit, operator monitoring equipment and regime, accreditation of laboratory, time limit for reporting, frequency of reporting, use of required template for reporting).

There are also differences in practice over the notification and release of the inspector's report to the operator and other competent authorities. In some countries, the inspector may only provide notification that the report has been produced (and that it may have been placed on an inspection database). In others, the inspector's report is submitted directly to the operator or to the competent authority.

Templates for report of the self-monitoring analysis have been developed in some countries.

Follow-up of the self-monitoring report analysis

The analysis of the self-monitoring report is useful to competent authorities:

to check compliance with permit conditions, before going to a site for performing an environmental inspection;

to plan a non-routine site visit;

to review the environmental risk assessment of a plant;

to verify data sent by operators to the PRTR register;

to take decisions on interventions that might be needed to prevent environmental harm, such as suspension of the permit or suspension of operation;

to provide the evidence to support the initiation of penal or administrative procedures against operators that have failed to comply with the law.

There are two different kinds of non-compliance reporting in the self-monitoring report: first, the non-compliance is reported by the operator and second, the non-compliance is detected and reported by the inspector.

For non-compliances identified by the operator, in most EU member countries, operators have to inform competent authorities immediately when an incident or accident occurs or when emission limit values are exceeded. The competent authority will stipulate what remedial actions need to be taken by the operator to return to a state of compliance and to resolve the problems that have occurred. In these cases, the self-monitoring report should include a compilation of the incidents or breaches that occurred and the remedial action that was taken over a fixed period (usually one year). This compilation can be used to support a new environmental risk evaluation.

For non-compliances detected by the inspector during the analysis of the self-monitoring report, there are differences in approach between countries in taking follow-up action.

Italy, for example, considers that the detection of exceedances of emission limit values in the analysis of self-monitoring reports is not, in itself, enough to open infringement procedures against the operator. The breach has to be confirmed by the operator or proved by means of evidence from the actual sampling and analysis of the emissions.

Other countries do take action and may prosecute operators on the basis of self-monitoring data.

In the follow-up of cases where non-compliances are detected through self-monitoring inspectors should take into account at least the following criteria:

Whether the non-compliance is reported by the operator or detected by the inspector through the analysis of the self-monitoring report.

The level of the non-compliance.

The assessment of the reason for the breach (through a site visit or by requesting further documentation).

Factsheet 3.12 - Levels of non-compliance

This Factsheet provides practical guidance to assess the degree of non-compliance where this is detected during both routine and non-routine inspections. This will help inspectors to determine the appropriate actions to be taken. There are specific requirements in the Industrial Emissions Directive that address situations where non-compliances are found in inspections of industrial installations. These requirements cover both non-compliances with permit conditions and also complaints, incidents and accidents.

> Article 23(2) of the IED requires that all installations should be covered by an environmental inspection plan at national, regional or local level.
>
> Article 23(4) requires competent authorities to regularly draw up programmes for routine environmental inspections. 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.
>
> Article 23(5) requires that: non-routine environmental inspections shall be carried out to investigate serious environmental complaints, serious environmental accidents,

This chapter provides guidance on how to interpret these requirements based on work carried out in 2015 as part of IMPEL's project, 'Supporting IED Implementation'[8]. This report also provides some examples of practice in different countries. The project also drew upon a previous IMPEL project that looked at the question of inspections and levels of non-compliance: 'Environmental inspections of industrial installations in accordance with the Industrial Emissions Directive'[9].

Tiered approach to assessing levels of non-compliance

Three levels of compliance are described:

- A minor
- B significant or relevant
- C important or serious.

These three levels are summarised in next overview:

[8] Supporting Implementation of the Industrial Emissions Directive (2010/75/EU). IMPEL Report 2015/1.

[9] Environmental inspections of industrial installations in accordance with the Industrial Emissions Directive (IED). IMPEL Project 2012/06.

Levels of non-compliance		Permit conditions complied with?	emission limit values complied with?	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

There is no simple definition for the three different levels of non-compliance and this will ultimately be a matter of judgement, taking into account, for example, the attitude of the operator, the frequency of recurrence of non-compliance, and the extent of participation in the European Union Eco-Management and Audit Scheme (EMAS) by the operator. Instead, sets of examples for the different circumstances of non-compliance are provided for each of the three categories to help guide decision-making by environmental-inspectors on how the level of non-compliance should be reported and what action should be taken.

