

Inception report

Activities for Accident Prevention – Pilot Project – Refineries UNDP-GEF Danube Regional Project

August 2005

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1 Purpose of this report

Under 2.1 *Project Inception Phase* of the “Terms of Reference” (Nov. 2004) the preparation “of a detailed inception report giving the details of the execution of the project within 1 month of contract signing” is expected.

This paper is written to meet this requirement. The activities are attributed to the quarters of the years 2005 and 2006 (e.g. Q1/06 = period from January 1st through March 31st, 2006).

2 Background and objective of the project

The environmental background together with the importance of the protect for the medium “water” in general and for the Danube River in special needs not to be repeated. The relevant aspects have been outlined in the work of the ICPDR and in the respective papers of ICPSR working group on inventories (WGI), in the “Terms of Reference” and finally in the offer submitted by R+D on 28. Jan. 05.

In order to focus the efforts from the breadth of industrial activity to special installations (cf. IPPC directive) the so called “accidental risk spots” have been identified on the basis of potential danger. A catalogue of installations with significant “hold-up” of water polluting substances has been collected and displayed in maps. It was soon realized that the potential danger (hold-up) was influenced by safety measures to yield the actual, real risk. It is thus one of the assignments of this project to assess the actual risk for refineries. It is further envisaged that the methodology to be developed can be transferred to other industrial activities.

As tool for the assessment of real risk the existing checklists will be used and further developed. The checklists are subdivided in

- checklists for industrial sites
 - for functional units
 - for complete installations
- checklists for contaminated sites

3 Tasks

3.1 Task 1 Identification of Pilot Sites

The scope of the project was restricted to two pilot sites, the first of which has already been identified:

- Schwedt (about 1½ hours north of Berlin)
- Romania, which one of the two refineries in the country will be decided upon in Q4/05

The following subtasks are distinguished:

- 1 Identification of pilot sites
 - 1.1 Approval by WGI of Schwedt as first site implicitly by Q2/05
 - 1.2 Negotiations with both operators and government representatives for the participation of the Romanian refinery Q3/05-Q4/05
 - 1.3 Approval by WGI of selected site in Romania Q1/06

The participation will be fixed by both sides (refinery and R+D) by a letter of consent, which specifies the documents that are expected to be placed at the training participants' disposal and other activities to be performed at the trainings.

3.2 Task 2 Preparation and Performance of Training Programmes

The following subtasks are distinguished:

- 2 Preparation and Performance of Training Programmes
 - 2.1 Preparation of training material for the Schwedt training Q3/05
 - 2.2 Elaboration of programme for the Schwedt training Q3/05
 - 2.3 Arranging for accommodation, transfers, reimbursements for travel expenses for the Schwedt training Q3/05
 - 2.4 Performing the training Q3/05
 - 2.5 Preparation of training material for the Romanian site's training Q1/06
 - 2.6 Elaboration of programme for the Romanian site's training Q1/06
 - 2.7 Arranging for accommodation, transfers, reimbursements for travel expenses for the Romanian site's training Q1/06
 - 2.8 Performing the training Q2/06
 - 2.9 Identification of the national inspectors to participate in the training and the respective APC EG representative Q3/05

Subtask 2.1 + 2.5 "Preparation of training material" comprises the check of documents (parts of the safety report etc.) and the preparation of hand-outs. It further includes the early preparation of a flyer (cf. sub-task 6.1). The training material selected will be included in the final report as Annex A2/ A5.

Subtask 2.2 + 2.6 "Elaboration of programme" has been presented on the Vienna inception meeting (29. July 05) and has been worked out in further detail.

Subtask 2.3 "Arranging for accommodation, transfers, reimbursements for travel expenses for the Schwedt training": The total number of participants was fixed with about 30, of which travel expenses are paid for 18 persons and accommodation + per diem expenses are paid for 22 persons by R+D under this project.

Participants will be assisted with the transfer from/ to the Berlin airport and – whenever cost saving – with additional accommodation in Berlin. Due to air fare regulations (APEX) it might be cost saving to ask participants to stay over the weekends before/ after the trainings. The respective extra daily costs (hotel and per diem) will be paid for by R+D under this project. Participants of the training workshops will be asked to fill in a travel expense formulary prior to booking in order to allow minimise the air fare costs.

The per diem rate for the participants' stay in Germany will amount to 30,00 Euro per day.

Subtask 2.4 + 2.8 “Performing the trainings”: The checklist method will be presented in a short (< 10 pages) paper written by R+D, with examples typical for a refinery. Purpose of that paper is to guide through the different checklists (functional units etc.) and form a common basis for the discussion and joint application of the check lists.

