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# Environment and Climate Regional Accession Network (ECRAN)

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Workshop report  
Activity 1.2.1  
Capacity Building on  
Compliance with  
Environmental  
Legislation (2<sup>nd</sup> Regional  
Workshop)

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Skopje, 10 -12 October 2014

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**WORKSHOP REPORT**  
**Activity 1.2.1**

**CAPACITY BUILDING ON COMPLIANCE WITH ENVIRONMENTAL  
LEGISLATION**  
**(2<sup>nd</sup> Regional Workshop)**

**Skopje, 10 -12 October 2014**

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## I. Background/Rationale

Within the RENA programme, the objective of the ECENA Working Group on Environmental Compliance and Enforcement was to improve the ability of RENA member countries to implement and enforce the EU environmental and climate acquis by increasing the effectiveness of inspecting bodies and promoting compliance with environmental requirements.

The activities for the period 2010-2013 were based on a Multi Annual Work Plan, covering the following areas:

- Training and exchange,
- Institutional and methodological development,
- Cross border enforcement.

The activities planned under ECRAN in this area will build on the results achieved under RENA. Since the work of inspectors and permit writers has to be more coordinated and connected to other activities within the environmental protection area, it has been decided that ECENA under ECRAN should be of cross cutting nature. This is particularly important as the work of ECENA is dealing with both implementation and enforcement of the EU acquis. Cooperation with policy makers and law drafters has to be strengthened in order to enable developing better implementable legislation.

The work plan covers the full period of ECRAN (i.e. October 2013 – October 2016). Under this ECENA work plan, the following specific activities have been decided to be implemented:

1.2.1 Capacity building on compliance with environmental legislation

1.2.2 External country assessments

1.2.3 Methodological development - application of IRAM/easy Tools

1.2.4 Compliance with REACH/CLP Regulations;

1.2.5 Trans frontier Shipment of Waste (TFS);

1.2.6 Inspection and enforcement in other policy areas;

1.2.7 Inspector's participation in networking activities.

The beneficiaries are the Ministries of Environment of the beneficiary countries (Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Kosovo\*<sup>1</sup>, Montenegro, Serbia and Turkey). In addition the other ministries and other bodies and institutions will need to be actively engaged in so far as their work is relevant for the scope of ECRAN.

The overall objective of ECRAN is to strengthen regional cooperation between the EU candidate countries and potential candidates in the fields of environment and climate action and to assist them on their way towards the transposition and implementation of the EU environmental and climate policies, political targets and instruments which is a key precondition for EU accession.

### ***Activity 1.2.1 Capacity building on compliance with environmental legislation***

Beneficiary countries under this project are at different levels of transposition, implementation and enforcement of the environmental acquis. These differences are caused by different initial levels of development, national and international political decisions or complications, budgetary potential, etc.

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<sup>1</sup> This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ opinion on the Kosovo declaration of independence.

Progress in all candidate and potential candidate countries is regularly monitored by the European Commission. The Progress monitoring reports from October 2009 provide the following picture.

Currently, Croatia is an EU member since 1 July 2013. Out of four candidate countries from the region (the Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Turkey) two have already started the accession negotiations: Turkey in 2005 and Montenegro in 2012, while the other three are speeding up their efforts for opening the accession negotiations. Potential candidates - Albania, Bosnia and Herzegovina and Kosovo\* are also increasing their efforts in this direction.

In the field of training and exchange and methodological development it has been decided to continue the activity in organizing and implementing training courses with common inspection entitled "Capacity building on compliance with environmental legislation". The training sessions are now to be designed as regional courses with common inspections and site visits, paying attention to cross-cutting issues. The following rationale can be given:

From the evaluations of the first series of training courses on the subject under RENA it was clear that in all the beneficiary countries the expectations were generally and also specifically met. Considering the educational and experience level of inspectors and permit writers, it was noticed that the target group was generally composed of a widely divergent group considering their experience. The set-up of the training courses was such that it could meet to a the various requirements and experience levels. Some conclusions from the evaluations are:

In general the training, although intensive in timing, was considered important with the level of training being in accordance with the needs.

As observed in previous trainings again the combination of practical work (site visit with common inspection) and lectures were appreciated very much.

The exchange of experience with colleagues from the region was very well received and in view of the number of participants (20 – 25), this has led to a successful event and should be further promoted.

The topics in the training were very well received and the specific operational elements in the visited factories could be very well inspected.

The contributions of the inspectors from other invited RENA countries were good and especially contributed to the common understanding of the permits and permitting process in their respective countries, generally indicating the status of starting up a fully developed IPPC permitting system.

The new requirements in the IED over and above the IPPC requirements have not been incorporated adequately and require in the near future a lot of attention in the target countries. This is specifically the case for permitting, reporting and monitoring. The information on the changes induced by the IED is clearly explained and will have quite an impact on the human resources (permit writers, inspectors and reporting obligations).

The need for information and further training have been indicated by the various countries by selecting special subjects which received some additional attention during these series of courses.

Some special subjects needed only additional presentations and explanations (for example revision RMCEI, end of waste criteria). Other subjects could only be handled in a limited way and require further elaboration in future courses (REACH, SEVESO, VOCs under IED).