It should be noted that no distinction is made here between important and serious cases. Level 3 refers only to important cases of non-compliance. Occurrence of the most serious non-compliances leading to the closing down of installations under Article 8 of the IED is assumed to be very seldom, and accordingly no definition has been provided for those cases.

Each assessment of, and decision on, the level non-compliance should be done on a case-by-case basis. The assessment should take account of and respect other relevant regulations,

for example, if it is a criminal offence to operate an installation without a permit this should not be rated as a minor non-compliance.

Level A – Minor level of Non-compliance

In general, these are cases where:

non-compliance presents a low risk of damage to the environment, so within a reasonable period of time appropriate measures must be taken to eliminate the non-compliances;

there are only minor violations of permit conditions /legal obligations/operator duties with no consequences for pollution prevention and control;

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.

In these cases, it would usually be sufficient for the competent authority to write a letter to the operator pointing out the minor problems that require attention.

Examples:

The operations diary is not kept in orderly and up to date.

There are missing work instructions.

Pipelines are not labelled properly.

Documentation of stipulated maintenance work is not directly available, or is missing, or there are inadequate records of the work undertaken, such as data on raw material consumption.

There are missing data on waste types and waste quantities, solvent management plans, etc.

Waste management plans are missing or inadequate.

There are inadequate safety precautions at storage units or for the handling of environmentally hazardous substances (e.g. catch basins).

The operator monitoring arrangements for emissions are inadequate and fall short of accepted good practice.

Emission monitoring reports from the operator are incomplete or do not conform with accepted good practice.

The operator monitoring reports show incidences of minor non-compliance.

The agreed deadline for periodic reports is exceeded.

Other obligations under environmental law for reporting or verification are not met.

Level B – Significant or relevant non-compliance

In general, these are cases where:

non-compliance may present a risk of harm to the environment or damage has already occurred, so within a reasonable period of time appropriate measures must be taken to eliminate the non-compliances;

there are significant violations of permit conditions/violations of legal obligations/operator duties which can have consequences for the prevention and control of pollution;

it is unclear whether 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 requirement, according to Articles 8 (2a) and 20 (1) (IED), that the operator has to inform the competent authority about non-compliances and changes of the operation is not met;

there are several or repeated similar minor non-compliances which could be rated as a relevant non-compliance.

Examples:

Required actions arising from inspection reports are not completed.

The required frequency of maintenance work, for example, maintenance work on an exhaust gas cleaning facility, is not complied with.

Required reports are missing (from audits, emission- or monitoring reports).

The annual emission monitoring report required by Art.14 para. 1 (d) IED is not made available, if requested, or the deadline for the periodic report is significantly exceeded.

Continuous monitoring of emissions is severely deficient, there is a failure of monitoring systems, the monitoring equipment is not operational or does not exist at all.

Safety precautions at storage units or for the handling of environmentally hazardous substances (eg, catch basins) are missing.

The operator does not hold a permit for a mode of operation where this would normally be required; this may have consequences for the control of emissions.

There has been a series of ongoing minor non-compliances that have not been addressed and resolved.

Level C - Important cases of non-compliance

In general, these are cases where:

non-compliance results in substantial harm to the environment or presents a serious risk of doing so; immediately appropriate measures must normally be taken to resolve the cases of non-compliance;

there are serious violations of permit conditions, legal obligations, or operator duties which can have consequences for the prevention and control of 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;

there are several or repeated similar relevant non-compliances that could be rated as a serious non-compliance;

there is violation of an environmental quality standard or non-compliance that could result in harm to the environment and human health.

non-compliance is very important in terms of complaints and public perception.

Examples

Operation of an installation without a permit or a substantial change of an installation is made without necessary changes to the existing permit.

Maintenance or monitoring of environmentally relevant parts of the installation is not carried out by the operator.

The maximum permitted waste storage capacity of the installation is exceeded.

There is a malfunctioning of filter installations or protection systems leading to significant exceedance of emission limit values.

Hazardous (liquid) waste is stored on unprotected soil.

Old, single-walled sub-soil pipelines for hazardous substances may be in use without proper protection against corrosion.

The operation of the plant presents 'imminent danger' to the environment.

Emission control systems or wastewater treatment systems are not functioning.

