

Survey of Agency Needs For Technological Enhancements of National Source Tracking System

- Radioisotope Source Geolocation Tracking Requirements
- Security Monitoring & Emergency Response Requirements
- Additional National Database and Communication Requirements

Please indicate which of the following information attributes your agency would want to obtain from the National Source Tracking System as currently envisioned, or through eventual technological enhancements to the system. If any of the requirements listed are not applicable, please leave the response blank. If you wish to add more detail to a response, please feel free to provide additional written comments.

1.0 Radioisotope Source Geolocation Tracking Requirements (In-Transit)

1.1 Geolocation Attributes

- | | |
|---|------------|
| 1.1.1 Latitude and Longitude | Yes__ No__ |
| 1.1.2 Route Names | Yes__ No__ |
| 1.1.2.2 Highway/Street Name | Yes__ No__ |
| 1.1.2.3 Railway Name | Yes__ No__ |
| 1.1.2.4 Waterway Name | Yes__ No__ |
| 1.1.2.5 Originating/Terminating Airport | Yes__ No__ |
| 1.1.3 Closest City/Town/State | Yes__ No__ |

1.2 Date Time Stamp Identifiers

- | | |
|---|------------|
| 1.2.1 Calendar Date | Yes__ No__ |
| 1.2.2 Time in EDT (hours, minutes, seconds) | Yes__ No__ |

1.3 Geolocation Update Frequency

- | | |
|------------------------|----------------|
| 1.3.1 In-Transit | |
| 1.3.1.1 No. of times | per hour ____ |
| 1.3.1.2 No. of times | per day ____ |
| 1.3.2 Fixed facilities | |
| 1.3.2.1 No. of times | per day ____ |
| 1.3.2.2 No. of times | per week ____ |
| 1.3.2.3 No. of times | per month ____ |

1.4 Level of Tracking

- | | |
|--------------------------------|------------|
| 1.4.1 Source (individual item) | Yes__ No__ |
| 1.4.2 Package | Yes__ No__ |
| 1.4.3 Shipment | Yes__ No__ |
| 1.4.4 Conveyance | Yes__ No__ |

1.5 Computed Speed of Travel (based on above tracking) Yes__ No__

1.6 Remaining Trip Completion Distance Yes__ No__

1.7 Estimated Time of Arrival (ETA) Yes__ No__

2.0 Security Monitoring & Emergency Response Requirements

2.1 Monitoring for Continued Presence of Radioactive Sealed Sources (In-transit or at Fixed Facility)

- | | |
|--|------------|
| 2.1.1 Indication of Presence of Radiation | Yes__ No__ |
| 2.1.2 Indication of Presence of Specific Radioisotopes | Yes__ No__ |
| 2.1.3 Indication of Total Quantity by Curies | Yes__ No__ |
| 2.1.4 Indication of Total Quantity by Weight | Yes__ No__ |
| 2.1.5 Quantities by each Specific Radioisotope | Yes__ No__ |

