



U.S. Nuclear Regulatory Commission Briefing

RP Standards & Staff Training

David J. Allard, CHP

CRCPD Past Chairperson

June 21, 2018

A Partnership Dedicated to Radiation Protection



CRCPD

The Conference of Radiation
Control Program Directors

50 YEARS STRONG



1968



2018

A Half Century of Radiation Protection



Radiation Control Partners

Federal Agencies & Professional Organizations



AARST



CRCPD - A Partnership Dedicated to Radiation Protection

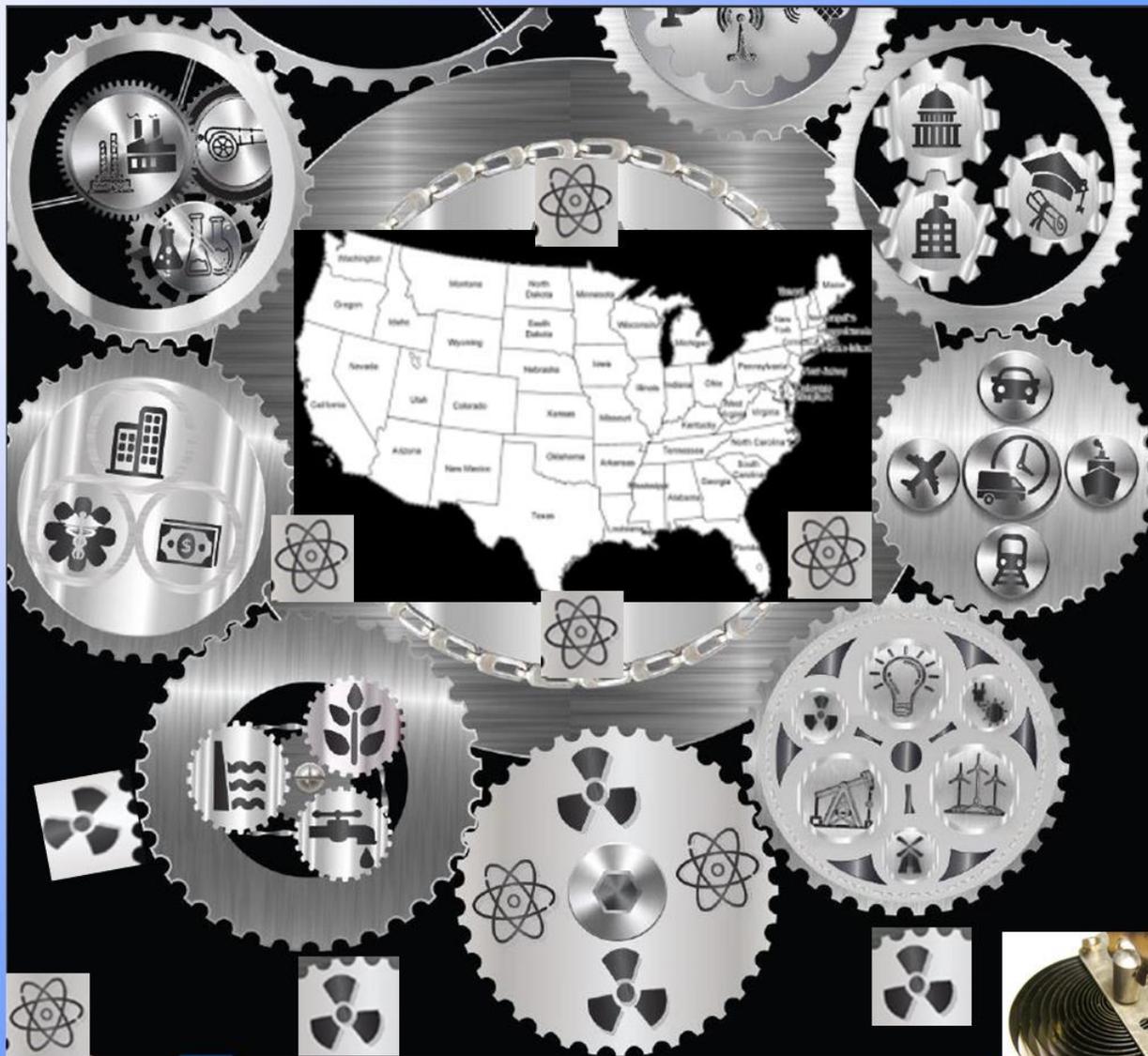


Radiation Protection in the USA

State and local government is the 'main spring' for the clock works of national Radiation Protection Programs.