There are exceedances of emission limit values (based on BAT-AELs) that could lead to significant impacts on public health and environment.

Important cases of non-compliance leading to an additional site visit

The decision on whether a non-compliance should lead to an additional site visit should be supported by an assessment of the risk presented by the process or activity. Section 6.2 of the combined guidance gives further information on this.

If a non-compliance detected during a routine inspection presents a higher degree of risk to the environment and human health than that identified in the existing risk assessment, then this non-compliance is considered to be important and an additional inspection within six months would be required as set out in article 23(4) of the IED.

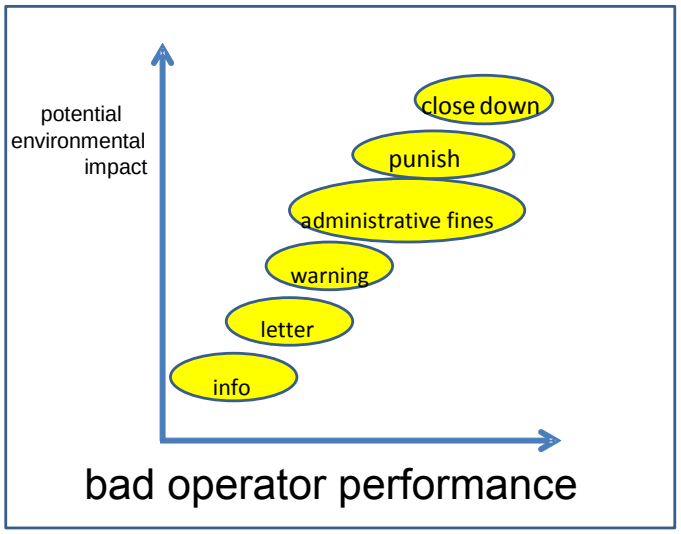
It should be noted that leaving the EMAS scheme or enlarging the production capacity may lead to a higher inspection frequency, but is not, in itself, a case of non-compliance. So, this will not lead to an additional site visit according to Art. 23(4) IED).

The risk assessment should be updated (directly) after each inspection. A higher inspection frequency could be the outcome. However, the update of the full inspection program can be done later, according to the practice of the competent authority (for example each year).

It is recommended that where an additional site visit is carried out this does not lead to the inspection cycle being changed. The next regular site visit should be performed at the planned date according to the last determined inspection frequency. If the next routine site visit is planned within the next six months, it may be combined with the necessary additional on-site inspection.

Possible action to be taken in the case of non-compliance

Decisions on the appropriate action to be taken in the case of non-compliance will depend on the impact on human health and the environment as well as the operator performance.



Reaction of the administration to non compliances

Possible measures that can be taken by the authority include:

writing a letter to the company

demanding a rehabilitation plan/technical measures

putting seals on devices

partially or full closing down a plant or activity

administrative fines

notification to prosecutors

imprisonment.

If a non-compliance is observed several times in the same year, the competent authority can adopt a partial and/or temporary closure of installation, depending on the environmental impact of the non-compliance.

In some countries, individual cases of non-compliance are recorded on a database, collected over one year and then assessed. Less-compliant sites will pay a surcharge on their annual charge, while operators with perfect compliance records may receive a discount. Another result could be a changed inspection frequency.

It should be kept in mind that the judgement and the experience of the inspectors is a very important factor when assessing and classifying cases of non-compliance. While they are useful to support decision-making, technical definitions of non-compliance levels are not sufficient on their own for a realistic assessment.

Factsheet 3.13 - Cessation of operations, bankruptcy and site closure

This Factsheet provides practical guidance on the requirements and provisions in the Industrial Emissions Directive (IED) concerning the cessation of operations of installations and site closure. There may be several different reasons why operations are terminated and these are often difficult to foresee. The guidance is aimed at helping regulators recognise the signals and then to take appropriate action. It also covers the role of financial guarantees and cessation/ decommissioning plans. Where there is a risk of soil and groundwater contamination, there is also a requirement in the IED for the operator to produce a Baseline Report and to take remedial action to restore the site to its former condition. This is covered in factsheet 2.07

Article 11(h) requires that the operator takes the necessary measures upon definitive cessation of activities to avoid any risk of pollution and return the site of operation to the satisfactory state defined in accordance with Article 22.

