

Second Draft

Checklists for Refineries

Part 1: Safety management system

An element of a

UNDP/GEF Danube regional project

**"Activities for Accident Prevention - Pilot Project –
Refineries"**

(RER/03/G31/A/1G/31)

July 2006



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Recommendations for Refineries

The recommendations for refineries are divided in two parts.

Part 1 deals in general with the question of safety management.

Recommendations for technical safety requirements on the structure and equipment of production plants regarding the protection of seas and waters are given in part 2.

Part 1 Recommendations for safety management system

1. The operator of a section of a plant has to provide a safety report corresponding to the revised Seveso-II-Directive (2003/105/EG dated 16. December 2003)
In this safety report the implementation of a concept for preventing accidents must be explained and it has to be shown that a safety management system for its implementation exists.
For the preparation of the safety management system the requirements of the “Guidelines on a Major Accident Prevention Policy and Safety Management System, as required by Council Directive 96/82/EC (SEVESO II)” have to be considered.
2. This safety management system should address the following issues
 - a. Organisation and Personnel
 - b. Identification and evaluation of major hazards
 - c. Operational control
 - d. Management of change
 - e. Planning for emergencies
 - f. Monitoring performance
 - g. Audit and review
3. The safety management system as a part of the safety report has to be checked regularly by the operating company and if necessary has to be revised:
 - at least every 5 years,
 - at any other time when new circumstances justify it or if new safety knowledge or new insight for the evaluation of risks appear.



Checklists for monitoring the implementation of the recommendations

0 Definition

Operating area: An operating area is the whole area under the control of a plant operator in which dangerous substances are actually present, planned to be stored or could leak out as a result of malfunction of the process and are in the amount mentioned in article 2 of guideline 96/82/EG. The operating area can include several plants, connected infrastructures and activities such as storing in the sense of article 3 No. 8 of the guideline 96/82/EG.

1 Contact to the responsible local authorities

1.1 Is information for preparing the following internal documents?

- Concept for preventing hazardous incident,
- Safety management system,
- Safety report,
- Internal alarm and hazard control planning

for the operating area exchanged with the responsible local authorities?

- Yes No Not applicable
- Action No action

1.2 Is there any cooperation in respect of such public interest like

- Informing the public
- Submission of operation data for preparing public alarm and hazard control plans

with the responsible local authorities?

- Yes No Not applicable
- Action No action

Remark:



2 Safety report (see also checklist 12 „Safety report“)

2.1 Was any safety report prepared in which it was stated that a concept for preventing hazardous incidents was implemented and how it was implemented?

- Yes No Not applicable
 Action No action

2.2 Was the existence of a safety management system for its application mentioned in the safety report?

- Yes No Not applicable
 Action No action

Remark:

Estimation of the real risk:

How is the implementation of the sub-point of the recommendation?

Yes

RC=1

Partially

RC=5

No

RC=10

3 Safety management system

3.1 Organisation und Personal

3.1.1 Are the roles and responsibilities of the personnel involved in the prevention of hazardous incidents and reduction of their effects defined on all organisational level?

- Yes No Not applicable
 Action No action



3.1.2 Are training needs of the personnel regularly identified?

- Yes No Not applicable
 Action No action

3.1.3 Are the required education and training measures carried out on the basis of the identified education and training needs?

- Yes No Not applicable
 Action No action

3.1.4 Are the employees as well as the subcontractors included in the implementation of this task?

- Yes No Not applicable
 Action No action

Remark:

3.2 Identification and assessment of danger of hazardous incidents**3.2.1 Are systematic methods of identifying the danger of hazardous incidents during normal operation stipulated and implemented?**

- Yes No Not applicable
 Action No action

3.2.2 Are systematic methods of identifying the danger of hazardous incidents during disruption in the normal operation of the plant stipulated and implemented?

