

Argonne National Laboratory
Facility Decommissioning Training Course

White Paper/Background Document

Argonne National Laboratory regularly conducts its popular *Facility Decommissioning Training Course*. A registration fee is required to attend and participate in the training course. Background information, a course description and registration form are available at <http://www.dd.anl.gov/ddtraining/>. This white paper provides background on the training course.

Purpose of the Course

The purpose of the course is to:

- 1) Provide information on the basic steps in the decommissioning process, and
- 2) Impart lessons learned from past experience in the decommissioning technical area.

Elements included in the D&D training course will assist in decision making and planning, and implementation associated with decommissioning. A major objective of this training course is to demonstrate the need for early and thorough project planning to achieve safe and cost effective decommissioning.

Target Audience

The target audience is personnel responsible for decommissioning nuclear facilities. Staff from utility companies, universities, reactor and other operational facility management, waste management staff, procurement officials, regulators, decommissioning technology developers and providers, oversight groups, DOE & DoD staff, radioisotope and radio-pharmaceutical research facilities/production facilities, and consulting and engineering firms.

The material is directly relevant to the decommissioning of any type or size facility including even non-nuclear industrial facilities.

Instructors

Argonne Decommissioning Program experts are joined by other decommissioning subject matter experts. The seasoned decommissioning professionals are real decommissioning 'doers' including: management of decommissioning firms, subject matter experts, professional engineers, certified health physicists, D&D program managers, D&D project managers, staff members and technologists.

Training Course Contents / Outline

Background information

- Objectives and overview of the course
- U.S. experiences in decommissioning

Regulatory aspects of decommissioning

- Safety and radiation protection criteria in decommissioning
- Use of a graded approach for smaller facilities
- Regulatory requirements and expectations

Responsibilities and functions of the parties involved

- Licensee
- Regulatory body
- Other involved parties

Planning a decommissioning project

- Facility shutdown/surveillance and maintenance
- Facility characterization
- Assessment of alternative strategies
- Preliminary and detailed planning

Waste Management

- Assessment of amounts and characteristics of decommissioning waste
- Procedures for conditioning, packaging, storage, transport and disposal
- Compliance with radioactive waste management
- Standards and disposal site requirements
- Recycling/reuse of decommissioning materials
- Waste minimization/pollution prevention

Decontamination

- Need for and extent of decontamination
- Chemical & non-chemical decontamination techniques

Dismantling

- Metal cutting techniques
- Concrete removal

- Intact removal of large components
- Remotely-controlled operations
- Selection of optimal technique

Financial planning

- Elements of decommissioning costs
- Cost estimating guidelines
- Financing approaches

Environment safety and health issues

- Environment safety and health
- Unexpected occurrences
- Environmental issues
- Security

Management of a decommissioning project

- Organization and staffing
- Training
- Quality assurance/quality control
- Record keeping and reporting

Completion of a decommissioning project

- Post-decommissioning survey final reports
- License termination

Decommissioning of nuclear labs & other facilities

- Case studies on decommissioning
- Evolving technologies for decommissioning
- Technical visit to a facility undergoing decommissioning (as available)

Each participant will receive copies of valuable resources for use in understanding the decommissioning process and will be given a select reading list of other information sources.

Decommissioning Certificate Program

A new certification program is being offered jointly by Argonne National Laboratory and Oak Ridge Associated Universities (ORAU). The purpose of this Decommissioning Certificate Program is to provide a formal means to document that an individual has achieved a baseline level of training in the subject of facility/site decommissioning. Participants are not required to pre-register to participate in the program

http://www.dd.anl.gov/ddtraining/certificate_program.html

Why Argonne National Laboratory?

Over the last 40 years, the Decommissioning Program of Argonne National Laboratory has successfully decommissioned over 20 nuclear / radiological facilities and other small facilities including:

- 4 research reactors (a 100 MW BWR prototype, a 5 MW heavy water reactor, a smaller 250 kW biological irradiation facility and a small 10 kW research reactor)
- A suite of 61 plutonium glove boxes located in nine research labs
- A 60" cyclotron facility
- A fuels fabrication facility
- A hot cell facility
- Several smaller non-reactor (waste management) radiological facilities

Argonne National Laboratory conducted extensive decontamination work on five hot cells formerly used in the U.S. Navy Proof-of-Breeding program. The CP-5 research reactor facility at Argonne was selected to serve as a DOE test bed for the evaluation of select technologies to ascertain their value in performing future decommissioning projects.

Also Argonne staff has assisted other DOE and NRC regulated sites in the decommissioning process. Argonne National Laboratory is actively involved in various international decommissioning activities.

A course description, news on future sessions, registration form and additional details are available at the website: **<http://www.dd.anl.gov/ddtraining/>**

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