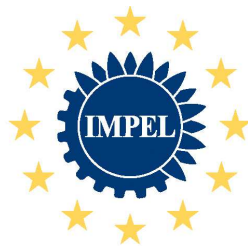


easyTools



Risk Assessment in Inspection Planning

A European Perspective



European Union Network for
the Implementation and Enforcement
of Environmental Law

Final Report of the 2010/2011 IMPEL Project:

**Development of an easy and flexible risk assessment tool as
a part of the planning of environmental inspections linked to
European environmental law and the RMCEI (easyTools)**

February 2012

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law is an informal network of the environmental authorities of EU Member States, acceding and candidate countries, and Norway. The European Commission is also a member of IMPEL and shares the chairmanship of its Plenary Meetings.

The network is commonly known as the IMPEL Network
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The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on certain of the technical and regulatory aspects of EU environmental legislation. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. It promotes the exchange of information and experience and the development of environmental legislation, with special emphasis on Community environmental legislation. It provides a framework for policy makers, environmental inspectors and enforcement officers to exchange ideas, and encourages the development of enforcement structures and best practices.

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

Title report: easyTools – Risk Assessment in Inspection Planning	Number report: 2011/05																						
Project manager: Horst Büther, (Bezirksregierung Köln & IMPEL Co-Chair Cluster I)	Report adopted at IMPEL General Assembly in Copenhagen 07-08 June 2012																						
Authors: Rob Kramers (InfoMil) Hielke Kuitert (Province of North Brabant, Netherlands) and Horst Büther	Number of pages: Report: 18 Annexes: 107																						
Project team <table data-bbox="199 757 1276 1193"> <tr> <td>Eva Rychlíková, Helena Nekolová</td> <td>Czech Republic</td> </tr> <tr> <td>Thomas Ailleret</td> <td>France</td> </tr> <tr> <td>Horst Büther, Wulf Böckenhaupt, Hartmut Teutsch</td> <td>Germany</td> </tr> <tr> <td>Cormac Mac Gearailt</td> <td>Ireland</td> </tr> <tr> <td>Durak Arifi</td> <td>Macedonia</td> </tr> <tr> <td>Tony Liebrechts, Rob Kramers, Hielke Kuitert</td> <td>Netherlands</td> </tr> <tr> <td>Joanna Piekutowska</td> <td>Poland</td> </tr> <tr> <td>Florin Homorean</td> <td>Romania</td> </tr> <tr> <td>Vladimir Kaiser</td> <td>Slovenia</td> </tr> <tr> <td>Jesus A. Ocio</td> <td>Spain</td> </tr> <tr> <td>Alison Simmons</td> <td>United Kingdom</td> </tr> </table>		Eva Rychlíková, Helena Nekolová	Czech Republic	Thomas Ailleret	France	Horst Büther, Wulf Böckenhaupt, Hartmut Teutsch	Germany	Cormac Mac Gearailt	Ireland	Durak Arifi	Macedonia	Tony Liebrechts, Rob Kramers, Hielke Kuitert	Netherlands	Joanna Piekutowska	Poland	Florin Homorean	Romania	Vladimir Kaiser	Slovenia	Jesus A. Ocio	Spain	Alison Simmons	United Kingdom
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Disclaimer: <p>This report is the result of a project within the IMPEL-Network. The content does not necessarily represent the view of the national administrations.</p>																							

Content

Summary	5
1. Introduction	6
2. Aim and Scope	8
3. Activities	9
4. Integrated Risk Assessment Method (IRAM)	12
5. Internet Tool	13
6. Data storage	14
7. Guidance Book	15
8. Communication and publicity	17
9. Conclusions and recommendations	18

Annexes in separate file

- Terms of Reference 2010/11	Annex 1
- Terms of Reference 2011	Annex 2
- Report on Questionnaire	Annex 3
- 1 st Progress Report	Annex 4
- 2 nd Progress Report	Annex 5
- 3 rd Progress Report	Annex 6
- 4 th Progress Report	Annex 7
- Report of the Workshop	Annex 8

Summary

This is the final report of "easyTools". The main objective of this project, executed in 2010 and 2011, was to develop an easy and flexible risk assessment tool as part of the planning of environmental inspections linked to European environmental law (IED and SEVESO) and the RMCEI.

