



EU Twinning Project “Strengthening the administrative capacities at central and local level of implementation and enforcement of the environmental acquis”



The European Union IPA 2010 Programme

Manual for Planning, Inspection and Enforcement of Environmental Acquis

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Summary

The manual in front of you has been created to facilitate a daily work of both inspectors and their supervisors with the focus on IPPC A and IPPC B installations. This focus does not mean the manual is only for these installations, the presented general approach is applicable for all the work of the inspectors, both at national level as well as at municipal level.

In the introductory part the EU context and a notion of inspection cycle is presented. Also, minimum criteria for environmental inspections are mentioned.

The second part is devoted to the planning phase of inspections, so this is in particular for persons managing teams of inspectors, but could also be useful for all the inspectors so they get better understanding of the planning process. Planning is about defining and explaining as accurately as possible beforehand the work to be done, so that it can be performed in an effective, efficient, transparent and accountable way. Planning includes organisational issues, gathering information needed for inspection, setting priorities (where risk assessment has to be taken into account), defining strategies and finally while closing the cycle - the phase of planning and reviewing.

The third part is very practical, dealing with execution of the environmental inspections. Execution includes a lot of aspects such as gathering information on a company, equipment issues, inspections on site (with all the aspects of collecting evidence, preparing minutes of inspection, etc), reporting the results, keeping records and finally performance monitoring.

For the comfort of inspectors some information on the Business Process Management System to be used by all inspectors as well as on issues related to inspection of Best Available Techniques has been added.

Useful additional supporting materials are added in the annexes, including a flowchart of the environmental inspection procedure with links to relevant parts of the document, templates related to the planning, execution and reporting of inspections, a list of the factsheets and checklists for waste streams and industrial sectors that have been developed within this Twinning project and which are available in SEI's website, and other other complementary information.

Part of the text is based on prescriptions established in Macedonian legislation applicable in the time of drafting of this Manual (October-November 2015), e.g. Law on Environment or Law on Inspection Supervision. Updates in legislation may require in the future updates of the corresponding sections of this manual.

The authors do hope this manual will support inspecting authorities in carrying out their daily work.

List of Acronyms

BATs	Best Available Techniques
BPMS	Business Process Management System
BREFs	Best Available Techniques Reference Document
EC	European Commission
EIA	Environmental Impact Assessment
EIC	Environmental Inspection Cycle
ELV	Emission Limit Values
EMAS	Eco-Management and Audit Scheme
ERP	Environmental Relevant Parameter
IC	Inspection Council
IED	Industrial Emissions Directive 2010/75/EU
IMPEL	European Union network for the implementation and enforcement of environmental law
IPPC	Integrated Pollution Prevention and Control
LCP	Large Combustion Plant
LEAP	Local Environmental Action Plan
LoE	Law on Environment
LSGU	Local Self-Government Unit
NEAP	National Environmental Action Plan
NGOs	Non-Governmental Organisations
PEMS	Predictive Emissions Monitoring System
RMCEI	Recommendation 2001/331/EC of the European Parliament and the Council providing for minimum criteria for environmental inspections in the Member States
SEI	State Environmental Inspectorate
UO	Unit Operation
ZELS	Association of the Units of Local Self-Government of the Republic of Macedonia

1. Introduction.

1.1. The project

This manual for planning, inspection and enforcement of environmental acquis has been developed under the EU Twinning project ENEA (Enforcing Environmental Acquis), MK/10/IB/EN/01.

Achieving a good level of compliance with environmental legislation is a big challenge for any country. A main target of the Ministry of Environment and Physical Planning is to improve such compliance with environmental legislation of all Macedonian citizens, industries and other stakeholders. Besides the development of this manual this Twinning project will also give support to:

- Improve the laws that describe how the environmental inspection system and environmental inspectors work;
- Suggest changes in the institutions related to environmental inspections, to optimize their resources;
- Improve the planning of inspection authorities, prioritizing the solution of the biggest environmental problems detected;
- Deliver or support the elaboration of numerous tools for the daily work of inspectors and industrial operators, such as website, information management system, guides for inspectors and for industrial owners;
- Deliver inspection checklists specific to waste streams and fact sheets for some industrial sectors.

1.2. The scope of this manual

The scope of this manual focuses on the planning and execution of inspection and enforcement of IPPC A and IPPC B installations.

The IPPC A installations fall under the scope of the EU Industrial Emissions Directive (IED). In chapter 5 of this manual information can be found of issues specific to the inspection of IED installations, e.g. the concept of Best Available Technology and the use of BREF documents. In addition, one annex to this manual includes a list of the sector factsheets that have been developed within this Twinning project, complementing this manual. They describe briefly, for each sector, its key processes, main environmental impacts, and ending with a list of aspects which should be checked when inspecting the corresponding facilities. Since the number of industrial sectors in the IED is so broad only some sectors of special relevance for the country are addressed.

Although the focus of this manual is on (the most relevant industrial sectors of) the IED, we believe that the described methodology can be used for a wide range of different inspections.

1.3 The EU context

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

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

In 2007 the European Commission concluded that, although the RMCEI has led to improvements in some Member States, it has not been fully implemented in all Member States. Consequently the Commission has set out the following ideas for improvements:

- to modify the RMCEI and make it stronger and clearer, including a better reporting mechanism;
- where necessary, complement the RMCEI with legally binding inspection requirements in sectoral environment legislation, and
- continue supporting the exchange of information and best practice between the national enforcement authorities in the context of IMPEL.

This could well mean the minimum criteria will no longer be a “voluntary” instrument but a Directive. This means that EU Member States need to transpose the prescriptions in such Directive into their national legislation. At this moment the content of the revised RMCEI is still under discussion.

According to the IED Member States shall ensure that the competent authorities determine and apply an appropriate mix of compliance promotion (see section 2.5.2), compliance monitoring and enforcement activities to ensure that the natural and legal persons comply with the [obligations] in this directive.

1.4 The EU minimum criteria for Inspection

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

The plans should be based on:

- (i) the EU legal requirements to be complied with;
- (ii) a register of controlled installations;
- (iii) a general assessment of major environmental issues in the area;
- (iv) a general appraisal of the state of compliance of the controlled installations.

Plans should take into account the risks and environmental impacts of installations and any available relevant information on the controlled installations, such as reports of operators, self-monitoring data, environmental audit information and environmental statements and results of previous inspections.

Each inspection plan should as a minimum:

- Define the geographical area which it covers, which may be for all or part of the territory of a Member State,
- Cover a defined time period, for example one year,
- Include specific provisions for its revision,
- Identify the specific sites or types of controlled installations covered,
- Prescribe the programmes for regular inspections, taking into account environmental risks; these programmes should include, where appropriate, the frequency of site visits for different types of specified controlled installations,
- Provide for coordination between the different inspecting authorities, where relevant.

Inspection plans should be available to the public according to the “Aarhus” convention (and the Directive 2003/4/EC on public access to environmental information).

The IED also contains binding requirements for environmental inspections. An essential part of article 23 of the IED is the appraisal of environmental risks: *“The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned and shall not exceed 1 year for installations posing the highest risks and 3 years for installations posing the lowest risks.”*

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

- The potential and actual impacts of the installations concerned on human health and the environment taking into account.
- Levels and types of emissions.
- Sensitivity of the local environment.
- Risk of accidents.

- Record of compliance with permit conditions.
- Participation in the EU eco-management and audit scheme (EMAS).

1.5 The Environmental Inspection Cycle

When we look closely at the topics the RMCEI addressing we can group these under the following headings:

- *Planning:* Establishing plans for environmental inspections
- *Execution:* Performing inspections and investigating accidents, incidents and occurrences of non-compliance
- *Reporting:* Reporting on inspections, accidents and incidents and storing inspection data
- *Evaluation:* Evaluating the implementation of inspection plans for internal purposes and reporting to the European Commission or other 3rd parties.



The heading of the recommendations from the succeeding steps of an inspection cycle are presented in figure 1. In reality when we look more closely we notice that the process is more complicated and that it's necessary that we make further distinctions and additions. First we need to include a step that ensures us we have all the necessary conditions in place so inspections can be executed in the most efficient and effective way (e.g. training, instructions and equipment). Secondly we need to zoom in on the planning process. To develop an inspection plan we first need to consider the tasks and responsibilities we have and gather the information about the environment and regulated community. Based on this we need to set our priorities, set our targets and choose the appropriate strategy. Only then we are ready to draft an inspection plan.

All of this results in the following seven steps:

1. Describing the context
 2. Setting priorities
 3. Defining objectives and strategies
 4. Planning and review
- and
5. Execution framework

6. Execution and reporting
7. Performance monitoring

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

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

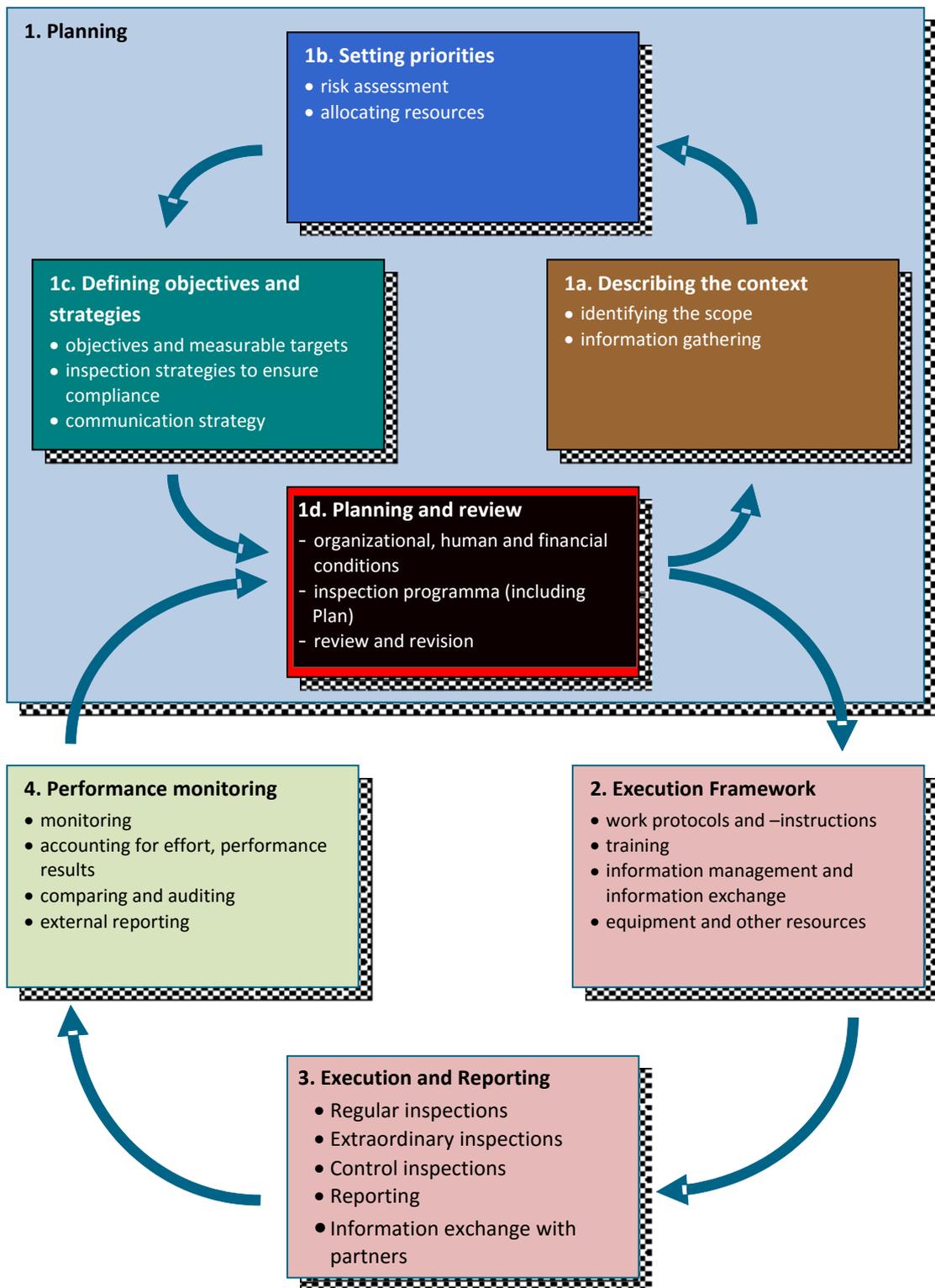


Figure 1

The first step in this cyclic process is “Describing the context” (box 1a, see chapter 2.2). Here the inspecting authority looks amongst others at its statutory tasks. This part sets the scope of the inspection plan. In addition to the identification of the scope it is necessary to gather information for performing the risk assessment.

The second step is “Setting priorities (box 1b, see chapter 2.3). 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 which ones will not. The output of this step, the listed priorities (for the specified period), is then the input for the next step.

The third step is “Defining objectives and strategies” (box 1c, see chapters 2.4 and 2.5). Within this step the inspecting authority identifies inspection objectives and targets. These objectives and targets can be presented quantitatively and/or qualitatively. When it is clear what we want to achieve we can define or modify the inspection strategies in order to meet these objectives and targets. The output of this step, the objectives, measurable targets and the inspection strategies, will be part of the input of the next step.

The fourth step is “Planning and review” (box 1d, see chapter 2.6). In this step the inspection plan is developed. The inspection plan covers a defined time period and describes and explains the steps taken in box 1a, 1b and 1c. Part of the inspection plan is the inspection programme. The inspection programme may stand as a working annex to the inspection plan, or as a separate document referenced within the inspection plan.

The fifth step is “Execution framework” (box 2, see chapter 3.2). Before inspections can be executed we have to make sure that all necessary conditions are met. The appropriate working procedures and instructions, powers and competences and equipment should be in place.

The sixth step is “Execution and reporting” (box 3, see chapter 3.3). In this step the inspection work is done. Here the regular, extraordinary and control inspections are executed and reports of findings are written. Data on the inspections that are carried out and their outcomes and follow-up have to be stored in a good, accessible database.

The seventh step of the process is “Performance monitoring” (box 4, see chapter 3.4). To make sure we meet our objectives and targets we have to monitor the *output* (did we carry out the planned activities?) and the *outcome* (what were the effects of our activities?). This information will be used for reviewing the plans and for reporting to different stakeholders,

for instance the minister responsible, parliament, the general public, the European Commission, etc.

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

2 *Planning of environmental Inspection*

2.1 *Introduction*



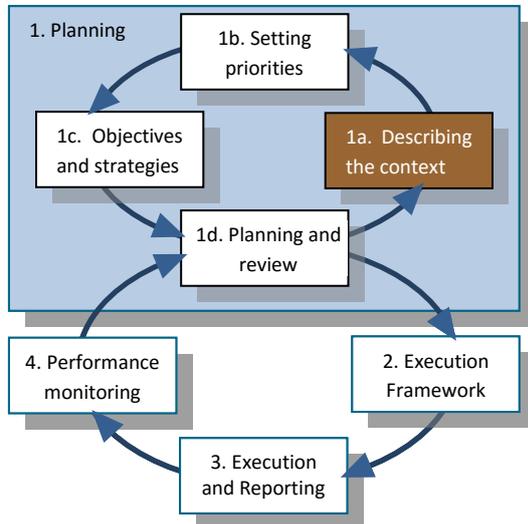
The Macedonian Inspectorate is obliged to carry out regular on-site inspections. The period between two site visits is based on a systematic assessment of the environmental risks of the installations concerned. The inspection frequency depends on the risk of the installation. The higher the risk the shorter the period between the initial inspections. When deciding on the frequency of inspections we need to take the obligations of applicable legislation into account. The IED¹ for example states the following:

- Inspection frequency for installations falling under the scope of this Directive shall not exceed 1 year for installations posing the highest risks and 3 years for installations posing the lowest risks.
- The purpose of regular inspections is to check compliance of the inspected installations with legal requirements and permit conditions. In case of non-compliance the competent authority will require the operator to take measures necessary to ensure that compliance is restored.
- Following each site visit, the competent authority prepares a report describing the relevant findings regarding compliance of the installation with the permit conditions and conclusions on whether any further action is necessary. The report shall be made publicly available by the competent authority within 4 months of the site visit taking place.

¹ IED is expected to be transposed in 2016 into national legislation

2.2 Describing the context

What is the context of the inspection work?

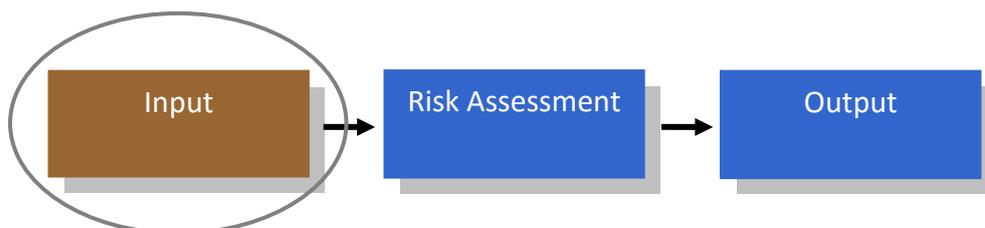


Describing the context is the first step of a systematic approach for planning of inspections and a necessary input for identifying and analysing the risks. A full inventory of the context within which the inspectorate has to operate is vital to define its activities and sets the scope of the inspection plan. This scope is normally identified by elements such as the general mission and objectives of the inspectorate and in particular its statutory tasks and competences. It is important to keep in mind that the inspectorate is not only bound to national, regional or local policies, but also to

EU legislation while accessing the EU. Furthermore the inspectorate may want to take into consideration particular opinions expressed by the general public, NGOs, industry or other stakeholders. On a more detailed level, information about companies and installations that fall under the competence of the inspectorate can be gathered, including data on their environmental impact, permit situation, compliance behaviour, etc. Part of this information is collected through the execution of inspection activities (box 3 in the figure). This data is also assessed in the process of performance monitoring. The data that is gathered in this step is used for carrying out the risk assessment process as outlined in the next step.

2.2.1 Scope of the Inspection organisation

This element (part of describing the context) 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 2.2.2) it provides the input for the risk assessment.



The next table gives a list of all the relevant factors that the inspecting authority may have to consider when making the inventory.

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

- Geographical area for which the inspecting authority is competent.
- Mission and goals (in general) of the inspectorate. (see rulebook on form and contents of an annual work programme of inspection services (Br. 12/1-1134/1))
- The environmental outcomes the inspecting authority is trying to achieve.
- Statutory tasks, competences and measures to enforce of the inspecting authority.
- Applicable legislation, either originated from an EU- or national 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. NGOs, 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 corresponding country):
 - 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) those are available for the inspecting authority.
- Types of inspection activities (control, compliance promotion (see section 2.5.2), information transfer etc) to be covered.

Table with relevant factors for identifying the scope

2.2.2 Data and information gathering

This element (part of describing the context) 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. It provides the input for the risk assessment. In other words information that enables the inspectorate to estimate and weigh the different risks connected to these areas and activities in order to assign priorities to certain areas and activities.



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

Environment

- Environmental issues (environment, safety, public health, nature) particularly relevant for the area concerned.
- Information on the state of and trends in the environment (e.g. data from the monitoring department of the MoEPP).

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 scope of the inspection plan.
- (Minimum) frequency of inspections based upon applicable 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 inspection.
 - Possibility of domino effect regarding external safety.
 - 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 from civilians or municipalities.

General

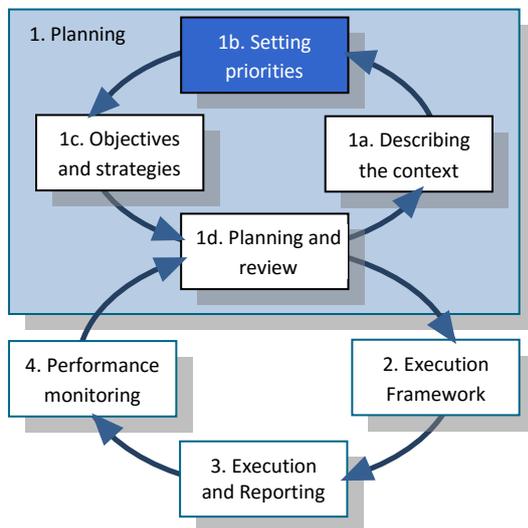
- Requests and points of attention from the Inspection Council.
- Changes in legislation that need to be implemented.
- Quality and enforceability of the requirements in legislation or permits.
- Research on types of industry, objects and spatial planning done by third parties (e.g. Universities, statistical 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?)

Table with relevant information to be collected

To gather, store and use all this information the inspectorate is now implementing a Business Process Management System (BPMS). It is important to keep this information system updated. For example after every inspection, when installations have been changed or when complaints are received or accidents have occurred. Chapter 4 explains how the BMPS works.

2.3 Setting priorities

What are the priorities for the inspectors work?



Setting priorities starts with a risk assessment. The method used for risk assessment should be objective in nature, simple to apply. In this chapter we describe the Integrated Risk Assessment Method (IRAM) developed by the EU IMPEL network.

The main goal of a risk assessment is to prioritize the workload of the inspectorate. The result is a list of inspection objects with inspection frequencies of site visits. The reason for prioritizing our workload is that inspecting authorities have limited resources (inspectors and budget), 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 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, so such claim is therefore equally relevant for the inspection plan and inspection schedule.

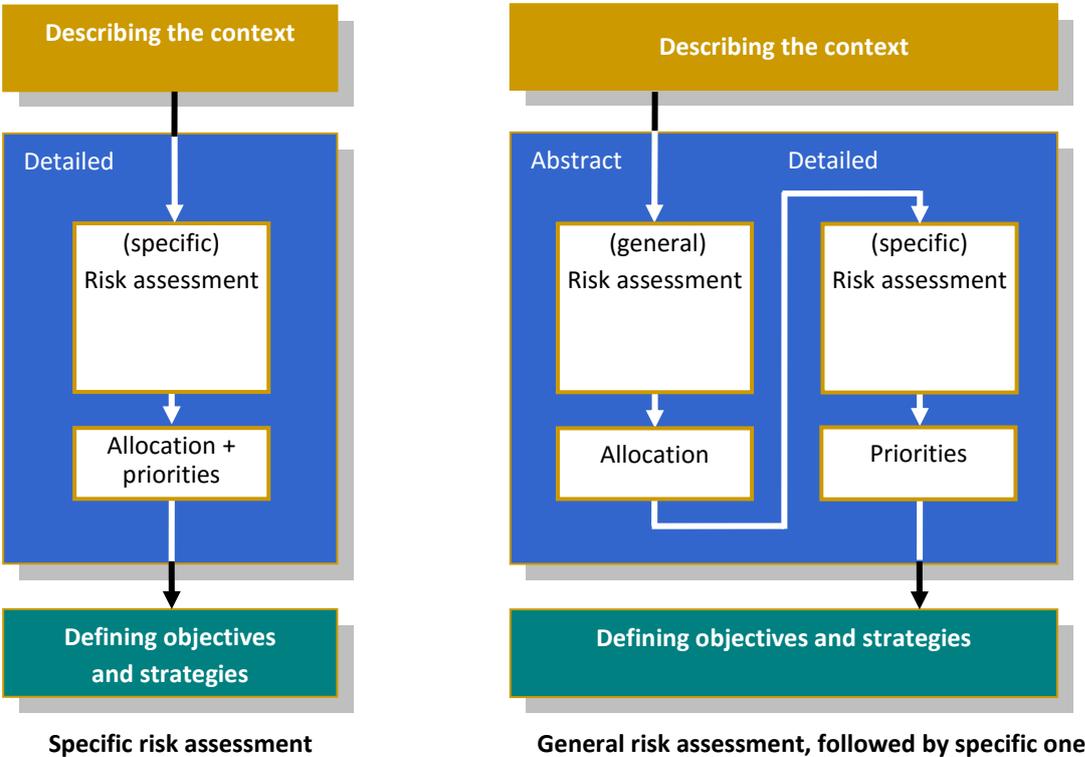
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2.3.1 Specific or General Risk assessment

A risk assessment can be carried out on different levels. A unit within an inspecting authority that is only dealing with a specific area (e.g. IPPC A installations) and has no other tasks, might only want to do a detailed level risk assessment of these installations ("specific" risk assessment).

However an inspecting authority with a large variety of tasks may in the first instance carry out an “abstract level” risk assessment between general task areas it is charged with (e.g. inspection of IPPC installations versus inspection on illegal logging versus spatial planning). In this document we call this a “general” risk assessment. A specific risk assessment could then further refine the outcome of the general risk assessment. For example, in the general risk assessment priorities have been set between the different statutory tasks like inspection of IED installations, inspection of Seveso establishments, inspection against legal requirements on nature protection, inspection of waste transport, etc. The outcome of the assessment is a risk score for every task that can then be used as a guide to allocate available inspection time. The outcome of the general risk assessment is now the input for the specific risk assessments.



The results of either of these methods will be that the Inspecting Authorities, using a clear and systematic process, will be able to assign resources between overall task areas and also within the specific work to be carried out within each overall task area. In other words, these different risk assessment processes are carried out in different levels of detail by the same or by different staff. Although the risk criteria might be different between these different levels of risk assessment the method could be the same.

2.3.2 What is risk?



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.

First, 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. In this manual we will define risk as:



Effect depends on the source (how powerful is it?) and on the receptor (how vulnerable is it?). To define what the impact of the source on the receptor is, we will represent Effect through Impact Criteria (IC).

Probability is considered to be a function of the level of performance. In this guidebook, probability is therefore represented by Operator Performance Criteria (OPC).

There are different methodologies to determine the risk. In Macedonia the Integrated Risk Assessment Method (IRAM) is used. The method was developed by the IMPEL network and approved by the EU Commission.

In this section Impact Criteria, Operator Performance Criteria and Risk category will be further explained. As not all the criteria will have an equal importance we also address the topic “weighing” here.

2.3.3 Impact Criteria (IC)



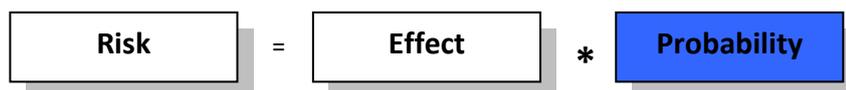
To assess the effect, the object is rated against impact criteria. The impact criteria can differ between inspecting authorities and tasks. When assessing the risk for IPPC A and B installations appropriate impact criteria can include the following:

- type and kind of installation;
- impacts on human health or the environment;
- emissions to air;
- releases to water;
- off-site transfer of waste;
- input of waste;
- quality of the local environment (air, water, noise);
- sensitivity of the local environment;
- risk of accidents (only for IPPC A installations);

For assessing the risk for the inspection objects “Elaborate” only the impact criteria “Type and kind of installation” is applied.

Impact criteria can be scored between 0 and 5, where 0 is no impact and 5 is highest possible impact.

2.3.4 Operator Performance Criteria (OPC)



Probability is considered to be influenced by the quality of management, the level of compliance with laws, regulations, permits and the attitude of the operator. To take this into account, the object can be scored against the following operator performance criteria:

- Compliance
- Attitude of the operator
- Environmental Management System

The operator performance criteria can be scored with “-1” (good), “0” (moderate) and “+1” (bad). The final result of the scoring will be the average of all OPC scores, rounded to the integer.

In Annex 10 there is a list of impact and operator performance criteria and their scoring system².

2.3.5 Weighting factors (WF) and weighting terms (WT)

Not all the impact criteria or operator performance criteria within a risk assessment necessarily have the same importance. For that reason, weighting is introduced, so one criterion gets a higher weight in the calculation than another. Using weighting is often a political choice. It allows the inspection authority to easily adjust the risk assessment and set new priorities when there is political importance.

Within IRAM two types of weightings are used, term and factor.

We speak of a “weighting term” (WT) when it is added:

- $IC(\text{weighted}) = IC + WT$
- We speak of a “weighting factor” (WF) when it is multiplied:
- $OPC(\text{weighted}) = OPC * WF(OPC)$,
- $Inspection\ profile = IC(\text{weighted}) * WF(INSP)$

2.3.6 Risk categories

Besides Impact (effect) and Operator performance (probability) IRAM also uses the so-called Risk categories, which is directly linked to the inspection frequency. The methodology that is used in IRAM is best to be described as a Rule based method. The scores of the impact criteria are directly linked to the risk categories by using “The Rule”. With “The Rule” you decide how many high scores of an impact criteria (of an inspection task) are needed to be rated with the highest scores. The more impact criteria are used for the assessment the higher the number of highest scores that is “necessary” to induce the risk category is necessary. In other words, the more impact criteria are used the higher “the Rule” needs to be. The Rule has to be defined by management. The role of the operator performance criteria (OPC) is to shift the risk category. 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.

As mentioned the Risk category is directly linked to the to the inspection frequencies. The higher the category, the higher frequencies.

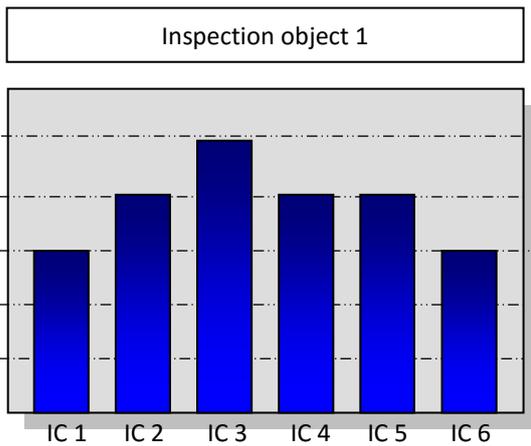
² Regarding compliance, it must be noted that the compliance is with respect to the conditions set in the permit, which may include some transitional periods or temporary exemptions from fulfilling some obligations stated in national legislation.

IRAM Principles

- The inspection frequency is determined by the 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 more time and effort the inspection itself will take.

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 every year. If the minimum number of highest score (the Rule) 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.



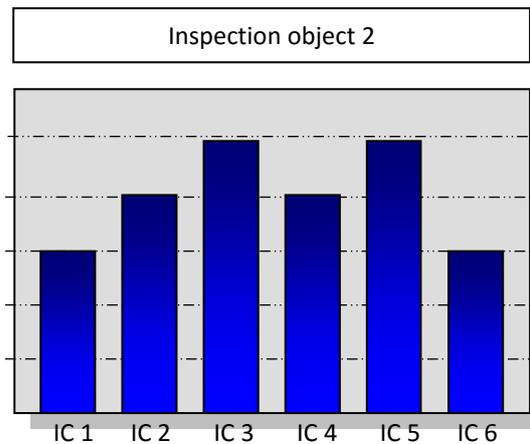
For Inspection object 1 this means:
if the rule = “1”, “only one highest score is enough”, then the Risk category = 5

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

For inspection object 2 this means:
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 (to Risk category = 4).