- Yes No Not applicable
 Action No action



3.2.3 Were the possibility and the extent of such hazardous incident estimated?

- Yes No Not applicable
 Action No action

Remark:

3.3 Plant monitoring**3.3.1 Are methods for safe operation of the plant including the maintenance of the plant, for the process, plant facilities and for a temporary interruption of operation stipulated?**

- Yes No Not applicable
 Action No action

3.3.2 Were these methods applied and their implementation checked and documented?

- Yes No Not applicable
 Action No action

3.3.3 Are there clearly formulated instructions for their implementation?

- Yes No Not applicable
 Action No action

Remark:



3.4 Safe implementation of changes

3.4.1 Are methods for planning changes in existing plants or process stipulated?

- Yes No Not applicable
 Action No action

3.4.2 Were procedures for designing a new plant or a new process stipulated?

- Yes No Not applicable
 Action No action

3.4.3 Were these methods applied and their implementation checked and documented?

- Yes No Not applicable
 Action No action

Remark:

3.5 Planning for emergencies

3.5.1 Were methods for determining foreseeable emergencies stipulated using a systematic analysis?

- Yes No Not applicable
 Action No action

3.5.2 Were methods for preparing, testing and checking the alarm and hazard control plans stipulated so as to be able to react adequately during emergencies?

- Yes No Not applicable
 Action No action



3.5.3 Are these methods used and checked/documentated?

- Yes No Not applicable
 Action No action

Remark:

3.6 Monitoring of the efficiency of the safety management system**3.6.1 Were methods for continuous assessment of attainment of the aims which the operator has set in the context of the concept for preventing accidents and safety management system determined?**

- Yes No Not applicable
 Action No action

3.6.2 When these aims are not achieved, were mechanism defined for investigating why they were not achieved and are corrective measures defined?

- Yes No Not applicable
 Action No action

3.6.3 Does the method include system for reporting accidents and near misses and particularly when protective measures fails, the corresponding examinations and corrective measures?

- Yes No Not applicable
 Action No action

3.6.4 Was the stipulation of these methods based on appropriate experiences?

- Yes No Not applicable
 Action No action



3.6.5 Are these methods used?

- Yes No Not applicable
 Action No action

Remark:

3.7 Systematic check and assessment**3.7.1 Were methods for continuous systematic assessment of the concept for preventing accidents and the effectiveness and adequacy of the safety management system defined?**

- Yes No Not applicable
 Action No action

3.7.2 Are these methods used?

- Yes No Not applicable
 Action No action

3.7.3 Is this check of the efficiency of the existing concept and the safety management system documented?

- Yes No Not applicable
 Action No action



3.7.4 Is the update of the safety management system documented?

- Yes

 No

 Not applicable
 Action

 No action

Remark:

Estimation of the real risk:

How is the implementation of the sub-point of the recommendation?

Yes

 RC=1

Partially

 RC=5

No

 RC=10

4 Checking the safety management system**4.1 Is the safety report as well as the concept for preventing accidents and the safety management system checked at the following period of time?**

Safety report Extended Duties	Safety concept Basic duties	
<input type="checkbox"/>	--	At least every five years
<input type="checkbox"/>	<input type="checkbox"/>	When there is a change in the operating area
<input type="checkbox"/>	<input type="checkbox"/>	When there is a change of process where dangerous substances are used
<input type="checkbox"/>	<input type="checkbox"/>	When there is a change in the amount of dangerous substance compared to the amount given in the safety report
<input type="checkbox"/>	<input type="checkbox"/>	When the type and physical form of the dangerous substance changes compared to what is given in the safety report
<input type="checkbox"/>	--	At every other time when new circumstances require it



-- At every other time when new circumstances require it or when new technical safety level as well as new knowledge for assessing hazardous situation are to be considered

Yes No Not applicable

Action No action

4.2 Are required updates of the documents based on the check conducted according to 4.1 immediately carried out?

Yes No Not applicable

Action No action

Remark:

Examples of measures

Medium term:

- *Preparation of the safety management system corresponding to the "Guidelines on a Major Accident Prevention Policy and Safety Management System, as required by Council Directive 96/82/EC (SEVESO II)"*
- *Implementation of the safety management system*

Estimation of the real risk:

How is the implementation of the sub-point of the recommendation?

Yes

RC=1

Partially

RC=5

No

RC=10



How do you estimate the risk?

Sub-point of the Recommendation	Possible Risk category	Risk categories RC
1	1 / 5 / 10	
2	1 / 5 / 10	
3	1 / 5 / 10	

Average Risk of the Checklist (ARC)

