



Overview of U.S. Nuclear Regulatory Commission Domestic and International Activities

U.S.-Poland Energy Roundtable

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Overview

- NRC Organization
 - Legislative Authority and Structure
 - Mission and Programs
- NRC Reactor Licensing
 - Existing Fleet
 - New Reactors
- International Activities
- Conclusion

The NRC Commission



Allison M.
McFarlane
Chairman



Kristine L.
Svinicki



George
Apostolakis



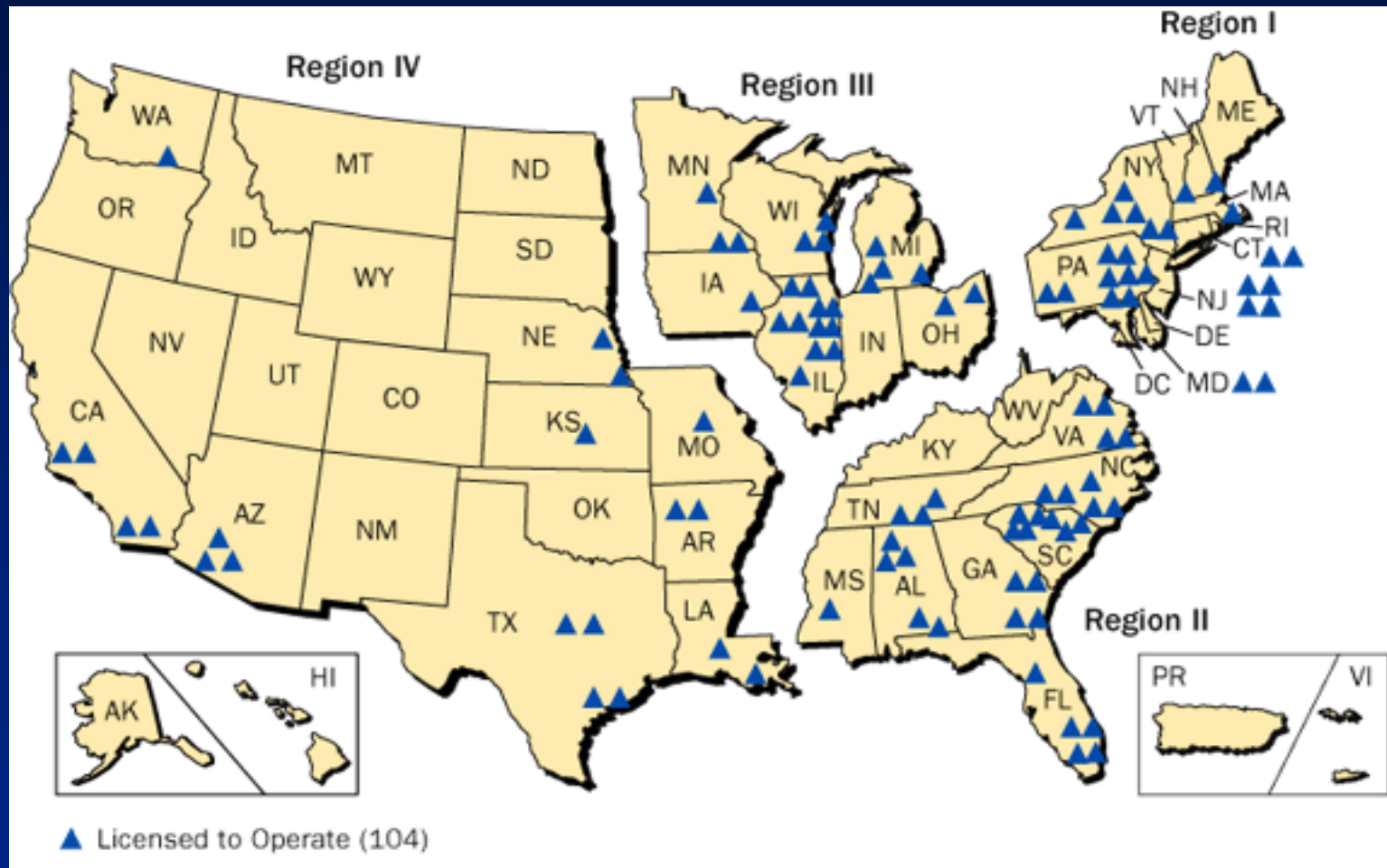
William
Magwood
IV

Commissioners



William C.
Ostendorff

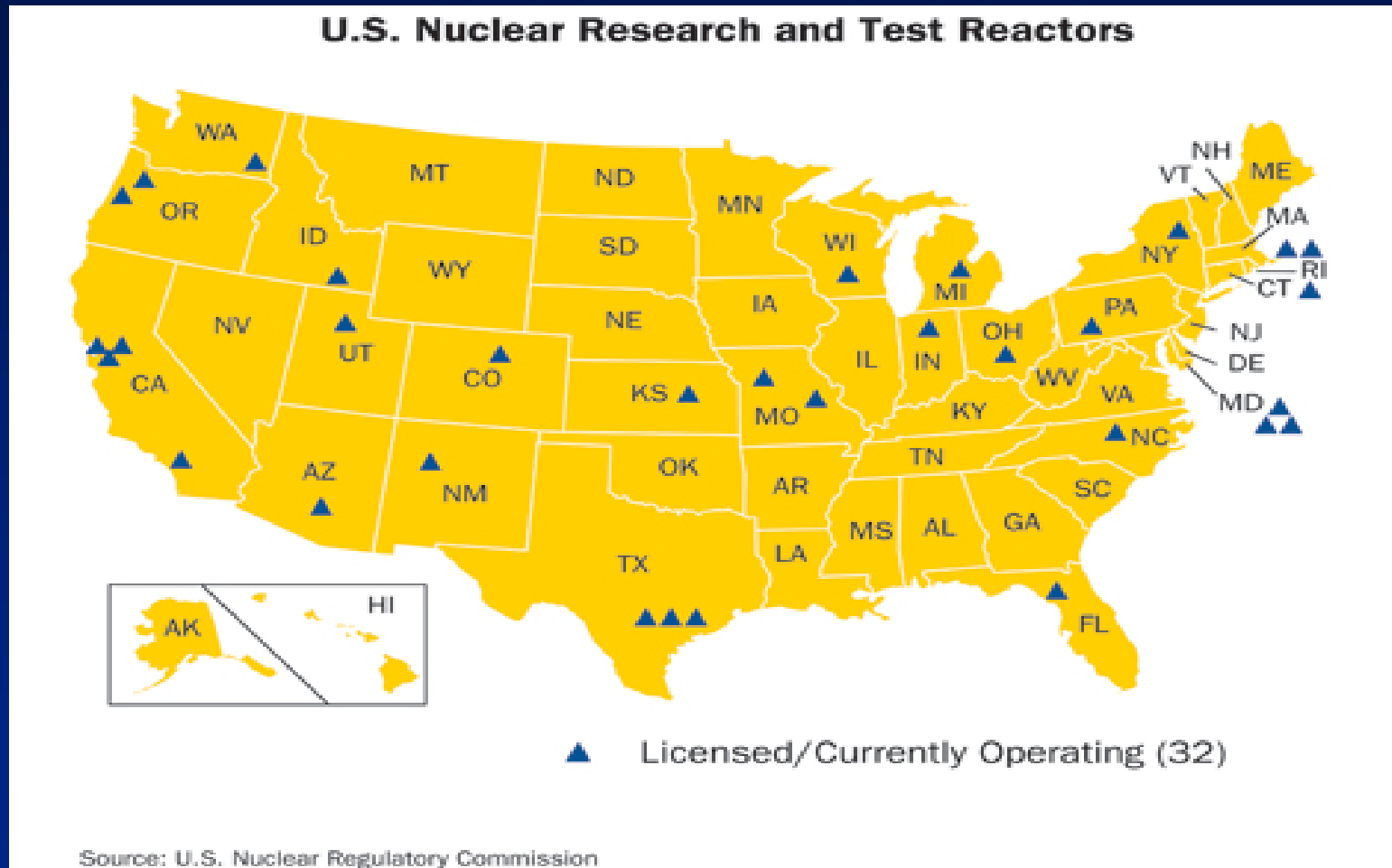
Current Facilities – Nuclear Power Plants



