

NRC Non-Power Reactor Oversight Activities

Anthony Mendiola, Chief
Research and Test Reactors Oversight Branch
U.S. Nuclear Regulatory Commission

2017 TRTR Annual Meeting
September 19, 2017



Presentation Agenda

- PROB Staff Changes
- Oversight Year in Review
 - RTR Inspection Results
 - RTR Operator Licensing Results
- Focus on Medical Evaluations Issues
- Focus on Electronic OL Applications
- Focus on RTR Paper Submittals
- RTR Security Results



Presentation Agenda

- **PROB Staff Changes**
- Oversight Year in Review
 - RTR Inspection Results
 - RTR Operator Licensing Results
- Focus on Medical Evaluations Issues
- Focus on Electronic OL Applications
- Focus on RTR Paper Submittals
- RTR Security Results



Oversight Branch Staff

Anthony Mendiola, Branch Chief

- Craig Bassett, Reactor Inspector
- Johnny Eads, Reactor Inspector
- Mike Morlang, Reactor Inspector
- Ossy Font, Reactor Inspector
- Philip Young, Reactor Examiner
- John Nguyen, Reactor Examiner
- Paulette Torres, Reactor Examiner
- Michele DeSouza, Reactor Examiner
- Beth Reed, Security Specialist
- Mike Takacs, Security Inspector
- Bill Schuster, Security Inspector
- Carole Revelle, Op Lic Assistant
- Nicole Parker, Licensing Assistant
- Angela Baxter, Op Lic Assistant

Presentation Agenda

- PROB Staff Changes
- **Oversight Year in Review**
 - **RTR Inspection Results**
 - **RTR Operator Licensing Results**
- Focus on Medical Evaluations Issues
- Focus on Electronic OL Applications
- Focus on RTR Paper Submittals
- RTR Security Results



RTR Inspection Program – Year in Review

- Inspection results continue to document that NRC-licensed RTRs are being operated safely and securely
- A number of violations identified
- Overall Inspection observations and findings
- Future inspection challenges
- Balancing Inspector workloads

RTR Inspection Program – Year in Review

- Severity Level IV Violations (6)
 - Technical Specifications (3)
 - Radiation Safety Practices
 - Use of 10 CFR 50.59
 - Emergency Plan Changes
- Non Cited Violations (2)
 - Technical Specification
 - Contraband Introduction
- Reactive Inspections (3)



Operator Licensing Program – Year in Review



- FY 17 RTR Exam Performance remains consistent
 - Administered exams to 42 RO and 30 SRO candidates in FY17
 - **Written Exam Pass rate**
 - 36/42 for Reactor Operators (86%)
 - 7/8 for Senior Reactor Operators (88%)
 - **Operating Exam Pass Rate**
 - 41/42 for Reactor Operators (98%)
 - 27/30 for Senior Reactor Operators (90%)

RTR Operator License Docket Summary

- 347 Active RTR Licenses
 - 143 Reactor Operators
 - 203 Senior Reactor Operators
 - 1 Limited Senior Reactor Operator
- 47% of active licenses have conditions
 - Most of these are corrective lens (85%)
 - Prescribed Medications (12%) Other (3%)

RTR Operator License Docket Management



- Electronic Processing System (RPS-OL)
 - 30 expired licenses
 - 96 license amendments (mostly addresses and medical)
 - 53 waivers granted (mostly medical and eligibility)
 - 30 Medical Review Officer (MRO) evaluations

General Guidelines for RTR OL Applications

- New examination requests and any examination changes as soon as possible in advance
- Initial license applications submitted at least 14 days prior to the exam, sooner if waivers requested
- License renewal applications submitted at least 30 days prior to license expiration date

Operator Licensing Program – Process Improvements



- Upcoming Revisions to NRC Forms 396 and 398
 - Based on Industry feedback
 - Clarification of instructions
 - Removal of unnecessary fields
 - Expected rollout Fall/Winter 2017
 - Available on NRC Forms website after OMB approval
- OMB Clearance for RTR Examination Request Emails

Paper Application issues

- Common mistakes seen this year
 - Unclear or missing information
 - Handwriting/spelling difficulties
 - Mailing address issues
 - Incomplete waiver information



Presentation Agenda

- PROB Staff Changes
- Oversight Year in Review
 - RTR Inspection Results
 - RTR Operator Licensing Results
- **Focus on Medical Evaluations Issues**
- Focus on Electronic OL Applications
- Focus on RTR Paper Submittals
- RTR Security Results



Medical Evaluations - What went awry this year?