Considering some of the cross cutting subjects (for example IED linkages with water, air, nature legislation and those with chemicals and hazardous waste issues), most of the inspectors lack knowledge, as traditionally such subjects are in most cases handled in other ministries than the Environment Ministry.

Specifically for ECRAN/ECENA activity 1.2.1 a Training Needs Assessment has been performed and training topics have been selected (ref. TNA report, [www.ecranetwork.org](http://www.ecranetwork.org)).

Based on the selected training topics with selected industrial sites, up to eight regional training programmes are to be developed and subsequently delivered.

The training programme in this activity within ECENA will have to be closely coordinated with the other ones designed for ECENA and ECRAN in general in order to avoid duplication and overlaps.

Planned trainings will be delivered in close coordination with TAIEX Unit that will be responsible for provision of non-key experts and organisation of logistics (training venue, accommodation and transport of registered participants, etc.). Delivered trainings will be evaluated in order to follow the level of reaching the training objectives

Chapter 2 describes the background and objectives of activity 1.2.1 with the 2nd Multi-country Workshop Capacity Building on Compliance with Environmental Legislation and the topics that have been addressed.

Chapter 3 presents the workshop proceedings and Chapter 4 presents the evaluation. Furthermore the following Annexes are attached:

- \_ Annex I: the agenda;
- \_ Annex II: List of participants;
- \_ Annex III: Power point presentations (downloadable under separate cover):

<http://www.ecranetwork.org/ECENA>

## II. Objectives of the training

### *General objective*

Increasing the effectiveness of inspection bodies and promoting compliance with environmental requirements

### *Specific objectives*

Capacity building regarding compliance with environmental legislation through better understanding of implementation issues and identification of targeted solutions (training of inspectors and permit writers in cooperation with law drafters and policy makers)

### *Target group*

The target institutions and beneficiaries are the environmental inspectors and permit writers of the Ministries of Environment in Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Kosovo\*, Montenegro, Serbia and Turkey

### *Expected results*

The following result is expected for this activity

- improved functioning of environmental inspection and enforcement organizations;
- streamlined working methods and implementation of best practice in the region moving towards EU standards.

### *Training delivery*

Based on earlier experience, described approach and the outcomes of the TNA, the general training set-up and topics are:

**Day 1;** Mainly related to **Inspection Management** including general subjects with the regulatory cycle and inspection cycle, **IPPC/IED implementation** with inspection and permitting functions with requirements, **Cross cutting issues: IED interaction with other environmental legislation** also in relation to ambient environmental quality. Special subjects and specific directives have to be selected for specific attention including IED/IPPC interaction with EIA, ambient water quality, air quality and, nature legislation, LCP, PRTR, SEVESO II, VOCs, waste and chemical management

**Day 2;** Continuation day 1 programme and Preparation for the (industrial) site visit with BAT and BREF evaluation of the selected industrial site to be visited; exchange of experience from the various countries in the region considering the selected type of industry. Presentation on the selected factory site backgrounds. Preparation of checklists for the site visit.

**Day 3;** on site visit/common inspection of a specific industry and reporting.

The trainings are designed as a series of eight follow-up modules each to be held in one of the beneficiary countries. The trainings cover cross cutting issues and are also designed in such a manner that the training programme will also allow participation of policy makers and legal drafters from other relevant WGs such as Waste, Air, Water, etc.

The training in Skopje needed some adaptations in timing of the various programme elements. Due to amongst other maintenance requirements at the factory to be visited, the site visit/common inspection had to be scheduled on day 2 of the program. The agenda had to be adapted accordingly.

The agenda of this second training is included in ANNEX 1

### **Results/outputs**

The following results are expected for this activity

- improved functioning of the environmental authorities and related authorities envisaged to be responsible for implementation of the IED, SEVESO and WFD directives ;
- streamlined working methods and implementation of best practice in the region moving towards EU standards.

## **III. EU policy and legislation covered by the training**

The training covered mainly the IED Directive, SEVESO and Water Framework Directive (Cross cutting issues IED/WFD).

### **IED (summary) Ref 1.<sup>2</sup>**

Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). This Directive brings together Directive 2008/1/EC (the 'IPPC Directive') and six other directives in a single directive on industrial emissions.

Sectors of activity .This Directive shall cover industrial activities with a major pollution potential, defined in Annex I to the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, rearing of animals, etc.).The Directive shall contain special provisions for the following installations:

- combustion plants ( $\geq 50$  MW);
- waste incineration or co-incineration plants;
- certain installations and activities using organic solvents;
- installations producing titanium dioxide.

### **Environmental requirements**

Any industrial installation which carries out the activities listed in Annex I to the Directive must meet certain basic obligations:

- preventive measures are taken against pollution;
- the best available techniques (BAT) are applied;
- no significant pollution is caused;
- waste is reduced, recycled or disposed of in the manner which creates least pollution;
- energy efficiency is maximised;

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<sup>2</sup> REF 1) IED: [http://europa.eu/legislation\\_summaries/environment/soil\\_protection/ev0027\\_en.htm](http://europa.eu/legislation_summaries/environment/soil_protection/ev0027_en.htm)



- accidents are prevented and their impact limited;
- sites are remediated when the activities come to an end.