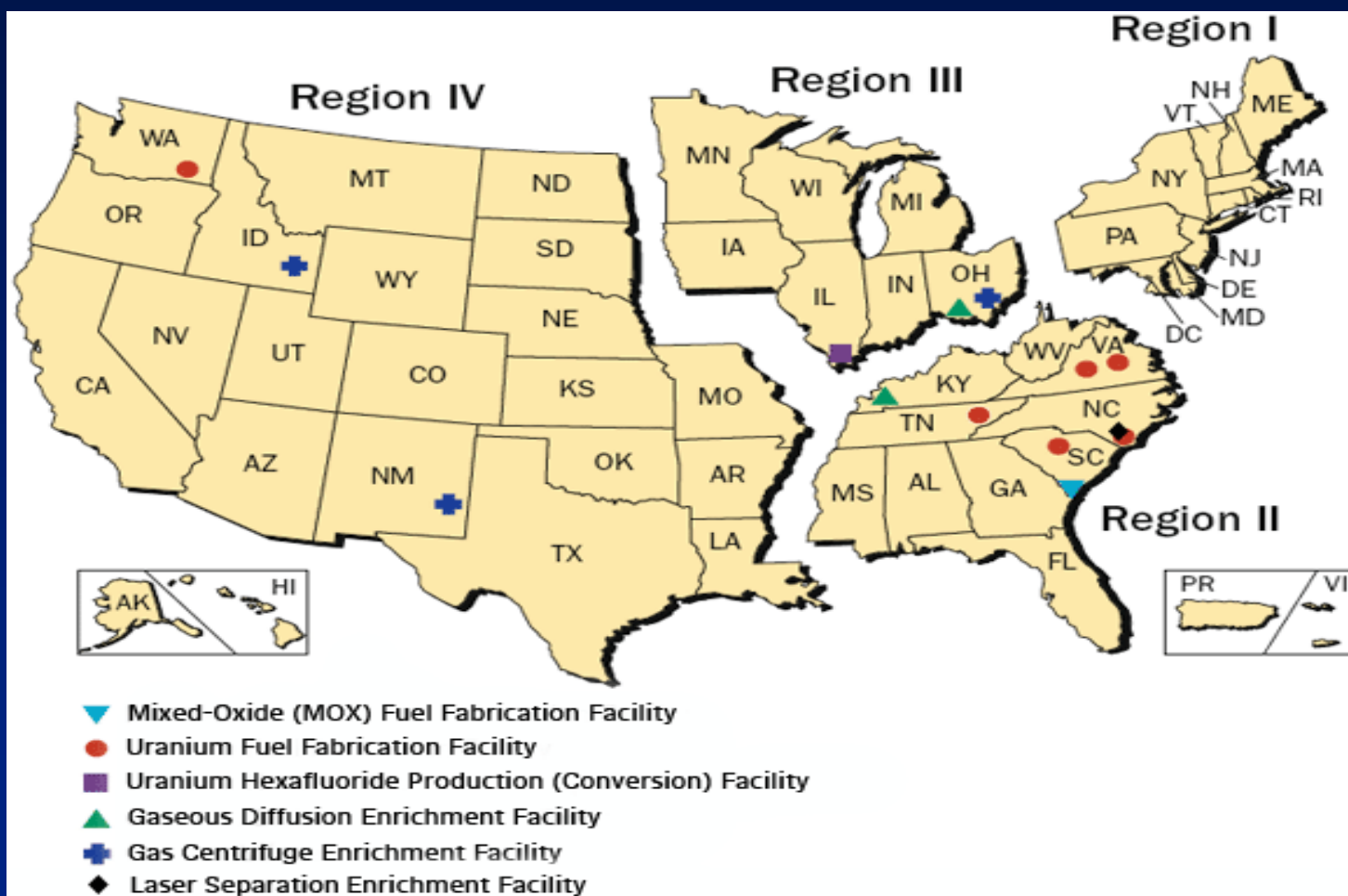
The NRC Mission and Regulatory Programs:

- To regulate the nation's civilian use of byproduct, source and special nuclear materials to: ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.
- Nuclear Reactors - Commercial Power Reactors, Research and Test Reactors, New Reactor Designs
- Nuclear Materials - Nuclear Reactor Fuel, Radioactive Materials for Medical, Industrial and Academic Use
- Nuclear Waste – Transportation, Storage and Disposal of Nuclear Material and Waste, Decommissioning of Nuclear Facilities
- Nuclear Security – Physical Security of Nuclear Facilities and Materials from Sabotage or Attacks

