



ENVIRONMENTAL ASPECTS OF DECOMMISSIONING

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Prepared by WG-5 Environment

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Amendments to 137/13

Section	Change
	Editorial to align style with IHC associations
4.1.2	Updated relevant legislation
4.4	Example updated
4.5	Added reuse option and added references

NOTE Technical changes from the previous edition are underlined

1 Introduction

Decommissioning is receiving increasing attention from the authorities, industrial gas companies and future property owners and occupants.

This publication aims to provide guidance to EIGA members, specifically directors, facility managers, environmental specialists, design and engineering departments and technical managers on the current legislation and best practices that should be applied to decommissioning activities.

2 Scope and purpose

2.1 Scope

Decommissioning includes dismantling, demolition and disposal of plant buildings and equipment, and dealing with the potential liabilities associated with the closure of part or all of the location.

This publication does not give specific advice on health and safety issues, which shall be taken into account before undertaking any activity. On these issues the relevant EIGA documents and / or national legislation should be consulted for advice.

2.2 Purpose

This publication provides guidance on the identification and management of environmental risks associated with decommissioning, dismantling, demolition and disposal of plant, equipment and facilities and closure or partial closure of plants or facilities.

3 Definitions

For the purpose of this publication, the following definitions apply.

3.1 Publication terminology

3.1.1 Shall

Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

3.1.2 Should

Indicates that a procedure is recommended.

3.1.3 May

Indicates that the procedure is optional.

3.1.4 Will

Is used only to indicate the future, not a degree of requirement.

3.1.5 Can

Indicates a possibility or ability.

3.2 Technical definitions

3.2.1 Decommissioning

Decommissioning means the permanently taking out of service plant, equipment or facilities. Decommissioning includes dismantling, demolition and disposal of plant buildings and equipment, and dealing with the potential liabilities associated with the closure of part or all of the location.

4 Planning for decommissioning

4.1 Background

4.1.1 Why is this important?

There is increasing recognition that the environmental risks associated with plant, equipment and facilities can be significant. These areas are receiving increasing attention from the authorities, from companies and other stakeholders. There are legal requirements at a European, national and local level, which can also be important in site permits.

Some of the important drivers are:

- the trend for redevelopment of industrial areas leading to change of land use in the surrounding area;
- redevelopment and restructuring of companies and the economy;
- the trend for more lifecycle or producer responsibility legislation;
- site permits are increasingly referring to decommissioning activities; and
- the development of environmental liability and the concept that site owners can be responsible for cleaning up past pollution, even if they did not cause it. Authorities are increasingly pushing for holding companies to be responsible for the liabilities of their subsidiaries.

This leads to the need to:

- identify and comply with legal requirements including those on decommissioning, waste, land contamination, site safety and liability; and
- identify and assess risk, to prevent any additional contamination and prevent pollution on and off site.

4.1.2 Legal requirements

There is increasing legislation concerning the legal liability for site clean-up, decommissioning, demolition, disposal and remediation. There are specific requirements under operational permits such as the Industrial Emissions Directive (IED 2010/75/EU) permits for a site closure plan [1].¹

A requirement of the IED, which replaced Integrated Pollution Prevention and Control (IPPC directive 2008/1/EC), is to have a decommissioning plan for both existing and new facilities covered by the scope of the directive [1, 2]. It also requires the use of best available techniques to prevent or minimise pollution to the environment. For the industrial gases industry, the scope includes hydrogen and acetylene production sites amongst others. Further information can be found in EIGA Doc 108, *Environmental Legislation applicable to Industrial Gases Operations within the EU* [3]. The IED is now implemented for existing and new facilities [1].

¹ References are shown by bracketed numbers and are listed in order of appearance in the reference section.

Appropriate notifications shall be made to different local and national authorities when decommissioning activities are planned. Additional pollution prevention measures or remediation may be required depending on the planned future uses of the land.

There is EU legislation concerning the safety of construction sites which is applicable to plant dismantling and demolition activities when these activities are over 30 man days in duration (Council directive 92/57/EEC on the implementation of minimum safety and health requirements at temporary or mobile constructions sites) [4]. This requires, amongst other things, a formal safety, health and environmental plan for demolition activities.

The EU directive regarding the environmental liability for the remediation of environmental damage (Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage) places responsibility on the operators of certain industrial installations and those carrying out certain activities to prevent pollution (for example Seveso and IED sites) [5].

It is critical to identify all the legal requirements at an early stage in the planning and make contact with the appropriate authorities to understand their requirements.

There is no European wide agreement on the definition of what a contaminated site is, though some principles are agreed, see Appendix A.

4.2 Principles for design of decommissioning

The concept of design for decommissioning is important and future decommissioning shall be considered when designing new facilities. It is important to establish an environmental baseline to compare against the future condition of the site.

Design for decommissioning includes:

- identifying and implementing current and future legislation, legal and contractual requirements such as:
 - o considering legal requirements under the IED including specific site condition and closure plans (taking the site back to a satisfactory state and preventing ongoing pollution before permits can be handed back [1]; and
 - o legislation on end of life equipment, for example Directive 2012/19/EU on waste electrical and electronic equipment (WEEE) [6].
- establishing contractual liability, i.e. the company should only be responsible for pollution caused by their own operations, such as:
 - o any insurance requirements;
 - o possible provisions for future costs; and
 - o conditions and method statements for sub-contractors.

NOTE This applies equally both for properties that are bought or leased, for example, industrial gas operations often take place on the customer's site.

- conducting baseline assessments of soil and groundwater to identify any existing pollution, sources and possible pathways offsite and to provide a comparison point for future assessment so that it is easier to show the responsibility for existing pollution at the end of the life of the plant (see 4.3.4) considering:
 - o the influence of neighbours and surrounding land use;
 - o the possible impacts of natural phenomena, such as flooding, on the possible spread of pollution offsite; and