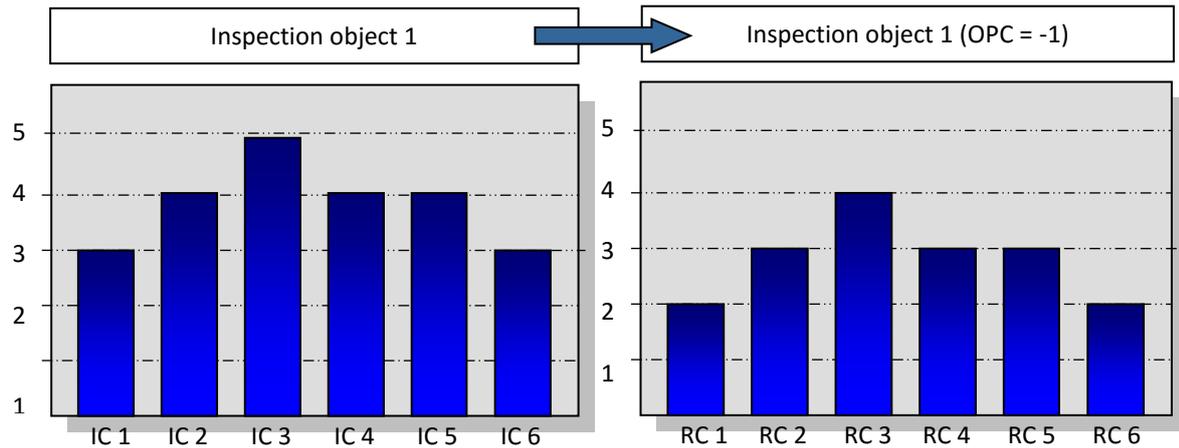


Example Operator Performance Criteria

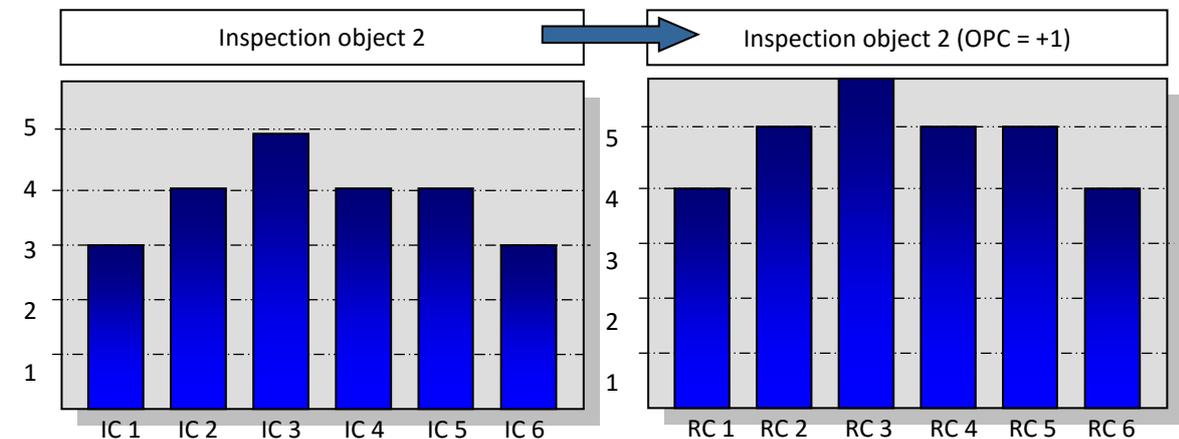
In the next 2 examples the role of the Operator Performance Criteria becomes clear. The influence of good or bad is explained for inspection object 1 and 2.

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.

2.3.7 IRAM risk criteria applicable to inspections in Macedonia

The risk criteria developed to assess Macedonian installations requiring IPPC-A permit, IPPC-B permit and Elaborates can be found in Annex 10.

2.3.8 Frequencies of site visits

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. For example, the European Industrial Emission Directive sets in article 23 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.

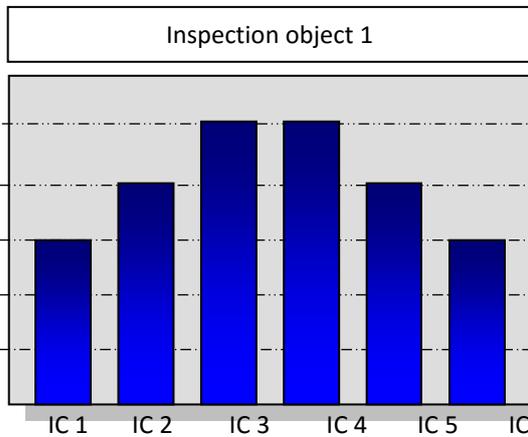
To make sure we comply with these legal obligations IRAM uses a so called “safety net”. This safety net will ensure that the inspection frequency for this inspection object will never be lower than the legal minimum inspection frequency.

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).

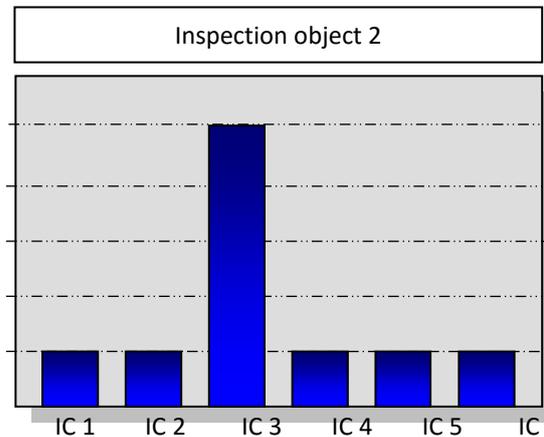
2.3.9 Allocating resources

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”. The answer is given in an inspection %. The way to implement the inspection % is to define ranges or inspection effort categories.

Example of 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)

Example of 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

Inspection object 1 requires $24/30 = 0,8 = 80\%$ of 40 hours

Inspection object 2 requires $10/30 = 0,36 = 30\%$ of 40 hours

Resulting inspection effort category

Category D

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 of 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.

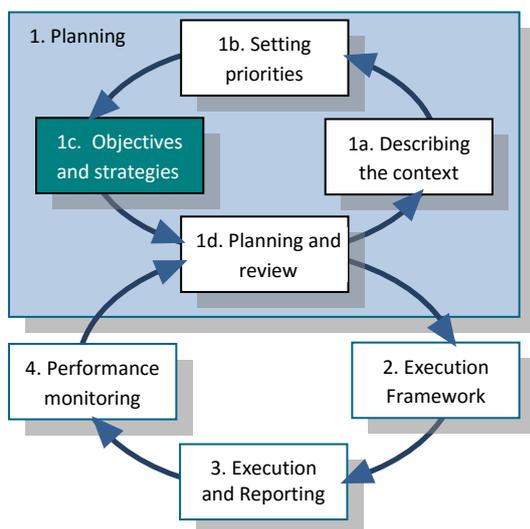
In any case we need to know the total staff time needed to perform all the prioritised inspections. And we must assess the average amount of time required for carrying out different types of inspection activities. For instance we need to know for each type of controlled installation the average time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

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 extraordinary inspections (e.g. responding to complaints and accidents). It is important to reserve an amount of time for extraordinary inspections. On average the amount of time needed for extraordinary 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 regular and extraordinary inspections.

2.4 Defining objectives and targets

What are inspection targets and why are they needed?



Based upon the priorities, the inspectorate should set targets and objectives. In order to establish whether these objectives and targets can be and will be met, the **output** and the **outcome**³ 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 inspectorate 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:

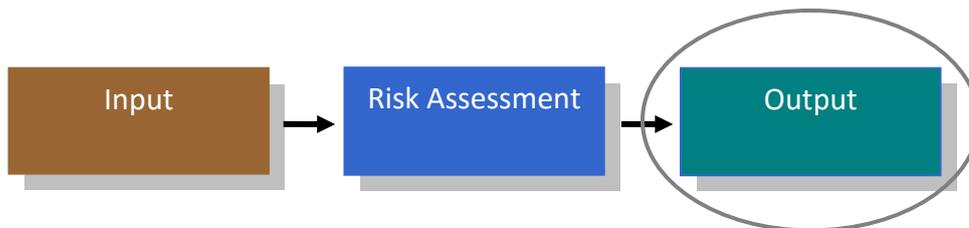
- co-operation and information exchange between inspecting organisations and other authorities;
- the character and form of inspection;
- the effect of the operator's behaviour on the inspection frequency;
- the path of administrative and/or criminal follow-up upon non-compliance, which must be firm,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

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

³ For a definition of output and outcome see page 11

2.4.1 Defining objectives and 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 (Section 2.2) and are input for the risk assessment.

Setting targets on inputs and outputs

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 out period. These indicators help to steer the timely delivery of the planned activities without exceeding the allocated resources. 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.

Setting targets on outcomes

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

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

Compliance outcomes

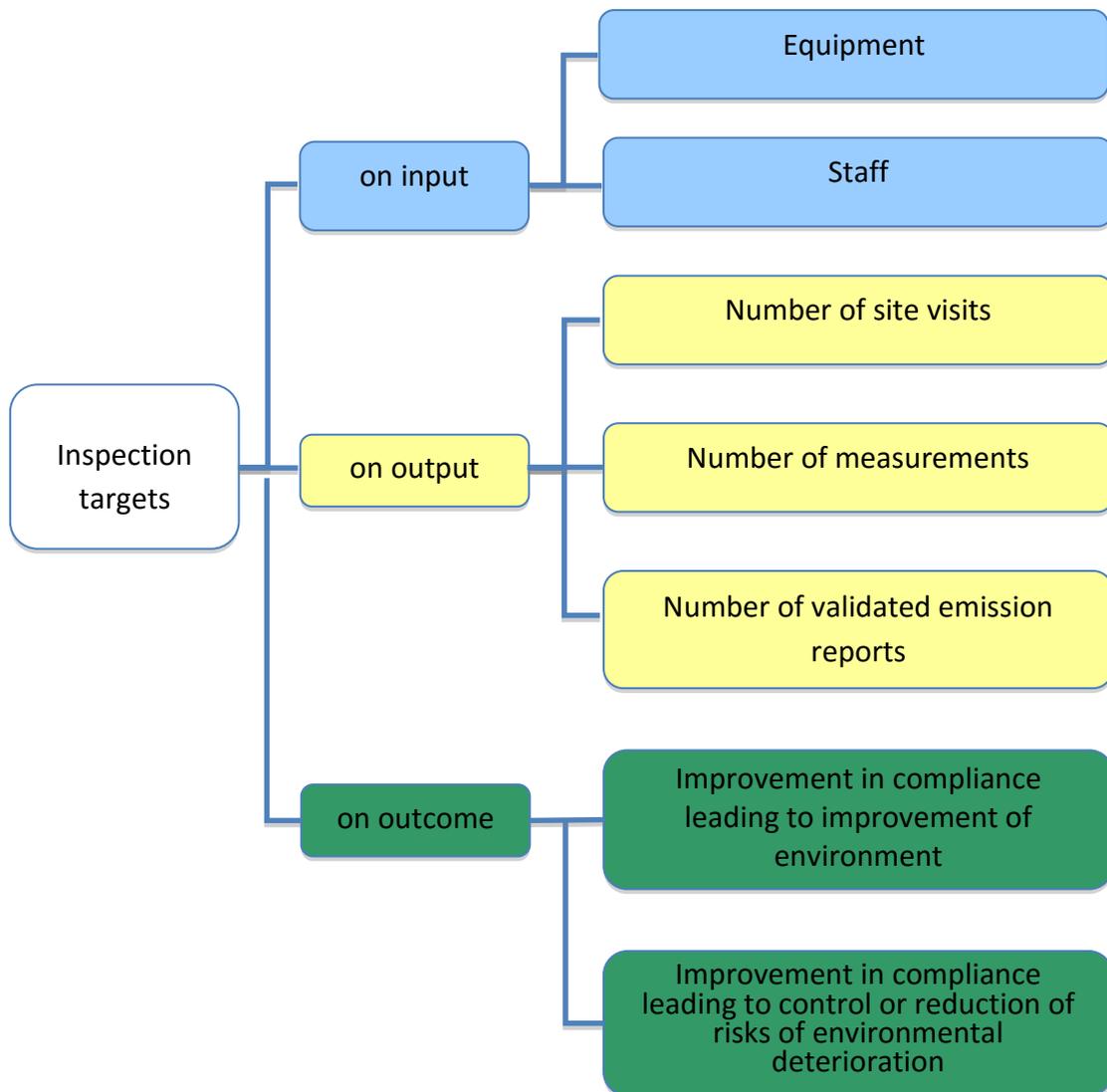
This manual focuses on targets related to the following types of compliance outcomes:

- ***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.



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 extraordinary 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.

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 that 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.

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.

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 feedback, 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.

Performance indicators and a multi annual plan

The inspectorate needs to know how it is performing in view of the objectives and targets it has set. Especially in the situation of multiple annual objectives the inspectorate 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 the targets and objectives are achieved. Here are the main steps in the process:

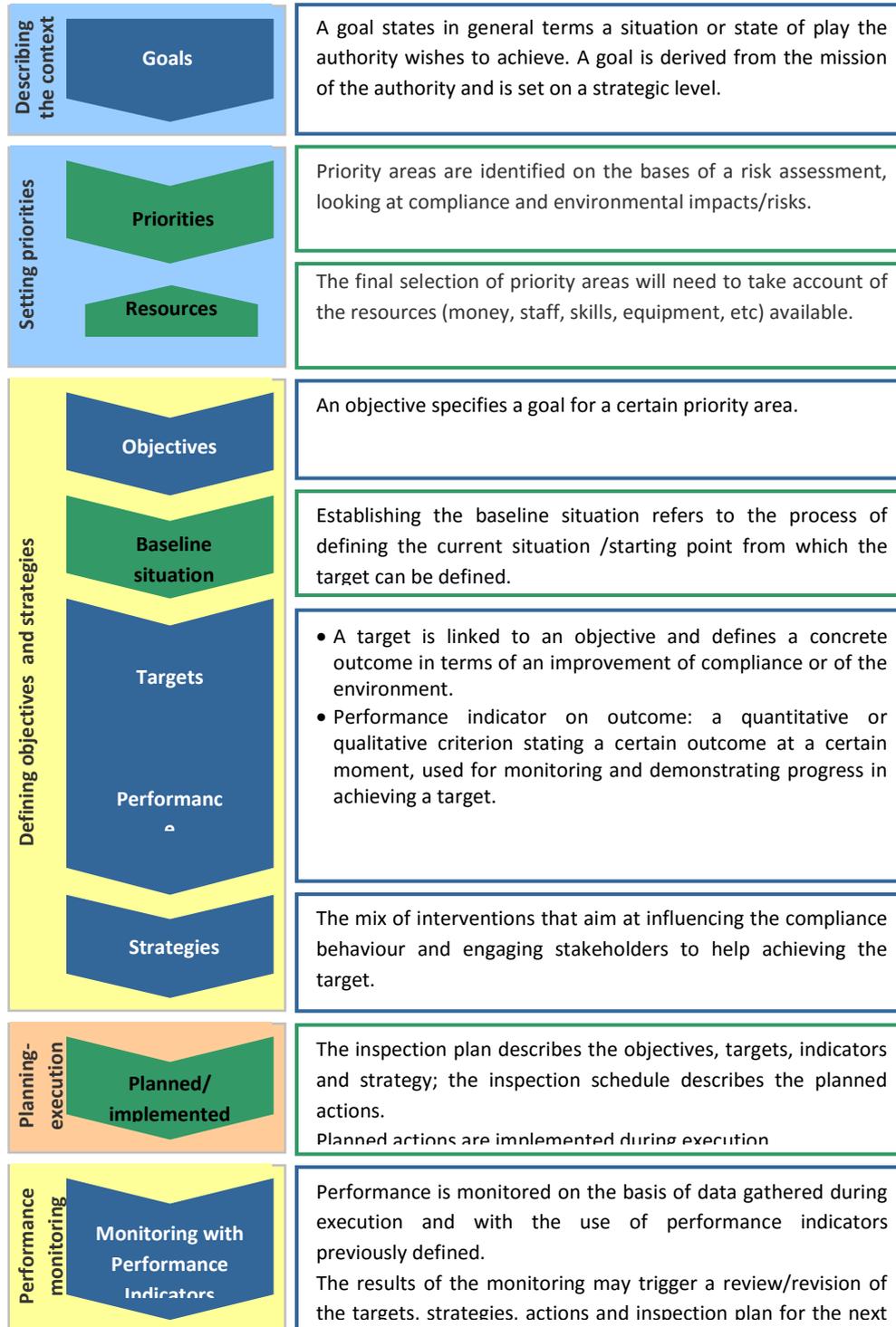
1. Decide which areas need to be measured;
2. Collect relevant and reliable data;
3. Analyse the data and turn it into useful information;
4. Understand the performance and assess the need for corrective action.

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 which is 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 identifying trends and predicting future events.

To summarise⁴

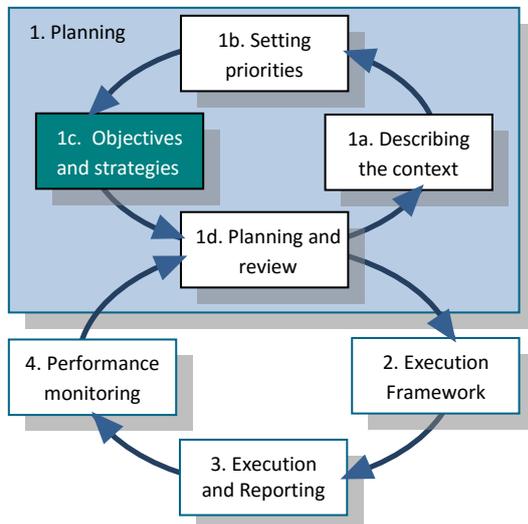
The two following schemes present the terms used and steps described above in a systematic order.



⁴ For more information about setting targets, check the IMPEL Guidance Book Setting inspection targets and performance monitoring (http://impel.eu/wp-content/uploads/2013/01/Final-Report_Guidance-Book-Setting-targets-and-performance-monitoring_2013-01-08.pdf)

2.5 Defining strategies

What is the best strategy to reach inspection targets?



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. In this section the inspection strategy and the linked enforcement policy are described.

2.5.1 Inspection strategy

An inspection strategy to help ensure compliance may include:

- Specific ways of compliance checking (e.g. certain regular and extraordinary inspections, in-depth investigations, verification of self monitoring data).
- Specific compliance promotion activities (see section 2.5.2).
- Specific approaches and ways to remedy and sanction (repeated) non-compliances.

To determine the best inspection strategy it can be useful to **assess the following 3 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 11 factors may influence the compliance behaviour of the target group:

The spontaneous compliance dimensions	
1. Knowledge of rules a. familiarity with rules b. clarity of rules	The familiarity with and clarity of legislation among the target group.
2. Costs/ Benefits a. financial/economic costs and benefits b. intangible costs and benefits	The tangible/intangible advantages and disadvantages arising from compliance or non-compliance with the rule(s), expressed in time, money and effort.
3. Extent of acceptance a. acceptance of the policy objective b. acceptance of the effects of a policy	The extent to which the policy and legislation is considered acceptable by the target group.
4. The target group's respect for authority a. official authority b. competing authority	The extent to which the target group respects the government's authority.
5. Non-official control (social control) a. social control b. horizontal supervision	The risk, as estimated by the target group, of positive or negative sanctions on their behaviour other than by the authorities
The enforcement dimensions	
6. Risk of being reported	The risk, as estimated by the target group, of a violation detected by others than the authorities, being reported to a government body.
7. Risk of inspection a. records inspection b. physical inspection	The risk, as estimated by the target group, of an inspection by the authorities as to whether rules are broken.
8. Risk of detection a. detection in a records inspection b. detection in a physical inspection	The risk, as estimated by the target group, of a violation being detected in an inspection carried out by the authorities.
9. Selectivity	The perceived (increased) risk of inspection and detection of a violation resulting from the selection of businesses, persons, actions or areas to be inspected.
10. Risk of sanction	The risk, as estimated by the target group, of a sanction being imposed if an inspection reveals that a rule has been broken.
11. Severity of sanction	The severity and nature of the sanction associated with the violation and additional disadvantages of being sanctioned.

Table with 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.

Operator	Not knowing	Not able to	Not willing
Inclination to comply	A: Advise	C: Facilitate	E: Reward or tempt
Inclination to violate	B: Advise in combination with inspection and enforcement	D: Facilitate in combination with inspection and enforcement	F: (Repeated) Inspection and enforcement

Table with the relation compliance behaviour - strategy

- A. In many cases a big group of persons, companies or authorities.
- B. Information and advice is important, but by enforcing the rules there is more pressure for a better compliance behavior.
- C. If there are not enough technical, personal or financial possibilities compliance assistance or a financial support could be helpful.
- D. Like B. Facilitation in combination with enforcement.
- E. This category is aware of choosing not to comply. But with a strategy of temptation (in case of good behavior) the results can be very positive.
- F. The bad guys. Pressure gives the best results.

Communication strategy

Besides a good inspection 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 improve the environment. Effective communication cannot be taken for granted, nor does it “just happen”. It requires a systematic approach.

2.5.2 Compliance promotion

Apart from inspections that aim at law enforcement, there is a less formal approach that might be used in compliance promotion among operators. By use of compliance promotion it is possible to achieve better abiding of the law thus decreasing a necessity of conducting constant inspections. An example of compliance promotion material is the informative leaflet for operators which is shown in Annex 9.

EU Practice

This approach includes formal issues at the EU level such as EMAS registration that influence on the less frequency of inspections according to IED Directive but also national solutions. Some examples:

- green networks platforms that encourage at exchange of experience among companies;
- web support tools for assistance;
- green competitions;
- open door days of environmental agencies/inspectorates for operators;
- financial mechanism for operators decreasing the influence of environmental impact;
- voluntary environmental programmes and schemes (e.g. Responsible Care programme for chemical industry).

2.5.3 Enforcement policy

There is no doubt that the goal of all inspections is to enforce the law. Conducting inspections does lead to realise law enforcement policy. In principle, two things are crucial to enforce environmental law:

- Sufficient resources (staff and equipment) that enable a prompt reaction to law infringement of the operators.
- Inevitability of fines and administrative penalties, according to a principle "law infringement does not pay off", it means not only that inspectors must put administrative penalties promptly - also appealing authorities should do their job promptly, otherwise it cannot be said there is a real enforcement policy in place.

Enforcing the law does not mean that each time an inspector thrives on "squeezing" the company. In the Law on Inspection Supervision there are two principles mentioned that present a perfect approach to enforcement policy:

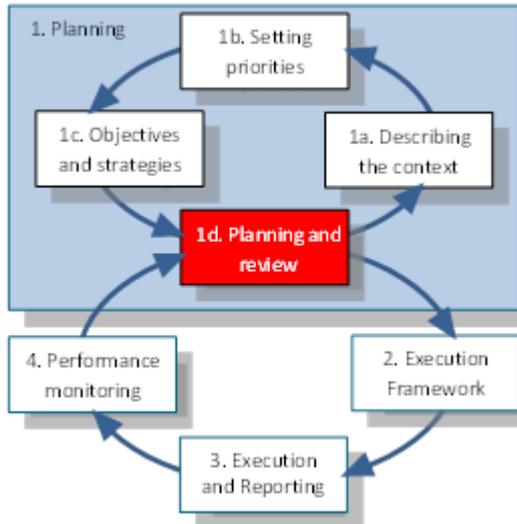
1. Principle of proportionality meaning that:

- a) during the inspection supervision, the inspector undertakes only those inspection measures, in accordance to the law, that are necessary for elimination of the detected irregularities but paying special attention not to prevent the efficient functioning of the subject of supervision;
- b) for determination of the inspection measures and the term for elimination of the detected irregularities, the inspector is led by the difficulty of the irregularity, the damaging consequences caused upon the public interest or the interest of a third person as well as the time that is necessary for the subject of supervision to eliminate the determined irregularities.

2. Principle of prevention meaning that during the inspection supervision, the inspector primarily performs a preventive function and establishes inspection measures and sanctions only when it is not possible to fulfill the objective of the supervision with the preventive function.

2.6 Planning and review

How to prepare an inspection programme and an inspection plan?



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

According to EU-legislation an inspection programme 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 programmed for the defined period (it should be transparent) and the programme should therefore be available to the public. However the inspecting authority may choose to withhold part of the programme (e.g. the Inspection plan described in section 2.6.2 of this manual). This could be typically due to the inclusion unannounced enforcement actions which must be without warning in order to be effective.

The annual inspection programme (section 2.6.1) will be used as a basis to define the quarterly inspection plan as stated in section 2.6.2. This plan should include information such as names of installations, dates, type of inspections, inspectors assigned, etc.

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

The review and revision of the inspection plan is also part of this step of the environmental inspection cycle. When we continue the process, after the step “Performance monitoring” (box 4, see chapter 3.4), we return to this step (box 1d). Based upon the monitoring and evaluation of the inspection plan (including the inspection programme), it will be reviewed and possibly revised.

2.6.1 Annual inspection programme

In this step of the planning cycle the information that is assessed and developed in step 1a, 1b and 1c will now find its place within a document(s), the inspection programme. The inspection programme is not only for internal use, it is also used to inform the Inspection Council. Besides this the inspection programme must be available for public (Aarhus Convention⁵) and therefore gives justification of what and how the inspecting authority is dealing with its responsibilities.

Defined time period and area

The inspecting authority needs to develop an inspection programme that covers a defined time period and a defined geographic area. In Macedonia the time period is 1 year but multi-annual inspection programmes are as well frequently used. As the competence of an inspecting authority is also bound to a geographic area (municipality, region or country) it is common to use this geographic area also in the inspection programme. Depending on the size and tasks of the inspecting authority sub-inspection plans can be developed covering each 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 programme. It should describe:

- The tasks, competences and obligations it has.
- Its mission and goals.
- The (national) policies and priorities i.e. the short, mid and long term objectives and strategies of the Republic of Macedonia in the field of environment, set by MoEPP.

⁵ UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, see <http://ec.europa.eu/environment/aarhus/> .

- The applicable legislation (EU or national).
- The activities and installations to be controlled.
- The range of different inspection activities that can take place.

Priorities

The inspection programme 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 programme should not only give the priorities itself but also the justification on how the inspecting authority came to these priorities. Here the gap between available and needed resources also finds its place.

Objectives and targets

Based on the priorities the inspection programme should describe the objectives and the measurable targets for the activities. The targets must be formulated in such a way that they can be monitored and evaluated (performance indicators).

Inspection activities

The inspection programme should provide information on the numbers and types of regular inspection supervision (typically around 60% - 70% of the total number of inspections), extraordinary inspection supervision (typically around 30% - 40% of the total number of inspections) to be carried out, including the frequency of site visits for different types of specified installations to be controlled.

Strategies and procedures

The inspection programme should describe or refer to the strategies and the procedures⁶ that will be taken into account. The inspection programme should at least include reference to:

- Procedures for regular inspections, which can include site visits as well as other kind of inspection activities.
- Procedures on reporting.
- Procedures for extraordinary 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.

⁶ Procedures are developed in box 2 “the execution framework”.

- Agreements with operators on the notification of non-compliances.

Complexity of inspection

The Complexity of inspection is prescribed in article 17 of the Rulebook on the form and contents of the annual work programme of inspection services. In this article it is stated that there must be at least five categories of complexity of the inspection, the first category with the lowest and fifth category with the highest degree of complexity, and that the criteria that are the basis to characterize such complexity must be defined.

The SEI has developed a system of 10 categories in the Decision “Determining the complexity coefficient of inspection by the State Environment Inspectorate”. The complexity of inspection is based on the following topics:

- the scope of the regulations subject to supervision;
- number of issues that subject to supervision;
- time required for supervision;
- the amount of the fine.

The highest scores are the entities / facilities in accordance with:

- Law on Environment;
- Law on Waste Management;
- Law on Water;
- Law to control emissions of volatile organic compounds.

2.6.1.1. Contents of the inspection programme according to current Macedonian legislation

The rulebook no.Br.12/1-1134/1 (on the form and contents of the annual work programme of inspection services), based on art. 15 of the Law on Inspection Supervision, defines currently in the Republic of Macedonia the content of the plan.

The main part of the programme includes:

1. Introduction

This section contains basic information about the institutional status of the inspection service, internal organization, management, responsibility for making the programme, quarterly and monthly plans for inspection and reports thereon, multi plans, staffing at the time of adoption of the programme as well as other information which closely define the status of the inspection service.

2. Institutional responsibilities

This section contains the most important responsibilities of the inspection service provided by laws and international agreements ratified in accordance to the Constitution.

3. Mission

This section contains a brief description of the duties and obligations of the inspection service in the medium term, which, if there is a multi strategic plan of the inspection service, are extracted from it.

4. Vision

This section contains a brief description of the objectives the inspection service intends to achieve in the medium term, which, if there is a multi strategic plan of the inspection service, are extracted from it.

5. Values of the inspection service

This section contains the efforts of management and staff in the inspection service for the performance of their responsibilities (e.g. the principles of inspection, impartiality, objectivity, respect for fundamental human rights, efficiency, economy and respect for rights of others) that, if there is a multi-strategic plan of the inspection service, are extracted from it.

6. Basis for preparation of the programme

This section contains information about the acts upon which the programme is based (e.g. laws, international treaties and agreements, a programme of the Government of the Republic of Macedonia, signed memorandum accepted international standards, etc.).

7. Goals to be achieved by inspection

This section contains a description of the main benefits expected to be achieved by inspection (e.g. improving the competitiveness of the economy, the protection of citizens' rights, the rule of law, protection life and health, protection of the financial interests of the citizens etc.).

8 . Analysis of the expected state of the field of inspection

This section contains an assessment of the expected situation in the area of inspection in terms of the risks of failure to apply the regulations, and explanation of the assumptions upon which the assessment is made.

9. Definition of risk areas

This section contains specific data for the defined risk areas which will be subject to inspection, together with an explanation of the criteria used to define such risk areas.

10. Identifying and determining the risk

This section contains the sources of information and data to identify the areas or subjects of risk, the way to assess risk and the criteria for determining the need for coordinated inspection in cooperation with other inspection services.

11. Complexity of the inspection

This section will have to contain 10 categories of complexity of the inspection, the first category with the lowest and tenth category with the highest degree of complexity, and the criteria on which the complexity categories have been specified.

12. Identify the subjects of inspection

This section contains criteria and guidelines for determining the subjects of regular inspection and potential subjects for special inspection.

13. Planned minimum targets

This section contains a table of the expected number of irregularities discovered by different areas, type of inspection and the degree of complexity of the inspection, at organizational units in the inspection service (if any), annual and quarterly and irregularities that are subject to education, police penalty, misdemeanour and criminal liability or other inspection measures, together with an explanation of the criteria upon which the minimum targets are set.