We make it happen - every day!

CRCPD members are there to protect the public, workers and environment.



CRCPD - A Partnership Dedicated to Radiation Protection



CRCPD Staff, Board & Members

“The Team”

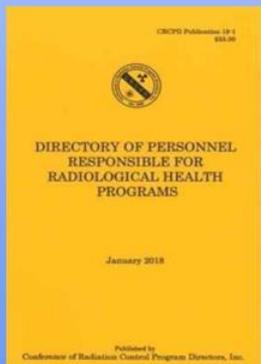
**Ruth McBurney
and her staff**



Ruth E. McBurney, CHP



**CRCPD Boards -
2016-2017
2017-2018**



Members

CRCPD - A Partnership Dedicated to Radiation Protection



Radiation Protection Standards

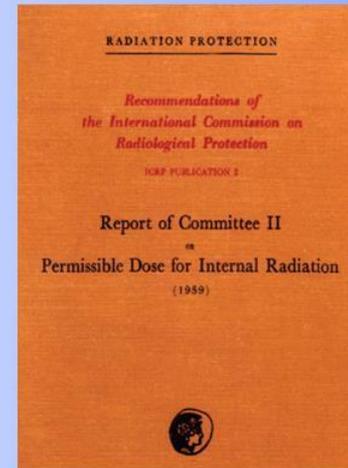
ICRP Recommendations

- Justification
- Optimization [ALARA]
- Limitation

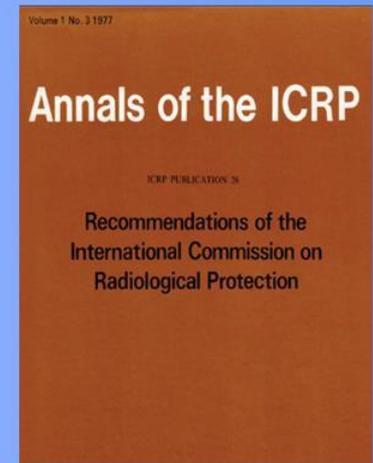
> Existing Conditions

> Planned Scenarios

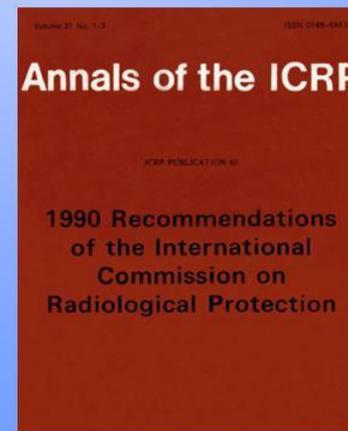
> Emergencies



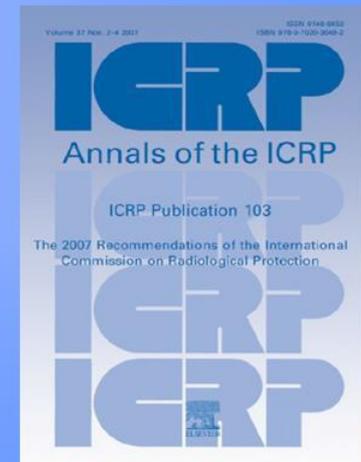
1959



1976



1991



2007

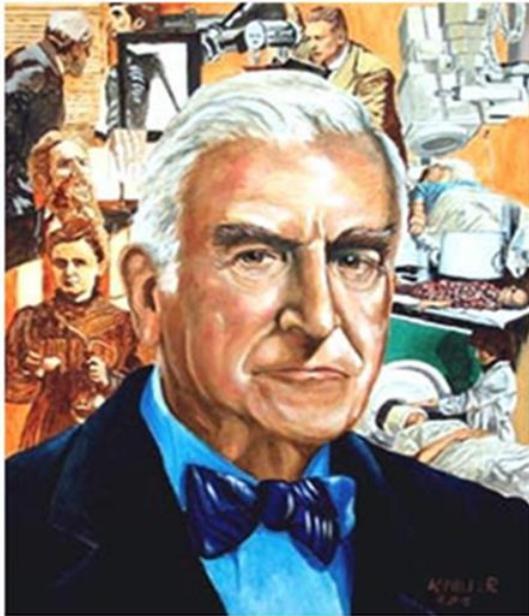


<http://www.icrp.org/>



The System of Radiation Protection

NCRP Recommendations



Taylor painting by Ken Miller

“Radiation protection is not only a matter of science. It is a problem of philosophy, and morality, and the utmost wisdom.”