Following each pilot inspection the consultant will hold a de-briefing session for all participants to identify any lessons learnt that could be used to refine the procedure prior to the subsequent inspection.

Subtask 2.7 “Arranging for accommodation, transfers, reimbursements for travel expenses for the Romanian site’s training”: The total number of participants is expected to equal about 30, of which travel expenses are paid for about 22 persons and accommodation + per diem expenses are paid for 22 persons by R+D under this project.

Due to the limited financial resources of the project the total number of persons that will invited cannot be fixed now since it depends on the dollar/ Euro exchange rate and other project expenses. The total number of invitations will be proposed together with the calculation to the WGI decision on the second location (Q1/06, cf. subtask 1.3).

Participants will be assisted with the transfer from/ to the nearest international airport (presumably Bucharest) and – whenever cost saving – with additional accommodation in Bucharest. As with subtask 2.3 it might be cost saving to stay over the weekend before/ after the training. Again participants will be asked to fill in a travel expense formulary prior to booking in order to allow minimise the air fare costs.

It is planned to hold one evening event and one afternoon excursion, paid for by R+D under this project.

The per diem rate for the participants' stay in Romania will amount to 30,00 Euro per day.

Subtask 2.8 “Identification of the national inspector and APC EG representatives”: This subtask is almost completed by August 2005. Dr. Liska of the ICPDR is of great help in putting together a list of national inspector and APC EG representatives. An updated list was received already, indicating about 100% degree of attendance for the Schwedt training workshop.

3.3 Task 3 Completion of Training Programme

The performance of the practical training has been included in Task 2 for the purpose of this inception report.

3 Completion of Training Programme

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| 3.1 | Performance of training programme in Schwedt | Q3/05 |
| 3.2 | Performance of training programme on Romanian site | Q2/06 |

3.4 Task 4 Assessment of Training Programme and Check-List Methodology

The following subtasks are distinguished:

4	Preparation of Training Programmes	
4.1	Evaluation of training workshop Schwedt.....	Q4/05
4.2	Evaluation of the applicability / need for any revision of the checklists	Q4/05+Q3/06
4.3	Evaluate the use of a standard checklist under different safety levels.....	Q4/05+Q3/06
4.4	Elaboration of a checklist for safety measures in refineries	Q3/05+Q1/06
4.5	Upgrade checklists for real risk and discuss methodology	Q1/06
4.6	Evaluation of training workshop Romanian site.....	Q3/06

Subtask 4.1+4.6 “Evaluation of training workshop Schwedt”: A short (≈ 5 pages) written paper (annex A2 of final report) will be worked out by R+D evaluating the workshop together with a proposal for improvements for the second training. The discussion following the de-briefing session Schwedt (see sub-task 2.4 above) will be taken into account.

Subtask 4.2-4.4 “Evaluation and improvements of checklists”: The checklists as central part of methodology will be scrutinized with respect to

- applicability of the general checklists (functional units of industrial installations) to refineries as an example of an extended installation with many different functional units, several of them safety relevant
- safety measures: both, safety measures based on technical installation as well as on organisational procedures (like regular inspection of single wall containments) will be covered.

A paper (annex B4 of final report) on these aspects will be written by R+D and revised after presentation to and discussion with the WGI. It is planned to write the paper soon after the Schwedt training, present and discuss this with the WGI in order to make use of the feed-back for the second training in Romania.

Subtask 4.5 “Upgrade checklists for real risk and discuss methodology”: Different approaches to the upgrade of methodology with respect to real risk are emerging. The proposals will be collected during Q4/05 following the Schwedt seminar and be compared. The result will be presented in a report (< 10 pages, annex C2 of final report) written by R+D and presented to the WGI. R+D will propose an upgrade of the checklists to allow for the quantification of real risk based on the evaluation of methodology mentioned before.

After decision of the WGI an upgrade of the checklists for real risk quantification will be attempted by Q2/06 in order to be tested in the second training in Romania. This schedule is very tight and depends on a timely decision of WGI.

3.5 Task 5 Review of Procedures and Recommendations

The following subtasks are distinguished:

5	Review of Procedures and Recommendations	
5.1	Detailed review of the check-list methodology and recommendations	Q3/06
5.2	Revision of recommendations after comment of WGI	Q4/06

Subtask 5.1+5.2 “Review of methodology, recommendations and their revision after WGI comments”: Following the evaluation of the lessons learnt from the pilot assessment of the two refineries R+D will provide a written review (about 20 pages) of the check-list methodology and recommendations (if any) for modifications and its use in the Danube River Basin (DRB) in the future. This review and recommendations will be presented to the APC EG's WGI for discussion and comment. R+D will revise its review

following comments from and the discussion with the APC EG. The paper is part of the final report as annex B5.