### **Application of best available techniques**

Industrial installations must use the best available techniques to achieve a high general level of protection of the environment as a whole, which are developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions. The European Commission must adopt BAT conclusions containing the emission levels associated with the BAT. These conclusions shall serve as a reference for the drawing up of permit conditions.

### **Permit conditions**

The permit must provide for the necessary measures to ensure compliance with the operator's basic obligations and environmental quality standards. These measures shall comprise at least:

- emission limit values for polluting substances;
- rules guaranteeing protection of soil, water and air;
- waste monitoring and management measures;
- requirements concerning emission measurement methodology, frequency and evaluation procedure;
- an obligation to inform the competent authority of the results of monitoring, at least annually;
- requirements concerning the maintenance and surveillance of soil and groundwater;
- measures relating to exceptional circumstances (leaks, malfunctions, momentary or definitive stoppages, etc.);
- provisions on the minimisation of long-distance or transboundary pollution;
- conditions for assessing compliance with the emission limit values.

### **Special provisions**

Special provisions shall apply to combustion plants, waste incineration and co-incineration plants, installations using organic solvents and installations producing titanium dioxide. The emission limit values for large combustion plants laid down in Annex V to the Directive are generally more stringent than those in Directive 2001/80/EC. A degree of flexibility (Transitional National Plan, limited life time derogation) shall be introduced for existing installations. For other activities subject to special provisions, the provisions of the current directives have been largely maintained.

### **Environmental inspections**

Member States shall set up a system of environmental inspections of the installations concerned. All installations shall be covered by an environmental inspection plan. The plan shall be regularly reviewed and updated.

Based on the inspection plans, the competent authority shall regularly draw up programmes for routine environmental inspections, including the frequency of site visits for different types of installations. The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned. It shall not exceed one year for installations posing the highest risks and three years for installations posing the lowest risks.

## SEVESO (ref 2)<sup>3</sup>

Major accidents in chemical industry have occurred world-wide. In Europe, the Seveso accident in 1976 prompted the adoption of legislation aimed at the prevention and control of such accidents. The resulting 'Seveso' directive now applies to around 10,000 industrial establishments where dangerous substances are used or stored in large quantities, mainly in the chemicals, petrochemicals, storage, and metal refining sectors.

The Seveso Directive obliges Member States to ensure that operators have a policy in place to prevent major accidents. Operators handling dangerous substances above certain thresholds must regularly inform the public likely to be affected by an accident, providing safety reports, a safety management system and an internal emergency plan. Member States must ensure that emergency plans are in place for the surrounding areas and that mitigation actions are planned. Account must also be taken of these objectives in land-use planning.

There is a tiered approach to the level of controls: the larger the quantities of dangerous substances present within an establishment, the stricter the rules ('upper-tier' establishments have bigger quantities than 'lower-tier' establishments and are therefore subject to tighter control).

### Seveso Directives I, II and III

Seveso I: Council Directive 82/501/EEC on the major-accident hazards of certain industrial activities (OJ No L 230 of 5 August 1982) – the so-called Seveso directive – was adopted in 1982. The Directive was amended twice, in 1987 by Directive 87/216/EEC of 19 March 1987 (OJ No L 85 of 28 March 1987) and in 1988 by Directive 88/610/EEC of 24 November 1988 (OJ No L 336 of 7 December 1988). Both amendments aimed at broadening the scope of the Directive, in particular to include the storage of dangerous substances. This was in response to severe accidents at the Union Carbide factory at Bhopal, India in 1984, where a leak of methyl isocyanate caused more than 2500 deaths, and at the Sandoz warehouse in Basel, Switzerland in 1986, where fire-fighting water contaminated with mercury, organophosphate pesticides and other chemicals caused massive pollution of the Rhine and the death of half a million fish.

Seveso II: On 9 December 1996, Council Directive 96/82/EC on the control of major-accident hazards – the so-called Seveso II Directive - was adopted and replaced the original Seveso Directive. Seveso II included a revision and extension of the scope; the introduction of new requirements relating to safety management systems; emergency planning and land-use planning; and a reinforcement of the provisions on inspections to be carried out by Member States.

In the light of industrial accidents (Toulouse, Baia Mare and Enschede) and studies on carcinogens and substances dangerous for the environment, the Seveso II Directive was extended by Directive 2003/105/EC of the European Parliament and of the Council of 16 December 2003 amending Council Directive 96/82/EC. The most important extensions were to cover risks arising from storage and processing activities in mining; from pyrotechnic and explosive substances; and from the storage of ammonium nitrate and ammonium nitrate based fertilizers.

Seveso III: Further adaptation of the provisions on major accidents occurred on 4 July 2012 with publication of a replacement directive - 2012/18/EU. The main changes in this, so-called, Seveso III Directive were:

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<sup>3</sup> REF 2): SEVESO <http://ec.europa.eu/environment/seveso/>

Technical updates to take account of changes in EU chemicals classification. In 2008, the Council and the European Parliament adopted a Regulation on the Classification, Labelling and Packaging (CLP) of substances and mixtures, adapting the EU system to the new UN international chemicals classification (Globally Harmonised System - GHS). In turn, this triggered the need to adapt the Seveso Directive, since its scope is based on the former chemicals classification which will be repealed by the CLP Regulation by June 2015.

