Annexes of easyTools Final report February 2012

Version: 2012-06-18

Annex 1: Terms of Reference 2010/06

No	Name of 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)

1. Scope

1.1. Background	The aim of the new project is to develop a flexible and user friendly programme for the risk assessment within the planning of environmental inspections as an application from the internet. The risk assessment tool will be part of the "planning cycle" described in the "Step by step guidance book for planning of environmental inspection" developed by the "Doing The Right Things" project (DTRT). It will take into account the needs of the IMPEL member countries as well as the requirements of European environmental law like the upcoming Industrial Emissions Directive (IED) and it will be linked to the Recommendation on Minimum Criteria for Environmental Inspections (RMCEI). It will be based on results of an evaluation of risk assessment tools currently used in IMPEL member countries. There will also be an evaluation of risk criteria used until now and of the criteria listed in the IED proposal. This will be done in the light of the IMPEL assessment of the IPPC recast proposal and the IMPEL input for the further development of the RMCEI with the aim to make them more practicable.
	During the Doing The Right Things project (DTRT3) some risk assessment tools for were developed in addition to already existing programmes. During the discussions at the workshop it became clear that most member countries want to use their own specific risk criteria. Furthermore the availability of basic data for quantifying the risk criteria differs largely between the member countries. This implies that risk assessment tools which require a specific fixed set of data do not fulfil the needs of most member countries.
	The following problems are related to already existing risk assessment tools:
	• Use of specific software
	• Use of a fixed set of criteria
	• Some criteria are country specific
	• Some criteria are not easily assessable
	• Risk graduation is not always clear
	• Lack of basic data for the assessment
	• Specific needs of the "User" are neglected
	As a consequence, nearly every competent inspection authority needs its own specific risk assessment tool. To avoid this the DTRT3 Project gave the following recommendations for future activities (among others):
	• Development of an easy risk assessment tool
	• Development of an advanced interactive IT tool that supports

	planning of environmental inspection • Defining standard set of risk criteria • Guidance for performance monitoring Based on these findings the aim of this project is to develop a flexible and user friendly programme for the risk assessment within the planning of environmental inspections as an advanced interactive IT tool from the internet.
1.2. Link to MAWP and IMPEL's role and scope	Strategic Goal I: Learning from each other and capacity building Strategic Goal II: Improving methodologies Strategic Goal III: Development of good practices Strategic Goal VI: Promotion of IMPEL and dissemination of its products
1.3. Objective (s)	• The risk assessment tool shall fulfil the requirements of European environmental law like the upcoming IED and the recommendations of the RMCEI • Evaluation of the requirements of IED and the recommendations of RMCEI in the light of ongoing IMPEL activities • Evaluation of existing risk assessment tools and risk criteria • Development of a risk assessment tool as an advanced interactive IT tool from the internet that could easily be used by every IMPEL member • Integration of the risk assessment tool into the inspection cycle of Doing The Right Things • Availability of the planning tool from the IMPEL website as an example of European good practice
1.4. Definition	The objectives will be achieved by: The evaluation of the requirements of IED and the recommendations of the RMCEI will be carried out in close cooperation with Cluster 3 and under consideration of the "IMPEL input for the further development of the Recommendation on minimum criteria for environmental inspections (RMCEI)" from October 2007. As the risk assessment tool should be a highly flexible tool, there will be no barriers against modification: adaptation of the tool would be possible if adaptation to local particularities was necessary or if some of the requirements of the European environmental law or recommendations of the RMCEI were to change. The development of the new risk assessment tool will be based on the evaluation of existing tools and risk criteria. To achieve this, the member countries will be asked to give information about the tools and risk criteria they currently use as well as about their experiences with these applications. Good ideas and practices will be taken into account during the development of the new tool. As an aid for the future user, an assessment of the risk criteria will be documented and developed further as the project progresses. The programming of the risk assessment tool will be done by a consultant. The tool will be based on the basic ideas of the already existing risk assessment tools and the recommendations of the DTRT3 project. There will be a set of about 20 risk criteria, some of them mandatory (based on European environmental law) and some of them free to choose. As a result, each country can start with a set of criteria that suits its needs best and take into account the data

	which can be easily procured. In the following years the set of criteria can be extended by the specific country in line with the enhanced availability of its basic data.
	The programme will be created in a way that every inspection authority in every country can use and adapt it to its own needs without a detailed knowledge of (internet) programming. It will be produced in an English, French and German version that could be translated into every other language version within a few hours. Eventually the tool shall become a component of the planning cycle - developed in the Doing The Right Things project - that is documented in the "Step by step guidance book for planning of environmental inspection".
	A workshop with participants from interested members and a format of the risk assessment tool on the IMPEL website will ensure its availability for all IMPEL member countries.
	The costs of developing the easyTools risk assessment program might vary significantly, depending on the practices, wishes, needs and realistic possibilities in this area. Therefore, in 2010 the project will at first focus on exploring these demands and possibilities and accordingly adapt the targets for the development of the tool/program, consequently working out a sound and realistic estimate of necessary total costs. The project costs for the IMPEL budget in 2010 indicated under **3.1** are not influenced by such a preliminary study, as resulting higher project cost could be taken into account via changes of Member States contributions as well as changes in the 2011 ToR.
1.5. Product(s)	1. Compilation of assessed risk criteria, their value and practicability in the inspection planning process 2. Flexible and user friendly programme for the risk assessment within the planning of environmental inspections as an advanced interactive IT tool from the internet available from the IMPEL homepage 3. Final report

2. Structure of the project

2.1. Participants	**Project team:** Senior inspectors or inspection coordinators with experience in inspection planning from 6 IMPEL member countries including Germany **Workshop:** Senior inspectors or inspection coordinators with experience in inspection planning from all interested IMPEL member countries
2.2. Project team	The project team will be arranged in autumn 2009. The Netherlands and United Kingdom will participate in the project team. It is further planned to have three other countries on board.
2.3. Manager Executor	Dr. Horst Buether Bezirksregierung Koeln (Distrikt Administration Cologne), Germany
2.4. Reporting arrangements	The project progress will be reported to Cluster "Improving permitting, inspection and enforcement" (Cluster 1): in September 2010, to the participants and other interested parties. The Cluster will submit the progress report to the IMPEL General Assembly and the IMPEL secretariat. The final report of the project is expected to be submitted to the IMPEL General Assembly in autumn 2011.

			Interim report autumn 2010 Final report: autumn 2011

2.5 Dissemination of results / main target groups	The products mentioned under 1.5 will be presented and discussed on an IMPEL workshop in 2011 and disseminated to all national IMPEL coordinators. They will also be made available on the IMPEL Homepage as interactive IT tools. The main target groups in the IMPEL member countries are inspection authorities and senior inspectors or inspection coordinators with experience in inspection planning.

3. Resources required

3.1 Project costs and budget plan			**2010**	**2011**
	1. Overhead (organisation) cost (€) :		1,000*	1,000*
	2 Project meeting costs (€)			
	Meeting 1 Project group meeting Feb 2010			
	No of Participants:	6		
	Travel: 5 * 500 €		2,500 €	
	Accommodation: 5 * 125 €		625 €	
	Catering: 2 * 6 * 25 €		300 €	
	Meeting venue:		500 €	
	Meeting 2 Project group meeting Aug 2010			
	No of Participants:	6		
	Travel: 5 * 500 €		2,500 €	
	Accommodation: 5 * 125 €		625 €	
	Catering: 2 * 6 * 25 €		300 €	
	Meeting venue:		500 €	
	Meeting 3 Project group meeting Mar 2011			
	No of Participants:	6		
	Travel: 5 * 500 €			2,500 €
	Accommodation: 5 * 125 €			625 €
	Catering: 2 * 6 * 25 €			300 €
	Meeting venue:			500 €
	Meeting 4 Workshop May 2011			
	No of Participants:	36		
	Travel: 35 * 500 €			17,500 €
	Accommodation: 35 * 125 €			4,375 €
	Catering: 2 * 36 * 25 €			1,800 €
	Meeting venue:			2,500 €
	Meeting 5 Project group meeting Aug 2011			
	No of Participants:	6		
	Travel: 5 * 500 €			2,500 €
	Accommodation: 5 * 125 €			625 €
	Catering: 2 * 6 * 25 €			300 €
	Meeting venue:			500 €
	3. Other costs (€):			
	External Programming:		20,000 €	5,000[x)] €
	Translation:			
	Dissemination:			
	Other (specify):			
	[x]) possibly more, depending of the scale of necessary revisions of programme as result of workshops/project group findings			
	TOTAL cost per year €		**28,850 €**	**40,025 €**
	TOTAL project cost €		**68,875 €**	

3.2. Fin. from IMPEL budget	*2. Project meeting costs (€):*	6,850 €	30,525 €
	3. Other costs, external programming (€):	5,000 €	5,000 €
3.3. Co-financing by MS (and any other)	*1. Overhead costs (€):* as co-financing contribution, committed by Germany * roughly estimated	1,000*	1,000*
	2. Project meeting costs and *3. Other costs (€):* as co-financing contribution, committed by Germany ** subject to approval of the 2010 national budget by the new German Parliament, probably tentative budgetary regime in the 1rst half of 2010 nn: depends on budget 2011 ***xx contingent contribution from the Netherlands	1,000 up to 15,000** xx***	3,500 nn xx***
3.4. Human from MS	120 days for project group and workshop meetings plus a couple of days for working on the project		

4. Quality review mechanisms

The quality of the project will be reviewed by the project participants and the attendees of the workshop. It will be appraised by the Cluster "Improving permitting, inspection and enforcement" (Cluster 1) at different meetings. The products of the project will then be submitted to the IMPEL General Assembly for appraisal and adoption.

5. Legal base

5.1. Directive / Regulation / Decision	IPPC (IED) RMCEI
5.2. Article and description	Article 25 of the upcoming Industrial Emissions Directive: Environmental Inspections
5.3 Link to the 6th EAP	The Sixth Community Environment Action Programme calls for the encouragement of more effective implementation and enforcement of Community legislation on the environment through the promotion of improved standards of inspection, monitoring and enforcement by Member States and through improved exchange of information on best practice on implementation.

6. Project planning

6.1. Approval	The project will be presented to Cluster "Improving permitting, inspection and enforcement" (Cluster 1) at the Cluster meeting in Brussels 14/15 September 2009 and to the General Assembly in Brussels on the 16th of October 2009.
6.2. Financial Contributions	The project is supported by IMPEL, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Ministry for Environment of North Rhine Westphalia, The Regional District Administration Cologne and participating IMPEL Member Countries
6.3. Start	The project start is scheduled for January 2010. (Formation of a project team in autumn 2009)
6.4 Milestones	**Year 1: 2010** 1. Register of risk assessment tools and risk criteria, 2010: 01 2. Preliminary study on alternative program designs, 2010: 01-03 3. First project group meeting, 2010: 02 4. Assessment of tools and risk criteria, 2010: 02-03

	5. Presentation at Cluster-1 meeting, 2010: 03
	6. Programming of the risk assessment tool, 2010: 04-07
	7. Second project group meeting, 2010: 08
	8. Presentation at Cluster-1 meeting, 2010: 09
	9. Amendment of the risk assessment tool, 2010: 10-11
	10. Test by project group members, 2010: 11-12
	Year 2: 2011:
	1. Recommendations from IMPEL member countries, 2011: 01
	2. Evaluation of the risk assessment tool, 2011: 01
	3. Third project group meeting, 2011: 02
	4. Implementation of recommendations, 2011: 03
	5. Presentation at Cluster-1 meeting, 2011: 03
	6. Implementation of recommendations, 2011: 04
	7. Workshop with IMPEL member countries, 2011: 05
	8. Preparation of project report, 2011: 05-07
	9. Fourth project group meeting, 2011: 08
	10. Presentation at Cluster-1 meeting, 2011: 09
	11. Presentation at IMPEL GA, 2011: autumn
	12. Placing on IMPEL homepage, 2011: 12

6.5 Products	• Assessed risk criteria • Risk assessment tool • Final report
6.6 Adoption	By IMPEL General Assembly, autumn 2011

Annex 2: Terms of Reference 2011/05

No	Name of 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) - 2nd year

1. Scope

1.1. Background	The aim of the new project is to develop a flexible and user friendly programme for the risk assessment within the planning of environmental inspections as an application from the internet. The risk assessment tool will be part of the "planning cycle" described in the "Step by step guidance book for planning of environmental inspection" developed by the "Doing The Right Things" project (DTRT). It will take into account the needs of the IMPEL member countries as well as the requirements of European environmental law like the upcoming Industrial Emissions Directive (IED) and it will be linked to the Recommendation on Minimum Criteria for Environmental Inspections (RMCEI). It will be based on results of an evaluation of risk assessment tools currently used in IMPEL member countries. There will also be an evaluation of risk criteria used until now and of the criteria listed in the IED proposal. This will be done in the light of the IMPEL assessment of the IPPC recast proposal and the IMPEL input for the further development of the RMCEI with the aim to make them more practicable. For more background information see Terms of Reference of the easyTools project for 2010-2011. For work that has already been done in the project see Progress Reports March and September 2010.
1.2. Link to MAWP and IMPEL's role and scope	Strategic Goal I: Learning from each other and capacity building Strategic Goal II: Improving methodologies Strategic Goal III: Development of good practices Strategic Goal VI: Promotion of IMPEL and dissemination of its products
1.3. Objective (s)	The Objectives are described in the project ToR for 2010-2011
1.4. Definition	The Definition is given in the project ToR for 2010-2011. ❖ The risk assessment programme will be created in a way that every inspection authority in every country can use and adapt it to its own needs without a detailed knowledge of (internet) programming. It will be produced in an English, French and German version that could be translated into every other language version within a few hours. Eventually the tool shall become a component of the planning cycle - developed in the Doing The Right Things project - that is documented in the

	"Step by step guidance book for planning of environmental inspection". The programming of the tool will start in the end of 2010 and will be finished in the first half of 2011. The budget for programming on 2010 is 20,000 €, that means 5,000 € from the IMPEL budget and 15,000 € from Germany. In 2011 an IMPEL budget of 10,000 € will be needed for continuing with programming and consultant costs for administrative support and the preparation of a guidance book. To achieve this up to 25,000 € are planned as co-financing contribution committed by Germany (which is subject to approval of the 2011 national budget by the German Parliament). In 2011 two project group meetings and a workshop with participants from interested member countries are planned. Because of the big interest in the project more participants at the project group meetings and at the workshop are anticipated. The three project group meetings in 2010 were attended by 13, 17 and 14 participants. The new planning is based on 7 travelling participants at the project group meetings and 20 travelling participants at the workshop. The meetings will last one and a half day each so that two nights per participant will be sufficient.
1.5. Product(s)	4. Compilation of assessed risk criteria, their value and practicability in the inspection planning process 5. Flexible and user friendly programme for the risk assessment within the planning of environmental inspections as an advanced interactive IT tool from the internet available from the IMPEL homepage 6. Final report and risk assessment guidance book

2. Structure of the project

2.1. Participants	**Project team:** Senior inspectors or inspection coordinators with experience in inspection planning from 14 IMPEL member countries including Germany **Workshop:** Senior inspectors or inspection coordinators with experience in inspection planning from all interested IMPEL member countries
2.2. Project team	The project team consists of senior inspectors from 14 IMPEL member countries.
2.3. Manager Executor	Dr. Horst Buether Bezirksregierung Koeln (Distrikt Administration Cologne), Germany
2.4. Reporting arrangements	The project progress will be reported to Cluster "Improving permitting, inspection and enforcement" (Cluster 1): in March and September 2011. The Cluster will submit the progress report to the IMPEL General Assembly and the IMPEL secretariat. The final report of the project is expected to be submitted to the IMPEL General Assembly in autumn 2011.
2.5 Dissemination of results / main target groups	The products mentioned under 1.5 will be presented and discussed on an IMPEL workshop in 2011 and disseminated to all national IMPEL coordinators. They will also be made available on the IMPEL

	website and the tool (programme) will be available as an interactive IT tool. Pilot studies in (different regions of) the member countries and dissemination of the results to other (regions) countries will be supported. Production of promotional materials like a leaflet (brochure) and a PowerPoint presentation will help to make the results visible. The main target groups in the IMPEL member countries are inspection authorities and senior inspectors or inspection coordinators with experience in inspection planning.	

3. Resources required

3.1 Project costs and budget plan			2011
	1. Overhead (organisation) cost (€) :		1,000 €
	2 Project meeting costs (€)		
	Meeting 1 Project group meeting Feb 2011		
	No of Participants	8	
	Travel: 7 * 400 €		2,800 €
	Accommodation: 2 * 7 * 100 €		1,400 €
	Catering: 2 * 7 * 25 €		350 €
	Meeting venue:		500 €
	Meeting 2 Workshop May or Sep 2011		
	No of Participants:	21	
	Travel: 20 * 400 €		8,000 €
	Accommodation: 2 * 20 * 100 €		4,000 €
	Catering: 2 * 20 * 25 €		1,000 €
	Meeting venue:		2,500 €
	Meeting 3 Project group meeting Aug or Oct 2011		
	No of Participants:	8	
	Travel: 7 * 400 €		2,800 €
	Accommodation: 2 * 7 * 100 €		1,400 €
	Catering: 2 * 7 * 25 €		350 €
	Meeting venue:		500 €
	3. Other costs (€):		
	External Programming and consultant:		35,000 €
	Translation:		
	Dissemination:		
	Other (specify):		
	TOTAL cost per year (2011) €		**61,600 €**
	TOTAL project cost € (2010 + 2011) (28,850 € for 2010 has to be confirmed by the IMPEL office)		90,450 €
3.2. Fin. from IMPEL budget	*2. Project meeting costs (€):* *3. Consultant costs, external programming (€):*		*22,100 €* *10,000 €*
3.3. Co-financing by MS (and any other)	*1. Overhead costs (€):* co-financing contribution by Germany * roughly estimated		*1,000 € **
	2. Project meeting costs and *3. Other costs (€):* co-financing contribution by Germany ** subject to approval of the 2011 national budget by the German Parliament		*3,500 €* *25,000 € ***
3.4. Human from MS	144 days for project group and workshop meetings plus a couple of days for working on the project		

4. Quality review mechanisms

The quality of the project will be reviewed by the project participants and the attendees of the workshop. It will be appraised by the Cluster "Improving permitting, inspection and enforcement" (Cluster 1) at different meetings. The products of the project will then be submitted to the IMPEL General Assembly for appraisal and adoption.

5. Legal base

5.1. Directive / Regulation / Decision	IPPC (IED) RMCEI
5.2. Article and description	Article 23 of the Industrial Emissions Directive: Environmental Inspections
5.3 Link to the 6th EAP	The Sixth Community Environment Action Programme calls for the encouragement of more effective implementation and enforcement of Community legislation on the environment through the promotion of improved standards of inspection, monitoring and enforcement by Member States and through improved exchange of information on best practice on implementation.

6. Project planning

6.1. Approval	The project was approved by the General Assembly in Brussels on the 16th of October 2009.
6.2. Financial Contributions	The project is supported by IMPEL, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Ministry for Environment of North Rhine Westphalia, The Regional District Administration Cologne and participating IMPEL Member Countries
6.3. Start	The project started in January 2010.
6.4 Milestones	**Year 1: 2010** 1. Preparation of logo, flyer and draft questionnaire, Jan. 2. Programming of a first model (Excel), Feb. 3. First project group meeting, Feb., Cologne 4. Compilation of risk criteria, March 5. Adoption and send out of the questionnaire, March 6. Programming of a second model (Excel), March – May 7. Evaluation of and report on the questionnaire, May 8. Second project group meeting, June, Warsaw 9. Sub-group meeting for tool development, July, Brussels 10. Advancement of the tool, Aug. 11. Presentation at the Cluster-1 meeting, Sept., Oslo 12. Third project group meeting, Oct., Prague 13. Start of professional programming (web based), Oct. 14. Test of the draft tool, Dec. **Year 2: 2011:** 1. Evaluation of the risk assessment tool, Jan 2. Fourth project group meeting, Feb. 3. Implementation of suggestions for improvement, March 4. Presentation at Cluster-1 meeting, March 5. Further improvements, April 6. Workshop with IMPEL member countries, May 7. Implementation of suggestions for improvement, June 8. Preparation of project report and guidance book, May - July 9. Fifth project group meeting, Aug.

	10. Presentation at the Cluster-1 meeting, Sept. 11. Presentation at the IMPEL GA, 2011: autumn 12. Placing on the IMPEL homepage, 2011: 12

6.5 Products	• Assessed risk criteria • Risk assessment tool • Final report and guidance book
6.6 Adoption	By IMPEL General Assembly, autumn 2011

easyTools

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IMPEL Project

Risk Assessment in Inspection Planning

A European Perspective

European Union Network for
the Implementation and Enforcement
of Environmental Law

Report on the Results of the questionnaire

Final version June 2010

Contents

1. Introduction

This is the first report of the 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". For ease, this project is referred to as the **easyTools** project!

The aim of the easyTools project is to develop a flexible and user friendly programme for risk assessment. This assessment is for use within the planning of environmental inspections. The product will be an application that can be accessed through the internet.
The risk assessment tool will be part of the "planning cycle" described in the "Step by step guidance book for planning of environmental inspection" developed by the "Doing The Right Things" project (DTRT). It will take into account the needs of the IMPEL member countries as well as the requirements of European environmental law such as the forthcoming Industrial Emissions Directive (IED) and it will be linked to the Recommendation on Minimum Criteria for Environmental Inspections (RMCEI). It will be based on results of an evaluation of risk assessment tools and risk criteria currently used in IMPEL member countries.

A questionnaire was developed for the evaluation (see section 2). This was sent out to the National Coordinators of IMPEL on 21 March 2010. to be filled in and returned before 23 April 2010.

This report contains the results and conclusions drawn from the returned questionnaires. In section 3 a summary of the results can be found. Section 4 gives the conclusions of the evaluation of the questionnaires. In section 5 and 6 the feedback to the questionnaire from the different IMPEL Member countries is given.

2. The questionnaire

Definitions of terms used in the questionnaire
Risk is defined in a broad way. It includes any factor an authority wants to take into account when assessing priorities.
Risk Assessment: process of quantifying the risk by measuring the (potential) effect and the probability of the occurrence

Question 1
Do you use a risk assessment approach when planning inspections?
If yes continue with question 2, if no continue with question 9.

Question 2
For which statutory tasks of your organisation do you use the risk assessment approach?

