

Appendix B

Site Summaries for Research and Test Reactors

Cornell University - TRIGA

1.0 Site Identification

Location: Ithaca, NY
License No.: R-80
Docket No.: 50-157
License Status: DECON
Project Manager: Daniel E. Hughes

2.0 Site Status Summary

Cornell University submitted a request for approval of a decommissioning amendment on August 22, 2003, for R-80 which is a 500 kR TRIGA reactor. The decommissioning of the R-80 reactor will be concurrent with the decommissioning of Cornell's zero power reactor (R-89). There is no fuel on site for this reactor.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

2007

Cornell University - ZPR

1.0 Site Identification

Location: Ithaca, NY
License No.: R-89
Docket No.: 50-97
License Status: DECON
Project Manager: Daniel E. Hughes

2.0 Site Status Summary

Cornell University submitted a request for approval of a decommissioning amendment on August 22, 2003, for R-80 which is a 500 kilowatt (kW) TRIGA reactor. The decommissioning of the R-80 reactor will be concurrent with the R-89 reactor. There is no fuel on site for this reactor.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

2007

Ford Nuclear Reactor

1.0 Site Identification

Location: Ann Arbor, MI
License No.: R-28
Docket No.: 50-2
License Status: DECON
Project Manager: Patrick J. Isaac

2.0 Site Status Summary

The construction of the Ford Nuclear Reactor (FNR), located in the Phoenix Memorial Laboratory (PML) began in 1956. The PML is a four story, reinforced concrete building. The FNR and PML are located on the North Campus of the UM in Ann Arbor, Michigan.

In 1957 the FNR went critical. The reactor is a 2 MW, open pool reactor facility. The decommissioning plan (DP) for the University of Michigan FNR was approved on June 26, 2006. It is de-fueled.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

TBD

General Atomics - TRIGA Mark F

1.0 Site Identification

Location: San Diego, CA
License No.: R-67
Docket No.: 50-163
License Status: DECON
Project Manager: Al Adams

2.0 Site Status Summary

Decommissioning activities at General Atomics (GA) are currently on hold pending the return of fuel to the U.S. Department of Energy (DOE). The licensee has dismantled the Mark F reactor to the extent possible given the storage of fuel.

3.0 Major Technical or Regulatory Issues

DOE has refused to take the reactor fuel. DOE is concerned that accepting fuel from GA could impact legal issues surrounding DOE acceptance of fuel from the nuclear power industry.

4.0 Estimated Date For Closure

TBD

General Atomics - TRIGA Mark I

1.0 Site Identification

Location: San Diego, CA
License No.: R-38
Docket No.: 50-89
License Status: DECON
Project Manager: Al Adams

2.0 Site Status Summary

Decommissioning activities at GA are currently on hold pending return of fuel to DOE. The licensee has dismantled the Mark I reactor to the extent possible given the storage of fuel. To complete decommissioning activities on the Mark I reactor, the licensee needs to dismantle parts of the building in which the Mark I and Mark F reactors are located. These activities are on hold until fuel is returned to DOE.

3.0 Major Technical or Regulatory Issues

DOE has refused to take the reactor fuel. DOE is concerned that accepting fuel from GA could impact legal issues surrounding DOE acceptance of fuel from the nuclear power industry.

4.0 Estimated Date For Closure

TBD

General Electric Co. - GETR

1.0 Site Identification

Location: Sunol, CA
License No.: TR-1
Docket No.: 50-70
License Status: SAFSTOR
Project Manager: Marvin Mendonca

2.0 Site Status Summary

NRC issued a possession-only license for GETR on February 5, 1986. The license was renewed on September 30, 1992, to expire in 2016. The facility has been maintained in SAFSTOR condition. The site has an operating research reactor, and has hot cells that are used for power reactor fuel post irradiation examination. The licensee plans to maintain the facility in SAFSTOR until ongoing nuclear activities are terminated and the entire site can be decommissioned.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

TBD

General Electric Co. - VESR

1.0 Site Identification

Location: Sunol, CA
License No.: DR-10
Docket No.: 50-183
License Status: SAFSTOR
Project Manager: Marvin Mendonca