- 2.1.6. Frequency of Update of Presence of Radioisotopic Material
 - 2.1.6.1 In-transit no. of times per hour ___
 - 2.1.6.2 In-transit no. of times per day ___
 - 2.1.6.3 Fixed Facility in storage no. of times per hour ___
 - 2.1.6.4 Fixed Facility in storage no. of times per day ___
- 2.2 Monitoring for Tampering/Intrusion at Fixed Facility
 - 2.2.1 Intrusion Detection at Facility (unauthorized access, break-in) Yes__ No__
 - 2.2.2 Movement of Material In and Out of Fixed Facility Yes__ No__
 - 2.2.3 Electronic Seal on Package/Device Broken Yes__ No__
 - 2.2.4 Electronic Seal on Source Broken Yes__ No__
- 2.3 Monitoring for Diversion, Destruction, and Theft In-Transit
 - 2.3.1 Vehicle Off Of Planned Route for > 30 minutes (possibly hijacked)
 - 2.3.1.1 Highway/Street Yes__ No__
 - 2.3.1.2 Railway Yes__ No__
 - 2.3.1.3 Waterway Yes__ No__
 - 2.3.1.4 Originating/Terminating Airport Yes__ No__
 - 2.3.2 Vehicle stopped for more than 90 minutes (theft, diversion in progress)
 - 2.3.2.1 Highway/Street Yes__ No__
 - 2.3.2.2 Railway Yes__ No__
 - 2.3.2.3 Waterway Yes__ No__
 - 2.3.2.4 Originating/Terminating Airport Yes__ No__
 - 2.3.2.5 Vehicle Position and Sealed Radioisotope Source(s) position do not coincide within 500 feet (possible theft, diversion) Yes__ No__
 - 2.3.3 Electronic Seals Broken on:
 - 2.3.3.1 Source (individual item) Yes__ No__
 - 2.3.3.2 Package Yes__ No__
 - 2.3.4 Loss of vehicle communications (geolocation tracking) for more than 30 minutes Yes__ No__
 - 2.3.5 Loss of radioisotope source(s) communications for more than 30 minutes (possible destruction, tampering) Yes__ No__
 - 2.3.6 Automatic dialing to local 911 (law enforcement) and State EOC when vehicle communications lost for more than 30 minutes Yes__ No__
 - 2.3.7 Automatic dialing to local 911 (law enforcement) and State EOC when radioisotope source(s) communications lost for more than 30 minutes Yes__ No__

- 2.3.8 Driver “panic button” with automatic dialing to local 911 (law enforcement) and State EOC Yes__ No__
 - 2.3.9 Two-way communications with driver through vehicle tracking device Yes__ No__
 - 2.3.10 Shipment overdue alarm (more than 2 hours past ETA) Yes__ No__
- 3.0 Additional National Database and Communications Requirements
- 3.1 Maintain national inventory of all radioisotope source materials of concern nationwide:
 - 3.1.1 By specific radioisotope Yes__ No__
 - 3.1.2 By specific facility Yes__ No__
 - 3.1.3 By City Yes__ No__
 - 3.1.4 By State Yes__ No__
 - 3.1.5 Nationwide Yes__ No__
 - 3.1.6 By lifecycle stage (at manufacturer, at distributor, at retailer, at temporary storage, at end user, in long term storage, at waste disposal site) Yes__ No__
 - 3.2 Generate alarm reports automatically and send some or all reports to the following national agency EOCs:
 - 3.2.1 NRC Yes__ No__
 - 3.2.2 DOE Yes__ No__
 - 3.2.3 DHS/CBP Yes__ No__
 - 3.2.4 DHS/DNDO Yes__ No__
 - 3.2.5 DHS/IP Yes__ No__
 - 3.2.6 DHS/TSA Yes__ No__
 - 3.2.7 DHS/USCG Yes__ No__
 - 3.2.8 EPA Yes__ No__
 - 3.2.9 FBI Yes__ No__
 - 3.3 Receive and store shipment manifest/bill of lading prior to departure with shipper/carrier POCs and planned routes identified Yes__ No__
 - 3.4 Maintain all lifecycle fixed facility addresses and POC information Yes__ No__
 - 3.5 Maintain nationwide geospatial listing of certified contractors and national labs capable of responding to radioisotope spills and disasters for purposes of assessment, containment, decontamination, and clean up Yes__ No__
 - 3.6 Mirror database in real-time at a location at least 100 miles away (to avoid common cause failures due to weather or blackouts) Yes__ No__
 - 3.7 Backup database on magnetic media every 24 hours Yes__ No__
 - 3.8 Have sufficient Uninterruptible Power Supply (UPS) to enable national database to run long enough to ensure mirrored database is completely up-to-date before shutting down primary national database Yes__ No__
 - 3.9 Maintain a multi-level security database with access controls Yes__ No__