Question 3
Specify the methodology of your risk assessment(s) by answering the following questions:
- What risk criteria do you use?
- What scoring systems do you use?
- Do you use weighting factors and how are they determined?
- How does your mathematical algorithm (the way your system calculates) work?
- How do you use the output of your risk assessment in terms of ranking and classification?

Question 4
Do you use a software tool for performing the risk assessment?
If yes, is this tool accessible by internet? Is it possible to receive a copy?

Question 5
Have you already evaluated the risk assessment methodology in practice?
If yes, what was the outcome?

Question 6
How is the risk assessment updated?

Question 7
Is the risk assessment methodology set by law?

Question 8
When you assess risk, what form do input and output data have? (Database, 1 big excel sheet, 1 excel sheet for each facility...)

Question 9
Do you prefer a tool developed on the basis of general software (e.g. MS Office, MS Excel) or a tool developed on the basis of more specialized software (e.g. Visual C++ or other programming software)? If you prefer a tool developed on the basis of more specialized software, what architecture of the tool would suit you better (for your IT needs)?

Question 10
Do you have any issues, concerning risk assessment that you would like to share with us that could be interesting for this project?

3. Summary of the results

We have received 25 answers from: Italy (Lombardi), Ireland, Germany (Munster, 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.

Question No 1: Do you use a risk assessment approach when planning inspections?

- 19 respondents answered YES: *Ireland, Germany (Munster, Hessen, Detmold, Schleswig-Holstein, Cologne, Bremen, Rheinland-Pfalz), Spain (Extremadura, Basque Country, Madrid), Poland, Portugal, Romania, France, Denmark, Slovenia, Finland and Greece*
- 6 respondents answered NO: *Italy (Lombardi), Germany (Hamburg), Macedonia, Latvia, Turkey, Slovakia*

Question No 2: For which statutory tasks of your organisation do you use the risk assessment approach?

There is a wide range of statutory tasks for which a risk assessment approach is used across the IMPEL Member countries. The most common tasks are:
- Inspection of IPPC installations and
- Inspection of SEVESO establishments

Other tasks that are mentioned are:
- Enforcement of waste water treatment plants
- Enforcement of waste management
- Enforcement of air pollution
- For setting self monitoring and reporting conditions for operators
- Inspection of small and medium size enterprises
- Enforcement of EIA
- Enforcement of Biodiversity and Natura 2000
- Enforcement of LCP
- Enforcement of VOC
- Enforcement of Emission Trading Scheme

Question No 3: Specify the methodology of your risk assessment(s) by answering the following questions:

What risk criteria do you use?

The responses show that there are many risk criteria in use.
The most common used criteria are:
- *IPPC Installations and other industrial installations*
    - Category / does the facility fall under the scope of the IPPC directive
    - Production capacity of the installation
    - Location (including: distance to sensitive areas/objects, state of the environment)
    - Complexity (including: type of installation, size)
    - Emissions to air (the amount or load, the number and type of substances, level of monitoring)
    - Emissions to water
    - Emission of noise
    - Environmental management
    - Attitude of operator
    - Compliance behaviour (non-compliances, fines etc)
    - Number of complaints

- Amount of hazardous / non-hazardous waste (waste management)

- *Seveso establishments*
  - Dangerous substances (number and amount)
  - Neighbourhood
  - Safety measures of the establishment

Other criteria that are in use:
- *IPPC Installations and other industrial installations*
  - National priorities
  - Soil pollution
  - Potential threat to human health or damage to nature
  - Raw material and energy / fuel types that are used
  - Pollution abatement technique
  - Impact of emission / effects to local and regional public health
  - Subjective evaluation of inspector
  - Number and type of regulation applicable for installation
  - Number of employees
  - Number of installations of the same sector within the region
- *Seveso establishments*
  - Number of plants in an industrial area
  - Physical state and toxicity of the substance
  - Operating type
  - Results of the last inspection
  - Number of accidents
  - Results from inspection of safety reports
  - Results from inspections of independent authorised experts or of the operators

What scoring systems do you use?

Respondents have provided insufficient information on their scoring system. Almost all scoring systems in use assign points from 1 to 5 (or to 10) for each criterion by comparison with pre-established thresholds.
There are scoring systems that use a matrix method (dimension and impact) to assign the score for each criteria (Portugal) or that assign points by comparison with similar activities (Greece).

Do you use weighting factors and how are they determined?

Five respondents answered that their risk assessment tools use weighting factors but how they are determined is unclear. Some examples:
- The weighting factor depends on the experience of the inspector
- The weighting factors are determined according to the importance of the criteria
- The weighting factors were established based on experience from previous inspections
- The weighting factors are established by national priorities

How does your mathematical algorithm (the way your system calculates) work?

There are a lot of different approaches on how the system in use for risk assessment calculates the final score. Some of the systems use the function "IF" (from comparison). Other systems use summation and average values and multiplying with weighting factors where is applicable. Finally the risk value is compared with threshold values for categorising in risk categories (e.g. high risk, medium risk, low risk or others).

How do you use the output of your risk assessment in terms of ranking and classification?

The output of risk assessment tools are used mainly to prioritise the (IPPC or SEVESO) installations/establishments. This prioritisation determines the number and type of inspections to be carried out within a certain time period (one year).
In some cases the output is used to determine the resources that are needed.

- 13 respondents answered YES: *Ireland, Germany (Cologne, Detmold, Muenster, Rheinland-Pfalz), Spain (Basque Country, Madrid), Poland, Portugal, Romania, France, Denmark, Slovenia*
- 4 respondents answered NO: *Germany (Bremen), Spain (Extremadura)*, *Greece, Finland*
- 2 respondents answered: NOT NECESSARY: *Germany (Schleswig-Holstein, Hessen).*

Question 5: Have you already evaluated the risk assessment methodology in practice?
If yes, what was the outcome?

Most of the respondents answered that they have only recently started using a risk assessment approach for planning of environmental inspection. Evaluation of the methodologies is planned for the near future.
In Ireland, Spain (Basque) and France an evaluation has already been carried out.
Ireland: "The development of the methodology commenced in 2005 and it has undergone a number of testing regimes and revisions since its inception. The concept of assigning enforcement categories to licensed facilities was the subject of a joint EPA/IBEC organised conference which was held in May 2006. The OEE took account of a number of valuable comments received both at and following this conference and in September 2006 undertook a pilot phase testing of the methodology with a number of IBEC nominated licensees. The methodology was further revised following the pilot phase testing".
Spain: "It is useful to plan sector inspections. One of the main issues with the tool is that even the time needed to collect the data to keep the database update is not high. It is an extra to the rest of the work of the visit that is normally done at the end without the same care that the inspection itself".
France: Their inspections process (which includes the risk assessment tool) has been evaluated by the industry's representatives a few years ago and reports show they seem to be happy with the process.

Question 6: How is the risk assessment updated?

In most cases the risk assessment is updated after each inspection is carried out (Germany – Cologne, Detmold, Muenster, Spain – Basque Country, Poland, Denmark and Slovenia). There are some cases in which updating is carried out annually (Ireland, Romania, France) or if there are new installations to inspect (Germany – Bremen). In some cases updating has, to date, never been done (Spain – Basque Country, Finland, Germany - Hessen).

Question 7: Is the risk assessment methodology set by law?

- 13 respondents answered NO: *Ireland, Germany (Cologne, Detmold, Muenster, Schleswig-Holstein and Bremen), Spain (Basque Country and Madrid), Poland, France (ministerial directives), Denmark, Finland and Greece.*
- 3 respondents answered YES: *Romania (by Order of Environmental Ministry), Germany, Rheinland-Pfalz (demanded by Article 18 of the Seveso-II-Directive) and Slovenia (in general but not the methodology itself)*
- 1 respondent answered: NOT YET: *Spain (Extremadura).*

Question 8: When you assess risk, what form do input and output data have? (Database, 1 big excel sheet, 1 excel sheet for each facility...)

There are many forms in use for input and output data. Some examples are:
- 1 Excel sheet for each facility: Ireland, Germany (Schleswig-Holstein, Cologne, Detmold, Muenster)
- 1 big table: Germany (Bremen)
- A database: Spain (Extremadura), Slovenia, Portugal and Poland
- An access database: Spain (Basque Country, Madrid)
- 4 big excel sheets: 3 excel sheets for input data and 1 excel sheet for output data: Romania
- A huge SQL database: France

- Special software (Denmark)
- Special software and Excel sheets: Germany, Rheinland-Pfalz

Question 9: Do you prefer a tool developed on the basis of general software (e.g. MS Office, MS Excel) or a tool developed on the basis of more specialized software (e.g. Visual C++ or other programming software)? If you prefer a tool developed on the basis of more specialized software, what architecture of the tool would suit you better (for your IT needs)?

Most respondents answered that they prefer general software (like MS Excel or MS Access) to the more specialised software.
There were some proposals for specialised software developed on SQL platform (Germany – Cologne, Romania, Spain – Basque Country).
The respondents outlined that the software that will be developed under our project has to allow import or export data from existing databases.
One of the respondents expects that the Commission will set some rules and guidelines with the coming IED .

Question 10: Do you have any issues, concerning risk assessment that you would like to share with us that could be interesting for this project?

The following issues are relevant for the development of a risk assessment tool:
- The tool should be easy to use and flexible
- The tool should produce a schedule with the inspections and the inspectors, taking into account non routine inspections
- The risk approach should be linked to the objectives to get a complete approach for an efficient and effective inspection.
- It should be possible to update the tool in an easy way
- The link to systems that are already in use
- There can be a conflict between outcome of a risk assessment and the national legal requirements on inspection frequencies.
- The risk criteria should be made as simple and effective as possible
- The output of the IT Tool developed under easyTools Project should be a list of controlled installation and activities ranked on the basis of their risk score.
- Gathering the information for risk assessment should be easily achieved.
- More information about IT Tool developed under easyTools Project and training opportunities on using the tool should be available in future.
- Weighting indicators is a subject which needs to be reviewed regularly according to the general/specific objectives of the organisation.
- It should be possible to execute a risk assessment on different levels of planning within an organisation
- The project should deliver an overview of criteria and calculation methods in the different IMPEL member countries
- A risk assessment approach has to be straightforward and quick to operate. An assessment requiring too much detail leads to low acceptance by the inspector and to low quality data input to finish the assessment.

4. Conclusions

Since the DTRT Project, the number of environmental authorities that now use a risk based approach for planning inspections has increased exponentially.

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.

Recommendation:
To select a few risk assessment tools (based on the feedback of this questionnaire) and ask for more detailed information for further research.

5. Respondents with a Risk Assessment approach

In the feedback of the different IMPEL member countries only the answers are taken in.
Go to section 2 to see the questions.

5.1 DENMARK

1: Yes, Each officer makes an assessment but without any common methodology or check-list. We inspect all facilities once every 3 year. It is a political decision.

2:
a) Planning of all industry inspections
b) For inspecting IPPC installations and for setting self-monitoring and reporting conditions in permits

3: Criteria: Individual caseworker assessment of the risk posed. All aspects are relevant in this assessment – soil/groundwater, noise, wastewater, risk of accidents, etc.

What scoring systems do you use? Today we use categorizing instruments as described in the national guideline concerning differentiated inspection practices.

Do you use weighting factors and how are they determined? No. The former regional authority did use such methods, based on authority strategy and goals and level of environmental loading/negative effects – but not in the municipal authority where I am employed today. See answer 8.

How does your mathematical algorithm (the way your system calculates) work: Not relevant. Subjective assessment of criteria. The subjective assessment does lead to a score of high, middle or low for environmental information and environmental management, and a score of high, middle or low for environmental compliance. Together these two scores give a score of category 1, 2 or 3, category 1 industries being the best at compliance and management and thus needing less inspection. Categorizing does though not in all cases lead to less inspection. The complexity and dynamics of the company leads to a subjective assessment of the need for regular contact. But contact can be more in the form of telephone, e-mail and meetings and less in the form of physical inspections, if it is a company that often is rated as category 1.

How do you use the output of your risk assessment in terms of ranking and classification? See answer above.

Each officer should consider:
Inspection reports from the last 3 years. The performance of the operator: concerning legal performance (compliance with limit values etc.), performance of systematic work with environmental aspects. The potential environmental influence of the installation (e.g. air pollution, noise, wastewater, risk of soil pollution, ground water protection etc.).

Scoring matrix: (As used in the Danish EPA guidance no 6/2004)

('Lovlydighed' = compliance with regulations, 'Systematic og information' = systematic work and information to public, 'Lav Middel Høj' = low middle high)

Level 1: installations with high legal performance and a high systematic work within environmental issues.

The scoring matrix – together with other factors such as potential environmental impact – is used for planning and setting priorities for the use of resources. For many IPPC-installations will the inspecting officer's evaluation of the potential environmental impact be a more important factor than the scoring.

Weighing factors are in a simple but not determined way included in the scoring matrix above.

We do not use a mathematical ranking system. Each installation should be "total inspected" at least each 3 year. In general each installation will be inspected at least once a year.

4: Yes. Categorizing is integrated in the Geoenviron tool. See this website:
English: http://www.geoenviron.eu/   http://www.geoenviron.eu/Industry-PPC.htm
Danish: http://www.geokon.dk/

5. No / Not recently

6: a) After every complete, regular inspection (which can be a collection of inspections which together cover the whole establishment) we undertake categorizing of the company and planning of the next inspection.
b) No current updating considered.

7:
a) No. There are agreements with the state level concerning minimum frequency of inspections. And minimum inspection frequency at Seveso sites is determined by Seveso legislation. But categorizing is based on a national environmental guideline.
b) Please read answer 3. There is no risk assessment methodology set by law. The EPA guidance is used for inspection planning.

8:
   c)   In the municipal authority where I work we have only the individual categorizing information within the Geoenviron product. So this is only a small amount of information with our subjective assessment of management/information and compliance level.

In the regional authority (Vejle Amt), which was shut down after the structural reform 1.1.2007, we had a more detailed sheet for each industry, with an assessment of several industrial environment parameters/goals. This was used to determine inspection frequency and focus for the next inspection as well as assess which goals we had in relation to selected industries.

If for example the authority's goals for the whole industry sector were 1)more systematic environmental management and 2)better groundwater protection we would assess selected industries in relation to these goals. This could lead to more intensive inspections and targeted inspections. As well as to intensified dialogue concerning voluntary environmental management. This way of prioritizing relates to the networking with industry this region of Denmark has been engaged in since 1995. See our Green Network with industry at http://www.greennetwork.dk/

Assessment of environmental potential with following subject areas on the basis of the level of environmental loading/negative effect and on the basis of environmental management level:
- Raw materials/Products
- Wastewater
- Energy
- Transport
- Air
- Nuisances
- Accident risk
- Soil and groundwater
- Waste

Goals from a selection of the following subject areas were developed for those companies that were prioritized on basis of an assessment of the above mentioned environmental potential. The goals were created partly to meet selected local, regional, national and EU goals, strategic and otherwise.

- Product orientated/LCA
- Wastewater
- Energy
- Transport
- Air emissions
- Nuisances
- Accident risk
- Soil and groundwater pollution
- Environmental management

Example: assessment of authority goals for a waste incinerator plant:
- Parameter / Goal (numbered) / Result
- Raw materials /
    - o avoid unintentional emissions / Receiving system developed and positive list complied with in 2004.
    - o avoid unnecessary use of authority's time and resources / Company develops a system so the suitability for incineration of a waste material is evaluated extensively before an application is sent to the authority (2004)

b) A database is used for input to scheduled inspections and for the outcome eg. enforcements, police notices, etc. The database also includes permits, installation data, operator data etc. but no risk output data as such

9:
a) General software. Make it simple. Inspector's lives today are already very complicated. We have enough IT systems already. The more simple and easy to use the product is the better. As well we have to think of IT license costs. Most municipalities in Denmark are cutting costs drastically right now, with no end in sight. So the economic factor for new tools is an important one. In Denmark most authorities use Geoenviron or Struktura. So any new model for inspection prioritizing would be something that can be integrated in existing register systems. For example a model could be integrated in Geoenviron and reports could be made from Geoenviron to Excel or other general software.
b) No preferences. We are using specialized software right now
c) We prefer a tool developed on the basis of general software.
d) We prefer a tool developed on the basis of general software

10: We do have a geographically based determinant for inspection frequency in one particular groundwater protection area (which quite possibly will be expanded to cover all important groundwater protection areas in the new, larger municipality). This is in our Lysholt groundwater area that supplies a large part of the city of Vejle with drinking water. In the groundwater recharge area for these wells there is a minimum inspection frequency of once a year for all industry, large and small. As well, there are strict rules for types of industry and demands towards these industries based on groundwater protection. This is covered in the Lysholt Agreement, which is a local groundwater protection agreement made by the former regional authority and the municipality of Vejle.

5.2 FINLAND

1: Yes

2. Inspection units (15 in Finland) use risk assessment approach to build up an inspection plan, which is publicly available in the internet and to build up (inspector by inspector) an inspection programme which consists of individual inspectors' plans. Inspection units are quite independent in their work. The ministry of the environments sets general objectives for the compliance monitoring, but due to underdeveloped outcome indicators the risk assessment approach plays there a minor role. Inspection frequency is determined risk assessment and in Internet the inspection class each facility is displayed.

3: Criteria can be divided in four categories:
- the potential of the facility to pose a threat to human health or damage to nature; what kind of emissions the facility has and how big emissions are
- does the facility belong to the scope of the IPPC directive
- compliance behaviour: how often the facility has exceeded the limit values, how quickly it has been able to restore to the legal status and how much the facility has "generated" complains made by the public.
- in Finland the facility can request inspection

Up to this year inspectors have been able to make almost all needed inspections only the inspections requested by the operator had been controlled.

4. No. There is plan to produce one during this year, but it will be integrated to electronic compliance monitoring system (= VAHTI).

5. All inspections are based on risk assessment. Criteria for inspection are in inspection guide which was published in 2005 (only Finnish and Swedish) which is available in the Internet.

6: We have general guidelines. We have not updated the guidelines, but inspection units have fine turned these to better fill to their circumstances.

7: No, the limited personal power requires risk based approach more and more in the future.

8: No form, it is up to an inspector to do the choice and if necessary justify choses to the director who is responsible the compliance monitoring of the facilities in their yearly business negations.

9: We shall produce our own which will be integrated to our IT-system. More important is that main principles are clearly defined and available to all. The coming IE directive includes some rules and it is expected that the Commission will give further guidelines based on the directive.

5.3 FRANCE

1: Yes

2: Instruction of authorization process, and inspections.

3: Scoring system :
Three facilities' categories are defined : Declared, Registered and Authorised. The first ones can start their activities as soon as they have declared they will. The Registered (This is a brand new category that was enforced by law a few weeks ago) have a simple procedure to fulfil before they can. The authorised need to get a proper authorisation (which usually takes approx. 1 year). The "declared" rarely get inspected (mainly upon complaint, or when a national order is given to check in every region a certain number of {dry cleaners / printers /…}).
Among the "authorised" category, three subcategories of facilities are defined : "national priorities", "high stake", "other". The "national priorities" get inspected every year. The "high stake" get inspected every 3 years. The "others" get inspected every 10 years (about to shrink down to 7 years for the latters).
This classification as "national priorities/high stake/other" is a risk assessment tool, since it is based upon national criteria for evaluating risks generated by the facility, as shown below.

Criteria are :
- National priorities
    - Waste facilities (with certain threshold for each type : dangerous waste facilities, non dangerous waste stockings, non dangerous waste incineration)
    - Measured Air emissions (SOx, NOx, dust, Cl, Cd+Hg, …)
    - Measured Water emissions (COD, hydrocarbs, As+Cr+Cu+Sn+Mn+Ti+Zn, Cd+Hg+Ni+Pb) with different threshold depending on where they reject (wastewater treatment plant, river, lake)
    - Manure spreading (with tonnage threshold)
    - Porks and poultry Farming (with tonnage of Nitrogen threshold)
    - Polluted sites that have specific problems.
- High stakes (among those who are not already above, following ones are High stakes)
    - IPPC
    - CO2 quotas
    - Large Combustion Plants
    - Incinerators
    - COV emitting plants (threshold on tonnage)
    - Wastewater treatment plant treating industrial wastewater

Weighting factors, mathematical calculation
We don't really have weighting factors (although inspectors naturally know what is important and what is not, and tend to go more often in places they know they have more things to see / to do). The mathematical calculation is a "max" and not a sum.

Output
We have an integrated database that is linked with a software (GIDIC) used by all inspectors in France to put in data. This software can be manually updated as regards to the "subcategory" the facility falls in (although it would probably be preferable to get this task done automatically, and update manually the happy few that can't be done automatically)

4: GIDIC is the software we use to organize the inspection's work. It will soon be replaced by its successor : SIIIC. It contains (or should contain) everything we know about a facility. It is not possible to get a copy for other member states at this point.

5: The risk assessment methodology has not been evaluated. The "inspection" process has been evaluated by the industry's representatives a few years ago (5 ?). Reports show they seem to be happy with the process.

6: List of criteria (shown in question 3) may be updated up to once a year. For instance, it includes new factors about "being IPPC or not", that didn't exist four years ago.

7: No. These are ministerial directives (ie not legally applicable, but hierarchical orders)

8: We have a huge database (SQL type), linked to a software that is fully available to all inspectors, and part of the data is made accessible to the public on an open website (http://installationsclassees.ecologie.gouv.fr/rechercheICForm.php)

9: The tool will or would have to be integrated into the core of our software. We won't ask for that from IMPEL, and so, the best thing we can hope is the implementation (if any at all) of the calculation on a simple Excel Sheet. A simple "formula" would even be enough, if it proves to be implementable.

10: We are more interested in other countries' criteria and calculation methods than the actual informatical implementation.

5.4 GERMANY - Detmold

1. Ja.

2. Zur Durchführung von Inspektionen gemäß § 16 der 12. BImSchV.

3. Risikokriterien sind Stoffe (Art, Menge, Eigenschaften), Wirkungspfade, Art und Organisation des Betriebes sowie die Nachbarschaft des Betriebes einerseits, technische und organisatorische Maßnahmen zur Gefahrenabwehr andererseits.
Eine Wichtung erfolgt durch die Punktzahl, die je nach den Risikokriterien vergeben wird.
Verschiedene Teilsummen dieser Punkte werden addiert bzw. subtrahiert.
Mit dem Endergebnis kann mittels einer Tabelle eine Inspektionshäufigkeit von > 1x / Jahr bis min. 1x / 5 Jahre ermittelt werden. Da die ermittelte Inspektionshäufigkeit im hiesigen Dienstbezirk i.d.R. überboten wird, dient das Verfahren somit der Festlegung einer Mindest-häufigkeit.

