

APPENDIX K

*South African Legislation
for Risk Assessments*

FINAL SCOPING REPORT

SOUTH AFRICAN LEGISLATION FOR RISK ASSESSMENTS

Risk assessments are conducted when required to do so by law or by companies wishing to determine the risks of a facility for other reasons such as insurance. In South Africa, risk assessments are carried out under two separate acts, which each have different requirements. These acts include the:

- National Environmental Management Act (NEMA) (Act 107 of 1998) and,
- Occupational Health and Safety Act (Act 85 of 1993).

The different requirements for a risk assessment in terms of the NEMA and OHS Act are recognised. To this end, the risk assessment carried out under NEMA does not replace the MHI risk assessment required under the OHS Act. The risk assessment for the proposed Bulk Liquid Storage and Handling Facility will be carried out in terms of NEMA. However, the need for a full MHI Risk Assessment has been identified, which will be conducted after the EIA, but prior to construction.

1. National Environmental Management Act (NEMA)

Risks assessments, which are carried out in terms of NEMA, regarding public health and safety from major incidents are associated with Environmental Impact Assessments and must be performed in accordance with the act.

The risk assessment EIA phase simplistically determines if there are any fatal flaws that will prevent the project from proceeding. On the other hand, the Major Hazard Installation (MHI) risk assessment, which is conducted in accordance to the Occupational Health and Safety Act (OHS Act), determines if the project can be constructed and operated with risks to employees and the public at an acceptable level.

At the EIA stage, the risk assessment should include a statement from a professional person (specialist) covering the following:

- i. Is the proposed project likely to be considered an MHI?
- ii. If the proposed project is likely to be an MHI, could it meet the requirements of the MHI regulation? Could the risks be engineered or managed to meet acceptable risks?
- iii. Are there any factors that will prevent the project from proceeding to the next phase or construction? Alternatively can the project continue under certain conditions or mitigation?
- iv. Are there any special requirements that local authorities need to know when evaluating the proposed project?

Generally at the EIA phase there is insufficient detailed information to conduct a MHI risk assessment in accordance to the MHI regulations. The MHI risk assessment must cover a mandatory list of elements stipulated in the MHI Regulations. Further to this, the MHI risk assessment is a legal document that gives guidance to local authority regarding the emergency response plans and land usage.

FINAL SCOPING REPORT

2. Occupational Health and Safety Act

Section 1 of the OHS Act (Act 85 of 1993) defines a "major hazard installation" as an installation:

- a) where more than the prescribed quantity of any substance is or may be kept, whether permanently or temporarily; or
- b) where any substance is produced, processed, used, handled or stored in such a form and quantity that it has the potential to cause a major incident.

The MHI Regulations will apply if either (a) or (b) above are triggered.

The MHI Regulations were promulgated on 16 January 1998 under the OHS Act, with a further amendment made on 30 July 2001. The provisions of the regulations apply to installations, which have on their premises a quantity of a substance, which can pose a significant risk to the health, and safety of employees and the public.

The requirements for an MHI Risk Assessment are highlighted below as stipulated in the MHI Regulations. The MHI Regulations essentially consists of six parts, namely:

1. The duties for notification of a MHI (existing or proposed), including:
 - a. Fixed (see Box 1); and, Temporary installations.
2. The minimum requirements for a quantitative risk assessment (see Box 2);
3. The requirements of an on-site emergency plan (see Box 3);
4. The reporting steps of risk and emergency occurrences (see Box 4);
5. The general duties required of suppliers (see Box 5); and,
6. The general duties required of local government (see Box 6).

BOX 1 – Notification of Installation

- Applications need to be made in writing to the relevant local authority and the provincial director for permission:
 - To erect any major hazard installation.
 - Prior to the modification of any existing installation, which may significantly increase the risk, related to it (e.g. increased storage or production capacity or alteration of process)?
- Applications need to include the following information:
 - Physical address of installation;
 - Complete material safety data sheets of all hazardous substances;
 - Maximum quantity of each substance envisaged to be on the premises at any one time;
 - The risk assessment of the installation (see Box 2); and,
 - Any further information that may be deemed necessary by an inspector in the interests of health and safety to the public.
- Applications need to be advertised in at least one newspaper serving the surrounding communities, and by way of notices posted within these communities.