2.0 Site Status Summary

On April 15, 1970, the U.S. Nuclear Regulatory Commission (NRC) authorized the licensee to possess but not operate the reactor. The license was renewed on June 11, 1976, to expire in 2016. The facility has been maintained in SAFSTOR condition. The facility is next to the Vallecitos Boiling Water Reactor which is also in SAFSTOR. The licensee plans to maintain the facility in SAFSTOR until other ongoing nuclear and radioactive activities are also to be decommissioned to provide an integrated site decommission.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

TBD

NASA - MOCKUP

1.0 Site Identification

Location: Cleveland, OH
License No.: R-93
Docket No.: 50-185
License Status: DECON
Project Manager: Patrick J. Isaac

2.0 Site Status Summary

The NASA Plum Brook Reactor Facility (PBRF) is located within a fenced area in the northern portion of NASA's Plum Brook Station. The Plum Brook Station is located about 6-km (4-mi) south of Sandusky, Ohio. NASA currently has 10 CFR Part 50 facility licenses to "possess but not operate" two reactors within the PBRF. NRC license TR-3 is for the 60-megawatt research test reactor, constructed for testing materials to be used in space program applications. NRC license R-93 is for the 100-kilowatt swimming-pool type Mock-Up Reactor (MUR). Upon approval the DP, these two licenses were amended on March 20, 2002 to allow decommissioning of the facility. The PBRF operated from 1961 to 1973. The facility is to be decommissioned, with the end objective being removal and disposal of remaining radioactive materials, release of the 11-ha (27-acre) facility for unrestricted use, and termination of the NRC licenses. The radiological criteria for license termination to allow unrestricted use are set forth in 10 CFR Part 20, Subpart E. After many years of little to no activities at the Plum Brook reactor site, decommissioning is well underway. NRC approved the DP in March 2002, and in November 2002, NASA conducted the first reactor tank entry in 30 years. In August 2003, NASA began taking important steps in removing the reactor internals and segmenting the reactor tank for shipment to Barnwell, SC. NASA plans to complete decommissioning by 2010.

3.0 Major Technical or Regulatory Issues

NASA recently discovered radioactive contamination on and off the NASA Plum Brook test reactor site near Sandusky, Ohio. The material was identified as cesium-137 and cobalt-60 in a drainage ditch leaving their property, and in Plum Brook approximately one mile downstream towards Lake Erie. The radioactive materials are likely the result of reactor operations which ended in about 1973. Sediment samples identified up to 38 pCi/l cesium-137 (background is about 1 pCi/g).

4.0 Estimated Date For Closure

2010

NASA - Plum Brook

1.0 Site Identification

Location: Cleveland, OH
License No.: TR-3
Docket No.: 50-30
License Status: DECON
Project Manager: Patrick J. Isaac

2.0 Site Status Summary

The NASA PBRF is located within a fenced area in the northern portion of NASA's Plum Brook Station. The Plum Brook Station is located about 6-km (4-mi) south of Sandusky, Ohio. NASA currently has 10 CFR Part 50 facility licenses to "possess but not operate" two reactors within the PBRF. NRC license TR-3 is for the 60-megawatt research test reactor, constructed for testing materials to be used in space program applications. NRC license R-93 is for the 100-kilowatt swimming-pool type Mock-Up Reactor (MUR). Upon approval the DP, these two licenses were amended on March 20, 2002 to allow decommissioning of the facility. The PBRF operated from 1961 to 1973. The facility is to be decommissioned, with the end objective being removal and disposal of remaining radioactive materials, release of the 11-ha (27-acre) facility for unrestricted use, and termination of the NRC licenses. The radiological criteria for license termination to allow unrestricted use are set forth in 10 CFR Part 20, Subpart E. After many years of little to no activities at the Plum Brook reactor site, decommissioning is well underway. NRC approved the DP in March 2002, and in November 2002, NASA conducted the first reactor tank entry in 30 years. In August 2003, NASA began taking important steps in removing the reactor internals and segmenting the reactor tank for shipment to Barnwell, SC. NASA plans to complete decommissioning by 2010.

3.0 Major Technical or Regulatory Issues

NASA recently discovered radioactive contamination on and off the NASA Plum Brook test reactor site near Sandusky, Ohio. The material was identified as cesium-137 and cobalt-60 in a drainage ditch leaving their property, and in Plum Brook approximately one mile downstream towards Lake Erie. The radioactive materials are likely the result of reactor operations which ended in about 1973. Sediment samples identified up to 38 pCi/l cesium-137 (background is about 1 pCi/g).

