
Guidance on managing human and organisational factors in decommissioning

GUIDANCE ON MANAGING HUMAN AND
ORGANISATIONAL FACTORS IN DECOMMISSIONING

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FOREWORD

As facilities age and reach the end of their life it becomes prudent to begin planning for their decommissioning. *Guidance on managing human factors in decommissioning* aims to provide guidance to help ensure the safe decommissioning of these plants with minimal impact to people, plant and the environment.

Decommissioning a power plant is a potentially hazardous process. This is not only due to the movement and demolition of large pieces of equipment, but also because of the need to safely handle hazardous substances such as asbestos or radioactive materials (in the case of a nuclear power plant). These activities are often people-intensive, and if human factors issues have not been handled correctly with diligence and forward planning there is a high risk of danger to the people involved in the decommissioning process as well as to the integrity of the installation.

The guidance aims to steer the user through the types of human factors considerations that should be taken into account during the various phases of decommissioning a facility. The example given is of a nuclear power plant; however, whilst the decommissioning phases, activities and terminology used are nuclear specific, most are also relevant across wider energy industry sectors.

For each decommissioning activity, e.g. asbestos removal, or demolishing cooling ponds, there are a number of human factors issues that should be considered in order to carry out the task safely. For example anthropometric (body space) assessments should be carried out to ensure workers have the required space to work; task analysis should be carried out to ensure that sufficient barriers are in place to prevent hazards, etc. *Guidance on managing human factors in decommissioning* recommends the tools to use for each decommissioning activity, highlighting the most important issues to consider.

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Suggested revisions are invited and should be submitted to the Technical Department, Energy Institute, 61 New Cavendish Street, London, W1G 7AR, e: **technical@energyinst.org**

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1 INTRODUCTION

Decommissioning 'projects' entail the clean up, dismantling and removal of facilities. To achieve this will often require new facilities, tools, equipment, workers, procedures, training etc. that in many respects are similar to any new-build project. Human factors input into the project should be carefully planned to ensure that decisions likely to affect human performance within the resulting system are taken at the appropriate point in the project, using the most suitable information and know-how.

Guidance on managing human and organisational factors in decommissioning is a decommissioning example from the UK nuclear sector designed to provide users with guidance on the human factors and human performance tools, techniques and methods that are applicable at the various phases of decommissioning a facility. It is based upon the activities that take place when decommissioning nuclear power plants, however many of these activities may be common to other energy/industry sectors.

The four key decommissioning phases are shown in Table 1:

- De-fuelling
- Care and maintenance preparation
- Care and maintenance
- Final site clearance

In addition the overriding activities of management of the decommissioning process are also included.

Each decommissioning phase is split into a number of activities. These activities have been listed within the index, along with the human factors considerations that apply to carrying out that activity. The most pertinent human factors considerations have been highlighted **bold**. Each human factors consideration corresponds to a guidance note giving details of the tools and techniques used to resolve the issues that may occur.

Please note that those undertaking a decommissioning project should also be aware of the codes and practices of demolition, and in particular the British Standards document *BS 6187: 2000 Codes of practice for demolition*. *Guidance on managing human and organisational factors in decommissioning* does not aim to replace *BS 6187*, but rather be complementary to it. *BS 6187* provides an overview of demolition projects, including guidance on legislation, handling hazardous materials, occupational safety and health, as well as other particulars relating to demolition projects including exclusion zones and project management.