Experts from 11 IMPEL Member countries formed the project team, led by Germany. After collecting information on the risk assessments that are used across Europe, a new rule based methodology was developed and tested, called Integrated Risk Assessment Method (IRAM).

Besides the methodology the project also developed a new web based tool (IRAM tool) that can be accessed by the IMPEL website (www.impel.eu). Also a guidance book that covers all steps of the methodology has been written by the project. In annex 1 of the guidance book and on the first page of the internet programme the manual of the risk assessment tool can be found.

All objectives were delivered through products described in this final report. The resulting conclusions led to recommendations for future IMPEL work.

Further the project team makes the following recommendations for future IMPEL activities:

- the inspection coordinators in the Member Countries need to be assisted and instructed to work with the IRAM tool.
- tools should be developed that will further assist the inspecting authorities in inspection planning (e.g. reporting tools that will be able to merge and analyse risk assessment data and plan inspections).

1. Introduction

Background

RMCEI

In 2001 the European Parliament and the Council adopted the Recommendation providing for minimum criteria for environmental inspections (RMCEI 2001/331/EC). The purpose of the RMCEI is to strengthen compliance with, and to contribute to a more consistent implementation and enforcement of Community environmental law in all Member States.

The RMCEI establishes guidelines for environmental inspections of installations, other enterprises and facilities whose air emissions, water discharges or waste disposal or recovery activities are subject to authorisation, permit or licensing requirements under Community law ('controlled installations').

All inspecting authorities in the Member States should apply these guidelines. They concern amongst others minimum criteria on establishing and evaluating plans for environmental inspections. Since the adoption of the RMCEI experts within IMPEL have been discussing how to implement these planning criteria of the RMCEI.

IED

The Industrial Emission Directive (2010/75/EU), which came into force in January 2011, contains binding requirements for environmental inspections. An essential part of article 23 of the IED is the assessment 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."

SEVESO

The SEVESO II Directive (96/82/EC) also contains binding requirements for inspections. According to paragraph 18 the competent authority shall regularly draw up inspection plans and programs for routine inspections for all establishments, including the frequency of site visits for different types of establishments. The inspection frequencies shall be determined by risk assessment of the establishments involved.

Doing the Right things

Pursuant to the RMCEI all inspection activities should be planned in advance. Practitioners have expressed the need for guidance to help the implementation of the minimum criteria on planning in the RMCEI. IMPEL developed a step-by-step guidance book under the project DTRT. The guidance book takes as starting point the Environmental Inspection Cycle. One of the steps within the cycle is setting priorities. This project "easyTools" gives descriptions in detail on how risk assessment tools could work in practice.

This report

This report describes the process of the project. A full description of the methodology and the IRAM tool can be found in the guidance book.

In section 2 and 3 the scope and project activities are described. Section 4 to 8 will touch upon some important (technical) issues that we would like to highlight here. In the last section we will list the conclusions and recommendations that came from the workshop that was held in November in Cologne.

2. Aim and Scope

The aim of this project is to develop a guidance book and a flexible and user friendly program for risk assessment within the planning of environmental inspections. The aim of the guidance book is to guide the user through the steps that are taken to build a risk assessment method for the planning of inspections. Furthermore, the guidance book will introduce the IRAM tool that is developed by the easyTools workgroup, which will be made available to all member states on the IMPEL website.

The scope of this project was to develop a risk assessment that will suit the inspection planning of installations and establishments that fall under the scope of the RMCEI, IED and Seveso II (III). Although this guidance book focuses on the inspections derived from the above mentioned Recommendation and Directives, the methodology and the IRAM tool described in the guidance book can also be used for inspection objects and activities that fall outside this scope, such as waste, wastewater, genetic engineering, fishery, nature protection *etc.*

3. Activities

Project team meetings

During the 2010 and 2011 6 project team meetings were held (Cologne, Warsaw, Prague, Ljubljana, Bilbao and Dublin). In 2010 the project team discussed the scope of the project, made an inventory of the risk assessment methods that already exist (see text under questionnaire in this section) and developed the methodology (see section 4) itself.

