

Software Test Results for Source Tracker Software

 <p>Los Alamos NATIONAL LABORATORY</p>	Nuclear Engineering and Nonproliferation (NEN) Safeguards Science and Technology (NEN-1)	
Title:	Software Test Results for Source Tracker Software	
Number:	NEN1-PLAN-ST-TR-08-05-2016	Revision: 4.0

Authority

Name

Title/Org

Signature

Date

3. Test Environment

A user with custodian privileges is required to run many of the tests described below.

3.1. Equipment Required to Execute the Test

Computer hardware with these minimum capabilities (more or faster is better):

- Touchscreen PC
- Bar code reader for user input.
- Source Tracker Installation software as described in detail in Sections 6 and 7.
- Actual source barcodes and user barcodes or printed sheet of barcodes as provided by System Administrators to the testers prior to testing. In production, **Source Tracker** workstations will not have keyboard/mouse installed.
- SQL query files needed to validate program results. System administrators will provide testers with these before testing starts.
- Config files needed to select databases for the application.
- To perform test steps which require keyboard/mouse, it is suggested that an official LANL issue laptop be used to execute SQL queries and remote desktop connections. **Source Tracker** workstations in production mode will not allow these operations. The exception to this is that adding sources will be done on a normal PC with keyboard and mouse.

3.2. Software Test Procedures Required to Execute the Test

Tester will need:

- Source Tracker software
- SQL Server 2014 Database
- Microsoft Windows 2007 operating system

Test procedures are presented with a purpose, test goals, transaction logs (where needed) and process steps. The steps that require verification are numbered in the test so that the tester can check either PASS or FAIL at the end of the test.

3.3. Database

Source Tracker uses an SQL database. When testing upgrades to software, careful attention must be made so that inadvertent warnings via email and changes to the existing master Source Tracker database do not occur. For that reason, a test database will be used for the duration of the test procedures, and only when software is thoroughly tested will the master database be used.

After testing is complete and accepted, an initial inventory of sources at each workstation location should be performed to verify that the database is correct before entering production mode.

3.4. Document Conventions

When testers are asked to push a button, the caption of the button will be put in bold italics.

Testing steps are shown as bullets, while verification steps are numbered.

Selections in dropdown lists and database table names will be shown in quotation marks.

SQL statements needed to query/store DB results stored in files whose names are shown in blue.

5.5. Display List of Sources [Demonstration/Validation/ /Sampling/Boundary Condition Test]

5.5.1. Purpose

Verify that the list of sources is displayed with the source bar code, id, isotope, activity, the current owner, location, and mass value. Verify that the list can be filtered and ordered by bar code, source type, isotopes, locations, owners and exemption status for sources.

5.5.2. Input

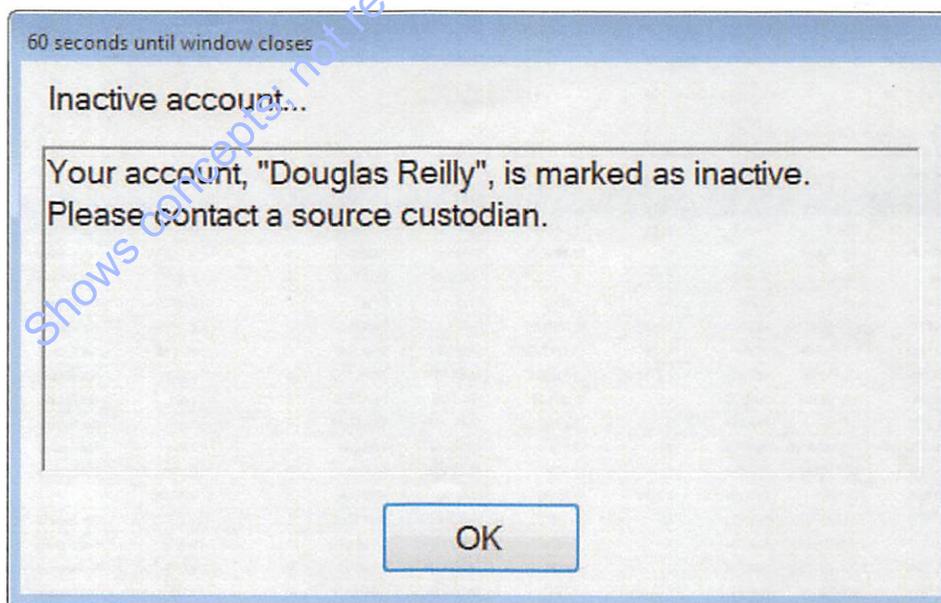
An authorized user Z number is required. Some of these steps require a system administrator. SQL queries used to verify program output will be provided for validation that the program returns data that is consistent with database contents.

5.5.3. Output

A visual representation of the source list is shown to the user on a data grid. No other output is given for a normal user. A custodian may email the content of the source listing to him/herself using a custodian function. In that case, the output is a *.csv file emailed to the custodian.

5.5.4. Process Steps

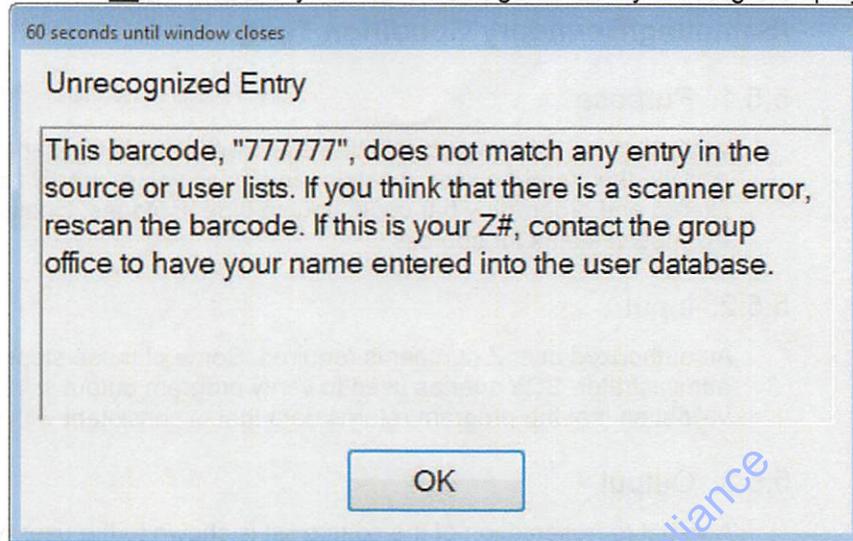
- Select the **Browse Sources** button.
 - Enter the inactive user Z number as recorded in Section 5.1
- ___48. Verify that the Inactive Account warning is displayed. Log this in your Transaction Log to verify later that an email is sent.