Better access for citizens to information about risks resulting from activities of nearby companies, and about how to behave in the event of an accident.

More effective rules on participation, by the public concerned, in land-use planning projects related to Seveso plants.

Access to justice for citizens who have not been granted appropriate access to information or participation.

Stricter standards for inspections of establishments to ensure more effective enforcement of safety rules.

The Seveso III Directive 2012/18/EU was adopted on 4th July 2012 and entered into force on 13th August 2012. Member States have to transpose and implement the Directive by 1st June 2015, which is also the date when the new chemicals classification legislation becomes fully applicable in Europe.

#### **WFD – Water Framework Directive (ref 3)<sup>4</sup>**

The European Union (EU) has established a Community framework for water protection and management. Firstly, Member States must identify and analyse European waters, on the basis of individual river basin and district. They shall then adopt management plans and programmes of measures adapted to each body of water.

Targets for protection include:

- inland surface waters;
- groundwater;
- transitional waters; and
- and coastal waters.

The Framework-Directive has a number of objectives, such as preventing and reducing pollution, promoting sustainable water usage, environmental protection, improving aquatic ecosystems and mitigating the effects of floods and droughts. Its ultimate objective is to achieve “good ecological and chemical status” for all Community waters by 2015.

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<sup>4</sup>[http://europa.eu/legislation\\_summaries/environment/water\\_protection\\_management/l28002b\\_en.htm](http://europa.eu/legislation_summaries/environment/water_protection_management/l28002b_en.htm) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

## **Administrative arrangements**

Member States have to identify all the river basins lying within their national territory and to assign them to individual river basin districts. River basins covering the territory of more than one Member State will be assigned to an international river basin district. Member States are to designate a competent authority for the application of the rules provided for in this Framework-Directive within each river basin district.

## **Identification and analysis of waters**

By 2004 at the latest, each Member State shall produce:

- an analysis of the characteristics of each river basin district;
- a review of the impact of human activity on water;
- an economic analysis of water use;
- a register of areas requiring special protection;
- a survey of all bodies of water used for abstracting water for human consumption and producing more than 10 m<sup>3</sup> per day or serving more than 50 persons.

This analysis must be revised in 2013 and every six years thereafter.

## **Management plans and programmes of measures**

In 2009, nine years after the Framework-Directive entered into force, management plans were produced for each river basin district, taking account of the results of the analyses and studies carried out. These plans cover the period 2009-2015. They shall be revised in 2015 and then every six years thereafter. The management plans must be implemented in 2012. They aim to:

- prevent deterioration, enhance and restore bodies of surface water, achieve good chemical and ecological status of such water by 2015 at the latest and to reduce pollution from discharges and emissions of hazardous substances;
- protect, enhance and restore the status of all bodies of groundwater, prevent the pollution and deterioration of groundwater, and ensure a balance between groundwater abstraction and replenishment;
- preserve protected areas.

The management plans for river basin districts can be complemented by more detailed management programmes and plans for a sub-basin, a sector or a particular type of water. Temporary deterioration of bodies of water is not in breach of the requirements of this Framework-Directive if it is the result of circumstances which are exceptional or could not reasonably have been foreseen and which are due to an accident, natural causes or force majeure.

Member States shall encourage participation by all stakeholders in the implementation of this Framework-Directive, specifically with regard to the management plans for river basin districts. Projects from the management plans must be submitted to public consultation for at least 6 months. From 2010, Member

States must ensure that [water pricing policies](#) provide adequate incentives for users to use water resources efficiently and that the various economic sectors contribute to the recovery of the costs of water services, including those relating to the environment and resources.

Member States must introduce arrangements to ensure that effective, proportionate and dissuasive penalties are imposed in the event of breaches of the provisions of this Framework Directive.

A list of priority substances selected from among the ones which present a significant risk to the aquatic environment has been drawn up at European level. This list is set out in Annex X to this Framework-Directive.

## IV. Highlights from the training workshop

Reference is made to Annex I for the agenda and Annex III for the presentations.

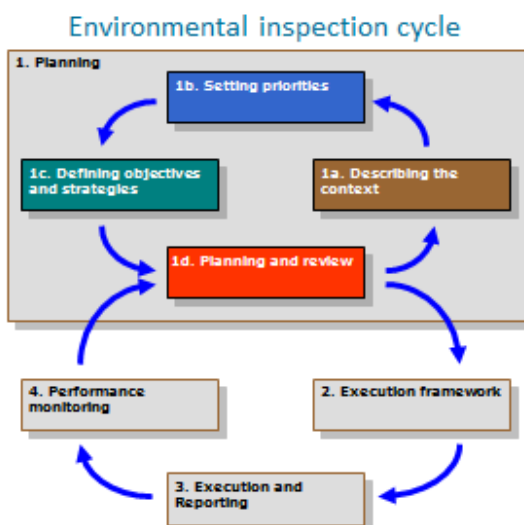
### *Day 1 – Hotel Arka, Skopje, 10 September*

1. The workshop was opened by Mr. Darko Blinkov (ECRAN ECENA National Coordinator for the Former Yugoslav Republic of Macedonia) and Mr. Ike van der Putte (ECRAN ECENA coordinator) with a short welcoming and introduction on ECRAN and the ECENA Programme. The information on ECRAN and ECENA has been given including project summary, results to be achieved, structures and planned activities.
2. An introductory round was held among the participants with the question on the years of experience as inspectors, permit writers and policymakers/other fields. The results showed that most of participants have extensive knowledge and experience in inspection and permit writing. Two representatives of the NGO sector participated on behalf of the Environmental Forum.