(L.S. Taylor, 1956)

<https://ncrponline.org/>

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Regulatory Framework

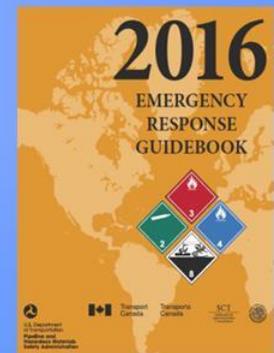
Public Health Reports Vol. 74, No. 12, December 1959

The Federal Radiation Council*

*FRC duties transferred to U.S. EPA

- Environmental Protection Agency (EPA)
- Nuclear Regulatory Commission (NRC)
- Dept. of Energy (DOE)
- Dept. of Labor - Occupational Safety & Health Administration (OSHA)
- Dept. of Transportation (DOT)
- States (CRCPD SSRs)

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*** External Radiation ***



ICRP: 20 mSv/a [Pub. No. 103]

NRC: 50 mSv/a [10CFR20]

OSHA: up to 120 mSv/a [29CFR1910.1096]

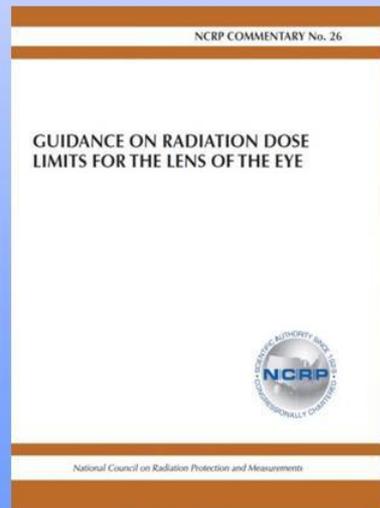


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Need to Normalize National Radiation Protection Regulations

Specifically – NRC, States, DOE, DOT, EPA, OSHA and Other Agencies

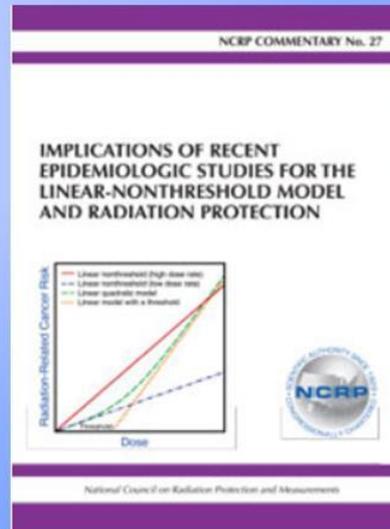
Other related issues:



NCRP Com. No. 26

Linear No-Threshold (LNT) Model for Radiation Protection?

New Lens of the Eye Dose Limit?



NCRP Com. No. 27

Federal Register
Vol. 80, No. 120
Tuesday, June 23, 2015

NUCLEAR REGULATORY COMMISSION
10 CFR Part 20

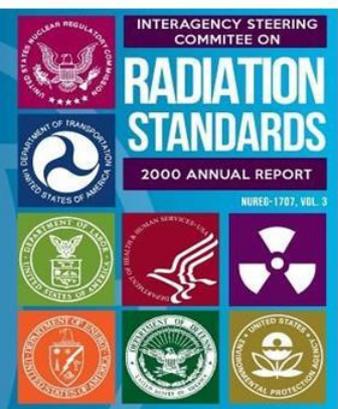
[Docket Nos. PRM–20–28, PRM–20–29, and PRM–20–30; NRC–2015–0057]

Linear No-Threshold Model and Standards for Protection Against Radiation

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; notice of docketing and request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has received three petitions for rulemaking (PRM) requesting that the NRC amend its “Standards for Protection Against Radiation” regulations and change the basis of those regulations from the Linear No-Threshold (LNT) model of radiation protection to the radiation hormesis model. The radiation hormesis model provides that exposure of the human body to low levels of ionizing radiation is beneficial and protects the human body against deleterious effects of high levels of radiation. Whereas, the LNT model provides that radiation is always considered harmful, there is no safety threshold, and biological damage caused by ionizing radiation (essentially the cancer risk) is directly proportional to the amount of radiation exposure to the human body (response linearity).