In 2011 the project team discussed the development of the guidance book (see section 7), the IRAM tool (see section 5) and organised a workshop (see text under Workshop in this section) for 16 Member countries.

The project team consisted of 16 members from 11 Member Countries.

Ad hoc meetings

Twice a small working group was setup to have an in depth discussion on the methodology and the IRAM tool. The meetings were held in Brussels and Cologne. The outcome of both meetings was reported back to the project team.

Questionnaire

The project team developed a questionnaire that was sent out to the National Coordinators of IMPEL in March 2010. We have received 25 answers from: Italy (Lombardi), Ireland, Germany (Münster, Hessen, Hamburg, Detmold, Schleswig-Holstein, Cologne, Bremen, Rheinland-Pfalz), Spain (Extremadura, Basque Country, Madrid), Poland, Portugal, Macedonia, Romania, Latvia, Turkey, France, Slovakia, Denmark, Slovenia, Finland and Greece.

From the answers the following conclusions could be drawn:

- Since the DTRT Project, the number of environmental authorities that now use a risk based approach for planning inspections has increased.
- A risk based approach is used for planning inspections for a variety of statutory tasks, the most common being IPPC and SEVESO.
- The risk assessment tools used vary from country to country. Even when there are common criteria in use, these criteria are being used in a different way.
- For a conclusion on the scoring systems that are being used more detailed research would be needed.
- The mathematical algorithms of the various systems are different.
- Weighting factors are hardly used, but when used they also vary.
- Most IMPEL member countries use IT tools for their risk assessment. The IT tools that are used are in most cases Excel sheets or databases. There is a preference to use general software like MS-Excel or MS-access.
- There is little experience of the evaluation of risk assessment tools.
- In most cases risk assessments are updated after every inspection.

- In only 3 IMPEL Member countries is risk assessment for IPPC inspections required by national legislation.

Programming of the IRAM tool.

In the first half of 2010 the project team defined the following conditions for the IRAM tools:

- It shall be a web based application
- It shall be in different languages
- Data should be stored on the servers of the competent authorities
- Easy import and export of data (e. g. XML, CSV)
- Flexible entry of risk criteria and its scoring system (the tool should give the opportunity to perform integrated inspections)
- The tool should not only be useable on a detailed but also on a more general level
- The methodology and the mathematical algorithm should be easy to understand
- The methodology and the mathematical algorithm should be written down clearly (so that it can be used by authorities that don't use the tool)
- The programme of demands (functional specification) shall be available

Based on these conditions Germany (Bezirksregierung Köln) assigned the company „Proximity“ to the IRAM tool.

The tool has been tested by the project team and the participants and revised accordingly. The tool is placed on the server of IMPEL and can be accessed through the IMPEL website.

Workshop

In November 2011 a workshop was organised in Cologne. 29 experts participated from 16 Member countries. The overall conclusions of the workshop are:

- Methodology is accepted by all participants;
- The comparison with own systems confirms the value of IRAM;
- IRAM tool is an added value and organisations can start to implement this;
- Procedural arrangements to work with the IRAM tool need to be made;
- The critical point of a risk assessment lies in the description of the impact criteria. They should be clear and unambiguous.

The workshop also came with a list of suggestion to improve the user friendliness of the tool and the text of the guidance book.

Further the workshop came with issues that could be addressed the new IMPEL IED project (e.g. difference and definition of inspection plan, schedule and programme) .

Communication

The project used Basecamp to facilitate the communication within the project team. The tool proved to be of added value to the project. Documents were stored in a central space and discussions could easily be followed and looked

up. Based on the experience the project would like to make two recommendations for future use of the tool.

Rules should be made on how to use the message board to prevent "Spam". Storage of documents should be well managed to easily find the necessary information.

4. IRAM: Integrated Risk Assessment Method

The risk assessment method IRAM is based on results of an evaluation of risk assessment tools currently used in IMPEL member countries. Besides the tools also an evaluation of risk criteria is made.