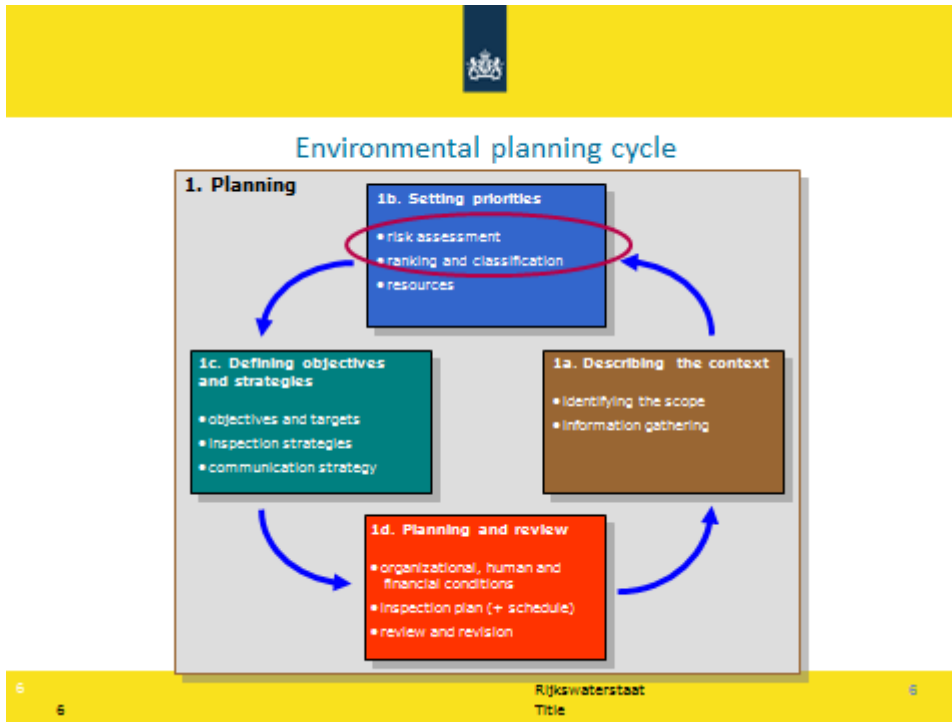
	Years of experience		
	1 – 5 years	5 – 10 years	More than 10 years
<b>Inspectors</b>	7	5	7
<b>Permit writers</b>	1	5	1
<b>Policy makers/others</b>	2		3

3. *Inspection management.* Mr. Rob Kramers proceeded with the elements of the Environmental Inspection Cycle within the framework of inspection management. As has been explained in the 1<sup>st</sup> training, the Environmental Inspection Cycle consists of the following seven steps:

1. Describing the context; 2. Setting priorities; 3. Defining objectives and strategies; 4. Planning and review;
5. Execution framework; 6. Execution and reporting; 7. Performance monitoring



The first 4 steps form the Planning Cycle. The output of the Planning Cycle is the inspection plan. In order to write the inspection plan the inspecting authority first has to identify the relevant activities that should be covered by the inspection plan and gather information on these activities. With this information the inspecting authority can perform an assessment of the risks of the identified activities and assign priorities to these activities. Priority setting has been further elaborated in the present training session, with an explanation of IRAM (Integrated Risk Assessment Method).



4. *Experience of Host country in Inspection Management.* Mr. Darko Blinkov provided a brief description of the inspection system in Macedonia. The following elements were covered:

- Organizational Structure with the plans for reorganizations
- Responsibilities of environmental inspectors and their legal basis and environmental management responsibilities of ministries and institutions
- Transposition and implementation of RMCEI-2001
- Inspection planning and reporting
- Site visits and reporting
- International cooperation and membership of the State Environmental Inspectorate



Presentation by Mr Darko Blinkov on the inspection system in Macedonia

5. *Implementation IPPC/IED*. Guided by Mr. Rob Kramers the participants were divided in 5 groups to work on development of risk criteria within environmental inspection. For this purpose it is of importance to consider the data that are available, the environmental problems, political interest and goals.

The risk criteria that have been selected were discussed and as a case in practice a final presentation was given on the risk criteria within the IRAM application in Serbia by Ms. Svetlana Parezanin.