4.0 Estimated Date For Closure

2010

University of Buffalo

1.0 Site Identification

Location: Buffalo, NY
License No.: R-77
Docket No.: 50-57
License Status: Possession Only License
Project Manager: Daniel E. Hughes

2.0 Site Status Summary

License R-77 was amended June 6, 1997, for possession only. There is no fuel on site. A DP has not been submitted.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

TBD

University of Illinois

1.0 Site Identification

Location: Urbana, IL
License No.: R-111
Docket No.: 50-151
License Status: DECON
Project Manager: Al Adams

2.0 Site Status Summary

Reactor fuel has been removed from the facility. The licensee has an approved DP that allows limited decommissioning activity.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

TBD

University of Washington

1.0 Site Identification

Location: Seattle, WA
License No.: R-73
Docket No.: 50-139
License Status: DECON
Project Manager: Al Adams

2.0 Site Status Summary

Decommissioning activities started in March 2006 and are well underway. An Order was issued by the staff to allow 10CFR50.59-type changes to be made to the DP.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

2007

Veterans Administration

1.0 Site Identification

Location: Omaha, NE
License No.: R-57
Docket No.: 50-131
License Status: Possession Only
Project Manager: Al Adams

2.0 Site Status Summary

TRIGA Mark-1 research reactor was operated at 20 kW thermal power from 1959 until November 5, 2001. All fuel has been removed from the site. A DP was submitted 9/21/04. The DP is currently under staff review.

3.0 Major Technical or Regulatory Issues

None.

4.0 Estimated Date For Closure

TBD

Westinghouse

1.0 Site Identification

Location: New Stanton, PA
License No.: TR-2
Docket No.: 50-22
License Status: DECON
Project Manager: Patrick J. Isaac

2.0 Site Status Summary

The TR-2 License was amended in March 1963 to allow possession, but not use of the reactor. The Westinghouse test reactor, located on the Waltz Mill site, is undergoing decommissioning in accordance with the DP which was approved in September 1998. CBS (formerly Westinghouse Electric Corporation), which operated the Waltz Mill Facility, was the licensee of the TR-2 and SNM-770. Radiological contamination in soil and groundwater exist on a portion of the site as a result of the clean-up activities following a 1961 incident at the test reactor, waste segregation activities, and nuclear laundry services. Significant contamination is also present in retired facilities (hot cells, hot cell support rooms, and a section of the fuel transfer canal) within one of the site buildings. Contaminants are primarily strontium-90 (Sr-90) and cesium-137 (Cs-137), with lesser quantities of mixed fission, activation products, and trace levels of transuranic radionuclides. The TR-2 DP required removal of designated portions of the shutdown reactor as necessary and sufficient to terminate the Part 50 portion of the license. At that point, the remaining residual radioactive materials would be transferred to SNM-770 where they would continue to be controlled under that license. In March 1999, Viacom acquired the TR-2 license and a new company, Westinghouse Electric Company, LLC, (Westinghouse) became the holder of the SNM-770 License. Westinghouse and Viacom entered into a project management agreement whereby Westinghouse agreed to act as Viacom's decommissioning project manager for the TR-2 reactor. The pressure vessel and pressure vessel internals have been removed in accordance with the DP, as well as the biological shield that needed to be removed in order to remove the pressure vessel. Two provisions of the DP still need to be accomplished: determining the residual radioactivity remaining in situ and preparing the necessary amendments for and requesting the transfer to the SNM-770 license.

3.0 Major Technical or Regulatory Issues

Westinghouse is refusing to accept the transfer to the SNM-770 license. Viacom filed a 10 CFR 2.206 petition in which it alleges that Westinghouse is in violation of 10 CFR 50.5, Deliberate Misconduct. Westinghouse claims that Viacom did not perform all the actions required prior to the transfer. NRC issued a Director's Decision concluding that Westinghouse was not in violation of 10 CFR 50.5 on August 26, 2003. Viacom and Westinghouse are currently engaged in a commercial dispute and are under arbitration to resolve the disputed issues.

4.0 Estimated Date For Closure

TBD