- Various Medical Documentation issues
- Assessment of Medical results issues
- Change of operator health status issues



Comparison of RTR and NPP Licensed Operators

- Uniqueness and Similarities
 - Age
 - Life Experiences
 - Emotional
 - Social and Financial Status
 - Previous Medical background
 - Previous Education and Training
 - Education and Training to be licensed
 - Fitness for Duty programs
 - Gender



Down the rabbit hole

- The power reactor world is dealing with....
 - Alcohol Use Disorders
 - Drug Abuses
 - Prescription Drug Abuses
 - Mental Health Issues
 - PTSD
 - Mood Disorders
 - Aging Work Force



Medical Issues seen among NPPs workers

- Alcohol Use Disorder
 - Nearly 25% of the US population participates in binge drinking and about 7% are reported to be heavy drinkers
 - About 5% of the adults (18 YO+) in the US had an AUD in 2014.
 - NPP is seeing a large number of young adults and college graduates with alcohol abuse history
- Drug Abuse
 - Various drugs, such as marijuana, marijuana oil, hash oil.
 - Vaping has been the method of abuse
 - Some picked up the habit from teenage years

Medical Issues seen among NPPs workers

- Prescription Drug Abuse
 - Abuse of prescription drugs at NPPs continues to rise
 - According to the CDC, opioids killed over 33000 people in 2015, nearly half from prescription opioids
 - Medical diversion is contributor to the problem
 - Opioid prescription drug abuse leads to other serious abuse
 - Heroin and Fentanyl
 - K-2 spice (synthetic marijuana)
 - Kratom leaves



Medical Issues seen among NPPs workers

- Mental Health Issues
 - Some substance abuse cases are complicated with other mental health disorders
 - PTSD related cases have increased and are often undetected when hired
 - Aging work force, cognitive functioning issues
 - Workplace violence issues
 - Domestic assault and DUI cases
 - Intervention and employee assistance programs may be the only assistance some will get

RTR Medical Issues the NRC as seen this year

- Some of the issues that affect the NPPs workers
 - Alcohol Use Disorders
 - Prescription Drug Issues
 - Mental Health Issues (PTSD, Mood Disorders, Aging)
- Plus
 - Social Emotional Issues
 - Self Image - Self Abuse Issues
 - Gender identification treatment
 - Depression treatment
 - Suicidal tendencies treatment

Dealing with These Issues

- Doing the Right Thing

- Use the ANS 15.4 Standard, “Selection and Training of Personnel for Research Reactors”
 - Various versions (1988, 2007 and 2016)
- Focus on Section 7, “Medical certification and monitoring of licensed personnel”
- Basis for the RTR medical professional assessments and NRC medical review officer recommendations



Basis for Health Requirements



- Physical condition and general health of operators shall be such that they are capable of carrying out licensed activities and perform associated tasks
- For conditions that involve sudden **incapacitation**, these may be accommodated by restricting activities, imposing a medical regime, or requiring a second individual present (no solo) who shall be able to shut down the reactor and summon help.

General Requirements

- Candidates shall demonstrate stability and capacity for all of the following:
 - Mental Alertness and Emotional Stability
 - Acuity of Senses and ability of expression
 - Stamina, Range of motion, Dexterity to support assigned duties
- Candidates shall be free of any of the following:
 - Mental or physical impairments
 - Any medical, surgical, or other professional treatment
 - Any condition, habit, or practice that might result in incapacitation.

Disqualifying Conditions

*The presence of any of the following conditions, which have a high probability of sudden or unexpected **incapacitation**, unless adequately compensated, shall disqualify the individual for solo operation.*



Disqualifying Conditions

- Disqualifying conditions include:
 - Respiratory (Asthma)
 - Cardiovascular (Heart conditions)
 - **Endocrine, nutritional, metabolic** (Insulin dependent diabetes)
 - Neurological (epilepsy)
 - **Mental Condition** (Psychological testing, personality disorders, suicide attempts/threats, psychotic disorders, alcohol and drug abuse)
 - **Medication** (Serious prescription drug side effects)
- Some of these are disqualifying for all conditions, unless treated and corrected