14. Points of risk

This section contains a table defining the points (places) in the acts and proceedings of the performance of the inspection with a risk of abuse by the inspectors that would put at risk the success of the inspection.

15. New measures to support the implementation of the programme

This section contains information about the new measures inspection service will take to provide support to the implementation of the programme, a special emphasis on the organization of inspection, improvement of administrative and institutional capacity, increase the efficiency of the inspection supervision, management points at risk and so on.

16. Method of monitoring and evaluating the implementation

This section contains indicators for monitoring and criteria for evaluation of the programme.

17. Final part

This part of the programme contains information on:

- Responsibility for action and implementation of the programme.
- Responsibility for proposing amendments and / or additions to the programme.
- Competence and method of monitoring the implementation of the programme.

- Responsibility for analyzing and periodic assessment and management information on the status of implementation of the programme.
- Method of informing the staff of the programme, including debt managers to familiarize employees with the programme in the organizational units that manage.
- Provision of responsibility for acting contrary to the programme.
- Provision for the entry into force of the programme.

EU-Practices

The EU differentiates the notions of “plan” and “programme”. The first one is a (multi) annual inspection plan that in Macedonian law is called “an inspection programme”. Inspection programmes in the EU are based on inspection plans and have to be drawn up for routine environmental IED inspections and include the frequency of site visits for different types of installations. In Macedonia the plan is based on the programme and it can be the part of it.

2.6.2 Quarterly (Monthly) Inspection plan

In line with Macedonian terminology, an inspection plan can be part of the inspection programme. The inspection programme is according to EU-legislation public available. Therefore the inspecting authority might want to decide to include the plan as an annex or separate document. In this way the schedule can stay confidential. In Macedonia the inspecting authority has to prepare both quarterly and monthly inspection plans.

The inspection plan at least should cover:

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

2.6.2.1. Contents of quarterly & monthly inspection plans according to current Macedonian legislation

The following 2 rulebooks published in the “Official gazette of the Republic of Macedonia” define the contents of quarterly & monthly inspection schedules/plans that are obligatory to prepare:

- Br.12/1-1133/1 (The form and content of the quarterly work plan for each inspector)
- Br.12/1-1135/1 (The form and content of the monthly work plan of inspection services).

The main contents of the **quarterly inspection plan** are:

- Basis for preparation of quarterly plan.
- Analysis of expected situation in the field of inspection.
- Planned inspections by law.
- Criteria for determining the risks.
- Risk areas.
- Number of subjects of inspection.
- Planned minimum targets.
- Number of inspectors by kind, positions and total.
- Complexity of the inspection.
- Planned inspections per inspector.
- Method to monitor and evaluate the quarterly plan.

The main contents of the **monthly inspection plan** include:

- Basis for preparation of monthly plans.
- Analysis of expected situation in the field of inspection.
- Planned inspections by law.
- Risks.
- Monthly planned minimum targets.
- Number of inspectors by kind, positions and total.
- Review of monthly work plan.
- Method to monitor and evaluate the monthly plan.

EU-practices

It must be noted that it is not recommended, according to EU best practices, to deliver with such high frequency official, thorough planning reports (quarterly and monthly), as it is considered an excessive and unnecessary administrative burden. The quarterly plan is made only for internal purposes.

2.6.3 Review

The inspection plan should be reviewed and if necessary revised periodically. In evaluating the success of the inspection plan the inspecting authority should determine the extent to which it achieved the objectives and targets set out in the programme. 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 programme 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 programme may also be made as a result of **performance monitoring** (see chapter 3.4, Performance monitoring) of the quarterly/monthly plans. In this case during the preparation of the next annual programme the existing programme's findings should be taken into consideration for its adjustment.

Where performance targets (or goals) are met (or not met), or where efforts expended through the inspection programme have not resulted in the expected improvements to the state of the environment, the authority may also wish to change the inspection programme (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 programme the authority should go through the steps 1a, 1b and 1c of the inspection cycle.

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

The requirement to revise and evaluate the implementation of previous programmes in order to develop the new programme for the coming period is the application of a management system approach. In defining the priorities and targets within the inspection programme, the inspecting authority should put in place the means to track and evaluate their performance with respect to the programme. The inspection programme should contain the targets to be achieved during the year to allow for ongoing evaluation of activities during the execution of the programme. 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 (e.g. reduction of air emissions below the set limit values in the permit of a certain installation) of their activities is checked in addition to the inspection activities themselves (see also chapter 2.4, Defining objectives and targets).

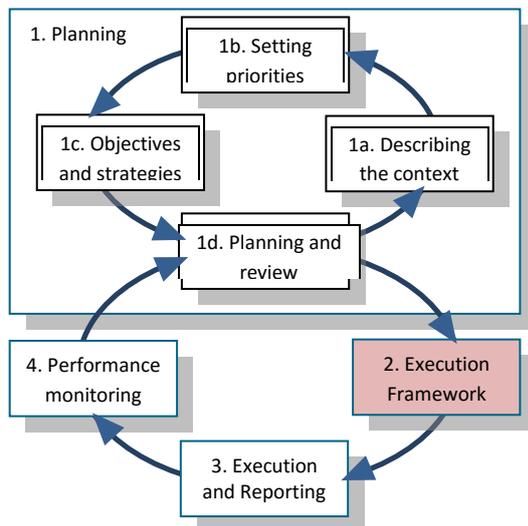
3 Execution of environmental Inspection

3.1. Introduction

An effective and efficient execution of inspection is a must. Firstly, usually there are not enough resources to waste time and make inspections longer or more frequent than necessary. Secondly, inspectors, as civil servants, must do their job effectively and efficiently. The better inspectors do it the better for both operators (through improved cooperation and less time consumption) and other stakeholders (such as citizens who complained for some environmental nuisances). In this chapter some practical tips are provided on many inspections' aspects such as training, proper equipment, interviewing techniques, checklists, etc. Inspection is presented in a step-by-step way, until the moment of storing the data of the inspection in an atomized system.

3.2. Execution framework

What are the preconditions that need to be fulfilled to do inspections?



The execution framework makes it possible to implement 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 of inspections are established. 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 training needs assessment.
- Rules for extraordinary inspections (how to react to incidents and accidents).
- 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 memoranda of understanding 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).
 - Facilities and materials needed (e.g. computers, transport, means of communication).
 - Maintenance and calibration of equipment.

3.2.1. Training

Inspectors should be well-trained persons. The trainings should be threefold:

- Focused on administrative issues and legal aspects of inspections;
- Focused on technical aspects of inspections;
- The inspector should have the skills to perform well.

The first type of training must include the following aspects:

- Legal acts on inspections.
- Interpretation of legal acts as well as case-law of the court (this is particularly important in case of administrative proceedings).
- Administrative preparation of inspections, including planning issues.

Training does not have necessarily to be limited to a gathering of a group of inspectors in one room with a lecturer. It might be realised on an individual basis, even weekly: e.g. professional duties can include the reading of a case-law of a court and then confirmation on a list that the inspector has indeed read it.

The second type of training should be focused on technical aspects that an inspector may encounter on site. This should be co-ordinated with the way inspectors are assigned to installations/sectors of industry. Two solutions are possible, with both having advantages and disadvantages.

The first option is to train the inspectors on particular branches of industry, where cross-media aspects in terms of environment are expected - for example one inspector might be well-trained in food industry, another one in metal processing industry. Even in such cases there will be a need to consult other experts on some environmental aspects (e.g. noise issues), but this approach is highly recommended for IED installations as it enables to look at them from an integrated point of view. This is very effective when there is a lack of knowledge of some sectors within the Inspectorate.

The second option is to focus inspectors on environmental key issues, i.e. some inspectors concentrate themselves on wastewater issues, other on waste issues, etc. This enables achievement of a high level competences in particular fields, however an integrated approach to installations might be lost. Therefore this approach is recommended for those inspectors who will deal with typical end-of-pipe treatment installations such as wastewater treatment plants or landfills or for areas where high level of specialised practice and knowledge is required - such as noise issues. Knowledge of environmental key issues is very effective when the Inspectorate needs some specialization of the inspectors and when they want to secure the knowledge within the Inspectorate.

As for practical aspects of such a training it must be underlined that there is not always a need to hire external trainers. It might be as well an experienced inspector who trains his/her younger colleagues. And last but not least: part of the training should be dealing with

crisis situations that may come across during inspections (e.g. aggressive behaviour of operators towards inspectors).

Communication is essential in this learning process. But also in the practice of inspections good communication skills are essential for effective inspections. Good communication during the preparation of the visit, the contact with colleagues, the interaction with the operator and the sharing of results in the team and with other inspectors and permit writers, etc, facilitates a transfer of knowledge that improves the quality of the inspection and the quality of the permit. And therefore good communication benefits the quality of the environment.

Other important skills which could be trained are:

- Team working.
- Flexibility.
- Customer focus.
- Accuracy.
- Analysing problems.
- Independence.

Training programmes

A way that enables continuous training of inspectors is the conduction of annual training programmes, officially proposed by a head of the inspectorate and finally approved by the Inspection Council. This has two main advantages: it is a formal confirmation of training being actually delivered to the inspectors, but it also shows that top managers are engaged in the process of inspectors' knowledge development.

The inspecting authority should look into the possibility for joint or mutual training with staff from other relevant authorities. Formal requirements in terms of inspectors' training are also included in the Law on Inspection Supervision.

3.2.2. Rules for Regular, Extraordinary and Control inspection Supervision

There are the following types of inspections as defined in the Law on Inspection Supervision:

- Regular (also called Ordinary) inspection supervision;
- Extraordinary inspection supervision;
- Control inspection supervision.

The regular inspection supervision is an announced supervision that is performed on the basis of the working plan of the inspection service and covers the inspection of the enforcement of the laws and the secondary legislation adopted in accordance to the laws. In terms of regular inspections, there are two basic types:

- On site inspection, as mentioned in the paragraph before,
- Desktop inspection, which is a "paper" inspection, based on the reports submitted by operators - focused mostly on checking whether monitoring and reporting obligations are fulfilled plus obtaining the knowledge on the fact whether emission limit values stated in environmental permits are not breached.

The extraordinary inspection supervision is an unannounced inspection and it is performed upon initiative submitted from state authorities and physical or legal persons and in case of doubt by the Inspection Council and ex-officio.

The control inspection supervision is performed within days 30 after the deadline set according to the inspection Act, where the supervision is determined whether the subject of supervision:

- took all the actions listed in the inspection act;
- partially took the actions listed in the inspection act;
- did not take any action from the inspection act.

3.2.3. Maintenance and calibration of equipment

Equipment that an inspector should have during on site inspections is:

- A camera (it should take pictures of a good quality as they might serve later on as evidence, for example in court proceedings).
- Clothes resistant to atmospheric conditions and difficult circumstances (e.g. water proof boots) as well as safety equipment.
- Some basic measuring equipment such as pH-meter, conductivity meter, gas analyser for Seveso installations etc. that should be taken if needed - e.g. there is no need to take pH-meter to an installation that does not produce wastewater. Ensure that even simple measuring equipment is regularly calibrated.

3.2.4. Authorisation and competences

The inspector should be formally authorised to carry out environmental inspection and know his rights and obligations *and* the rights and the obligations of the subject of inspection (operator) based on the Law on Inspection Supervision.

During the performance of the inspection *the inspector is authorized to:*

- inspect general and special acts, files, documents, evidences and information related to the object of the inspection supervision and to ask from the subject of the supervision or his responsible employees to prepare necessary copies and documents and if originally in a foreign language, to provide them translated into Macedonian in the Cyrillic alphabet and certified by a sworn court translator;

- supervise the official premises and other facilities that are not used for living as well as transportation means and products;
- inspect identification documents of persons for confirming their identity according to the law;
- ask from the operator or from his employees a written or oral explanation regarding the issues detected during the inspection;
- ask from the operator or from his employees to submit all data concerning the suppliers;
- ask for professional opinion when it is needed for the inspection supervision (see also section 3.2.6, Cooperation issues and protocols of other institutions);
- take samples without remuneration for further test or evaluations in cases determined by law or other regulations;
- control the activities of the operator during sale of products or services provision;
- provide audio and video recordings that could be used in the inspection supervision;
- make an inventory list on the existing goods and products in the business premises and facilities;
- collect other necessary evidences.

If it is justified and necessary to temporarily seize/confiscate products, documents or files, the inspector, according to the law, could:

- ask the operator or any other responsible employee that has authorization, to open and allow the entrance in any facility, closed container or machine and

The proof of the identity of the copy with its original, as files, documents, evidences and information, is certified by the operator with his seal and signature or with the signature of the relevant authorized person.

The inspector is authorized to undertake and perform the procedure of mediation, settlement, alignment, intercession and misdemeanour procedure according to the law.

Besides rights of the inspector during inspection supervision, *the inspector also should react to detected irregularities*. The inspector has the right and obligation towards the operator about the following:

- to inform him about the found irregularities and to give him a time limit for their elimination and rectification;
- to order him to take correspondent measures and activities in a certain period of time (defined by the inspector);
- to prohibit temporary performance of his activities, profession or duties;
- to temporarily seize/confiscate objects and means related to the perpetrated delict or infraction, according to the law;
- to submit a request for initiating a misdemeanor procedure;
- to submit a misdemeanor or other correspondent procedure.

For the elimination of the found irregularities, the inspector has also other authorizations and responsibilities according to the law.

The inspector should also take in account the rights and obligations of the operator. The rights are:

- to give comments and notes to the minutes and remarks regarding the legalness of the procedure of the inspection or the work of the inspector as well as for the accuracy of the established facts and actual situation in a written form with explanation of the reason and justification of the facts;
- not to sign the minutes if he disagrees with the facts that are listed in the minute or report or if the previous remark was denied to him;
- the refusal of signing the minute or report does not obstruct the further performance of the inspection procedure.

The operator has also the following obligations during the inspection:

- to provide to the inspector an unobstructed performance of the inspection and to make available all the data and documents that are needed for the inspection.
- to provide to the inspector all the required conditions for an unobstructed inspection and for establishing the facts of the actual situation.
- to provide to the inspector, within the specified period, access to the premises, the products, the documents or any other mean which is object of the inspection.
- to stop the work during the inspection, upon a written request of the inspector, if it is impossible for the inspector in another way to perform the inspection and to establish the facts of the actual situation.
- to present, upon a written request of the inspector and within the period of time specified in the request, or to provide true and complete data, reports, materials or other documents which are necessary for the performance of the inspection.

The inspector could ask the operator to perform some activities during the inspection with the purpose of complete establishment of the facts and to determine a period of time for its accomplishment.

3.2.5. Cooperation issues and protocols of other institutions

According to the Macedonian Law on Inspection Supervision, the inspector has the right to request information from a state administration body or legal entity, as well as assistance from a state administration body for the purpose of completing the inspection supervision.

The same applies to cooperation with other institutions: the inspector may, within the boundaries of the inspection procedure, request an opinion and cooperation from expert institutions, should that be necessary to properly assess the actual situation.

In practice two situations can happen where such cooperation is desirable:

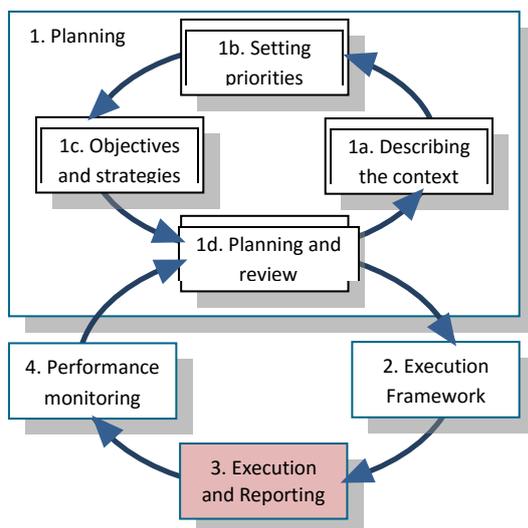
- The inspector knows that he/she needs some external expertise or competences (e.g. Seveso) in advance, which is easier as it enables easier planning of engagement of the other persons (dates, hours, resources needed);
- During site visit it turns out that external help is needed, this situation is not always easy to handle from a practical point of view, especially in terms of experts' participation (they are usually not accessible on ad-hoc basis). However this seldom happens and if it is the case, the more job done by the inspector, the better (in terms of collecting evidence that will serve later on as an input for external expertise).
- If during the inspection supervision the inspector finds irregularities that are not within his authorizations, he has to inform the responsible authority about those irregularities in a written report.

Another matter is a **joint inspection supervision** (the Law on Inspection Supervision defines the situations when their implementation is mandatory). In terms of administering such cases, the corresponding inspectorates are obliged to:

- 1) Consolidate the work plans and programmes and plan the joint inspections;
- 2) Exchange experiences and consolidate opinions on the means and methods of work and other issues;
- 3) Hold joint meetings, consultations, councils and other forms of joint cooperation and
- 4) Inform other state bodies competent in the enforcement of the corresponding regulations, when the inspection services make some finding relevant to those regulations during the supervision.

Inspectors should be aware of the existing protocols to implement such joint inspections.

3.3. Execution and reporting



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

of this step.

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

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

- Regular 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 environmental management of the installation.
 - Additional inspection (follow-up/control inspection) in case of an important non-compliance has been identified (within 6 months after the initial inspection).
- Extraordinary site visits:
 - Complaints.

- Accidents and incidents.
- Occurrences of non-compliance.
- (The need for) revising an existing permit or issuing a new permit.
- Reporting should at least cover (the need for) revising the permit.
- Investigation of accidents / incidents / occurrences 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.
 - Enforcement actions.
- Other compliance checking and compliance assistance activities like:
 - Remote monitoring (on-line inspections).
 - Theme inspections.
 - Surveillance.
 - Assessing monitoring data of operator.
- Organising information campaigns.

It goes without saying that non-compliances identified during inspections need to be followed up. In the specific case of a serious non-compliance (see section 3.2.2, Rules for Regular, Extraordinary and Control inspection Supervision) an additional inspection has to be executed within 30 days.

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

- Reporting:
 - After a site visit;
 - Process/ store inspection data;
 - Evaluation for further actions;
 - Keep record of reports;
 - In an accessible database;
 - Notified to the operator (for IED installations within 2 months after an inspection is completed);
 - Publicly available (for IED installations 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 unfulfilled while the inspectorate is investigating the outcome.

3.3.1. Preparing inspection

3.3.1.1. Decision on type of inspection, staff and (safety) equipment

In many cases the head of inspectors decides the type of inspection. He or she should also have an overview of the available and needed resources (human and equipment). Some considerations that could be taken into account (see also section 2.3.8, Allocating resources):

- 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.).

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

In principle, it is desirable that the inspection team is composed of at least two people (both for IPPC-A and IPPC-B installations); it should 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 group but is the responsible for coordinating the inspection and drafting of the final inspection report.

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:

- IPPC permit (A or B);
- Drawings of the plant (waste storage areas, emission points etc);
- Technical report contained in the IPPC application;
- Last self monitoring report.

3.3.1.2. Desktop study - 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.

Information sources 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.

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 (see template in Annex 3)**

3.3.1.3. 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.

See Annexes 4 (template for general inspection checklist), 5 (horizontal BATs checklist) and 6 (list of guidance documents for waste streams and industrial sectors available in SEI's website, including factsheets and checklists) for useful templates of checklists.

3.3.1.4. Should an inspection be announced?

According to the Law on Inspection Supervision ordinary inspections must be announced. On the other hand, extraordinary inspections are not announced.

- If the inspector, on the day when the inspection was announced, did not find the operator or another responsible person at the site where the inspection must be performed, he will leave a note/invitation asking for their presence with determination the date and hour for performing the supervision. If the note/invitation has disappeared, has been destroyed or taken from the premises later on, that does not affect the execution of the inspection..

If the operator does not answer to the note/invitation, the inspector will perform the supervision in presence of an official person. In case the inspection is announced, a communication has to be sent to the operator and to the Competent Authority usually 10 days in advance.

At least it has to include:

- Data of the beginning of the inspection visit and its expected duration;
- List of documents to be prepared by the operator;
- Composition of the inspection team;
- Request of the presence and name of the technical and legal responsible of the plant.

EU practice

In some cases it could be useful to announce the inspection, for example:

- 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 such cases, from a practical point of view it is worth announcing inspections shortly beforehand it is conducted.

3.3.1.5. 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.

See **Annex 3** for a template of an **inspection agenda**.

3.3.2. Execute the inspection

3.3.2.1. Principles of a good inspector

It may seem obvious that a good inspector should behave well and have impeccable manners. This should apply both to his/her appearance as well as to the communication with operators. The first appearance is the most important and can have significant influence on the attitude of an operator towards visiting inspectors. Thus it can make an inspection easier or more difficult. An inspector being polite and assertive definitely will succeed in gathering the most accurate information during inspection. This rule must be always applied as during some inspections conducted due to complaints the atmosphere is not always good. By being polite but at the same time assertive an inspector can decrease the tension between him/her and the operator.

Other principles of a good inspector:

1. Be professional - prepare yourself before the inspection and know what you want to see and ask;
2. Avoid talking about your private life. Bear in mind that it will decrease a professional distance between you and operator. This will make your job more difficult when you have to give a fine when you identify a non-compliance;
3. Don't be too flexible in allowing operators to present documentation at a later time (for example the next day) unless there is a very good reason. Documentation should always be directly available;
4. Keep your comments during the inspection neutral and informative. When you are sure the company is breaching her obligations you can mention this. When you are not sure, tell the operator you will further investigate this at the office. Be careful with information on the follow-up (e.g. you will receive a fine);

5. Respect the time of an operator. Do not come late for meetings with them;
6. Never take gifts from operators. This includes small company gifts (like products that they produce) or bottle of wine during Christmas. Gifts are a psychological technique that is used to make you less objective during inspection.

3.3.2.2. The inspector should identify himself

An inspector should inform the subject of supervision about the inspection (see next section) and legitimate himself by showing his identification card at the start of the inspection. This should be done twice - while entering an installation (e.g. you introduce yourself to a security person) and to a representative of top management of the entity.

3.3.2.3. Explaining the purpose of the site visit

The first step of the inspection visit is the opening meeting, when the leader of the inspection team presents the members of the team and explains the purpose of the visit. This should be done in a short, professional and neutral manner, e.g. "This is an extraordinary inspection, as we have received some complaints from your neighbours on noise levels from your factory. We will focus on this aspect and we will measure noise levels during the inspection." For the regular inspections the inspection agenda could be very helpful in this step and may be passed to a person responsible for dealing with inspectors. It will make him/her aware of the inspection proceedings and enable better preparation and coordination of it.

The organization of the visit, according to the inspection Agenda, is presented by the leader of the inspection team, to agree on the stages of verification and define the staff to be made available by the company to follow one or more phases of the inspection.

It is worth to ask the operator to describe the status of the plant (to assess potential modifications) and to evaluate briefly the results of last monitoring assessments.

During the opening meeting the inspection team will also write down the names of the company's staff following the inspection visit to be included in the final minutes.

3.3.2.4. Checking the administration

In case an inspector has to check the administration during an inspection, it could be helpful to start the inspection with handing over a list with documents that the inspector wants to see. While executing the inspection outside (checking the technical installation) the company will have time to gather all the relevant documents. Returning from the technical inspection the inspector can assess the documentation. It will be more time efficient and is especially helpful when the inspector wants to check the administration regarding the maintenance of documentation. After seeing the installation it will be easier to do random checks in the administration.

While checking the administration also get information on the administrative issues in the entity: Who is responsible for what? Who is the person responsible for environmental issues and monitoring?

During the administration checking, the following items should for example be verified:

- Waste input/output register;
- Maintenance operations register;
- Self monitoring register;
- Communications to Competent Authority (incidents etc);
- EMS Procedures.

3.3.2.5. Obstruction by the operator

Sometimes it happens that an operator does not want to give the inspector access to the site. With this action the operator is breaching the law. The inspector has the right to enter the site. To get access it is advisable not to enter by force but instead ask assistance from the police.

Physical obstruction is not the only way an operator can hinder the inspector in performing his or her job. Other obstructions are:

- Not providing the necessary information or documentation, because of confidentiality: Environmental information can never have the label of confidentiality.
- Discourage inspectors from entering places because of inaccessibility or personal safety. Make sure that the reasons for not entering are correct. Be consistent and assertive in your will to inspect it - it is their obligation to show such places to you.

Keep in mind that an obstruction by an operator is considered to be a misdemeanour.

The inspector shall also warn or remove (other) persons that obstruct the inspection.

3.3.2.6. Interview techniques

Basically there are two types of interviews:

- The less formal one: Used when collecting information during the inspection. The interview can take place during the visual inspection or the inspection of the administration. Note that questions asked by the inspectors should be simple and understandable; always bear in mind that not all the employees of the site are well educated.

The formal one: Used when dealing with issues that are problematic and may be serious infringements of the law. It is recommended to use a formal style for the interview and write everything down in a protocol. This is important from a psychological point of view because people are much more inclined to tell the truth during formal interviews that also have to be

signed. Further written protocols of interviews will have more power in terms of prospective proceedings in a court. Another situation when formal interview should be used are inspections conducted due to complaints where complaining stakeholders make statements about infringements of environmental law that are not confirmed by an inspector during their visit. Key interviewing guidelines are stated below:

- Identify yourself, shake hands, keep eye contact and proper distance;
- Find a comfortable place with no disturbance (switch off your mobile);
- Sit with your back towards the light (for example a window) so the person interviewed has difficulties to see the expressions on your face;
- Use neutral (open) questions, not suggesting already the answer;
- Listen, summarise and probe questions: listen attentively (if necessary interrupt the person when the answer is not relevant; summarise the answer of the person so you both know the information was well understood; and use the answer to probe new or additional questions;
- Allow people to answer and do not fear short moments of silence;
- Use the “10 seconds rule” when the person interviewed doesn’t give a satisfying answer. During 10 seconds you will be silent when you are not satisfied with the given answer. The person interviewed will most probably give more information;
- Avoid “leading” questions. Avoid double negatives and other complex phrases. Keep your language simple. Avoid jargon that is not shared by the interviewee;
- Avoid multiple subjects in one question; deal with issues one by one;
- Do not make promises you can’t keep, such as keeping a person’s answers confidential or providing protection if you can’t. Stress honesty and be honest;
- Try to conduct interviews privately. Always note down the person’s name, position and contact details of how they can get in touch with you after the interview;
- Do not mention enforcement. Avoid comments to be interpreted as menace. Instead, try to get information.

3.3.2.7. Safety issues

For the inspectors personal safety he or she should have to comply with the internal safety regulations of the entity inspected. These may include the need to wear a helmet or protective clothes (e.g. inspecting some part of a production line in food or chemical industry) as well as going only on special and dedicated paths in a factory. If the inspector is not sure about safety he/she should not hesitate to ask an operator for clarification on applicable safety rules. The operator is obliged to provide the inspector with the appropriate safety equipment if necessary.

Inspection of installations always poses a certain degree of health and safety risk. To minimize the risk the inspector should be familiar with all safety obligations and practices. Safety equipment and procedures will have to be based on standard safety procedures. For inspectors this entails the following:

- Use safety equipment in accordance with available guidance and labeling instructions;
- Maintain safety equipment in good condition and proper working order;
- Dress appropriately for the particular activity and wear appropriate protective clothing;
- Use any safety equipment customary in the establishment being inspected (e.g. hard hat or safety glasses);
- Never enter into confined spaces unless properly trained, equipped, and authorized (if applicable).

3.3.2.8. Physical inspection

This term includes visual inspection and taking samples. While conducting a visual inspection the following key-issues are important:

- The direct surrounding of an installation to see if there are traces of pollution by the installation (e.g. abounded waste, dust from air emissions, the presence of water streams that could be a recipient of waste water);
- The production lines to see whether the installation is actually working during the visit and to what extent; this allows to assess possible impact on the environment.
- Emission points to air and water to check whether their number and positions are in line with the permit.
- All the required equipment used to protect the environment (e.g. air filters, the factory's wastewater treatment plant, barriers built to prevent leakages from storage tanks, soil protection etc.).
- Areas and buildings used for waste storage. In the case of hazardous waste all the safety measures protecting against leakages (if the barrels are closed, the waste is packed in a proper way) and uncontrolled disposal to the environment should be checked.

Note that in case of an IPPC A installation a visual inspection should not only include "end-of-pipe-techniques but also other aspects considered to be BAT like efficient energy use. This may include issues as energy efficiency equipment but also for example insulation layers on steam pipes.

3.3.2.9. Environmental management system (EMS)

Whether an inspector should look at the implementation of an EMS by an operator all depends if the EMS is voluntary or not. In case the EMS is voluntary (not prescribed in the permit) the inspector has to be careful not getting too involved with the EMS. In case it is prescribed in the permit the inspector should have to look at the EMS but it is not advisable to check how the system functions as a whole as it is the task for external auditors specialised in assessment of such system (e.g. ISO 14001 certification).

Note that in case of IPPC A installations, being ISO 14001 or EMAS registered/certified should be taken into account as a positive factor in the appraisal of environmental risk. However, experience from EU Member States shows that having an EMS does not necessarily ensure compliance with the environmental regulations.

Remember that inspectors are not auditors. There is no point in checking how the EMS functions in the company (structure, persons responsible, aims and goals, internal audits, reviews done by the board of directors, etc.). However, two things that EMS deals with might be useful to be checked during inspections:

- Significant environmental aspects (this may have an added value to the process of inspection as well as to planning future inspections);
- Proceedings with non-conformances found by the auditors as they give a good picture on the company's reaction attitude (prompt and decisive or weak and slow).

Tip: To check the implementation of an EMS, follow how non-compliances (that have been identified during visual inspection) are dealt with by the EMS. Check if the internal inspections have identified it, what the follow-up was and which procedures have been changed to make sure the incident will not happen again.

Some practical aspects of EMS

The purpose of an EMS is to promote tackling of environmental aspects at entities. But what is the practice? In 2014 IMPEL has started a project to deal with the following issue: "In many countries industrial companies are supervised by authorities who regularly carry out site inspections and perform other "traditional" compliance checks like assessing emissions reports. But how effective and efficient are these output oriented supervision activities in terms of achieving good compliance with environmental regulation or even environmental performance beyond compliance?"

The aim of this project was to answer the following questions:

- How do we assess compliance (and eventually environmental) performance against standard criteria for an effective EMS/CMS including factual output?
- What is necessary to express both the responsibility of the company and that of the competent authority as laid down in the Industrial Emissions Directive?
- How do we give and use a measure to the level of confidence in the site performance?
- How do we differentiate our actions as a consequence of the found differences in EMS/CMSs and their performance?