NCRP and ISCORS

Available to Support NRC and Other Agencies...



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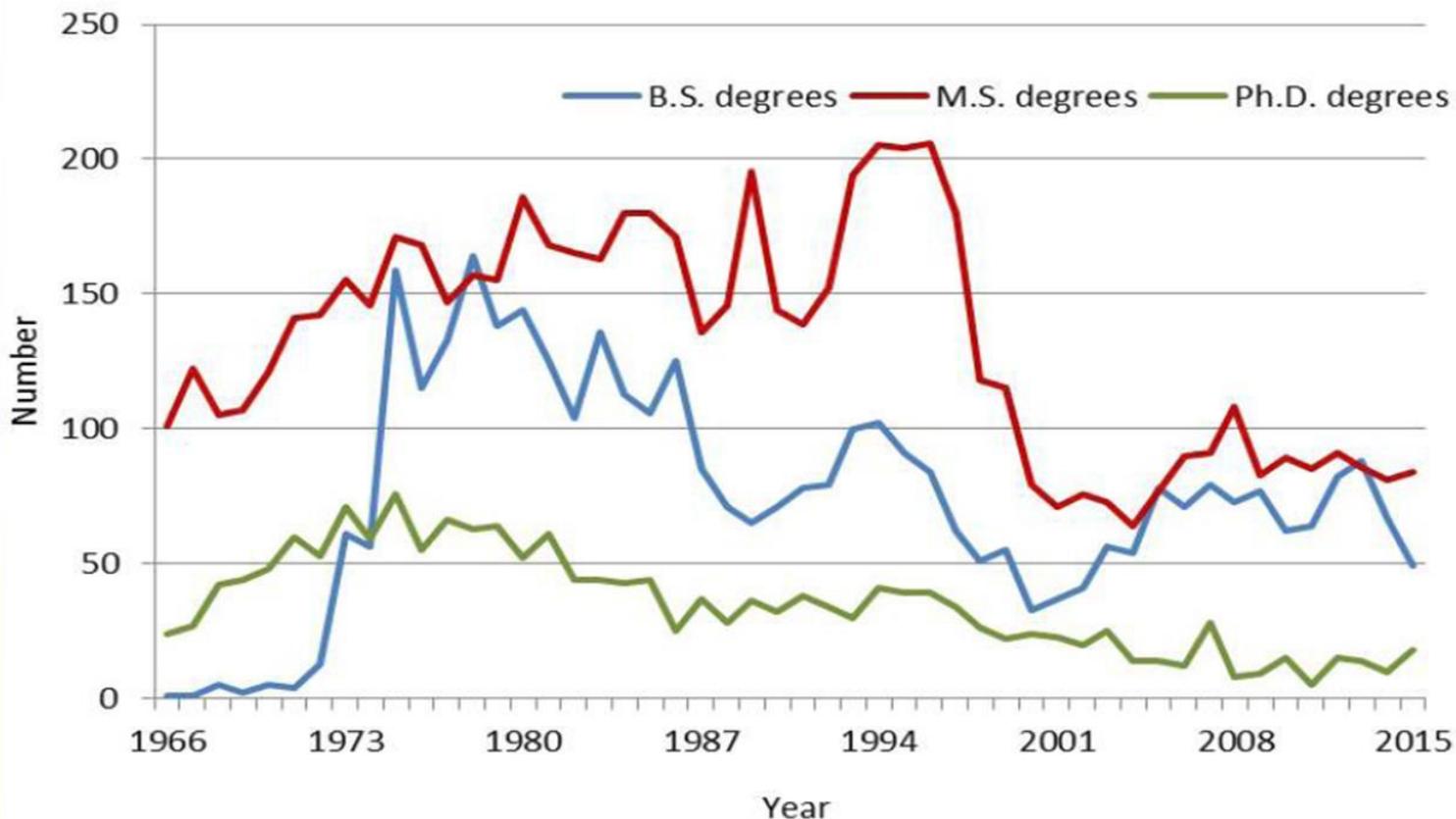
Health Physics Training