4. Es handelt sich um eine Excel-Anwendung, die nach der Novelle der Störfall-Verordnung im Jahr 2000 vom damaligen StUA Herten den anderen Überwachungsbehörden des Landes NRW per Internet zur Verfügung gestellt wurde.

5. Die Methode hat sich seit fast zehn Jahren in der Praxis bewährt.

6. Bei wesentlichen Änderungen des Betriebes muss eine erneute Bestimmung der Inspektionshäufigkeit erfolgen.

7. Die Risikobewertung durch § 16 (2) Nr.1 Satz 2 der 12. BImSchV, die Methode nicht.

8. Die Eingabemaske umfasst drei Excel-Blätter, die Ausgabe ist ein Einzahlwert (= die Zahl der Jahre zwischen zwei Inspektionen).

9. Eine Anwendung auf Standardbasis sollte unbedingt beibehalten werden.

10. Nein.

5.5. GERMANY - Hessen

1: yes

2: Inspections Art. 18 Seveso-II (§16 Störfallverordnung)

3: siehe Anlage zu diesem Fragebogen!

4: siehe Anlage zu diesem Fragebogen!

5: In Hessen wird seit 2000 mit der beschriebenen Gefahrenbewertung gearbeitet. Die Methode hat sich in der Praxis bewährt, eine Bewertung wurde jedoch nicht durchgeführt.

6: Sofern sich an den drei Parametern der Gefahrenbewertung nichts ändert, bleibt das Ergebnis bestehen.

Anlage zum Fragebogen:

Systematische Gefahrenbewertung der Betriebsbereiche in Hessen
Dieses Verfahren wurde von der hessischen Umweltallianz entwickelt, siehe auch:
http://www.umweltallianz.de/imperia/md/content/umweltallianz/5_services/2_abfallwirtschaft-u-bilanz/inspektion_nach_st_rfallv_2006.pdf

Zur Durchführung der geforderten systematischen Bewertung der Gefahren schwerer Unfälle werden drei Parameter herangezogen, die die Grundlage der Ermittlung des Gefahrenpotenzials eines Betriebsbereichs bilden:
- Stoffe (Menge)
- Komplexität (Stoffmerkmale, Verfahren)
- Umgebung (Nutzung)

Für jeden dieser Parameter werden nach folgenden Kriterien Kennbuchstaben vergeben:

Parameter	Kenn-buch-stabe	Kriterium / Beschreibung
Stoffe	S1	Stoffmengen > Mengenschwelle Spalte 4 (Anhang I) und < Spalte 5 (Anhang I) (Betriebsbereiche mit Grundpflichten)
	S2	Stoffmenge > Mengenschwelle Spalte 5 (Anhang I) und < 3 x Mengenschwelle Spalte 5 (Anhang I) (Betriebsbereiche mit erweiterten Pflichten)
	S3	Stoffmengen $\geq$ 3 x Mengenschwelle Spalte 5 (Anhang I) (Betriebsbereiche mit erweiterten Pflichten)
Komplexität	K1	Wenige stoffliche Gefährlichkeitsmerkmale. Einfacher stofflicher Umgang wie z.B. Mischen, Lagern.
	K2	Verschiedene stoffliche Gefährlichkeitsmerkmale. Einfache stoffliche Umwandlungsprozesse, Abfüllung, einfache Infrastruktur
	K3	Viele verschiedene stoffliche Gefährlichkeitsmerkmale oder herausragende Merkmale wie z. B. giftige / sehr giftige Gase. Häufig wechselnde oder komplexe stoffliche Umwandlungsprozesse, vernetzte Infrastrukturen
	U1	Gebiete ohne besondere Schutzobjekte (Industriegebiet ohne weitere Betriebsbereiche, z.B. landwirtschaftliche Nutzung)

Parameter	Kenn-buch-stabe	Kriterium / Beschreibung
Umgebung	U2	Gebiete mit Schutzobjekten (z. B. Wohngebiete oder öffentliche Verkehrsflächen in größerer Entfernung, Gewerbegebiete)
	U3	Gebiete mit besonderen Schutzobjekten (z. B. Wohngebiete in geringer Entfernung, wichtige öffentliche Verkehrsflächen), Betriebsbereiche mit Dominoeffekt

Mit Hilfe der Kennbuchstaben wird wie folgt die Gefahrenpotenzialklasse des Betriebsbereichs (I – niedrig, II – mittel und III – hoch) ermittelt:
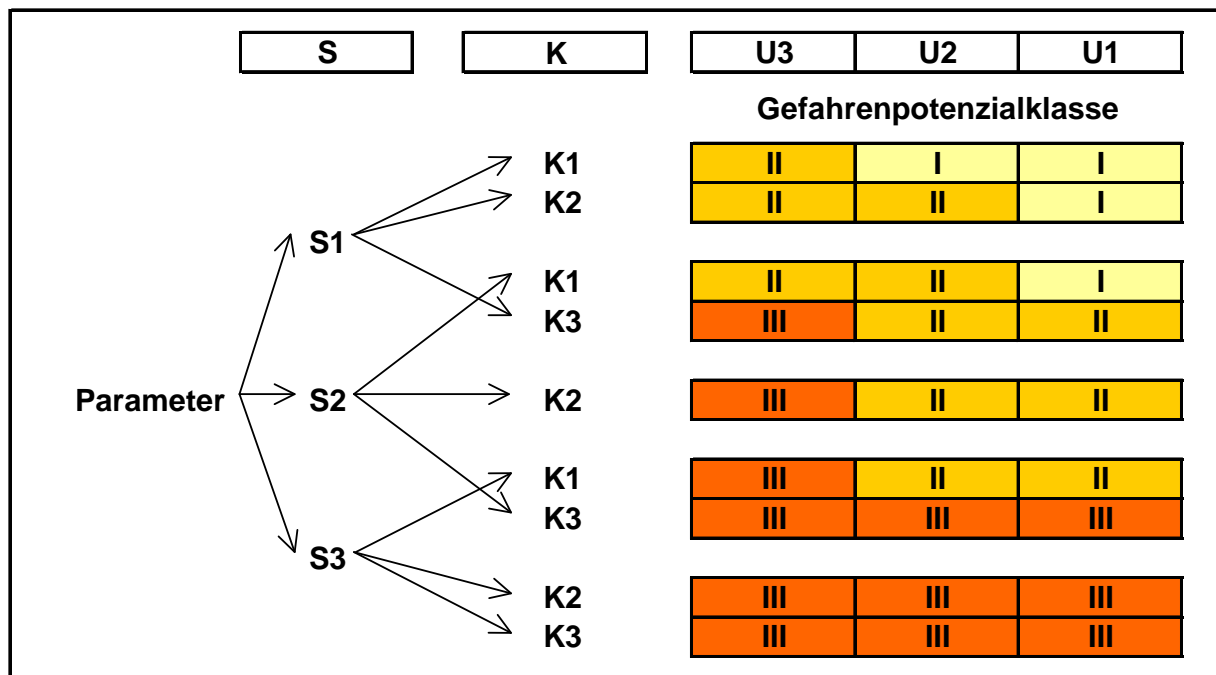
Für die klassifizierten Betriebsbereiche werden in Abhängigkeit von der Gefahrenpotenzialklasse vorab folgende Inspektionsintervalle festgelegt:

Gefahrenpotenzialklasse	Inspektionsintervalle
I "niedrig"	eine Prüfung innerhalb von 5 Jahren über alle relevanten Module
II "mittel"	zwei Prüfungen innerhalb von 5 Jahren, die relevanten Module werden auf die zwei Prüfungen verteilt
III "hoch"	jährliche Prüfungen, je eines der relevanten Module wird pro Jahr repräsentativ für den gesamten Betriebsbereich geprüft

5.6. GERMANY - Munster

1. Ja

2: Für Inspektionen gemäß der 12. BImSchV

3: Systematische Bewertung der Gefahren im Inspektionshandbuch des StUA
Herten: Blatt 1:
> Stoffe mit Mengen, Wirkungspfad und Betriebsbedingungen
> Betriebliche Gegebenheiten wie Art des Betriebes, personelle/organisatorische Vorkehrungen zur Gefahrenerkennung
> Gefahrenabwehr
> Schutzobjekte und Risiko erhöhende Faktoren in der Nachbarschaft
> Blatt 2:
> Bewertung der Inspektionsergebnisse für die Bereiche Technik, Organisation und Management; mängelfreie Ergebnisse führen zu einer begrenzten Firstverlängerung (auf keinen Fall ergibt sich eine längere Frist als 5 Jahre)

4: Es handelt sich um eine Excel-Datei, im internet als pdf-Dokument verfügbar, auf Anfrage Weitergabe der Excel-Version

5: Es handelt sich um eine seit vielen Jahren mit gutem Erfolg angewendete Methode, die mit geringem zeitlichem Aufwand und ohne große Detailkenntnisse der Firmen durchzuführen ist.

6: Ein Update ist selten erforderlich, da sich die relevanten Parameter nur in wenigen Fällen verändern. Nach relevanten Veränderungen der Stoffe oder des Betriebes muss eine Neubewertung durchgeführt werden. Nach durchgeführten Inspektionen wird die Bewertung gemäß Blatt 2 ergänzt und dadurch modifiziert.

7: Es handelt sich nicht um eine gesetzliche, jedoch um eine interne, Vorgabe

8: 3 Excel Blätter mit üblicherweise 6 Seiten (davon 4 Seiten für Blatt 1) je Betriebsbereich, der Input erfolgt im Wesentlichen über auswählen der zutreffenden Informationen

9: Bitte keine zusätzliche/spezielle Software!! Es soll unkompliziert, universell und leicht anpassbar sein. Spezielle Software bedeutet einen erhöhten Aufwand zur Schulung, hat viele Fehler, da die Programmierer unsere Arbeitsweise und unsere Bedürfnisse nicht kennen und ist erfahrungsgemäß absolut unflexibel!

10: Aus unserer Sicht ist die "systematische Bewertung der Gefahren" für eine grundsätzliche Einstufung der Risiken von Firmen gut geeignet. Spezielle Marker zur Bewertung einzelner Anlagen oder Bauteile können für eine Schwerpunktaktion interessant sein, führen als grundsätzliche Bewertungsparameter aber eher zu einer vermeintlichen Sicherheit. Es zeigt sich immer mehr, dass Organisation/Management, Arbeitsbelastung, Erfahrung und die innere Einstellung der Bediener zur Anlage/Firma einen größeren Einfluss auf die Sicherheit haben als messbare Parameter. Ein Bewertungssystem muss auf jeden Fall unkompliziert und schnell bedienbar sein, die frage/Bewertung von zu vielen Details führt zu einer geringen Akzeptanz und dazu, dass Eingaben von zweifelhafter Qualität erfolgen um die Bewertung.

5.7. GERMANY – Schleswig-Holstein

1: Yes

2: For the planning of the SEVESO-Inspections

3: a)) Kind of Seveso plant-dangerous substances and the amount of these substances-neighbourhood-kind of hazards(danger depends on explosion, fire, water/airpollution and hazards for the for people +nature),number of plant in an industrial area, fire brigade etc.
b) System similar the seven-up model -similar to the model of the former StUA Herten in NRW , but we use the experience of the first inspection and then we decide of a prolongation or shortening of the inspection intervals. (responsible for 30 of upper and 15 of lower lever)
c)Yes, but it also depends of the on the experience of the inspector at the plant
d) Addition and dividing the weighting factors
e) We use the results in addition to our former inspection experience to rank the inspection intervals.

4: no - for 45 plants it is not effective and you can't add the experience weighting factor!

5: Now we have some experience with the inspections and the described method -seven up- was used in the beginning . Now we use the experience and make our evaluation.
If yes, what was the outcome?

6: not yet

7. no

8: 1 sheet for one Seveso facility

9: no- we see no advantage, because our number of Seveso facilities is too small.

5.8. GERMANY - Cologne

1: Yes

2: IPPC-Installations
- Art. 13 IPPC-Directive
- Federal Immissions Control Act including operator obligations concerning waste management
- State water law (State of North Rhine-Westphalia)

Seveso-Installations :
- Art. 18 Seveso-II-Directive
- Hazardous Incident Ordinance

3.1 IPPC-installations
3.1.1 Risk criteria:
- Basic environmental relevance (kind of IPPC installation)
- Distance to sensitive objects/areas
- Number of substances released into the air
- Number of substances continuously measured
- Waste water relevance
- Quantity of hazardous/non-hazardous waste
- Compliance with regulations
- Readiness of the operator to comply
- Number of neighbourhood complaints
- EMAS or EN ISO 14001 certification prolongs the inspection cycle
Comment: We use two size criteria - number of sub-installations and number of facilities for handling substances hazardous to water - to estimate the time required for the inspections.

3.1.2 Scoring System:
Allocation of 1 up to 5 points according to the risk to each risk criterion; allocation of three size classes to each size criterion; yes or no to certification criterion.

3.1.3 Weighting factors:
There are no weighting factors but IPPC installations with 5 points lead to a higher risk category (see below) and an EMAS certification leads to a lower risk category.

3.1.4 Mathematical algorithm:
For the risk criteria the points are added and the mean value over all is calculated; for size criteria the highest value is taken into account; Certification leads to a lower risk category.

3.1.5 Ranking and classification:
The risk mean values of the installations are allocated to three risk categories: high, medium and low, leading to an inspection frequency of every 1, 2 or 3 years; inspection hours (24, 36, 48 h) are allocated to the three size classes.

3.2 Seveso-installations:
3.2.1 Risk criteria:
- Substances above Annex 1 row 2 or row 3 of the Seveso II Directive
- Physical state and toxicity of the substance
- Safety measures of the establishment
- Neighbourhood of the establishment
- Results of the last inspection
- Operating type
Averting of a danger (type of the fire brigade)

3.2.2 Scoring system:
Allocation of 0 up to 10 points to each criterion according to the impact.

3.2.3 Weighting factors:
No weighting factors

3.2.4 Mathematical algorithm:
Summation of risk groups and adding the results (in case of accident risks) or subtracting them (in case of benefits).

3.2.5 Ranking and classification:
The results are allocated in a two dimensional way to risk categories which represent inspection intervals of one inspection in 1 up to 5 years.

4.1 IPPC-inspections:
Microsoft Excel; the tool is available on Basecamp, on the ECENA website and on www.dunsche.eu.

4.2 Seveso-inspections (see annex): Microsoft Excel; the tool is theoretically available on a website per download
Comment: We use Geographic Information Systems (GIS) to find out the distance to sensitive areas.

5.1 IPPC-inspections: We started with the new risk assessment in 2010; an evaluation is planed for 2011.

5.2 Seveso inspections: We started with the risk assessment in 2000. Changes of the tool are necessary but postponed until the end of the easyTools project.

6: After every inspection the installation is re-assessed according to the results.
To provide a continuous update-process we've installed a working group, which meets once a month. The feedback from the inspectors is discussed there and integrated in the process.
In addition we plan to update the two risk assessment tools according to the results of the easyTools project.

7: According to the German environmental legislation the risk assessment methodology isn't set by law, there is just a remark in the German hazardous incidents ordinance.

8: One Excel sheet for each installation and establishment respectively. Data in OpenOffice-format (ODS). The sheet contains the criteria, the related points and the calculation (IN.SYS version 7). Statistically ranking of results and an inspection schedule are only possible by transferring the data into an extra Excel sheet. This should be made different in the easyTool.

9: The tool should fulfil two conditions: 1. The data of all installations and all establishments and so on should be in the tool at the same time for later recalculations, weightings or setting of priorities. This makes table calculation or databases preferable. 2. The tool should be easy to use by very different users around Europe. This makes standard software like Excel or Access or the open source versions of them preferable. If different users should enter data independent from each other a database seems to be the better choice.

10: First and foremost the tool should be easy to use and flexible. We are looking forward to our next meeting in Warsaw (Horst & Wulf).

Annex

Two excel-calculation-sheets for Seveso-installations (both to be found on Basecamp)
1. RAT-Seveso-basic-Cologne
2. RAT-Seveso-dynamic-Cologne

5.9. GERMANY - Bremen

1: yes

2: environmental inspections in the fields of air pollution and noise for IPPC and other installations

3: What risk criteria do you use? 3 types: 1) IPPC, 2) the big installations of "the first column" of national law, 3) the smaller ones of "the second column" of national law
What scoring systems do you use? no
Do you use weighting factors and how are they determined? no
How does your mathematical algorithm (the way your system calculates) work?
Type 1 inspection every year, type 2 three years period, type 3 six years period
How do you use the output of your risk assessment in terms of ranking and classification? no

4: no

5: no

6: only when there are new installations to inspect

7: no

8: 1 big table

9: general software or linked to our IT-tool "IFAS" designed by Kisters, Aachen

10: the tool should be ready to be filled in with additional information, e.g. name of inspector, category by national law, and others

5.10. GERMANY - Rheinland Pfalz

1: Ja

2: Ja, Für den Vollzug der Störfall-Verordnung insgesamt und insbesondere bei der Inspektionsplanung und Durchführung.
Betriebsbereiche mit Grundpflichten werden im 5-Jahresintervall einer Inspektion unterzogen. Betriebsbereiche mit erweiterten Pflichten werden entsprechend ihrer Größe und Komplexität jährlich bzw. nach Programm (siehe Antwort 3) innerhalb von 5 Jahren inspiziert.

3: Betriebsbereiche, die auf Grund ihrer Größe und Komplexität nicht jährlich komplett inspiziert werden können, werden nach folgendem Überwachungsprogramm innerhalb von 5 Jahren inspiziert.
Kategorie 1 (1- bis 2-jähriges Inspektionsintervall) Betriebsbereichs- oder Anlagenteile mit einem Stoffpotential ≥ Spalte 5.
Kategorie 2 (3- bis 5-jähriges Inspektionsintervall) Betriebsbereichs- oder Anlagenteile mit einem Stoffpotential ≥ Spalte 4 und ≤ Spalte 5.
Kategorie 3 (Revisionstätigkeiten im Rahmen des Arbeits- und Immissionsschutzes der Gewerbeaufsicht wie sie vor Inkrafttreten der Störfall-VO bereits durchgeführt wurden) Betriebsbereichs- oder Anlagenteile mit einem Stoffpotential < Spalte 4.
Bei allen Kategorien fließen zur Vorbereitung und Schwerpunktbildung bei der Durchführung folgende Aspekte mit ein:
Ergebnisse aus vorangegangenen Inspektionen
Unfallaufkommen/Schadensereignisse
Ergebnisse aus Prüfungen von Sachverständigen (Genehmigungsverfahren)
Ergebnisse aus der Prüfung des Sicherheitsberichtes
Harmonisierende Kriterien der EU (Artikel 9 Abs. 6 der RL 96/82/EG)
ggf.
Ergebnisse aus werksinternen Studien

4: Ja (teilweise) Intranet!
Für die Prüfung der Sicherheitsmanagementsysteme wurde in Rheinland-Pfalz ein Abfrage -Tool entwickelt und verwendet. Für die Prüfung der technischen Systeme wurde ein Musterinspektionsbericht entwickelt, der den Rahmen der Prüfungsmodalitäten vorgibt.
-    Beide Werkzeuge snd DV-verfügbar.

5: Seit 2002 werden in RP Inspektionen nach der voran beschriebenen Systematik durchgeführt.

6: Bei Bedarf, d. h. wenn gesetzliche Änderungen dies notwendig machen.

7: Im Artikel 18 der Seveso II Richtlinie bzw. im § 16 der Störfall-Verordnung wird die Einrichtung eines Uberwachungssystems (Inspektionen) zur planmäßigen systematischen Prüfung der technischen, organisatorischen und managementspezifischen Systeme des Betriebsbereiches gefordert.

8: Die Grundlagen der Risikobewertung sind im Wesentlichen der Sicherheitsbericht und die dort ermittelten sicherheitsrelevanten Anlagenteile sowie das Kapitel mit der Gefahrenanalyse zu diesen Anlagenteilen. Für die Verwaltung der Störfallbetriebe wird eine spezielle Software verwandt, die Dokumentation der risikobehafteten Beriebsbereichs- und Anlagenteile erfolgt in Excel-Tabellen.

9: Zurzeit werden verschiedene Software Tools verwendet. Für die Betriebsverwaltung AISI-I (zukünftig LISA?). Für Störfallszenarien VDI 3783 bzw. 8FeuEx.
Eine Präferenz für eine bestimmte Software kann zz. nicht benannt werden.

5.11. GREECE

1: Yes, in terms that:
a. High environmental impact activities or installations are prioritized in the inspection plan / programme,
b. Installations / activities in protected / designated / sensitive areas are also prioritized in the inspection plan / programme

2: In the annual inspection plan as well as in the monthly inspection programmes

3: risk criteria that are used:
o   Effluents / impacts in the environment, (magnitude, size, capacity of the installation)
o   Location of the installation
o   Raw material and energy / fuel types that are used
o   Pollution abatement available technology that is in place and used by the installation
o   Impact of emission / effluents to local and regional public health
What scoring systems do you use:
o   It is not used a specific mathematical tool (scoring system). The risk approach is theoretical based on the comparison among similar activities.
Do you use weighting factors and how are they determined?
o   No – as above
How does your mathematical algorithm (the way your system calculates) work?
o   No – as above
How do you use the output of your risk assessment in terms of ranking and classification
o   In general terms the output of the risk assessment is used on the prioritization of inspection work among similar activities/installations

4: No

5: No

6: Up to now, the updating of the risk assessment is based on the practical experience of the Hellenic Environmental Inspectorate personnel.

7: No

8: There is not specific IT tool in use, the risk assessment is being made by brainstorming in regular inspector meetings.