- Click **OK**.
- Select the **Browse Sources** button.
- Enter a Z number that does not exist (e.g. 777777). Log this in your Transaction Log to verify later that an email is sent.

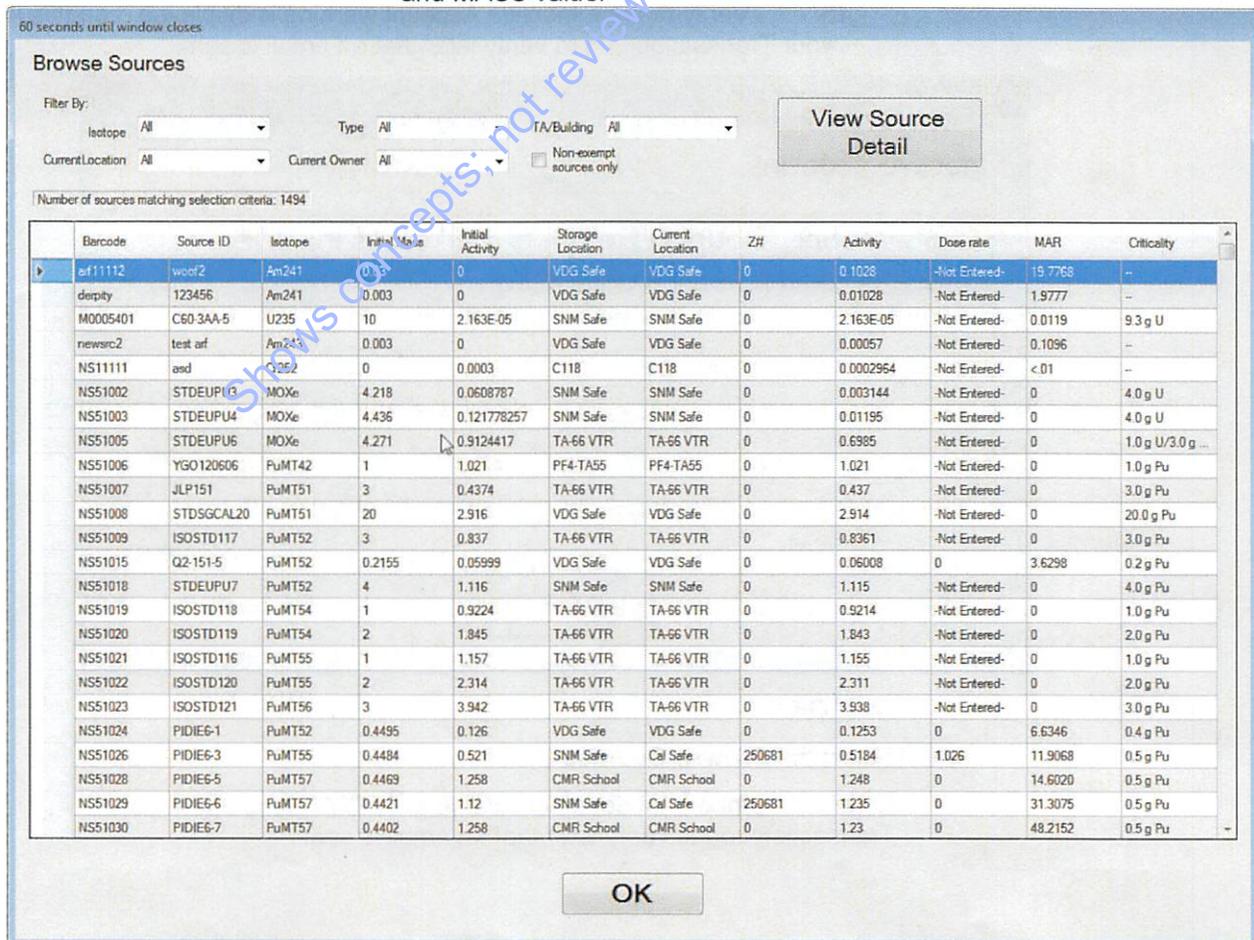
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49. Verify that the Unrecognized Entry warning is displayed.



- Click **OK**.
- Select the **Browse Sources** button.
- Enter the normal user Z number as recorded in Section 5.1.

50. Verify that the list of sources is displayed. Verify that the information displayed for the highlighted source includes the bar code number, source ID, isotope type, activity level, current owner, location, and MASS value.



- Let the window time out.

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51. Verify that the program returns to the main menu.

- Select the **Browse Sources** button.
- Enter the normal user Z number.
- Select one of the sources in the list by highlighting it as shown.

60 seconds until window closes

Browse Sources

Filter By:

Isotope: All Type: All TA/Building: All

Current Location: All Current Owner: All Non-exempt sources only

View Source Detail

Number of sources matching selection criteria: 1494

Barcode	Source ID	Isotope	Initial Mass	Initial Activity	Storage Location	Current Location	Z#	Activity	Dose rate	MAR	Criticality
arf11112	woof2	Am241	0.03	0	VDG Safe	VDG Safe	0	0.1028	-Not Entered-	19.7768	--
deply	123456	Am241	0.003	0	VDG Safe	VDG Safe	0	0.01028	-Not Entered-	1.9777	--
M0005401	C60-3AA-5	U235	10	2.163E-05	SNM Safe	SNM Safe	0	2.163E-05	-Not Entered-	0.0119	9.3 g U
newsrc2	test arf	Am243	0.003	0	VDG Safe	VDG Safe	0	0.00057	-Not Entered-	0.1096	--
NS11111	asd	Cf252	0	0.0003	C118	C118	0	0.0002964	-Not Entered-	< 01	--
NS51002	STDEUPU3	MOXe	4.218	0.0608787	SNM Safe	SNM Safe	0	0.003144	-Not Entered-	0	4.0 g U
NS51003	STDEUPU4	MOXe	4.436	0.121778257	SNM Safe	SNM Safe	0	0.01115	-Not Entered-	0	4.0 g U
NS51005	STDEUPU6	MOXe	4.271	0.9124417	TA-66 VTR	TA-66 VTR	0	0.4399	-Not Entered-	0	1.0 g U/3.0 g ...
NS51006	YGO120606	PuMT42	1	1.021	PF4-TA55	PF4-TA55	0	1.021	-Not Entered-	0	1.0 g Pu
NS51007	JLP151	PuMT51	3	0.4374	TA-66 VTR	TA-66 VTR	0	0.437	-Not Entered-	0	3.0 g Pu
NS51008	STDGSCAL20	PuMT51	20	2.916	VDG Safe	VDG Safe	0	2.914	-Not Entered-	0	20.0 g Pu
NS51009	ISOSTD117	PuMT52	3	0.837	TA-66 VTR	TA-66 VTR	0	0.8361	-Not Entered-	0	3.0 g Pu
NS51015	Q2-151-5	PuMT52	0.2155	0.05999	VDG Safe	VDG Safe	0	0.06008	0	3.6298	0.2 g Pu
NS51018	STDEUPU7	PuMT52	4	1.116	SNM Safe	SNM Safe	0	1.115	-Not Entered-	0	4.0 g Pu
NS51019	ISOSTD118	PuMT54	1	0.9224	TA-66 VTR	TA-66 VTR	0	0.9214	-Not Entered-	0	1.0 g Pu
NS51020	ISOSTD119	PuMT54	2	1.845	TA-66 VTR	TA-66 VTR	0	1.843	-Not Entered-	0	2.0 g Pu
NS51021	ISOSTD116	PuMT55	1	1.157	TA-66 VTR	TA-66 VTR	0	1.155	-Not Entered-	0	1.0 g Pu
NS51022	ISOSTD120	PuMT55	2	2.314	TA-66 VTR	TA-66 VTR	0	2.311	-Not Entered-	0	2.0 g Pu
NS51023	ISOSTD121	PuMT56	3	3.942	TA-66 VTR	TA-66 VTR	0	3.938	-Not Entered-	0	3.0 g Pu
NS51024	PIDIE6-1	PuMT52	0.4495	0.126	VDG Safe	VDG Safe	0	0.1253	0	6.6346	0.4 g Pu
NS51026	PIDIE6-3	PuMT55	0.4484	0.521	SNM Safe	Cal Safe	250681	0.5184	1.026	11.9068	0.5 g Pu
NS51028	PIDIE6-5	PuMT57	0.4469	1.258	CMR School	CMR School	0	1.248	0	14.6020	0.5 g Pu
NS51029	PIDIE6-6	PuMT57	0.4421	1.12	SNM Safe	Cal Safe	250681	1.235	0	31.3075	0.5 g Pu
NS51030	PIDIE6-7	PuMT57	0.4402	1.250	CMR School	CMR School	0	1.23	0	48.2152	0.5 g Pu

OK

- Select the **Source Details...** button.

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- __52. Verify that the details for the source highlighted are displayed and that the data fields are read only (greyed out and do not respond to mouse clicks).

60 seconds until window closes

Browse Sources

Source Bar Code: NS51018

Source Id: STDEUPU7

Isotope: PuMT52

Enrichment: 0.000 percent

Initial Mass: 4.000 grams

Initial Curies: 1.116000E+090 curies

Initial Activity Date: Wednesday, December 28, 1988

Percent MAR: 0.000

MAR % Override: 0.000

Dose: -N/A

RSSDMS Number: 0

ESH-12 Flag:

Storage Location: SNM Safe

Current Location: SNM Safe

Current Owner:

Last Check in/Out Time: Wednesday, March 18, 2015

Steward:

Description: Small MOX vial

Verified

Mass Item

RAD Can

Exempt

Leak Swipe:

Last Leak Test Date: Friday, February 12, 2016

Leak Test Comments:

Last Inventory Date: Saturday, February 13, 2016

View Isotopics

View Source Contributions

OK

- Click **OK**.
- __53. Verify that the program returns you to the Browse Sources listing.
- Double click on one of the sources in the listing (a different one from the one selected before).
- __54. Verify that the details for the source that was double-clicked are displayed and that the data fields are read only.
- Select the **View Isotopics** button.
 - Click **OK**.

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55. Verify that the source isotopics are displayed and that the data fields are read only.

60 seconds until window closes

Isotopics

Pu 238 Percent	<input type="text" value="0.0000"/>
Pu 239 Percent	<input type="text" value="0.0000"/>
Pu 240 Percent	<input type="text" value="0.0000"/>
Pu 241 Percent	<input type="text" value="0.0000"/>
Pu 242 Percent	<input type="text" value="0.0000"/>
Am 241 Percent	<input type="text" value="0.0000"/>

OK

- Select the **View Source Contributions** button.

56. Verify that the source contributions are displayed and that the data fields are read only.

60 seconds until window closes

Contributions

MBA Pu Attractiveness	<input type="text" value="C"/>
MBA Pu Contribution	<input type="text" value="4.000"/>
MBA U Attractiveness	<input type="text"/>
MBA U Contribution	<input type="text" value="0.000"/>
Fuel rod	<input type="text" value="0"/>

OK

- Click **OK**.
- Click **OK** again to return to the Browse Sources listing.
- Clicking on each of the column headers in the data grid, sort the grid by each field as shown.

Software Test Results for Source Tracker Software

60 seconds until window closes

Browse Sources

Filter By: Isotope: All Type: All TAV/Building: All
 Current Location: All Current Owner: All Non-exempt sources only