ORISE Surveys of HP Programs

Health Physics Enrollments & Degrees Survey Data 50-Year Trend Assessment, 1966-2015

March 2017

FIGURE 2 | Health Physics Degrees, by Degree Level, 1966-2015





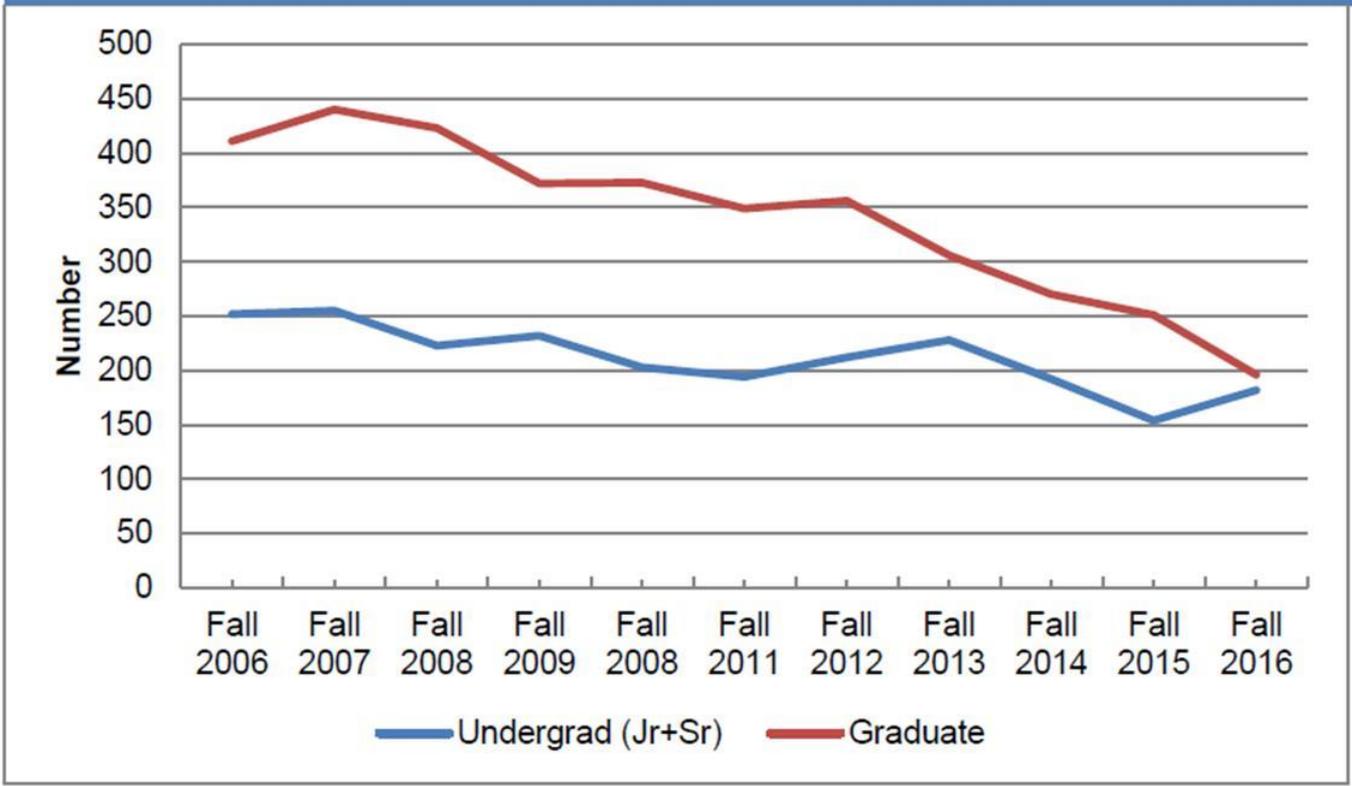
Health Physics Training

ORISE Surveys of HP Programs

Health Physics Enrollments and Degrees Survey, 2016 Data

June 2017

FIGURE 1 | Health Physics Enrollment Trends, Fall 2002 – Fall 2016





Staff Retirements and Training



National Council on Radiation Protection and Measurements

7910 Woodmont Avenue / Suite 400 / Bethesda, MD 20814-3095
<http://ncrponline.org> / <http://ncrppublications.org>

Where Are the Radiation Professionals (WARP)?

