



# NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS

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## AGENDA

**Meeting of Program Area Committee 2  
Operational Radiation Safety  
Sunday March 5, 2017; 8:30 AM  
Congressional Diplomat Room  
Hyatt Regency Bethesda  
Bethesda, Maryland**

8:30 AM	Remarks from the President and Executive Director	Boice/Held
9:00	Welcome and opening remarks	Pryor
9:30	CC 1 update from the Chairs	Cool
10:15	Discussion of Council Review comments on SC 2-7, Radiation Safety Aspects of Sealed Radioactive Sources	Pryor
Noon	Lunch	All
1:00 PM	Continue discussion of SC 2-7 comments; path forward	All
2:15	Summary of assignments	Pryor
2:30	Adjourn and move to general PAC session	All

**Attendees:** Ed Bailey, Chris Donahue, Eric Goldin, Barbara Hamrick, Dave Myers, Kathy Pryor, Debra Scroggs, Kathy Shingleton, Glenn Sturchio, Josh Walkowicz, Jim Willison. Guests: Don Cool, Sue Langhorst. Absent: John Frazier, Mike Littleton, John Poston, Jim Yusko.

Kathy Pryor welcomed the group and introduced new members Barbara Hamrick and Debra Scroggs.

### **Visit from the President and Executive Director:**

President John Boice and Executive Director Kathy Held visited the PAC-2 meeting to talk a little bit about their vision for the future of NCRP. Dr. Held is also designated as the NCRP's Chief Science Officer. Dr. Boice discussed plans to continue to partner with the Health Physics Society and put together a special session at the next HPS mid-year meeting in February 2018 in

Denver, CO. The topic will likely be related to waste management and Bruce Napier, PAC-5 Chair, has volunteered to put the session together. Dr. Boice thanked the committee for our hard work and complimented PAC-2 on our ability to produce reports without significant financial support. He also urged the committee to plan for future projects. Dr. Boice asked that committee members forward any ideas regarding projects, NCRP operations or meetings to him and Dr. Held.

**Update on CC-1 Draft Report, Radiation Protection Guidance for the United States:**

Don Cool, Co-Chair of CC-1, visited the committee and provided us with an update on the draft report. He emphasized that CC-1 had distributed a very, very early draft of the report in an effort to involve the PACs as much and as early as possible in the process. This process of early review is driving the committee to produce a more concise document. They understand the need for a report in plain language, and will try to avoid using the terms “constraints,” “reference levels” and optimization. The intended audience is the Federal and State regulatory agencies. They are going to explain the concepts of the exposure situations, but will not organize radiation protection into those bins. The approach to radiation protection will be to “do the best you can and apply the ALARA principle.” The draft report will recommend the use of the Linear-No Threshold model for the purposes of prospective protection. CC-1 will meet in early April 2017 to assemble the next draft.

**Update on Status of SC 2-6, Radiation Safety Aspects of Nanotechnology:**

Kathy Pryor reported that the SC 2-6 report was nearly complete and had been submitted for publication. It will be published during March 2017.

**SC 2-7, Radiation Safety of Sealed Radioactive Sources:**

The remainder of the meeting was devoted to discussing comments received on the SC 2-7 draft report, and determining the path forward to resolving the contingent and disapproval comments.

We reviewed the resolution of the basic issues that were discussed at the PAC-2 meeting in January 2017, held at the HPS Mid-year meeting. The committee concurred that we would remove the recommendation to add Category 3 sources to the National Source Tracking System (NSTS). We would also remove the recommendation for regulatory control equivalent to specific licensing for Category 3 and 4 sources.

The committee discussed the need to be clear regarding what were formal NCRP recommendations versus “guidance” or information. We agreed to remove the “guidance” section from the Executive Summary and to provide the summary of specific recommendations and general informational topics. The text of the report will need to be reviewed to use consistent terminology for the recommendations and the general information. The committee also discussed the idea of adding a conclusions section listing the formal recommendations.

The committee discussed the issue of strengthening enforcement of the existing regulations regarding registration of higher-activity Category 3 generally-licensed sources/devices. The current regulatory framework includes a graded approach to sealed source control and tracking. The committee believes that the existing regulations are adequate and it is not

necessary to specifically comment on the adequacy of these regulatory controls. The committee had been informed that nearly all lost or stolen sources end up being located.