View Source Detail

Number of sources matching selection criteria: 1494

Barcode	Source ID	Isotope	Initial Mass	Initial Activity	Storage Location	Current Location	Z#	Activity	Dose rate	MAR	Criticality
NS70030	1676-95-1	Co57		25.62	TA-16	TA-16	0	2.927	-Not Entered-	0.0338	--
NS70031	1676-95-2	Co57		52.94	Source Safe	Source Safe	0	4.188	-Not Entered-	0.0698	--
NS70032	1676-95-3	Co57		105.5	Source Safe	Source Safe	0	8.346	-Not Entered-	0.1391	--
NS11111	asd	Co252	0	0.0003	C118	C118	0	0.0002964	-Not Entered-	<.01	--
NS51326	N-431	AmLi	0	1.2	VDG Safe	TA-66 LAB	119646	1.155	-Not Entered-	0	--
NS51336	MM-312	Co252	0	0.0002	Cage	Cage	0	1.769E-06	-Not Entered-	<.01	--
NS51342	N-436	AmLi	0	1.2	VDG Safe	VDG Safe	0	1.166	-Not Entered-	0	--
NS51343	N-437	AmLi	0	1.2	VDG Safe	VDG Safe	0	1.166	-Not Entered-	0	--
NS52001		Am241	0	0.001	Source Safe	Shady's Lab	166922	0.0009524	-Not Entered-	0.1832	--
NS52002	10254-2	Am241	0	0.0001	SNM Safe	SNM Safe	0	9.405E-05	-Not Entered-	0.0182	--
NS52003	144-38-3	Am241	0	0.0001	SNM Safe	SNM Safe	0	9.52E-05	-Not Entered-	0.0183	--
NS52004	7071-2	Am241	0	0.000106	SNM Safe	SNM Safe	0	9.997E-05	-Not Entered-	0.0192	--
NS52005	B-852	Am241	0	0.000644	Source Safe	Source Safe	0	0.0006194	-Not Entered-	0.1191	--
NS52006	C470	AmLi	0	0.772	VDG Safe	VDG Safe	0	0.7424	-Not Entered-	0	--
NS52008	FTC CF-996	Co252	0	0.00118	2nd Floor Hot	2nd Floor Hot	0	9.472E-05	-Not Entered-	<.01	--
NS52009	UE9673	Cs137	0	0.01	Source Safe	Source Safe	0	0.005438	-Not Entered-	<.01	--
NS52010	119-40-1	Pu239	0	0.0001	SNM Safe	SNM Safe	0	9.991E-05	-Not Entered-	0.0192	0
NS52011	P385	Pu239	0	0.0001	Cage	Cage	0	9.993E-05	-Not Entered-	0.0192	0
NS52012	P386	Pu239	0	0.0001	Cage	Cage	0	9.993E-05	-Not Entered-	0.0192	0
NS52013	P387	Pu239	0	0.0001	Cage	Cage	0	9.993E-05	-Not Entered-	0.0192	0
NS52014	P388	Pu239	0	0.0001	Cage	Cage	0	9.993E-05	-Not Entered-	0.0192	0
NS52015	P389	Pu239	0	0.0001	SNM Safe	SNM Safe	0	9.993E-05	-Not Entered-	0.0192	0
NS52016	P390	Pu239	0	0.0001	SNM Safe	SNM Safe	0	9.993E-05	-Not Entered-	0.0192	0
NS52018	341-29-7	Am241	0	0.0001	VDG Safe	VDG Safe	0	9.87E-05	-Not Entered-	0.0181	--

OK

57. Verify visually that the list of sources is sorted by the each column in ascending order.

- Select a column and verify that you see an arrow pointing upward and showing the list of items in that column alphabetically or numerically ascending. Press again to see that this arrow changes direction and the items are sorted in a descending order.

60 seconds until window closes

Browse Sources

Filter By: Isotope: All Type: All TAV/Building: All
 Current Location: All Current Owner: All Non-exempt sources only

View Source Detail

Number of sources matching selection criteria: 1494

Barcode	Source ID	Isotope	Initial Mass	Initial Activity	Storage Location	Current Location	Z#	Activity	Dose rate	MAR	Criticality
NS51030	PIDIE6-7	PuMT57	0.4402	1.258	CMR School	CMR School	0	1.23	0	48.2152	0.5 g Pu
NS54008A	MT-ML	MOXe	1.482	0.20401	PF4-TA55	PF4-TA55	0	5.758E-07	-Not Entered-	34.1311	0
NS51467	NBS-295-071	U	163	6.576E-05	Cage	Cage	0	6.596E-05	-Not Entered-	33.3000	5.0 g U
NS51029	PIDIE6-6	PuMT57	0.4421	1.12	SNM Safe	Cal Safe	250681	1.235	0	31.3075	0.5 g Pu
af11112	wood2	Am241	0.03	0	VDG Safe	VDG Safe	0	0.1028	-Not Entered-	19.7768	--
NS61036	010/00	Am241	0	0.1	2nd Floor Hot	2nd Floor Hot	0	0.09773	-Not Entered-	18.7943	--
NS51077	646031	MOXe	9.5048	0.4767	A170	A170	0	1.705E-07	-Not Entered-	17.4041	1.0 g Pu
NS51028	PIDIE6-5	PuMT57	0.4469	1.258	CMR School	CMR School	0	1.248	0	14.6020	0.5 g Pu
NS51026	PIDIE6-3	PuMT57	0.4484	0.521	SNM Safe	Cal Safe	250681	0.5184	1.026	11.9068	0.5 g Pu
NS51109	ES-207	Re226	0	1.3	Source Safe	Sempson's Lab	1.294	-Not Entered-	-Not Entered-	10.7840	--
ns99999	af wak bde6	Cd109	0.005	0	SNM Safe	SNM Safe	0	12.92	-Not Entered-	7.1767	--
NS51024	PIDIE6-1	PuMT52	0.4495	0.126	VDG Safe	VDG Safe	0	0.1253	0	6.6346	0.4 g Pu
NS53387	CASK-11	U	686250	0.2332	2nd Floor Hot	2nd Floor Hot	0	0.2335	-Not Entered-	5.9901	0
NS51016	Q2-151-5	PuMT52	0.2155	0.05999	VDG Safe	VDG Safe	0	0.06008	0	3.6298	0.2 g Pu
depy	123456	Am241	0.003	0	VDG Safe	VDG Safe	0	0.01028	-Not Entered-	1.9777	--
NS51140	429C-50CNT	U	203000	0.0631	2nd Floor Hot	2nd Floor Hot	0	0.0631	-Not Entered-	1.7768	0
NS51159	654-001	U	170000	0.05784	2nd Floor Hot	2nd Floor Hot	0	0.05784	-Not Entered-	1.4839	0
NS51459	Q2-39	U	987	0.00213	PF4-TA55	PF4-TA55	0	0.002011	-Not Entered-	1.0903	919.4 g U
NS51440	URSO-91	U	990	0.001982	TA-66 VTR	TA-66 VTR	0	0.001984	-Not Entered-	1.0573	904.1 g U
NS70064	C-CDE-118	Pu239	0.084	0.0052	C118	C118	0	0.005151	-Not Entered-	0.9907	0.1 g Pu
NS70065	C-CDE-18	Pu239	0.084	0.0052	C18	C18	0	0.005151	-Not Entered-	0.9907	0.1 g Pu
NS51463	RODBWR-36	U	47649	0.018042	TA-66 VTR	Russo's Lab	121937	0.01807	-Not Entered-	0.7847	--
NS51439	URSO-66	U	990	0.001527	TA-66 VTR	TA-66 VTR	0	0.001529	-Not Entered-	0.6191	654.8 g U
NS59998	PMT5-Th	Th232	1395	0.000152	PMT5 vault	PMT5 vault	0	0.0001525	-Not Entered-	0.6152	--

OK

58. Verify that the sources list is displayed in descending order by the selected columns.

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- Note the number of sources displayed under the Current Location drop-down here.