Information gathered during the project is accessible under the following link:

<http://impel.eu/projects/compliance-assurance-through-company-compliance-environmental-management-systems/>

3.3.2.10. Operator self-monitoring

As in the EU the principle of self-monitoring is widely in place, this is one of the most crucial aspects of inspection. Careful examination of the self-monitoring records/results should be a priority for inspectors. This could be done on site, but also at the office of the Inspectorate if the operator is obliged to send the results of the self-monitoring to the Inspecting Authority. The issues that should be taken into account while examining self-monitoring results are as follows:

- Checking if an operator does self-monitoring or not.

- Comparing if it is done in line with the permit, i.e. checking the frequency, parameters measured, equipment used (if it is a continuous monitoring such as in the case of big power plants, an on-line presentation of the results should be checked by the inspector, writing down in the report what he/she has seen).
- Checking if the reference methods for taking samples and making measurements and analysis were used.
- Checking whether a certified laboratory did collection of samples and analysis.
- Checking if emission limit values are not breached - in case an operator submits reports to the inspection authority on a regular basis, this should be carried out during a desktop-study, independently from an on-site inspection.
- Checking other emission relevant parameters - these are parameters that measure emission levels in an indirect way, e.g. amount of paint used in a factory using paints, amount of fuel burnt; there might be also some qualitative parameters that are crucial (e.g. percentage of sulphur in coal used as fuel) as they influence emission levels.
- Try to be on site when the samples are taken randomly so the inspector knows it is done right.

3.3.2.11. Sampling and laboratory analysis

According to the Law on Inspection Supervision, during the collection of samples, the inspector is obliged to:

- 1) In the same conditions and at the same time to obtain max three samples in the amount necessary for examination (for a first analysis, for a second analysis at the request of the subject of inspection and for a super analysis);
- 2) To draft a report on the collection of the sample;
- 3) To seal the samples and mark them properly;
- 4) To submit without delay the sample for the first analysis to the appropriate expertise institution at the request of the subject of inspection and
- 5) To determine with a special conclusion the amount of expenses made during the procedure related to the sample analysis, in the event that the sample does not conform to prescribed standards.

If the operator, during the collection of samples for analysis, does not request a concurrent collection of a sample for a second analysis, he or she has no right to object to the results of the analysis.

However, the operator may object to the results of the analysis of the first sample via request to perform an analysis of the second sample (obtained at the same time and using the same means) within three days of the day of delivery of the results of the analysis of the first sample.

If the results of the analysis of the second sample do not conform to the results of the analysis of the first sample, the analysis of the second sample shall be considered legally valid.

The last precondition is that the analysis of the second sample cannot be delegated to the expert institution that performed the analysis of the first sample.

It might also happen that the inspector does not agree with the outcome of the analysis from the second sample. If this is the case, he/she may, within three days of receiving these results, request a super analysis, except if the results of the first and second analysis are the same. However, an expert institution that made the previous analyses unless there are no other institutions for performing these analyses and unless the inspector and subject of supervision agree to delegate the analysis to one of the institutions that already performed an analysis cannot perform the super analysis.

3.3.2.12. Collecting evidence

Everything that can be found during inspections may be worth being collected and treated as evidence and must be attached to the report. General under evidence is understood:

- Photographs.
- Oral and written statements of the operator and the employees. When using oral statements in the report, the statement should start with the wordings "according to oral statement of X...".
- Reports of sampling as well as reports from laboratory analysis,
- Notes/reports of visual inspection.
- Documents such as environmental reports, registries, results of self-monitoring. In case of infringements it is worth making copies and attach them to the report, as they will serve as a proof in case of later proceedings.
- Protocols of interrogations.

3.3.3. Closure and follow-up of the inspection

The inspection visit ends with a conclusive meeting when detected strengths and weaknesses are discussed and minutes of inspection are drafted and signed.

3.3.3.1. Minutes of inspection

Good inspection minutes are crucial in terms of later actions that need to be followed. Remember the first and the most important rule: they must reflect the facts observed, no more, no less. Below some points are mentioned that should be included in the minutes:

1. General Description

- Inspection basis (permit, legal regulations)
- Competent inspection authority, cooperating inspection authorities
- Kind of installation (e. g. power plant or chemical plant) plus a corresponding activity code from IED Annex I
- Operator (Name of the company)
- Address
- Date of inspection
- Duration of inspection
- Scope of the inspection (e. g. integrated inspection, media that were inspected, parts of the installation that were inspected)
- Planned or unplanned inspection

2. Detailed content of the minutes

- In the minutes each activity performed by an inspector should be mentioned. This includes taking samples and measurements as well as formal request to the natural or legal person to take the corresponding measures and activities in a certain period of time given by the inspector. The findings of the inspection should be written in the most neutral way, which means the minutes should be like the most accurate photography. It is not recommended to include statements like "probably", "with high certainty" etc.
- If some additional activities during inspection happened, e.g. taking pictures, it should be mentioned in the minutes in a neutral form, e.g. "During inspection pictures of waste storage area were taken. They are attached to the minutes".
- All evidences that have been significant in terms of later proceedings should be attached to the minutes. These include:
 - Reports of sample taking.
 - Reports of laboratory tests.
 - Written statements from operators, etc.
 - Copies of documents provided by the operator (e.g. reports on self-monitoring if they were not sent to the competent authority before).

Formal requirements applicable to minutes of inspection (including the format of it) are included in the Official Gazette of The Republic of Macedonia No. 165 of November 2011.

3.3.3.2. Signing of minutes and closure of inspection (decisions, conclusions)

Minutes

After an inspection visit takes place, as prescribed by the Law on Inspection Supervision, the inspector and the subject of supervision sign the minutes after the completion of the inspection supervision. The subject of the supervision receives a copy of the minutes. If there are no non-compliances the inspection is closed.

However, when due to the scope and complexity of the inspection supervision, or its nature and circumstances minutes cannot be drafted during the inspection supervision, the minutes are drafted in the offices of the inspection service within three days of the supervision, outlining the reasons behind the delay. A copy of the minutes is submitted to the subject of supervision for signing. If an operator fails to act upon the submitted minutes or fails to return a signed copy to the inspector within eight days of the day of receiving the minutes, it is considered that the subject of supervision agrees with the minutes of the inspection.

If an operator refuses to sign the minutes, the inspector shall state the reasons for refusal.

Decision

If during the inspection the inspector determines that a law or other rule has been breached, he or she has to issue a so-called Decision:

Two parallel procedures may be defined in the **Decision**:

- Set of instructions to the operator about measures to take with corresponding deadlines. The inspector shall prepare the decision, based on facts determined during the inspection, no later than eight days from the completion of the inspection.
- Depending on the kind of breach detected, the inspector may request the start of a misdemeanour procedure, a mediation procedure or a criminal case.
- In minor cases, an exchange of letters may prove sufficient. The inspector might write a letter requesting an explanation of a particular issue and the operator should have to reply. If the reply is satisfactory this should be the end of the matter.

In exceptional circumstances, to remove an immediate life-endangering or health-endangering situation, the inspector may determine inspection measures with an oral decision during the site visit, when he or she assesses that it is necessary. In such cases, the inspector is obliged to prepare a written decision within three days from the day of making the oral decision.

An appeal may be lodged against the inspector's decision within eight days from the day of receiving the decision, if no shorter term has been determined by law.

Conclusion

The procedure of inspection is ended by drafting a **conclusion**. The conclusion is used to resolve issues of procedure arising during the inspection. A written conclusion is not issued only for exports of goods, where the control has not started in the Republic of Macedonia (in which case only the so-called template D4 is fulfilled).

The conclusion has to be sent to the operator within eight days. If the operator is not satisfied with the conclusion, he or she has the right to appeal it.

If during the inspection no faults are determined or the faults determined are removed during the inspection, i.e. until the drafting of the conclusion, the inspector is obliged to issue a conclusion to cease the procedure.

3.3.3.3. Informing partners / other competent authorities

The results of inspection should be sent to relevant stakeholders. Those stakeholders may include permitting authorities, citizens who complained about the company, NGOs, etc.

It might also happen once inspection is conducted that an inspector finds some irregularities for which he/she is not the competent authority to act (e.g. he/she has found that some objects have been built probably without a building permit). If this is the case, the inspector has to inform the corresponding competent authority about those irregularities in a written report⁷.

Note that the competent body that has received a criminal charge, request for initiating a misdemeanour procedure or request for initiating another type of appropriate procedure is obliged to inform the inspectorate of the results of the proceedings⁸.

3.3.3.4. Determine fines

When an inspector proposes a fine where the amount is not already fixed in applicable legislation, he/she should take the following criteria into account:

- The results of misdemeanor and the scale of a threat to the environment or/and human health,
- Frequency of misdemeanors (if it is committed again, the fine should be higher),
- Period of misdemeanor's existence (the longer, the higher the fine),
- Scale of operator's activity (the bigger, the higher the fine).

The first criterion is the most problematic one as it is not easy to be 100% sure about the negative impact of the case on the environment or human health. All possible evidence could be used e.g.:

- Websites of such organisations as European Environment Agency, WHO, European Chemicals Agency - they often have thematic assessments connected with influence of some factors on human health or environment;
- Literature on specific topics such as noise, air quality, etc.

⁷ Prescribed in the Law on Inspection Supervision

⁸ Prescribed in the Law on Inspection Supervision

- Obtaining an expert's opinion - this is usually limited to the most problematic cases as they might cost a lot of money depending on the complexity of a case.

3.3.3.5. Sanctions

According to the Law on Environment, there are three categories of misdemeanours that are connected with the amount of fines imposed:

- I-st category - amount of up to 15.000 EURO in Denar countervalue,
- II-nd category - amount of up to 22.000 EURO in Denar countervalue,
- III-rd category - amount of up to 150.000 EURO in Denar countervalue.

The first and second categories fall under the competence of the Misdemeanours Commission and the third one under the competences of court as a criminal misdemeanour. However it is up to an inspector to initiate, if it is the case, the payment order process, including first settlement procedure (for the first and second categories) or intermediation procedure (for the third category).

If there is a risk for the legal person to commit repeatedly some misdemeanour (see article 212 f-g of the Law on Environment) dangerous to human life or health, a sanction of temporary prohibition to perform a certain activity for a duration of not more than 30 days may be pronounced.

Note that there are also different sanctions in the Law on Inspection Supervision (art. 63) and in several of the sectoral laws like Law on Waste (art. 138a-b).

Formal requirements applicable to irregularities, settlement procedure and mediation procedure including the format of minutes on the issues are included in the Official Gazette of The Republic of Macedonia No. 165 of November 2011.

3.3.3.6. Publication of inspection report

According to the EU rules the final inspection report, for the case of installations falling under the scope of the IED, has to be made available to the public within four months of the site visit, by publishing it on the website. Confidential parts should be removed from the version accessible to the public. A possible approach is to upload in a public website or through the BPMS (see chapter 4, Business Process Management System (BPMS)) a list of inspections that have taken place and to provide on demand with a copy of the report. A possible template of inspection report that can be made publicly available is shown in Annex 8.

To keep in mind:

- minutes of inspections are not published (they are not treated like a report that IED Directive mentions);

- according to the Macedonian law inspectorates must publish the conclusions and decisions on their web within three days of the day of passing the acts, in accordance with regulations for protection of personal information.

EU practice – Final Inspection Report

In the IED it is stated that the report should include the relevant findings regarding compliance of the installation with the permit conditions and conclusions on whether any further action is necessary.

There are some tips on reports in the IMPEL Reference Book on Environmental Inspection:

- General rules:

(i) The purpose of the inspection report is to present a factual record of an inspection, from the time when the need for the inspection is perceived through the analysis of samples and other data collected during the inspection.

(ii) The objective of an inspection report is to organise and co-ordinate all evidence gathered in an inspection in a comprehensive, useable manner. To meet this objective, information in an inspection report must be:

– Accurate. All information must be factual and based on sound inspection practices. Enforcement personnel must be able to depend on the accuracy of all information.

– Relevant. Information in an inspection report should be pertinent to the subject of the report.

– Comprehensive. The subject of the report should be substantiated by as much factual, relevant information as is feasible. The more comprehensive the evidence, the better and easier the prosecution task.

– Co-ordinated. All information pertinent to the subject should be organised into a complete package. Documentary support (photographs, statements, sample documentation, etc.) accompanying the report should be clearly referenced so that anyone reading the report will get a complete, clear overview of the subject.

– Objective. Information should be objective and factual; the report should not draw conclusions.

– Clear. The information in the report should be presented in a clear, well organised manner.

– Neat and Legible. Adequate time should be taken to allow the preparation of a neat, legible report.

Conclusions regarding compliance:

Inspection reports should contain only the facts about the inspection. The report to the inspection management should be objective and complete. Clearly, the inspector's conclusions about the compliance of the facility are the critical factors to decide if a violation did or did not exist. It is essential, therefore, that the inspection report itself includes the inspector's conclusions regarding non-compliance.

When the inspection report is sent to the company, the personal opinion of the inspector must be omitted. Although the inspector may communicate to the company his view on certain matters, facts and figures should **never** be mixed with personal opinions.

If the inspector has concluded that there has been non-compliance, this information

should be mentioned in the report sent to the company.

All inspection reports should preferably be read and discussed by more experienced inspector.

Note that the above mentioned principles are also applicable to the minutes of the inspection. The report is more comprehensive as it also includes non-compliance issues. In most EU Member States, there are no minutes of inspection but reports only. To be in line with the IED it is recommended to replace the notion "minutes of inspection" in the current Macedonian Law with "a report" that fulfils conditions of the Directive.

Usually, the leader of the inspection team is responsible for the drafting of the final inspection report also including suggestions to the operator for the improvement of the environmental performance of the plant and proposals of amendments to the permit to the Competent Authority (compliance promotion).

A proposed template for Final Report of IPPC-A inspections is present in Annex 7.

3.3.3.7. Confidentiality

Generally speaking information on environment is publicly available and not many rules of confidentiality apply to it. However some pieces of information or even a whole report may be confidential in specific cases (e.g. reports of inspection taken on a military area or in national defence sector). This should be checked in national legislation concerning confidential information. Note also that an operator has the right to ask the inspector for making some part of the report confidential. This must not include environmental issues such as emission levels, amounts of waste generated or collected, quality of water, etc. Parts that could be confidential may include for example detailed descriptions of technologies that e.g. include a content of a dyeing bath used in a textile factory or names and surnames of employees. To ensure conformity with confidentiality rules and at the same time with the right of public availability of reports, it is advisable just to erase the confidential part from the copy of the report that is to be submitted to a person demanding it. To avoid misunderstandings, information on why such parts are deleted should be also stated, in practice in a separate paper attached to such report.

3.3.3.8. Keeping records

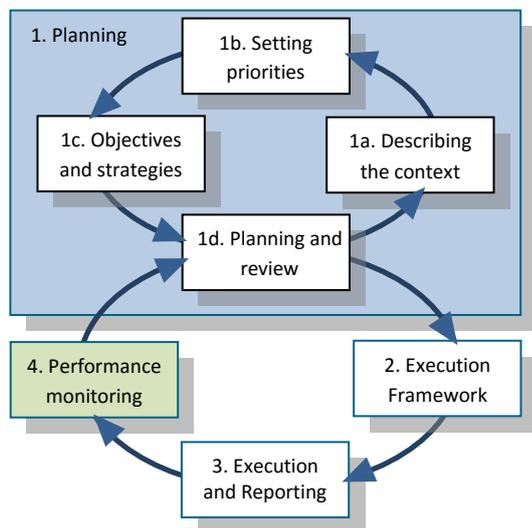
After every site visit all the data must be stored as soon as possible in an automated data system. The SEI is currently drafting the manual developing a tailor-made data system for recording of environmental inspections: SEI's Business Process Management System (BPMS). Every result of the inspection should be stored in this system. Not only minutes/reports of inspection but also conclusions and decisions and other data connected with inspections and their follow-up should be stored in it. These include: permits of operators, reports of

sample taking, reports of self-monitoring, photographs from inspections, written statements from operators, notifications of other competent authorities on the results of inspection, etc.

It is important that all inspectors are well disciplined to put all the necessary documents to BPMS as soon as possible. Only if this principle will be applied, the system will add a good value to manage the inspectors' work.

See Annex 11 with guidance on the BPMS for more information.

3.4. Performance monitoring



In this step the results of the activity of the inspecting authority is assessed. Good performance monitoring is essential for the inspecting authority. It helps to show to the public, the policy makers and the operators the results of the efforts of the inspecting authority in the last period. Of course there is a strong relation with the priorities that are set (see chapter 2.3, Setting Priorities) and the objectives and targets (see chapter 2.4, Defining objectives and targets). So the importance of these steps become also clear in this step.

Qualitative versus quantitative monitoring

The inspecting authority should act on the basis of systematic monitoring of the inspection and enforcement process and its result and effects. This is in fact prescribed in the national legislation.

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 the plan's 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. Not only the results of the performance of the inspecting authority, but also the performance of the individual inspector has to be measured.

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 provide information about execution of the schedule and may be carried out for example on annually and 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.

3.4.1. Annual inspection reports

In this step of the execution cycle the result of the performance of the inspecting authority as described in step 2 (execution framework) and carried out in step 3 (execution and reporting) now finds its place in two documents, the annual and quarterly inspection reports. The inspection reports are not only for internal use, they are also used to inform the Inspection Council. Besides this, the annual inspection report can be also used to inform the public and therefore gives justification of what and how the inspecting authority has dealt with its responsibilities. For this purpose the annual report itself or a summary of it written for the public may be used. In the prescribed annual report the inspection results are presented both on qualitative and quantitative way.

3.4.1.1. Annual reporting obligations according to current Macedonian legislation

In the Republic of Macedonia there is an obligation to report annually. The rulebook defining the rules for such annual reporting is based on art. 15 of the Law on Inspection Supervision and has been published in the "Official gazette of the Republic of Macedonia".

The **annual report** by the State Inspector of Environment and the Authorized Inspector of Environment has to include the following information of the reporting year:

1. Regulatory Framework.

This chapter should contain brief information on adopted new or amendments to existing laws or regulations including the inspection service have direct authority to carry out inspection.

2. Comply with international standards and requirements.

In this chapter is described information and data on the implemented activities, projects, etc., associated with the fulfilment of the conditions for admission of the Republic of Macedonia in the European Union, international organizations and institutions by the Republic of Macedonia or inspection service, and other obligations to align the work of the inspection service.

3. Responsibilities and organization.

This chapter contains five sections:

3.1 Basics.

This section contains information about new and amended or supplemented law (laws and international laws), secondary legislation (decrees, regulations - especially on internal organization of work, including territorial coverage with regional offices), internal regulations and strategic documents concerning the inspection powers and the internal organization of the inspection service.

3.2 Administrative procedures.

This section contains information about how to organize the records and conducting administrative and inspection procedures, with particular reference to inspection procedures and records.

3.3 Security and communication.

This section includes information systems for physical security and security of information, data and documents, as well as the internal and external communication of the inspection service, with an overview of changes in the reporting year.

3.4 Information and communication technology (ICT).

This section contains information on the scope, quality and sustainability of the system hardware, software and ICT technical support of the inspection service, with particular reference to changes in the reporting year.

3.5 Financial and non-financial resources.

This section includes information on the management of financial resources (such as budget, material and financial matters, management expenses, claims, liabilities, contingent liabilities) and non-financial resources (effective and efficient management fixed assets, stationery and other supplies, services and other non-financial assets), with special reference to changes in the reporting year.

4. Human Resources.

The chapter "Human Resources" contains five sections:

4.1 Basics.

This contains information about new and adopted amendments to laws and regulations, and internal regulations (laws, ordinances, regulations, and other acts relating to the status of employees and management of human resources in the inspection service)

4.2 Number of employees.

This section includes information and data on the number of employees in the inspection service at the end of the reporting year and three previous years (attached table), in all organizational units, with particular reference to the number of inspectors, compared with previous years explanation for eventual differences.

4.3 Vocational training.

This section contains information and data of the number of held events that have character training and vocational training (in the Republic of Macedonia and abroad) in the reporting and previous three years, the number of participants, with particular reference to inspectors average total duration (in hours) of training and vocational training per employee and especially for inspectors (with attached table), and a brief description of important events (name and purpose, organizer, trainer, venue, target group, number of participants). The text can be illustrated with photographs of the events.

4.4 Integrity.

This section contains data about reported complaints about the work of the inspectors in the reporting and previous three years, implemented procedures to establish disciplinary

liability, imposed disciplinary measures and other actions performed by the competent authorities.

4.5 Promotions.

This section contains information on the number of employees, with particular reference to the inspectors, who were rewarded or improved in the reporting year and the previous three years (desirable table).

5. Supervision.

Chapter "Supervision" contains four sections:

5.1 Administrative capacity to perform inspection.

This section contains information systems to support inspection (guidelines, procedures, methodologies, techniques, equipment, hardware, software, databases and systems for data exchange with other inspection services and institutions, selective systems for control based on risk analysis, etc.), with special emphasis on the reporting year. The text can be illustrated with photographs.

5.2 Achievement of assumptions made to estimate risks in the areas subject to inspection.

This section contains a description of the situation in the areas of inspection covered by the report in terms of the risks of failure to apply the regulations, as the realization of the assumptions upon which were defined risk areas and subjects of inspection.

5.3 Coordinated inspections.

This section contains data and information on inspections conducted in a coordinated way with other inspection services in the reporting year, at least stating the number, collectively and individually, the inspection services, areas/subjects/results of inspections.

(1) This section contains data and information on the following areas:

5.4.1 Minutes of inspection.

This sub-section contains data on the number of minutes for planned and carried out regular monitoring and emergency inspections in the reporting year, the completion of the regular, control and extraordinary inspections for the previous two years, the average number of minutes per inspector, and an explanation of the differences compared to previous years and the plan. The text can be illustrated with tables and graphs.

5.4.2 Minutes with stopped procedure.

The part "Minutes with stopped procedure" contains data on the number of minutes for inspections for which is made cancellation of further procedure, the number of minutes for inspections in which the procedure is stopped with the inspection act/document or without inspection act, explanation for the presence of minutes for stopped procedures in the total number of minutes and explanation of the minutes in which stops the procedure without inspection act/document. The text can be illustrated with tables and graphs.

5.4.3 Inspection measures and sanctions.

This sub-section contains the following data and information (possibly supported by tables and charts):

- Number of adopted administrative decisions and total number of minutes (preferably with an indication of the global types of measures) in the reporting year in the two previous years, with an explanation and overview of the differences compared to previous years and to the plan;
- Number of completed education procedures and comparison of the total number of procedures in the reporting year and in the two previous years, with an explanation and overview of the differences compared to previous years and to the plan;
- Number of fines and comparison of the total number of records in the reporting year and in the two previous years, the number and amount of fines collected, the number of actions taken and not taken (filing criminal charges if fines are not collected), together with an explanation also in view of the differences compared to previous years and to the plan;
- Number of submitted payment orders and comparison of the total number of records in the reporting year and in the two previous years, the number and amount of collected payment orders, the number of actions taken and not undertaken (filing criminal charges) with not collected payment orders, together with an explanation also in view of the differences compared to previous years and the plan;
- Number of submitted charges and share in the total number of records in the reporting year in the two previous years, together with an explanation and overview of the differences compared to previous years and the plan:
- Number of criminal charges and in the total number of records in the reporting year in the two previous years, together with an explanation and overview of the differences compared to previous years and the plan:
- Number of minutes and the types and quantities of seized items in the reporting year in the two previous years, together with an explanation and overview of the differences compared to previous years. Preferably, the text is illustrated with photographs of the temporarily seized items.

5.4.4. Subjects of inspection

This sub-section contains data and information of the number of entities (individuals and companies) who is executive inspection in the reporting year and the previous two years.

5.5 Inspection and supervision laws

This sub-section contains data and information on the number of minutes for an inspection over every law that is subject to the inspection of the inspection service, together with the number of procedures stopped spoken inspection measures implemented educations, penalties , payment orders, and civil and criminal charges, for the reporting and the previous two years, together with an explanation and overview of the differences compared to previous years.

5.6 Status of administrative decisions and civil and criminal charges.

This sub-section contains data and information (possibly supported by tables and charts):

- Number and date of minutes for an inspection in the previous reporting year total in that there are grounds, but it is an administrative decision made or action initiated sanction number of obsolete items, as of the end of the reporting year, together with an explanation.
- Number of administrative decisions in the period covered by the report and the previous four years, and in total number of legally accepted and rejected complaints and court cases, number and age of pending cases in the second instance commissions, primary and appellate courts, the number of obsolete items, as of the end of reporting year, together with an explanation.
- Number of misdemeanor charges brought to misdemeanor commissions and courts, during the reporting year, the previous four years and the total for all five years, the number and type of final judgments for the offenses, number of final judgments for unspecified offenses, number of obsolete items, number and date of cases for the misdemeanor commissions and basic courts, the Higher Administrative Court and appellate courts, as of the end of the reporting year, together with an explanation.
- Number of criminal charges filed in the reporting year, the previous four years and a total for all five years, the number of convictions entered into force, number of liberation final judgments, the number of items in the public Prosecution, number of pending cases in trial courts, appellate courts and the Supreme Court and the number of obsolete items, as of the end of the reporting year, together with an explanation.

6. Transparency and cooperation.

Chapter "Transparency and cooperation" contains six sections:

6.1 Media relations.

This section contains information and data on the number of statements submitted to the electronic and print media, number of published reports, press conferences, reporting for the previous two years, together with an explanation. If possible, the text is illustrated with photographs.

6.2 Website.

This section contains information and data on the number of published information and other content on the website of the inspection service, the number of visitors and the number of visits and the most visited areas of this report and the previous two years, together with an explanation.

6.3 Reported irregularities.

This section contains information and data on the number of reported irregularities in the work of inspectors through free phone number, email addresses, letters and otherwise, for reporting and for the previous two years, together with an explanation.

6.4 Citizens.

This section contains data and information on the number of visits to the offices of inspection services, the number of questions asked and answered, and reporting for the previous two years, together with an explanation.

6.5 Complaints and suggestions and free access to information.

This section includes information and data on the number of complaints, suggestions and information access, and the number of responses received for the reporting and the previous two years.

6.6 Cooperation with other inspection services, government institutions and local government units.

This section contains information about actual or institutionalized cooperation with other inspection services, state institutions and local government units in the reporting year.

6.7 Cooperation with the business community and consumer associations.

This section contains information for realized and institutionalized cooperation with associations of economic operators and consumers.

6.8 International cooperation.

This section contains information about actual or institutionalized international cooperation on a bilateral basis or multilateral in the reporting year.

6.9 Collaboration with educational and scientific institutions.

This section contains information about actual or institutionalized cooperation with educational and scientific institutions in the Republic of Macedonia in the reporting year.

EU-practices

Performance monitoring according to EU standards should at least cover (in no order of preference):

- Monitoring:
 - Performance of staff (output).
 - Monitoring of the results (outcome) i.e. assessment of any benefits arising from the inspections.
- 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 performed:
 - Available to public.
 - Regional and local level to public and national level.
 - National authority to European 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.

3.4.2. Quarterly inspection reports according to current Macedonian legislation

In the Republic of Macedonia there is also an obligation to report quarterly. The rulebook defining the rules for such quarterly reporting (also based on art. 15 of the Law on Inspection Supervision) has been published in the “Official gazette of the Republic of Macedonia”.

The quarterly report of the inspection service has to include twelve chapters, as follows:

The main contents of the **quarterly inspection report** are:

1. Changes in the regulatory framework that inspectors performed inspections.
2. New harmonization with international inspection standards.
3. Situation in the areas of inspection responsibilities where inspectors performed an inspection.
4. Performed inspections by inspectors under laws that are subject to inspection.
5. Risk assessment against which inspectors selected and targeted the inspection supervision.
6. Description of the risk areas where inspectors performed inspections.
7. Compliance with the minimum targets set by the inspection service, as a result of the inspection.
8. Number carried out inspections per inspector and merit.
9. Number of carried out coordinated inspections with other inspection services.
10. Evaluation of the results of the inspections and the reasons.
11. Human resources and integrity of inspectors.
12. Transparency.

In the chapter “Carried out inspections per inspector and merit” there should be added the following 6 forms about the conducted actions by every inspector:

- Plan of inspections for each inspector;
- Performed inspections for each inspector;
- Difference between planned and conducted inspections of each inspector;
- Score of completed inspections for each inspector;
- Proposed inspection measures by each inspector;

- Summary of a cumulative review of planned and conducted inspections and inspection measures adopted.

EU-practices

It must be noted that it is not recommended, according to EU best practices, to deliver with such high frequency official, thorough/detailed quarterly reports, as it is considered an excessive and unnecessary administrative burden. The quarterly report is made only for internal purposes.

4 Business Process Management System (BPMS)

The BPMS has been created to facilitate the work of inspectors. In most of the EU Member States there is one system to cover all inspection issues, such as minutes/reports of inspection, follow-up actions, statistics of inspections etc. Apart from its practical usefulness, it is a necessity to use such system according to RMCEI.

Using the BPMS in the daily work will contribute to a more standardised approach for conducting inspections in the Republic of Macedonia.

In order for the system to be effective it is necessary that all inspectors will be properly trained and use it without exceptions. EU experience shows that at the beginning people learning how to use such systems are hesitating to use it as it is additional work, they are facing some difficulties to become familiar to it and it takes some time before they can use it efficiently. But once it is well established among inspectors, it is considered to be a very useful tool.

A brief instruction on how to use the BPMS can be found in Annex 11.

5 Best Available Techniques (BAT)

5.1. BAT & BAT Conclusions concepts

5.1.1. What are Best Available Techniques (BATs)?

Best Available Techniques (BAT) are clearly defined in the EU Directive 2010/75/EU on Industrial Emissions (IED), in its Article 3.10:

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:

(a) "techniques includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;

(b) "available techniques" means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;

(c) "best" means most effective in achieving a high general level of protection of the environment as a whole.

So it must be emphasized that BATs do not only refer to the techniques used at an installation, but also to the way the installation is designed, built, operated, maintained and decommissioned. Some BATs are a simple consequence of common sense and do not involve any investment.

In practice, to know if a given technique can be considered as a BAT, the following criteria must be considered:

- If the technique is mentioned as a BAT in any of the BAT Reference Documents (BREFs), then it is a BAT.
- If it is not mentioned as a BAT in any of the BAT Reference Documents (BREFs), the technique should be evaluated taking into account the criteria listed in Annex III of the IED to see whether it can be considered as a BAT or not. Those criteria are the following:
 1. The use of low-waste technology;
 2. The use of less hazardous substances;
 3. The furthering of recovery and recycling of substances generated 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 a 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;
12. Information published by public international organizations.