The committee received a comment on the use of the term “dangerous source” in the draft report. This is the term that is used by the IAEA in their definitions. The report needs to be consistent in attributing and quoting the IAEA definitions for the categories of sources, particularly for the report’s existing wording for category 4 and 5 sources. The sealed sources are not “dangerous” and can be safely used when the appropriate controls are applied.

One commenter provided a contingent comment that the FDA definitions for brachytherapy sources, radionuclide teletherapy sources and radionuclide radiation therapy systems should be added to the Executive Summary. These definitions might be more appropriately included in a different section of the report (possibly section 4.3), as well as in a glossary. The specific concern was not clear in the comment; the Chair will discuss this with the commenter. A number of commenters had also suggested adding a glossary to the report. Debra Scroggs volunteered to prepare the glossary.

The committee discussed the term “fragile” source, particularly in the context of testing requirements. These sources are Mylar<sup>®</sup>-covered or electroplated; they are not tested to the more extreme testing categories in ANSI N43.6. The ANSI standard provides a range of testing categories and the appropriate categories should be selected based on the intended use of the source. The committee agreed that a statement should be added that sources should be manufactured and tested in accordance with the ANSI standard based on their intended use.

The committee discussed comments on the definition of a sealed source. The “fragile” sources could be described as low penetrating power sources (e.g., alpha and lower energy beta-emitting sources); Dave Myers volunteered to draft wording to this effect. One commenter objected to the term “discrete quantity” of radioactive material in the current definition. This term is not used in any of the other existing definitions for a sealed source. The committee decided to review the other existing definitions, remove the “discrete quantity,” and possibly include the “foreseeable mishaps” concept in the definition.

One commenter stated that the sealed source use limitations should be clearly stated on the manufacturer’s instructions and the Sealed Source and Device certificate; this information should be made readily available to the users of the source/device. The information in the NRC Sealed Source and Device Registry (SSDR) has been closed to the public for an extended period of time due to security concerns. Users should be able to view the manufacturer’s instructions and use limitations before purchasing a source/device so that they can make informed decisions. During the committee meeting, the commenter agreed that this did not need to be a formal recommendation, but this practice should be encouraged.

Comments were received on the number of significant digits used on Table 1.2 for the TBq and Ci values. The TBq values are given to one significant digit (as provided by the IAEA) and are the primary values to be used. The Ci values were provided for reference only; the draft provided them to 3 significant digits. The committee agreed that the Ci values would be provided to 2 significant digits, and we would clarify the wording regarding their use to state that they were to be used for reference only and not for compliance.

The committee discussed adding a recommendation to perform leak testing on sealed sources for IAEA category 1 through 5 sources. Currently, leak testing requirements are discussed in the context of NRC and DOE regulations, and we state that NCRP “affirms” the semi-annual leak-test frequency. In addition, if a source/device has been in storage for an extended period of time (during which leak-testing is not required), it must be leak-tested when bringing it back into service. Care must be taken when handling the source.

Comments were received on the terms used for the “lifetime” of the source; these included “useful lifetime,” “intended working lifetime,” and “maximum working lifetime.” These need to be reviewed and clarified as to whether or not the terms were really intended to convey different types of “lifetimes” or were simply inconsistent.

Section 3.1 needs to be clarified to reflect that most generally licensed sources/devices can be transferred from one person to another, provided that the source/device stays in the same location. If the source/device is transferred under other circumstances, the recipient must obtain a specific license. The manufacturer has the license to distribute the GL source/device; not the person who owns the source/device.

**Path Forward:**

Kathy Pryor will incorporate the comments discussed above into the draft, and will prepare draft responses to the contingent comments. Kathy Shingleton will discuss Rich Brey’s contingent comments and proposed resolutions with him. Following negotiations on the contingent comments, Barbara Hamrick will review the entire draft report for consistency.

The committee will attempt to schedule a PAC-2 meeting at the HPS Annual Meeting in Raleigh, NC in July 2017.

**Action Items:**

- **Debra Scroggs** will prepare a Glossary for the report. **Due: April 30, 2017**
- **Dave Myers** will develop draft wording for sources of low penetration power to replace the terms “delicate” and “fragile” sources. **Completed: March 9, 2017.**
- **Kathy Pryor** will incorporate comments into the draft report. **Due: April 30, 2017**
- **Kathy Shingleton** will discuss Rich Brey’s contingent comments and proposed resolutions with him. **Due: May 15, 2017**
- **Kathy Pryor** will poll PAC-2 on meeting at the HPS Annual Meeting. **Due: April 15, 2017.**