PROJECT OVERVIEW FOR SM-1A FORT GREELY, AK

DEACTIVATED NUCLEAR POWER PLANT PROGRAM

Restoration

Advisory Board

Meeting

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TOPICS

- Historical Overview
  - US Army Nuclear Power Program
  - Deactivated Nuclear Power Plant Program
- Decommissioning Planning

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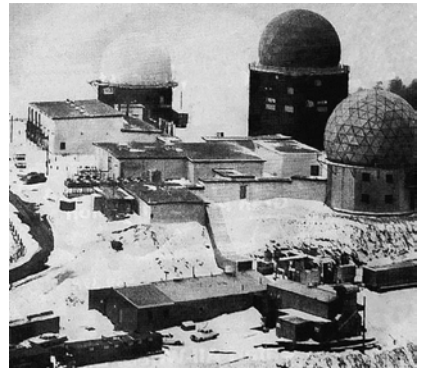
U.S. ARMY NUCLEAR POWER PROGRAM

- Six DoD Power Reactors Fielded During 1957 to 1976
  - Four Army, One Air Force, One Navy
- Two at National Reactor Testing Station
- Three Deactivated Army Reactors Remain
  - Nuclear Fuel and Control Rods Removed and Returned to Atomic Energy Commission
  - Facilities Decontaminated to the Extent Practicable and Placed into “Safe-Storage”
  - Deactivated Reactor Facilities Continuously Monitored Since Shutdown to Ensure Safety of Soldiers, Families, and DoD Civilians



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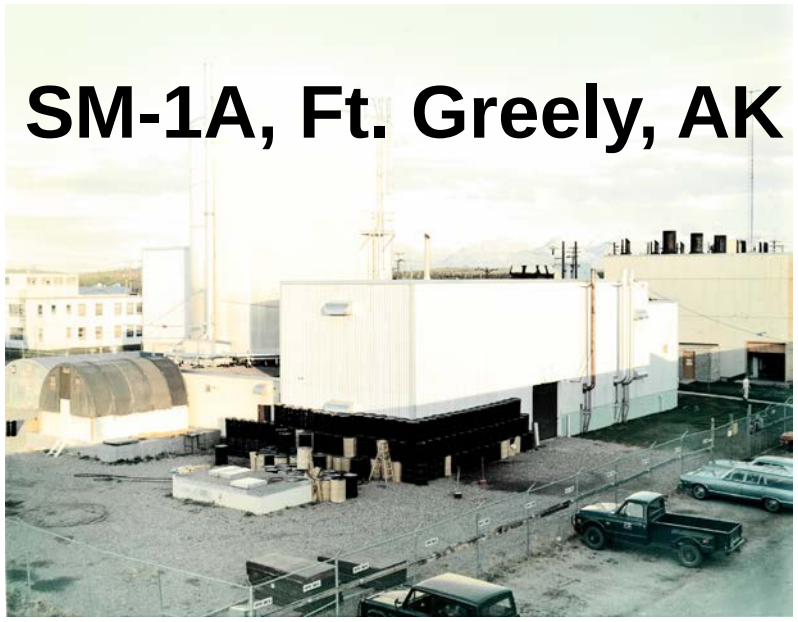
Deactivated Army Reactors During Operation 1957-1976



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DEACTIVATED NUCLEAR POWER PLANT PROGRAM

- Mission of the DNPPP is to:
  - Ensure Security of the Residual Radioactive Materials Remaining at the Sites
  - Ensure Structural Integrity of Deactivated Reactor Facilities
  - Implement Environmental Monitoring Programs
  - Plan and Perform Final Decommissioning