5.1.2. What is a BAT Reference Document (BREF)?

BREF or 'BAT reference document' means a document, resulting from the exchange of information organised pursuant to Article 13 of the IED. BREFs are drawn up for defined activities and describing, in particular, applied techniques, present emissions and consumption levels, techniques considered for the determination of best available techniques as well as BAT conclusions and any emerging techniques, giving special consideration to the criteria listed in Annex III to IED.

The European IPPC Bureau (EIPPCB) organises and co-ordinates the exchange of information between Member States and the industries concerned on Best Available Techniques (BAT), as required by Article 13 of the IED. The EIPPCB produces BAT reference documents (BREF) and BAT conclusions

Each BREF contains several BATs applicable in Europe and elsewhere for specific sectors. There is no preference/ranking for specific BAT in BREF, there is merely a description of existing BATs; it is up to the operator's decision to select those BATs which seem appropriate for each case.

They are extensive documents which cannot be easily handled by people without experience in industrial processes. Its structure content can be summarised as follows:

Chapter 1: Review of European situation in the sector

Chapter 2: Applicable production processes

Chapter 3: Current Emission levels

Chapter 4: Proposed BATs for each unit operation

Chapter 5: BAT conclusions

5.1.3. What are BAT Conclusions?

BAT conclusions are defined in Art.3 of the IED; it is *“a document containing the parts of a BAT reference document laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures”*.

As stated in Article 14(3) of the IED, BAT conclusions shall be the reference for setting the permit conditions; therefore they become mandatory in the permitting/licensing process. In article 15, paragraph 3, the emission limit value in the licence cannot be higher than the BAT-associated emission levels (BAT-AELs) from the BAT conclusions. Derogations are only allowed under strict preconditions (article 15 paragraph 4).

BAT conclusions are translated in all languages of the EU member states.

For setting permit conditions, all relevant BAT conclusions published before the permit is issued shall be applied and the installation shall immediately comply with those conditions.

In accordance with Article 21(3) of the IED, the application of BAT conclusions published after the permit is issued shall be ensured, by way of reconsideration and, if necessary, update of the permit conditions, within 4 years of publication of BAT conclusions related to the main activity of the installation.

The overall objective of reconsidering and updating permit conditions is to ensure that the operation of installations is in line with the latest developments in the best available techniques (BAT) and achieve a high level of protection of the environment taken as a whole.

5.2. BAT & Integrated Inspection Guidance

5.2.1. Motivation and prior considerations

The following guidance on BAT & integrated inspection applies to installations falling under the scope of Annex 1 of the IED⁹. For these installations operators and permit writers have to take as reference applicable BAT Conclusions, or in their absence, applicable BREFs and BATs as defined in IED. The achievement of an environmental performance in line with the levels described in BAT Conclusions and BREFs is usually only possible through the implementation of one or more BATs. The operators have freedom to choose how they can achieve such performance, and usually they do it by implementing in their installations one or more BATs.

Inspection of BAT should ensure that the installation is constructed (through comparison with technical drawings and specifications) and operated (through comparison with the modes of operation as defined in the permit) in compliance with the permit and the

⁹ This includes all IPPC-A installations, and some other installations. It is expected that in 2016-2017 the IED will be transposed into Macedonian legislation, then a single annex will define “IED” installations for the country.

specifications in permit application documents: the permit conditions i.e. Emission Limit Values (ELV) must be set, according to IED requirements (Art. 14 § 3, Art. 15 § 3), according to the BAT conclusions stated in the relevant BREF. BAT inspection is essential in order to find out whether the set ELVs are met, or to which extent „dilution” techniques (e.g. dilution of effluents) are applied, in contradiction with IED prescriptions.

Compliance is given if the:

- Production units,
- Purification systems for waste gas and waste water incl. its measure and control instruments,
- Waste handling equipment and
- Noise reduction systems

are constructed and operated as fixed in the permit as well as described in the application documents and the ability of the systems to run was ensured by the operators maintenance works.

A kind of **integrated inspection** of processes and BATs is chosen as the most effective option for BAT assessment which asks for an in-depth knowledge of the production process of an installation and does not limit itself to a “mechanistic” **single media inspection** (i.e. taking samples from stacks/outlet wells). In general integrated inspections offer a greater potential for discovering violations. Its concept is to start inspecting at the point of raw materials entry and go all the way through the production process to the specific release or discharge point (or visa versa: from release point to the handling facilities of the raw materials).

During an integrated inspection production processes, equipment, treatment facilities, monitoring devices have to be examined on the basis of **existing evidence** (IED application and permit, self-monitoring report, technical specifications etc.) and “**cross-checking**” **sampling/measurement** of some crucial parameters (e.g. “key” pollutants) which will complete the inspector’s integrated view about the inspected installation.

Integrated inspection (process and prevention inspection)			
Objectives	Advantages	Disadvantages	Target facilities

<ul style="list-style-type: none"> • Improves overall efficiency and environmental performance • Promotes broader goals (e.g. pollution prevention, compliance assistance) 	<ul style="list-style-type: none"> • Considers all relevant factors • Capable of improving overall process • Capable of promoting broader goals (e.g. pollution prevention, compliance assistance) • Appropriate for industry sector 	<ul style="list-style-type: none"> • Requires development of in depth understanding of facility and processes • Training essential for the inspectors • Close cooperation with the operator is needed (not always feasible) 	<ul style="list-style-type: none"> • Appropriate for any size company where the goal is to identify and address process-related causes of non-compliance
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5.2.2. Preparation of site visit: Inspection of BAT

Since integrated inspections require greater coordination with the company's staff, it may be necessary to notify the company in advance of an impending integrated inspection, whereas a single-medium inspection may proceed unannounced. The inspector has to meet experts from various departments of the company such as:

- Environmental waste management
- Process engineering
- Facility maintenance
- Operation and production
- Safety and health
- Research and development
- Quality control
- Purchasing/inventory
- Storage.

5.2.2.1. Setting priorities

Inspection of IED facilities shall follow a clear pattern in order to avoid wasting of time and resources; therefore those facilities have to be inspected first which according to their size and potential emissions of "key" pollutants can endanger the quality of existing/envisaged environmental standards.

In doing so, the already issued IED permits in Macedonia have to be examined in order to assess which installations have to be visited first and which pollutants have to be identified. Then the relevant BAT and the associated ELV will be examined.

Main inputs to this first “screening” of IED installations and BATs are a) any records from monitoring stations (ambient air, water recipients) in the area where the installation is located which can have eventually revealed any potential for the emission of harmful substances from relevant installations (i.e. seasonal or permanent increase of pollutants concentration after the installation has been operational) and b) the qualitative/quantitative conditions prescribed in the issued environmental permit.

Some basic questions which can help prioritising which installations have to be inspected first are as follows:

There are some basic questions to be answered which can give some hints to the inspector in his preparatory activities to conduct a plant survey for the assessment of BAT namely:

- What significant waste streams are generated by the plant? How much waste is generated?
- Why are these considered as "waste"?
- From which processes or operations do these waste streams originate?
- What is the production rate of each waste stream?
- Which wastes are hazardous and which are not? What makes them hazardous?
- How are the wastes managed at present?
- What are the input materials used that generate the waste streams of a particular process or plant area?
- How efficient is the process (How much input material is used in a process)?
- What types of process controls are used to improve process efficiency?
- Are unnecessary wastes generated by mixing otherwise recyclable or recoverable hazardous wastes with other process wastes?

Additionally some qualitative considerations about the environmental media can round up the picture about the priorities for inspections such as:

Local environment	Question	Response (YES/NO)
Air quality	Are there any Environmental Quality Standards relating to substances released from the installation which may be at risk due to additional contribution from the installation?	
	Are there any sensitive groups of population e.g. schools or hospitals?	
Water quality	Are there any Environmental Quality Standards relating to substances released from the installation which may be at risk due to additional contribution from the installation?	
	Is the installation located in a groundwater vulnerable zone?	
	Are groundwater reservoirs used for drinking water	

Local environment	Question	Response (YES/NO)
	uptake in the area which can be affected from the installation's activities?	
Soil conditions	Are there any sensitive agricultural areas or wildlife habitats, e.g. Special Areas of Conservation, or Special Protection Areas, likely to be affected by releases from the installation?	
	Are there any controlled/ uncontrolled landfills which will be used for disposal of solid wastes from the installation?	
Incidents/complaints	Are there any records of complaints from the local population about adverse environmental effects (e.g. odors, water pollution etc.)?	

This preliminary information allows defining:

- Which IED installations have to be inspected first and
- Which unit operation (UO) and the corresponding BAT (within each IED installation) needs further investigation (as potential major pollution source).

5.2.2.2. Review of existing information

It shall be obvious that the preparation of the site visit is almost of the same importance as the visit itself because it allows the inspector to be prepared for it and ask targeted questions and inspect specific spots in the factory without losing too much time. Therefore the inspector has to be acquainted with

Information to be reviewed prior to the site visit for BAT assessment can be:

1. Permit(s) or other types of authorisation of the installation and details of the application process including site reports, self-monitoring programme, EMAS, and mass balance information
2. The permit application submitted by the operator to the IPPC/IED Department where the features of each BAT are described in details
3. Reports already submitted from the operator to the authorities on regular basis (e.g. self-monitoring report)
4. Technical literature: existing process techniques, industry best practice, related BREFs, equipment used in the treatment process, equipment for pollution control and monitoring, analytical methods for pollutants identification
5. New or changed regulations of relevance to the installation
6. Technical drawings of the installation
7. Site map and location map of the installation
8. Description of changes in the process or installation modification that are proposed or have been implemented

9. Process flow diagram for the installation. The site management may be asked to provide a process flow diagram showing the main process unit operations, inputs and outputs
10. Letters, reports, correspondence from previous inspections, including non-compliance and follow-up actions taken
11. Seasonal or other circumstantial differences that are of importance for the outcome of the visit
12. Earlier incidents and complaints
13. Aspects of the installation which have not been thoroughly investigated during a previous inspection
14. Research reports and environmental reports associated with the installation's operation
15. Name of the responsible manager and of the person in charge for environmental affairs.

The result of this pre-screening of available information will be the **correlation of priority pollutants with the relevant BATs** which have to be inspected first.

5.2.2.3. General documentation

The inspector has to prepare in advance (before the site visit) a general set of templates to be filled in during the site visit which practically summarise the findings of the on-site inspection. The can be further modified, if needed, in order to include any additional information the inspector thinks is important.

5.2.2.4. Assessment of relevant information in applicable BREFs

The BREFs that are relevant for the installation to be inspected must be selected in the preparation phase from the list that can be found in the website of the European IPPC Bureau (EIPPCB, <http://eippcb.jrc.ec.europa.eu/>). Under the subtitle Reference Documents is presented the list of 32 BREFs and Reference Documents (REFs), which can be downloaded. The status of the available documents (adopted, formal draft, meeting report) and the date of adoption are given in the table. The colour of the BREF in the table indicates if the BREF has been planned, started, drafted, sent to the IED Article 13 Forum or formally adopted by the European Commission. From 2012 the BAT conclusions that are drawn up under the (new) IED legislation are published in a separate document besides the BREF. If a BREF is (still) under reconstruction the BAT from the existing BREF should be used.

The checklists that are drawn up in the preparation phase must contain the BAT that are relevant for the process units of the plant that is inspected. In a number of cases Emission Levels are associated to a specific BAT. (BAT-Associated Emissions Levels – BAT-AELs). Also the monitoring of emissions and/or other relevant process parameters on a regular basis is established in the BAT conclusions. Mostly in a separate (general) BAT but sometimes directly associated with an individual BAT.

STRUCTURE AND RELEVANT INFO INCLUDED IN BAT CONCLUSIONS AND BREFS

BAT: General Considerations

BAT conclusions generally start with an oversight of the scope of the document, the other

(horizontal) BREFs that are relevant for the sector, definitions (new plant, existing plant etc.) and general considerations like averaging periods for air emission measurements and water discharges and BAT-AEL. These general considerations also define reference conditions for air emissions, conversion to reference oxygen concentration and other conversion factors that are used in the specific industrial sector and definitions for certain air pollutants. It is important for an inspector to have a good knowledge of these considerations in order to be able to make a good judgment of measurement- and other environmental data.

General BAT Conclusions

After the General Considerations General BAT conclusions for the industrial sector are established, followed by the specific BAT conclusions for each industry. In some BREFs that were started under IPPC rule but after 2010 were transferred to IED rule (e.g. cement and lime, pulp and paper and glass industry) this division can be different but the elements are present albeit in other chapters.

The General BAT conclusions prescribe the implementation of an Environmental Management System, monitoring, BAT for energy efficiency, prevention of diffuse emissions, prevention of waste generation, material handling, noise abatement and decommissioning. These BAT have the same structure in most BREFs with sometimes specific issues for the sector added. Examples of such BAT are given in the Annex 5.

Environmental Management Systems

Chapter 3.3.2.9 of this manual already describes how an inspector should deal with an EMS.

Monitoring

General BAT on monitoring are given in most BREFs and in the Reference Document on Monitoring. The elements that must be considered are process parameters (emissions, energy output, noise, waste production), applicability, points of measurement and monitoring frequency).

Energy Efficiency

The BREF on Energy Efficiency is applicable. BAT to enhance energy efficiency are also present in all BREFs and contain specific measures for different industrial sectors. Results should be visible in energy consumption data over the last years in relation to the production.

Diffuse emissions

General BAT for the prevention of diffuse emissions are given in most BREFs. These BAT prescribe measures with regard to materials storage and handling and transport of raw materials and (intermediate) products. Dust and volatile organic compounds are the most common groups of products for the abatement of diffuse and fugitive emissions. In some industrial sectors, (cement and lime, oil and gas refineries, iron and steel industry) diffuse emissions are a very important part of the total emissions in the environment. The applicable horizontal BREF is the **BREF on Emissions from Storage**.

Waste Treatment and Waste Incineration

General BAT conclusions also contain BAT for (the prevention of) waste generation and BAT for waste management and/or waste management systems. In some BREFs (e.g. iron and steel) these BAT can be found under Material management and Management of process residues like by-products and waste. The horizontal **BREFs on Waste Treatment** and (in some cases) **Waste Incineration** are applicable.

Decommissioning and Noise Abatement

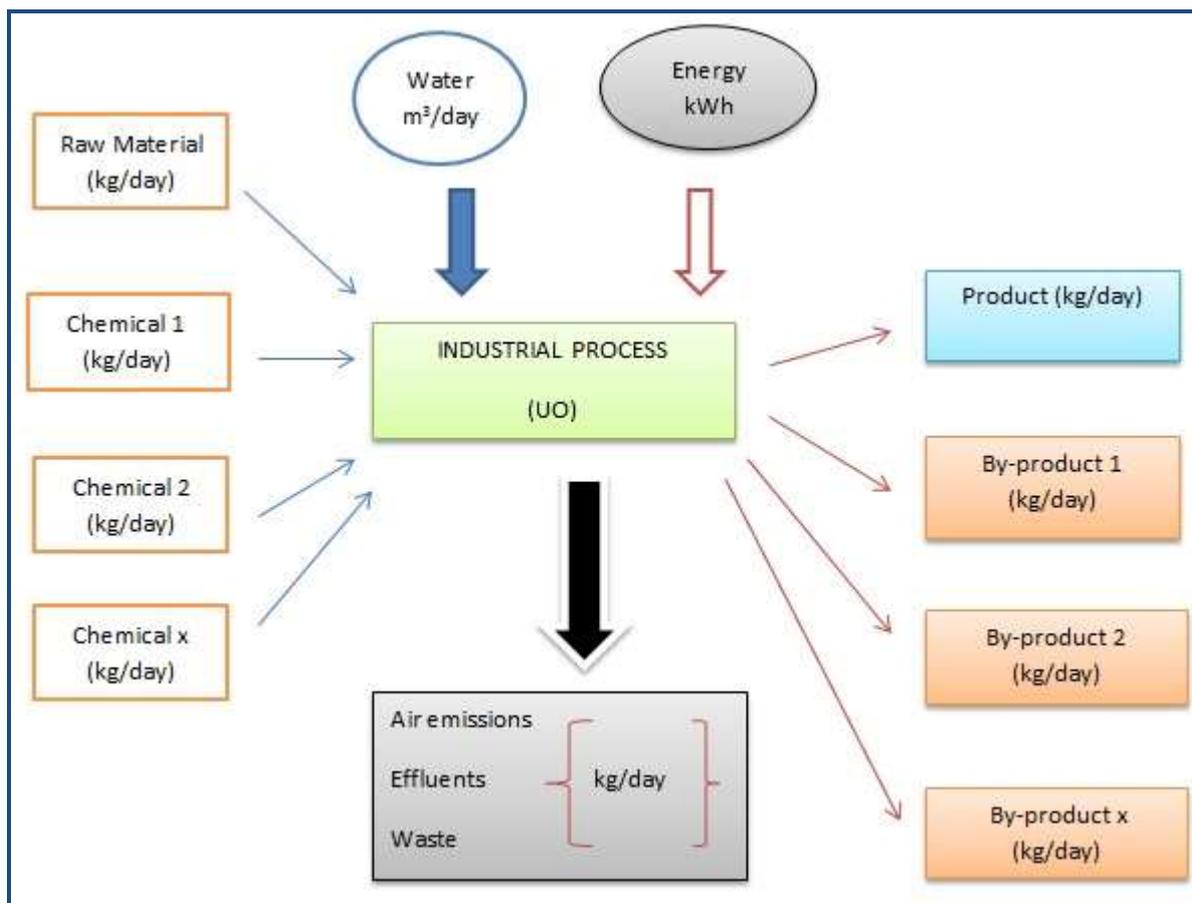
In all BREFs general BAT about decommissioning and noise abatement are included. Avoiding nuisance, protection of soil and other structures in the process of dismantling of installations and decontamination of polluted surfaces are the most important elements of decommissioning. For noise abatement the local conditions are important . In many cases an enterprise must establish a noise reduction strategy to comply with the national standards.

5.2.2.5. Mass balance

For each UO and the corresponding BAT a major tool to understand how an industrial unit operation is functioning is **the mass balance analysis**. A mass balance flow will allow the definition of quantities which leave the production process as a pollution stream (air emissions, effluents, waste).

In any case the use of the mass balance method has the potential of highest use when the amounts of the substances (input, output, emissions) can be readily quantified over a defined period of time.

Care must be taken when using mass balances, since although they seem a straightforward method of emission estimation, the uncertainties involved must be well known. Therefore, mass balances are only applicable in practice when accurate input, output and uncertainties (about quantities) can be determined. Inaccuracies associated with individual material tracking, or other activities inherent in each material handling stage, can result in large deviations for total facility emissions.



Example:

$$\begin{aligned} \text{Total inputs} &= \text{mass}_{\text{raw material}} + \text{mass}_{\text{chemical 1}} + \text{mass}_{\text{chemical 2}} + \text{mass}_{\text{water}} \\ \text{kg/day} &= 10,000 + 500 + 300 + 1,000 \\ &= 11,800 \text{ kg/day} \end{aligned}$$

$$\begin{aligned} \text{Total outputs} &= \text{mass}_{\text{product}} + \text{mass}_{\text{by-product1}} + \text{mass}_{\text{by-product2}} + \text{mass}_{\text{wastewater}} \\ \text{kg/day} &= 8,000 + 300 + 100 + 800 \\ &= 9,200 \text{ kg/day} \end{aligned}$$

Total quantity of pollutants (air emissions, effluents, waste) produced:

$$\text{Total inputs} - \text{total outputs} = 11,800 - 9,200 = 2,600 \text{ kg/day}$$

On the basis of the mass balance analysis it is feasible to estimate to a rather accurate extent the quantities of emissions/discharges which enter any pollution abatement device (i.e. treatment systems for air and/or water pollutants) as well as the waste quantities generated from each BAT (introduced in each UO).

5.2.2.6. Assessment of pollutants

The mass balance analysis and its results allow a first insight into the quantities of pollutants reaching the pollution abatement systems; the quantities should match those mentioned in the technical/environmental prescriptions stated in each BAT technical specifications.

An overview/summary of each pollutant (non-exhaustive list) is given in the end of Annex 4 to this manual (template for general inspection checklist) where the inspector has to fill in

the relevant figures: the quantities before treatment (BT) can be estimated from the BAT prescriptions whereas the quantities after treatment (AT) are those mentioned in the self-monitoring report of the operator (submitted to the IPPC/IED Department). In case that in each treatment system emissions/effluents from more than 1 BAT are transferred then the AT-figures (cumulative for each pollutant) have to be split up for each BAT.

These tables comprise the “reference” for the site visit: theoretically the BT- figures should match each BAT’s technical prescriptions and the AT-figures the results shown in the annual self-monitoring report. During the site visit any “cross-checking” sampling results (samples to be taken by the inspector) will modify the “theoretical” figures.

5.2.2.7. *BAT process assessment*

An analysis of the basic features of each BAT has to be accomplished in terms of:

- Equipment used for the production
- Quality/quantities of raw materials and chemicals
- Water quantity used in the process (industrial water)
- Energy input and types of energy sources used.

As basic tools for this analysis **the mass balance flow, the equipment’s technical specifications** (provided by the manufacturer) and **literature references** (including BREFs) should be taken into consideration since they are somehow inter-linked:

- Mass balance —————> management of materials as a whole
- Equipment’s technical specifications —————> assessment of energy/water use
- Literature citations —————> additional information on pollutants

Concerning inputs/outputs:

Which inputs should be assessed?

- Raw materials (ton/day)
- Chemicals/other additives (kg/ton of raw material)
- Water consumption (m³/day)
- Energy usage (kWh/day)

Which outputs should be assessed?

- Air emissions (mg/Nm³)
- Wastewater (effluents) discharges (kg/ton of raw material or mg/l)
- Waste (kg/ton)
- Products (ton/day)
- By-products (ton/day)

A general checklist (table “topic 8” of the horizontal BAT checklist in Annex 5 about BAT installation/operation has to be prepared and verified during the site visit where the operator has to answer the relevant questions.

The proportion of inputs/outputs to the production figures (raw materials, chemicals used) has also to be prepared in order to assess to which extent the resource use is in line with the figures prescribed in the BREF and/or the IED permit (table “topic 7” of the horizontal BAT checklist in Annex 5).

5.2.2.8. Before embarking for the site visit

1. Map the spots to be checked in the installation: emission points, fugitive emission sources, energy production facilities, storage sites, raw material handling systems (loading/unloading devices, feeding systems, chemical handling), waste collection and disposal points;
2. Select the team for the site visit and assign roles;
3. Discuss and prepare the site visit programme with the team;
4. Inform the operator about the visit, ask for the availability of the necessary documents and draw up a common agenda/programme;
5. Get all documentation (checklists, tables, questionnaires) and any sampling and other (e.g. safety) equipment ready.

5.2.3. Execution of site visit

In chapter 3 of this report the general aspects of the execution of environmental inspection are described. In the subchapter 3.2 about the Execution Framework the necessary preconditions, training, equipment, authorization and competences, cooperation issues and the different approaches for routine and non-routine inspections are described. In subchapter 3.3, Executing and Reporting, all general aspects of the preparation, execution, reporting and follow-up of an inspection site visit are comprehensively described.

For the purpose of the execution of site visits in the process of the inspection of the application of the Best Available Techniques in an IPPC/IED installation these aspects will be further elaborated in this subchapter.

In section 5.2.1 the preparation of site visits with the aim of the inspection on the application of BAT was described. The checklists that were used in this phase based are the starting point for the investigation. A general checklist for the execution of the site visits is given in the Annex 4. This checklist is drawn up for the inspection of the general BAT in a BREF and other BAT that are applicable from the so-called horizontal BREFs and the two (IED) Reference Documents.

As stated before, horizontal BREFs are BREFs that are not specific for a certain industry but must be used in most branches, as opposed to vertical (sector specific) BREFs. The horizontal BREFs are:

- Common Waste Water and Waste Gas Treatment
- Waste Treatment
- Industrial Cooling Systems

- Waste incineration
- Emissions from Storage
- Surface Treatment of Metals and Plastics
- Surface treatment using Organic Solvents
- Energy Efficiency
- Large Combustion Plants

Besides the horizontal BREFs there are two so called Reference Documents (REFs) that are also not branch specific:

- Monitoring of Emissions from IED Installations
- Economics and Cross Media Effects

Checklists for site visit inspection of specific BAT that belong to certain vertical BREFs have been developed and are available at SEI's website. They are annexes to the corresponding sector factsheets listed in Annex 6.

The correct implementation of the general and specific BAT that are associated with the installation under inspection must be examined by physical inspection about the presence and good performance of the (environmental) equipment and systems like management plans, by the control of the results of self-monitoring by the operator and by taking samples, as already described in the chapters 3.3.2.8 and 3.3.2.10 of this manual. Interviews with the operator following the checklists from the preparation phase for the site visit, visual inspection on the spot and if possible and necessary sampling of specific material are the instruments used by the inspector. As measurements by third parties for control purposes are not (yet) standard in Macedonia, predictive emission monitoring systems can be an important aid.

5.2.3.1. Inspection methods

Besides visual inspection and interviews with the operator, inspection of specific BAT-AELs must be performed by control of emission logbooks from the operator self-monitoring as well as by calculations of emissions based on use of chemicals and fuel, (e.g. based on the sulphur content of fuels) and by taking samples for analysis.

Instead of direct emission measurements also the results of predictive emission monitoring systems may be used, under the conditions that there is a strong and lasting relationship between the parameters measured (or calculated) and the real emissions. If predictive emissions monitoring systems (PEMS) are used (this must be established in the permit) the inspector should have a good knowledge of the practical application and the need for such a system. In most cases there are economic reasons for the use of PEMS. In some cases PEMS can be relatively simple by performing and combining measurement of relevant process parameters; in other cases it relies on advanced mathematical models.

Examples of PEMS are:

- Emission monitoring in gas turbines (NO_x emissions; continuous measurement of a set of emission relevant parameters coupled to established emission characteristics)
- Pressure drop monitoring in fabric filters (dust emissions)
- S-content in fuels.

5.2.4. Reporting after the site visit and follow up measures

The current practice in the Republic of Macedonia related to reporting after the site visit and follow-up measures is described in section 3.3.3.

In the text and subsections that follow (5.2.4.1 – 5.2.4.4) are discussed the EU best practices in relation to reporting after the site visit and follow-up measures.

The Final Inspection Report of the in-situ inspection is the closure of the inspection cycle and represents the basis for any subsequent conformity assessment and thus also for any subsequent action of fees and sanction.

The report aims to provide information about:

- The compliance with the conditions of the A-IPPC Permit and among them: the regularity of the self-monitoring obligations by the operator, with particular reference to the regularity of measures and pollution prevention equipment as well the compliance with the emission limit values;
- The state of implementation of BAT;
- Feedback to the permit writer for the improvement of the authorization;
- Compliance promotion actions.

EU legal basis establishing the need and contents for the environmental inspection report

DIRECTIVE 2010/75/EU on industrial emissions

Article 23: Environmental inspections

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

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

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

Recommendation of the European Parliament and of the Council of 4 April 2001 providing for minimum criteria for environmental inspections in the Member States

(331/2001)

VI Reports and conclusions following site visits

1. Member States should ensure that after every site visit the inspecting authorities process or store, in identifiable form and in data files, the inspection data and their findings as to compliance with EC legal requirements, an evaluation thereof and a conclusion on whether any further action should follow, such as enforcement proceedings, including sanctions, the issuing of a new or revised authorisation, permit or licence or follow-up inspection activities, including further site visits. Reports should be finalised as soon as possible.

2. Member States should ensure that such reports are properly recorded in writing and maintained in a readily accessible database. The full reports, and wherever this is not practicable the conclusions of such reports, should be communicated to the operator of the controlled installation in question according to Directive 90/313/EEC; these reports should be publicly available within two months of the inspection taking place.

5.2.4.1. Step by step preparation of the Final Inspection Report (according to EU best practices)

After each site visit, the inspector or leader of the Inspection Team shall prepare a Final Inspection Report describing the relevant findings of the inspection activities.

The report has to be drawn up **following the template in Annex 7**. It represents a **Step by Step guidance** for the drafting of the Final Inspection Report; it describes the minimum content and information to be included in each of the chapters.

The Final Inspection Report should contain at least:

- Situations of non-compliance;
- Proposed corrective actions to comply with requirements;
- Status of BAT application;
- Amendments to the self monitoring plan of the company;
- Comments on the self-monitoring report data;
- Suggestions to the permit writer about improvements to the permit;
- Suggestion to the operator for the improvement of "environmental performance".

The Final Inspection Report should also include the sampling reports (in case these activities have been performed by means of external laboratories), as well as all the laboratory certificates with the results of performed analyses.

Analytical data (from sampling) should be evaluated, interpreted and compared with the data of the annual self-monitoring reports, in order to verify the compliance.

The Final Inspection Report has to be signed by each member of the Inspection Team and has to be notified to the operator and the competent authority within two months of the site visit.

The Final Inspection Report has to specify the topics that have been inspected giving reasons for the choice and for any deviation from what was planned, and specifying related resources (hours, inspection staff, hours planning, etc.).

5.2.4.2. Follow up procedures in case of non-compliances (according to EU best practices)

If during the visit the Inspector/Inspection Team determines that a law or other rules have been breached, the irregularities are stated in the Report, defining further necessary corrective actions to comply with conditions and the time period in which the irregularity should be removed.

Based on the results of the Final Inspection Report, the competent authority shall ensure that the operator, within a reasonable time, take all measures it considers necessary, particularly taking into account the proposals in the report.

5.2.4.3. Public availability (according to EU best practices)

The Final Inspection Report is made available to the public within four months of the site visit, by publishing it on the website. Confidential parts should be removed from the version accessible to the public.

5.2.4.4. Storage of the data (according to EU best practices)

At the end of the inspection visit, all the documents collected during the inspection and the final reports should be recorded and stored (in a digital form) in an internal system of document management practices.

In the digital archives at least these information / documents should be stored:

- Inspection visit announcement;
- Minutes of the inspection;
- Documents produced by the company during or after the site visit;
- Final Inspection Report;
- Photographs;
- Decisions/fees.

List of annexes

Annex 1: Flowchart of the environmental inspection procedure

Scope

The following flow chart summarizes the procedure to perform routinary/non routinary environmental in situ inspections, at facilities both subject to IPPC A and B regulations, according to Recommendation 2001/331/EC.

The in situ inspection visit is a key step of the whole process of inspection management, according to the planning of inspections.