The methodology that was developed by the project team is based on the following principles:

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

The risk score of each impact criterion is directly related to the final risk category and therefore to the inspection frequency. We also believe that all environmental aspects with a high score should get the necessary attention. The risk itself is defined by impact criteria and operator performance criteria. They represent the effect and the probability. The methodology comes with many steering mechanisms. One of them is the minimum number of highest scores, what we call "the Rule" (point 2 above). When setting this mechanism for example on 2 you will need at least 2 criteria (environmental aspects) with the same high score to keep this level of impact / attention. Other steering mechanisms are weighting terms for impact criteria and weighting factors for operator performance criteria and inspection profile; the risk ceiling; and a so called "safety net".

5. Internet Tool

The IRAM tool was developed as an internet based tool and can be accessed from the IMPEL web site and used by any organisations that needs to plan their environmental inspections based on a systematic appraisal of the environmental risks.

The IRAM tool is a form application. This means that data is not stored on the IMPEL (or foreign) server but only on the server (or hard drive) of the inspecting authority. The tool itself is only used to make new entries for risk assessments or to change existing data of risk assessments by uploading and downloading xml-files.

There are two possibilities of using the tool:

- Risk assessment without registration and
- Risk assessment with registration.

Risk assessment without registration is a good way to try out the tool. We do however advise to register when using the tool for your inspection planning. By registration the users will get a defined "role" (Administrator, Coordinator or Inspector). The roles come with different rights and responsibilities to make changes within IRAM. The structure of the tool is designed in a way that consistent entry of data under 1 coordinator is guaranteed.

The tool can be used in different languages. At the moment the tool is in English, German and French. Provisions have been made so other languages can also be entered.

6. Data Storage

The IRAM tool is a form application that is installed on the IMPEL server. Besides information on accounts (users) and settings (e.g. Impact Criteria; Operator Performance Criteria, Weighting Factors and Terms in combination with type of inspections) data of the risk assessment itself is not stored on the IMPEL server. By exporting the data of the risk assessment with xml or csv files the inspecting authority can store the data on their own server (or hard drive).

For inspection planning it's necessary to compare and analyse the results of all xml files. Therefore xml files have to be merged together. This is not done by the IRAM tool.

For this reason the project team developed two small tools, as examples of how this can be done. To accommodate all one tool is developed in Excel and one in Access. The Excel tool is a "ready to use" tool that imports csv files while the Access tool is a conversion tool for the 2003 version of Access. It allows inspecting authorities to convert the xml files into their own database. Newer versions of Access are already xml based and importing xml files can be done without conversion.