Synopsis of NCRP Statement No. 12

January 23, 2015



WARP workshop participants

Photos by John Boice

States, federal agencies, and others will see 35-40% staff retirements...

Recommendations: Courses of action to preclude and mitigate the disastrous outcome of not having sufficient radiation professionals to handle the current and future needs of the nation include:

1. Restore significant federal and state funding for scholarships, fellowships, and faculty research to increase and sustain a credible workforce of radiation professionals.
2. Reinvigorate partnerships among universities, government, and the private sector to ensure undergraduate and graduate programs are adequately resourced to support the training and qualification of radiation professionals, including those who will educate the next generation.
3. Establish a Joint Program Office for radiation professionals in the federal civil service to manage utilization and career development more effectively.
4. Monitor trends in the supply of and demand for radiation professionals.
5. Establish basic and advanced competency profiles to serve as guidance upon which to base the education, training, qualification and appropriate use of radiation professionals.



Staff Retirements and Training

NRC Agreement State Training

- ***Needed***
- ***Comprehensive***
- ***Effective***
- ***Appreciated***
- ***Must Continue***
- ***Expand Online***
- ***State Hosting***

- ***Survey of the States?***
- ***Increased Offerings?***

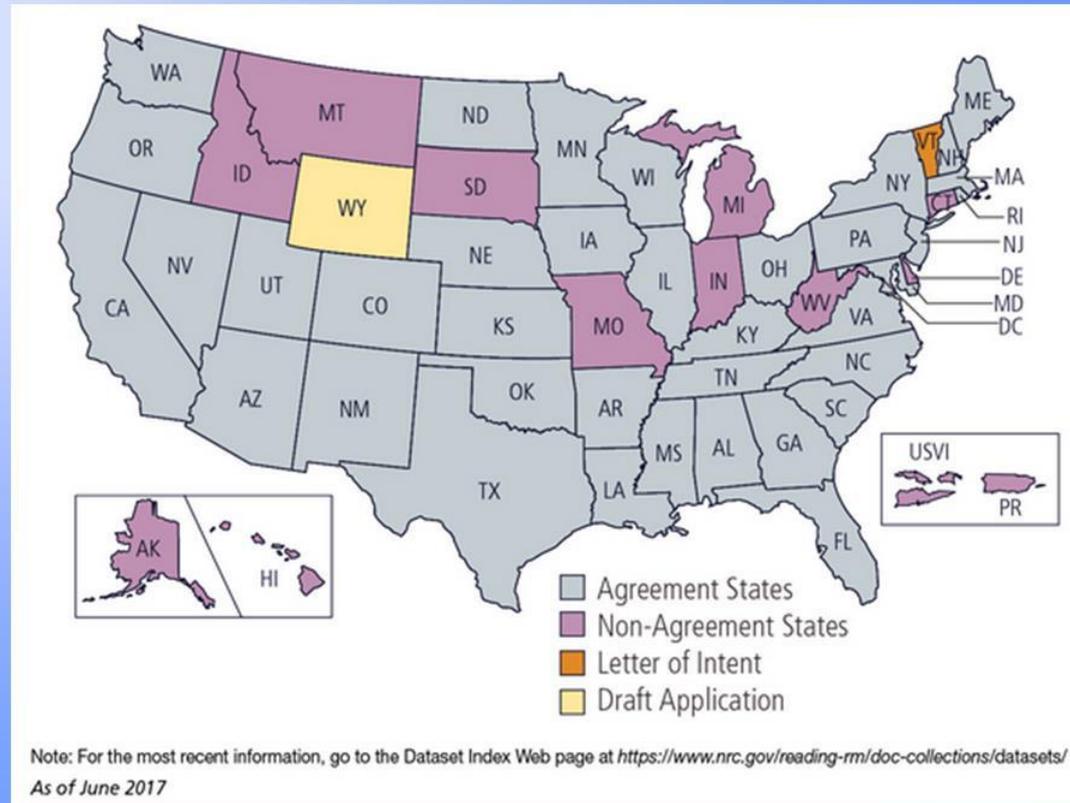




Photo – Margaret Henderson (CRCPD)

NORM IX

The Ninth International Symposium on
Naturally Occurring Radioactive Material
23-27 September 2019 • Denver, Colorado



Thank you... questions?

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