9

- Choose a random combination of selection criteria using the drop down menus and check box to select Isotope, Current Location, Current Owner, and Non-exempt sources only controls. Be sure to choose a set of selection criteria that displays more than one result. Note your selections here:

Isotope: CS 137
Current Location: Source safe
Current Owner: all
Non-exempt sources only: x

- Note the number of sources matching selection criteria for those selections here:

21

- Choose a second random combination of selection criteria using the drop down menus and check box to select Isotope, Current Location, Current Owner, and Non-exempt sources only controls. Be sure to choose a set of selection criteria that displays more than one result. Note your selections here:

Isotope: Am L:
Current Location: VGD safe
Current Owner: All
Non-exempt sources only: Exempt

Note the number of sources matching selection criteria for those selections here:

17

- Choose a TA/Building using the dropdown list. Make sure that all the other search criteria are set to "All" and the exempt checkbox unchecked. Be sure to choose a building that displays more than one result. Note your selection here:

TA/Building: Ta-35 Bldg-2

- Note the number of sources matching selection criteria for those selections here:

481

- Choose a Source Type using the dropdown list. Make sure that all the other search criteria are set to "All" and the exempt checkbox unchecked. Be sure to choose a building that displays more than one result. Note your selection here:

Source Type: Alpha, Beta, gamma

Note the number of sources matching selection criteria for those selections here:

1916

Broken

- Click **OK** to exit the Browse Sources screen.
- Using remote desktop, login to the trackerbeta.lanl.gov server. Have a system admin help you with the next few steps.

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- Use one of your search criteria above to filter the results. Note the number of records returned here:

21
- Press the **Email** button. Log this in your transaction log. You will also need to note the Custodian you entered to get to this function. That is where the email report will be sent.

60 seconds until window closes

Select Criteria For Your Report

Filter By:

Isotope: All Type: All TA/Building: B570

Current Location: All Current Owner: All Non-exempt sources only

Number of sources matching selection criteria: 521

Barcode	Source ID	Isotope	Initial Mass	Initial Activity	Storage Location	Current Location	Z#	Activity	Dose rate	MAR	Criticality
M0005401	C60-3AA-6	U235	10	2.163E-05	SNM Safe	SNM Safe	0	2.163E-05	-Not Entered-	0.0119	9.3 g U
NS51111	asd	Cl252	0	0.0003	C118	C118	0	0.0002957	-Not Entered-	<.01	--
NS51002	STDEUJU3	MOXe	4.218	0.0608787	SNM Safe	SNM Safe	0	8.402E-06	-Not Entered-	0	4.0 g U
NS51003	STDEUJU4	MOXe	4.436	0.121778257	SNM Safe	SNM Safe	0	0.0001155	-Not Entered-	0	4.0 g U
NS51018	STDEUJU7	PuMT52	4	1.116	SNM Safe	SNM Safe	0	1.115	-Not Entered-	0	4.0 g Pu
NS51026	PIDIE6-3	PuMT55	0.4484	0.521	SNM Safe	Cal Safe	250681	0.5184	1.026	11.9068	0.5 g Pu
NS51029	PIDIE6-6	PuMT57	0.4421	1.12	SNM Safe	Cal Safe	250681	1.235	0	31.3075	0.5 g Pu
NS51032	GVB24-5W1	PuMT83	0.7524	11.06	Cal Safe	Cal Safe	0	8.09	-Not Entered-	0	0.8 g Pu
NS51036	N1-TH3KG	Th232	3000	0.0003279	Cal Safe	Cal Safe	0	0.0003279	-Not Entered-	0.3279	--
NS51037	1-G-99.9/235...	U	1	2.16E-06	SNM Safe	SNM Safe	0	2.16E-06	-Not Entered-	<.01	1.0 g U
NS51047	A1-324-1	U	984	0.0005108	SNM Safe	SNM Safe	0	0.0005108	-Not Entered-	0.0502	98.4 g U
NS51048	A1-409	U	1000	0.0003494	SNM Safe	SNM Safe	0	0.0003494	-Not Entered-	0.0105	0
NS51051	CRM-U970/JLP	U	1	2.11E-06	SNM Safe	SNM Safe	0	2.12E-06	-Not Entered-	<.01	1.0 g U
NS51052	NBL0005	U	195	0.000137	SNM Safe	SNM Safe	0	0.000137	-Not Entered-	0.0219	39.1 g U
NS51055	NBS194-072	U	169	6.284E-05	SNM Safe	SNM Safe	0	6.284E-05	-Not Entered-	<.01	3.3 g U
NS51056	NBS295-072	U	169	6.596E-05	SNM Safe	SNM Safe	0	6.596E-05	-Not Entered-	<.01	5.0 g U
NS51057	NBS446-072	U	169	7.062E-05	SNM Safe	Parker's Lab	169437	7.062E-05	-Not Entered-	<.01	7.5 g U
NS51071	STDEUJU1	U	4	8.153E-06	SNM Safe	SNM Safe	0	8.153E-06	-Not Entered-	<.01	3.7 g U
NS51076	646078	MOXn	8.8203	0.7566	A170	Source Safe	119646	0.0006078	-Not Entered-	0	1.0 g Pu
NS51077	646081	MOXn	9.5048	0.4767	A170	1170	0	5.03E-10	-Not Entered-	0.0513	1.0 g Pu
NS51160	654-002	U	5000	0.001701	SNM Safe	SNM Safe	0	0.001701	-Not Entered-	0.0436	0
NS51198	A1-324-2	U	984	0.0005108	SNM Safe	SNM Safe	0	0.0005108	-Not Entered-	0.0502	98.4 g U
NS51199	A1-409-2	U	1000	0.0003494	SNM Safe	SNM Safe	0	0.0003494	-Not Entered-	0.0105	0
NS51201	CANDEB-10	U	12	6.031E-06	SNM Safe	SNM Safe	0	6.031E-06	-Not Entered-	<.01	1.1 g U

61. Verify that the Email Sent form is shown to the screen.

59 seconds until window closes

SUCCESS

Email summary sent. Would you like to email more summaries or return to the custodian form?