- Waivers – considered when minimum requirements not met, but applicant can demonstrate complete capacity to perform assigned duties. Information required:
 - Medical history and results/findings of physical examinations
 - Practical tests and demonstrations of ability to perform assigned duties
 - Certification of Level 2 that individual can safely perform duties
- Limited Approval (no solo)
 - 2nd person present when performing certain assigned duties
 - 2nd person can be summoned when assistance needed
- Follow-up medical examinations

Medical review issues seen this year

- Various Medical Documentation issues
 - Difficult for NRC MRO to interpret
- Assessment of Medical results issues
 - ANS 15.4 use and recommendations
- Change of operator health status issues
 - What if ?
 - Prescription Medicine changes
 - Patient improves
- When in **DOUBT, PLEASE ASK US!**



Presentation Agenda

- PROB Staff Changes
- Oversight Year in Review
 - RTR Inspection Results
 - RTR Operator Licensing Results
- Focus on Medical Evaluations Issues
- **Focus on Electronic OL Applications**
- Focus on RTR Paper Submittals
- RTR Security Results



Improvements to the OL Application Process

- Standardized Application Forms
- Electronic Secure Submittal to the NRC
- Operator Digital Docket and RPS-OL



Standardized Application Forms



- New NRC 396 and 398 (Available by End of Year)
- OMB approved forms which reduce burden on submitter
- Forms standardized to support for digital records

Electronic Secure Submittal to the NRC



- Use of the Electronic Information Exchange (EIE) system
 - Cost-effective, secure, timely delivery mechanism
 - Requires a rudimentary certificate for authentication and authorization (<https://pki.nrc.gov/ecs/apps/eie/dcc-eie-gf.html>)
- Contact the EIE Helpdesk at 1-866-672-7640 or email at Meta_System_Help_Desk.Resource@nrc.gov



How to get an EIE certificate:

www.nrc.gov → “Site Help” → “Electronic Submittals Application” (<https://www.nrc.gov/site-help/e-submittals.html>)



The screenshot shows the U.S. NRC website with the following elements:

- Header:** Navigation links (HOME, FAQ, GLOSSARY, FACILITY LOCATOR, WHAT'S NEW, SITE HELP, INDEX A-Z, CONTACT US, EMAIL UPDATES, LISTEN TO PAGE), a search bar, and a "REPORT A SAFETY CONCERN" button.
- Menu:** Links for NUCLEAR REACTORS, NUCLEAR MATERIALS, RADIOACTIVE WASTE, NUCLEAR SECURITY, PUBLIC MEETINGS & INVOLVEMENT, NRC LIBRARY, and ABOUT NRC.
- Left Sidebar (SITE HELP):** Search Results, Index A-Z, Site Map, What's New On Our Site, Plugins, Viewers, and Other Tools, Special Features, **Electronic Submittals Application** (highlighted), NRC Site Accessibility, Contact the NRC Webmaster, Privacy Policy, Site Disclaimer, and For Developers.
- Breadcrumbs:** Home > Site Help > Electronic Submittals Application.
- Main Content:**
 - ## Electronic Submittals Application
 - The Electronic Submittals application allows electronic transmission of information to the NRC pertaining to licensing actions, associated hearings, and other regulatory matters. The application ensures that information sent to the NRC via the Internet is secure and unaltered during transmission. For other communications with the NRC, see our [Contact Us](#) page.
 - The Electronic Submittals application operates 24 hours daily except when the application must be taken down for scheduled maintenance. System operators will post a notice on the Electronic Submittals home page whenever a scheduled outage is planned.
 - Users new to the Electronic Submittals application or in need of instructions should select the link below before accessing their applicable system:
 - [Getting Started](#)
 - ### Electronic Submission Systems
 - The Electronic Submittals application supports three separate systems. Users may access their applicable system by selecting from among the following links:
- Right Sidebar (IMPORTANT ANNOUNCEMENT):**
 - Updated May 24**
 - The Electronic Submittals Systems are operating normally. If you experience access issues, please notify our Help Desk. Personnel there should be able to assist you. The telephone number is 866-672-7640.

Operator Digital Docket (ODD)

- Automation of components of the OL process
- Electronic document delivery mechanism
 - cost-effective, secure and timely delivery of documents to NRC
- Data extraction solution for submitted applications
 - Parsed and delivered to the Reactor Program System
 - Reduces the need to manually enter data into RPS-OL
 - saves time
 - minimizes the risk of data entry errors.






