

LOW-LEVEL RADIOACTIVE WASTE FORUM

DISUSED SOURCES WORKING GROUP

PROGRESS REPORT



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Working Group

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Panel Session # 17

Background - 1

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- **Sealed sources have many beneficial uses**
- **Vast majority of licensees manage their sources properly**
- **National Nuclear Security Administration (NNSA) considers thousands of disused sources in storage to be risk-significant from a national security perspective**
- **Users reluctant to reuse/recycle/dispose - partially because of cost**
- **NNSA requested the Low-Level Radioactive Waste Forum, Inc. (LLW Forum) establish a working group to provide recommendations to reduce the national security risk from disused sources**

Background - 2

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- **March 2011 LLW Forum passed resolution authorizing the Disused Sources Working Group (DSWG)**
- **NNSA issued grant to fund DSWG**
- **Radiation Source Protection and Security Task Force – Energy Policy Act of 2005**
- **Findings and recommendations of DSWG do not necessarily represent the views of all individual members of LLW Forum**
- **GTCC, transuranic, and federal responsibility sources not addressed because beyond scope of DSWG**

Working Group Members

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- **Max Batavia** – Atlantic Compact
- **Brad Broussard** – Radioactive Materials Division, Texas Commission on Environmental Quality
- **Mike Garner** – Northwest Compact
- **Kathryn Haynes** – Southeast Compact
- **Rusty Lundberg** – Division of Radiation Control, Utah Department of Environmental Quality
- **Alyse Peterson** – New York Energy Research & Development Authority
- **Leonard Slosky** – Rocky Mountain Compact (Chair)
- **Stan York** – Midwest Compact

Working Group Process

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- **18 meetings over 31 months**
- **Stakeholder meetings**
 - **DOE, NRC, DOD, DOT**
 - **States, Compacts, CRCPD, OAS, HPS**
 - **Manufacturers, distributors, recyclers, brokers/processors**
 - **Disposal facility operators**
- **Commented on Concentration Averaging and Encapsulation BTP (CA BTP) and 10 CFR 61 rulemaking**
- **Final report to LLW Forum March 17-18, 2014**
- **Final report to NNSA March 31, 2014**

Disposal Landscape Has Changed

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- ❑ **Texas Compact facility began accepting out-of-compact waste including sealed sources**
- ❑ **Utah granted a time-limited (1 year) license variance to allow disposal of Class A sealed sources**
- ❑ **NRC finalizing CA BTP which may provide expanded opportunities for source disposal at existing sites**
- ❑ **Availability of disposal options has not resulted in a rush to disposal**

Tentative Findings - 1

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- **DSWG considers Category 1 – 3 sources to “pose a risk to national security” if misused**
- **Life-cycle cost not internalized**
 - ▣ **Purchasers may not be aware of or planning for disposal costs**
- **Thousands of disused sources stored indefinitely**
- **It is unknown how many sources there are that pose a risk to national security, how many are disused, and where they are located**
 - ▣ **NRC and NNSA databases are not adequate for these purposes**

Tentative Findings - 2

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- **Regulatory system is inadequate to control national security risks in a post – 911 threat environment**
 - **IAEA Category 3 sources (that can be aggregated to be a risk-significant quantity) should not be “generally licensed”**
 - **All sources that pose a risk to national security are not tracked**
 - **Financial assurance requirements do not apply to most sources that pose a risk to national security and do not cover the full disposal cost**
 - **Current regulatory framework does not promote recycle, reuse, disposal – opportunities for reuse, recycle, and disposal are underutilized**
 - **Some imported disused sources may not have commercial disposal pathway**

Tentative Findings - 3

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- Sources in long-term storage are at greater risk to loss of control – inadequate incentives for timely disposition
- Some manufacturers/suppliers/brokers have very large inventories of disused sources
- Type B shipping containers required for high activity sources are in short supply and very expensive
- While additional Type B containers are coming on the market, still appears shortage of shipping containers for high activity disused sources