Article 14(f) relates to permit conditions and requires that measures are taken relating to conditions other than normal operating conditions such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations.

Article 22 covers the provisions for site closure, including the requirement for the production of a Baseline Report in cases where there is a possibility of soil and groundwater contamination. It requires the operator to assess the state of soil and groundwater contamination by hazardous substances and to take remedial action where significant pollution has been caused.

Article 24(3) refers to access to information and public participation in the permit procedure. It requires the competent authority to make available to the public relevant information on the measures taken by the operator upon definitive cessation of activities in accordance with Article 22

The guidance in this Factsheet was developed as part of the IMPEL project on IED implementation. Further details and examples of practices in individual countries can be found in the 2015 report of this project[10].

How to find out whether a company is heading towards bankruptcy

Bankruptcy is difficult to foresee. Usually the competent authority doesn't receive information about difficulties in operations from companies.

[10] IMPEL Project on Supporting IED Implementation. Project No. 2016/01. 6 December 2015.

The following 'weakness signals' can be taken in account in assessing whether a company is at risk of imminent bankruptcy:

No annual reports being produced.

Temporary closure of the company or simplification of operations, significant changes in amount of staff and reduction in salaries.

Many non-compliances and no effort from the company to tackle them (because they don't have the money).

Problems in day-to-day operation.

Weakness signals be reflected in the risk assessment of the company.

No payment of required fees, for example, the annual inspection fee.

Financial guarantees

Experience shows that in the case of bankruptcy and/or site closure there are not enough resources to finance all measures needed to safeguard the environment. In such cases, early preservation of financial resources through insurance, financial guarantees, bank guarantees or other means (such as environmental funds) could help both operators and competent authorities in rehabilitation of the environment, closure of installations and after-care measures.

The financial guarantee is not obligatory but should be seen as be a good tool to take care of problems arising when companies have to close down, especially in bankruptcy cases; examples of good practices can be found in many countries, for example:

Environmental fund – funded by fines (50%) issued to companies because of infringements of environmental law (Portugal).

Financial guarantee is mandatory in Italy upon IED implementation for all IED plants– national decision (awaiting decree); up to now financial guarantee is required for waste treatment plants but it will be mandatory for IED sites which manage and discharge hazardous substances (Baseline report).

In Xunta de Galicia (Spain) a financial guarantee is needed for:

Companies producing waste and waste management companies

All IED installations will need to have a guarantee in 2 years' time.

In Finland, a financial guarantee is mandatory only for waste management sites:

The amount of money is calculated based on the size of the site and the cost of the cessation operations (monitoring of the site for 30 years).

In The Netherlands, a financial guarantee is mandatory for underground storage tanks containing petrol or gasoline type of liquids and landfills.

In the Czech Republic, a financial guarantee is mandatory only for landfills (both IED installations and smaller sites).

In Austria, financial guarantees can be mandatory or optional measures or they may not be possible, depending on the type of installation and the relevant material law; under the

mining law financial guarantees are foreseen for mining activities schedule, mining installations and waste facilities of category A.

In Croatia, a financial guarantee is needed before granting a permit for waste management installations and before granting notifications for trans-frontier shipments of waste.

In Iceland, the guarantee is requested before a permit for waste management installations is issued. Also, an insurance of up to 1 million Special Drawing Rights (1 US$ is approximately 0,72 SDR) is needed for installations that can possibly cause pollution in the ocean or on the coastline.

In Germany (Bremen), financial guarantees are required for Windmills on public ground and for waste treatment installations dealing with waste that cannot be sold on the market, especially waste incineration plants.

In Romania, financial guarantees are required for landfills (both IED and smaller sites) and for mining activities.

In Cyprus, financial guarantees are required before granting the permit; the guarantees are used to cover possible environmental damage or to handle untreated waste (for example after bankruptcy) and are mandatory for IED Installations and for waste management.

In Slovenia, financial guaranties are used for very limited types of installations and are mandatory only for landfills of waste.

More detailed information on these examples can be found in Part 2 of the IMPEL 2015 IED Implementation Project report. The report also documents a survey of methodologies, guidance and tools for determination of financial guarantees used in different countries.

To encourage the competent authorities to use such tools the Member States can make use of art. 14 of Environmental Liability Directive (this provides an encouragement to Member States to put up a financial security system). IED installations are included in the Annex III of the Environmental Liability Directive.