[NUCLEAR REACTORS](#)
[NUCLEAR MATERIALS](#)
[RADIOACTIVE WASTE](#)
[NUCLEAR SECURITY](#)
[PUBLIC MEETINGS & INVOLVEMENT](#)
[NRC LIBRARY](#)
[ABOUT NRC](#)
[PRINT](#)

SITE HELP

[Search Results](#)
[Index A-Z](#)
[Site Map](#)
[What's New On Our Site](#)
[Plugins, Viewers, and Other Tools](#)
[Special Features](#)
[Electronic Submittals Application](#)
[NRC Site Accessibility](#)
[Contact the NRC Webmaster](#)
[Privacy Policy](#)
[Site Disclaimer](#)
[For Developers](#)
[Home](#) > [Site Help](#) > [Electronic Submittals Application](#)

Electronic Submittals Application

The Electronic Submittals application allows electronic transmission of information to the NRC pertaining to licensing actions, associated hearings, and other regulatory matters. The application ensures that information sent to the NRC via the Internet is secure and unaltered during transmission. For other communications with the NRC, see our [Contact Us](#) page.

The Electronic Submittals application operates 24 hours daily except when the application must be taken down for scheduled maintenance. System operators will post a notice on the Electronic Submittals home page whenever a scheduled outage is planned.

Users new to the Electronic Submittals application or in need of instructions should select the link below before accessing their applicable system:

- [Getting Started](#)

Electronic Submission Systems

The Electronic Submittals application supports three separate systems. Users may access their applicable system by selecting from among the following links:

IMPORTANT ANNOUNCEMENT

Updated May 24

The Electronic Submittals Systems are operating normally. If you experience access issues, please notify our Help Desk. Personnel there should be able to assist you. The telephone number is 866-672-7640.



Record Keeping

- NRC is moving to digital record keeping for operator dockets (Operator Digital Dockets (ODD))
- All medical related correspondence and evidence is maintained digitally
- Recommend use of EIE for sending and receiving medical information to/from NRC:
 - Security (encryption)
 - Expediency
 - Cost savings (shipping)

Presentation Agenda

- PROB Staff Changes
- Oversight Year in Review
 - RTR Inspection Results
 - RTR Operator Licensing Results
- Focus on Medical Evaluations Issues
- Focus on Electronic OL Applications
- **Focus on RTR Paper Submittals**
- RTR Security Results



What happens to RTR Paper Documents?

- Paper documents mailed to the NRC arrive at an off-site location and are evaluated and scanned.
- Most documents are cleared and forwarded to the NRC's Document Control Desk (DCD) or addressee.
- Those documents not cleared are irradiated and inspected prior to forwarding to the DCD or addressee.
 - Process takes days
 - Embrittles the documents

What happens to RTR Paper Documents?

- DCD assesses and codes the DCD addressed documents and scans copy into ADAMS (PDF file). (Personally Identifiable information (PII) is an exception)
- Electronic documents are forwarded by DCD to appropriate staff as listed on the document
- Paper document copies are rarely provided to the staff but are kept for a period of time by DCD
- Addressee copies have to be entered into ADAMS after receipt if not received by DCD
- Paper processes can add days or weeks to the NRC processes

What can make this better?

- Use EIE
- For paper documents, address documents appropriately
- Add contacts as addressee (Project Manager, Inspector, Examiner, Branch Chief)
- For the most important paper documents, use a tracking service
- Send multiple copies
- Use EIE

Presentation Agenda

- PROB Staff Changes
- Oversight Year in Review
 - RTR Inspection Results
 - RTR Operator Licensing Results
- Focus on Medical Evaluations Issues
- Focus on Electronic OL Applications
- Focus on RTR Paper Submittals
- **RTR Security Results**



Security Program Oversight

- Security Inspection Program
 - Routine findings with one reactive inspection
 - Internal Audit of program ongoing
- Physical Security Plan Reviews
 - Reviewed as part of license renewals
- Compensatory Measures Confirmatory Action Letter closures
- Active Security Program
 - Next Presentations

Summary

- RTR Inspection results reveal that facilities continue to be operated safely and securely, but violations are up
- RTR Operator Licensing examination performance has been consistent
- RTR OL medical evaluations remain a challenge
- RTR Electronic OL Applications coming
- Issues with paper submittals (Remember EIE !)
- RTR Security Program Oversight remains active area

Questions



- BACK UP SLIDES

