

CO₂ OFFLOADING AT A SINGLE POINT MOORING SYSTEM

Introduction

The seagoing vessels will transport the liquid CO₂ from the CO₂ terminal in the Port of Rotterdam to the permanent offshore storage sites. These storage sites could be depleted gas fields or oil fields still in production where the CO₂ will be used for EOR. The seagoing vessel will discharge via an offshore infrastructure Single Point Mooring (SPM) system that links the vessel to the sub sea completion/template.

The permanent storage sites are located offshore which means that different safety legislation is applicable than for the onshore activities. For the onshore activities the risks assessments focus on the risk to external population such as towns and offices. For offshore installations no onshore external population is present and since it is envisaged to have an unmanned tower no third party persons will be present and therefore risk is not calculated (as risk contours are related to third party persons).

The Dutch statutory regulations applicable to mineral exploration, extraction, storage and transport of minerals are handled in the Mining Act, the Mining Decree and Mining Regulations. Health, safety and environmental legislation and regulations are applicable as well. The legislation requires the duty holder (i.e. the owner or operator) for each fixed and mobile installation to prepare a safety case, which must be accepted by the State Supervision of Mines, in Dutch “Staatstoezicht op de Mijnen” (SodM), before the installation can be operated on the Dutch Continental Shelf. The duty holder must demonstrate in the safety case that:

- All hazards with the potential to cause a major accident have been identified;
- All major accident risks have been evaluated; and,
- Measures have been, or will be, taken to control the major accident risks to ensure compliance with the relevant statutory provisions

A safety case should address the following hazard:

- Process (hydrocarbon) leaks
- Blow-out (loss of well control incidents)
- Riser and pipeline leaks
- Collisions (ship - installation, helicopter-installation)
- Occupational hazards

The safety study for the SHE report of the LLSC will calculate and evaluate the effects of some of the identified hazards. A full safety case is not part of the scope.

Source: <http://hub.globalccsinstitute.com/publications/co2-liquid-logistics-shipping-concept-llsc-safety-health-and-environment-she-report/111>