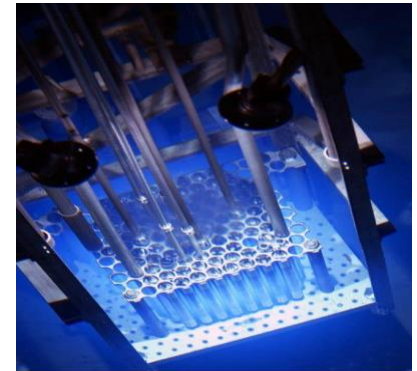
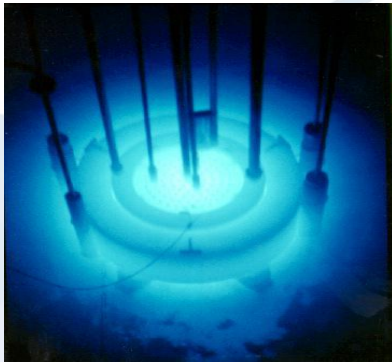


NRC Research and Test Reactor Operator Licensing Update



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Presentation Topic Areas

- Research and Test Reactor Background
- RTR Licensed Operator Program
- RTR Exams - Year in Review
- RTR Exams - What Lies Ahead

Regulatory Background – Research and Test Reactors

- The Office of Nuclear Reactor Regulation (NRR) is responsible for the execution of this mission as it relates to new and operating non-power reactors (NPRs)
- NPRs are reactors that are not designed to generate electricity
- NPRs are comprised of two sub-categories, research and development (class 104 licensee), and commercial reactors (class 103 licensee)
- All NRC-licensed NPRs are currently class 104 licensees

Regulatory Background – Research and Test Reactors

- 31 RTRs operate across the United States in support of research, services, and education
 - 26 low power RTRs, ranging from 5 Watts to 1.1 Megawatts
 - 5 high power RTRs, ranging from 2 to 20 Megawatts
- 11 RTRs are undergoing decommissioning
- The NRC is not responsible for the regulation of the RTRs operated by the Department of Energy or Defense

Regulatory Background – Regulatory Authority

The Atomic Energy Act, Section 104c requires minimum regulation

“The Commission is directed to impose only such minimum amount of regulation of the licensee as the Commission finds will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public and will permit the conduct of widespread and diverse research and development.”

Research and Test Reactor Oversight Branch Staff Qualifications

- ▶ All staff have completed necessary training to be qualified as Operator Licensing Examiners, IMC Facility Inspectors, or Security Specialists
- ▶ Due to staff resource reductions, current staff is cross qualifying in two or more areas
- ▶ This will allow for rapid deployment of staff resources when circumstances require

Research and Test Reactor Operator Licensing Program

RTR Operator Licensing Program

- ▶ Title 10 of the Code of Federal Regulations (CFR), Part 55 (10 CFR 55), “Operators’ Licenses”, provides operator licensing requirements for all NRC licensed reactors.
- ▶ NUREG-1021, “Operator Licensing Examiner Standards for Power Reactors” (Rev 11)
- ▶ NUREG-1478, “Operator Licensing Examiner Standards for Research and Test Reactors” (Rev 2)
- ▶ ANSI/ANS 15.4, “Selection and Training of Personnel for Research and Test Reactors”

NUREG-1478: Written Examination

- ▶ Three categories:
 - ▶ Category A - Reactor Theory, Thermodynamics, and Facility Operating Characteristics.
 - ▶ Category B - Normal and Emergency Operating Procedures and Radiological Controls
 - ▶ Category C - Facility and Radiation Monitoring Systems.

- ▶ About 20 questions per category depending on complexity of the reactor

NUREG-1478: Operating Test

- ▶ Three categories:
 - ▶ Category A - Administrative control, radiation protection, emergency plan and implementation, fuel movements, and the security plan
 - ▶ Category B - Specific systems at the facility
 - ▶ Category C - Scenarios to include reactor startup, equipment failures, and facility transients

- ▶ Depth and scope of operating tests dictated by the type of license (RO/SRO) for which the applicant applies

NUREG-1478: Requalification

- ▶ Requalification program is required to be conducted for continuous period not to exceed 24 months in duration (10 CFR 55.59)
- ▶ Program must include a comprehensive requalification written examination and an annual operating test
- ▶ Site specific program that is NRC-approved
- ▶ Requalification program evaluated via guidance found in NR-1478

Operator Licensing Program

- ▶ RTR OL Examination performance remains consistent
- ▶ Administered 29 exams to 62 RO and 29 SRO candidates in FY16
- ▶ Passing rate in FY 16
 - ▶ 53/62 for Reactor Operators (85%)
 - ▶ 26/29 for Senior Reactor Operators (90%)

Operator Licensing Program

- ▶ FY 17 Information
- ▶ Administered 10 exams to 19 RO and 13 SRO candidates in FY17
- ▶ Passing rate in FY 17
 - ▶ 18/19 for Reactor Operators (95%)
 - ▶ 12/13 for Senior Reactor Operators (93%)

RTR Operator Docket Maintenance

- ▶ 339 Active RTR Licenses
 - ▶ 134 Reactor Operators
 - ▶ 204 Senior Reactor Operators
 - ▶ 1 Limited Senior Reactor Operator
- ▶ About 50% of active licenses have conditions
- ▶ New Electronic Processing system (RPS-OL)
- ▶ Electronic Submittals from RTR Licensees

RTR Exams: Year in Review

- ▶ Focusing on giving realistic examinations
- ▶ Focusing on following the examination process
- ▶ Application Denial Hearing Aftermath
- ▶ Focusing on Medical Information

RTR Exams: What Lies Ahead

- ▶ Medical Isotope Facility Operator Licensing Program
 - ▶ Challenges
 - ▶ Resolutions and Lessons Learned
- ▶ International Efforts
 - ▶ Generic Activities
 - ▶ Specific Country Support

Questions

