



# CRCPD and NORM

Ruth E. McBurney, CHP

Executive Director

Conference of Radiation Control Program  
Directors



# Purpose of CRCPD

- To provide a common forum for the exchange of information among State and local radiation control programs.
- To provide a mechanism for States to communicate with the federal government on radiation protection issues.
- To encourage and support programs that will contribute to radiation control for all
- to promote and foster uniformity of radiation control laws and regulations



# Suggested State Regulations

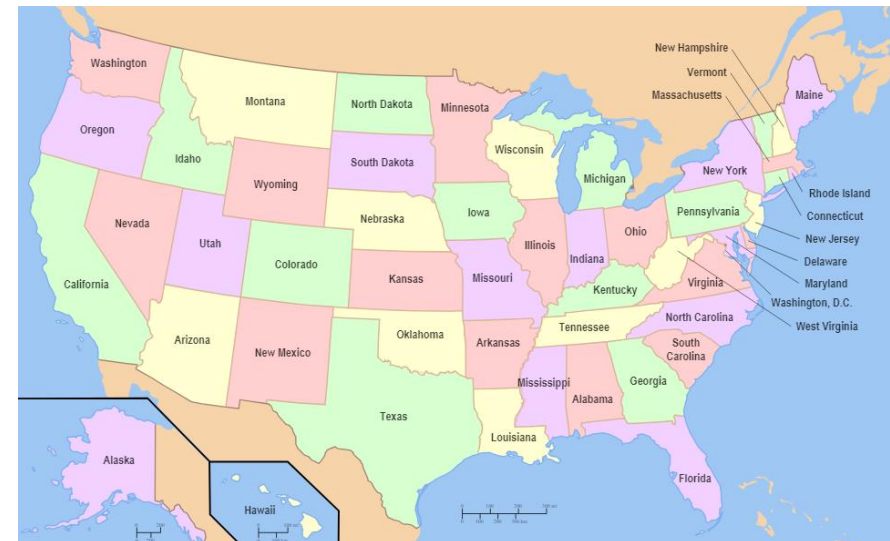


## SSRCRs – Suggested State Regulations for the Control of Radiation (SSRs for short)

- Set up as “model” state regulations
- Developed as a consensus document with collective involvement of state members, advisors, and resource individuals from medical and industrial communities, as well as federal agencies
- Provide compatibility with federal regulations (NRC, DOT, FDA, etc.)
- Use of other national and international standards
- Peer-review process, followed by approval by CRCPD Board and federal partners

# Background

- In the United States, no single federal agency is responsible for setting radiation protection standards and regulating all sources of ionizing and non-ionizing radiation.
- Federal worker protection standards can vary, depending on the agency regulating the source of the radiation.
- State radiation control programs may vary in:
  - Approaches
  - Legislation for regulatory authority
  - Regulations



# Who Regulates What at the Federal Level regarding NORM

- U.S. Nuclear Regulatory Commission
  - Source, special nuclear, and byproduct material as defined in the Atomic Energy Act—e.g., uranium and thorium extraction and concentration, sources containing concentrated NORM
- U.S. Environmental Protection Agency
  - Basic air emission and drinking water standards
  - Waste standards
- Occupational Safety and Health Administration
  - Worker protection standards for those not in licensed facilities
- U.S. Department of Transportation
  - Transportation of radioactive materials and contaminated items
- U.S. Department of Energy
  - DOE facilities

# Legislation and Regulatory Framework for Radioactive Materials under the Federal Atomic Energy Act

- Special Nuclear Material
  - Enriched uranium and plutonium
- Byproduct Material
  - Material that is made radioactive in a reactor
  - Residue from the milling of uranium and thorium
- Source material
  - Uranium
  - Thorium
  - < 0.05% by weight is an “unimportant quantity”