The flow chart is organized as follows:

First column

It describes the subsequent steps of the organization of the inspection, divided into 3 main parts:

1. Preparation of the inspection;
2. Execution of the inspection;
3. Reporting.

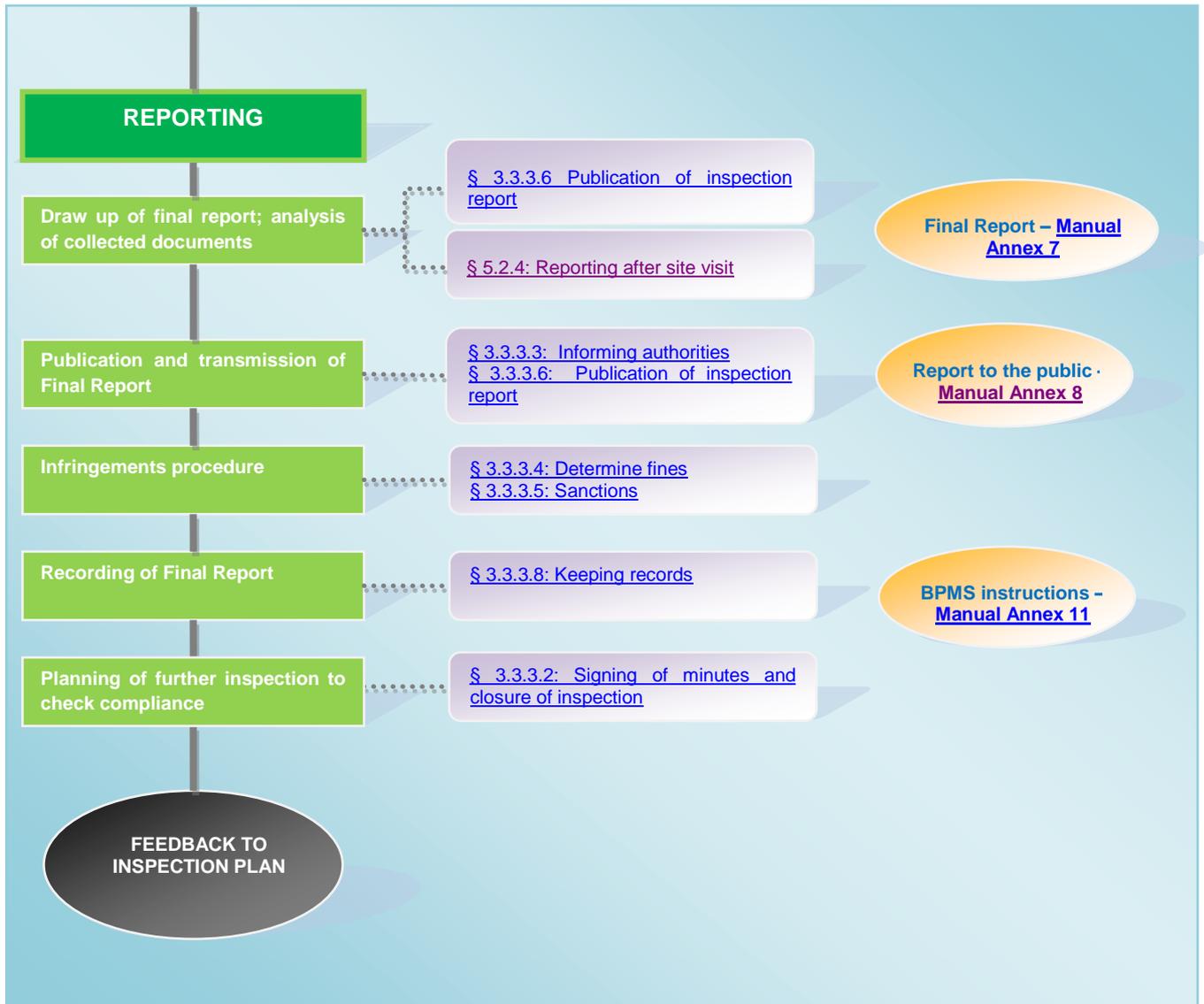
Second column

Each box contains the reference to the “Manual for Planning, Inspection and Enforcement of Environmental Acquis” where a detailed description of the content of the related inspection step can be found.

Third column

In this column all the available templates are indicated, to be used by inspectors during specific steps of the inspections. Actually, some of them are not already developed at the time of drafting of this flowchart (November 2015), but will be provided in the coming months.





Annex 2: Template for the announcement of the inspection visit

{Contact}

{Contact Phone}

{File Reference}

{Date}

{Operator}

{Address}

{Postcode} {Municipality}

Notice of Inspection

Dear {insert name of the manager}

In accordance to the article ____ of the Law on Environment (“Official Gazette of RM no.53/05,81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11 and 123/12”) and the article ____ of the Law for Inspection on Environment Inspection (“Official Gazette of RM no. nn/yy”), a (routine/non routine/) inspection will be performed on {insert date} by the inspectors {insert name of the inspectors}.

In accordance to the article 205 (1) of the Law on Environment (“Official Gazette of RM no.53/05,81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11 and 123/12”) and the article ____ of the Law for Inspection on Environment (“Official Gazette of RM no. nn/yy”), the inspectors have the right to access where they consider as necessary, at any time, in areas and business premises in public and private ownership, locations and transport means and shall be entitled to review without any interruptions the overall required documentation of the legal or natural person.

In accordance to the article 205-a (1) and (2) of the Law on Environment (“Official Gazette of RM no.53/05,81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11 and 123/12”) and the article ____ of the Law for Inspection on Environment (“Official Gazette of RM no. nn/yy”), any person in your premises shall during the performance of the inspection supervision and upon request by the inspector, identify herself/himself and provide the personal data and shall provide accurate data and make available to the inspector all required information and documents necessary for the inspection supervision performance.

If you have any questions about the content of this notice, please contact {insert title and contact details of State Environmental Inspectorate / relevant unit at the municipality}.

Yours sincerely,

{signature and name of the officer}

Annex 3: Template for an inspection agenda

AGENDA FOR THE INSPECTION

Name of the company

Data of the inspection

n. of IPPC A/B permit

This Agenda for the inspection defines and plans the in situ activities; it defines the type of investigations to be performed (identification of key environmental issues) and how to investigate the defined topics (administrative or technical check by means of direct inspection on the plant). The Agenda is delivered to members of the inspection team and the operator during the preliminary meeting .

Composition of Inspection Group

The Inspection Group (IG) is composed of the following technical officials :

Name – Administration (Leader of the IG)

Name – Administration

xxx

xxx

Timing and execution of the inspection

The inspection will be conducted according to the following program:

Day/month/year

	Subject	Activities	Time	Who / Staff needed
Step 1	Opening meeting	Presentation of the Agenda and the inspection team Presentation and current status of the plant (production capacity and planimetry to check differences with the authorized layout) by the Operator	9.00	IG Leader Legal responsible of the plant Representative of the plant in charge of environmental issues
Step 2	Administrative inspection	xxxxx	11.00	xxx

Step 3	Site visit	Check BAT Application	12.00	Representative of the plant in charge of environmental issues
Lunch 13.30 -14.30				
Step 4	Site visit	Waste storage	14.30	Representative of the plant in charge of environmental issues
Step 5	Site visit	Water treatment plant	15.00	Representative of the plant in charge of environmental issues
<i>Step xxx</i>	<i>xxx</i>	<i>xxx</i>	<i>xxx</i>	<i>xxx</i>
Step xx	Minutes of the inspection	Drafting and projecting the minutes of the inspection.	16.00	Legal responsible of the plant
Step xx	Conclusive meeting	Conclusions	17.30	Legal responsible of the plant Representative of the plant in charge of environmental issues

Documents to be prepared by the operator

- Updated planimetry of the plant, indicating:
 - Water discharge points
 - Air emissions points
 - Waste storage areas
 - *xxxxxx;*
- Environmental Management System certificate.
- Analysis certificate provided by certified laboratory of last monitoring analysis.
- Communication to Competent Authority related to Incidents.
- *xxxxx.*



STATE ENVIRONMENTAL
INSPECTORATE OF
REPUBLIC OF MACEDONIA

Annex 4: Template for general inspection checklist

ENVIRONMENTAL INSPECTION ACCORDING TO ART. 32 OF LAW ON INSPECTION SUPERVISION

INSTALLATION: *name, A/B IPPC code, town, location*

CHECKLIST – **NON/ROUTINARY/CONTROL** INSPECTION

A/B-IPPC PERMIT NUMBER XXXXX

*Issued on xxxx, according to the **Law of Environment (part XII)***



PURPOSE OF THIS DOCUMENT:

The following checklist is a template that can be used by inspectors to prepare their own checklist during the preparation of the inspection. As a help for such preparation, the inspector can use the complementary checklist about Horizontal (applicable to a wide range of installations) Best Available Techniques (BAT), by extracting those parts of it which are relevant for the installation that will be inspected, and include them in this template of checklist.

This template of checklist is meant to provide a structure for a homogeneous definition of inspection checklists.

The present checklist includes the following boxes, providing examples of relevant topics to be checked:

GENERAL DATA

General elements of management

Communication duties

SECTORIAL TOPICS

Air emissions

Noise and vibration

Waste water

Soil and groundwater

Waste

LIST OF POLLUTANTS TO BE ASSESSED

GENERAL DATA

Date of Inspection	
Type of Inspection	<input type="checkbox"/> Routinary <input type="checkbox"/> Non Routinary <input type="checkbox"/> Control (follow-up)
Field of inspection	<input type="checkbox"/> Integrated (all environmental impacts checked) <input type="checkbox"/> Partial (specify laws checked)
Name of Company	
Location of the plant	
Legal address	
Industrial activity¹⁰	
Permit (number, date and title)	
Permit holder	
Telephone	
E-mail	
Contact person for integrated permit-related issues	
Representative competent authority	

¹⁰ Define the kind and code of industrial activity according to the Annex I and II of the Ordinance 89/05

ADMINISTRATIVE ORGANISATION / INTERNAL CONTROL

TOPIC: GENERAL ELEMENTS OF MANAGEMENT				
Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
Presentation of the current state of the plant by the operator by means of layout and drawings			Check whether any modification of the plant occurred which has not been authorized. Check areas of storage and emission points.	
Environmental Management System (EMS)			Check the implementation of a structured EMS. In case the installation is EMAS or ISO14001, check validity of the certificate. Interview with operator to assess the application of the procedures	
Training of personnel			Check the existence of an internal Training Plan on environmental topics (relevant to the installation)	
Management of accidents/incidents			Check how incidents have been managed: procedures in place, register of events, follow-up actions to repair/correct	
Register of Maintenance			Check the presence of a Register where the operator takes note of maintenance services occurred in the plant.	
xxxx				
xxxx				

TOPIC: COMMUNICATION DUTIES

Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
Self-monitoring report			Check the correct delivery to the Competent Authority of the self-monitoring report. Check results of the monitoring.	
Incidents/Emission Limit Values (ELVs)			Check if the operator communicates incidents and exceedances of ELVs to the competent authority	
Installation changes			Check that the operator asked for authorization for making changes to the installation, as specified in legislation.	
xxxx				

SECTORIAL TOPICS

TOPIC: AIR EMISSIONS				
Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
Pollution abatement systems			Air emissions collection Air emissions treatment	
Pollution abatement systems			Concentration and quantity of contaminants before and after the treatment. Duration of operation daily/annually (h)	
Air emission continuous monitoring			Check the programme of maintenance and calibration of the air emission measurements equipment	
Sampling points			Check correctness of sampling points according to EU standards	
Dust				
Odour				
Greenhouse gases				
xxxx				

TOPIC: NOISE AND VIBRATION

Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
XXXX				
XXXX				

TOPIC: WASTE WATER				
Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
Pollution abatement systems			Concentration and quantity of contaminants before and after the treatment. Wastewater quantity (m ³ /day)	
xxxx				

TOPIC: SOIL AND GROUNDWATER

Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
Rainwater		<p>(BREF “Common Waste Water and Waste Gas Treatment/ Management Systems in the Chemical Sector”)</p> <p>Process water should be segregated from rainwater and other water effluent, to allow reuse or recycling, as well as to minimise the amount of waste water which requires treatment, the installation of a roof over certain process areas, loading and unloading bays, etc.</p> <p>Prevention of uncontrolled effluents from the site, such as contaminated rainwater.</p> <p>Rainwater from production areas is collected either in sumps on the spot or in other central facilities (e.g. emergency storage tanks or lagoons) to allow inspection and then a decision is to be made on whether to discharge it directly to the receiving water or to a waste water treatment facility.</p>	Existence of systems to separate and treat first flush rainwater from later rainfall	
Tank bunds		<p>(BREF “Emissions from Storage”)</p> <p>Design a tank farm bund (or dike) to contain large spills, such as that caused by a shell rupture or a large overflow. The bund consists of a wall around the outside of the tank (or tanks) to contain any product in the unlikely event of a spill personnel both on and off-site.</p> <p>The volume is normally sized to accommodate the contents of the largest tank within the bund.</p>	Presence of tank bunds to contain spills from storage tanks and drums of waste, to prevent soil contamination in case of leakage.	

TOPIC: SOIL AND GROUNDWATER

Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed

TOPIC: WASTE				
Topic	What does the permit /National law say	What do the BREFs say	What to check	What has been observed
Storage				
Waste generated			Waste classification (according to national list of waste) Quantity (kg/day) Hazardous / non-hazardous Disposal / Recycling (according to applicable national waste legislation)	
Waste acceptance criteria				

LIST OF POLLUTANTS TO BE ASSESSED¹¹

Air emission pollutants	Waste water pollutants
SO ₂	Organohalogen compounds
Other S compounds	Organophosphorus compounds
NO _x	Organotin compounds
Other N compounds	Substances / mixtures possessing carcinogenic/mutagenic properties
CO	Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances
VOC	CN
Metals	Metals
Metals compounds	Metals compounds
Fine particulate matter	As
Asbestos suspended particulates	As compounds
Asbestos fibres	Biocides
Cl	Suspended solids
Cl compounds	Nitrates
F	Phosphates
F compounds	BOD ₅
As	COD
As compounds	
CN	
Substances / mixtures possessing carcinogenic/ mutagenic properties	
Polychlorinated dibenzodioxins	
Polychlorinated dibenzofurans	

¹¹ This list is not meant to be exhaustive; it lists common pollutants that it is usually worth to detect.



STATE ENVIRONMENTAL
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Annex 5: Horizontal BATs checklist

ENVIRONMENTAL INSPECTION ACCORDING TO ART. 32 OF LAW ON INSPECTION SUPERVISION

INSTALLATION: *name, A/B IPPC code, town, location*

CHECKLIST – HORIZONTAL BREFs & BAT INSPECTION

A/B-IPPC PERMIT NUMBER XXXXX

Issued on xxxx, according to the **Law of Environment (part XII)**



PURPOSE OF THIS DOCUMENT:

The aim of this document is to cover a set of topics to be checked during an inspection, applicable to the majority of IED¹² plants. It can be both used as a tool during the preparation phase and during the inspection visit.

It is recommended that, when preparing the inspection and checking the permit and other relevant documents, the inspector goes through this document, selecting those parts which are relevant to the installation to be inspected, and includes them in the general checklist template that complements this document, as part of the preparation of his/her own checklist (he/she will have to add as well other aspects specific to the permit, kind of installation, or installation itself).

One added value of such a checklist is to give the opportunity to the inspector to become more familiar with BAT Reference Documents (BREFs), in order to be able to go through those documents and have a better knowledge of BAT (Best Available Techniques); the increased comprehension of processes allows the inspector to be more active when suggesting permit improvements to the permit writer and when discussing with the operator about BAT applicability.

The following checklist focuses on some of the general requirements (most of them BATs) included in “vertical” (sectorial) BREFs, and in the following “horizontal” BREFs (applicable to many different kinds of installations)¹³:

- Energy efficiency (February 2009)
- Common waste water and waste gas treatment / management systems in the chemical sector (February 2003)
- Emissions from storage (July 2006)
- JRC Reference document on Monitoring of Emissions from IED installations. (October 2013)¹⁴

The checklist is not considered to be exhaustive of the above mentioned BREFs’ contents. The present checklist includes the following boxes:

- General data
- Topic 1: Storage and handling
- Topic 2: Emissions from storage
- Topic 3: Energy efficiency

¹² IED = Directive 2010/75/EU on Industrial Emissions

¹³ All BREFs are available in English in <http://eippcb.jrc.ec.europa.eu/reference/>

¹⁴ The still applicable version of this reference document on monitoring dates from 2003 and is very outdated. The new version that will replace it (expected to come soon) will not be very different from the final draft of October 2013, so it is better to take this final draft as the reference in this check list.

- Topic 4: Common waste water and waste gas treatment / management systems in the chemical sector
- Topic 5: Monitoring
- Topic 6: Environmental management system
- Topic 7: Resource management
- Topic 8: Check of adequate BAT process management

GENERAL DATA

Date of Inspection	
Type of Inspection	<input type="checkbox"/> Routinary <input type="checkbox"/> Non Routinary <input type="checkbox"/> Control (follow-up)
Field of inspection	<input type="checkbox"/> Integrated (all environmental impacts checked) <input type="checkbox"/> Partial (specify laws checked)
Name of Company	
Location of the plant	
Legal address	
Industrial activity¹⁵	
Permit (number, date and title)	
Permit holder	
Telephone	
E-mail	
Contact person for integrated permit-related issues	
Representative competent authority	

¹⁵ Define the kind and code of industrial activity according to the Annex I and II of the Ordinance 89/05

HORIZONTAL TOPICS

TOPIC 1: STORAGE AND HANDLING				
Ref. to the BREF	Topic	BAT	What to check	What has been observed
BREF: Waste treatment industries BAT n.24 b) Pag.518	Storage and handling	Ensuring that the storage area drainage infrastructure can contain all possible contaminated run-off and that drainage from incompatible wastes cannot come into contact with each other	Check the separation among wastes with different properties; check if rainwater can produce a leakage of the waste; check the drainage infrastructure. Check whether any hazardous wastes are stored properly (safety regulations)	
BREF: Waste treatment industries BAT n.48 Pag.521	Storage and handling	Collect the rainwater in a special basin for checking, treatment if contaminated and further use.	Check the separation among wastes with different properties; check if rainwater can produce a leakage of the waste.	
BREF: Waste treatment industries BAT n.24 d) Pag.518	Storage and handling	Handling odorous materials in fully enclosed or suitably abated vessels and storing them in enclosed buildings connected to abatement.	Check from the yearly report the presence of odorous wastes; check how they are stored.	
BREF: Waste treatment industries BAT n.24 g) Pag.519	Storage and handling	Equipping tanks and vessels with suitable abatement systems when volatile emissions may be generated, together with level meters and alarms.	Check from the yearly report the presence of waste that can produce volatile emissions; check how they are stored and the presence of abatement systems.	
BREF: Waste treatment	Storage and handling	Have a waste management plan	Check if they have procedures to manage existing waste streams; check if they maximize the re-use of generated waste (i.e.	

TOPIC 1: STORAGE AND HANDLING

Ref. to the BREF	Topic	BAT	What to check	What has been observed
industries BAT n.57 Pag.522			separation of waste streams, transport to waste recycling centers)	
BREF: Production of Cement, Lime and Magnesium Oxide	Emissions from storage	BATs 13, 14 and 15	Applied BATs and other measures prescribed in permit	
BREF: Iron and Steel Production	Emissions from storage	BATs 6,7,8,9,10 and 11	Applied BATs and other measures prescribed in permit	
BREF: Non ferrous metals industries	Emissions from storage	BATs 6 and 7 (table in BAT 7)	Applied BATs and other measures prescribed in permit	
BREF: Intensive rearing of poultry and pigs	Emissions from storage	BATs 2,3,8,9,27,28,29 and 44	Applied BATs and other measures prescribed in permit	
BREF: Ceramics	Emissions from storage	BATs stated under ch.5.1.3.1b P205 See also ch. 4.2.2	Applied BATs and other measures prescribed in permit	
BREF: Common Waste Water and Waste Gas Treatment	Emissions from storage	BATs 9 and 21	Applied BATs and other measures prescribed in permit	
BREF: Ferrous metals	Emissions from storage	No general BATs for prevention of emission from storage	Eventual prescriptions in permit (e.g.good housekeeping)	

TOPIC 1: STORAGE AND HANDLING

Ref. to the BREF	Topic	BAT	What to check	What has been observed
processing				

TOPIC 2: BREF "EMISSIONS FROM STORAGE" (JULY 2006)

Ref. to the BREF: EMISSIONS FROM STORAGE	Topic	BAT	What to check	What has been observed
Pag. 265/267	Liquid storage: soil protection around tanks	<p>Provide secondary containment to aboveground and underground tanks containing flammable liquids or liquids that pose a risk for significant soil pollution or a significant pollution of adjacent watercourses.</p> <p>Install a liquid-tight reservoir that can contain all or a part of the dangerous liquids stored.</p>	Check which secondary containment measures has been applied by operator (double wall tanks, monitored bottom discharge, etc).	
Pag. 267	Storage of packaged dangerous substances	Apply a storage building and/or an outdoor storage area covered with a roof.	Check where dangerous substances are stored.	
Pag. 270	Transfer and handling of liquids and liquefied gases	For large storage facilities, according to the properties of the products stored, BAT is to apply a leak detection and repair programme.	Check if the operator as a leak detection and repair programme.	
Pag. 274	Storage of solids	BAT is to apply enclosed storage by using, for example, silos, bunkers, hoppers and containers, to eliminate the influence of wind and to prevent the formation of dust by wind.	Check the storage areas of materials likely producing dust.	

TOPIC 2: BREF "EMISSIONS FROM STORAGE" (JULY 2006)

Ref. to the BREF: EMISSIONS FROM STORAGE	Topic	BAT	What to check	What has been observed
Pag. 274	Open storage of solids	BAT for open storage are: <ul style="list-style-type: none"> - moistening the surface - covering the surface - solidification of the surface - grassing-over of the surface 	Check the measures undertaken by the operator for the avoidance of dust release (e.g. coverage of storage areas)	

TOPIC 3: BREF "ENERGY EFFICIENCY" (FEBRUARY 2009)

Ref. to the BREF: ENERGY EFFICIENCY	Topic	BAT	What to check	What has been observed
BREF Energy efficiency n.3-4 Pag.275	Energy efficiency	Identify the aspects of an installation that influence energy efficiency by carrying out an audit	<p>Check if the operator ever performed an audit.</p> <p>Check the content of the audit:</p> <ul style="list-style-type: none"> - energy-using equipment, and the type and quantity of energy used in the installation; - detected possibilities to minimise energy use and to avoid energy losses - possibilities to use alternative sources or use of energy that is more efficient. 	
BREF Energy efficiency n.8 Pag.277	Energy efficiency	Establish energy efficiency indicators	Check if the operator identified suitable energy efficiency indicators for the installation, and measure their change over time or after the implementation of energy efficiency measures	
BREF Energy efficiency n.15 Pag.281	Energy efficiency	Carry out maintenance at installations to optimise energy efficiency.	<p>Check if the operator applies the following:</p> <ul style="list-style-type: none"> - establishing a structured programme for maintenance - supporting the maintenance programme by appropriate record keeping systems and diagnostic testing 	

TOPIC 4: BREF "COMMON WASTE WATER AND WASTE GAS TREATMENT / MANAGEMENT SYSTEMS IN THE CHEMICAL SECTOR" (FEBRUARY 2003)

Ref. to the BREF: COMMON WASTE...	Topic	BAT	What to check	What has been observed
	Waste water assessment	Checking and identifying relevant water-consuming processes and listing them according to their water usage. The resultant ranking is the basis for improvement of water consumption	Check whether any wastewater/cooling water recirculation systems are applicable.	
Pag. 275	Waste water and waste gas treatments	Treat contaminated waste water/waste gas streams at source in preference to dispersion and subsequent central treatment.	Check if the operator treats or pre-treats the effluents (water, gas) at source (not using a centralized treatment plant).	
Pag. 276	Waste water	Using process water in a recycle mode whenever feasible for economic and quality reasons.	Check if the process foresees recycling measures of the process water.	
Pag. 277	Waste water	Segregate process water from uncontaminated rainwater and other uncontaminated water releases.	Check if the operator takes adequate measures to avoid rainwater to mix with process water.	
Pag. 279	Rainwater	Duct uncontaminated rainwater directly to a receiving water, bypassing the waste water sewerage system. Treat rainwater from contaminated	Check the discharging of rainwater and the possibility to be contaminated. Check whether any possibilities for on-site treatment and reuse of	

TOPIC 4: BREF "COMMON WASTE WATER AND WASTE GAS TREATMENT / MANAGEMENT SYSTEMS IN THE CHEMICAL SECTOR" (FEBRUARY 2003)

Ref. to the BREF: COMMON WASTE...	Topic	BAT	What to check	What has been observed
		areas.	rainwater from contaminated areas can be applied.	
Pag. 293	Waste water discharge	BAT-associated emission levels for final waste water discharge into surface water	Compare the emission values of waste water discharge into surface water with BAT-associated emission levels	

TOPIC 5: MONITORING

Ref. to the BREF	Topic	BAT	What to check	What has been observed
Production of Cement, Lime and Magnesium Oxide	Monitoring	BATs 5, 32 and 55 Monitoring and measurement of process parameters and emissions to be executed in accordance with relevant EN and ISO standards	Measurement procedures (handbooks) and reporting	
Iron and Steel Production	Monitoring	BAT conclusions: BATs 13,14,15 and 16	Stack emissions whenever BAT-associated emission levels are given Direct measurements Indirect measurements Calculations	
Non ferrous metals industries	Monitoring	BATs 3 and 4 Process control and emission monitoring	11 techniques (a-k) as described in table BAT3	
Intensive rearing of poultry and pigs	Monitoring	BATs 11-17	Mass balances and calculations on emissions Logbooks and self monitoring reports	
Ceramics	Monitoring	No BATs, reference to background document on p95	Check monitoring at specific BATs	
Common Waste Water and Waste Gas treatment	Monitoring	BATs 3,4,5, and 6	Monitoring according to the methods and standards given in the BAT (tables)	

Ferrous metals processing	Monitoring	No BATs, BREF is outdated (2001)	Monitoring conditions in permit (if applicable)	
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TOPIC 6: ENVIRONMENTAL MANAGEMENT SYSTEM				
Ref. To the BREF	Topic	BAT	What to check	What has been observed
All BREFs	EMS	Commitment of senior management	Official company documents on the EMS	
All BREFs	EMS	Establishment of environmental policy including continuous improvement of installations by management	Company documents on the EMS and most recent reporting on results	
All BREFs	EMS	Planning, establishing and implementation of necessary procedures, objectives and targets in conjunction with financial planning and investment	Company documents and reports on the EMS about targets and necessary investments	
All BREFs	EMS	Implementation of structure, responsibility, training, communication and documentation	Reports on results of EMS implementation in the company	
All BREFs	EMS	Performance and corrective action, monitoring and measurement and preventive action	How does the system work, how is the monitoring and measurement organized	
All BREFs	EMS	Maintenance of records Independent internal and external auditing	The presence of auditing reports	
All BREFs	EMS	Review EMS by senior management on adequacy and effectiveness	Is a regularly review organized?	
All BREFs	EMS	Following development of cleaner technologies	Presence of knowledge about new developments in the industrial sector	
All BREFs	EMS	Consideration of the environmental impacts of decommissioning during design and operating life	Is relevant information on decommissioning gathered during the design and/or operating life available?	
All BREFs	EMS	Application of sectoral benchmarking on a regular basis	Is the operator aware of the environmental performance of other companies in the sector? What is the knowledg about international norms and standards	
All BREFs	EMS	Independent audits EMS	Is the EMS and audit procedure examined and validated by an accredited certification body or	

TOPIC 6: ENVIRONMENTAL MANAGEMENT SYSTEM				
Ref. To the BREF	Topic	BAT	What to check	What has been observed
			an external EMS verifier?	
All BREFs	EMS	EMAS and EN-ISO 14001:1996	Is there an implementation and adherence to an internationally accepted voluntary system such as EMAS and EN ISO 14001: 1996?	
Large Combustion Plants	EMS	BAT1 sub x	Is there an identification of risk points for fuel to self-ignition and survey accordingly to the fuel storage areas	
Non ferrous metals Industry	EMS	BAT 1 sub j	Is there an action plan on diffuse dust emissions?	
Intensive Rearing of Pigs and Poultry	EMS	BAT 1 sub 10 and 11	Implementation of noise- and odor action plans	
Surface Treatment using Organic Solvents	EMS	BAT 13	Choice of input materials to reduce environmental footprint	
Tanning of Hides and Skins	EMS	BAT 1 sub x	Maintenance of records of the locations on the site where particular process steps are carried out	
Waste incineration	EMS	BAT 56	Preparation of a commissioning program Gap analysis of training requirements Inventory of health and safety needs Availability of up to date documentation regarding the installation Emergency and accident prevention planning	
Wood based Panels Production	EMS	BAT 1 sub X to XIV	Waste management plan Quality control plan Noise management plan Odor management plan Dust management plan	

TOPIC 7: RESOURCE MANAGEMENT ¹⁶			
Topic	Range/values set in the BREFs and BAT Conclusions	What has been observed	Compliance (YES/NO)
INPUTS			
Main raw material (ton/day)			
Chemical (additive) 1 (kg/ton of raw material)			
Chemical (additive) 2 (kg/ton of raw material)			
Chemical (additive) x (kg/ton of raw material)			
Water (m ³ /day)			
Energy (kWh/day)			
OUTPUTS			
Product 1 (ton/day) ¹⁷			
Product 1 (ton / ton of main raw material)			
Product 2 (ton/day)			
Product 2 (ton / ton of main raw material)			
By-product 1 (ton/day)			
By-product 1 (ton/ton of main raw material)			
By-product 2 (ton/day)			
By-product 2 (ton/ton of main raw material)			
By-product x (ton/day)			
By-product x (ton/ton of main raw material)			
Air emissions	SO ₂ (mg/Nm ³)		
	NO _x (mg/Nm ³)		
	xxx (mg/Nm ³)		
	xxx (mg/Nm ³)		
Wastewater	Amount discharged (kg /		

¹⁶ This table should provide a comparison between the performance data of the plant (in terms of consumption of resources, production of waste, total emissions), with the values set in the BREFs and BAT conclusions. Therefore the unit of measure to be used should be set according to the relevant values in the BREFs and BAT conclusions.

¹⁷ For each product or by-product, please provide both amounts, in ton/day, and in ton/ton of main raw material.

TOPIC 7: RESOURCE MANAGEMENT¹⁶

	ton of raw material)			
	Biochemical Oxygen Demand (BOD ₅) (mg/l of wastewater)			
	Chemical Oxygen Demand (COD) (mg/l of wastewater)			
	xxx			
Waste	Main waste stream (kg / ton of raw material)			
	Waste stream 2 (kg / ton of raw material)			
	Waste stream 3 (kg / ton of raw material)			
	xxx			

TOPIC 8: CHECK OF ADEQUATE BAT PROCESS MANAGEMENT¹⁸

Topic	What to check	What has been observed
Process design	Is the configuration of the process' modules arranged according to the manufacturer's instructions?	
	Have any design's modifications occurred? If YES, for which reasons?	
	Do any improvements result from these modifications?	
	Are there any corrective measures planned to overcome any malfunctions of the process? If YES, specify the achieved improvement of the process features (in environmental terms e.g. less use of water/ energy)	

¹⁸ This table provides a guidance to check if a certain BAT which is in place is properly managed or not.