9: The general software will be more helpful/user friendly

5.12. IRELAND

1. Yes

2: Principally, enforcement of:
- IPPC/Waste licences, discharges from urban waste water treatment plants, control of drinking water treatment plants
  Also for:
- DREAM is used for the risk classification of urban waste water treatment plants which require licensing and enforcement by the EPA. It is the Dynamic Risk Assessment Mentodology. The DREAM is a dynamic system that takes data available from various databases already being maintined by the EPA and does not require in general new information from the licencees. In effect we are moving away from an annual environmental report (AER), and will collect data on going via a new overarching data and process collection and management system (LEMA) which could produce a virtual dynamic AER. GIS databases are also used as a data source for DREAM. This is the model that the original RBME IPPC risk assessment should be moving towards (i.e. web based and a minimum of data input for licensees where information already existing in electronic form in an accessible environment)
- Risk assessment for historic landfills
  https://www.epa.ie/downloads/advice/waste/waste/EPA_CoP_waste_disposal_sites.pdf EPA maintains a GIS for the purpose of registering historic landfills under Section 22 of the Waste Management Act.
- http://www.epa.ie/downloads/pubs/land/mines/ Recently an inventory of Irelands Historic Mine Sites has been published. The investigations assess the potential risk posed by these sites to humans, animal health and the surrounding environment.
  The eforrts directed at control of drinking water treatment are directed through the Remedial Action List (RAL) . This is in effect a risk ranking of drinking water supplies. A water supply is included on the RAL for one or more of the following reasons (among others):
  - Failure to meet the E. Coli standard at some point in the last two years;
  - Inadequate treatment (e.g. no treatment other than chlorination or poor turbidity removal or excessive levels of aluminium in the treated water)
  See http://www.epa.ie/news/pr/2008/april/name,24320,en.html

3. The development of the methodology commenced in 2005 and it has undergone a number of testing regimes and revisions since its inception. The concept of assigning enforcement categories to licensed facilities was the subject of a joint EPA/IBEC organised conference which was held in May 2006. The OEE took account of a number of valuable comments received both at and following this conference and in September 2006 undertook a pilot phase testing of the methodology with a number of IBEC nominated licensees. The methodology was further revised following the pilot phase testing.

On the basis of international best practices, an Environment-Based Assessment Tool was developed to assist with prioritising enforcement activities. The methodology allocates an enforcement category to licensed facilities on the basis of five environment-based attributes described below:
1.   Complexity;
2.   Emissions;
3.   Location;
4.   Operator Management; and
5.   Enforcement Record.
The enforcement category of each IPPC and Waste licensed facility is assessed under each of the above headings, and an overall enforcement category is obtained.
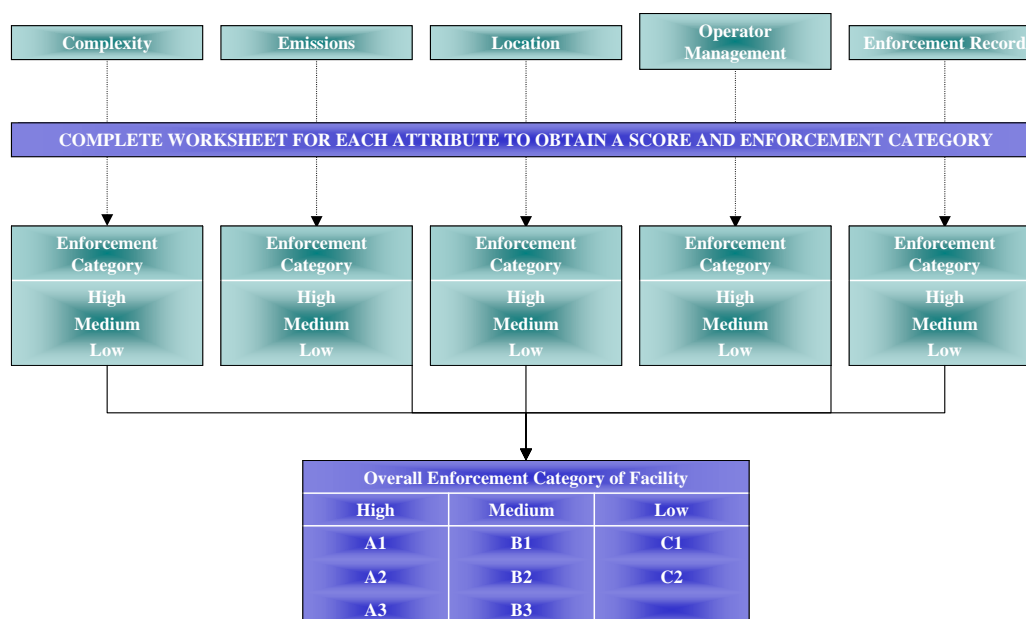
Figure 0-1   Summary of Methodology for Determining Enforcement Category of Licences

For local authorities and the EPA, enforcement activities are co-ordinated via local, and national inspection plans. The inspection plans provide the platform for a national systematic approach to inspection and enforcement and are based on the EU Recommendation for Minimum Criteria for Environmental Inspections in Member States (2001/331/EC) (RMCEI). The RMCEI sets out the requirement for regulatory agencies in carrying out their inspection and enforcement activities, with particular emphasis on regulated installations. The EPA through the Environmental Enforcement Network has guided the development and implementation of local authority inspection plans under RMCEI since 2006. Ireland was the first member state to have comprehensive inspections plans across local authority level. The inspection and enforcement plans provide a basis for assigning priorities based on risk and allocating available resources according.

For IPPC/Waste licences all the detail is included in the tool/guidance note located at
http://www.epa.ie/whatwedo/enforce/lic/how/categories/

We also have developed Risk Based approaches in other areas such as for permitted waste facilities[1], historic landfill sites[2] and drinking water supplies[3]. Work on developing additional risk based approaches have commenced in other sectors including historic mine sites and municipal waste water treatment plants (DREAM method – not finalised yet).

4. Yes. A digital Assessment Tool in the form of an excel spreadsheet has been developed. This is given to all licensees. For a particular facility, the digital Assessment Tool is completed for each of the attributes. A score is obtained and an individual high, medium or low enforcement category is assigned for each attribute, depending on the score. In the case of emissions, there are separate forms for emissions to air, discharges to water, discharges to sewer and waste management.

For IPPC/Waste licences all the detail is included in the tool/guidance note located at
http://www.epa.ie/whatwedo/enforce/lic/how/categories/

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[1] See EEN website www.enforcementnetwork.ie – only available to regulators
[2] Code of Practice: Environmental Risk Assessment for Unregulated Waste Disposal Sites (EPA, April 2007)
[3] Guidance for Local Authorities on Risk Screening Methodology for Cryptosporidium, EPA 2008

5. As stated earlier the development of the methodology commenced in 2005 and it has undergone a number of testing regimes and revisions since its inception. The concept of assigning enforcement categories to licensed facilities was the subject of a joint EPA/IBEC[4] organised conference which was held in May 2006. The OEE took account of a number of valuable comments received both at and following this conference and in September 2006 undertook a pilot phase testing of the methodology with a number of IBEC nominated licensees. The methodology was further revised following the pilot phase testing.

6. It has not been updated for 3 years i.e. the method. The actual results from each facility is updated every year.
The methodology is completed on an annual basis for all licensed facilities. The information required to complete the methodology will become available as the Annual Environmental Report is being prepared. As with the AER the methodology will be based on the data for the previous calendar year. The overall enforcement category of the facility depends on the combination of categories obtained for each attribute. In general, when the environment based assessment results in attributes that result in predominantly high enforcement categories, the overall outcome will allocate the facility a high enforcement category outcome. The reverse is true where the attributes predominantly result in the low enforcement category outcome.

7. No...

8. 1 excel sheet for each facility. This is then collated manually by the EPA. **This is not efficient.** It should be web based submission which upon upload is automatically loaded into a database in the EPA.

9. Dont know. Ultimately it should be web based submission and capable of reading information from other web based documents and databases e.g. the Annual Environmental Report

10. We have had an interesting process of introducing the risk method and associating annual charges with the Risk Category. It had to be done gradually and is quite labour intensive to maintain.

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[4] http://www.ibec.ie

5.13. POLAND

1: Yes.

2:
- For planning all kind of inspection's tasks.
- For categorization all facilities into 5 categories.

3.1. What risk criteria do you use?
1. Risk of major industrial accident (Seveso II directive) – quantity of hazardous substances
2. Severity to the environment (probability of occurrence the risk to the environment)
    A) Sensivity of the area
    - Location of the facility
    - State of the environment
    - Frequency of complaints
    B) Scale of the environmental impact
    - Type of installation (e.g. PRTR [IPPC included] or smaller)
    - Discharge of wastewater to the surface water, soil or sewage system belonging to another entity
    - Emission of ashes or gases to the air
    - Generation of hazardous waste or non- hazardous waste
    - Emission of noise to the environment
    C) Security measures applied in the facility
    - Possession of installations protecting the environment from the pollution
    - Environmental management in the facility
    - Assessment of compliance with the environmental requirements
3. Law requirements

3.2 What scoring systems do you use?
We have scores from 11 (the smallest risk) to 275 points (very large risk).
Table: Multi-criteria risk assessment – calculation results

Risk of major industrial accident	Nuissance for the environment /u/				
	very large	large	average	Small	very small
very large	275	220	165	110	55
Large	220	176	132	88	44
average	165	132	99	66	33
Small	110	88	66	44	22
very small	55	44	33	22	11

3.3 Do you use weighting factors and how are they determined?
We use weighting factors : points from 1 to 5 for each risk criteria listed above.

3.4 How does your mathematical algorithm (the way your system calculates) work?
Risk assessment follows the formula below and the basic score-based assessment of "weight" pertaining to individual criteria on a 1 – 5 point scale:
$k = r \times u$
$k = r \times (w + s + z)$
$k = r \times (\sum w_{1-3} + \sum s_{1-5} + \sum z_{1-3})$
where:
k – final scoring decisive for a place of the facility in the "ranking"
r – risk of major industrial accident – see attached table no. 1
u – nuissance for the environment: $u = w + s + z$
w – sensitivity of the neighbouring area: $w = \sum w_{1-3}$
w_1 – location of the faciltiy – see attached table No. 2
w_2 – state of the environment – see attached table No. 3
w_3 – frequency of motions for intervention – see attached table No. 4

s – scale of environmental impact, $s = \sum s_{1-5}$
s_1 – type of project or installation – see attached table No. 5
s_2 – discharge of waste to waters, soil or sewage system belonging to another entity –
   see attached table No. 6
s_3 – emission of ashes or gases to air – see attached table No. 7
s_4 – generating hazardous waste or other-than-hasardous waste – see attached table
   No. 8
s_5 – emission of noise to the environment – see attached table No. 9
z – security measures applied in the facility: $z = \sum z_{1-3}$
z_1 – existence of installations protecting the environment from polution – see attached
   table No. 10
z_2 – environmental management in the facility – see attached table No. 11
z_3 – assessment of observance of environmental requirements – see attached table
   No. 12

3.5 How do you use the output of your risk assessment in terms of ranking and classification?
We use it for categorization of facilities and to decide how often company should be inspected (see table below).

Tabel. Categories in the multi-criteria analysis and the resulting frequency of inspections

Specification	Final score	Assumed frequency of inspections
Risk category I	≥ 177	once per year
Risk category II	111-176	every 2 years
Risk category III	67 -110	every 3 years
Risk category IV	23 - 66	every 4 years or less
Risk category V	≤ 22	not assumed

4: We use a software tool for performing the risk assessment. It is a part of the big IT tool for our inspection's tasks. It is not available by internet now, but we are working on new "small" IT tool just for the risk assessment which will be available by internet.

5: We have started to use the risk assessment as a tool in 2009. While preparing this tool we evaluated the methodology by handed calculation for some facilities and comparison the results with our best knowledge about the evaluated company. In our opinion it works well and fulfils our needs.

6: After each inspection we assess the company again and up-date scores.

7: No. It is our internal methodology.

8: It is a big database for our inspection's tasks.
Now we are working on new "small" IT tool just for the risk assessment which will be available by internet.

9: I think that general software is the best.

10: Law requirements which tell us how often you should go for inspection (does not matter if it is needed from your risk assessment) are probably very difficult subject for some of us. It is a problem in Poland especially for WEEE and life-ending vehicles facilities. According to Polish law we have to inspect all of them at least once a year. I wonder if enforcement authorities in other countries have also such requirement. This has nothing to do with real risk assessment.

Appendixes to answer to question 3 (12 tables):
Table No.1 - Risk of major industrial accident [r]
Table No.2 - Location of the facility [w_1]
Table No.3 - State of the environment [w_2]
Table No.4 - Frequency of motions for intervention [w_3]
Table No.5 - Type of Project or installation [s_1]
Table No.6 - Discharge of waste-water to waters, soil or sewage system belonging to another entity [s_2]
Table No.7 - Emission of ashes or gases to air [s_3]
Table No.8 - Generating hazardous waste or non-hazardous waste [s_4]
Table No.9 - Emission of noise to environment [s_5]
Table No.10 - Possession of installations protecting the environment from pollution [z_1]
Table No.11 - Environmental management in the facility [z_2]
Tabel No.12 - Assessment of observance of environmental requirements [z_3]

Tabel No.1

Risk of major industrial accident –[r] table No. 1

No.	Risk of major industrial accident	Risk assessment	Score
1.	- Upper-tier establishments	very large	5
2.	- Lower-tier establishments	large	4
3.	- Facilities from the group of remaining perpetrators of major accidents - Facilities which were the location of a major industrial accident over the past 4 years	average	3
4.	- Production facilities, fuel bases or stations – other than in item 1-3 using hazardous substances	small	2
5.	- Other facilities	very small	1

Tabel No.2

Location of the facility [w_1] – table No. 2

No.	Neighbouring area[1]	Assessment of the neighbouring area	Score
1.	- „A" protective zone of spas, premises of hospitals, social care facilities, developed areas related to permanent or temporary stay of children and youth	very sensitive	5
	- Developed areas with single-family and multi-family dwellings, as well as farmsteads and multi-apartment residential buildings - Recreational and leisure sites - Housing and service sites - Sites in the centers of cities above 100 thousand inhabitants		
	- Natural protected areas (national parks, nature reserves, Natura 2000 areas, landscape parks)		
	- Static surface waters[2]		
2.	- Highest protection and high protection areas of the Main Reservoirs of Underground Waters	sensitive	4
	- Flowing surface waters[2] - Areas in particular risk of nitrates, falling under the nitrate directive		

No.		Assessment	Score
	- Other naturally protected areas (areas of protected landscape, nature monuments, documentation sites, ecological areas, natural and scenic complexes) - Monuments of material culture		
3.	- Afforested areas, remaining agricultural land	medium sensitive	3
4.	- Idle land, mining grounds	little sensitive	2
5.	- Industrial sites, communication sites	very little sensitive	1

Clarification:
[1] one most negative element is decisive for the final assessment
[2] direct or indirect waste-water recipient

Tabel No.3

State of the environment $[w_2]$ – table No. 3

No.	State of the environment[1]	Assessment	Score
1.	- Zone C – level of several substances in air exceeds the permitted level increased with a margin of tolerance - Surface waters in class V of the ecological condition or underground waters in class V of poor quality[2] - Violated quality standards of soil or ground in group A,B,C as regards several indicators	absolutely unsatisfactory	5
2.	- Zone C – level of one substance in air exceeds the permitted level increased with a margin of tolerance - Surface waters in class IV of the ecological condition or underground waters in class IV of poor quality[2] - Violated quality standards of soil or ground in group A,B,C as regards one indicator	unsatisfactory	4
3.	- Zone C – level of several substances in air between permitted level and permitted level increased by a margin of tolerance - Surface waters in class III of the ecological condition or underground waters in class III of satisfactory quality[2] - Observed quality standards of soil or ground in group C	satisfactory	3
4.	- Zone B – level of one substance in air between permitted level and permitted level increased by a margin of tolerance - Surface waters in class II of the ecological condition or underground waters in class II of satisfactory quality[2] - Observed quality standards of soil or ground in group B	good	2
5.	- Zone A – level of substancje in air does not exceed the permitted level - Surface waters in class I of the ecological condition or underground waters in class I of very good quality[2] - Observed quality standards of ground in group A	very good	1

Clarification:
[1] one most negative element is decisive for the final assessment
[2] water classification pursuant to the conditions referred to in regulations of the Minister of Environment:
- dated 23.07.2008 on the criteria and methods of assessment of underground waters (Journal of Laws, No. 143, item 896)
- dated 20.08.2008 on the classification method of condition of uniform parts of surface waters (Journal of Laws, No. 162, item 1008)

Tabel No.4

Frequency of motions for intervention $[w_3]$ – table No. 4

No.	Frequency of motions for intervention regarding environmental pollution in the past 4 years	Assessment	Score
1.	Repeating justified motions for intervention regarding several environmental components	absolutely unsatisfactory	5

2.	Repeating justified motions for intervention regarding one environmental component	unsatisfactory	4
3.	Single justified motions for intervention regarding one of the components	satisfactory	3
4.	Unjustified motions for intervention	good	2
5.	No motions for intervention	very good	1

Tabel No.5

Type of Project or installation [s_1] – table No. 5

No.	Type of project or installation	Project or installation	Score
1.	- PRTR installation allocated to projects which can always have a major environmental impact, which requires drawing up an environmental impact report	very large	5
2.	- PRTR installation allocated to projects which can have a potential major environmental impact, which is obliged to draw up the report on the basis of a decision issued by a competent authority (organization for environmental protection)	large	4
3.	- Other projects which can always have a major environmental impact, which require drawing up an environmental impact report - Other projects which can have a potential major environmental impact, which are obliged to draw up the report on the basis of a decision issued by a competent authority (organization for environmental protection) - Projects which have impact on NATURA 2000 area, which are obliged to draw up the report on the basis of a decision issued by a competent authority (organization for environmental protection)	average	3
4.	- Other projects which can have a potential major environmental impact, which may require drawing up an environmental impact report, released from the obligation to draw up the report based on the decision of a competent authority (organization for environmental protection)	small	2
5.	- Other projects	very small	1

Clarification:

Ref. point 1

Score for more IPPC installations located at the premises of the facility: 2 installations – 8 points; 3 installations – 12 points; 4 installations – 16 points, etc. (with each subsequent IPPC installation score is increased by 4 points)

Ref. point 2

Score for more IPPC installations located at the premises of the facility: 2 installations – 6 points; 3 installations – 10 points; 4 installations – 14 points, etc. (with each subsequent IPPC installation score is increased by 4 points)

Tabel No.6

Discharge of waste-water to water, soil or sewage system belonging to another entity [s_2] – table No. 6

No.	Discharge of waste-water to water, soil or sewage system belonging to another entity [*]	Emissions volume	Score
1.	- Discharge of biologically degradable municipal or industrial waste-water to water or soil from waste-water treatment plant with load no less than 100 thousand PE - Discharge of biologically non-degradable waste-water to water from industrial waste-water treatment plants, containing particularly harmful substances from list I - Discharge of waste-water to water or soil from industrial	very large	5

No.		Volume	Score
	waste-water treatment plant, in volumes of at least 10 000 m³/d		
2.	- Discharge of biologically degradable municipal or industrial waste-water to water or soil from treatment plant with load exceeding 15 thousand PE and less than 100 thousand PE - Discharge of biologically non-degradable waste-water to water or soil from industrial treatment plants, containing particularly harmful substances from list II - Discharge of waste-water to water or soil from industrial treatment plant, in volumes exceeding 1 000 m³/d and less than 10 000 m³/d	duża	4
3.	- Discharge of biologically degradable municipal or industrial waste-water to waters or soil from treatment plant with load exceeding 2000 thousand PE and less than 15 thousand PE - Discharge of waste-water to waters or soil from industrial treatment plants, in volumes exceeding 100 m³/d and less than 1000 m³/d - Discharge of industrial waste-water containing substances particularly harmful to water environment, to external sewage system from list I or II - Discharge of rainfall waste-water to waters or soil from treatment devices with a nominal flow exceeding 300 l/s.	average	3
4.	- Discharge of biologically degradable municipal or industrial waste-water to waters or soil from waste-water treatment plant with load no less than 2 thousand PE - Discharge of biologically non-degradable industrial waste-water not containing substances particularly harmful to water environment from treatment plant to waters, in amounts not exceeding 100 m³/d - Discharge of remaining rainfall waste-water to waters or soil	small	2
5.	- Discharge of industrial waste-water not containing substances particularly harmful to water environment, to external sewage system - Discharge of rainfall waste-water to an external sewage system - Discharge of household waste-water to an external sewage system	very small	1

* one most negative criterion is decisive for the final assessment and score

Tabel No.7
Emission of ashes or gases to air [s_3]- table No. 7

No.	Emission of ashes or gases to air	Emissions volume	Score
1.	Facilities obliged to carry out continuous measurements of energetic or technological emission of ashes or gases to air	very large	5
2.	Facilities obliged to carry out periodic measurements of energetic or technological emission of ashes or gases to air	large	4
3.	Other facilities obliged to obtain permit for emission of ashes or gasses to air	average	3
4.	Facilities obliged to notify the operating installation in a		

		small	2
	competent environmental authority as regards emission of ashes or gases to air	small	2
5.	Facilities not obliged to obtain permit or notify the operating installation in a competent environmental authority as regards emission of ashes or gases to air	very small	1

Tabel No.8

Generating hazardous waste or non-hazardous waste [s_4] – table No. 8

No.	Generating hazardous waste or other-than-hazardous waste	Emissions volume	Score
1.	Required permit for generating hazardous waste or non-hazardous waste, including for waste recovery or disposal	very large	5
2.	Required permit for generating hazardous waste or non-hazardous waste	large	4
3.	Required decision approving the management program for hazardous waste or non-hazardous waste	average	3
4.	Required delivery of information about hazardous waste or non-hazardous waste	small	2
5.	Remaining generation of hazardous waste or non-hazardous waste, not requiring delivery of information	very small	1

Tabel No.9

Emission of noise to environment [s_5] – table No. 9

No.	Emission of noise to environment	Emissions volume	Score
1.	Violating conditions of the decision about the permitted level of noise emitted to the environment or violating emission standards[1] at nighttime	very large	5
2.	Violating conditions of the decision about the permitted level of noise emitted to the environment or violating emission standards[1] at daytime	large	4
3.	Level of noise emitted to the environment close to the permitted level or to emission standards[1]	average	3
4.	Level of noise emitted to the environment much lower than permitted	small	2
5.	No sites protected acoustically within reach of the facility – decision about the permitted level of noise emitted to the environment not required	very small	1

Clarification:

[1] Regulation of the Minister of Environment dated 14 June 2007 on the permitted noise levels in the environment (Journal of Laws No. 120, item 826**)**

Tabel No.10

Possession of installations protecting the environment from pollution [z_1] table 10

No.	Possession of installations protecting the environment from pollution	Risk	Score
1.	No required installations protecting the environment	very large	5
2.	Insufficient installations protecting the environment	large	4
3.	Overloading of installations protecting the environment	average	3
4.	Sufficient installations protecting the environment – minor operating irregularities	small	2
5.	Sufficient installations protecting the environment – correct operation	very small	1

Tabel No.11

Environmental management in the facility [z_2] – table No. 11

No.	Specification	Assessment
1.	Elements of the assessment of the environmental management system in the facility:	yes - 0 No -1
a.	proper qualifications of employees	
b.	proper supervision over the work of installation, self-monitoring, if required	
c.	maintenance and service plans, running repairs, maintenance work, etc.	
d.	capital expenses, including investments pertaining to environmental protection	
e.	environmental management systems (ISO 14001, EMAS)	
	Total score:	
2.	**Result of the assessment of the environmental management system in the facility in terms of environmental risks:**	**Final score**
a.	very large risk (total score 5)	5
b.	large risk (total score 4)	4
c.	average risk (total score 3)	3
d.	small risk (total score 2)	2
e.	very small risk (total score 0 or 1)	1

Tabel No.12

Assessment of observance of environmental requirements [z_3]– table No. 12

No.	Assessment of observance of environmental requirements	Risk	Score
1.	Facility not possessing the required permits* for using the environment	very large	5
2.	Facility permanentny violating the conditions of the possessed permits* for using the environment	large	4
3.	Facility occasionally violating conditions of permits* or not implementing follow-up recommendations	average	3
4.	Facility which failed to meet the duty of notifying the installation, failed to deliver information or handles in violation of the notification or delivered information	small	2
5.	Facility meeting the environmental requirements	very small	1

* also including: decision about the permitted noise level emitted to the environment, decision approving the instruction for the operation of the landfill, decision approving the program for management of hazardous waste or non-hazardous waste

5.14. PORTUGAL
(used old questionnaire)

1. Yes,

2. Planning of the IPPC inspections.

3. We use the following criteria:

1º COMPLEXITY AND SIZE
This evaluation aspect incorporates the complexity and size of a facility. In general terms we can say that the more complex an installation or activity is the greater the regulatory effort will be to inspect and enforce the licence conditions of these installations or activities. Besides the complexity also the size of the facility influences the effort that is required.