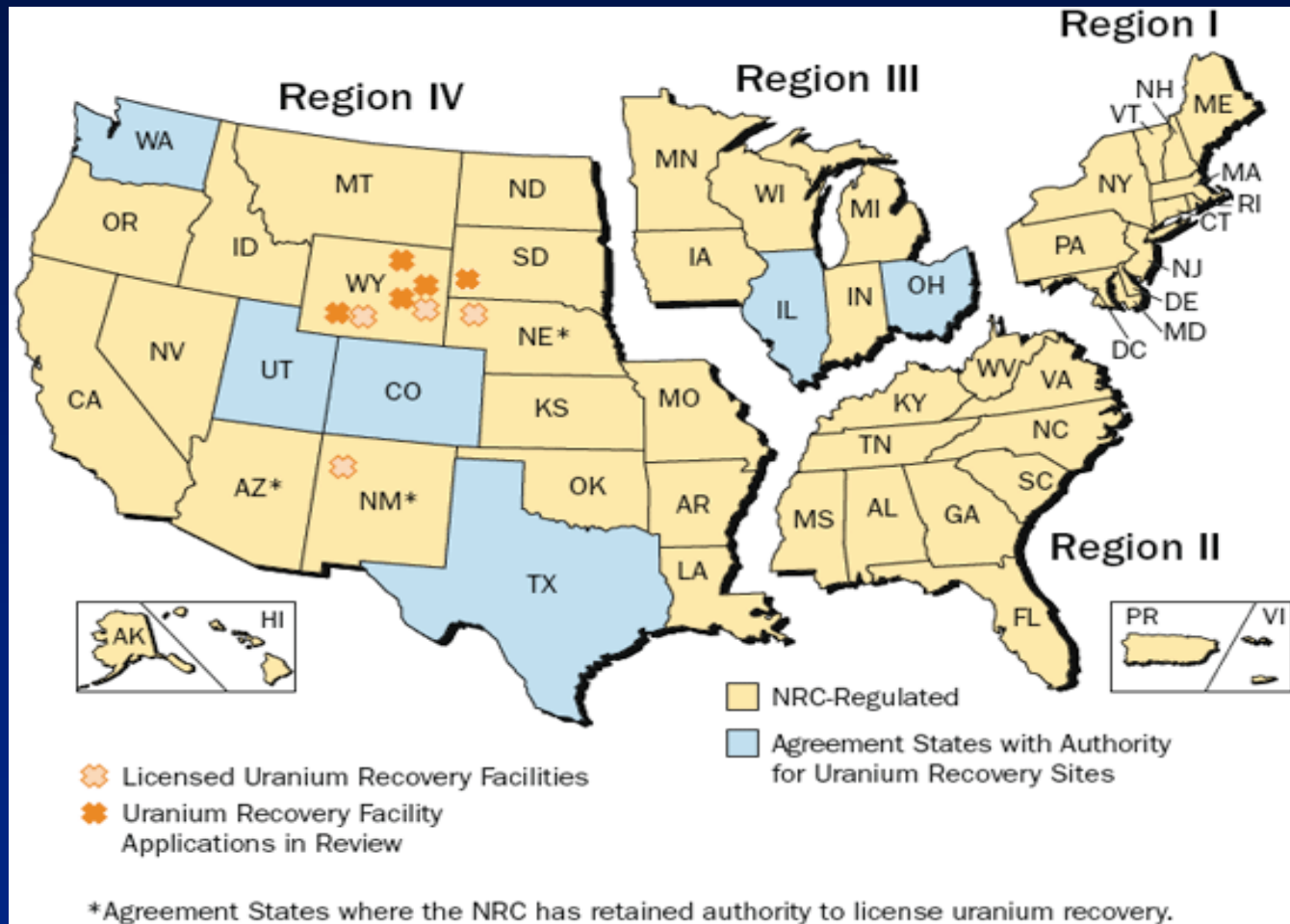
Current Facilities – Research and Test Reactors