In the transposition of the Environmental Liability Directive, seven member states (Bulgaria, Romania, Hungary, Czech Republic, Slovenia, Portugal and Spain) decided to establish in their national legislation on Environmental Liability a system of mandatory financial security provided in article 14 of the Directive. In some countries, actual implementation of the system is still to be developed in regulation which shall specify the form and the extent of the security, conditions for using the security, rules of accounting and keeping the records of it, and rules of the environmental protection insurance.

Definitive cessation of operations

The 2015 IED Implementation Project report provides arrange of examples of how to implement the requirements of the IED on definitive cessation. These include Finland, Romania and Xunta de Galicia (Spain). The Finnish examples illustrated the cessation and demolition of a Large Combustion Plant while the Romanian examples referred to a cessation plan included in an IED permit. The case of Xunta de Galicia (Spain) referred to a chemical plant (squalane production).

Cessation conditions included in an IED permit granted to a refinery in Romania are:

- Operational permits are very detailed
- In each permit, there is an obligation for cessation plan – the plan must be agreed by the EPA and is a part of the permit
- Contains both general and particular conditions
- The particular conditions for a refinery:
- Preliminary activities
- Cessation of the installation
- Leakage flow from pipes, hazardous substances
- Maintenance/conservation
- Dismantling of installation/equipment
- Demolition
- Remediation actions

Minimum content of a cessation/decommissioning plan

To avoid the contamination of the environment in the case of definitive cessation of operation, the permit granted by the competent authority shall contain conditions and measures that the operator must comply with. As good practice, the permit shall contain a cessation/decontamination plan and not only conditions (in most cases a few lines in the permit). In this way, the permit will be more enforceable.

The IMPEL 2015 IED Implementation Project report provides examples of decommissioning plans in different countries. An example of a decommissioning plan for an IED chemical plant was given by Sardinia Region (Italy). This plan consists of:

- Risk analysis and risk management
- Activity description, including storage of raw materials and wastes, treatment of waste water, etc.
- Health, security and environment monitoring
- Waste management plan and plan for recoverable materials.

No guidelines have been identified at EU level on the minimum content of a cessation/ decommissioning plans. Therefore, as good practice, it is recommended that the following items should be considered in drafting such plans:

- The cessation/decommissioning plan is usually prepared in the permit phase (permit recast)
- It must be approved by the relevant authorities
- Minimum aspects that the cessation of the plant must contain:
    - History of the activity of the company
        - Operational time
        - Evolution of plant engineering, structural expansions, new equipment etc.
        - Information about remediation or similar activities
        - Information about accidents
        - The context in which the plant is running
        - Identification of possible sources of environmental pollution (reservoirs / tanks / pipes / underground facilities)

        - Procedures provided for the disposal of pollution sources identified
        - Pollution prevention and reduction for the protection of the environmental compartments (Air, Water, Soil)
- Additional criteria could be:
    - Waste management and management of hazardous materials during closure
        - Focus on hazardous waste
        - Recovery or disposal
        - Foreseen production of waste
        - Demolition waste and storage
    - Monitoring of emissions to the environment during and after the closing of installations
        - Frequency of sampling and what parameters should be monitored
    - Remediation actions on contaminated compartments
        - Quantified comparison with baseline report
        - Assessment of the state of the environment - soil and groundwater
    - Information about the maintenance/demolition of the site (buildings, etc.)
    - Measures for landscaping (does not always apply).

IED Article 23 (6) obliges Member States to take the following actions:

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 within 4 months of the site visit taking place.

Article 23 (6) also requires that the competent authority should ensure that the operator takes all the necessary actions identified in the report within a reasonable period (this is relevant to the provisions on action to be taken in the case of non-compliance covered in Article 8(2) of the IED).

Factsheet 3.14 - Reporting of inspection findings

This Factsheet provides guidance on the requirement in Article 23(6) of the Industrial Emissions Directive that competent authorities should make their reports on inspections publicly available. It covers the structure of the report and provides information on good practice for the reporting of inspections.

IED Article 23 (6) obliges Member States to take the following actions:

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 within 4 months of the site visit taking place.

Article 23 (6) also requires that the competent authority should ensure that the operator takes all the necessary actions identified in the report within a reasonable period (this is relevant to the provisions on action to be taken in the case of non-compliance covered in Article 8(2) of the IED).