The complexity score is based on the type of installation or activity that is mentioned in the table "IGAOT/PRTR". This table is using the activities that are mentioned in Annex 1 of the EPRTR regulation.

The size score is based on the surface area of the installation

SIZE (surface area) - [*Dimension*]
1. < 1 ha
2. 1 ≤ Surface Area < 10 ha
3. 10 ≤ Surface Area < 20 ha
4. 20 ≤ Surface Area < 50 ha
5. ≥ 50 ha

COMPLEXITY (look up in table IGAOT/PRTR)   [*Impact*]
1. Complexity is zero (least complex)
2. Complexity is small
3. Complexity is average
4. Complexity is high
5. Complexity is very high (most complex)

2º EMISSIONS TO AIR
This evaluation aspect incorporates the emissions to air.
In general we can say that the higher the level of emissions and/or the number of different substances released, the greater the regulatory effort of the Inspectorate is.

In order to determine the " Impact" or level of emissions we look at the number of substances that are emitted by the facility and that are mentioned in table " Emissions to Air" (taken from PRTR Regulation)

In order to determine the " Dimension" we look at the number of substances that are emitted by the facility and that are mentioned in table " Emissions to Air" (taken from PRTR Regulation), which load is actually above the threshold mentioned in table " Emissions to Air" (taken from PRTR Regulation)

NUMBER OF SUBSTANCES RELEASED WITH A LOAD ABOVE THRESHOLD AND MENTIONED IN TABLE "EMISSIONS TO AIR" (taken from PRTR Regulation) - [*Dimension*]
1. None or one (1) of the substances that are emitted is above the threshold
2. Two (2) of the substances that are emitted is above the threshold
3. Three (3) of the substances that are emitted is above the threshold
4. Four (4) of the substances that are emitted is above the threshold
5. Five (5) or more than five of the substances that are emitted is above the threshold

NUMBER OF SUBSTANCES EMITTED AND MENTIONED IN TABLE "EMISSIONS TO AIR" (taken from PRTR Regulation) - [*Impact*]
1. The facility emits one (1) substance or none

2. The facility emits two (2) substances
3. The facility emits three (3) substances
4. The facility emits four (4) substances
5. The facility emits five (5) or more than five substances

3º - EMISSIONS TO WATER

This evaluation aspect incorporates the emissions to water. In general we can say that the higher the level of emissions and/or the number of different substances released, the greater the regulatory effort of the Inspectorate is.

In order to determine the " Impact" or level of emissions we look at the number of substances that are emitted by the facility and mentioned in table " Emissions to Water" (taken from PRTR Regulation)

In order to determine the " Dimension" we look at the number of substances that are emitted by the facility and mentioned in table " Emissions to Water" (taken from PRTR Regulation) and whose load is actually above the threshold mentioned in table " Emissions to Water" (taken from PRTR Regulation)

NUMBER OF SUBSTANCES RELEASED WITH A LOAD ABOVE THRESHOLD AND MENTIONED IN TABLE "EMISSIONS TO WATER" (taken from PRTR Regulation)   -   [*Dimension*]
1. None or one (1) of the substances that are emitted is above the threshold
2. Two (2) of the substances that are emitted is above the threshold
3. Three (3) of the substances that are emitted is above the threshold
4. Four (4) of the substances that are emitted is above the threshold
5. Five (5) or more than five of the substances that are emitted is above the threshold

NUMBER OF SUBSTANCES EMITTED AND MENTIONED IN TABLE "EMISSIONS TO WATER" (taken from PRTR Regulation) - [*Impact*]
1. The facility emits one (1) substance or none
2. The facility emits two (2) substances
3. The facility emits three (3) substances
4. The facility emits four (4) substances
5. The facility emits five (5) or more than five substances

4º WASTE MANAGEMENT
This evaluation aspect incorporates the production of Waste. In general we can say that the more waste (hazardous and non-hazardous waste) is produced, the greater the regulatory effort of the Inspectorate is.

In order to determine the " Impact" we look at the amount of hazardous waste.
In order to determine the " Dimension" we look at the amount of non-hazardous waste

NON-HARZARDOUS WASTE   [*Dimension*]
1. The facility produces < 20 tons of waste a year
2. The facility produces ≥ 20 and < 500 tons of waste a year
3. The facility produces ≥ 500 and < 1400 tons of waste a year
4. The facility produces ≥1400 and < 2000 tons of waste a year
5. The facility produces ≥ 2000 tons of waste a year

HARZARDOUS WASTE - [*Impact*]
1. The facility produces < 5 tons of waste a year
2. The facility produces ≥5 and < 20 tons of waste a year
3. The facility produces ≥ 20 and < 35 tons of waste a year
4. The facility produces ≥35 < 50 tons of waste a year
5. The facility produces ≥ 50 tons of waste a year

5º LOCATION
This evaluation aspect incorporates the location of the facility in relation to its surroundings. In general we can say that the more sensitive the area in which a facility is located is, the higher the impact on the environment can be.

Sensitive area´s that can be considered are:
- River area´s (sensitivity of receiving water, based on the water quality classification)
- Ground water for human consumption area´s
- Areas classified as beimg part of Natura 2000 Sites - Special Conservation Zone (ZEC) and Special Protected Area´s (ZPE) - including the sites of the National List of Sites.
- National ecological reserves (REN)
- National protected areas which are part of the National Net of Protected Areas (RNAP)
- Public Protected Water Reservoir
- Coastal Water (Directive 76/160/CEE)
- Human occupation/presence (dwelling house hotel or hostel, health building, educational establishment, place of worship or entertainment or any other facility or area of high amenity)

DISTANCE TO SENSITIVE AREA   - [*Dimension*]
1. The distance between the facility and the sensitive area >10 km.
2. 1 km < The distance between the facility and the sensitive area ≤10 km
3. 100 m < The distance between the facility and the sensitive area ≤ 1 km
4. The distance between the facility and the sensitive area ≤100 m
5. The facility is within the boundaries of the sensitive area

SENSITIVE AREA   -   [*Impact*]
1. Not applicable.
2. The sensitivity of the area is low (e.g. rivers with bad water quality)
3. The sensitivity of the area is average (e.g. rivers with average water quality, coastal water)
4. The sensitivity of the area is high (e.g. rivers with an excellent water quality, ground water protection area's and human occupation/presence)
5. The sensitivity of the area is very high (e.g. national ecological reserve area's, areas classified as being part of Natura 2000 Sites - Special Conservation Zone (ZEC) and Special Protected Area´s (ZPE) - including the sites of the National List of Sites, national protected areas which are part of the National Net of Protected Areas (RNAP) and public protected water reservoir)

6º ATTITUDE OF OPERATOR
This evaluation aspect incorporates the attitude of the operator towards the environment.
In general we can say that the better the attitude towards the environment is the better the self-regulation of the facility is. Aspects that can be of importance are:
- the presence of a certified environmental management system (for instance ISO 14001 and EMAS).
- the awareness of the facility's impact on the environment
- the communication with the community (neighbourhood dialogue)
- transparency and open communication with the Inspectorate
- (continuous) improvements on voluntary basis
- the level of self regulation of the facility.

SUSTAINABILITY OF THE ATTITUDE   -   [*Dimension*]
1. There is long history of good attitude
2. The attitude is solid and will not change easily
3. The attitude is linked to only a few persons in the facility
4. The attitude can change easily
5. The attitude can change very easily

ATTITUDE TOWARDS THE ENVIRONMENT   -   [*Impact*]
1. The attitude of the operator is high
There is a certified EMS, a high awareness of the impact on the environment and communication with the community is good. There is transparency and open communication with the Inspectorate, continuous improvements on voluntary basis and self regulation. No verified incidents have occurred in the last year.
2. The attitude of the operator is good
there is awareness of the impact on the environment and communication with the community. There is transparency and open communication with the Inspectorate, some improvements on voluntary basis and a certain level of self regulation. No more than 1 verified incident has occurred in the last year.
3. The attitude of the operator is average

There is some awareness of their impact on the environment. The operator needs some encouragement to make improvements and there is an acceptable communication with the Inspectorate. No more than 2 verified incidents have occurred in the last year.
4. The attitude of the operator is low
There is awareness of their impact on the environment but no initiative to make improvements without the pressure from the Inspectorate, there is no transparency towards the Inspectorate. No pro-active attitude. More than 2 and less than 5 verified incidents have occurred in the last year.
5. The attitude of the operator is bad in all the above mentioned aspects and/or a SEVESO accident or more than 5 verified incidents have occurred in the last year.

7º COMPLIANCE BEHAVIOUR
1 - The behaviour is very low (In case there is an environmental permit: more than 8 non complied conditions of the environmental permit. In case no environmental permit has been issued: more than 8 infringements verified in the previous inspection)
2 - The behaviour is low (In case there is an environmental permit: between 4 and 8 non complied conditions of the environmental permit. In case no environmental permit has been issued: between 5 and 8 infringements verified in the previous inspection)
3 - The behaviour is average (In case there is an environmental permit: between 2 and 3 non complied conditions of the environmental permit. In case no environmental permit has been issued: between 2 and 4 infringements verified in the previous inspection)
4 - The behaviour is good (In case there is an environmental permit: 1 non complied condition of the environmental permit. In case no environmental permit has been issued: no more than 1 infringement verified in the previous inspection)
5 - The behaviour is high (In case there is an environmental permit: all conditions of the environmental permit are complied. In case no environmental permit has been issued: no infringements verified in the previous inspection)

3. We don't know the mathematical algorithm of the database because that was developed by the Dutch colleagues. If functions as a matrix for all the criteria, except for the compliance behaviour. That's why for each risk criteria there are 2 entrances (dimension and impact).

4. We use an access database that was given to us by the Dutch colleagues, where we loaded our risk criteria..

10. To make the risk criteria as simple and effective as possible.

5.15. ROMANIA

1: Yes.

2: We use the risk assessment approach for planning the inspections of installations and activities that fall under the following regulatory fields:
- IPPC Directive
- Seveso Directive
- Large Combustion Plants Directive
- VOC Directive
- Landfill waste Directive
- Directive establishing a scheme for greenhouse gas emission allowance trading within the Community
- Urban sewage treatment plant
- Biodiversity, Natura 2000 and OMG
- Others under National environmental law.

3: We use for risk assessment the following risk criteria:
a. Environmental impact criteria, which take into consideration:
   - installation complexity,
   - location related to sensitive areas (residential and / or natural protected areas),
   - air emissions (qualitative, not quantitative),
   - water emissions (qualitative, not quantitative)
   - area of polluted soil,
   - amount of hazardous waste,
   - amount of non-hazardous waste,
   - category of sewers,
   - smells,
   - noise and vibrations,
   - inspector's score
b. Performance of the installation criteria, which take into consideration:
   - applying BAT, EMAS/ISO,
   - number of fines issued,
   - amount of fines issued,
   - number and types of complementary follow-up actions,
   - number of penal offence, number of incidents and accidents,
   - air emissions monitoring frequency,
   - water emissions monitoring frequency,
   - soil emissions monitoring frequency,
   - number of complaints,
   - inspector's score

For each criteria mentioned above the score is given by comparison with pre-established thresholds/limits. The system scoring gives points from 1 to 10.
We use weighting factors for risk calculation. The weighting factors were established empirically based on experience from previous inspections.
For risk calculation we use a logical algorithm (based on mathematical function "IF"). The points given for each criterion are multiply by a weighting factor and the result are summarize for each category of risk criteria (impact criteria and performance criteria). The risk category (we use 4 risk categories: A, B, C and D) is established by comparison with a matrix, illustrated below:

The output of our risk assessment tool is a list of all controlled installations ranked based on the risk score for each installation.

ENVIRONMENTAL IMPACT	A = 3 insp/year	C = 1 insp/year
Impact Limit (150 points)		
	B = 2 insp/year	D = 1 insp in 2 years

Performance limit (300 points)

PERFORMANCE
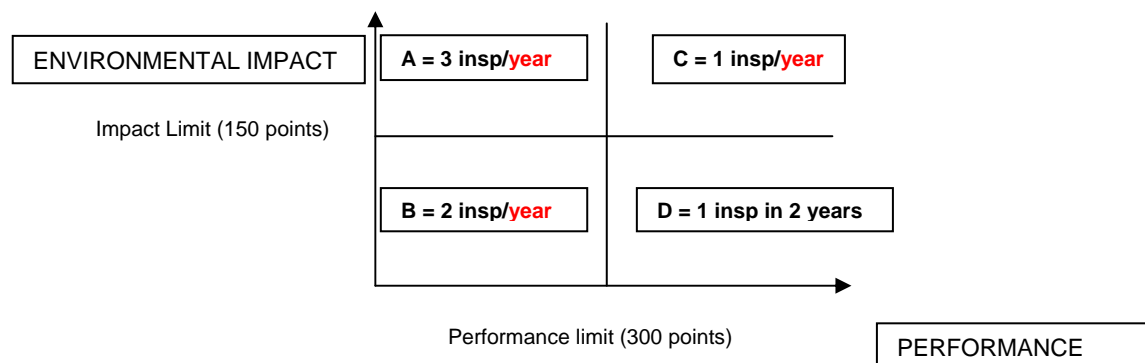
For prioritizing the activities in the biodiversity field, we use similar criteria, but based on other kind of indicators.

4: Our risk assessment tool is developed on 2003 Microsoft Excel.
The tool is not yet accessible by internet, but is available on NEG`s intranet.
If you are interested you could received a copy of our software tool.

5: We have started to use risk assessment methodology only since last year, so probably later this year we can analyze it.

6: At the end of the year the risk criteria values are updated on basis of results of inspections performed within that year.

7: Yes (by Order of Environmental Ministry).

8: For assess the risk we use 4 big excel sheets, 3 excel sheets for input data and 1 excel sheet for output data.

Addtional answer Mercia: I design (and experimental use in some practical cases) a mathematical model for study of the pollution phenomena and of their tendencies using the probability calculus.
I realized a Poisson model and a P.C. program applicable to the economic operators.
Given *n* time intervals in which, from different reasons, *k* unwanted events may appear, in this case accidental pollution and/or CMA(maximum allowable concentration for one indicator) exceeding, the probability of having *k* cases of pollution over the CMA or other conventionally accepted limits is given by a Poisson relation. We can calculate the probability. In my opinion this probability is a very important criteria for risk assessment.
For the λ parameter (the average value of the Poisson repartition M(X)= λ) I established the intervals that can characterize the environment performance of the economic operator. I also propose the standardization of the interval and of the values of the λ parameter.
The proposal to standardize the intervals and values for the λ parameter can to improve the safety of the purging processes
I consider that my method can compare little and big economic operators, because the environmental performance is given by a mathematical calculus of the probability.
I consider that the method and the value intervals proposed for the λ parameter can be extended in many fields, due to the general character)

9: Our inspection organization had implemented an inspections database that was developed on PHP/MySQL Software which runs under Linux operating system. So I think that an IT tool developed under these conditions is fitting to our organisation. Of course we are aware that using an Excel worksheet is easier, but a database can allow future developments of risk assesment methodology.

10:
1) The output of the IT Tool developed under easyTools Project should be a list of controlled installation and activities ranked on the basis of their risk score.
2) Gathering the information for risk assessment should be easily achieved.
3) More information about IT Tool developed under easyTools Project and training opportunities on using the tool should be available in future.
4) Weighting indicators, a subject which needs to be reviewed regularly according to the general/specific objectives of the organisation.
5) Achieving environmental risk assessment on different levels of planning the activity of the organization

5.16. SLOVENIA

1. Yes.

2: There is no statutory task for using risk assessment approach. We use risk assessment because it is reasonable.

3: We use five risk criteria:
- subjective evaluation of inspector
- four criteria about type of installation (landfill, wastewater treatment plant, SEVESO, IPPC)

We use maximum value scoring system, because we think it is better then total score or average score system.
We do not use weighting factors.
We compare values of risk criteria for evaluated installation. The category of installation depends on the maximum value of risk criteria. We have three categories.

4: Yes. It is not accessible by internet, but by our intranet. Copy is not available.

5: We use it for three years and we got good results.

6: The data for risk criteria are updated through whole year. Risk assessment is done once per year.

7: Risk assessment as approach is set by law general, but methodology is not prescribed.

8: Database.

9: We use MS Access, because it is widely used and we would like to use such software in the future.

10: We will contribute our part through project group work.

5.17. SPAIN (extremeadura)

1. Yes

2. To select the projects or the installations to be environmentally inspected in the scope of the IPPC Directive or the Environmental Impact Assessment Directive

3: What risk criteria do you use: Higher Pollutant potential based on amount of emissions to the environment, which is directly related to the size of the installation or the project. Newer installations or projects. Level of pollution of the place where the installation is or the project is being developed Proximity to protected environment areas due to European, Spanish or Regional rules. Background of non-fulfilment reports

What scoring systems do you use: A qualitative scoring systems is used instead of a quantitative system

Do you use weighting factors and how are they determined: We don't use those factors

How does your mathematical algorithm (the way your system calculates) work: There is no mathematical algorithm

How do you use the output of your risk assessment in terms of ranking and classification: To select the projects or the installations to be environmentally inspected or the frequency of those inspections

4. We don't have a software tool to do the risk assessment, but we use Geographic Information Systems (GIS) to know the proximity to protected environment areas.

5. Not yet

6. The criteria haven't been updated

7. Not yet but it will be in the future Industrial Emissions Directive

8. We use our databases

9. It would be better a specialized software but it's important that the software could import our information from our databases or from our GIS

10. It would be useful that the software would be able to give a schedule with the inspections and the inspectors, taking into non routine inspections

5.18. SPAIN - Basque

1. Yes

2. All inspections but mainly IPPC.

3. What risk criteria do you use: Location, Complexity, Emission to air and water, Waste Management Environmental Management, Compliance

What scoring systems do you use: It is an adaptación of UK EA OPRA system
Location is scored according to the answer to several questions. Most of the questions are related to GIS información. The score is given by the informatic tool once the UTM coordinates of the site are provided.
Complexity. UK EA scoring system was adopted for IPPC sites and a similar scoring system was developed for non IPPC.
Emissions to air and water: PRTR are used and divided by a specific reference value for each contaminant accordind to its toxicity. All the ratios are added and a band is assigned. If there is not PRTR information, emissions can be calculated from the analytic controls. If there not information about the emissions, worst classification is assigned, taking into account the kind of facility, until information is provided.
Emissions to soil (Waste): Total amount of dangerous and urban waste are estimated, considering the % of recycling for each, and divide each by a value, that is different for dangerous and urban waste. Then, the ratios are added and a band is assigned.
Environmental management: If the operator has a certified system, gets the highest score. Otherwise has to go through several question with three options. The answer has to be documentated. The scores are added and with the sum a band is assigned.
Compliance: The inspector lists the non-compliances detected in the visit. Each non compliance is clasified according to a intrinsic severity and another clasification by the inspector. The sum assigns a band.
A total score is obtained with all the points of each attribute. This score allows assigning an overall band to the site.

Do you use weighting factors and how are they determined: Yes we use them.
They were determined according to the importance of the attribute considering the criteria of a panel of inspectors and the distribution of the results of about 300 sites.

How does your mathematical algorithm (the way your system calculates) work: Overall score= x Location + y Complexity + z emissions + f env management + g compliance. It cann be seen in the tool I will send.

How do you use the output of your risk assessment in terms of ranking and classification: It classifies the sites in 5 groups. The inteval values to determine the groups were done considering the distribution of the results of the 300 operators that we had previously. However from the practical point of view we have been considering three groups low, medium and high risk.

4. We have an access tool that is not accessible by internet.
Yes it is possible to have a copy. I will send it next week when I am back at the office. The tool is in Spanish but do not think you will have a lot of problems to understand the basic. If you need any help, just contact me.

5. Yes. We have used. It is useful to plan sectorial inspections. Now we are moving more to results based management projects. This is normally a geographical area with an "environmental problem" is studied to contribute to control the problem.
One of the main issues with the tool is that even the time needed to collect the data to keep the database update is not high. It is an extra to the rest of the work of the visit that is normally done at the end without the same care that the inspection itself.

6. Every time an inspector visits a site to carry out an inspection: initial or follow up is asked to fill the tool. The first time was done by contracted consultants that performed a diagnostic of the sites.

