



National Source Tracking System (NSTS)

May 22, 2008

Background

- Joint NRC/DOE report on Radiological Dispersal Devices recommends development of a national source tracking system
- IAEA Code of Conduct on Safety and Security of Radioactive Sources (http://www-pub.iaea.org/MTCD/publications/PDF/Code-2004_web.pdf) recommends establishment of a national register
 - Work underway before 9/11/2001
- Energy Policy Act of 2005 codified requirement for rule and placed requirements on system
- Worked with DOE, other Federal agencies, States and internationally

Approach

- Two phase
 - Interim inventory now provides database on NRC and Agreement State sources – short term solution; gathered valuable data to locate sources, permit implementation of security measures and provide baseline data for NSTS
 - National source tracking system – new system entirely separate from NMMSS

Interim Inventory

- A 'snapshot' survey begun in 2004 – NRC and Agreement State licensees, not DOE sources
- IAEA Category 1 and 2
- Annual update until National Source Tracking System in place
- Separate DOE data call

National Source Tracking System

- Requirements for design were guided by a working group
 - NRC, DOE & Agreement State membership
- Approved by Steering Committee with NRC, DOE, and Agreement State membership and Interagency Committee comprised of representatives from NRC, DOE, Agreement States, and ten other Federal agencies

National Source Tracking System

- Will include sealed sources from NRC & Agreement State licensees and DOE facilities – intended to be a nationwide system for sealed sources
- Will not include SNM except Pu-239/Be and Pu-238 sources (listed in Code of Conduct) – some information on these and some thorium sources will be collected by both NMMSS and NSTS
- A life cycle account of each source
- Transaction based

APPENDIX E TO PART 20 - NATIONALLY TRACKED SOURCE THRESHOLDS

The Terabecquerel (TBq) values are the regulatory standard. The curie (Ci) values specified are obtained by converting from the TBq value. The curie values are provided for practical usefulness only and are rounded after conversion.

	<u>Cat 1 (TBq)</u>	<u>Cat 1 (Ci)</u>	<u>Cat 2 (TBq)</u>	<u>Cat 2 (Ci)</u>
• Actinium-227	20	540	0.2	5.4
• Americium-241	60	1,600	0.6	16
• Americium-241/Be	60	1,600	0.6	16
• Californium-252	20	540	0.2	5.4
• Cobalt-60	30	810	0.3	8.1
• Curium-244	50	1,400	0.5	14
• Cesium-137	100	2,700	1	27
• Gadolinium-153	1,000	27,000	10	270
• Iridium-192	80	2,200	0.8	22
• Plutonium-238	60	1,600	0.6	16
• Plutonium-239/Be	60	1,600	0.6	16
• Polonium-210	60	1,600	0.6	16
• Promethium-147	40,000	1,100,000	400	11,000
• Radium-226	40	1,100	0.4	11
• Selenium-75	200	5,400	2	54
• Strontium-90	1,000	27,000	10	270
• Thorium-228	20	540	0.2	5.4
• Thorium-229	20	540	0.2	5.4
• Thulium-170	20,000	540,000	200	5,400
• Ytterbium-169	300	8,100	3	81

National Source Tracking System

- Rule will require licensees to report manufacture, transfer, receipt, disassembly, and disposal of nationally tracked sources
- Nationally tracked sources are IAEA Category 1 and 2, and 4 additional isotopes (actinium (Ac) 227, polonium (Po) 210, thorium (Th) 228, and Th 229)
- Licensees and DOE provide initial inventory of Category 1 and 2 sources to the NSTS and annually verify and reconcile the information in the system with the licensee's actual inventory.
- Manufacturers must assign a unique serial number to each nationally tracked source.

National Source Tracking System

- Improve source accountability and give better information to decision-makers
- Data to be Official Use Only
- Be primarily Web-based – simplified online reporting with help desk. Options for reporting by fax, mail, phone
- Access will require digital certificate on a hard token (smart card) which will be provided by NRC
- Required rulemaking and IT development to implement
- Proposed rule to expand system to 1/10 Category 3

Estimated burden per response to comply with this information collection request: 15 minutes. This information is required for the National Source Tracking System to track sources. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 FS3), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to InfoCollect@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEDB-10202, (3150-0000), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

NATIONAL SOURCE TRACKING TRANSACTION REPORT

1. LICENSEE			2. TYPE OF TRANSACTION				3. DATE OF TRANSACTION	
A. LICENSEE NAME AND ADDRESS	B. LICENSE NO.	C. DOCKET NO.	<input type="checkbox"/> NEW	<input type="checkbox"/> CORRECTION				
			<input type="checkbox"/> NEW SOURCE MANUFACTURED	<input type="checkbox"/> DISASSEMBLE				
			<input type="checkbox"/> RECEIPT	<input type="checkbox"/> DISPOSAL				
			<input type="checkbox"/> TRANSFER	<input type="checkbox"/> REPORT SOURCE				
4. PREPARER								
A. NAME OF PREPARER			B. DATE PREPARED			C. TELEPHONE NO. OF PREPARER		
5. SOURCE DATA								
A. MANUFACTURER	B. MODEL NO.	C. SERIAL NO.	D. RADIOACTIVE MATERIAL	E. ACTIVITY AND UNIT	F. ACTIVITY DATE	G. WASTE MANIFEST NO.	H. CONTAINER ID	I. COMMENT
6. TRANSFER DATA								
6A. NAME AND ADDRESS OF RECIPIENT		B. LICENSE NO.	C. DOCKET NO.	D. ESTIMATED ARRIVAL DATE	E. COMMENT			
7. RECEIPT DATA								
7A. NAME AND ADDRESS OF SHIPPING LICENSEE		B. LICENSE NO.	C. DOCKET NO.	D. COMMENT				
8. DISPOSAL DATA								
A. WASTE MANIFEST NO.	B. CONTAINER ID	C. METHOD OF DISPOSAL		D. COMMENT				

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National Source Tracking - Schedule

Schedule:

- Rulemaking
 - Final rule published 11/8/06
 - Amendment published 10/19/07 extended reporting date
- System Development
 - Contract awarded in December, 2005 to OAO Lockheed Martin Information Technology
 - Stakeholder workshops for training in the Summer of 2008
 - Operation expected by December, 2008; licensees required to report by 1/31/09
 - Second phase with additional user features December, 2009