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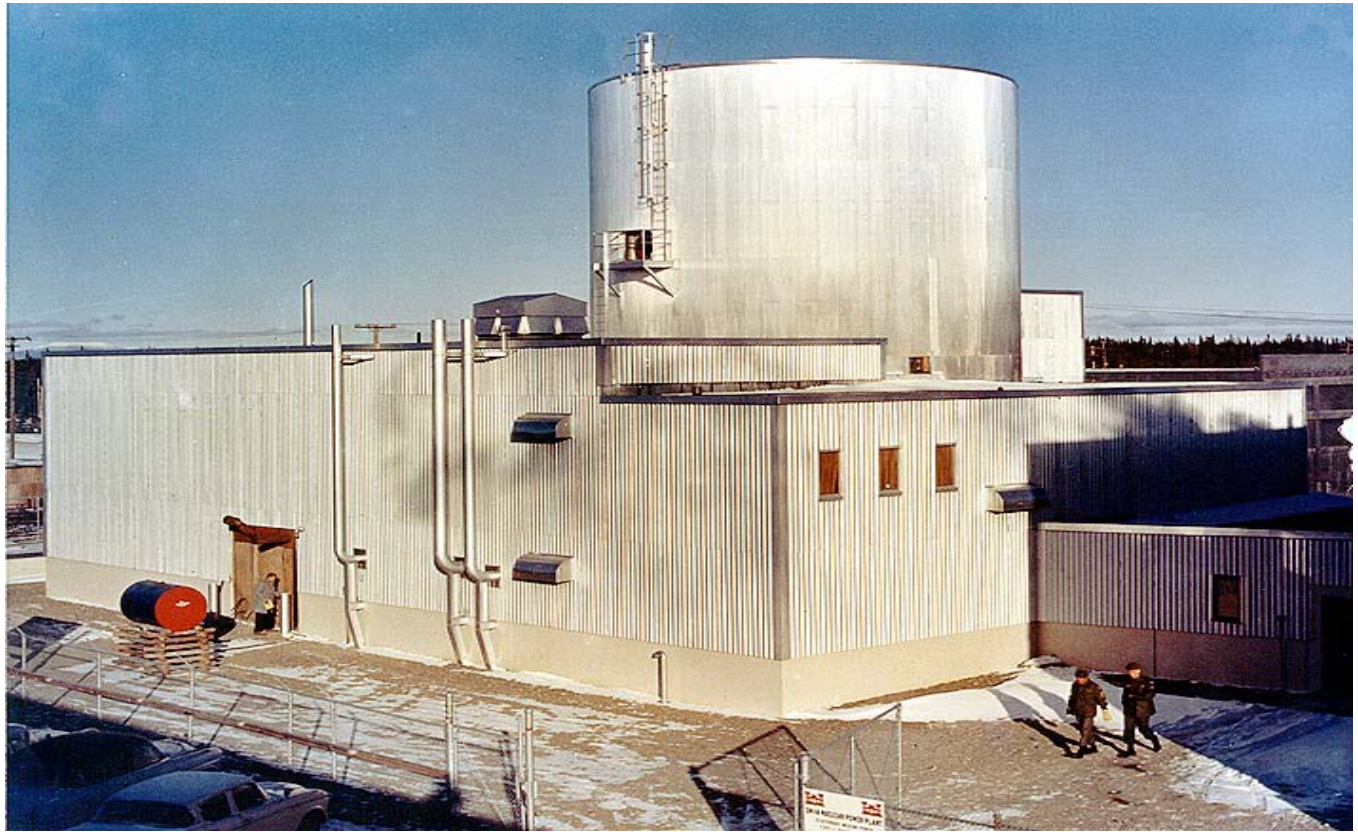
SM-1A OPERATION AT FORT GREELY, AK



- Stationary, Medium Power, Prototype
- 20 MWt; 1,640 KWe
- First pressure suppression containment
- First steam generator replacement in US

- Deactivated, reactor areas encased, secondary systems converted to fuel boilers

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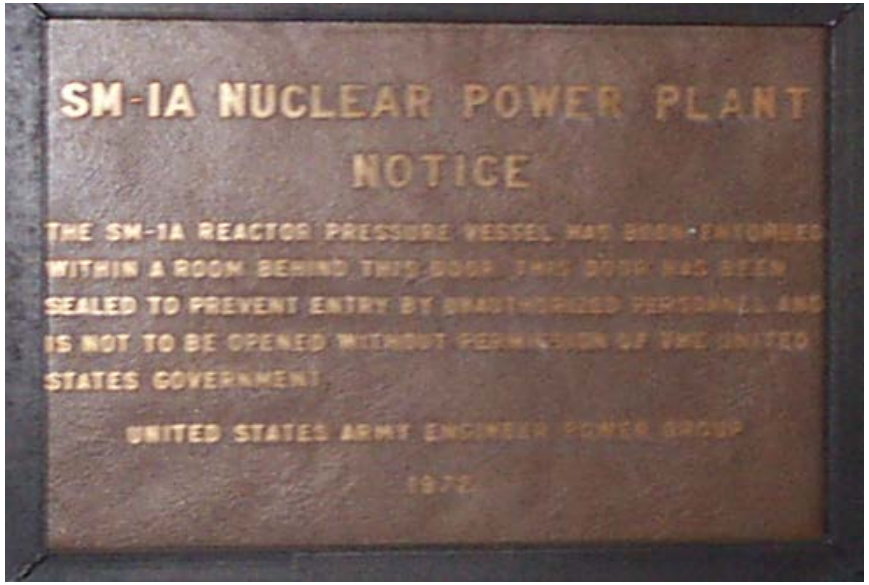
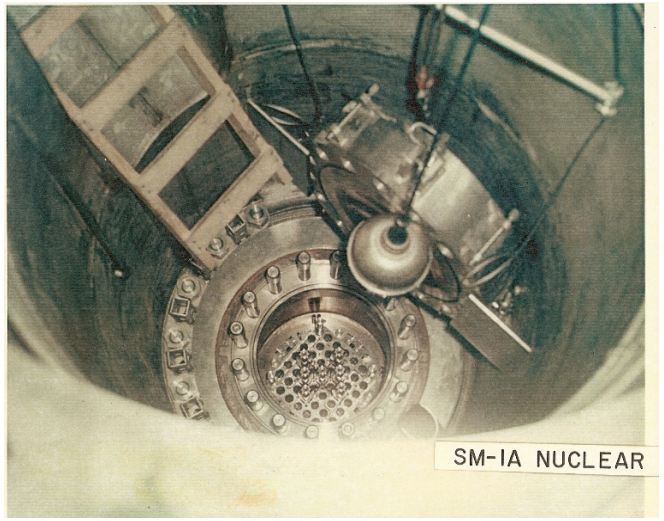
SM-1A TIMELINE: DETAILS