7. No

8. It is a access database with report outputs. Files can be exported to other systems

9. We are moving it to a web based application. I think that it is in Java using xml files. I will confirm this with informatic unit.

10. The risk approach should be combine with the objectives or results orientated approach to get a complete approach for an efficient and effective inspection.
Risk approach reduces bias, but still has quite a lot within the tool that you decide to use and it is difficult to develop a tool that it is useful for all de activities of the inspection units.
Keeping update the databases is not easy. You can ask the operator to do it, but then you have to rely on the data provided by them.

5.19. SPAIN – Madrid

1. When planning the inspections to be included in our Annual Inspection Program we mainly consider two factors:

1. Environmental procedures to which the installation is bound and has undertaken
2. Undertaken inspections in the installation: number of inspections / elapsed time since the last inspection / inspection result.

We recently developed a prioritization model in order to carry out a selection of actions. Those were defined by applying a prioritization system based on a multi-criteria analysis. The model is currently a draft and was designed tohether with the drafting of a multi-annual inspection plan. The latter is not approved so far.

2. Our goal is to use this model for the selection of installations that are included in the Environmental Inspection Program on an annual basis. Thus, after establishing the so-called sub-programs and campaigns that constitute the Annual Environmental Program, an IT tool implements the prioritization system and determines which specific installations are to be inspected.

3. When selecting the risk criteria we identified three different ways to implement the risk appraisal system. These three paths are selected according to the type of inspection campaign to be undertaken:

1. Installations which have been subjected to any type of environmental procedure within the Madrid Regional Ministry for the Environment (e.g. Environmental Impact Assessment, IPPC permit, Waste management/production permits, etc). Information on environmental procedures (authorizations for discharges, wastes, etc ....) is available at different database tables and is to be prioritized based on the information contained in these procedures. In these cases, an ad hoc algorithm was developed for each campaign. It takes into account the following criteria:
   - Non-inspected installations are a priority 1 in order to determine their degree of environmental compliance.
   - Those previously inspected installations in which non-compliance was identified are priority 2
   - The algorithm applies a geographical balance criterion in order to obtain a balanced burden of inspection across all inspection offices (5 in the whole Region).

2. Installations to be inspected on the basis of policy criteria: the selection of activities to be inspected is made oon the basis of policy priorities, alignment with other sectoral plans and programs, social demands, etc. This element aims at systematising a set of queries to select installations avoiding overlaps and ensuring some flexible and capability to adapt to emerging policy priorities.

3. Installations subjected to a pure "risk appraisal system": for those facilities where only economic data is available and its administrative environmental status is unknown a risk appraisal system is applied. This analysis gives one type of campaigns, the so-called "*business sectors*". To prioritize these activities the use of socio-economic and environmental information is foreseen. The installations to be included in these campaigns are to be selected on the basis of its pollution potential. This campaigns aim at assessing the environmental situation at a sectoral level and checking the individual compliance of the installations with various environmental standards applying in each particular case. This is calculated based on the following criteria:

   1. Location: Companies located in areas of high industrial concentration and distribution of work in accordance with the various administrative units.
   2. Complexity-magnitude: Size / Relevance.
   3. Applicable regulations (number of environmental norms for an activity).

What scoring systems do you use: As explained in item 3 of the previous answer, A risk appraisal system for installations where no information on environmental procedures is available was developed. The scoring system is based in 3 main aspects:

1. Location: First, firms located in towns with the highest concentration of industry, get a higher score. The score is to be assigned according to ranges of number of companies by town. This score is flexible and can be modified in the IT Tool in view of the preliminary results when adjusting the final lists of installations to be included.

COMPANIES/TOWN	
1.1 x≥500	40
1.2 300≤x<500	35
1.3 200≤x<300	30
1.4 100≤x<200	20
1.5 50≤x<100	15
1.6 20≤x<50	7
1.7 10≤x<20	3
1.8 5≤x<10	2
1.9 x<5	1

The second step is to ponderate the result according to the burden of inspection in the different "environmental inspection offices", criterion which aims at obtaining a balanced number of inspection for the available inspectors.

2. Complexity-magnitude: The calculation of priority based on the complexity of the activity is structured around three parameters:

  ➢ Number of employees (characterizing the size of the company).

CRITERIA EMPLOYEES		
1.10	**x≥250**	20
1.11	**100≤x<250**	15
1.12	**50≤x<100**	10
1.13	**30≤x<50**	7
1.14	**20≤x<30**	5
1.15	**10≤x<20**	2
1.16	**<10**	1

- ➢ Turnover (also characterizes the size of the company).

- ➢ Number of installations of the same sector which are based on the Madrid Region.: characterizes the frequency of certain types of activity in our territory. The higher number of activities in the region, the higher score assigned. (This criterion aims at inspecting those sectors which are more significant in the region)

3. Number of potential environmental pieces of legislation applying to the installation: A counting of the pieces of legislation applying to each NACE code activity was done an inputs the IT Tool. The environmental acts applicable to a sector are weighted on the basis of two parameters: (1) the number of rules and (2) number of areas applicable depending on the sector (water, accidents, environmental impact assessment ....). This criterion aims at focusing the inspection on the more environmentally-regulated activities since this is an indirect idea of their potential harmfulness to the environment.

Do you use weighting factors and how are they determined: Pending the results of the implementation of this tool for risk analysis, there is a possibility of assigning a weight factor to some of the parameters referred to the mathematical algorithms, but for the moment being we are not pondering any factor over others.

How does your mathematical algorithm (the way your system calculates) work:
Criterion location:

$$Criterio_{LOCALIZACIÓN} = K_1 \cdot Puntuación_{CONCENTRACIÓNI\ INDUSTRIAL} + K_2 \cdot Puntuación_{SEDE\ AMBIENTAL.}$$

As said above, for the moment the weigh factor K1 and K2 are equal to 1 and therefore no ponderation is implemented. Upon results of the first experiences we could consider a different weight for each parameter.

The following table summarizes the score ranges for each band:Score

PRIORITY BASED APPROACH TO LOCATION.

SCORE	
60 ≤ x <70	Very High.
36 ≤ x <60	High
25 ≤ x <36	Medium
8 ≤ x <25	Low
2 ≤ x <8	Very Low.

With the rest of the systematic approaches used is similar.

How do you use the output of your risk assessment in terms of ranking and classification?

After adding the score for each of the criteria, risk analysis would give a priority list of companies sorted by NACE and by location, then establishing a priority rank from very high to very low. In addition, installations which belong to NACE sectors already inspected in previous years under other programs of environmental inspections deduct some punctuation (flexible element of the IT Tool).

4. The prioritization model is based on an Access database containing installations' information.

This DB was fed with socio-economic data gathered by specialized companies and a compilation of data contained in the different datasets of the Regional Ministry for the Environment. This database is used by the IT Tool which runs the queries and assigns points to the individual facilities according to the risk appraisal system.

This IT tool is not accessible through the Internet. Due to confidentiality issues, copies of the IT Tool cannot be shared although demonstration sessions might be organised..

Below a mock-up of the IT Tool is presented:

5. No, we didn't evaluated the risk assessment methodology because it is still a draft which will be shortly applied.

6. Since the IT Tool is still a prototype to be applied, updates are not foreseen. The main problem would be the update of the primary database, which is fed with information from other external and internal databases of the Ministry of Environment and requires resources for data processing and harmonisation.

7. This methodology is not covered by any state standards or regional legislation.

8. The data output is displayed as a list which contains all previously selected fields in a filter. Once you get the listing, the file can be exported to an Access DB table.
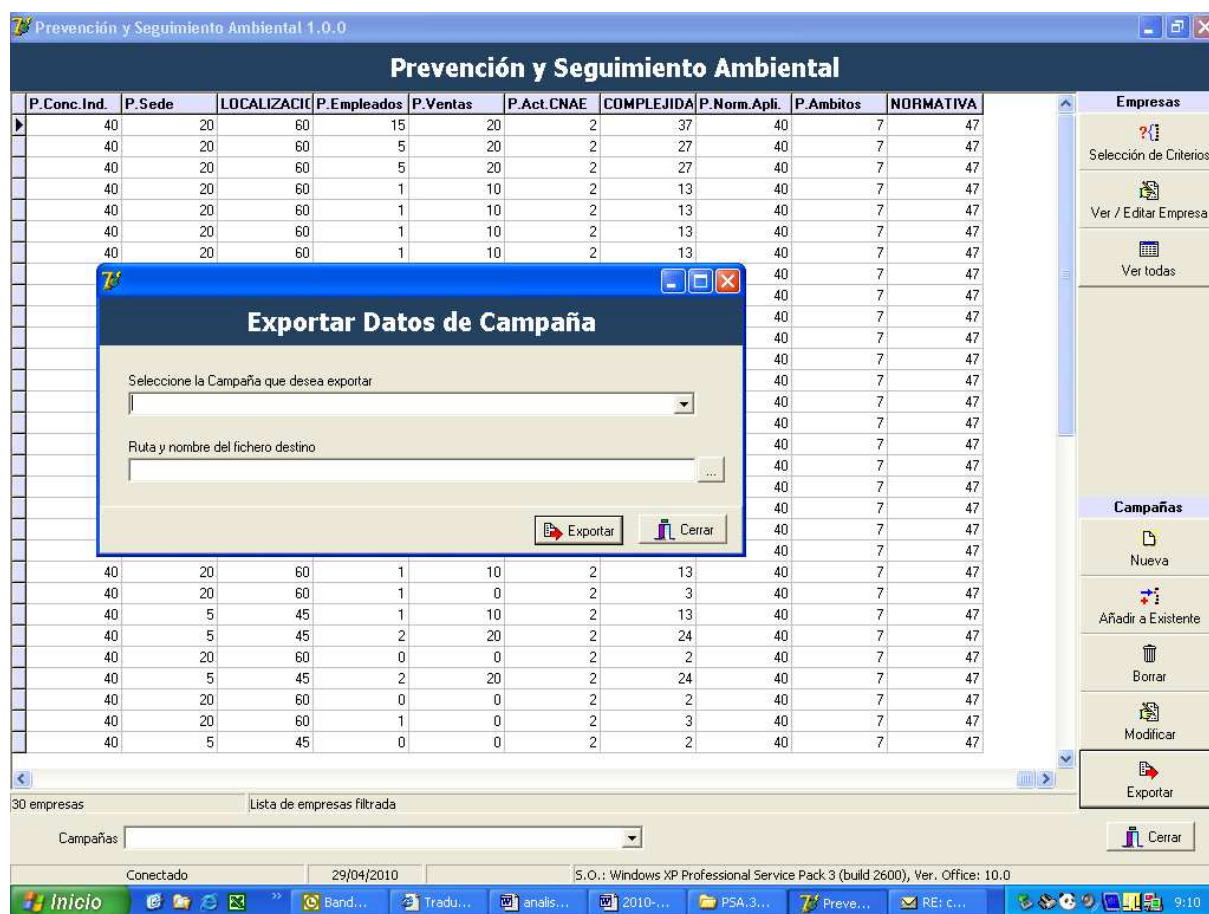
9. We believe that an IT tool based on general software like MS Excel or Access is more cost-effective.

10. Our major difficulty when developing the model was the treatment of the information contained in the various databases and the quality of those.

Among different issues, the DB contain companies which are no longer existing, out of date information regarding the economic data, unclear administrative information regarding the environmental procedures, etc. The information was compiled into a single database which is associated with the risk analysis software. This process was a major challenge since the format of the different DB, even within the regional ministry, was different, there was no unique criterion to build the databases and some practices made difficult the harmonization activities. For this reason, we can not ensure that there are no records that are repeated or factual errors in some entries.

Our Regional Ministry is working in an entire revision of its data storage procedures in order to gain clarity and

6. Respondents without a Risk Assessment approach

In the feedback of the different IMPEL member countries only the answers are taken in.
Go to section 2 to see the questions.

6.1. GERMANY - Hamburg

1. No.

9: MS Office

10: No.

6.2. ITALY

1. At present we don't use a risk assessment approach, but we are trying to implement a program. We have already highlighted the main issues and parameter to insert into theoretical model

2. We want use it for Seveso inspections and for IPPC inspections-\

3. As the first parameter we have choosen the older ispection as the most critical one. Then we highlighted other parameters, as EMAS certificate, ISO 14000, the results of previous inspection and others.
The scoring system is a numerical one. Each parameter has a specific weight (choosen by user) and at each run af the program we have a score results. We have improved our system after that we saw that the numerical system cannot be used with integer number but with some commas because we had many factory with the same score.
The mathematical algorithm is a summed weight of each parameter. Each weight of parameter is choosen before start the run and can be changed.
The use of the output is about to chose the most critical factories to inspection.

4. We have implemented a software tool in Access, but is not accessible by internet. I try to send you by e-mails**.**

5. Not yet

6. At each inspection, at the end, we update the database and automatically it update the critical parameter.

7. No

8. We have a access database-

9. We think that is better a simple system with general software, because the kind and complexity of calculation is not hard when the roadmap is choosen.

10. Yes, we have and we send to you.

6.3. LATVIA

1: No. We have the Manual of environmental inspectors. There are including same criteria of risk assessment of inspections. We use short-term and long-term planning of inspections.

3: What risk criteria do you use?
1. by inspection types – integrated inspections, thematic inspections, follow-up inspections or inspections needed to control the execution of orders and unplanned inspections
2. by frequency of inspections:
   a. A (IPPC installations) category– 1 times a year,
   b. B (middle sized installations) category – 1-2 times a year,
   c. C (small installations) category – once in 2-4 years
   d. SEVESO enterprises - 1 times a year Safety report enterprises and once in 3 years Programmes enterprises
3. by load of enterprise on the environment
4. by branches of industry
5. by size of an enterprise
6. by frequency of production accidents
7. by seasonal character of activity of an enterprise
8. by regular complaints
9. by changes of operators etc.

Do you use weighting factors and how are they determined?, Yes.
1. enterprises number per 1 inspector
2. control (check-up) number per 1 inspector

4: No

5: No

9: MS Office, MS Excel

6.4. MACEDONIA

1. Unfortunately in our general plans for supervision we still not use risk assessment approach from the classic point of view. This means that during the planning process we use data from last inspections, incidents, compliance, …, but we do not use any software for this issue.

9. Our mention is that is more useful at the moment in regards with inspectors knowledge, easiness of use, data input, …, we prefer software on the basis of MS Office, but will be useful in near future to make attention for other programming software using by EU member state environmental inspections.

10. Unfortunately in our country, we still haven't General Environmental Risk Assessment-(GERA) Analyses or Report and Plan for preventive actions and measures in accordance with our plans as part of our planning. We make efforts in near future to prepare GERA based on our Internal Inspectorate Databases for IPPC, SEVESO and other installations, historical potential risks in municipality by municipality and also based on Easy Tool Software and EU experiences for frequency on supervision in different installations.

6.5. SLOVAKIA

1: No

9: We prefer a tool developed on the basis of general software.

6.7. TURKEY

1: No, we still don't have any kind of risk assessment tools to plan environmental inspections.

9: MS Office type software is easy to modify, update or use but more complex software needs more IT support. However the important point is web interface. The software must be used in web interface and also should be easily connected with other competent bodies' (except environmental) databases.

10: In our country we still don't have any software tool and also a system, but there are some thesis works in progress. The first aim of our thesis is to develop a risk assessment tool regarding Turkish Law, and then make it on flexible online software. Then the second aim is preparing its legislative bases and make it an obligation for all provincial directorates of the ministry.
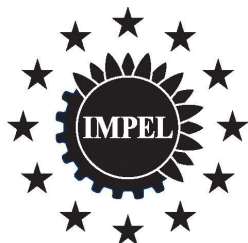
PROGRESS REPORT ON IMPEL PROJECT

1. Name of project

Risk assessment in inspection planning - easyTools

2. Reporting period

01/01/2010 − 11/03/2010

3. Project manager

Horst Buether; horst.buether@brk.nrw.de, Germany

4. Project team

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5. Project approval

Extraordinary General Assembly, Brussels, October 2009

6. Project activities

a) Carried out to date since the start of the reporting period:
Formation of a project group
Planning and executing of the first project group meeting on 24/25 February 2010
Discussion on the scope of the project
Draft logogram, flyer and PowerPoint presentation of the project
Draft questionnaire on risk assessment tools to send out to IMPEL member countries
Description for the multi annual work program
First contacts with possible software programmers of the tool
Application for financial contribution to the German Environment Ministry
Arrangement of the project supporting internet program Basecamp

b) Expected before the end of the reporting period:
Collection of risk criteria
Further work on risk criteria

c) Planned after the reporting period:
Sending of the questionnaire to IMPEL members
Summarizing and evaluation of the answers to the questionnaire
Next project meeting: 24 and 25 June in Warsaw
Decision on structure of the risk assessment tool and the software to be used

Beginning with the programming of the risk assessment tool in the second half of 2010

7. Changes in the project

None

8. Human resources dedicated (person days)

From MS
26
From Commission
none

9. Products delivered

Draft of an easyTools flyer and PowerPoint presentation

10. Expected final date for the project

31 December 2011

11. Date of this report

3 March 2010

12. Report prepared by:
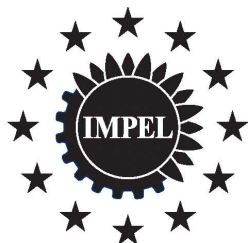
Project manager: Horst Buether

PROGRESS REPORT ON IMPEL PROJECT

1. Name of project

Risk assessment in inspection planning - easyTools

2. Reporting period

12/03/2010 − 30/09/2010

3. Project manager

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United Kingdom :	Alison Simmons, Alison.simmons@environment-agency.gov.uk

5. Project approval

Extraordinary General Assembly, Brussels, October 2009

6. Project activities

a) Carried out to date since the start of the reporting period:

Extension of the project group: Christoph, Wulf, Matteo, Hielke, Jesus, Yakup

Defining the scope of risk assessment in environmental inspection

The project team decided that for now the definitions as they are mentioned in the step-by-step guidance book will be used for this project. In the final stage of the project the definitions will be reviewed again. The definitions from DTRT are: Risk is defined in a broad way. It includes any factor an authority wants to take into account when assessing priorities.
>>*Risk Assessment*: process of quantifying the risk by measuring the (potential) effect and the probability of the occurrence. <<
A risk assessment is needed on different levels within an inspecting authority. A more general level to assess different statutory inspection tasks and a specific level for assessments within specific inspection tasks.

The tool should be flexible and easy: Flexible means that it's possible to change risk criteria, the scoring system, and weighting factors, that it can be used for different kind of statutory tasks of an inspecting authority. The tool should be easy in terms of; accessibility, transparency, availability of data, easy data entry, easy to handle and understand, and fitting in a broader system.

Adoption of a flyer and a logo of the project:

easyTools
★ ★ ★ ★ ★

The logo is used on every electronic and paper product of the project. The flyer can be used in an electronic and a paper version. The electronic version is available on Basecamp.

Adoption of a questionnaire on risk assessment tools and sending out to IMPEL member countries

The following questions were send out to the IMPEL member countries:

1. Do you use a risk assessment approach when planning inspections?
   If yes continue with question 2, if no continue with question 9.
2. For which statutory tasks of your organisation do you use the risk assessment approach?
3. Specify the methodology of your risk assessment(s) by answering the following questions:
   What risk criteria do you use?
   What scoring systems do you use?
   Do you use weighting factors and how are they determined?
   How does your mathematical algorithm (the way your system calculates) work?
   How do you use the output of your risk assessment in terms of ranking and classification?
4. Do you use a software tool for performing the risk assessment?
   If yes, is this tool accessible by internet? Is it possible to receive a copy?
5. Have you already evaluated the risk assessment methodology in practice?
   If yes, what was the outcome?
6. How is the risk assessment updated?
7. Is the risk assessment methodology set by law?
8. When you assess risk, what form do input and output data have? (Database, 1 big excel sheet, 1 excel sheet for each facility...)
9. Do you prefer a tool developed on the basis of general software (e.g. MS Office, MS Excel) or a tool developed on the basis of more specialized software (e.g. Visual C++ or other programming software)? If you prefer a tool developed on the basis of more specialized software, what architecture of the tool would suit you better (for your IT needs)?
10. Do you have any issues, concerning risk assessment that you would like to share with us that could be interesting for this project?

Evaluation of the answers to the questionnaire and drawing up a report

We have received 25 answers from: Italy (Lombardi), Ireland, Germany (Munster, 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.

The report on the answers contains the results and conclusions drawn from the returned questionnaires. In section 3 a summary of the results can be found. Section 4 gives the conclusions of the evaluation of the questionnaires. In section 5 and 6 the feedback to the questionnaire from the different IMPEL Member countries is given. The report is available on Basecamp.

Conclusions: Since the DTRT Project, the number of environmental authorities that now use a risk based approach for planning inspections has increased exponentially. 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 used in a different way. 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.

Second project group meeting in Warsaw on 24/25 June 2010

The second project group meeting was attended by 17 participants. The main topics discussed were:
- Discussion of the report on the answers to the questionnaire
- Discussion on an IMPEL guidance book for risk assessment in inspection planning: both a short guideline and a guidance book that could also be used by inspectorates that will not work with the tool will be needed. Algorithm and software should be independent from each other for the same reason.
- Scrutinising of different approaches to risk assessment as developed by member countries: questions that raise from the presentations of risk assessment tools: what is the best way to use the tool by unequal inspection offices; how to handle input-output data, data input in a guided manner will be important, single task inspection and integrated inspection (SEVESO, IPPC, waste water, …) should both be possible.
- Comparison of risk assessment methodologies: two methods for risk calculation are under discussion and were presented:
1: Addition of scored criteria (and multiplying with probability). This option is used by most inspectorates. Important information may be lost because of the use of mean values in the end.
2. Using of the maximum value for the determination of the inspection frequency (France). Each criterion leads to an inspection frequency.
3. OPRA: risk = size, potential hazards (complexity, location, emissions, chemicals) and probability (EMAS; ISO; compliance). Criteria are weighted. OPRA system is a web based application and data are filled in by operators. This method 3 is a special case of method 1
- Advantages and disadvantages of a web based application: For the expansion of the tool a database provides more options as an Excel application. Both applications are possible but have their advantages and disadvantages. The main question remains if there should be a web based application or not. For a web based application an organisation is necessary. Some prefer a web based application, but it was pointed out that limitations are there.
- Commissioning a sub-group to develop a proposal: it was decided to install a sub-group to continue work on this topics – discussion with IT-experts to talk about the possibilities of calculating risks, storage of data, mathematical algorithm etc. Following there shall be another project-meeting in October to make a decision on the tool so that programming can start this year.