3.6 Task 6 Dissemination of the Pilot Project Results

The following subtasks are distinguished:

- 6 Dissemination of the Pilot Project Results
 - 6.1 Preparation of training material see subtask 2.1 and 2.5
 - 6.2 Preparation of a flyer and its modification according to ongoing activities Q3/05-Q2/06
 - 6.3 Preparation of a web page and its modification according to ongoing activities..... Q3/05-Q2/06

The result and the above (see tasks 2 through 5) mentioned reports will be submitted by R+D to the secretariat in order to be discussed on the regular (intermittent) WGI meetings. After approval the reports will be issued in written form.

So far the attendance of the R+D project manager to the WGI meetings is not included in the project. It will be tried to save as much money on other tasks to allow for these extra travel expenses and thus enable the attendance. A decision on that can be envisaged for Q2/06 (after the costs of the second training are fixed).

3.7 "Task 7" Reporting and Invoicing

Formally no task 7 was planned, but the reporting and invoicing activities are handled here as task 7.

- 7 Reporting and invoicing
 - 7.1 Five quarterly progress reports each quarter, Q3/05 through Q3/06
 - 7.2 Final report..... Q4/06
 - 7.3 Four invoices according to table 3.4 of contract..... Q3/05, Q4/05, Q2/06+Q4/06

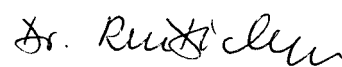
Subtask 7.1 The quarterly progress reports will summarize the activities of the respective preceding three months' period. They will be short (≈ 5 pages) and reference all the other the papers mentioned above. The quarterly report will especially deal with any delays or other problems in the organisation of the project.

Subtask 7.2 The final report will summarize the overall achievements of the project and include all other reporting as appendices. It will contain a concise overview (≈ 20 pages) concerning the main objectives, use and applicability of the checklists, whether or not a special checklist with respect to safety measures has been found relevant and on how to quantify real risk. It will further contain an outlook (≈ 5 pages) on transferring the results to other industrial activities (cf. IPPC directive 96/61 with the Best available technique REFERENCE documents "BREF"s).

Uslar, 24. August 2005



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4 Table of contents of final report

The final report will be structured in the following chapters and annexes:

- 1 Objective, background and scope
 - 2 Checklist methodology
 - 2.1 Description of checklists for industrial sites
 - 2.2 Global checklists and checklists for functional units
 - 2.3 Comparison with checklists for contaminated sites
 - 3 Risk assessment
 - 3.1 Safety hazards
 - 3.2 Potential risk
 - 3.3 Real risk
 - 3.4 Dangerous effects
 - 4 Description of Refineries
 - 4.1 Schwedt refinery
 - 4.2 Romanian refinery
 - 4.3 BREF approach
 - 4.4 Seveso approach
 - 5 Comparison of safety relevant units (Seveso approach) and functional units (checklist approach)
 - 6 Results on safety measures
 - 6.1 potential vs. real risk Schwedt
 - 6.2 potential vs. real risk Romanian site
 - 7 Transfer of methodology to other industrial activities
 - 7.1 Connection of methodology with technical, chemical or local site specific characteristics
 - 7.2 Overall effect of analyses to real risk in Danube River Basin
 - 8 Actions to be considered
 - 8.1 Modifications of recommendations of ICPDR
 - 8.2 Proposal on assessment of safety measures for high potential risk installations
 - 8.3 Modifications of procedures
 - 9 Summary
 - 10 Acknowledgements
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- A1 Annex: Programme of training workshop Schwedt; List of participants
 - A2 Annex: Training material for workshop Schwedt
 - A3 Annex: Evaluations of training workshops
 - A4 Annex: Programme of training workshop Romania; List of participants
 - A5 Annex: Training material for workshop Romania
 - A6 Annex: Evaluations of training workshops
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- B1: Annex: Elaboration of Checklist on safety measures in refineries
 - B2: Annex: Checklists used in the training workshops
 - B3: Annex: Checklists revised
 - B4: Annex: Evaluation and improvements of checklists
 - B5: Annex: Review of the check-list methodology and recommendations (if any) for modifications
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- C1: Annex: Proposals on assessment of real risk
 - C2: Annex: Paper on comparison of different approaches for assessment of real risk and proposal of a method to be used
 - C3: Map of potential risk of industrial installations
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- D1: Annex: Flyer
 - D2: Annex: press coverage
 - D3: Annex: any other publication

- E1: Quarterly Report Q3/05
- E2: Quarterly Report Q4/05
- E3: Quarterly Report Q1/06
- E4: Quarterly Report Q2/06
- E5: Quarterly Report Q3/06