TOPIC 8: CHECK OF ADEQUATE BAT PROCESS MANAGEMENT¹⁸

Topic	What to check	What has been observed
Equipment	Has the equipment been installed/ operated according to its technical specifications?	
	Any changes/ modifications occurred?	
	If YES, specify the achieved improvements	
	Is the equipment regularly checked for defects, leakages?	
Use of resources	Are the quantities of raw materials, water, chemicals, energy introduced in the production process (inputs) according to the technical prescriptions? If NO, specify the reasons and the achieved improvements in the production process	
	Are measured/ weighted quantities of raw materials, chemicals, water registered? If NO, specify why	
	Is the least polluting energy source used for the production e.g. natural gas? If NO, specify why	
	Is the energy input measured? If NO, specify why	
	Which process outputs (products, by-products, air emissions, effluents, waste) are measured? If NO, specify why	
	How is the heating/cooling system operated?	
	Are there any special precautions to avoid losses/leakages from the feeding devices of inputs (raw materials, chemicals)? If NO, specify why	
	Are there any special precautions to avoid losses/leakages from the storage devices for raw materials/chemicals needed? If NO, specify why	
Are there any special precautions to avoid losses/leakages from the water feeding system? If NO, specify why		



2/15/20

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Annex 6: List of guidance documents for waste streams and industrial sectors prepared by the project

The following guidance documents have been prepared as a complementary tool for inspectors.

Factsheets and checklists

Sector factsheets describe briefly, for each sector, its key processes, main environmental impacts, and ending with a list of aspects which should be checked when inspecting the corresponding facilities. As an annex each one includes a checklist for the corresponding sector.

The sectors are the following ones:

1. End-of-Life Vehicles' processing facilities
2. Landfills
3. Waste oils
4. Activities preparing plaster
5. Large Combustion Plants
6. Electric arc furnace iron & steel installations
7. Meat processing facilities
8. Wineries
9. Breweries
10. Pig & poultry farms
11. Quarries & mines
12. Stationary asphalt production facilities

Other guidance documents produced within the Twinning project

The following additional guidance documents have been as well developed:

1. BAT on storage of hazardous and non-hazardous waste
2. Guidance on mirror-code waste classification
3. Overview of BATs related to EMS implementation
4. Guidance on how the environmental inspector should proceed in case of minor incident or accident affecting the environment, and corresponding template for minutes.
5. Translation into Macedonian (updated where required) of the IMPEL Waste Watch tool for classification of waste categories and basic info about waste shipments.

Annex 7: Template for final inspection report of IPPC-A inspections



STATE ENVIRONMENTAL
INSPECTORATE OF
REPUBLIC OF MACEDONIA

Inspection Activity according to art. 32
of the Law on Inspection Supervision

Name of the installation
Final Inspection Report

ENVIRONMENTAL INSPECTION ACCORDING TO ART. 32 OF LAW ON INSPECTION SUPERVISION

INSTALLATION: *name, IPPC-A code, town, location*

FINAL INSPECTION REPORT – **NON/ROUTINARY/CONTROL
INSPECTION**

IPPC-A PERMIT NUMBER XXXXX

Issued on xxxx, according to the **Law of Environment (part XII)**

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List of Acronyms

BATs	Best Available Techniques
BREFs	Best Available Techniques Reference Document
EMS	Environmental Management System
EU	European Union
IED	Industrial Emissions Directive 2010/75/EU
IMPEL	European Union network for the implementation and enforcement of environmental law
IPPC	Integrated Pollution Prevention and Control
IRAM	Integrated Risk Assessment Method
RMCEI	Recommendation 2001/331/EC of the European Parliament and the Council providing for minimum criteria for environmental inspections in the Member States
SEI	State Environmental Inspectorate

1 Definitions

COLOUR CODES IN THIS REPORT TEMPLATE:

- Through the different sections of this report template you will find instructions in red on how to complete each section.
- Parts which have to be modified/reviewed for each case are highlighted in yellow.

In this first section "Definitions", the main definitions of the terms used in the Report have to be given (routinary inspection, non compliance...).

Take the definitions from the corresponding applicable legislation at national, or in their absence, from EU environmental acquis

Environmental Inspection: xxx

Routinary Environmental Inspection:xxx

Non Routinary Environmental Inspection: xxx

Control Environmental Inspection: xxx

Minor non-compliances: xxx

Significant or relevant non-compliances: xxx

Serious or important non-compliances: xxx

IPPC-A Permit: xxx

Installation: xxx

Inspection team: xxx

Further actions for the operator in case of non compliance: xxx

Decision: xxx

....

2 Preface

2.1 Goals of the Final Inspection Report

Goals of the report and the inspection itself, have to be set.

This Final Inspection Report was prepared considering all the activities performed pursuant to art. Xxx of the Law xxx, in order to ensure compliance with the requirements of the IPPC-A Permit n. XXX and the self-monitoring Plan.

The environmental inspection was carried out on day/month/year, and had the following purposes:

Select the items applicable to the performed inspection.

- a) Acquisition of all the technical elements and documents for verification of compliance with the requirements of the IPPC-A Permit;
- b) Verification of the compliance of the self-monitoring obligations by the operator, with particular reference to the regularity of measurements and proper functioning of the pollution prevention equipment as well the compliance with the emission limit values;
- c) Verification of the obligation of notification to the competent authority in case of non-compliance and/or incidents that may affect the environment;
- d) Verification (when applicable) of BAT implementation status and of the Environmental Management System;
- e) Giving feedback to the permit writer for the improvement of the permit.

2.2 Legal Provisions

Indicate the legal basis on which the inspection is conducted and the report is drafted (national legislation, EU Directives, etc).

The routinary/ non routinary/control inspection visit has been conducted pursuant to art. xxx of the Law xxxx.

3 Description of IPPC installation

3.1 General data of the installation

Installation	xxxx
Kind of industrial activity, and code according to relevant Annex in corresponding Rulebook	xxx
IPPC-A Permit number	xxx
Phone number	xxx
E-mail	xxx
Contact person for integrated permit-related issues	xxx
Seveso installation	No/Yes
EMS (ISO14001/EMAS)	No/Yes

3.2 Territorial framework

Enter a brief description of the area where the installation is located, including photos, mentioning any critical elements of the site (inside of a nature protected area, etc).

This information can be extracted from the permit application or the permit itself.

The installation is located in.....

3.3 Description of the processes and of the production layout at the time of the visit

Enter a brief description of the production activity in place at the time of inspection.

If needed, enter in this section any comments in connection with: (i) differences between actual performance and maximum capacity of the installation authorized in the permit, (ii) differences between actual and authorized layout.

Information can be extracted from the permit application or the permit itself.

4 Analysis of the environmental impacts of the permitted installation

In the following subsections, briefly describe the main environmental impacts of the installation; information can be extracted from the IPPC-A/B Permit Application and help to highlight the critical environmental aspects of the installation.

Information can be extracted from the permit application or the permit itself.

4.1 Emissions to water

4.2 Air emissions

4.3 Waste production

5 Organization of the environmental inspection

5.1 Inspection team

The following table shows the composition of the inspection team that intervened:

Inspector	Office	Position
xxx	SEI Inspectorate	Manager/Inspector ???

During the site visit, on behalf of the Company, the following staff was present:

Name	Position
xxx	Manager
xxx	Contact person for environmental issues

In case of Sampling by a third part organization, complete a new box with names of the involved persons.

5.2 Organization of the inspection

The inspection was preceded by a preparatory phase in which the **inspector/inspection team met** to draw up the agenda for the inspection visit and the inspection checklist, according to the contents of the IPPC-A Permit and the Self-monitoring Plan.

For the preparation and execution of the inspection the following documents were analysed:

Provide a list of documents used for the preparation of the inspection.

The inspection was carried out on day/month/year, in accordance with art. Xxx of the Law xxx. It was pre-announced by inspection notice n. xxx of day/month/year.

During the inspection, and according to the steps described in more detail in the minutes attached hereto, the inspector/inspection team carried out the following activities:

- Preliminary meeting with the manager of the Company: explanation of the purpose of the inspection, explanation of the activities to be performed and delivery of the agenda for the inspection visit¹⁹;
- Explanation by the operator of the ongoing process and activities (layout, critical issues, etc.);
- Verification of administrative documents to assess compliance with the permit;
- Verification of the compliance of the self-monitoring by the operator, pursuant to the Self-Monitoring Plan;
- Site visit to verify that the layout of the installation corresponds to the one presented in the permit application;
- Verification of self-monitoring data on emissions and waste;
- Verification of EMS and of the fulfillment of obligations related to communication to Competent Authority in case of incident, accident, changes, etc.;
- Verification on compliance with the criteria and procedures for the acceptance and management of waste.

6 Activities carried out and detected situation (compliance with IPPC-A permit conditions, including BAT implementation)

6.1 Environmental topics

Report all the findings for each of the topics listed below, with reference to what should be done according to the prescriptions of the permit, legal provisions, horizontal and sectorial BATs.

If you detect that there are one or more BATs not included in the permit, but which can lead to environmental improvements and should be considered by the permit writer in order to possibly amend the permit and include them, please write them down. Use the Minutes of the site visit, BREFs and the documents requested during the site visit, to get information. The Horizontal BATs checklist and the sectorial factsheets (see Annexes 5 and 6 of the Inspection Manual) can also be consulted.

- 6.1.1 General elements of management
- 6.1.2 Communication duties
- 6.1.3 Raw materials and use of resources
- 6.1.4 Air emissions
- 6.1.5 Emission to water
- 6.1.6 Waste
- 6.1.7 Noise and vibration
- 6.1.8 Soil and groundwater
- 6.1.9 Environmental Management System
- 6.1.10 Incident and anomalies management

¹⁹ The agenda for the inspection visit defines the schedule and organization of the inspection visit.

6.2 Description of sampling activities

Include a summary of the sampling carried out by external certified laboratories.

6.3 Description of lab analysis outcomes

Include a summary of the results presented in the lab certificates produced by external certified laboratories.

6.4 Self-monitoring yearly report findings (comparison with BAT environmental performance)

This section has to include the main findings of the check of the yearly self-monitoring report sent by the operator, containing environmental emission data.

The inspector/inspection team has to check if parameters, methods and frequencies are respected by the operator and has to analyse results, not only in relation to the compliance with limit values set in the permit, but also more generally to performance in terms of resource efficiency, waste generation, etc.

The goal is to highlight the gaps with respect to the environmental performance indicated in BREFs, in terms of:

- *Emission concentration of pollutants*
- *Specific consumption of resources (water, energy...)*
- *Specific production of waste*
- *....*

7 Outcome of the inspection

The following subsections have to include a detailed description of all non compliances detected during the site visit and the desk study as well.

Graduation of non-compliances can be found in Section 3.3.3 of the Inspection Manual²⁰.

Improvable findings have also to be indicated; it is considered as “improvable finding” a situation that is NOT a non compliance, but can be improved by technical or management adjustments by the operator, reducing the environmental impact of the installation.

Main gaps with respect to BREFs have to be highlighted because they constitute the basis for further improvement proposals to the operator and to the permit writer.

²⁰ EU best practices on graduation of non-compliances can be found in Annex VIII of the IMPEL report “[Guidance for the implementation of the IED in planning and execution of inspections](#)”. In the specific case of a serious non-compliance an additional inspection has to be executed within 6 months according to art. 23 of the IED.

7.1 *Minor non-compliances*

7.2 *Serious non-compliances*

7.3 *Improvable findings*

7.4 *Main gaps with BREFs*

The following table summarizes the results of findings about non compliances and improvable situations.

In the minutes of inspection are described in detail the activities carried out during the site visit, the environmental topics investigated and the list of documents reviewed and collected during the visit.

Non compliances:

Topic	Ref. To IPPC-A permit or violated Law	Obligation	Violation	Sanction	Graduation of non compliance
Air Emission	IPPC-A art. xxx	Report the violated prescription	Report the violation that has been found out	Ref. to the corresponding penalty	Serious/relev

Improvable findings:

Topic	Improvable finding
Water management	xxxx

8 *Control / follow-up of the inspection in case of breaches*

Non compliances identified during inspections need to be followed up, describe how they will be followed up.

8.1 *Corrective actions*

Pursuant to art. 42 of the Law on Inspection Supervision, in case the inspector determines that a law or other rule has been broken, he prescribes the time period in which the irregularity should be removed. The following table defines the actions to be imposed to the operator to comply with the obligation and the deadline.

Based on the detected non compliances, in accordance with Article 42 of Law on Inspection Supervision, the inspector/inspection team here provides measures (corrective actions) to be implemented by the operator to remove irregularities and comply with requirements, and the corresponding deadlines.

NON compliance	Corrective action	Deadline
Describe the violation with reference to Table in Section 7	Describe the action to be implemented by the operator	Time period to comply

8.2 Administrative/criminal law enforcement

Report about the actions undertaken or to be undertaken (Decision): warning letter, Decision, closing down, cancellation of the permit, etc.

Pursuant to art. 42 of Law on Inspection Supervision, if a Law provides that an inspection measure may be prescribed for the ascertained irregularity, the inspector is obliged to determine that measure via a Decision.

The inspector shall issue the Decision, without delay and no later than eight days from the completion of the site visit, if no shorter term has been determined by law.

9 Closure of the Inspection Cycle

9.1 Proposals for permit writers and MoEPP's Department for Industrial Pollution and Risk Management: suggestions to improve the IPPC-A permit

Indicate the necessary improvements to the permit in order to eliminate unclear / unfeasible obligations, to guarantee a better protection of the environment, a better compliance with BREFs and everything considered to improve the effectiveness of the permit.

The inspection allowed to assess the effectiveness and clarity of the information included in the IPPC-A permit. The inspector/inspection team proposes the following measures to improve the permit:

- xxxx
- xxxx

9.2 Proposals for operator to improve environmental performance

As defined in the "Recommendation of the European Parliament and of the Council of 4 April 2001 providing for minimum criteria for environmental inspections in the Member States" (RMCEI, 2001/331/EC), the activities of 'environmental inspection' shall also include actions about compliance promotion aimed to a better accomplishment by the company of required environmental standards.

Compliance promotion is one of the strategies that are part of the inspection cycle (as also defined in the IMPEL projects "Doing The Right Things" on the topic of environmental inspections) to promote the achievement of the most ambitious environmental targets.

Below some measures for the company are suggested, in order to overcome the critical situations pointed out in section 7.4, and for a continuous improvement of environmental performance:

Topic	Suggested improvement
Dust production	Provide the area of storage of raw materials with a screen positioned in the open side, for the containment of diffuse emissions

9.3 Feedback for the Risk Assessment

Report here the observations that may influence the values assigned to risk assessment criteria. For example: when using IRAM²¹ as the tool for Risk Assessment, finding a non compliance implies a change in the values of Operator Performance indicators²². Or for example, the assessed presence of a certified EMS can improve the value of Operator Performance indicators.

²¹ IRAM = Integrated Risk Assessment Method . For explanations on it see Inspection Manual, section 2.3.2

²² For explanations on Operator Performance indicators see Inspection Manual, sections 2.3.2, 2.3.4

10 *Actions to be taken in the next inspection*

The inspection revealed the following environmental gaps, about which it is deemed necessary to pay special attention in the coming inspections; other aspects that deserve further study are listed below as well:

Environmental topic	Suggested actions to the inspection team for next inspection
Air emissions	e.g. Verification and update of the Manual about the Continuous Emission Monitoring System
Waste	e.g. Verification of storage areas for hazardous wastes
XXX	xxx

11 *Storage of reports and public access*

All the documents collected during the inspection and the final report should be recorded and stored (in a digital form) in an internal database.

Report here a list of the documents acquired and available to the public.

The present Final Inspection Report and all documentation acquired during the inspection visit and subsequent inspection, is kept in the office of xxx and the non-confidential parts will be made available to the public in the following website and at office of xxx: xxxxxx

Annex 1: Minutes of the site inspection visit

Annex 2: Photographic documentation

References to the photographs included in the Annex have to be mentioned in the body of the report.

Annex 3: Completed inspection checklist

Town, day/month/year

Inspection team:

Ms xxx

Ms yyy

Mr zzzz

Mr www

Annex 8: Template of an inspection report that can be made publicly available, and related guidance on classification of non compliances

Template of publicly available inspection report for IED installations:

Identification of the operator

Operator's name	
Address	
ID	

Identification of the installation

Name of the installation
Address
IPPC category
ID in Information system IPPC

Scope of control and controlled period

Description of the scope of control
<i>E.g.: Monitoring compliance with the integrated permit conditions or complaints about smell</i>
Announced or unannounced inspection
Controlled period
<i>The time between this type of inspection and the previous one (e.g. Time between the two integrated inspections or time between the inspections because of complaints)</i>

Site visit date

Site visit starting date	
Site visit finishing date	

Non compliances

No Non compliances <input type="checkbox"/>	Minor Non compliances ²³ Number: <input type="checkbox"/>	Serious Non compliances ²⁴ Number: <input type="checkbox"/>
--	---	---

Sanctions

Description of sanctions arising out of inspection
<i>There are three categories of misdemeanours that are imposed:</i> <ul style="list-style-type: none">• <i>I-st category,</i>• <i>II-nd category,</i>• <i>III-rd category.</i> <i>In case of non compliances what sanction will be used as the result of this inspection?</i>

Further action

Description further action arising out of inspection
<i>(e.g. education, time to solve non compliance, next inspection)</i>

Guidance on the classification of non-compliances in IED installations

Keep in mind:

Every classification of non-compliance requires a case-by-case decision.

The classification should avoid discrepancies to other regulations. E.g. if it is a criminal offence to run an installation without a permit this should not be rated as a minor non-compliance.

Minor cases of non-compliance²⁵

Description

²³ Follow the definition for minor cases of non-compliance described below

²⁴ Follow the definition for serious cases of non-compliance described below

²⁵ This division is based on the IMPEL report "Supporting implementation of the Industrial Emissions Directive", still unpublished

- Non-compliances that have 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;
- Only minor violations of permit conditions /legal obligations/operator duties with no consequences on the protection measures against pollution.
- Emission limit values, environmental quality standards and other limitations are still met.
- The aim of the permit (to protect the human health and the environment against pollution and to take precautionary measures against pollution) is still achieved.
- The competent authority gives a point of attention to the operator, without a limited timeframe.

Cases

- Operations diary is not kept orderly or only with delay
- Missing work instructions
- Pipelines are not labelled properly
- Documentation of stipulated maintenance work is not directly available
- Missing or inadequate records, if required, such as: data on raw material consumption
- Missing data on waste types and waste quantities, solvent management plan, etc.
- Missing or inadequate waste management plan
- Not adequate safety precautions at storage units of or for the handling of environmentally hazardous substances (e.g. catch basin)
- Emission measurement reports incomplete or the measuring itself is not in accordance with the state of the art
- Some data missing from the continuous measurements ²⁶
- Exceeded deadline for periodic reports
- Other obligations under environmental law for reporting or verification not met

Serious cases of non-compliance

Description

- Violation of an environmental quality standard or non-compliance that could lead to a maximum potential impact
- 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 or not even met.
- Violations of permit conditions/violations of legal obligations/operator duties which can have consequences on the protection against pollution, or which derogate the protection against pollution.
- Non-compliances that may cause a risk of harm to the environment or the damage has already occurred, so within a reasonable period of time appropriate measures must be taken to eliminate the non-compliances
- Non-compliances that cause a serious risk of substantial harm to the environment or the damage has already occurred, so usually immediately appropriate measures must be taken to eliminate the non-compliances.
- Breaching the operator's duty of informing the competent authority about non-compliances and changes of the operation within the periods established in legislation.

²⁶ Depending on the type and frequency of the measurement, and the amount of missing data, it may be considered as a serious non-compliance

- It is unclear if the emission limit values are complied with.
- Emission limit values, environmental quality standards or other limitations are not met.
- Several or repeated similar relevant non-compliances
- Non-compliance very important in terms of complaints and public perception

Cases

- Presence of "imminent danger" to the environment
- Misoperation with potential big impact
- Operation of an installation without permit or a substantial change of an installation without changes of the permit
- Relevant exceeding of the maximum permitted waste storage capacity
- For waste treatment installations: activity not covered by the permit
- Missing permit for a mode of operation, which may affect emissions
- Missing annual self monitoring report
- Missing (audit or emission or monitoring) report
- Missing emission measurement report, if required, or deadline for periodic report exceeded by far ²⁷
- Failure of monitoring systems of a noise protection facility without exceeding of ambient noise limit values
- Maintenance or monitoring of environmentally relevant parts of the installation does not exist
- Continuous measurements severely deficient, measuring device not operational or does not exist at all
- Exceeding emission limit values (based on BAT-AELs) that could lead to significant impacts on public health and environment
- Important exceedance of an emission limit value ²⁸
- Frequency of maintenance is not complied with
- Maintenance work on an exhaust gas cleaning facility was not carried out
- Missing safety precautions at storage units of or for the handling of environmentally hazardous substances (eg, catch basin)
- Operation of a malfunctioning filter installations or protection systems with important exceeding of emission limit values²⁹
- Storage of dangerous (liquid) waste on unprotected soil
- Operation of an old single-walled sub soil pipeline for hazardous substances without proper protection against corrosion
- Inoperative emission control system or wastewater treatment system
- Continuously existing minor non-compliances
- Orders from previous inspection reports are not fulfilled

²⁷ It is recommended that criteria should be internally agreed in SEI to decide what is meant with "by far". Please take into account that it depends e.g. on the frequency of the measuring.

²⁸ It is recommended that criteria should be internally agreed in SEI to decide what is meant with "important". Please take into account that there are several relevant factors involved, e.g. the ELV itself (the norm), the uncertainty in the measurement and the substance.

²⁹ See previous comment.

Annex 9: Leaflet for operator (text)

Introduction

Operators carrying out activities likely to produce impacts on human health and in the different environmental topics, must comply with environmental requirements provided in the environmental legislation on these topics. Some of them hold specific environmental permits. In the case of IPPC-A and IPPC-B installations, integrated environmental permits are issued, which include provisions and conditions on all environmental topics. The purpose of inspections is to check if the operator complies with the applicable legislation and with the conditions laid down in the permits. IPPC-A installations under the scope of Chapter XV of the Law on Environment on prevention and control of major accidents involving hazardous substances have additional requirements regarding inspections.

This leaflet contains summarized information about:

- Rights and obligations of the operator during the inspections
- What can the inspector do during an inspection
- Description of an inspection site-visit
- Follow-up of the inspection
- Where to find relevant documents and more information

Rights and obligations of the operator during inspections

The rights of the operator during inspections **include**:

- The right to give comments and notes to the minutes.
- The right not to accept to sign the minutes if he disagrees with the facts, although this refusal does not obstruct the further performance of the inspection procedure.
- To request a concurrent 2nd sample for each sample taken/requested by the inspector.
- To submit an appeal against the inspector's decision (within eight days from the day of receiving the decision).

The obligations of the operator during the inspections **include**:

- To provide all necessary updated documentation needed for the execution of the inspection: self-monitoring records/reports, production process schemes/lines, topography of the facility (positions of treatment plants/air emission points/waste water discharge pipelines/waste storage facilities/raw material loading areas), Environmental Management System certificate, communications to authorities about

incidents/accidents, mass balance records, waste inputs/outputs register, documentation of transboundary shipment of wastes, supporting data on power/fuel, water, raw materials consumption, maintenance operations register.

- To be available for being interviewed during the inspection and to answer the relevant questions honestly and clearly.
- To answer any complementary questions relevant to the facility's operation (working hours, number of employees, names of suppliers, marketing of the products etc.).
- To allow any staff member of the company to be interviewed following the inspector's request.
- To provide access to the premises and to the products handling area for the inspector.
- To perform sampling in certain points (through an accredited laboratory) following the inspector's instructions.
- To stop the work during the inspection, if it is impossible in another way to perform the inspection.
- To sign the minutes of the inspection if there is no disagreement about the facts stated.

What can the inspector do during an inspection

During the performance of the inspection the inspector is authorized to:

- Inspect general and special acts, files, documents, evidences and information related to the object of the inspection.
- Supervise the official premises and other facilities that are not used for living as well as transportation means and products.
- Inspect identification documents of persons for confirming their identity according to the law.
- Ask from the operator or from his employees a written or oral explanation
- Ask from operator or from his employees to submit all data that have available of their suppliers.
- Ask for professional opinion when it is needed.
- Request the operator to perform a further sampling through an accredited laboratory to cross-check monitoring results, or in case of incident/ accident.
- Provide audio and video recordings.

- Make an inventory list on the existing goods and products.
- Provide other necessary evidences.

Regarding the collection of samples, the inspector has also some obligations, including the collection a maximum of 3 samples (the first for analysis, the second for second analysis at the request of the operator and the third for super analysis), the sealing and properly marking of samples, the drafting of a report on the collection and the submission of samples without delay to the appropriate expertise institution at the request of the operator.

Types of inspection

1. Integrated inspection: checking compliance with all permit conditions
2. Compliance with legislation or with specific permit conditions related to one (or more) environmental topic (e.g. waste)
3. Coordinated inspections: inspectors from several Inspectorates collaborate with each other, to verify compliance with legislation and conditions laid down in permits arising from different fields, mainly environment, labour, safety (e.g. installations under the scope of Chapter XV of the Law on Environment on prevention and control of major accidents involving hazardous substances).

Topics that may be inspected

- Emissions to air including greenhouse gases.
- Emissions to water.
- Emissions to soil and groundwater.
- Noise & vibrations emissions.
- Waste input/output, storage and off-site transfers.
- Consumption of energy, fuel, raw material, water and other resources.
- Proper implementation of best available techniques (BAT) in the production process, for those BATs specified in the environmental permit

Frequency of inspection site visits

The frequency of ordinary site visits is based on a risk assessment calculated with a specific software (IRAM) used by inspectorates in the EU. In this risk-based approach, most inspection effort will be focused on the activities/installations with the highest risks (highest risk first).

The risk can be influenced by a set of factors. One of the important factors is the performance of the operator. That means that meeting the permit's conditions is reduces the possibility of frequent inspections.

In addition to the ordinary inspections, extraordinary or control (follow-up) inspections may be performed, as a function of complaints received, non-compliances detected during inspections, and incidents or accidents occurring in the installations.

Possible contents of an inspection site visit

1. Administrative check (examination/collection of documentation)

In case an inspector has to check the administration, the following items will be for example verified:

- Identification of the person responsible for environmental issues and monitoring.
- Documentation described in “Rights and obligations of the operator during inspections”.

2. Interviews (operator + other staff members)

3. Physical inspection

For the inspectors’ personal safety he or she shall comply with the internal safety regulations of the entity inspected. These may include the need to wear a helmet or protective clothes (e.g. when inspecting some part of a production line in food or chemical industry) as well as going only on special and dedicated paths in a factory. The operator is obliged to provide the inspector with the appropriate safety equipment if necessary.

While conducting a visual inspection important locations include the direct surrounding of the installation, the production lines, the emission points to air and water, all required equipment used to protect the environment (e.g. air filters) and areas and buildings used for waste storage.

Everything that can be found during inspections may be worth being collected and treated as evidence (e.g. photographs, videos and documents such as environmental reports, registries, results of self-monitoring, sampling reports, etc.).

For sampling there is a special procedure. For the operator it is important to take into account that he or she may ask for an extra sample. This allows him or her to object to the results of the analysis if he or she does not agree with the outcome of the analysis from the first sample.

4. Observations, minutes and signing

At the end of the inspection site visit the inspector presents his observation by preparing minutes. The inspector signs them, and the operator is also asked to sign the minutes. If the operator agrees with the findings he or she should sign the minutes. If an operator refuses to sign the minutes, the inspector shall state the reasons for refusal.

Sometimes it is not possible to sign the minutes on site. The inspector has to send them within three days after the inspection to the operator, including the reasons behind the delay. If the operator does not react to the inspector within eight days, it is considered that the operator agrees with the minutes of the inspection. And if an operator refuses to sign the minutes, the inspector shall state the reasons for refusal.

Follow-up of the inspection (in cases of non compliance)

Decision

If during the inspection the inspector determines that a law or other rule has been breached, he or she has to give a set of instructions about measures with the corresponding deadlines. The inspector shall prepare the decision, based on facts determined during the inspection, no later than eight days from the completion of the inspection. Depending on the kind of breach detected, the inspector may request the start of a misdemeanour procedure, a mediation procedure or a criminal case.

In exceptional circumstances, to remove an immediate life-endangering or health-endangering situation, the inspector may determine inspection measures with an oral decision during the site visit, when he or she assesses that it is necessary. In such cases, the inspector is obliged to prepare a written decision within three days from the day of making the oral decision.

An appeal may be lodged against the inspector's decision within eight days from the day of receiving the decision, if no shorter term has been determined by law.

Conclusion

The procedure of inspection finalises by drafting a **conclusion**. The conclusion is used to resolve issues of procedure arising during the inspection. A written conclusion is not issued only for exports of goods, where the control has not started in the Republic of Macedonia.

The conclusion has to be sent to the operator within eight days. If the operator is not satisfied with the conclusion, he or she has the right to appeal it.

More information and relevant documents

More detailed information, relevant documents (e.g. legislation) and interesting links are on the website of the State Environmental Inspectorate, www.sei.gov.mk, where there is as well a frequently asked questions (FAQ) section and a digital post box for suggestions and to give input on good practices (d.blinkov@sei.gov.mk). You can also find there multiple inspection factsheets and checklists of different sectors, which the inspectors use for inspections.

Annex 10: IRAM risk criteria for Macedonian installations

Risk criteria have been developed for the following 3 groups of installations:

1. Installations requiring an IPPC A permit;
2. Installations requiring an IPPC B permit;
3. Activities requiring an Elaborate.

For groups 1 and 2 we developed Impact and Operator Performance criteria that can be used in the templates of IRAM. For the Elaborates group we have developed 1 risk criteria that will determine the inspection frequency of the installations.