Sub-group meeting in Brussels on 16 July 2010

Participants: Hielke, Rob, Thomas and Horst. Different approaches and types of criteria were discussed. A new approach, a combination of the methods 1. and 2. as discussed in Warsaw was also discussed. It was decided to scrutinise this approach more deeply and to make a proposal for the next project group meeting in Prague out of this. Like in the maximum value approach the highest score of the criteria decides on the inspection frequency and like in the mean value approach the sum or mean value of scores decide on the amount of inspection time. The probability criteria also have an influence on frequency and inspection time.

Further contacts with the possible software programmer of the tool

One important result of the answers to the questionnaire was that most inspection authorities prefer a simple programme or tool for risk assessment on Excel or Access basis. Another result of the discussion of the project group meetings was that most countries don't want a central risk assessment data base outside their country. The result is, if there is an internet application it has to be easy like Excel and the data storage has to be on servers of the inspection authorities or the member countries. This was briefly discussed with the possible software programmer: IT NRW, the North Rhine Westphalia state agency for information technology. It seems to be possible to fulfil these requirements but it has to be discussed in detail after the decision on the risk assessment approach. Programming shall start after this in the end of 2010.

Financial contribution of the German Environment Ministry?

Multi-purpose use of the project supporting internet program Basecamp

The project organizing tool Basecamp was used within the easyTools project with great success.

b) Expected before the end of the reporting period:

c) Planned after the reporting period:

Third project group meeting on 11/12 October in Prague

Decision on the internet application of the risk assessment tool

Beginning with the programming of the risk assessment tool in the end of 2010

Start of description and assessment of risk criteria

Forth project group meeting in February

7. Changes in the project

Extra project group meeting in October 2010 in Prague

8. Human resources dedicated (person days)

From MS
38
From Commission
none

9. Products delivered

Flyer on easyTools, Report on Questionnaire

10. Expected final date for the project

31 December 2011

11. Date of this report

01. September

12. Report prepared by:
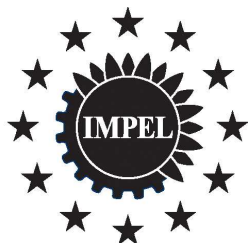
Project manager: Horst Buether

PROGRESS REPORT ON IMPEL PROJECT

1. Name of project

Risk assessment in inspection planning - easyTools

2. Reporting period

01/10/2010 − 28/02/2011

3. Project manager

Horst Buether; horst.buether@brk.nrw.de, Germany

4. Project team

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	Milena Drašťáková, drastakova@cizp.cz (from 2011-01-01)
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Turkey :	Yakup Ayan, yakupayan@yahoo.co.uk
United Kingdom :	Alison Simmons, Alison.simmons@environment-agency.gov.uk

5. Project approval

Extraordinary General Assembly, Brussels, October 2009
General Assembly, Brussels, November 2010 (second phase 2011)

6. Project activities

a) Carried out to date since the start of the reporting period:

Extension of the project group: Tadija

Third project group meeting 11 and 12 October, Prague, Czech Republic

The new integrated approach to risk assessment in inspection planning (IRAM) was discussed:
- Basic Impact Criterion (type of activity): Questions are raised if this criterion is in line with the rest of the impact criteria. The type of installation is already included in impact criteria like Safety. However, the Basic Impact Criterion could be useful when there is not enough information available about the inspected activity. It can than form a starting point for choosing the adequate inspection frequency.
   Conclusion of the discussion: The type of inspection object can be one of the impact criteria (e.g. complexity) but will not be a mandatory criterion like it is presented. The inspecting

authority can decide to include this in the risk assessment. A safety net will be included to respect the min frequency of different legislation.

- Probability criteria: The name of this cluster of criteria is renamed in Operator Performance criteria.
- Complexity: The name of this outcome is renamed in Inspection Complexity. It indicates the complexity of an inspection (time necessary) and not the complexity of the installation
- The rules between Operator Performance Factor and Impact Criteria can influence the outcome of the risk assessment with 1 or -1 point. The scoring system however is: L = 1, M = 2 and H = 3. This will be renamed to L = -1, M= 0 and H = +1. This way it clearly shows that the operator can influence the outcome. For now it's decided that the calculation of the Operator Performance Criteria to the Operator Impact Factor will be done by the mean value. It was further concluded that weight factors will not be included in the Operator Performance Criteria.
- Discussion on the Rules: Should the algorithm of the tool be done by rules or by added value (like UK and Spain). There is lots of experience on the OPRA tool and we are not sure about this new method. How flexible is this tool and will it be possible to use the Rules for general and detailed risk assessment (Jesus). It was agreed that the system needs to be tested (sensitivity and uncertainty test) before we are going to use it. This will be done before and during the workshop next year. All participants agreed to continue with the presented algorithm (the Rules)
- The system will be built in modules. Most of the modules will be the same as the tools that are already running. This way it will be possible to switch off modules (e.g. Operator Performance) so General risk assessments can also be done, or make changes to the algorithm. The programmer assured Horst that all the demands of project team can be met. The programming will start at the end if this year.

Guidance book:
Jesus presented the structure of the guidance book. It contains: Background, Definitions, Objectives and scope, Risk screening model, risk criteria and attributes, and IT options. Based on the discussion Hielke agreed to work a bit more on the structure, so it will be more in line with the guidance book of Doing the right things (from general to more detail).
The meeting agreed that the book should not be a comparison book of all the existing tools. However the book could give references to already existing tools.

Activities after the Project group meeting
- Preparation of a project report for the first year (2010) of the project (see: 2010-10-24-Report on IMPEL Project easyTools 2010) and the ToR for the second phase of the project in 2011 (see: 2011-01-20-Terms of Reference for easyTools-Pt2).
- Creation of a small draft Excel programme reflecting the results of the third project group meeting for tests of the agreed mathematical algorythm with different sets of critreia and real inspection objects.
- Descrition of the basic principals of the Integrated Risk Assessment Method and of the test Excel programme (see: 2010-12-01-IRAM-Description).
- Development of risk criteria for IPPC and Seveso inspections to be discussed at the next project group meeting.
- Commissioning IT NRW to develop an internet based programme with an interactive electronic form reflecting the agreed structure and modules of IRAM. The draft programme will be tested at the next project group meeting.

b) Expected before the end of the reporting period:

c) Planned after the reporting period:

Forth project group meeting on 10/11 March in Ljubljana:
- Test of the programme for different inspection tasks with different sets of risk criteria and weighting factors

- Preparation of the workshop

Workshop in May or later

Finishing the programming of the risk assessment tool after the workshop

Creation of a guidance book

Fifth project group meeting to finalise the project

7. Changes in the project

Extra project group meeting in October 2010 in Prague
Number of participants of the workshop had to be reduced to 20 (from 35)

8. Human resources dedicated (person days)

From MS
40
From Commission
none

9. Products delivered

Flyer on easyTools, Report on Questionnaire, first draft of an internet programme

10. Expected final date for the project

31 December 2011

11. Date of this report

28. February 2011

12. Report prepared by:
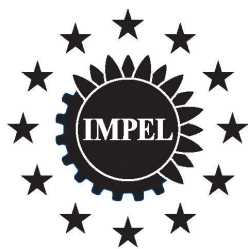
Project manager: Horst Buether

Annex 7: 4ᵗʰ Progress Report

European Union Network for the Implementation and Enforcement of Environmental Law

PROGRESS REPORT ON IMPEL PROJECT

1. Name of project

Risk assessment in inspection planning - easyTools

2. Reporting period

01/03/2011 – 15/11/2011

3. Project manager

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4. Project team

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United Kingdom :	Alison Simmons, Alison.simmons@environment-agency.gov.uk (until 2010-12-31)

5. Project approval

Extraordinary General Assembly, Brussels, October 2009 General Assembly, Brussels, November 2010 (second phase 2011)

6. Project activities

a) Carried out to date since the start of the reporting period:
Extension of the project group: Helena, other changes see above **Forth project group meeting 10 and 11 March, Ljubljana, Slovenia** *Presentation of the Integrated Risk Assessment Method (IRAM) programme* Horst presented the functionalities of the internet programme and run an example to show how it works. The application is now in English, German and luckily in other European languages in the near future. It is available through internet. Some of the points raised were about:

- The administrator now is Proximity and in the future IMPEL. The internet address for the programme will be provided.
- It differentiates between coordinators and inspectors.
- IRAM offers the possibility of working with the programme without registration. The difference is that in this case you can not use the criteria set in the system by the coordinator.
- There was a debate on the role of category and complexity and the use of weighting factors for it. It seems that complicates the tool for beginners.
- For each site an xml file can be generated. There is not a database behind as was requested by the project members.
- Thinking about working with groups of inspection objects, there should be settings that should not be asked for every installation. The inspectors/users should only fill data which are specific for the site.
- Debate on the database behind the tool. In previous meetings, it was clear that having a database in a server out of the competent authority did no seem an option. Doing a tool that you can install locally, needs new programming. It was decided that Horst will talk to IT people to see the options on data storage of assessed installations.
  Coordinator role: Agreement was taken at the meeting that the user should not be able to change the settings/options fixed by the coordinator.
- We have to make clear that the impact criteria and operator performance list elaborated should be just a proposal for the coordinators.

Results of test with Excel
The IRAM was tested in 16 installations in the Cologne region by different inspectors with the IRAM Excel programme. The results where compared with the old system and the linear approach. It seems that there are not relevant differences between the new and old but the comparison with the linear mean value approach was not easy to do.
Florin presents a comparison done in Romania between the new system and his system. It seems that the new gives a better balance with operator performance. Some inspections objects are in a better category because of the effect of the Operator Performance.

Guidance book
 Hielke presented the structure of the Guidance book. The idea is that the first part explains the process and the second part goes into the details. The structure is approved and some amendments or modifications have been done in the draft of the document like: remove the methods and tools in member states as an annex. Include annex examples of impact criteria. The guidance will include the use of navigation to simplify the use of guidance and to make it more user friendly.

Conclusions
1. There should be a possibility to create a list of risk assessment results of all assessed installations.
2. The coordinator also should give in the Minimum number of highest scores, the minimum inspection category and the maximum inspection category for an inspection task. The user only should give in the scores for the impact and the operator performance criteria.
3. All settings of the coordinator should be mandatory for the user. The user should not have the possibility to change the settings and to see how the calculations work in every step.
4. A new coordinator doesn't have to understand all mathematical consequences of the weighting factors in the beginning but only were to put in the default value "0" and "1" or they are set by the programme automatically.
5. The files are stored under a combination of ID of the company /installation and date of planning. The ID is a combination of letters and numbers.
Following conclusion number 1 an extra meeting of a small group in Cologne was planned.
It was also decided to postpone the easyTools workshop to the second half of the year because of financial shortages and the need to do some more programming work.

easyTools ad hoc group meeting on 15th April 2011, Cologne, Germany
Participants: Horst Büther, Jan Teekens, Rob Kramers, Hielke Kuitert, Stefan Nogly (Proximity Technology Software Engineering), Wulf Böckenhaupt

Using the results of IRAM
There was a broad discussion about using the results of an IRAM-assessment. IRAM creates a set of data which could be exported via xml or csv (comma separated values) to excel or other existing data bases. In general it would make sense to export the data into an existing data base to have the information of the assessment together with already existing data about this installation. Horst demonstrated online the data export function of IRAM with the csv button. He also demonstrated a little programme (macro) that imported the IRAM data from the csv file into the already existing IRAM Excel programme. Stefan explained that it's not a great work for a local programmer to create a small programme for sending the xml or csv data into a data base.
It is also possible to reload the raw data to IRAM (e.g. to make a new assessment of the data using adapted steering data (by the coordinator) because of new priorities).
The overall result of the discussion was: there will be no principal change of the internet form and we create a simple example on how to transfer the xml or csv data into a database (Excel sheet).

Fifth project group meeting 20 and 21 June, Bilbao, Spain

Update of the IRAM internet programme
The following items were discussed:
The two links to java code will be placed under a new option in the left navigation menu "support". Also the description or help file of the tool will be added under this option.
There are two forms in the programme: the Integrated Risk Assessment form or Rules module with the assessment methodology developed by the easyTools project and the Linear Mean Value form or Linear module that works without probability factors or terms. There is no relation between the two different modules (like in the excel sheet). You have to choose one of these forms before you start the assessment. The criteria for these two types of assessment are set by the inspection coordinator individually and can then be used by the inspector.

Importing data from IRAM tool to Excel files or other data bases
To import the csv (or xml) data to a spreadsheet the different csv files have to be opened one by one to run the macro. The macro is installed in the Excel programme. It was agreed that Hielke and Vlado will also try to develop a similar tool for importing xml data into databases so this can be presented at the workshop.
(Meanwhile it is possible to open all csv files at once and read them into the Excel sheet together.)

Workshop
The following has been agreed:
Participants: The workshop is open for all impel member countries. In total persons from 32 IMPEL member countries can join (including project team members).
Aim of workshop: To introduce the methodology and the IRAM tool; to get feed back and to train the participants in using the methodology and the tool.
Structure of the workshop: 1.5 day with presentations and 4 working groups.
The working group leaders will be: Horst, Wulf, Hielke and Rob. Hartmut, Jesus and Joanna are placed on the reserve list.
Preparation of training material will be done by Rob and Horst.
Chair of the day: Tony Liebregts
Location and date: The workshop will be held in Cologne on the 3rd and 4th of November.

Programme

Day 1

09:30	Welcome		
09:45	Introduction of IMPEL and DTRT		
10:30	Introduction of the easyTools project		
11:15	Break		
11:45	Presentation of Integrated Risk Assessment Method (IRAM)		
12:30	Lunch		
13:30	Presentation of the IRAM tool (Inspector's page / Coordinator's page)		
14:30	Instruction of 4 working groups		
14:45	4 working groups with break at 15:30		
17:00	Plenary ending of day 1		

Day 2

09:00	Looking back at day 1		
09:10	Feed back from the 4 working groups; 20 min presentation / group		
10:30	Break		
11:00	Presentation of importing data from the IRAM tool into a database		
11:45	Open discussion		
12:30	End of the workshop		

Activities after the Project group meetings

- Correction of errors and definitions in the IRAM internet programme.
- Re-engineering of the Excel programme reflecting the results of the project group meetings and to make it suitable as an interim database to collect the assessment results.
- Descrition of the basic principals of the Integrated Risk Assessment Method and of the Excel programme.
- Re-engineering of the "Macro" programme that reads the csv files into the Excel database.
- Working on the guidance book to finish it before the workshop starts.
- Testing the IRAM program on real data (carried out by project group members) and comparing the results whit the results of actually used risk assessment methods. The comparison will be presented during the easyTools workshop.

Workshop 3 and 4 November, Cologne, Germany

29 participants from 16 countries attended the workshop which was chaired by Tony Liebregts from The Netherlands. During the workshop Impel, the Doing The Right Things results, the history of the easyTools project development, the new risk assessment method IRAM, the risk assessment web based programme, import of assessment data into different kinds of data bases and the guidance book were presented.
The methodology and the programme were very well received by the participants. There were no objections against them. Only possible changes on the design and manageability were discussed.
It was agreed that the programme should be transferred to the IMPEL web site as soon as possible. Every member state can now inform the IMPEL office on inspection coordinators who will be logged into the programme to create forms and criteria for their specific inspection tasks.

b) Expected before the end of the reporting period: -
c) Planned after the reporting period:
Additional last project group meeting on 12/13 December 2011 in Dublin to discuss the possible changes mentioned above and to develop follow ups of the project as proposed during the workshop.

7. Changes in the project

Shift of the workshop from May to November 2011
Project report can only be presented at the Cluster 1 meeting and GA in spring 2012 for this reason

8. Human resources dedicated (person days)

From MS: 135
From Commission: -

9. Products delivered

Internet programme; Excel programme with csv macro to import assessment data; Access programme to import xml-assessment data; draft guidance book; assessment criteria

10. Expected final date for the project

31 December 2011

11. Date of this report

16 November 2011

12. Report prepared by:

Project manager: Horst Büther

Annex 8: Report of the Workshop

easyTools

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Risk Assessment in Inspection Planning

A European Perspective

European Union Network for
the Implementation and Enforcement
of Environmental Law

Report on the Workshop
Cologne, 3/4 November 2011

November 2011

Contents

1. Welcome

Opening speech from Dr Schwab, Head of Environmental department of the Regional District Government in Cologne.

Welcome by Tony and Horst.
Tony presents the programme of the workshop.
Short introduction of the participants. See annex 1, list of participants.

2. IMPEL and DTRT

Rob presents the Doing the right things methodology, article 23 of the IED and the inspection paragraphs of Seveso II. See annex 2 for the slides.

The following issues were raised after the presentation.

- The difference between inspection plan and inspection programme in the RMCEI is not always clear for everybody.
  Martine mentioned that the EU Commission sees 3 levels of planning within the IED. The third level could be the desktop inspections.
  The meeting concludes that the difference between plan, programme and schedule should be addressed in the new IMPEL project on IED.
- The developments concerning the provisions in Seveso 3 are too uncertain at the moment to include them in the guidance book.
  The meeting concludes that the draft provisions of Seveso 3 will not be mentioned in the guidance book.

3. Introduction of EasyTools project

Horst presents the overview of the easyTools project. See annex 3 for the slides.

4. Integrated Risk Assessment Method

Hielke presents the new developed Risk assessment method IRAM. See annex 4 for the slides.

The following issues were raised during and after the presentation:

- The Rule defines the number of highest scores and the decrease or increase of the score with maximum 1 step. This last definition is not mentioned in the guidance book.
  It was agreed that the guidance book will specify this issue.
- To use the output of a risk assessment, it should be possible to have a good reporting tool so data can be analysed.
- The different weighting terms and factors for inspection profile, impact criteria and operator performance lead to some confusion.
  The project team will see if further clarification is necessary.
- In some member countries the outcome of the risk assessment is also used to calculate the height of the inspection fee that operators have to

pay to the inspecting authority. In these cases the involvement of stake holders in the design of the risk assessment method might be necessary. The guidance book doesn't address this issue.
The project team will discuss how to take this aboard.

5. Web based IRAM tool

Horst presents the web based IRAM tool in which he addresses the following issues:

- The roles of the coordinator and the inspector in practise.
- How changes that are done by the coordinator will influence the form for the inspector.
- How to enter risk assessment data for a facility
- How to upload and download XML data

During the presentation the following suggestion was made to improve the user friendliness of the tool. The explanation of the criteria could be placed under a drop down menu and not as an "I" in the beginning of the sentence.

After the presentation Tony gives the instructions for the 4 working groups. Every working group received instructions to practice with the IRAM tool and afterwards discuss implementation issues of IRAM in their organisation. The groups were lead by members of the project team.

6. Looking back on day 1

Tony looks back to the activities of day 1 and reflects this to the aim of the workshop. He concludes that despite the technical problems of one of the working groups with access to internet and the fact that the training was a bit short, the day was very positive and the discussions very fruitful.
Tony asks the participants to have the new IMPEL project on IED in mind when starting the discussion so it's possible to give input to this project.

7. Results from the exercise

At the start of day 2 Horst presents the results of the IRAM tool exercise. Not all workshop participants have the same scores as Horst. Choosing the right impact criteria seems the reason why there are differences in the final score. The exercise learned that the critical point of IRAM lies in a good explanation of the impact criteria. The criteria that were developed by the project team had lead to some confusion during the exercise. The impact criteria "Air" and "Sensitivity of the local environment" needs better clarification.

Also a technical issue was discovered. It seems possible to upload a new xml file while an old one is still on the screen. In that case both installations will be mixed up. Software builder will be asked to change this.

Text proposal for the IRAM tool: On the screen the "Added risk inspection profile" and "added risk profile" should be the sum of profiles.

8. Feed back from the working groups

During this session, the reporters of the working groups presented the outcome of their discussion.

Working group 1

The working group didn't have enough time to finish the whole exercise because of technical problems. Issues that were raised in the working group:
- The procedure to become a coordinator needs clarification.
- Changing the weight on a criteria will only work when the file is downloaded and uploaded again.
- There is an error in the calculation for criteria that scores zero. It seems that the inspection time does raise, which is wrong.
- The "+" buttons are to close to each other.
- The end results of the assessments should be highlighted. Now they are hidden in all other data.
- The text in the blue info box is sometimes hidden. It would be better if the text appear in a dropdown box in the data entry.
- Suggestion to divide the "inspection time" in classes.
- Needs:
  - more workshops in the different countries to train people on this tool.
  - Acceptance by the ministry.
  - Development of reporting tools

Working group 2

The following issues were raised:
- The handling of data input is not user friendly (dropdown menu could be a solution; this will avoid wrong data input).
- Changing the inspection tasks is not possible without starting all over again. Suggestion: Leave the name of the company (and other data) and put only the lock on the inspection data.
- The format of the postal code is a problem. Now it is set for Germany.
- There are connection problems because of firewalls and safety certificates. Horst: this problem only happens now because the software is still on the software builder server.
- Needs:
  - Translation in the languages of the different member countries. Horst: this can easily be done by the country itself. Horst can be contacted for this to explain how.
  - A quick reference guide for the IT tool.
  - IMPEL should provide promotion materials to convince decision makers
  - Maintenance and procedures for the IRAM tool. Horst explains that there is a contract with Proximity for 3 years. A contact person still needs to be appointed.
    Procedures need to be developed for IRAM. For example: who can decide about the changes that will be made in the tool. Changes will affect all the users. Should a user group be established so they can be informed about the new developments?

- o An evaluation should be done after introducing the tool.
- Suggestion how to deal with the outcome of the Inspection profile: Integrated inspection in case the inspection profile is larger than 50%; Inspection on themes in case the inspection profile is lower than 50%

Working group 3
The following issues were raised:
- In general the tool works good, it's functional and useful
- In this test phase IRAM works well, but extra attention is needed for the operational phase.
- Postal code is fixed to 5 numbers, this gives problems in some countries
- The criteria are not fool proof / they are not always clear / this could be risk.
- Weighting factor of operator performance is added value
- Working with the tool needs practice
- The possibility that the tool can be in different languages is good
- Methodology is very good
- Use of the same methodology is seen as an added value (level playing field)
- Needs:
    - o More training is needed
    - o Translation of the guidance book and the tool book in the language of the different member countries
    - o Support in linking the tool to the different IT systems in the member countries
    - o Convince management / some back up is needed. Success stories could help
- Suggestion on inspection profile: The percentage doesn't say that much, it's better to allocate hours to the impact criteria (per industrial category); by choose the impact criteria that will be inspected during the site the outcome of the inspection profile will make more sense.

