



LIFE09 ENV/GR/000291

REACH Protocol for Emissions and Accident Scenarios in Supply
and Distribution of Fuels and Petrochemical products

*SUB ACTION 2.6 BATs and Emergency Response Planning for minimizing the
environmental damage. Review of practices and standards in the transportation
of petrochemicals with focus on potential to environmental damage*

PART B

**Executive Summary of the Deliverable “Benchmarking
Results” in English**



LIFE+ Environment Policy & Governance

Executive summary

In this deliverable (sub action 2.6) is presented the benchmarking exercise of Strictly Controlled Conditions (SCC) provisions taking into account the inspection and assessment criteria of an integrated Safety Management System (SMS, SEVESO) as applied in the examined processes of the project and particularly in:

- the truck loading stations
- the road transportation of fuels with road trucks
- the service stations

The term SCC is used by REACH Regulation (EC) No 1907/2006 for intermediates and specifically they are controlling mechanisms of intermediates. According to the guidelines of the European Chemicals Agency (ECHA), the safety issues taken into account for the control of substances under strictly controlled conditions and which explain and analyse SCC are the following:

- 1) the substance is rigorously contained by technical means during its whole lifecycle
- 2) procedural and control technologies shall be used that minimize emission and any resulting exposure
- 3) only properly trained and authorized personnel handle the substance
- 4) in the case of cleaning and maintenance works, special procedures such as purging and washing are applied before the system is opened and entered
- 5) in cases of accident and where waste is generated, procedural and/ or control technologies are used to minimize emissions and the resulting exposure during purification or cleaning and maintenance procedures
- 6) substance-handling procedures are well documented and strictly supervised by the site operator.

The benchmarking study covered all thematic areas and elements of an SMS and all corresponding provisions of the SCCs per thematic area, as applied in the examined life cycle stages of transportation and loading/unloading of fuels and petrochemicals. The results have been compared and checked for compliance with reviews of BATs, regulations and standards specifications and Standard Operating Procedures of industry.

The methodological steps of the benchmarking exercise employed include the following:

- Benchmarking criteria constitute the inspection and assessment criteria of a complete SMS (160 questions - assessment criteria),
- For each criterion the individual SCC provisions per lifecycle stage that suit each and every assessment criterion are examined,
- Each criterion is applied and the answer is given based on the information contained in the Data Record Sheets developed for the selected dangerous substances in the project,
- Data Record Sheets include all classified information that was collected regarding the regulatory requirements, standards and safety and environmental protection procedures, for each lifecycle stage in the transport of the examined dangerous substances.

Through the benchmarking exercise it became possible to identify and document for each SCC criterion and examined life cycle stage:

- the existing safety and operating procedures,
- the safety and environmental protection measures,
- the relevant regulatory requirements,
- the good industrial practices,
- the relevant data included in the Safety Reports and Environmental Impact Assessment studies,
- useful information extracted from the huge experience accumulated through systematic inspections and audits performed by controlling authorities, academic consultants and industrial/commercial stakeholders concerning safety critical areas of the transportation, loading/unloading and handling systems of dangerous products in operation.

The detailed results of the benchmarking exercise and the validation procedure of SCC provisions are presented in the form of a comprehensive SMS inspection Checklist (questionnaire)¹ accompanied by

¹ National Guidelines for Inspecting Oil and Gas installations as required by Article 16 of the Common Ministerial Decision 5697/Government Gazette 405/29.3.2000 - Implementation of Directive 96/82/EU (SEVESO II) in Greece, Greek Version, Technical University of Crete (TUC), Chania 2004.

the specific SCC assessment results per LC stage. The results are presented in three chapters respectively for Truck loading stations (Chapter A), Road transportation of fuels with road trucks (Chapter B) and Service stations (Chapter C). The results includes all issues examined in the SMS such as organisation and personnel issues, identification and evaluation of major-accident hazards, operational control issues including maintenance, management of change issues, planning for emergencies, monitoring performance, audit and review of the SMS.