This guidance draws on work carried out as part of the IMPEL project on IED implementation, reported in 2015[11]. The report from the 2015 project also contains examples of inspection reports produced in different countries. This is a useful reference to support this guidance.

Interpretation of requirements of the IED for reporting of inspections

This guidance interprets the specific requirements of IED Art.23 (6) as follows:

The *report* is the key document in setting out the findings of an inspection.

The report should be *notified* to the operator. It should be noted that an inspection can involve more than one site visit. It is also possible that relevant inspection results (e.g. monitoring results) are not immediately available after the site visits. In these cases, the report has to be sent to the operator 2 months after the first site visit with a follow-up when the further results are available.

The report should be made *publicly available*. Reports of routine and non-routine inspections have to be made proactively available (for instance on the internet) 4 months after the site visit. If the 4 months pass and the results are not yet available then only the

[11] Report on IMPEL Project on supporting IED implementation, 2015. Project number: 2015/01.

relevant findings should be mentioned and followed-up later when the results become available.

Recommended structure of the inspection report

The following recommended structure of inspection reports is considered to be good practice for fulfilling the reporting requirements of the IED. It is suitable for active publishing on the internet. Inspectorates may also wish to include other (optional) aspects, for example: a full form report; a description of the scope of the inspection (what was and was not inspected); and other assessments, for example, data audits and the results of non-routine inspections.

(i) Description of the inspection carried out, to include:

- Inspection basis (permit, legal regulations)
- Competent inspection authority and cooperating inspection authorities
- Type 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 site inspection (e. g. integrated inspection, media that were inspected, parts of the installation that were inspected)
- Expected or unexpected site inspection

(ii) Results of the inspection and compliance assessment

This should be reported according to the guidance provided on assessing the levels of non-compliance, covered in Fact Sheet 3.11:

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

(iii) Action taken

This may include a range of measures that are initiated dependent upon the degree of non-compliance, including: warning letter, (supplementary) decree, fine, closing down of (parts of) the installation, cancellation of the permit.

It should be noted that inspection reports for publication should not contain information that violates the rights of third parties, such as protected data, and confidential information on information on industrial and business activities.

Good practice for reporting of inspections

The following guidance on good practice for reporting was developed as part of IMPEL's 2015 project on IED implementation.

Procedure

- Information should be made available for the public in a proactive way (on internet).
- Although not the main reason, publication of inspection reports can be used to increase compliance promotion.
- More and more Member States publish via the internet and in the spirit of more transparency. This approach to publication is considered to be the way forward.
- It is an important principle that there should be transparency in reporting and that therefore the inspection reports should be made public for a minimum period of time (taking into account local legal obligations).
- Three years is considered as a minimum publication period as it fits with the inspection cycle (all installations have to be inspected within three years).

Content

- The level of understanding of the published report should be targeted to the general public.
- There should be only one inspection report. A summary of the report can be extracted for publication.
- The summary should contain the basic information, without too many technical details, and not more than 1 to 3 pages in length. A fixed template should be used.
- Information on the type of inspection (scope and depth) should be included in the report (full, partial (some areas), random sample check, in depth…)
- As a minimum, only cases of non-compliance need to be included in the published report.
- There should be opportunity given to the company to react in the publication: *Before*: it is a good practice to use the legal obligation to notify the inspection report to the operator (within 2 months) for seeking comments on it (for example, possible mistakes, sensitive commercial information, privacy legislation). The operator should have a minimum time to do so. Two months is considered to be reasonable.
- *After*: once the report is published on the internet, it is final and no further opportunity should be given to the operator to give comments.
- The action taken to resolve the non-compliance should be included in the next inspection report as this finding is the result of a new inspection. This will help to motivate the operator to act quickly.
- When reporting the follow-up action required by the IED, both the actions of the operator and enforcement actions of the inspector's organisation should be mentioned. As a good practice and to avoid potential problems in subsequent judicial action, it is recommended that details on future enforcement actions should be reported but kept to a minimum.
- The name of the inspector should not be included in the inspection report, only the name of the inspection organisation.
- In the case that the site visit lasts more than one day, the last day of the site visit should be taken as the starting point for the periods for notification to the operator (within 2 months) and for making available to the public (within 4 months).