Impacts of and Alternatives for Expanding the National Source Tracking System to Include Category 3 Sources

The National Source Tracking System (NSTS) proposed rule solicited public comments on the issue of tracking Category 3 sources in the NSTS (70 FR 43646). The proposed rule's preamble stated that "a licensee possessing a large number of Category 3 sources could present a security concern." The proposed rule invited comments on the inclusion of Category 3 sources and asked input on the following:

- The number of additional licensees that would be impacted.
- The number of Category 3 sources possessed by licensees.
- How often those sources change hands.

Of the comments received on the NSTS proposed rule, NRC received little useful information on these particular questions and none is provided here.

Number of Licensees Affected by a Lowered Source Tracking Threshold to Category 3

Three groups of licensees could potentially contribute to new licensees subject to the tracking requirements caused by lowering the NSTS criteria to Category 3. Occurring in the U.S. Nuclear Regulatory Commission (NRC) and Agreement State jurisdictions, there are:

- Specific Licensees whose possession limit is less than Category 2 but greater than Category 3. These licensees likely have never been contacted by NRC regarding source tracking, and may not be aware of NRC's recent efforts, such as the interim inventory for NSTS (also known as the "interim database").
- Specific Licensees whose possession limit is greater than Category 2, who have reported that they possess no Category 1 or 2 sources. Due to their possession limits, these licensees have been contacted by the NRC via recent agency accountability and security actions. These licensees may have at least one Category 3 source.
- General Licensees who possess a device exceeding the Category 3 quantities. These licensees are subject to registration requirements and are tracked in the general license tracking system (GLTS). These licensees report at least one Category 3 device. The number and activity of sources contained in a generally licensed device is not readily identifiable, but would clearly be considered co-located sources.

The following table is based on data obtained from the interim inventory for the NSTS (FY2005), NRC's licensing tracking system, and GLTS. Because GLTS records information based on devices – not licensees – the number of devices was divided by three for the purposes of comparison, because the average number of devices per general licensee is three. Agreement State numbers are estimated from the NRC numbers, using a factor of four. Table 1-1 presents ranges as opposed to discrete values, to provide a measure for the considerable uncertainty of these estimates.

Table 1-1: Estimated Number of Licensees Possessing Category 3 Sources, Not Possessing Category 1 or 2 Sources

Group	NRC	Agreement State	Total
Specific Licensees whose possession limit is less than Cat 2, and greater than Cat 3.	170 - 300	680 - 1,200	850 - 1,500
Specific Licensees whose possession limit is greater than Cat 2, but reported no Cat 1 or 2 sources.	243	665	908
General licensees who possess a device greater than Cat 3	14 - 86	55 - 343	68 - 428
Total	427 - 629	1,400 - 2,208	1,826 - 2,836 **1,800 - 2,800**

Potential Number of Sources Affected by a Lowered Source Tracking Threshold to Category 3
There is no good data set for assessing the number of Category 3 sources at this time. The best available nationwide data to estimate the relative number of devices between the Category 2 and 3 thresholds could be the sealed source and device (SS&D) registry. The following table illustrates the relative abundance of Category 2 and 3 sources, based on device data from the SS&Ds.

Table 1-2: Abundance of Active Sealed Source and Device Certificates, by the International Atomic Energy Agency (IAEA) Categorization

Category	Active SS&D Certificates	Number of SS&D Certificates, Relative to Category 2
Category 1	85	0.6
Category 2	135	1.0
Category 3	266	2.0

This comparison shows the relative abundance of devices and sources approved for use, but it does not have any measure for the numbers of devices and sources actually distributed. Therefore, this comparison is best used as an indication of the general abundance of Category 2 to Category 3 sources, and is notable because it is comprised of devices approved by NRC and Agreement States. Another source-based data set comes from the sources recovered by the U.S. Department of Energy (DOE). The DOE has made public the results of their Offsite Source Recovery Project (OSRP), which are unwanted sources recovered from the private sector[1] and may be a better indication of the numbers of devices and sources actually

[1]GAO-05-967 Security of Unwanted Radiological Sources

distributed. The OSRP, as part of the DOE's sealed radioactive source accountability and control regulations, has also reported its current inventory of sources awaiting disposal, through a so-called "data call," for FY2005.[2]