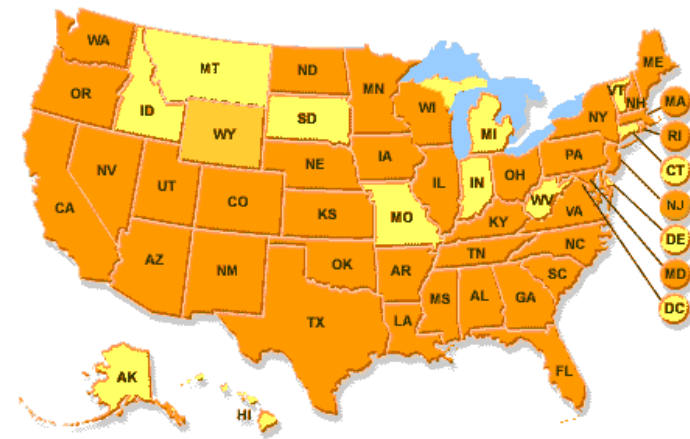
# Regulation of Radioactive Material under Atomic Energy Act

## Nuclear regulatory Commission

- Source material above .05% by weight, special nuclear material in quantities not sufficient to form a critical mass, and byproduct material
- Special Nuclear Material in quantities sufficient to form a critical mass (NRC only)
- Federal Facilities (NRC only)

## States

- Under Agreement with NRC: 38 states  
WY latest—U recovery



# Other NORM

- And everything else?
  - Uranium and thorium that is less than 0.05% by weight
  - Uranium/thorium ore that hasn't been milled or processed
  - Non-licensed diffuse sources of radium and daughter products
- Although most radioactive materials are regulated and a substantial amount of guidance exists to both federal and state regulators, NORM residues from outside the categories under the Atomic Energy Act are not included in this regulatory framework.



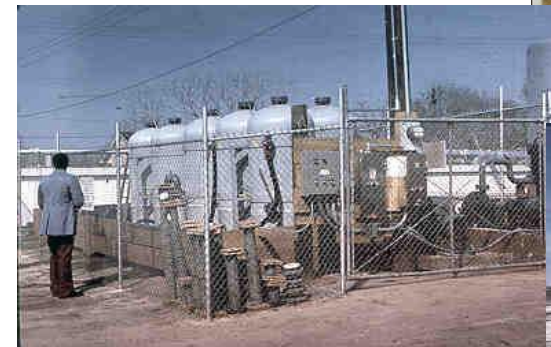
# NORM/Technologically Enhanced (TE)NORM

- NORM Contamination Studies: 1977, 1981 and 1994
- SSR Part N Committee started work in late 1980's
- Several revisions and guidance
- Not all states have NORM regulations, and those that do still vary, depending on the industry involved
- Continual process to ensure responsiveness to changes in industry and addresses recent technological developments

Oil and gas production



Water treatment



Phosphogypsum



# Consensus Standards and Stakeholder Involvement

- Review of NORM in the Oil and Gas Industry-2015
- New changes being developed for Part N of Suggested State Regs based on best practices, national and international standards



# Cooperation with Other National Groups

Collaboration with National Council on Radiation Protection and Measurements for national guidance on the management of NORM for use in future regulatory framework and guidance to states



Involvement on NCRP Scientific Committee on NORM

Partnership with the Centers for Disease Control and Prevention's Radiation and Chemical Branch to hold a workshop during NORM IX



# International Collaboration

- International members and speakers
- NGO Status with IAEA since 2003 and Liaison Organization with ICRP
- CRCPD members requested for IAEA missions and as technical consultants and speakers at IAEA
- Practical Arrangement with IAEA which states have the primary role: New medical technologies, NORM, and radon
- CRCPD hosting the 9<sup>th</sup> International Symposium on NORM in Sept 2019





# NORM IX



- Workshop

## Continuing Efforts for NORM Regulatory and Risk-Informed Decision Making

Purpose: to identify priority issues related to the handling and disposal of TENORM generated during some industrial processes and measures that can be taken to improve protection of workers and members of the public.

- Several presentations by state regulatory agency representatives
- Opportunity for state and federal regulators, industry representatives and researchers to network and share information and experiences

# Resulting Revision to Suggested State Regulations for NORM

- CRCPD is in the process of revising the suggested (model) state regulations for NORM/TENORM
- Changes will take into account:
  - IAEA recommendations in DS-459 and General Safety Requirements Part 3 as applied to NORM
  - ICRP and NCRP recommendations
  - A graded approach to a regulatory framework



# Summary

To harmonize radiation protection rules, guidance and practices among all the states and territories, CRCPD is coordinating nationally and internationally to address radiation protection issues involved in the management and regulation of NORM.