Software Test Results for Source Tracker Software

- Press *Return*.
 - 62. Verify that the program returns you to the Custodian Menu.
Return to Main Screen
- Press *OK* to return to the Main Menu.
 - 63. Verify that an email is sent to the custodian and contains the same number of records noted above.
 - 64. Verify that the email warnings for unauthorized users logged at the beginning of this test case generated.

Shows concepts; not reviewed for Ch 21 compliance

Software Test Results for Source Tracker Software

Test #:	Expected Results:	PASS/FAIL
48	Verify that the Inactive Account warning is displayed. Log this in your Transaction Log to verify later that an email is sent.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
49	Verify that the Unrecognized Entry warning is displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
50	Verify that the list of sources is displayed. Verify that the information displayed for the highlighted source includes the bar code number, source ID, isotope type, activity level, current owner, location, and MASS value.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
51	Verify that the program returns to the main menu.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
52	Verify that the details for the source highlighted are displayed and that the data fields are read only (greyed out and do not respond to mouse clicks).	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
53	Verify that the program returns you to the Browse Sources listing.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
54	Verify that the details for the source that was double-clicked are displayed and that the data fields are read only.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
55	Verify that the source isotopics are displayed and that the data fields are read only.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
56	Verify that the source contributions are displayed and that the data fields are read only.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
57	Verify visually that the list of sources is sorted by the each column in ascending order.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
58	Verify that the sources list is displayed in descending order by the selected columns.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
59	Verify that the program returns to the main menu.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
60	Verify each of your search criteria cases against the results shown in the Browse Sources and Browse My Sources form.	Pass <input checked="" type="checkbox"/> Fail <input checked="" type="checkbox"/>
61	Verify that the Email Sent form is shown to the screen.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
62	Verify that the program returns you to the Custodian Menu.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
63	Verify that an email is sent to the custodian and contains the same number of records noted above.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
64	Verify that the email warnings for unauthorized users logged at the beginning of this test case generated.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>

Comments

Source type Alpha/Beta/Gamma breaks query changed to INNER JOIN in code and works for Alpha/Gamma but not Alpha/Beta/Gamma

HN-Verified results matched DB contents w/SQL query

Also verified emails sent as recorded

Software Test Plan for Source Tracker Software

Test #:	Expected Results:	PASS/FAIL
48	Verify that the Inactive Account warning is displayed. Log this in your Transaction Log to verify later that an email is sent.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
49	Verify that the Unrecognized Entry warning is displayed.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
50	Verify that the list of sources is displayed. Verify that the information displayed for the highlighted source includes the bar code number, source ID, isotope type, activity level, current owner, location, and MASS value.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
51	Verify that the program returns to the main menu.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
52	Verify that the details for the source highlighted are displayed and that the data fields are read only (greyed out and do not respond to mouse clicks).	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
53	Verify that the program returns you to the Browse Sources listing.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
54	Verify that the details for the source that was double-clicked are displayed and that the data fields are read only.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
55	Verify that the source isotopics are displayed and that the data fields are read only.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
56	Verify that the source contributions are displayed and that the data fields are read only.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
57	Verify visually that the list of sources is sorted by the each column in ascending order.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
58	Verify that the sources list is displayed in descending order by the selected columns.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
59	Verify that the program returns to the main menu.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
60	Verify each of your search criteria cases against the results shown in the Browse Sources and Browse My Sources form.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
61	Verify that the Email Sent form is shown to the screen.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
62	Verify that the program returns you to the Custodian Menu.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
63	Verify that an email is sent to the custodian and contains the same number of records noted above.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
64	Verify that the email warnings for unauthorized users logged at the beginning of this test case generated.	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

Comments

After code fix - verified results match DB using SQL query - HJ

5.6. Confirm Inventory [Demonstration/Communication Test]

5.6.1. Purpose

Verify that the source locations identified in the database are the actual location of the source and that the designated owner is valid. Verify that the inventory is completed with the six month period required by the Department of Energy.

5.6.2. Input

The custodian Z number is required as input to this option, as well as scanned barcodes of the items being inventoried.

5.6.3. Output

A summary list of the sources that have been confirmed will be emailed to the custodian. A flag in the database table, "Sources" is set for each source that has been confirmed and an inventory date (current date) is written to the inventory date field.

5.6.4. Process Steps

- Select the **Custodian Operations** option from the main menu.
- Enter the Custodian Z number.
- Select **Confirm Inventory...** option.
- Select the **Checked Out Only** radio button.

Confirm Inventory - SNM Safe

Scan the barcode for each source.
Click the "Finished" button to return to the custodian menu.

All Sources

Checked Out Only Checked In Only

To Be Confirmed (7) Confirmed (0) Unexpected (0)

To Be Confirmed (7) Browse Current List...

Barcode	Source ID	Isotope	Current Owner	Current Location	Last Inventory Date
NS51053	NBL0006	U	Howard Menlove	Storage Room-104A	2/10/2016 3:37:14 PM
NS51110	STDISO15	PuMT55	Howard Menlove	TA-66 VTR	2/12/2016 12:31:23 PM
NS53176	TH-7D	Th232	Jeff Archuleta	TA-16	10/2/2014 8:25:24 AM
NS51283	MAD-1469-F79	PuMT83	Manuel Gonzales	Cal Safe	4/23/2015 10:52:21 AM
NS51057	NBS446-072	U	Heather Nordquist	Parker's Lab	2/3/2016 1:18:20 PM
NS51026	PIDIE6-3	PuMT55	Ryan Winkler	Cal Safe	2/8/2016 3:42:42 PM
NS51029	PIDIE6-6	PuMT57	Ryan Winkler	Cal Safe	2/6/2015 1:24:32 PM

Finished... Cancel...

- Scan the bar code of two of the sources listed.

Software Test Results for Source Tracker Software

- ___65. Verify that the sources that have been scanned for confirmation are removed from the list displayed and that the number to be confirmed is reduced.

Confirm Inventory - SNM Safe

Scan the barcode for each source.
Click the "Finished" button to return to the custodian menu.

All Sources
 Checked Out Only Checked In Only

To Be Confirmed (5) Confirmed (2) Unexpected (0)

To Be Confirmed (5) Browse Current List...