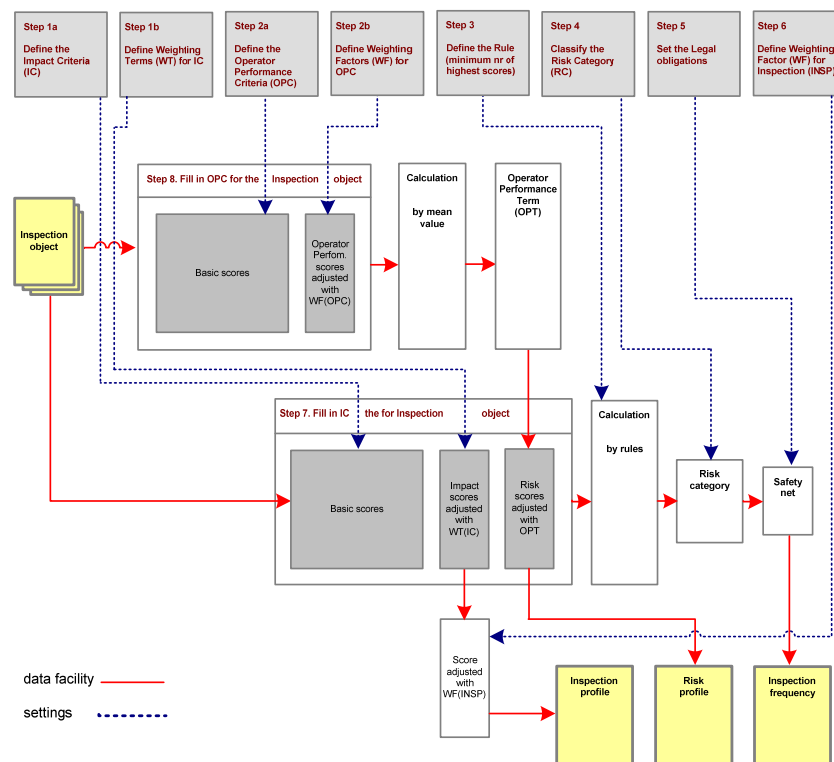
Follow up

The project team recommends to start a new project by IMPEL that could develop a tool (using for example SQL) that will help the inspecting authorities in this inspection planning phase (merging and analysing risk assessment data and plan inspections).

7. Guidance Book

One of main results of this project is the “easyTools – Risk Assessment Guidance book”. The aim of the guidance book is to guide the user through the steps that are taken to build a risk assessment method for the planning of inspections.

The guidance book starts with an introduction into Risk Assessments by clarifying important elements like Impact criteria, Operator performance criteria and Weighting factors and terms. It also gives an overview of the different types of methods that are currently in use in the Member Countries. In the last part of the guidance book detailed information is given about the Integrated Risk Assessment Method (IRAM). By following 8 steps the reader is guided through the different aspects of IRAM.



- Step 1a – define Impact criteria
- Step 1b – define weighting terms
- Step 2a – define Operator performance criteria
- Step 2b – define weighting factors
- Step 3 – define “the Rule”
- Step 4 – classify the risk categories
- Step 5 – set the legal obligations and policy
- Step 6 – define weighting factor for inspections
- Step 7 – fill in impact criteria scores
- Step 8 – fill in operator performance scores

In Annex 1 of the guidance book the manual of the IRAM tool can be found. Also good examples of risk criteria and operator performance criteria for IPPC (IED) installations and SEVESO establishments are taken in.

The manual can be found on the website of IMPEL.

8. Communication and publicity

For publicity of easyTools and for communication between users (coordinators) of the IRAM tool the project team will take the following steps.

Publicity

The National Coordinators will receive a letter in which easyTools and the use of the IRAM tool will be promoted. Further a small promotion package will be developed consisting of leaflet, poster and PowerPoint presentation. This package will be available on the IMPEL website.

Communication

To facilitate the communication of the users of the IRAM tool a project page "easyTools user group" in Basecamp has been set up. The project team invites the users to a mutual exchange of information on the IRAM internet tool for risk assessment in inspection planning. To make it controllable the project page is only meant for the users that fill in the role of coordinators and not the role of inspectors. We will ask the coordinators to be the ambassadors of easyTools within their country or organisation.

As a first package some useful files were put on Basecamp:

- Draft guidance book (English; a German description is within the German version of the programme)
- Some Access programmes to transfer the IRAM xml-files to an Access database (with description)
- Excel programme to transfer IRAM csv-files to an Excel database (English and German version; description is in the guidance book)

If there are changes in the IRAM programme or the utility programmes it will be notified on Basecamp so that all coordinators will be informed.

9. Conclusions and recommendations

Conclusions

The project reached the objective that is are described in the ToR: to develop an easy and flexible risk assessment tool as part of the planning of environmental inspections linked to European environmental law (IED and SEVESO) and the RMCEI.

The IRAM methodology was introduced at the workshop in Cologne (November 2011) and was accepted by all 16 Member countries. Comparison with own systems confirmed the added value of the methodology and the tool.

Up to now the number of countries and regions starting to work with the IRAM methodology and the internet programme is growing. Among them are Croatia, Czech Republic, Denmark, Estonia, Iceland, Turkey, Flanders region (Belgium), Rotterdam region (Netherlands) and in Germany: North Rhine Westphalia, Rhineland-Palatinate, Lower Saxony and the Free Hanseatic City of Bremen.

Recommendations

The project team makes the following recommendations for future activities:

- to develop a tool that will further assist the inspecting authorities in inspection planning (e.g. reporting tools that will be able to merge and analysing risk assessment data and plan inspections);
- procedural arrangements to work with the IRAM tool need to be made;
- coordinators in the Member Countries need to be assisted and instructed to work with the IRAM tool.