Other issues that were raised during the feedback:
The further development of the impact criteria should be addressed in the new IMPEL IED project. Further a suggestion was made to have the results of IRAM presented in a better way (e.g. with graphics). Horst will talk with the software builder.

Working group 4
The following issues were raised:
- Entering data is not user friendly, a dropdown list would be a solution.
- The impact criteria needs better clarification. This is an important issue and might lead to problems.
- Operator performance should have a stronger influence on the results. From -1 to +1 it should be from -2 to +2. The meeting did not agree with this suggestion.
- The handling with xml files (downloading / uploading) is not user friendly.

- How can you work with the tool when more then 1 organisation is competent (coordinated inspections). Procedures need to be developed for this, within the different countries.
- Needs:
  - support from management
  - Inspectors should be convinced to use IRAM and they have to be trained
  - Checklist to fill in the assessment
  - Sharing experiences
- Suggestions: start with a simple assessment with only a few criteria; the methodology can be used without using the tool, the java code should be available.
- IRAM could show that we do not have enough resources. A strict planning is therefore a need.
- A tool for planning and resources could be a subject for a new IMPEL project

9. Importing xml files

Vlado shows how xml files can be exported to a database. This is done by importing xml files into MS access. The xml files do not work in MS access 2003, therefore the files first need to be converted. For this a separate program has been written. After the xml files have been converted the files can be imported into MS access. It should be noted that higher versions of MS access are xml based. This could mean that conversion is not necessary anymore.

The database that was developed by Vlado can produce planning reports and can also set different frequencies (linked to the categories). Vlado suggests adding an extra field called "Date of last inspection" in the IRAM tools.

Horst shows how csv files can be imported into Excel. The program (made in Excel) makes it possible to import a set of 20 records from IRAM. With this Excel tool it's possible to steer the results.

Horst announces that IRAM will be available through the website of IMPEL.

10. Comparison of data

Florin shows the outcome of a comparison between IRAM and the Romanian risk assessment tool. The overall conclusion was that the results of IRAM work better than the original Romanian tool.

Also Joanna shows a comparison of IRAM and the Polish tools for Seveso establishments. The conclusion here was that operator performance criteria improve the final results of the Risk Assessment in a good way. These criteria were was not included in the Polish system.

11. Open discussion

In this section issues can be found that weren't mentioned in the previous sections.

The meeting agreed that introducing a new level in inspection planning (plan, programme and schedule) makes the process too complicated and bureaucratic.

BREF's and the revision of BREF's can be included in IRAM by using special impact criteria (e.g. large combustion plants and give them score 6).

IMPEL should assist in the training of inspectors on the IRAM tool.

The IRAM tool would be more user friendly if data would be automatically submitted to an excel file after finishing the risk assessment..

The guidance book should address the different stakeholders in relation to the risk assessment methodology. These are: Operators, EU commission and management

12. Workshop Conclusions

- Methodology is accepted.
- Comparison with own systems confirms the value of IRAM.
- IRAM tool is an added value and organisations can start to implement this.
- Procedural arrangements 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 meeting have made suggestions to improve the user friendliness of the tool and the text of the guidance book.
- Some technical errors need to be repaired.
- Suggestions have been made that could be addressed in the new IMPEL IED project.

Annex 1 - List of particpants

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Annex 2 – Presentation IMPEL - DTRT

Risk Assessment in Inspection Planning

IMPEL and DTRT

easyTools

Content

1. Introduction IMPEL
2. RMCEI and Doing the Right Things
3. IED
4. SEVESO

Introduction IMPEL

European Network for the Implementation and Enforcement of Environmental Law (www.impel.eu)

Introduction IMPEL
Mission

Contribute to a more effective application of environmental legislation
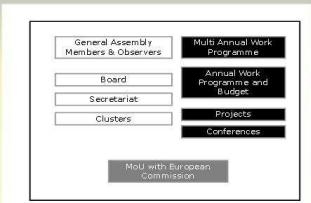
- Identify good practices
- Develop guidance, tools and common standards
- Encourage and facilitate capacity building
- Carry out joint enforcement projects
- Promote national networks
- Provide feedback to EC on EU environmental law
- explore the use of innovative regulatory and non-regulatory instruments

Introduction IMPEL
Organisation

Introduction IMPEL
Clusters

- Cluster 1
  Permitting, Inspection & Enforcement
- Cluster 2
  Transfrontier Shipments of Waste
- Cluster 3
  Better Regulation

EU Recommendation minimum Criteria for Environmental Inspections
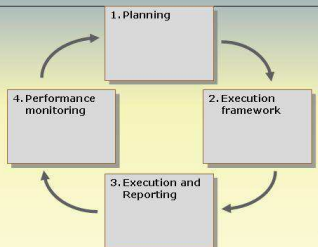
Doing the right things
Environmental inspection cycle

Doing the right things
Environmental inspection cycle

9

Doing the right things
Environmental inspection cycle

10
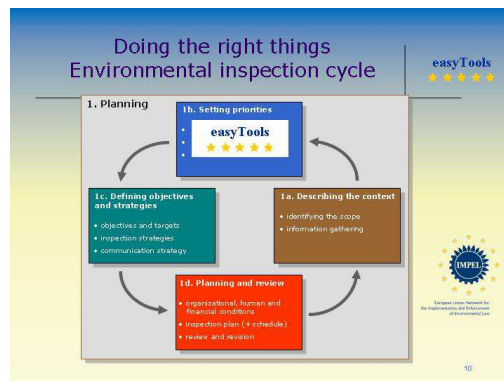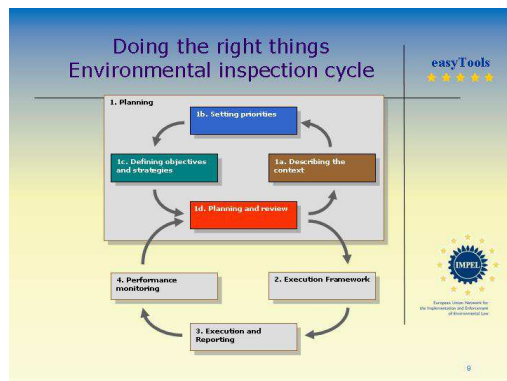
Industrial Emission Directive Art 23

- MS have to set up a system for inspection. Operators have to give necessary assistance

- All installations have to be covered by an inspection plan (national/region/local) regularly review and update.

11

Industrial Emission Directive Art 23

- Inspection plans includes: assessment of significant environmental issues; geographic area, register of installations; procedures for inspection programmes, routine inspection, provisions for cooperation.

- Development of inspection programme (routine inspections): frequency is determined by systematic appraisal of environmental risks (1 year high risk; 3 years low risk).

12

Industrial Emission Directive Art 23

- Criteria:
  a) "the potential and actual impacts of the installations concerned on human health and the environment taking into account the levels and types of emissions, the sensitivity of the local environment and the risk of accidents;
  b) the record of compliance with permit conditions;
  c) the participation of the operator in EMAS

13

Industrial Emission Directive Art 23

- Inspection of serious environmental complaints, accidents and incidents and occurrences of non-compliance.

- Prepare a report after each site visit, to operator in 2 months, public available in 4 months.

14

SEVESO II

- Develop inspections plans and programmes for routine inspections for all upper tier establishments (incl freq of inspections).

- Frequency based on systematic appraisal of major accidents hazards 1 year or lower for upper tier.

15

SEVESO II

- Criteria:
  The potential and actual impacts of the establishments concerned on human health and the environment taking into account the major-accident hazards,
  a) The sensitivity of the local environment and the risk of accidents;
  b) The record of compliance with the requirements of this Directive;
  c) Participation of the operator in EMAS

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SEVESO III
Commission proposal

easyTools
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- Separate risk based inspection planning for
  - Lower tier establishments
  - Upper tier establishments

- Two categories of inspection frequencies:
  - Lower tier at least every 3 years
  - Upper tier at least every 12 months.

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17

Questions ?

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IMPEL

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of Environmental Law

Annex 3 Presentation project easyTools

Development of an easy and flexible risk assessment tool for the planning of environmental inspections

easyTools
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Participating Countries

Austria: Christoph Planitzer
Croatia: Tadija Penic

Czech Republic: Eva Rychlikova, Milena Drašťáková, Helena Nekolová
France: Thomas Ailleret
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Italy: Matteo Valota
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Poland: Joanna Piekutowska
Romania: Florin Homorean
Slovenia: Vladimir Kaiser
Spain: Jesus A. Ocio
Turkey: Yakup Ayan
United Kingdom: Alison Simmons

3 November 2011   easyTools workshop   2

Objectives of the Project

- Evaluation of existing inspection tools and risk criteria
- Development of a risk assessment tool for environmental inspections that could easily be used by every IMPEL member
- Integration into the inspection cycle of the Step by step guidance book (DTRT)
- Availability from the IMPEL website as an advanced interactive IT tool
- Linking to the requirements of the EU environmental law and the RMCEI

3 November 2011   easyTools workshop   3

First Project Group Meeting 24/25 February 2010, Cologne

- Scope of the project:
  general risk of different inspection tasks
  IPPC (IED), Seveso, water, waste, others
- Definition of risk: effect and probability
- Risk assessment tools currently in use
- Design of the questionnaire
- Risk criteria: brainstorming
- Logogram and flyer, communication strategy
- Communication with use of Basecamp

3 November 2011   easyTools workshop   4

2010/02/24

Requirements on the Programme

- General risk assessment of different statutory tasks like inspections of
  - IPPC installations/activities
  - Seveso establishments
  - waste management and landfills,
  - waste water management,
  - any other hazardous activities

3 November 2011   easyTools workshop   6

Conclusions from the Questionnaire

- Since DTRT the number of authorities that use a risk based approach has increased
- A risk based approach is used for a variety of tasks, most common are IPPC and SEVESO inspections
- Risk assessment tools vary from country to country
- Scoring systems vary from country to country
- Mathematical algorithms are different
- Weighting factors are hardly used
- IMPEL member countries use in most cases Excel sheets or databases as IT tools
- There is a preference to use general software like MS-Excel or MS-Access.

3 November 2011   easyTools workshop   7

Second Project Group Meeting 24/25 June 2010, Warsaw

- Discussion of the report on the answers to the questionnaire
- Discussion on an IMPEL guidance book for risk assessment in inspection planning
- Scrutinising of different approaches to risk assessment as developed by member countries
- Comparison of risk assessment methodologies
- Advantages and disadvantages of a web based application
- Commissioning a sub-group to develop a proposal

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Considered Risk Assessment Tools

- Two approaches from Cologne developed for the project as derivations from the Cologne InSys risk assessment tool
- Tools from Poland, France, Romania, Netherlands /Portugal, Slovenia, England and Wales
- Seveso tools from the Netherlands and North-Rhine Westphalia

Considered Risk Assessment Tools

- Three general types of methods were identified:
- **Linear Mean Value:** mean values or sums of all (weighted) criteria scores are assigned to risk categories and inspection frequencies (Spain, Cologne)
- **Mean Value of Risk:** mean values of impact criteria multiplied by probability criteria are assigned to risk categories (OPRA, NL, PO, PT)
- **Maximum Value:** inspection task with highest frequency determine inspection frequency (France)

Sub-Group Meeting
16 July 2010, Brussels

- Different approaches to risk assessment and types of criteria were discussed
- A new approach - a combination of the mean value and the maximum value method - was also discussed:
- The highest scores of impact criteria decide on the inspection frequency and the sum of scores decide on the inspection time
- Probability criteria (operator performance) have an influence on the inspection frequency
- This approach was used as proposal for the next project group meeting in Prague

How Risk Assessments Work
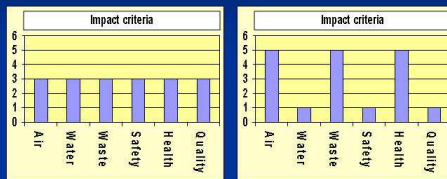
Third Project Group Meeting
11/12 October 2010, Prague

- Discussion of the proposal from the sub-group
- Discussion of the Spanish approach
- Decision on programming, data storage and web based application
- Defining criteria groups (impact, operator performance) for different inspection tasks
- Decision on a guidance book

Activities in 2011

- Two project group meetings in Ljubljana and Bilbao
- Ad-hoc sub-group meeting in Cologne on database applications
- Modifications in the programme: coordinator/inspector
- Programming of an Excel database and an input programme for csv files
- Writing of a guidance book
- Workshop in November in Cologne
- Project report in the beginning of 2012

Algorithm of the Integrated Model

- Every impact criterion gets 0 to 5 points
- The points are linked with inspection frequencies, e.g. 5 = every year, 1 = every 5 years, 0 = no routine inspection
- For every inspection object the scores are analyzed
- The highest scores determine the inspection frequency
- The sum of the scores (complexity) determine the allocation of resources or inspection time
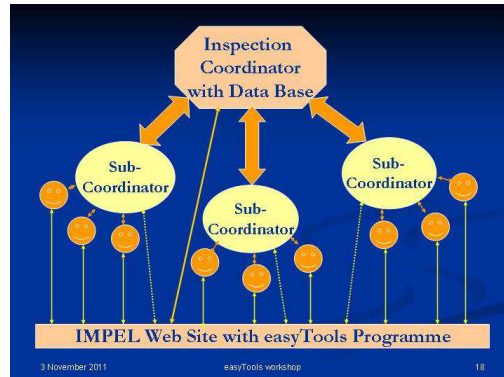- The result of the probability criteria determine the shift to increased or decreased frequencies

Fundamentals

- The assessment is done with an internet application
- The inspection coordinator is responsible for the general settings
- The inspector only does the assessment for his installations
- No data storage in the internet
- The results can be downloaded via xml or csv files
- The results can be read into a database (e. g. Excel or Access)

Inspection Coordinator with Data Base

Sub-Coordinator

Sub-Coordinator

Sub-Coordinator

IMPEL Web Site with easyTools Programme

Steering of the Integrated Model

- The number of highest scores (linked to inspection frequency) can be varied
- There are weighting terms for impact criteria
- There are weighting factors for operator performance criteria
- There are weighting factors for the inspection effort
- There is a safety net = minimum inspection frequency (e. g. every 3 years for IED)
- There is a maximum inspection frequency ceiling (e. g. every year)
- Working with mean values is also possible

Thank you for your attention

Annex 4 Presentation Integrated Risk Assessment Method

Slide 1

Risk Assessment

easyTools
★ ★ ★ ★ ★

IMPEL

European Union Network for
the Implementation and Enforcement
of Environmental Law

Slide 2

Content

easyTools
★ ★ ★ ★ ★

1. Introduction into Risk Assessment
   a. Impact
   b. Operator Performance

2. How to determine the Risk Category?
   short explanation of the 3 methods found

3. Integrated Risk Assessment Method (IRAM)
   a. How does it work?
   b. The role of Operator Performance in IRAM
   c. The Safety Net
   d. 'How much time will it take?'

2

Slide 3

Introduction into Risk Assessment

- What is Risk?

| Risk | = | Effect | * | Probability |

- Effect = Impact criteria

- Probability = Operator Performance criteria

Slide 4

Effect = Impact criteria

| Risk | = | Effect | * | Probability |

Effect = Impact criteria

for IPPC (IED) installations the impact criteria
could for example be:
- Quantity/quality of air pollution
- Quantity/quality of water pollution
- (Potential) pollution of Soil
- Waste production or waste management
- Amount of dangerous substances
- Local nuisance (noise, traffic)

Slide 5

Impact criteria for Seveso

| Risk | = | Effect | * | Probability |

For SEVESO establishments the impact criteria
could for example be:
- External safety
- Complexity of the production
- Organisation of damage limitation
- Domino establishments
- Impacts in the past

Slide 6

Probability = Operator Performance

| Risk | = | Effect | * | Probability |

Probability = Operator Performance

Criteria:
- Attitude
- Compliance
- Environmental management system (e.g. EMAS)
- Age of the installation

The influence is + or -

Slide 7

Weight

- Not everything has the same importance
- Therefore: Weighting

- Weighting is often Political

- Weighting factors (*) and
- Weighting terms (+)

Slide 8

How to determine the Risk Category?

Determination of the Risk Category:
   Risk assessment

We found 3 methods:
- Linear Mean Value

- Mean Value of Risk

- Maximum Value

Linear Mean Value

Linear Mean Value
Risk =   (impact criterion 1 +
            impact criterion 2 +
            ... + ICn)/n

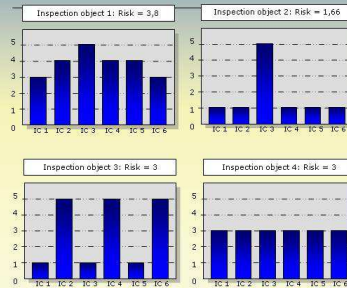All impact scores are added and the mean (or 'average') score is determined.

Disadvantages:
- high risks are levelled out by low risks
- the more criteria, the smaller the spread ('range')
- the limits of the risk categories are not transparent;
- not a real risk assessment because no probability factors in the calculation.

Linear Mean Value: examples

Inspection object 1: Risk = 3,8
Inspection object 2: Risk = 1,66
Inspection object 3: Risk = 3
Inspection object 4: Risk = 3

Mean Value of Risk

1. Mean Value of Risk:
   Risk =   (impact criterion 1 +
               impact criterion 2 +
               ... + ICn)/n * **Probability**
2. Basically the same, but Probability is introduced
3. The same disadvantages except 'Probability'
4. Plus "the result depends to a great extent on the setting of the probability factor".

Maximum value

Maximum value:
Every inspection task has a fixed frequency, e.g.
- Seveso establishment – once a year;
- IPPC installation – every three years;
- Facility under Solvent Emissions Directive – every seven years;
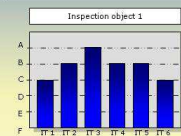 and so on.

Inspection frequency =
            Max(inspection task 1,
                inspection task 2,
                ..., inspection task n)

The highest frequency counts

Maximum value: example

Inspection object 1

- A = inspection once a year
- B = inspection once every 2 years
- C = inspection once every 3 years
- D = inspection once every 4 years
- E = inspection once every 5 years
- F = no inspections

Maximum value: disadvantages

Disadvantages:
- no risk assessment within the inspection tasks
- not a real risk assessment because no probability factors in the calculation
- the outcome shows a relative higher number of high risk facilities than the other methods
- no steering mechanisms
- The inspection frequencies of less important inspection tasks do not influence the result. This information about the inspection object is not used.

A Rule based Method: IRAM

the easyTools project team developed
IRAM = "Integrated Risk Assessment Method"

Our goals:
- combining the advantages of the three methods, while
- limiting the disadvantages

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(IRAM): How does it work?

- IRAM also differentiates between impact criteria, probability criteria and risk categories
- Impact criteria are linked to risk categories = inspection frequencies (just like Max. Value method)
- The difference is "The Rule":

- "How many high-scores are needed to receive the highest inspection frequency?"

How does it work: an example

Inspection object 1
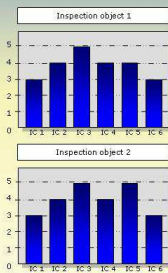
Object 1:
- If the rule ="1", then the Risk category = 5
- If the rule ="2", then the Risk category = 4

Inspection object 2

Object 2:
- If the rule = "1", then the Risk category = 5
- If the rule = "2", then the Risk category stays 5
- If the rule = "3", then the Risk category = 4

The role of Operator Performance in IRAM

in IRAM, Operator Performance criteria are used as Probability criteria

Their role is to shift ('move') the Risk category and therefore the inspection frequency:
- good operator performance: shift to a lower inspection frequency
- bad operator performance: shift to a higher inspection frequency
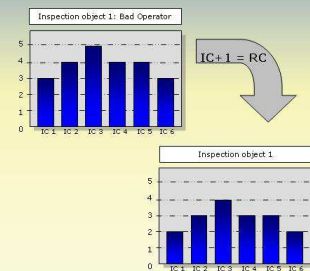
Operator performance criteria can be:
- -1 = good,
- 0 = moderate and
- +1 = bad

Operator Performance: example 1: Good Operator Performance

Inspection object 1: Good Operator

IC-1 = RC

Inspection object 1
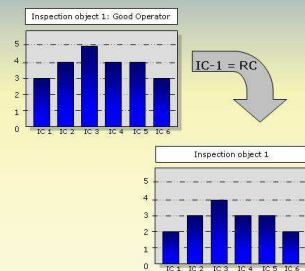
Operator Performance: example 2: Bad Operator Performance

Inspection object 1: Bad Operator
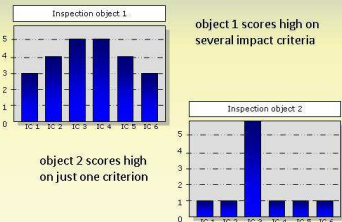
IC+1 = RC

Inspection object 1

The Safety Net; legal obligations and policy

- Sometimes a law or directive sets minimum inspection frequencies per inspection object
- e.g. the new IED states:
  - Low risk = min. 1 inspection in 3 years
  - High risk = min. 1 inspection in 1 year

- IRAM introduces a so called "safety net" to comply with these legal obligations:
  If result of IRAM < legal minimum frequency, then result = legal minimum frequency

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'How much time will it take?': the inspection profile

'How much time will it take?' can be derived from the inspection profile:

Inspection object 1

object 1 scores high on several impact criteria

Inspection object 2

object 2 scores high on just one criterion

---

the inspection profile

The maximum of all the scores = 5+5+5+5+5+5=30
Inspection object 1 = 3+4+5+5+4+3=24
Inspection object 2 = 1+1+5+1+1+1=10

Say: a full integrated inspection for all criteria requires 30 hours, then
Object 1 needs 24/30=0,8=80% of 30 hours, and
Object 2 needs 10/30=0,3=30% of 30 hours.

The "inspection profile" can also determine the focus of the inspection:
Object 1 = focus on impact criteria 2, 3, 4 and 5,
Object 2 = focus on impact criterion 3.

Another possibility: a multi annual inspection plan for complex inspection objects like object 1:
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

---

the inspection profile: other possibilities

The "inspection profile" can also determine the focus of the inspection:

Object 1 = focus on impact criteria 2, 3, 4 and 5
Object 2 = focus on impact criterion 3.

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