6. *Experience of beneficiary countries in implementation IPPC/IED*. Ms. Beta Tateshi presented the situation in Macedonia covering the legal basis, institutional framework, procedure of issuing an integrated permit and its realization. The Law on Environment of the Republic of Macedonia envisages issuing of A and B IPPC Permits, considering the activities and the capacity of the installations. The activities of the installations for which the permit should be issued are defined in the **Decree on determining the installations for which Integrated Pollution Prevention Control Permit should be issued and time schedule for submission of the adjustment plans** (Official Gazette of RM 89/05). The installations for which B-IPPC Permit are issued, are listed in Annex 2 of this Decree, and issuing of these Permits is a competence of the local authorities. Issuing A-IPPC Permits, as well as B-IPPC Permits for installations situated in the protected areas is a competence of the Ministry of Environment and Physical Planning. Presently at Ministerial level 101 A/B permits have been issued (with a total of 135 submitted applications), at the local level 157 permits have been issued (total submitted applications not assessed).

Ms. Svetlana Parezanin presented the experience in implementation of IPPC/IED in the Republic of Serbia. According to the **Law on Integrated Environmental Pollution Prevention and Control** ("Official Gazette of the Republic of Serbia", No. 135/2004), Article 2 and 5, the **authority responsible for carrying out of obligations within the functions prescribed by this Law** (a.o issuing of integrated permits) are:

- The Ministry responsible for environmental protection issues
- Provincial authority responsible for environmental protection issues
- Local self-government authority responsible for environmental protection issues

Which authority issues the integrated permit depends on their defined competency for issuing the respective construction permit or consent for construction and commencement of operation or execution of activities. Presently it is estimated that the total number of IPPC installations is 185, with 9 permits issued and 153 applications covering 87% of the estimated total number.

7. *BAT and BREF in permitting*. In his presentation on BAT according to the IED, Mr. Boyko Malinov emphasized that guidelines and advice on BAT are much appreciated by the competent authorities and operators. However, there is no universal approach at the specific installation level. Member states need to be careful in their decisions considering new EU developments, difficulties in selecting BAT and outdated data.

After an introduction on the development of BREFs and assessing the BAT Conclusions, various issues and bottlenecks were presented and discussed. Some of these issues include:

- BREFs and BAT Conclusions are developed based on information on the performance of actual installations, including those with an integrated permit and their monitored results. The involvement of operators in the process of assessing BREFs and BAT Conclusions is therefore crucial.
- Depending on specific cases a different set of requirements are required and may refer to full compliance to relevant BAT conclusions, partial or full deviation from BAT conclusions, absence of relevant BAT conclusions and implementation of emerging techniques.
- In quality assurance it is to be noted that individual BATs for different installations may work differently in a package, with a risk of combined effects with a more negative effect not being noted.

8. *Introduction on the factory to be visited*. Mr. Ljupco Pejovski, environment and quality manager, Skopje, brewery PIVARA gave an introduction on the factory processes and its history. The Brewery was founded in



1922 and became in 1991 also a licensed bottler for Coca Cola. Ownership since 2012 is 50% Heineken and 50% Coca Cola.

Pivara Skopje has a production capacity of 1.100.000 hl beer and 1.900.000 hl non-alcoholic beverages (NAB) per year.

The distribution network of Pivara Skopje is spread over whole territory of the Republic of Macedonia with distribution centers in Kumanovo, Tetovo, Ohrid, Kocani, Strumica, Kavadarci, Kicevo, Stip, Veles, Bitola, Prilep and Vranje as well as in some of the neighbouring countries. Today the Brewery has 381 employees, working 40 hours per week (on average 8 hours daily).

The main and also most developed activity is the production of beer and non-alcoholic beverages (NAB) with an organization divided in 4 strategic groups:

- Beer,
- non-alcoholic beverages (NAB),
- Beer yeast
- Spent grain (treber)

An IPPC permit has been issued for PIVARA Skopje (IPPC no : 11-7427/3 starting from 08.08.2012)

under the category:

-Treatment and processing intended for the production of food from plant raw materials with a production capacity of finished products over 300t/day (as average value on a quarterly basis)-.

The IPPC permit has been translated for the participants by the ECRAN secretariat and made available for the training course.

Monitoring requirements according to the permit conditions were presented and include:

- Consumption of water – every month
- Consumption of electricity – every month
- Consumption of gas – every month
- Waste – every month
- Waste water – 4 times per year (quarterly)
- Air emission – 2 times per year (Q1 and Q4)
- Noise – once per year (Q2)
- Soil - once per year (Q2)

An overview was given of the positive developments in specific environmental indicators (energy and water use and percentage of recycled waste). Furthermore a presentation was given of the various environmental projects that have been initiated with their costs. Of special significance was the new wastewater treatment system that is in operation based on a combined anaerobic and aerobic process, with P and N reduction.

9. As a preparation for the site visit Mr. Jens Christensen gave an introduction on BAT and BREF concerning the selected factory with specific reference to breweries whereas Mr. Van der Putte assisted in guiding the group on the main issues to be handled during the site visit.

In preparation for the site visit the participants were divided into 4 groups covering the following elements, specifically referring to the brewery part of the company:

1. Water consumption
2. Energy consumption, energy efficiency
3. Waste management
4. Waste water management

For each element, a maximum number of 5 questions had to be devised, as a guidance for the site visit and questioning.

