

The Status of the
Philippine Research Reactor
(PRR-1)

by

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27 June 2006

PRR-1 Operational History

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- The PRR-1 began operating in 1963
 - A 1 MW open-pool general-purpose General-Electric research reactor provided by the U.S.A. under the Atoms for Peace program
 - Used MTR-type aluminum plate fuel
- Operated uneventfully at 1 MW until the late 1970s, when aging started to become a problem

PRR-1 Operational History

- The fuel, instrumentation and cooling systems were modernized in the 1980s, primarily by shutting down during 1984-1988 to replace components to convert the PRR-1 into a TRIGA-type reactor
 - New components allowed raising rated power to 3 MW
- Not all aging reactor components could be replaced, including the reactor pool

PRR-1 Operational History

- Shortly after successful re-start and testing of the PRR-1 up to 3 MW in 1988, the reactor pool liner sprung a serious leak
- The leak began the shutdown extending to the present

PRR-1 Shutdown History

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- Major corrosion of the pool liner was discovered when the reactor pool was completely drained in 1992
- Other major aging problems were also discovered, especially in the reactor core support structure
- The pool liner was repaired and some of the aging components were rehabilitated during 1992-1997

PRR-1 Shutdown History

- Funds were not sufficient to rehabilitate the rest of the reactor
- Some factors became important while the reactor was shut down:
 - All spent fuel were shipped out in 1999
 - Lease on the site expired
 - Site now believed to be more seismically dangerous than anticipated in 1960s
 - PNRI created new regulatory program

PRR-1 Decommissioning

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- The PNRI has accepted that the PRR-1 has to be formally decommissioned
- The PNRI has offered the PRR-1 to the Research Reactor Decommissioning Demonstration Project (R2D2P) of the IAEA

PRR-1 Decommissioning

- The PNRI has requested Technical Assistance from the IAEA for the first steps in decommissioning
 - Preparation of a Radiological Characterization Survey
 - Preparation of a Decommissioning Plan

PRR-1 Decommissioning

- The decommissioning of the PRR-1 will be covered by the new regulatory program for PNRI-owned facilities