Barcode	Source ID	Isotope	Current Owner	Current Location	Last Inventory Date
NS51110	STDISO15	PuMT55	Howard Menlove	TA-66 VTR	2/12/2016 12:31:23 PM
NS53176	TH-7D	Th232	Jeff Archuleta	TA-16	2/16/2016 4:54:47 PM
NS51283	MAD-1469-F79	PuMT83	Manuel Gonzales	Cal Safe	4/23/2015 10:52:21 AM
NS51057	NBS446-072	U	Heather Nordquist	Parker's Lab	2/3/2016 1:18:20 PM
NS51026	PIDIE6-3	PuMT55	Ryan Winkler	Cal Safe	2/8/2016 3:42:42 PM

Finished... Cancel...

- Select the **Cancel** button.

- ___66. Verify that the following message occurs. The number shown could be different.

N Seconds until window closes

Inventory incomplete

There are 5 sources unconfirmed. Are you sure you want to cancel?

I

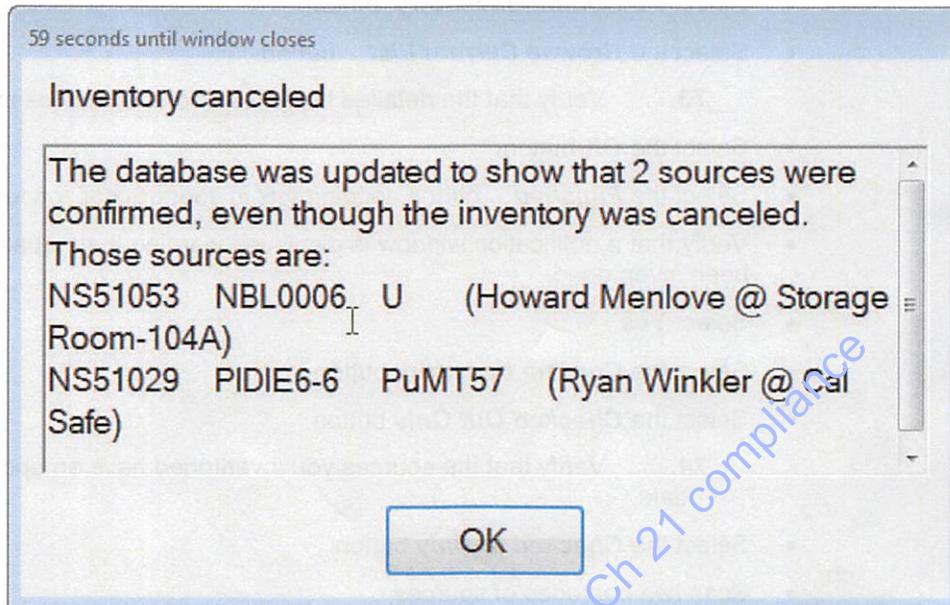
Yes No

- Select the **No** button.

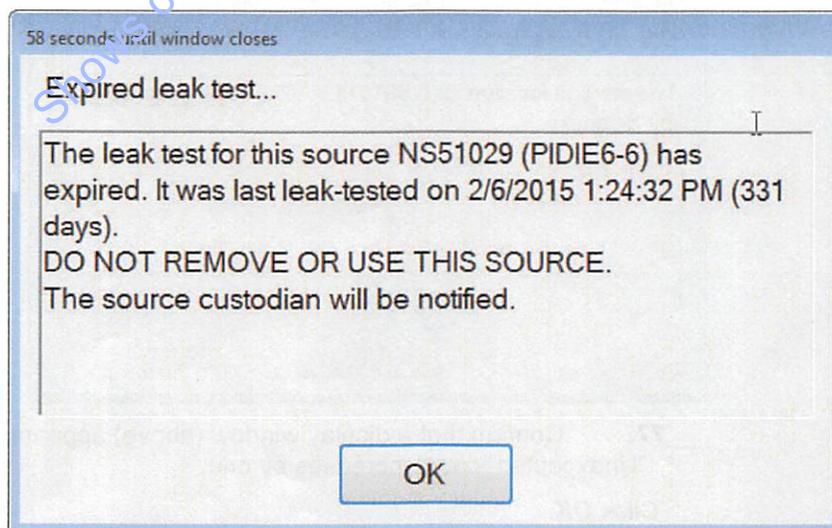
- ___67. Verify that the Confirm Inventory screen remains displayed.

Software Test Results for Source Tracker Software

- Select the **Cancel** button again.
 - Select the **Yes** button.
- __68. Verify that a notification message is displayed.



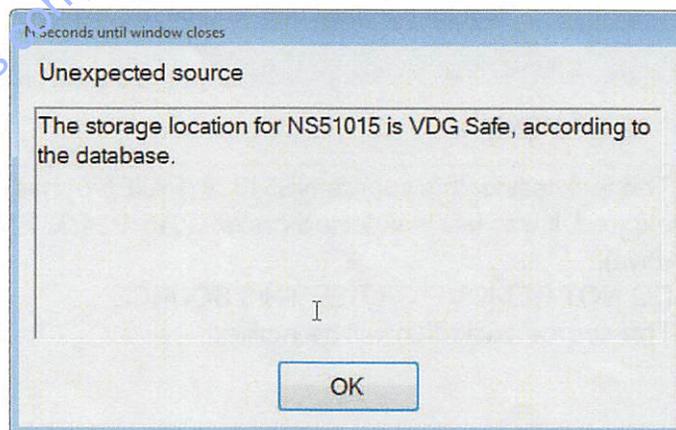
- Select **OK**.
- __69. Verify that the program returns to the Custodian Operations screen.
- Select the **Confirm Inventory** button.
 - Scan two barcodes of sources.
 - Select a source that is "past due" on its leak test. (it may be necessary to make a change in the database).
- __70. Verify that a warning is displayed (below) indicating that the leak test for the "past due" source has expired.



- Select **OK**.
- __71. Verify that the sources are removed from the displayed list.
- Select the **Finished** button, logging this in your transaction log.

Software Test Results for Source Tracker Software

- Press **Yes** when you are warned that not all sources have been inventoried.
- __72. Verify that the program returns to the Custodian Operations screen.
- Select the **Confirm Inventory** button.
- Select the **Browse Current List...** button.
- __73. Verify that the detailed list for each of the sources is displayed.
- Select the **OK** button.
- Select the **Finished...** button, logging this in your transaction log.
- Verify that a notification window is displayed warning that not all sources have been inventoried.
- Select **Yes**.
- Select the **Confirm Inventory** button.
- Select the **Checked Out Only** button.
- __74. Verify that the sources you inventoried have an updated inventory date.
- Select the **Checked In Only** button.
- Scan two barcodes of sources.
- __75. Verify that the display lists as Current Owner "No One"
- Select the **Finished...** button, logging this transaction in your transaction log for email notification only.
- Select **Yes**.
- Select the **Confirm Inventory** button.
- __76. Confirm that the source inventory date is updated.
- Scan two barcodes of sources, making sure to scan a source that is not at that location.