*Day 2 – PIVARA Skopje AD Skopje, 11 September*



Figure 1. The control room with explanations on the processes at PIVARA Skopje Brewery.

For the site visit the participants were divided in two main groups which were guided and led through the factory and various installations with the following four subgroups covering a number of defined subjects/questions.

Group 1 (Water consumption)

- Is water consumption in line with BAT data?
- How is metering organized in reducing water consumption
- Are automatic nozzles being used
- What is the extent of water recycling/reuse
- In which ways automatic control systems are applied and is there a regular audit of the systems.

Group 2 (Energy consumption)

- What are the sources of energy being used.
- How is the decision making process in energy uses.
- Is there an audit system for energy efficiency
- How is energy efficiency compared with BAT (see BREF)

Group 3 (Waste management)

- What are the types of wastes
- How is waste documented (PRTR?)
- How is waste management being organised
- What are by-products (end-of-waste materials)
- Is disposal in landfills taking place.

Group 4 (Waste water management)

- How is sampling and analysis of waste water performed.
- What are the quantities of waste water,
- Is the quality of receiving waters being considered
- How is sludge being managed.
- What is the frequency of accidents
- What type of chemicals are used in waste water and sludge treatment.

Based on the findings an evaluation session was held with the participants and the environment and quality manager after the introductory presentation of the Factory director.

Some findings were:

Group 1 – Water consumption: With 5.82 hl/hl beer produced, water consumption was in the range of data in the BREF (3.5-10 hl/hl beer), although improvements can be made.

Recommendations were made to install flow meters, automatic control systems and more reuse of water to reduce water quantity for final treatment in the waste water treatment plant.

Group 2 – Energy consumption: Gas is the source of energy being used, with 5% of yearly energy use being supplied by the generated biogas from the waste water treatment plant. Aim of the company is to have a green brewery in 2020 and include an action programme for which energy management tools have been developed (monitoring). Presently energy use (110MJ/hl beer is in line with the BREF/BAT (100 -200 MJ/hl beer produced. More energy savings are being planned

Group 3 – Waste management

Hazardous wastes, including used machine oils, and non-hazardous wastes are handled by company with a license (accredited company). Reporting is made through the PRTR. A special packaging waste management system is in operation. By-products are sold as cattle feed. Kieselguhr as sludge waste is sent to a landfill. Standard filtration uses this diatomaceous earth (Kieselguhr) into filter-press and consists in the retention of solid particles (yeast cells, macrocolloids, suspended matter). After use the disposal of Kieselguhr (after filtration) are a major difficulty due to their polluting effect. From the health perspective, the used diatomaceous earth is classified as 'hazardous waste' before and after filtration. (The World Health Organization defines the crystalline silica as a cause of lung disease). In Croatia non-dewatered kieselguhr is not allowed for landfill (note: in some countries dewatered kieselguhr is allowed for landfill and furthermore it is mentioned that kieselguhr can be used in the cement industry, or other filtering techniques – cross flow filters may be applied))

Group 4 – waste water management. The quantity of waste water is on the average 1900 m<sup>3</sup> per day with a minimum of 500 m<sup>3</sup> per day. The treatment is in line with BAT requirements and is such that the effluent is suitable for discharge in surface water. In the effluent pond fish in a healthy condition can be seen (see Figure). However at present this treated wastewater is discharged via the municipality sewerage system. Analysis of waste water is done according to the permit conditions. The treatment system are:

- 1) An anaerobic unit (for BOD removal)
- 2) An alternately aerobic/anaerobic unit (for nitrogen removal)
- 3) A unit using ferrichloride (for phosphate removal)

Sludge (including phosphate sludge) is sent to the landfill.

In general it can be concluded that through the permit conditions and compliance with these the various main elements have been covered and some minor options for improvement have been noted.

The attitude of the facility operators is such that there is a continuous strive towards improvement of the environmental performance with an open minded approach for innovations. Standards for operation is not only directed by the legal requirements but also by the general company standards of Heineken/ Coca Cola.



Figure 2. The treatment plant and effluent pond

### **Day 3 – Hotel Arka, Skopje, 12 September**

1. In opening the third day, Mr van der Putte summarized the outcomes of the site visit on the second day. The subjects to be handled on day 3 were introduced and covered the cross cutting issue of IED with the WFD and SEVESO as a special subject.

2. *IED interaction with other environmental legislation.* Mr. Christof Planitzer presented the interlinkages with the IED starting from the WFD in the second part of the series of presentations on this subject. An introduction on the WFD was given with its various requirements:

- Protection of all waters to achieve “good status” for all waters by 2015;
- Water quality defined in terms of biology, chemistry and morphology
- Water management to be based on river basins, across administrative and political boundaries;
- Plans and programmes for achieving good status to be adopted and implemented;
- Water pricing policies to reflect cost recovery.

In this presentation the working relations between the IPPC regulators and water managers received special attention. This was illustrated by a case study (questionnaire to be filled in by the various countries), in which questions are asked from the perspective of the IPPC regulator (permitting, inspection etc.) on the linkage of water quality issues. The regulatory cycle elements formed the basis of the questionnaire (permit application, permit determination, monitoring, inspection/enforcement, permit review).