Current Facilities – Fuel Cycle Facilities



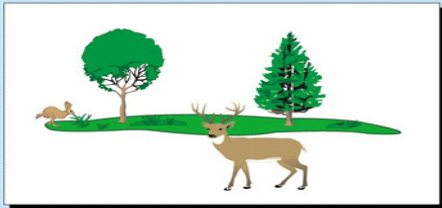
Current Facilities – Uranium Recovery



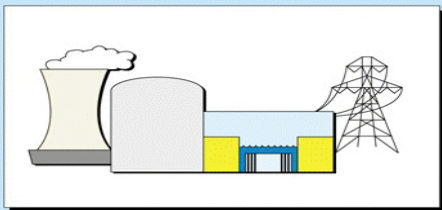
New Reactors – Licensing Process

Combined Licenses, Early Site Permits,
and Standard Design Certifications

Early Site Permit*

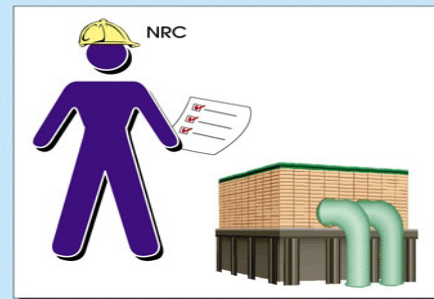


Standard Design
Certification*

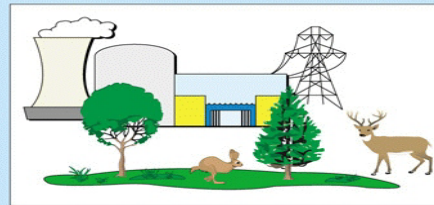


Combined License
Review and Hearing

Verification of Inspection, Tests,
Analyses, and Acceptance Criteria



Reactor Operation



* or equivalent process

New Reactors – Design Certification

- Design Certifications Completed
 - GE Advanced Boiling Water Reactor (ABWR)
 - Westinghouse's System 80+
 - Westinghouse's AP-600
 - Westinghouse's AP-1000
- Design Certifications Underway
 - GE Economic Simplified Boiling Water Reactor (ESBWR)
 - AREVA U.S. Evolutionary Power Reactor (U.S. EPR)
 - Mitsubishi U.S. Advanced Pressurized Water Reactor (U.S. APWR)

New Reactors



Expected New Designs Small Modular Reactors

Name	Applicant	Expected Submission Date	Expected Submission Type
mPower	Babcock and Wilcox Company	Q4 2013	Design Certification
Westinghouse	Westinghouse	Q2 2014	Design Certification
NuScale	NuScale Power, Inc.	Q3 2015	Design Certification
Holtec	Holtec	Q4 2016	Design Certification

International Activities

- The NRC Office of International Programs (OIP) is the office responsible for developing and managing NRC's international cooperation and assistance activities
- OIP's activities cross-cut all of NRC's domestic programs and OIP routinely coordinates with the other NRC offices focused on the U.S. domestic program.

NRC International Cooperation through Arrangements for Technical Exchange

- Argentina
- Armenia
- Australia
- Belgium
- Brazil
- Bulgaria
- Canada
- China
- Croatia
- Czech Republic
- Egypt
- Finland
- France
- Germany
- Greece
- Hungary
- Indonesia
- Israel
- Italy
- Japan
- Jordan
- Kazakhstan
- Lithuania
- Mexico
- Netherlands
- Peru
- Philippines
- Poland
- Romania
- Slovak Republic
- Slovenia
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- (Taiwan)
- Thailand
- Turkey
- United Arab Emirates
- Ukraine
- United Kingdom
- Vietnam

Foreign Assignee Program

- Regulatory personnel of other countries are temporarily assigned to the NRC for training or regulatory cooperation.
- Hosted over 300 foreign assignees since 1974.
- NRC has recently begun sending its staff overseas as foreign assignees.

NRC International Assistance

- *International Regulatory Development Partnership (IRDP)*
 - Assists countries with new or expanding nuclear power programs in their efforts to establish and maintain an effective nuclear safety and security regulatory authority www.irdp-online.org
- *Radiation Sources Regulatory Partnership*
 - Assists partners to strengthen regulatory control over the use of radiation sources by supplementing the efforts of domestic regulatory authorities to improve safe and secure use of radiation sources
<http://www.astminc.com/nuclear/rsrp.html>
- *Uranium Recovery Outreach*
 - Assists emerging nations with setting up regulatory programs for uranium recovery with the goal of preventing future uranium recovery legacy sites
- *Collaboration with IAEA's Regulatory Cooperation Forum*
 - Participation in consultation, workshops, and mission activities

NRC and International Organizations

- International Atomic Energy Agency (IAEA)
 - Participation in IAEA Workshops
 - Cost-free experts
 - Integrated Regulatory Review Missions
- Nuclear Energy Agency (NEA)
 - NEA working groups
 - Cost-free experts
- International Commission on Radiological Protection (ICRP)
 - ICRP working groups
 - Document comment and consultation

Conclusion

- Additional information can be found at <http://www.nrc.gov>.
- Thank you for your attention!