1. Impact criteria - IPPC A

1. Type and kind of installation

The scoring of type and kind of installation is based on the categories that are found in annex I of the IPPC ordinance 89/05.	
The following categories are defined in the annex:	
Cat 1 – Energy industries (score 3)	
Cat 2 – Production and processing of metals (score 4)	
Cat 3 – Mineral industry (score 3)	
Cat 4 – Chemical industry (score 4)	
Cat 5 – Waste management (score 3)	
Cat 6 – Other activities (score 2)	
Asphalt is not mentioned in any of the categories but is an IPPC-A installation (score 1).	
Score	Definition
1	Asphalt IPPC-A installation
2	IPPC-A installations under category 6 (other activities)
3	IPPC-A installations under categories 1 (energy industries), 3(mineral industry) or 5 (waste management)
4	IPPC-A installations under categories 2 (production and processing of metals) or 4 (chemical industry)

2. Impacts on human health or the environment

The scoring of Impact on human health and the environment is based on the number of minor, relevant and/or important complaints, environmental accidents or incidents in a certain period of time.	
The difference between minor, relevant and important is subjective and left to the inspector to decide.	
Score	Definition
0	Max 1 minor complaint, environmental accidents or incidents in the last 5 years
1	More than 1 minor complaint, environmental accidents or incidents in the last 5 years
2	At least 1 relevant environmental complaint, relevant environmental accident or incident in the last 5 years
3	At least 1 important or more than 2 relevant environmental complaints, environmental accidents or incidents in the last 5 years
4	At least 1 important or more than 2 relevant environmental complaints, environmental accidents or incidents in the last 2 years

3. emissions to air

The scoring of emissions to air is based on the type of measurements that is needed. We distinguish between emissions to air that require only the measurements of 1 or more standard parameters (dust or PM10, NOx, SO2, CO, CO2) and the emissions that require to measure more than only standard parameters. Also the

frequency of the measurements is taken into consideration.

Score	Definition
0	No emissions to air, no measurements needed
1	Emissions to air, measurements needed of standard parameters
2	Emissions to air, measurements needed of more than only the standard parameters
3	Emissions to air, continuous monitoring or measurements of standard parameters needed at least every month
4	Emissions to air, continuous monitoring or measurements of more than standard parameters needed at least every month

4. Releases to water

The scoring of releases to water is based on the substances that are released. The substances are clustered in the following 5 groups:
 Group 1: Standard parameters (PH, COD, BOD, Suspended matter, Chloride)
 Group 2: Standard parameters and Nitrate and/or Phosphate
 Group 3: Heavy metals
 Group 4: Halogenated compounds
 Group 5: Others e.g. Hydrocarbons

Score	Definition
0	No releases to water
1	Releases to water with substances falling under group 1
2	Releases to water with substances falling under group 2
3	Releases to water with substances falling under group 1 or group 2 and at least one of the other groups
4	Releases to water with substances falling under group 1 or group 2 and at least two of the other groups

5. Off-site transfer of waste

The scoring of the off-site transfer of waste is based on the amount of non-hazardous or hazardous waste that is produced and transported from the site.

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 t/y
4	Non-hazardous waste >50,000 t/y or hazardous waste >10 t/y

6. Input of waste

The scoring of the input of waste is based on the amount of non-hazardous or hazardous waste that is transported to the site.

Score	Definition
0	No waste input
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 t/y
4	Non-hazardous waste >50,000 t/y or hazardous waste >10 t/y

7. Quality of the local environment (air, water, noise)

The scoring of quality to the local environment refers to the fact of whether the quality standards for air, water
--

and/or noise are exceeded or are in danger to be exceeded, or not. All violations of quality standards for air, water and noise shall be taken in to account. The highest violation shall be taken for scoring 3 and 4

Score	Definition
0	The installation does not have any releases to air and water of substances for which environmental quality standards have been set nor does it have any noise emission.
1	The installation is located in an area where environmental quality standards are met.
2	The installation is located in an area where at least one of the environmental quality standards is in danger to be exceeded
3	The installation is located in an area where at least 1 environmental quality standard is exceeded
4	The installation is located in an area where at least 1 environmental quality standard is exceeded 5 times or more

8. Sensitivity of the local environment

The scoring of sensitive areas is based on the distance between the installation and the sensitive area or if the area is in or outside the direct influence sphere of the installation.

Sensitive areas are: Residential area, schools, kindergartens, hospitals, homes for the elderly, drinking water catchment areas, flood areas, nature conservation areas* or FFH-areas or Bird protection areas (Natura 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 <0,5 km
4	Sensitive areas close to facility premises, the distance is <100 m

9. Risk of accidents

The scoring of risk of accidents refers to the fact of whether the installations falls under the Seveso Directive or not.

Score	Definition
0	The installation in a non Seveso installation
2	The installations falls under the lower tier of Seveso
3	The installations falls under the upper tier of Seveso

2. Operator Performance Criteria IPPC A

1. Compliance

The scoring of Operator Performance is based on the number and the severity of the non-compliances that has been identified.	
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

The scoring of attitude of the operator is a subjective choice of the inspector regarding the operator's attitude towards the environment.	
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

The scoring for the Environmental Management System refers to whether the company has implemented an Environmental Management System according to EMAS or ISO-14001, or not.	
Score	Definition
-1	Site is registered under EMAS or ISO-14001 and the operator is working successfully with this environmental management system
0	Site is not registered under EMAS or ISO-14001 but the operator is working successfully with an accepted environmental management system
1	Site is not registered under EMAS nor ISO-14001 and the operator is not working with an accepted environmental management system

3. Impact criteria – IPPC B

1. Type and kind of installation

The scoring of type and kind of installation is based on the categories that are found in annex II of the IPPC ordinance 89/05. The following categories are defined in the annex: Cat 1 – Energy industries (score 2) Cat 2 – Production and processing of metals (score 3) Cat 3 – Mineral industry (score 2) Cat 4 – Chemical industry (score 3) Cat 5 – Waste management (score 2) Cat 6 – Other activities (score 1)	
Score	Definition
1	IPPC-B installations under category 6 (other activities)
2	IPPC-B installations under categories 1 (energy industries), 3 (mineral industry) or 5 (waste management)
3	IPPC-B installations under categories 2 (production and processing of metals) or 4 (chemical industry)

2. Impacts on human health or the environment

The scoring of Impact on human health and the environment is based on the number of minor, relevant and/or important complaints, environmental accidents or incidents in a certain period of time. The difference between minor, relevant and important is subjective and left to the inspector to decide.	
Score	Definition
0	Max 1 minor complaint, environmental accidents or incidents in the last 3 years
1	More than 1 minor complaint, environmental accidents or incidents in the last 3 years
2	At least 1 relevant environmental complaint, relevant environmental accident or incident in the last 3 years
3	At least 1 important or more than 2 relevant environmental complaints, environmental accidents or incidents in the last 3 years

3. Emissions to air

The scoring of emissions to air is based on the type of measurements that is needed. We distinguish between emissions to air that only require measurements of 1 or more standard parameter (dust or PM10, NOx, SO2, CO, CO2) and the emissions that require to measure more than only standard parameters. Also the frequency of the measurements is taken into consideration.	
Score	Definition
0	No emissions to air, no measurements needed
1	Emissions to air, measurements needed of standard parameters
3	Emissions to air, measurements needed of more than only the standard parameters

4. Releases to water

The scoring of releases to water is based on the substances that are released. The substances are clustered in the following 3 groups. Group 1: Standard parameters (pH, COD, BOD, Suspended matter, Chloride) Group 2: Standard parameters and Nitrate and/or Phosphate Group 3: All other releases: e.g. Heavy metals, Halogenates compounds or Hydrocarbons	
Score	Definition

0	No releases to water
1	Releases to water with substances falling under group 1
2	Releases to water with substances falling under group 2
3	Releases to water with substances falling under group 3

5. Off-site transfer of waste

The scoring of the off-site transfer of waste is based on the amount of (hazardous) waste that is produced and transported from the site.	
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 t/y

6. Input of waste

The scoring of the input of waste is based on the amount of non-hazardous or hazardous waste that is transported to the site.	
Score	Definition
0	No waste input
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 t/y

7. Quality of the local environment (air, water, noise)

The scoring of quality to the local environment refers to the fact of whether the quality standards for air, water and/or noise are exceeded or are in danger to be exceeded, or not. All violations of quality standards for air, water and noise shall be taken in to account. The highest violation shall be taken for scoring 2 and 3	
Score	Definition
0	The installation does not have any releases to air and water of substances for which environmental quality standards have been set nor does it have any noise emission.
1	The installation is located in an area where environmental quality standards are met.
2	The installation is located in an area where at least one of the environmental quality standards is in danger to be violated
3	The installation is located in an area where at least 1 environmental quality standard is violated

8. Sensitivity of the local environment

The scoring of sensitive areas is based on the distance between the installation and the sensitive area or if the area is in or outside the direct influence sphere of the installation. Sensitive areas are: Residential area, schools, kindergartens, hospitals, homes for the elderly, drinking water catchment areas, flood areas, nature conservation areas* or FFH-areas or Bird protection areas (Natura 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 >5 km
1	Sensitive areas outside the influence sphere of emissions or distance is <5 km
2	Sensitive areas within the influence sphere of emissions or distance is <0,5 km
3	Sensitive areas close to facility premises, the distance is <100 m

4. Operator Performance Criteria– IPPC B

1. Compliance

The scoring of Operator performance is based on the number and the severity of the non-compliances that have been identified.	
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

The scoring of attitude of the operator is a subjective choice of the inspector regarding the operator’s attitude towards the environment.	
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

The scoring for the Environmental Management System refers to whether the company has implemented an Environmental Management System according to EMAS or ISO-14001, or not.	
Score	Definition
-1	Site is registered under EMAS or ISO-14001 and the operator is working successfully with this environmental management system
0	Site is not registered under EMAS or ISO-14001 but the operator is working successfully with an accepted environmental management system
1	Site is not registered under EMAS nor ISO-14001 and the operator is not working with an accepted environmental management system

5. Risk Criteria – Elaborate

1. Type and kind of installation

The scoring of type and kind of installation depends on whether besides the elaborate, a permit is needed from MoEPP to satisfy some of the sectoral legislation, or not. In case such additional permit from MoEPP is needed the installation scores 2 points. In case a permit from MoEPP is not needed the installation scores 1 point.	
Score	Definition
1	Activities requiring elaborates that do not need additionally a permit from the competent authority to satisfy some of the sectoral legislation (e.g. permit for recycling of some kind of waste)

2	Activities requiring Elaborates that need additionally a permit from the competent authority to satisfy some of the sectoral legislation (e.g. permit for recycling of some kind of waste)
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Score 1 = min 1 inspection in 36 months

Score 2 = min 1 inspection in 24 months

For these installations we recommend not to assess the risk in IRAM but keep the frequency of the inspections based on the criteria above unless a non-routine inspection needs to be executed because of complaints, accidents or incidents.



Annex 11: Short guidance for SEI's BPMS users

Prerequisites

Prerequisites that have to be accomplished for using this system:

- To have access to the system;
- Being registered as a user with appropriate privileges;

BPMS main advantages for inspectors:

As a summary, the main advantages that offers the use of this system for their users will be:

1. The system will make available for inspectors a lot of information that is currently only in hard copy scattered in many places. It will be possible to access the information from everywhere and it will be always updated. This information will include identification and contact data about the installations under control, their permit conditions, layout, process, raw materials, products, waste and emissions.
2. The BPMS will include check-lists and templates that will be very useful to check the installations under inspection. In this way, it will be guaranteed that all the hot spots in the installation will be reviewed and evaluated and the procedure and results will be the same for all the inspectors carrying out the inspections. So it will be very useful during the visit.
3. The files generated as a result of an inspection visit will be uploaded and stored in a secured way. So that minutes, decisions, reports, sample analysis results will be found in a easy way avoiding the time waste and insatisfaction linked to the search of missing information.
4. Planning and work programming will be easier, efficient and satisfactory.
5. It will be a good database for training new and current inspectors and to share knowledge among all of them, in order to be a well-qualified and acknowledged professional.

As a summary, this is a “0 papers” system that will allow to share information and will be very helpful for inspectors contributing to their modernization and acknowledgment.

Step 1 After logging into the system, you are on the home page. To start a process from the list of processes select one and click Start Process.



A window is opened to enter a new process. Enter the required information such as title, type of supervision, laws, etc. Article. and click Save.

Процеси - Нова ставка

Уреди

Зачувај Откажи Залепи Исечи Копирај Правопис

Примени Склад Правопис

Наслов *

Коментар

Раководител на процес Darko Blinkov ;

Тип на надзор *

Редовен надзор
 Контролен надзор
 Вонреден надзор

Инсталација (Ништо)

Закони (Ништо)

Член

Индустија (Ништо)

Регион (Ништо)

→ Зачувај → Откажи

Step 2 To show a newly created process in the review of active processes, click Refresh.

Now that the process is visible, select it and click Detailed display.

Пребарување е-Архива Конфигурација на УДП

Систем за Управување со Деловни Процеси

Стартување на процес

--- Одберете процес --- Започни Процес

Преглед на активни процеси

Освежи

Идентификатор	Наслов на Процесот	Идентификациски број на процес	Започнат од	Датум на започнување
03-01	Test DZD	001T0150068	Darko Blinkov	16.04.2015 08:11:48
03-01	ППО14	001T0150067	Darko Blinkov	16.04.2015 08:06:52

Преглед на активни процеси

Освежи

Идентификатор	Наслов на Процесот	Идентификациски број на процес	Започнат од	Датум на започнување
01-01	Тест инспекциски надзор	001T0150070	Darko Blinkov	23.04.2015 06:53:47
03-01	Test DZD	001T0150068	Darko Blinkov	16.04.2015 08:11:48
03-01	ППО14	001T0150067	Darko Blinkov	16.04.2015 08:06:52
04-01	4 процес	001T0150066	Darko Blinkov	16.04.2015 08:01:59
04-01	Годишна програма тест	001T0150065	Darko Blinkov	16.04.2015 07:49:51
03-01	Посредување тест	001T0150064	Darko Blinkov	16.04.2015 07:46:26
02-01	ПП14	001T0150063	Darko Blinkov	16.04.2015 07:21:15
02-01	Прекршочна постапка тест	001T0150062	Darko Blinkov	16.04.2015 06:51:46
02-01	test prekrshoci	001T0150060	Darko Blinkov	16.04.2015 06:22:49
02-01	Прекршочна постапка - Охис АД	001T0150059	Darko Blinkov	16.04.2015 06:17:39

Записи: 1 - 10 / 43 « 1 ▾ »»

Детален приказ

Step 3 A preview of the selected process is opened that has assigned tasks to each of the participants in it.
From here you may cancel the process by clicking the Cancel process.
Select first assigned task initialization.

Преглед на Процес: Тест инспекциски надзор (01-01)

Пребарување е-Архива Конфигурација на УДП

Информации за Процес

Стартер:	Darko Blinkov	Процес:	Тест инспекциски надзор (01-01)
Почнато:	23.04.2015 15:53	Статус:	Во тек
Последно извршување:	23.04.2015 15:53	Идентификациски број на процес:	001T0150070

Освежи → Откажи процес

Задачи

На учесниците во овој Процес се доделени следните Задачи.

<input type="checkbox"/> Наслов	<input type="checkbox"/> Доделено на	Краен рок	Статус на Задача
<input checked="" type="checkbox"/> Потребна е Иницијализација на Процесот за 'Инспекциски надзор'	Darko Blinkov		Доделен

Историјат на Процес

Во рамките на овој Процес се случува следните настани.

Step 4 Initialization process, enter data for each of the main activities within the process.
Select activity: preparation for supervision and attachment of documents and then click on Start.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Пребарување е-Архива Конфигурација на УДП

Детали за процесот

Преглед на внесените мета-податоци при стартувањето на процесот

Наслов:	Тест инспекциски надзор
Клиент (избор):	Инспекторат за животна средина
Коментар:	
Раководител на процес:	Darko Blinkov
Тип на надзор:	Редовен надзор

Главни активности

Ве молиме внесете мета-податоци за секоја од главните активности во рамките на процесот

Ве молиме одберете главна активност

--- Одберете активност ---

- Припрема за надзор и прикачување на документи →
- Креирање на записник за извршен инспекциски надзор
- Заклучок за запирање на постапка
- Наод од инспекција
- Постапка по наод од инспекција

Зачувaj активност Откажи

→ Започни Откажи

Click the icon that is displayed on the image to select who should attach a document to this activity. When finished, select Save activity.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Юни Пребарување е-Архива Конфигурација на УДП

Детали за процесот
Преглед на внесените мета-податоци при стартувањето на процесот

Наслов:	Тест инспекциски надзор
Клиент (избор):	Инспекторат за животна средина
Коментар:	
Раководител на процес:	Darko Blinkov
Тип на надзор:	Редовен надзор

Главни активности
Ве молиме внесете мета-податоци за секоја од главните активности во рамките на процесот

Во молиме одберете главна активност

Припрена за надзор и прикачување на документи

Има потреба од прикачување на документ

Има потреба од прикачување на документ

Коментар
Внесете коментари за податоци

Зачувaj активност Откажи

Step 5 Select activity: create record of inspection supervision and click Start.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Юни Пребарување е-Архива Конфигурација на УДП

Детали за процесот
Преглед на внесените мета-податоци при стартувањето на процесот

Наслов:	Тест инспекциски надзор
Клиент (избор):	Инспекторат за животна средина
Коментар:	
Раководител на процес:	Darko Blinkov
Тип на надзор:	Редовен надзор

Главни активности
Ве молиме внесете мета-податоци за секоја од главните активности во рамките на процесот

Во молиме одберете главна активност

Одберете активност

- Припрена за надзор и прикачување на документи
- Креирање на записник за извршен инспекциски надзор
- Заклучок за запирање на постапка
- Наод од инспекција
- Постапка по наод од инспекција

Зачувaj активност Откажи

Зачлони Откажи

From the list of document templates, select the templates of the documents that will be automatically created and click Add. Choose from the list and people who are supposed to attach documents for this activity. After completing this procedure for each form, click the Save activity.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

юни Пребарување е-Архива Конфигурација на УДП

Детали за процесот

Преглед на внесените мета-податоци при стартувањето на процесот

Наслов:	Тест инспекциски надзор
Клиент (избор):	Инспекторат за животна средина
Коментар:	
Раководител на процес:	Darko Blinkov
Тип на надзор:	Редовен надзор

Главни активности

Ве молиме внесете мета-податоци за секоја од главните активности во рамките на процесот

Ве молиме одберете главна активност

Креирање на записник за извршен инспекциски

Обрасци на Документи

Ве молиме одберете ги Обрасците на Документи од кои потребните Документи ќе бидат автоматски креирани со притискање на *Додади* копчето.

Ве молиме одберете Образец на Документ

01-01-A1

Додади

Документи што ќе бидат креирани автоматски

Сите Документи одбрани во рамките на оваа листа ќе бидат автоматски креирани во моментот на започнување на Потпроцесот.

Ве молиме одберете Документ

Отстрани

Зачувај активност Откажи

Step 6 Select activity: the conclusion to suspend the procedure and click Start.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Главни Прегледавање e-Архива Конфигурација на УДП

Детали за процесот
 Предвид на влезните мета-податоци при статификацијата на процесот

Назив: Тест инспекциски надзор
 Клиент (клиент): Инспекторат за животна средина
 Коментари:
 Раководител на процесот: Саша Шабрич
 Тип на надзор: Редовен надзор

Главни активности
 Во којата активност мета-податоци за својста од главните активности во рамките на процесот

Во којата одберете главна активност:
 [Избор на активност]
 Припрема за надзор и прикачување на документи
 Креирање на записник за извршен инспекциски надзор
 Зачувување на записник на постапка
 Наод од инспекција
 Постапка по наод од инспекција

[Зачувување на активност] [Откажи]

[Зачувување на активност] [Откажи]

For this first activity is required from the list of people to choose the one that is supposed to make a decision to terminate the procedure, select the forms of documents that will be automatically created and click Add. Select people from the list who are supposed to attach documents for this activity. After completing this procedure for each form, click the Save activity.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Главни Прегледавање e-Архива Конфигурација на УДП

Детали за процесот
 Предвид на влезните мета-податоци при статификацијата на процесот

Назив: Тест инспекциски надзор
 Клиент (клиент): Инспекторат за животна средина
 Коментари:
 Раководител на процесот: Саша Шабрич
 Тип на надзор: Редовен надзор

Главни активности
 Во којата активност мета-податоци за својста од главните активности во рамките на процесот

Во којата одберете главна активност:
 [Зачувување на записник на постапка] ✓

Има потреба од одлука за променување на востанок
 Има потреба од одлука за променување на востанок

Има да наведете вредност за востанок поле:
 [Внесување на вредност]

Обрасци на Документи
 Во којата одберете ги Обрасците на Документи од кои се генерираат Документите да бидат автоматски креирани со примената на Динамичноста.

Во којата одберете Обрасци на Документи:
 [01-03-AS] ✓
 [Додај]

Документите што ќе бидат креирани автоматски
 Сите Документи избрани во рамките на овој наод ќе бидат автоматски креирани во моментот на донесување на Постапката.

Во којата одберете Документ:
 [Внесување на документ]

[Зачувување на активност] [Откажи]

Step 7 Select activity: inspection findings, and click Start.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Опции: Пребарувања | e-Архива | Конфигурација на УДП

Детали за процесот
Преглед на основните мета-податоци при стартирањето на процесот

Наслов: Тест инспекциски надзор
Клиент (избор): Инспекторат за животна средина
Коментар:
Рекомендатор на процес: Дајко Ѕбилов
Тип на надзор: Редовен надзор

Главни активности
Во колоне избере мета-податоци за избор од главните активности во рамките на процесот

Во колоне избере главна активност:
Соборете активност
Припрема за надзор и прикачување на документи
Контрола на записок за извршен инспекциски надзор
Заклучок за затворање на постапка
Наод од инспекција ←
Постапка по наод од инспекција

Зачувај Откажи

From the list of document templates, select the templates of the documents that will be automatically created and click Add. Choose from the list and people who are supposed to attach documents for this activity. After completing this procedure for each form, click the Save activity.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

Опции: Пребарувања | e-Архива | Конфигурација на УДП

Детали за процесот
Преглед на основните мета-податоци при стартирањето на процесот

Наслов: Тест инспекциски надзор
Клиент (избор): Инспекторат за животна средина
Коментар:
Рекомендатор на процес: Дајко Ѕбилов
Тип на надзор: Редовен надзор

Главни активности
Во колоне избере мета-податоци за избор од главните активности во рамките на процесот

Во колоне избере главна активност:
Наод од инспекција

Обрасци на Документи
Во колоне избере ги Обрасците на Документи од кои потребните Документи ќе бидат автоматски креирани со притока на Дозвој колони.

Во колоне избере Образец на Документ:
01-01-A2 ←
Додај ←

Документи што ќе бидат креирани автоматски
Сите Документи избрани во рамките на оваа листа ќе бидат автоматски креирани во моментот на започнување на Процесот.

Во колоне избере Документ:
Отвори

Зачувај активност Откажи

Step 8 Select activity: inspection follow-up procedure, and click Start.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

ени Пребарување « Архива Конфигурација на УДП

Детали за процесот
Преглед на влезните мета-податоци при создавањето на процесот.

Наслов:	Тест инспекциски надзор
Клиент (корпор):	Инспекторат за животна средина
Категорија:	
Раководител на процес:	Darko Binkov
Тип на надзор:	Редовен надзор

Главни активности
Во влезите внесете мета-податоци за селекција од главните активности во рамките на процесот.

Во коима одберете главна активност:

- Соборител активност
- Припрема за надзор и прикачување на документи
- Креирање на записник за извршен инспекциски надзор
- Зачување за запирање на поставка
- Наод од инспекција
- Поставка на наод од инспекција

Додајте активност Откажи

Зачувајте Откажи

From the list of document templates, select the templates of the documents that will be automatically created and click Add. Choose from the list and people who are supposed to attach documents for this activity. After completing this procedure for each form, click the Save activity.

Задачи : Потребна е Иницијализација на Процесот за 'Инспекциски надзор'

ени Пребарување « Архива Конфигурација на УДП

Детали за процесот
Преглед на влезните мета-податоци при создавањето на процесот.

Наслов:	Тест инспекциски надзор
Клиент (корпор):	Инспекторат за животна средина
Категорија:	
Раководител на процес:	Darko Binkov
Тип на надзор:	Редовен надзор

Главни активности
Во влезите внесете мета-податоци за селекција од главните активности во рамките на процесот.

Во коима одберете главна активност:

Поставка на наод од инспекција

Обрасци на Документи
Во коима одберете ги Образците на Документи од кои потребните Документи да бидат автоматски креирани со прикачување на Документите.

Во коима одберете Образец на Документ:

01-01-98

Додајте Документ Откажи

Документи што не бидат креирани автоматски
Сите Документи одберете во влезите на оваа листа да бидат автоматски креирани во моментот на започнување на Процесот.

Во коима одберете Документ:

Додајте Документ Откажи

Зачувајте активност Откажи

Once all activities are stored, click Start.

Step 9 On the page of the Overview of the process, click Refresh to display the following tasks. Select the next task: Preparation for supervision and attaching documents.

Some information about the process and the tasks are displayed. Sending the necessary documents can be done through form for sending documents.

When you have finished editing the task, click Finish.

Преглед на Процес: Тест инспекциски надзор (01-01)

Юни Пребарување е-Архива Конфигурација на УДП

Информации за Процес

Стартер:	Darko Blinkov	Процес:	Тест инспекциски надзор (01-01)
Почнато:	23.04.2015 15:53	Статус:	Во тек
Последно извршување:	23.04.2015 16:18	Идентификациски број на процес:	001T0150070

[Освежи](#) [Откажи процес](#)

Задачи

На учесниците во овој Процес се доделени следните Задачи.

<input type="checkbox"/> Наслов	<input type="checkbox"/> Доделено на	Краен рок	Статус на Задача
Потребна е Иницијализација на Процесот за 'Инспекциски надзор' <input type="checkbox"/> НМВ	Darko Blinkov		Завршен ←
Припрема за надзор и прикачување на документи <input type="checkbox"/> НМВ ←	Darko Blinkov		Доделен ←

Историјат на Процес

 УДП ▸ Задачи : Припрема за надзор и прикачување на документи

Дона Шаблони Пребарување е-Архива Конфигурација на УДП

Припрема за надзор и прикачување на документи

Име на Процес	Тест инспекциски надзор
Листа на Прилози	Прилози
Испрати документи	Форма за испраќање на Документи ←
Тип на Задача	Испраќање на Документи
Статус на Задача	Доделен
Краток опис на Задачата	Тест коментар за задачата
Коментари за Задачата	<div style="border: 1px solid gray; padding: 5px;"> <div style="border-bottom: 1px solid gray; margin-bottom: 5px;"> A A⁺ B U </div> <div style="height: 100px;"></div> </div>

[Заврши](#) [Зачувај](#) Назад

Step 10 The page of the overview of the process, click Refresh to display the following tasks. Select the next task processing document: Minutes of the Executive inspection

Преглед на Процес: Тест инспекциски надзор (01-01)

Дона Шаблони Пребарување е-Архива Конфигурација на УДП

Информации за Процес

Стартер:	Darko Blinok	Процес:	Тест инспекциски надзор (01-01)
Венчато:	23.04.2015 15:53	Статус:	Во тек
Последно извршување:	23.04.2015 16:22	Идентификациски број на процес:	001T0150070

Освежи ← Отвори процес

Задачи

На учесниците во овој Процес се доделени следните Задачи:

Име на Задача	Доделено на	Краен рок	Статус на Задача
Потребна е Иницијализација на Процесот за "Инспекциски надзор" - 01*	Darko Blinok		Завршен ←
Припрема за надзор и прикажување на документи - 01*	Darko Blinok		Завршен ←
Потребна е Обработка на Документот: Заклучок од извршен инспекциски надзор - 01*	Darko Blinok	07.05.2015	Доделен ←

Историјат на Процес

Во записите на овој Процес се случува следните настани.

On this page, select the document Record of inspection supervision for its editing. Once you have finished processing the document click Finish.

УДП » Задачи : Потребна е Обработка на Документот: Заклучок за запирање на постапка

Дона Шаблони Пребарување е-Архива Конфигурација на УДП

← Оваа задача за Обработка на Документ се однесува на Заклучок за запирање на постапка ←

Име на Процес	Тест инспекциски надзор
Листа на Прилози	Прилози
Испрати документи	Форма за испраќање на Документи
Тип на Задача	Обработка на Документ
Статус на Задача	Доделен
Краток опис на Задачата	Нема вредност
Коментари за Задачата	<div style="border: 1px solid gray; padding: 5px; min-height: 50px;"> <div style="border-bottom: 1px solid gray; padding-bottom: 5px;"> A A1 B I U </div> </div>

← Заврши
Зачувај
Назад

Step 11 Once you have finished processing all the necessary documents (all documents marked in the picture), select the task Define a distribution list.

Преглед на Процес: Тест инспекциски надзор (01-01)

Дона Шаблони Пребарување e-Архива Конфигурација на УДП

Информации за Процес

Стартер:	Darko Blinok	Процес:	Тест инспекциски надзор (01-01)
Почнато:	23.04.2015 15:53	Статус:	Во тек
Последно извршување:	23.04.2015 16:34	Идентификациски број на процес:	00170150070

Овакви Откажи процес

Задачи

Научете се за овој Процес со детални следниве Задачи:

Наслов	Давачи на	Краен дат	Статус на Задача
Потребна е Иницијализација на Процесот за 'Инспекциски надзор' [M]	Darko Blinok		Завршен
Припрема за надзор и приклучување на документи [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Записник од извршен инспекциски надзор [M]	Darko Blinok	07.05.2015	Завршен
Потребна е Обработка на Документот: Заклучок за запирање на постапка [M]	Darko Blinok	07.05.2015	Завршен
Потребна е Обработка на Документот: Решение во инспекциска постапка [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Записник за запиравање на постапка за посредување [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Записник за започнување на постапка за посредување [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Планов калик [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Планов за едукација [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Баране за посредување на кредитна постапка [M]	Darko Blinok		Завршен
Потребна е Обработка на Документот: Баране за посредување постапка за посредување [M]	Darko Blinok		Завршен

A page is opened where you are able to select users who will receive permission to review all documents in the file of this process after its completion. After you select users click on performed.

With this all the tasks for this process are completed, and thus is completed the process itself.

Дона Шаблони Пребарување e-Архива Конфигурација на УДП

Оваа задача за Дефинирање на Дистрибутивна Листа се однесува на Процесот **Тест инспекциски надзор**

Тип на Задача: Креирање на Дистрибутивна Листа

Статус на Задача: Доделен

Ве молиме одберете ги Корисниците кои ќе добијат Привилегии за Преглед на сите Документи во Досието на овој Процес после неговото Завршување.

Дистрибутивна Листа

Коментари за Задачата

Заврши Зачувај Назад



2/15/20

STATE ENVIRONMENTAL
INSPECTORATE OF
REPUBLIC OF MACEDONIA