- SM-1A Construction Start: 1958
- SM-1A Reactor Startup: March 1962
  - Core II installed: April 1964
  - Core III installed: Jan 1966
  - Core IV installed: Aug 1970
- Pressure Vessel Annealed: Aug 1967
- Last Operation: March 1972
- Minimal Decommissioning and Entombment: 1973
  - Deactivated, reactor areas encased, secondary systems converted to fuel boilers
- USACHPPM Survey: June 1997
- BRAC Pipeline and Dilution Well Removal: 1997-2000
- Core Component Activation Analysis: 2008
- USACE Historical Site Assessment: 2008
- USACE Gamma Walkover Report: 2011
- USACE Characterization Survey Report: 2014





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SM-1A PRE/POST-SHUTDOWN DECOMMISSIONING ACTIVITIES

- Decontamination of primary and secondary systems
- Encasement of Vapor Container, Spent Fuel Pit, hot waste tanks, pipe pit, dilution station, condenser deck, fuel storage vault, and Building J5 floor
- Placed a time capsule
- Shipped fuel elements and control rods
- Transferred calibration sources
- Disposed of radioactive wastes
- Removal of wastewater pipeline and dilution station

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SM-1A DECOMMISSIONING PLANNING

- Decommissioning Planning is underway – anticipate completion by 2021
  - Scope includes:
    - Review of historical documents associated with the All Hazards Analysis
    - Prepare planning documents that will support the Army Reactor Office issuing the USACE a decommissioning permit for the SM-1A reactor
    - Comply with other relevant Federal and State requirements that will support the long-term decommissioning planning
    - Ensure adherence of project activities to Nuclear Regulatory Commission (NRC), Army, and Federal standards and guidance , as well as, other Federal standards and guidance where relevant, and
    - Coordinate with appropriate federal, state, and public parties to support issuance of decommissioning permit and other National Environmental Policy Act (NEPA) requirements
- Major Decommissioning Planning Documents
  - Final Disposal Plan, Schedule and Cost Estimate
  - Waste Management Plan
  - Environmental Assessment
  - Section 106 Effects Assessment and agreement document
  - Decommissioning Plan

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SM-1A CONTRACT ACQUISITION APPROACH

- Contract type is still being investigated by the team
- Major Steps:
  - Sources Sought – planned for early May 2018
  - Market Research – concurrent with Sources Sought
  - Acquisition Planning – through end of 2018
  - Issue Request for Proposal – anticipated 2021
  - Evaluate Proposals – 2021
  - Award Decommissioning Contract - 2022

- This will be a Cost Plus Reimbursable Contract with the potential for some Fixed Price elements
- Additional funding will be processed in 2022 and 2023
- Work anticipated to take 5 years to implement

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REQUEST FOR PROPOSAL WILL LIKELY INCLUDE THE FOLLOWING REQUIREMENTS

- Combination of a large and small companies with capabilities in the follow key areas:
  - Project Management
    - Scheduling
    - Cost Estimating
    - Risk Assessment and Analysis
  - Radiological Expertise
  - Health and Safety Expertise
  - Decommissioning Expertise
  - Demolition Expertise
  - Regulatory Compliance
  - Waste Transportation and Disposal

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PROJECT STAKEHOLDER ENGAGEMENT

- Outside of the formal public comment periods that will occur for some project documents, the Project Team will provide updates on the SM-1A Project Website and by e-mail to interested stakeholders
  - http://www.nab.usace.army.mil/SM-1A/
  - To receive Stakeholder Updates, please call 410-962-2809 or send your e-mail to: cenab-cc@usace.army.mil
- Deactivated Nuclear Power Plant Program website
  - http://www.usace.army.mil/Missions/Environmental/DNPPP/

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Questions?

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