Tentative Findings - 4

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- **Current regulations may provide unintended incentives for users to delay disposition of disused sources**
- **Licensees who do not frequently ship sealed sources lack expertise for packaging, transportation, and disposal**

Tentative Findings - 5

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- **CRCPD has been effective in disposing a number of disused sources**
- **NNSA Off-Site Source Recovery Project (OSRP) and CRCPD programs may provide disincentives for users to dispose in a timely manner**
- **Long-term solution – hold licensees who benefit from the sources responsible for proper reuse/recycle/disposal**
- **Comprehensive approach is needed to address entire life-cycle of a source – all facets of the system contribute to the problem and must be part of the solution**

Tentative Recommendations - 1

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- **Actions to reduce sources in storage**
 - **Inform licensees of life-cycle costs and alternative technologies prior to purchase**
 - **Internalize life-cycle costs through financial assurance requirements**
 - **Research funding organizations should provide preferences for use of existing sources and require budget for disposal**
 - **Research alternative technologies and promote their use**

Tentative Recommendations - 2

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- **Actions to reduce sources in storage (cont.)**
 - **Establish reuse/recycle “exchange” program**
 - **Study additional methods to promote recycle/reuse**
 - **Enhance/establish NRC and state funds for “orphan” sources**
 - **NRC reassess import of foreign disused sources that may not have a commercial disposal pathway**

Tentative Recommendations - 3

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- **NRC/states enhance regulatory system to fully address the national security risk of sealed sources**
 - **Require specific licenses for Category 3 sources**
 - **Track Category 3 sources in the NSTS**
 - **Enhance the NSTS to include information on disused aspects of sources and validate information during inspections**
 - **Broaden financial assurance requirements to cover Category 1 to 3 sources and cover full cost of shipment and disposal**
 - **Enhance enforcement of existing two-year time limit disused sources can be stored and give regulators authority to require disposition**
 - **Manufacturers/suppliers/brokers reduce disused source inventories**

Incorporate best practices already in use by states

Tentative Recommendations - 4

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- **Actions to ensure timely source disposition**
 - ▣ **Licensees pay annual possession fee (e.g., Oregon)**
 - ▣ **Technical outreach & assistance program to help licensees package, transport, dispose of sources (e.g., CRCPD, HPS, EPRI)**
 - ▣ **States that “host” Class B&C disposal facilities should review their policies, WAC, and CA BTP to potentially allow disposal of higher activity sources**
 - ▣ **Support Utah’s limited license variance allowing the disposal of Class A sources at the Clive facility**
 - ▣ **Texas Compact continue to allow disposal of sources from outside the Compact**

Tentative Recommendations - 5

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- **Increase availability and reduce cost of Type B shipping containers**
 - **NNSA take additional steps to increase supply of commercial Type B containers – conduct market analysis of demand for Type B containers and submit application to certify foreign package designs for domestic use**
 - **Develop process to provide licensees and states at least one-year advance notice of container certificate expiration and encourage reuse/recycle/disposal of the affected sources before the certificate expires**
 - **NRC and DOT should expeditiously review new Type B NNSA package designs, NNSA applications for foreign package designs, and packages developed by industry**

Tentative Recommendations - 6

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- **DOE needs to maintain ability to recover “orphan” sources that pose national security threat via Orphan Source Recovery Project (OSRP)**
- **NNSA/CRCPCD should reevaluate their programs and develop a transition plan to ensure that they do not provide unintended incentives for users to delay disposition or avoid full responsibility for disposition of their sources**

Finalizing and Submitting Report

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- **DSWG is currently finalizing and assembling report**
- **Final DSWG report will be released at LLW Forum meeting on March 17-18 in Austin, Texas**
- **Final DSWG report will be available by April 1 on LLW Forum website at www.llwforum.org**
- **For additional information, contact LLW Forum at (754) 779-7551 or LLWForumInc@aol.com**