Table 1-3: Sources Recovered from the Private Sector by DOE's Offsite Source Recovery Program, Current, Total, and Relative Abundance

Category	All Sources Recovered (as of 7/7/2005)	Number of Sources, Relative to Category 2	Sources in Inventory FY2005	Number of Sources, Relative to Category 2
Category 1	37	0.3	0	0.0
Category 2	129	1.0	134	1.0
Category 3	4,941	38.3	2,875	21.5

Again, there are many reasons why these data may provide inaccurate measures for the purposes of estimating the number of Category 3 sources currently possessed by licensees nationwide. However, these data could be indicative of the potential for a prohibitively large number of Category 3 sources relative to the Category 1 and 2 sources currently tabulated in the interim inventory. If the number of Category 3 sources is too large, there is the possibility that expanding the NSTS to include Category 3 sources could divert resources from oversight of Category 1 and 2 sources.

Conclusion and Recommendation

The data are insufficient to support comprehensive and accurate cost estimates for including Category 3 sources in the NSTS. The staff recommends a one-time data collection of Category 3 sources to collect data on the number of licensees and sources at the Category 3 level. This approach will better identify the impact of tracking Category 3 sources on NRC, Agreement States, and licensees. This one-time data collection effort would likely require an Office of Management and Budget (OMB) clearance in order to comply with Paperwork Reduction Act requirements.

Estimate of the Effort Required to Identify Category 3 Licensees

Some staff effort will be required to identify licensees who possess at least one Category 3 sealed source. The staff recommends that this task be undertaken prior to any expansion of the NSTS. A manual search of NRC licenses by staff at Headquarters and in the Regions will be necessary. A similar effort performed by the Energy Policy Task Force to determine which specific licensees may possess at least one Category 2 sealed source took approximately one week of a very intensive effort by headquarters and regional staff to sort through approximately 4,500 licenses. Agreement States also searched their specific licenses. Because the number of specific licenses that need to be examined is lower (approximately 1,350 licenses do not need to be examined because they have been confirmed by the Interim Inventory for the

[2]Personal communication, DOE-G, February, 2005

NSTS), based on the Energy Policy Task Force data, approximately 0.2 Full Time Equivalent (FTE) would be needed to determine an accurate count for specific licensees that may possess at least one Category 3 sealed source, with at least half of the work performed by the Regions. The efforts required to identify Category 3 sources possessed by general licensees would be obtained from preexisting data in GLTS (and equivalent systems in Agreement States, if existing), and would not add significant costs to the efforts required to identify specific licensees.

The staff estimates that the total national effort to identify Agreement State licensees is approximately 0.8 FTE, based on applying a factor of four to account for the more numerous Agreeement State licensees.

Estimate of the Effort Required to Identify Category 3 Sources

Staff effort to identify Category 3 sources will be comparable to that of preparing the annual interim inventory of Category 1 and 2 sources. For the 2005 interim inventory, staff contacted 2,271 specific licensees at a cost of 1.0 FTE and $280,000 in contracts. This calculation assumes the Category 3 licensees would be as amenable to complying with this voluntary interim inventory as are the Category 1 and 2 licensees. Licensees using solely Category 3 sources – as compared to licensees using Category 1 and 2 sources – are expected to be less sophisticated and consist of smaller businesses. Therefore, more follow-up may be required than for the interim inventory of Category 1 and Category 2 sources. Using the above estimates for the number of licensees, and scaling appropriately, it is estimated resources to add Category 3 sources to the interim inventory will be approximately 0.4 to 0.8 additional FTE and from $110,000 to $240,000 in additional contracts. Assuming the additional effort to include Category 3 could be conducted concurrently with the ongoing interim inventory activities, data on Category 3 sources could be expected within one year. Preexisting data in GLTS (and equivalent systems in Agreement States, if existing) can be sorted to determine the exact number of generally licensed devices currently accounted for, and would not add significant costs relative to the efforts required to identify sources possessed by specific licensees. All labor estimates and contracted technical assistance costs will be within one year.

The staff estimates that the total national effort to identify Agreement State sources is approximately 2.4 FTE, based on applying a factor of four to account for the more numerous Agreement State licensees.