



## Unit ICC1

# NEBOSH INTERNATIONAL CERTIFICATE IN CONSTRUCTION HEALTH AND SAFETY

## Introduction

This Supplement has been prepared to update your study material for Unit ICC1 of the NEBOSH International Construction Certificate. You should read it in conjunction with your existing course material.

## Element 12: Demolition and Deconstruction – Hazards and Risk Control

### Demolition and Deconstruction Hazards

#### Hazards Relating to Deconstruction and Demolition

In this subsection, immediately before the subheading “**Falls and Falling Materials**”, please insert the following new material:

#### “Safe Working Spaces and Exclusion Zones

Demolition, deconstruction and refurbishment projects should have exclusion zones set up to prevent exposing persons outside those zones to physical, chemical or biological hazards, noise, vibration and dust associated with the work in the zone.

Safe working spaces and exclusion zones should be included in the method statement and will be set up when determined by risk assessment. Each demolition activity should be assessed separately ensuring each is adequately covered.

Operatives who must work inside these zones must be in a position of safety appropriate to the stage of demolition work being carried out. The zones will, therefore, change according to the activity and its rate of progress.

Exclusion zones can be set up to cover a wide area of site (or a complete site at some stages) or a small operating area for single plant and machines. For example, an excavator can have a **safe working space** around it that keeps the operator safe within that space and keeps pedestrians and other vehicles **outside** that space and its safe operating parameters (extent of reach, etc.). Safe working spaces can also be established in or on machines for operators of that machine, such as in the covered cab of a crane.

Exclusion zones can be determined by the extent of the demolition works:

- Plan area – the area to be demolished.
- Designed drop area – immediate hazard area where most of the collapsing structure will fall.
- Predicted debris area – the predicted limit where debris from the collapse will travel and come to rest.
- Buffer area – an area planned to allow for unpredictable events. Outside this should be safe for all persons.”



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## Control Measures

### General Control Measures for Demolition

In this subsection, immediately before the subheading “**Pre-Demolition Investigation and Survey**”, please insert the following new material:

#### “Planning and Managing Demolition Projects

##### Decommissioning

Where structures or plant and services are to be decommissioned before demolition or deconstruction, planning should be carried out in order to bring the structure (plant or services) from fully operational to a ‘dead’ state, with all operational systems discharged. The decommissioning action plan is the responsibility of the client and should set target dates for the programmed shutdown.

Decommissioning activities will include:

- Isolation, earthing, spiking and cutting of (high, medium and low voltage) electrical cables.
- Disconnection of supplies crossing demolition areas.
- Disconnection or separation of DC battery systems.
- Removal of bulk process or other chemicals.
- Draining and purging of process chemicals from pipelines and systems.
- Draining, purging and venting of storage vessels.
- Draining all substantial heads of water.
- Isolation of water and gas services and supplies.
- Controlled release of any stored energy in systems or processes.
- Removal or elimination of all ‘substance hazards’.
- Removal of asbestos.

##### Planning Demolition Work

An assessment and survey of the site should be carried out (see later) at the planning stage to identify:

- The extent of decommissioning required (see above).
- Details of isolation or removal of services and details of temporary supplies.
- Knowledge and history of the structure.
- Isolation and protection of adjacent structures.
- Hazardous materials.
- Previous use of the site.

##### Managing the Demolition Project

A detailed programme and timetable of events should be produced that covers:

- The scheme, sequence and method(s) of demolition to be used.
- The plant and equipment required and its usage.
- Traffic management on and off site.
- Management of ‘arisings’ (debris, waste, materials, etc.).
- Contingency arrangements to cover ‘mishaps’.
- Agreed start and completion dates.
- Limitations such as night working, seasonal issues, tides, etc.

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## **Environmental Management**

Issues of wastes will be looked at later, but an assessment should be made at the planning stage to determine environmental issues such as:

- Control of noise at the site boundaries.
- Control of all dust emissions.
- Waste management (see later).
- Minimisation of materials haulage.
- Bunding arrangements for fuel and oil storage and dispensing facilities.
- Wheel washing and road cleaning arrangements.
- Skip or truck sheeting.
- Arrangements for dealing with hazardous materials.
- Anticipated values of air over-pressure and ground vibration.
- Areas of conservation.
- Minimising landfill.
- Carbon consumption/agendas.”