

Decommissioning plan of N-16 decay room-cost estimates

Team N-16

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Outline

- Planning
- Preparation
- Implementation-dismantling
- Finishing Activities
- Cost estimates

1. Planning

- Activities
 - Objective : Decommissioning of N-16 decay room and transport of dismantled materials to the collection area;
release the water and metal components
 - Scope: Remove all contents of the N-16 decay room, completely remove the under floor run of the tank's drain pipe to the sump, completely remove the pipe section running to the primary sump in the next room by breaking the grout, transport all dismantled materials to the collection area
 - Constraints: Flame cutting not allowed, removal of cut pieces through the doors using the stairs by 2 workers
 - Organizing the Team N-16, assigning roles & responsibilities
 - **Collection and reviewing the existing documents and records**
 - Supplement data (inventory data for selected complex equipment, the radiological data)
 - Database development for the code input purposes
 - Completing the Inventory list
 - Room survey/verification

Summary of materials

	Mass (kg)
Carbon steel (CS)	1,717
Stainless steel (SS)	33.75
Concrete	95
GI/SS/Plastic/Cu	39
Aluminum (Al)	53.5

Site survey (1)

The Team N-16
examining pipe
connections in the
adjacent area of N-16
decay room



Site survey (2)

Continuation of the examination



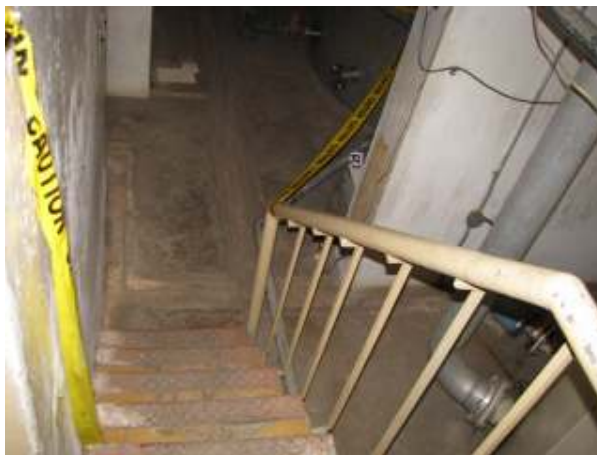
Site survey (3)

- The N-16 tank
- The size of door and diameter of the drum is critical in deciding the dimensions of the cut of N-16 tank



Area survey (4)

- The stairs – critical aspect in deciding the dimensions of the cut of N-16 tank



Area survey (5)

- Drain pipe-sampling point



- Inlet pipe to the tank



2.Preparatory Activities

- **Room survey**
- **Hazard identification; protective measures and PPE**
- **Characterization**
 - Radiological survey and sampling
 - Laboratory analysis
 - Authorisation for water release into the sewage system
- **Procurement of the equipment and tools**
 - mobile ventilation unit
 - dismountable platforms around for dismantling activities
 - mobile folding crane
 - **Mechanical Cutter/Saw**
 - Hydraulically scissors

Folding workshop crane

Load Movers

WARRIOR Folding Workshop Crane



- Heavy duty 2000 kg/1000 kg
- 3 position telescopic jib
- Double acting pump unit
- Heavy duty swivel hook with safety catch
- Pressure relief valve to prevent overloading
- Self standing on 4 wheels when folded

WARRIOR



MODEL	SC1000	SC2000
CAPACITY @ SETTING 1	1000 kg	2000 kg
CAPACITY @ SETTING 2	800 kg	1700 kg
CAPACITY @ SETTING 3	700 kg	1500 kg
OVERALL LENGTH	1630 mm	1900 mm
OVERALL WIDTH	1120 mm	1165 mm
MAX HOOK HEIGHT	2445 mm	2705 mm
MIN HOOK HEIGHT	Floor level	Floor level
O/A SUPPORTING HEIGHT	80 mm	205 mm

2. Preparatory activities (cont.)

- **Room preparation**
 - covering of the floor with protective vinyl to prevent contamination
 - transferring of dismantling tools to the room (e.g. metal cutting scissors, pendular saw, ...)
- Preparation of dismantling tools for the work
 - Installation of the auxiliary equipment and tools
 - temporary power supply
 - mobile ventilation unit
 - dismountable platforms around for dismantling activities
 - mobile folding crane
- Marking the lines for cutting on the tank and pipes
- Check the status of valves of interest (both mechanical and electrical) and enable their functionality
- Instructions to the working team for the work

3. Dismantling activities

- Isolation and disconnecting old electrical cables/connection in the room
- Pack dismantled materials and label



3. Dismantling activities (Cont.)

- Receiving authorization for water release
- Open all the valves in the primary cooling system



3. Dismantling activities (Cont.)

- Draining the system by connecting plastic hose to the pipe P7 into the sump (using pre-filtering to eliminate sludge), and further to the public sewage system
- Check if there is remaining water in the tank
- Open the 20 and 6 inch flange
- Inspect the tank interior for any foreign material and take samples
- **Cut the tank into pieces of sizes that fit into the waste containers**
- Wrap each dismantled piece of material with vinyl, label and put into the drum
- Transfer filled drums to collection area
- Dismantling electrical valve

4. Finishing activities

- Removal of auxiliary equipment and tools
- Cleaning the room after dismantling
- Transport the waste containers
- Final radioactivity survey
- Writing a report

Thank you . . .