



Australian Government

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# DEFUELLED HIFAR FACILITY PHASE A - CLOSURE

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# Introduction

- **Full power operation started in April 1960**
- **Final shutdown in January 2007 (130,000 MW-days)**
- **Post shutdown strategy (with approx. dates)**
  - **Phase A – Closure (2007 – 2010)**
  - **Phase B – Care and Maintenance (2010 – 2018)**
  - **Phase C – Decommissioning (2018 – ?)**
  - **Phase D – Return to Green Field site**

# Introduction (continued)

## Phase A – Closure

**Part 1 – Shutdown, removal of fuel, rigs, control absorbers and water. Electrical disconnections and removal of redundant miscellaneous minor items to reduce fire loading, eliminate hazardous materials and space congestion.**

**Part 2 – Preliminary dismantling of selected redundant plant and systems which are not significantly contaminated.**

**Part 3 – Installation and commissioning of refurbished and new plant.**

# Progress to Date

**Day 1 – shutdown**

**Day 39 – Isotopes Handling Cell removed from HIFAR**

**Day 88 – all nuclear fuel removed from HIFAR building**

**Day 101 – heavy water removed from HIFAR building**

**Day 116 – Duty Officer cover removed from HIFAR**

**Day 126 – Shift manning removed from HIFAR**

**Day 287 – Work currently underway/planned**

- **Transfer control absorbers to Waste Operations**
- **Transfer of Cobalt targets into long term storage**
- **Drying and purging of tritiated primary cooling circuit**
- **Purging of tritiated helium circuit**
- **Blowdown of Storage Block tritiated water**

## Current Situation

- **Work is continuing on Phase A – Part 1 under the current “Operating” Licence.**
- **Planning, scoping work, conceptual design and preparation of specifications is underway for Phase A - Parts 2 and 3.**
- **Follow-up work relating to the new “Possess or Control” Licence Application, which was forwarded to the Regulator in May 2007, is continuing.**

# Preliminary Dismantling Projects

Remove Cooling Towers, Pond and Pipe work - external to RCB  
Removal of Graphite Space Helium Gasholder and Circuit  
Remove Fuel Element Assembly Station  
Remove Rigs Cooling Circuit  
Remove No.1 Storage Block Cooling System - external to RCB  
Remove HIFAR Emergency Core Cooling System  
Remove HIFAR Protection Signal System  
Remove HIFAR Demineralised Water Supply System  
Remove B23 Isotope Conveyor and Rigs Cooling System  
Remove B68 Isotope Conveyor and Rig Cooling System  
Remove Rig Consoles and Gas Mixing System  
Remove Out-of-Pile Silicon Irradiation Facilities  
Remove Redundant HIFAR Steel Structures  
Remove HIFAR Containment Isolation System  
Remove D2O Plant Room Flooding System  
Remove Non-Active Parts of Helium Circuit  
Remove HIFAR Area Buildings  
Remove Secondary Cooling Circuit – internal to RCB  
Remove Reactor Shield Cooling circuit – external to reactor block  
Remove Redundant Water Supply Circuits  
Remove Redundant HIFAR Area Cranes  
Remove HIFAR Space Conditioning System  
Remove Main and Emergency Control Rooms  
Remove AUSANS Monochromator and restore walking access



# Refurbishment Projects

Refurbish HIFAR Electrical Power System

Refurbish HIFAR Active Ventilation and HVAC System

Refurbish HIFAR Security System

Refurbish HIFAR Access System

Refurbish HIFAR Monitoring System

Refurbish HIFAR Communication System

Refurbish HIFAR Lighting System

Refurbish HIFAR Fire Alarm System

Refurbish HIFAR Instrumentation

Install Shielding for HIFAR and Storage Blocks









# Electrical Supply Building 70 and Stand-by Diesel Generator “B” Fuel Tank



## Cooling water pond and chemical dosing plant





# Cooling Towers (6)



# Secondary cooling system pumps



# Any Questions?