FINAL SCOPING REPORT

BOX 2 - The Risk Assessment

- The risk assessment is the process of collecting, organising, analysing, interpreting, communicating and implementing information in order to identify the probable frequency, magnitude and nature of any major incident which could occur at a major hazard installation, and the measures required to remove, reduce or control the potential causes of such an incident.
- Risk assessments need to be undertaken at intervals not exceeding five years and need to be submitted to the relevant local emergency services.
- Copies of the risk assessment must be made available to the relevant health and safety committee, and give them 60 days within which to comment thereon and ensure that the results of the assessment be made available to the relevant representative or committee who may comment thereon.
- Risk assessments should be undertaken by competent person(s) and include the following:
 - General process description;
 - Description of major incidents associated with this type of installation and the consequences of such incidents (including potential incidents);
 - Estimate of the probability of a major incident;
 - The on site emergency plan;
 - Estimate the total result in the case of an explosion;
 - Estimate of the effects of thermal radiation in the case of fire;
 - Estimate concentration effects in the case of a toxic release;
 - Potential effect of a major incident at one major hazard installation on an adjacent major hazard installation or part thereof;
 - Potential effect of a major incident on any other installation, members of the public (including all persons outside the premises) and on residential areas;
 - Meteorological tendencies;
 - Suitability of existing emergency procedures for the risks identified;
 - Any requirements laid down in terms of the Environmental Conservation Act, 1989 (Act No. 73 of 1989); and,
 - Any organisational measures that may be required.
- The employer shall ensure that the risk assessment is of an acceptable standard and is reviewed should:
 - It be suspected that the preceding assessment is no longer valid;
 - Changes in the process affect hazardous substances;
 - Changes in the process involve a substance resulting in the installation being classified a major hazardous installation or in the methods, equipment or procedures in the use, handling or processing of that substance; or,
 - Incidents that have brought the emergency plan into operation may affect the existing risk assessment.
- Risk assessment must be made available for scrutiny by any interested or affected person that may be affected by the activities, at a time, place and in a manner agreed upon between the parties.

FINAL SCOPING REPORT

BOX 3 - On-site Emergency Plan

- After submission of the notification, the following shall be established:
 - An on-site emergency plan must be available which is to be followed inside the premises of the installation or part of the installation classified as a major hazard installation in consultation with the relevant health and safety representative or the relevant health and safety committee.
 - The emergency plan must be discussed with the relevant local government taking into consideration any comment on the risk related to the health and safety of the public.
 - The on-site emergency plan has to be reviewed and, where necessary, update the plan, in consultation with the relevant local government, at least once every three years.
 - A copy of the on-site emergency plan shall be signed in the presence of two witnesses, who shall attest the signature.
 - Ensure that the on-site emergency plan is readily available at all times for implementation and use.
 - Ensure that all employees are conversant with the on-site emergency plan.
 - Cause the on-site emergency plan to be tested in practice at least once a year and keep a record of such test.
- Any employer, self-employed person and user owning or in control of a pipeline that could pose a threat to the general public shall inform the relevant local government and shall be jointly responsible with the relevant government for the establishment and implementation of an on-site emergency plan.

BOX 4 - Reporting of Risk and Emergency Occurrences

- Following and emergency occurrence, the user of the installation shall:
 - Subject to the provisions of regulation 6 of the General Administrative Regulations, within 48 hours by means of telephone, facsimile or similar means of communication inform the chief inspector, the provincial director and relevant local government of the occurrence of a major incident or an incident that brought the emergency plan into operation or any near miss.
 - Submit a report in writing to the chief inspector, provincial director and local government within seven days.
 - Investigate and record all near misses in a register kept on the premises, which shall at all times be available for inspection by an inspector and the local government.

BOX 5 - The duties of the supplier refer specifically to:

- The supply of material safety data sheets for the hazardous substances employed or contemplated in the installation;
- Assess the circumstances and substance involved in an incident or potential incident and inform all persons being supplied with that substance, of the potential dangers surrounding it; and,
- Provide a service that shall be readily available on a 24-hour basis to all employers, self-employed persons and users, the relevant local government and any other body concerned, to provide information and advice in the case of a major incident with regard to the substance supplied.

FINAL SCOPING REPORT

BOX 6 - The duties of local government are summarised as follows according to the MHI

Regulations:

“..... 9. (1) *Without derogating from the provisions of the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), no local government shall permit the erection of a new major hazard installation at a separation distance less than that which poses a risk to-*

- (a) Airports;*
- (b) Neighbouring independent major hazard installations;*
- (c) Housing and other centres of population; or*
- (d) Any other similar facility:*

Provided that the local government shall permit new property development only where there is a separation distance which will not pose a risk in terms of the risk assessment: Provided further that the local government shall prevent any development adjacent to an installation that will result in that installation being declared a major hazard installation.

(2) Where a local government does not have facilities available to control a major incident or to comply with the requirements of this regulation, that local government shall make prior arrangements with a neighbouring local government, relevant provincial government or the employer, self-employed person and user for assistance.

(3) All off-site emergency plans to be followed outside the premises of the installation or part of the installation classified as a major hazard installation shall be the responsibility of the local government....”