A general outcome was that cooperation/exchange between IPPC regulators and water managers already exist in Macedonia, Kosovo, Serbia and Montenegro. For Albania and Turkey the legislation is relatively new and effective cooperation need still to be developed. Combined inspection or exchange in the field of water and IPPC is taking place in all countries except for Turkey where a more strict division of tasks exists. The session was finalised by presenting the outcome of the questionnaire carried out within the framework of IMPEL and EU member States.

2. *SEVESO.* Mr. Costa Stanisav presented the developments within the SEVESO Directive.

In this second presentation in the SEVESO series, attention was paid to the site safety report and the inspection report. A checklist being used in Romania for the SEVESO inspection report was used as an illustration.

3. *SEVESO.* Mr. Ike van der Putte presented the specific content and structure of SEVESO site safety reports. Furthermore a presentation and case exercises were given on the evaluation of site safety reports. Some examples of checklists and their references were communicated.

4. *Closure*. In the closing session Mr. Darko Blinkov and Mr. Ike van der Putte thanked the presenters for their contribution and the participants for their active participation in the course and especially in the case studies and the site visit.

Mr. Van der Putte announced the next training course to be held in Istanbul, in which a textile industry has been selected for a site visit/common inspection (18 – 20 November 2014)



Figure 3. The training course participants at the PIVARA Brewery , Skopje

## V. Evaluation

The following summary of the training evaluation report, developed on the basis of analysis of the training questionnaires can be given. A number of 30 out of 33 participants filled the evaluation form. It shows that the expectations of the workshop were met.

All trainees indicated that their expectations for the workshop were met. The trainees indicated that the training was of a high quality and fit for its purpose. The excellent preparation (hand-outs) and knowledge of the trainers were appreciated. The trainees also expressed their wish to have more practical work/case studies in the following trainings. Especially the cooperation between permit writers and inspectors was mentioned. The site visit was very well appreciated. Some suggestions were made for the training in 2015.

### Statistical information

1.1	Workshop Session	Capacity building on compliance with chemicals legislation, with emphasis on REACH/CLP linked to IED – General introductory module/procedures
1.2	Facilitators name	Ike van der Putte/ Rob Kramers / Boyko Malinov/ Christof Planitzer/ Costa Stanislav/ Jens Christensen
1.3	Name and Surname of Participants (evaluators) optional	As per participants' list

### Your Expectations

Please indicate to what extent specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	Partially	Not at all
1. Filling gaps in knowledge (several IED, inspections, general and specific)	 (87%)	 (13%)	
2. Practical experience of the new Member States and Candidate Countries	 (73%)	 (27%)	

## Workshop and Presentation

Please rate the following statements in respect of this training module:

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1 The workshop achieved the objectives set	IIII IIIII IIIII (50%)	IIII IIIII III (43,3%)	I (3,3%)	I (3,3%)		
2 The quality of the workshop was of a high standard	IIII IIIII IIIII II (56,6%)	IIII IIIII III (43,3%)				
3 The content of the workshop was well suited to my level of understanding and experience	IIII IIIII (33,3%)	IIII IIIII IIIII I (53,3%)	IIII (13,3%)			
4 The practical work was relevant and informative	IIII IIIII IIIII IIII (66,6%)	IIII II (23,3%)	III (10%)			
5 The workshop was interactive	IIII IIIII IIIII II (56,6%)	IIII IIIII II (40%)		I (3,3%)		
6 Facilitators were well prepared and knowledgeable on the subject matter	IIII IIIII IIIII IIII (66,6%)	IIII III (26,6%)	I (3,3%)	I (3,3%)		
7 The duration of this workshop was neither too long nor too short	IIII IIIII III (26,6%)	IIII IIIII IIIII (50%)	I (3,3%)	I (3,3%)		
8 The logistical arrangements (venue, refreshments, equipment) were satisfactory	IIII IIIII IIIII IIII I (70%)	IIII III (26,6%)				I (hotel) (3,3%)
9 Attending this workshop was time well spent	IIII IIIII IIIII II (56,6%)	IIII IIIII II (40%)	I (3,3%)			

### Comments and suggestions

I have the following comment and/or suggestions in addition to questions already answered:

#### Workshop Sessions:

- This was a very successful workshop and as a permit writer very helpful. With cooperation between permit writer and inspector high quality permits can be issued

#### Facilitators:

- Well prepared.
- With handouts

#### Workshop level and content:

- Excellent.
- Fit to the level of understanding and experience
- For 2015 it was suggested to include a 10 minutes ppt presentation by the countries on the progress in implementation of environmental legislation

**Suggested planning follow up courses**

For the year 2014 the courses are planned to be held in  
Zagreb, 20-22 May (Al melting and casting)  
Skopje 10 -12 September (Brewery)  
Istanbul 18 -20 November (textile)

For the year 2015 it was suggested to have the courses in:  
Montenegro (13 -17 April?) (Thermo-electric power?)  
Bosnia and Herzegovina (September) (Metal industry?)  
Kosovo (November) (Ferro nickel?)

For the year 2016 it was suggested to have the courses in:  
Serbia (April)  
Albania (June)