


Electronic Collection, Management, and Dissemination of NRC's Radiation Exposure and Radioactive Effluent Data

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What We Do

Collection, Analysis, Annual Reports, Web Site, Applications, Ad Hoc Queries, Studies 

System	Annually Process	Total Records
NRC Radiation Exposure Information and Reporting System (REIRS)	Over 150,000 licensee exposure records	7.6 million
NRC Employee Exposure Database (EEDS)	All NRC employee exposure records	175,000
NRC Radioactive Materials Effluent Database	10,000+ pages of reports from the nuclear power plant annual effluent release reports	81,000
DOE Radiation Exposure Monitoring System (REMS)	Over 85,000 exposure records annually	4.3 million

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Advancements

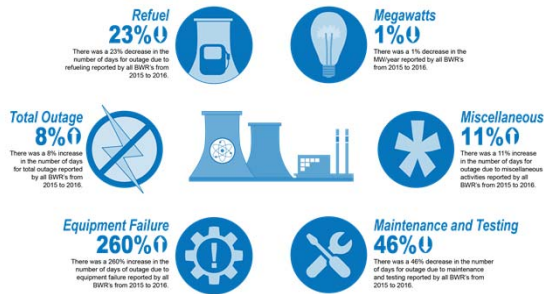
- **Electronic collection of REIRS data**
 - Started as voluntary alternative in RG 8.7, now officially in Part 20
 - REIRView validation software
 - Verification letters
 - Secure web site for dose histories and submittals
- **Effluent database**
 - Robust validation process, data entry thru 2016
 - Accelerated annual report production
 - Query tool under development

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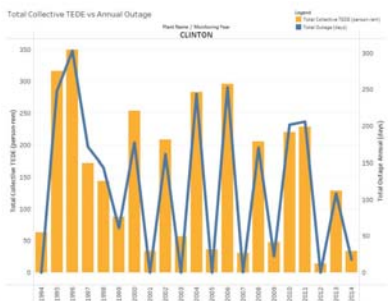
Advancements

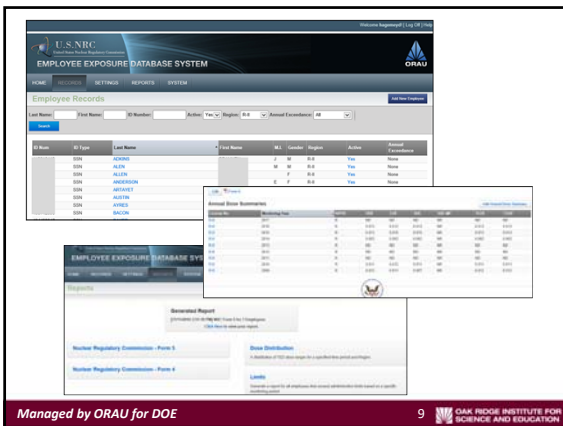
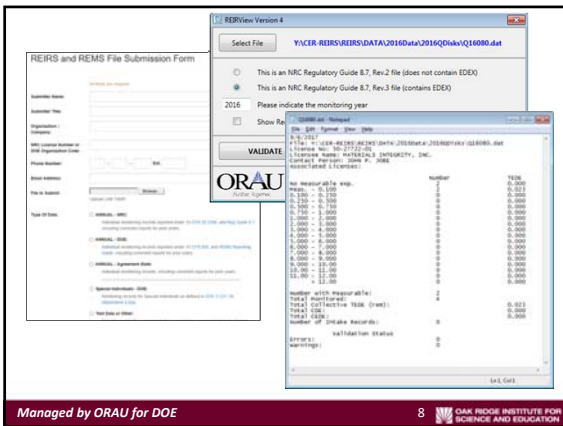
- **EEDS**
 - Replaced PC-based client system with secure web app
 - Load records electronically from the dosimetry processor
 - Badge issuance module currently in development
- **DOE REMS**
 - Shares secure applications for dose history and data submittals
 - One request for NRC and DOE records
 - Query tool that allows user to access summary (de-identified) data back to 1986 by site, type of radiation, occupation code, etc.
 - Download results to Excel

EXPLORING THE DATA BWR OUTAGES Boiling Water Reactors, 2015-2016



EXPLORING THE DATA DOSE VS OUTAGE HOURS Clinton Nuclear Power Plant





Moving Forward

- Development of a REIRS query tool containing occupational exposure, power generation, and outage data
- Complete the Effluent query tool allowing multi-reactor analysis and trending
- **Ultimately, a comprehensive visualization and analysis tool across all data sets**
 - Exposure, power, outage, effluents combined

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Issues

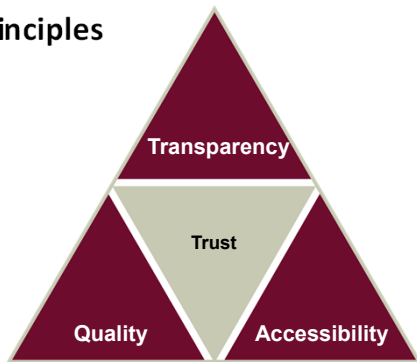
- SSNs, right?
- Accessibility vs Understanding
 - Making technical data available, yet understandable
 - Limitations of data (footnotes, footnotes, footnotes)
 - Misrepresentation/Misunderstanding
- Evolving technology and obsolescence

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Principles



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