- __77. Confirm that a display window (above) appears and that the "Unexpected" count increases by one.

Click **OK**.

- Click **Finished...** logging is transaction in your transaction log for email notification only.
- Click **Yes** when warned that the inventory is not complete.

Software Test Results for Source Tracker Software

Confirm Inventory - SNM Safe

Scan the barcode for each source.
Click the "Finished" button to return to the custodian menu.

All Sources

Checked Out Only Checked In Only

To Be Confirmed
(48)

Confirmed
(3)

Unexpected
(1)

To Be Confirmed (48)
Browse Current List...

Barcode	Source ID	Isotope	Current Owner	Current Location	Last Inventory Date
NS51473	C60-3-1A	U235	No One	SNM Safe	2/16/2016 5:25:11 PM
M0005401	C60-3AA-5	U235	No One	SNM Safe	4/23/2015 10:18:46 AM
NS51002	STDEUPU3	MOXe	No One	SNM Safe	3/16/2015 10:16:06 AM
NS51003	STDEUPU4	MOXe	No One	SNM Safe	3/16/2015 10:16:32 AM
NS51018	STDEUPU7	PuMT52	No One	SNM Safe	2/16/2016 5:25:03 PM
NS51029	PIDIE6-6	PuMT57	Ryan Winkler	Cal Safe	2/16/2016 5:16:42 PM
NS51037	1-G-99.9/235/J...	U	No One	SNM Safe	4/23/2015 10:20:39 AM
NS51047	A1-324-1	U	No One	SNM Safe	3/16/2015 10:15:15 AM
NS51048	A1-409	U	No One	SNM Safe	4/23/2015 10:23:04 AM
NS51051	CRM-U970/JLP	U	No One	SNM Safe	4/23/2015 10:25:14 AM
NS51053	NBL0006	U	Howard Menlove	Storage Room-104A	2/16/2016 5:02:26 PM
NS51055	NBL0007	U	No One	SNM Safe	1/5/2015 12:00:00 AM

Finished...
Cancel...

78. Confirm that the emails sent in this section include information showing that a list of sources are confirmed and, if a source is unexpected, it should be included in the summarized list.

Note: The inventory process generates email but does not get entered in the transaction log.

- Click **Return to Main Screen**.

Software Test Results for Source Tracker Software

	removed from the list displayed and that the number to be confirmed is reduced.	
66	Verify that the following message occurs. The number shown could be different.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
67	Verify that the Confirm Inventory screen remains displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
68	Verify that a notification message is displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
69	Verify that the program returns to the Custodian Operations screen.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
70	Verify that a warning is displayed (below) indicating that the leak test for the "past due" source has expired.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
71	Verify that the sources are removed from the displayed list.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
72	Verify that the program returns to the Custodian Operations screen.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
73	Verify that the detailed list for each of the sources is displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
74	Verify that the sources you inventoried have an updated inventory date.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
75	Verify that the display lists as Current Owner "No One"	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
76	Confirm that the source inventory date is updated.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
77	Confirm that a display window (above) appears and that the "Unexpected" count increases by one.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
78	Confirm that the emails sent in this section include information showing that a list of sources are confirmed and, if a source is unexpected, it should be included in the summarized list.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
Comments		
<p align="center">Shows concepts; not reviewed for Compliance</p>		

5.9. Leak Test Selected Sources [Demonstration/Communication Test]

5.9.1. Purpose

Verify that the user is able to perform leak testing on a few selected sources and that an email message of only those sources leak tested and/or selected will be sent to the custodian.

5.9.2. Input

This option requires a user with custodian privileges to perform the task.

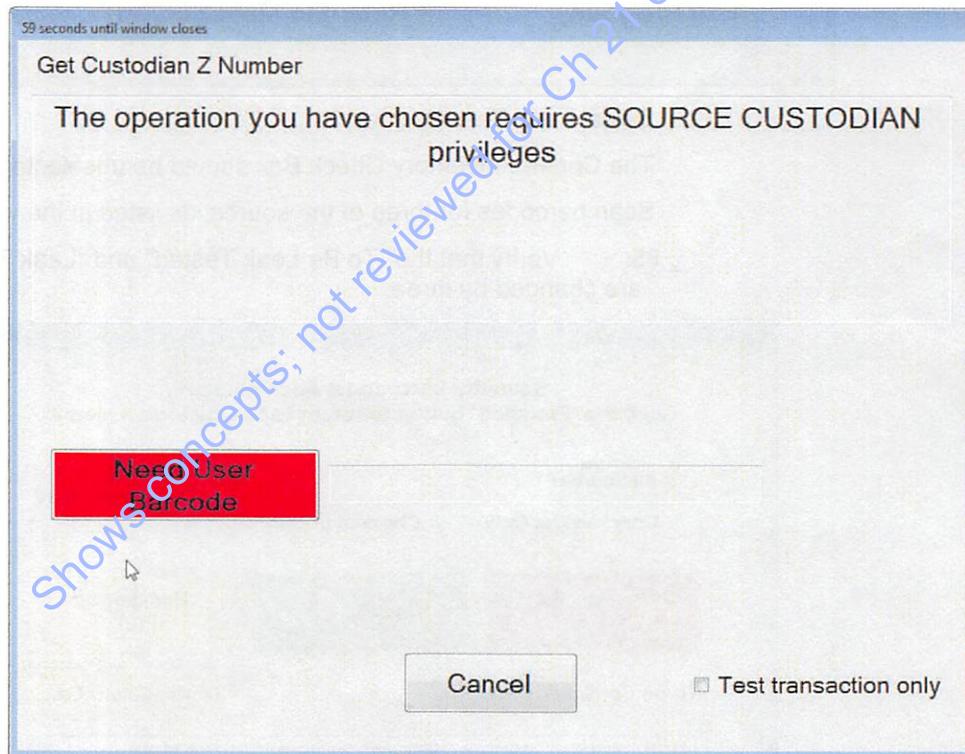
5.9.3. Output

The Source Tracker database is updated. An email is sent to the custodian indicating which sources need to be leak tested.

5.9.4. Process Steps

Select Custodian Operations

__92. Verify that the user is prompted for the Custodian z number.



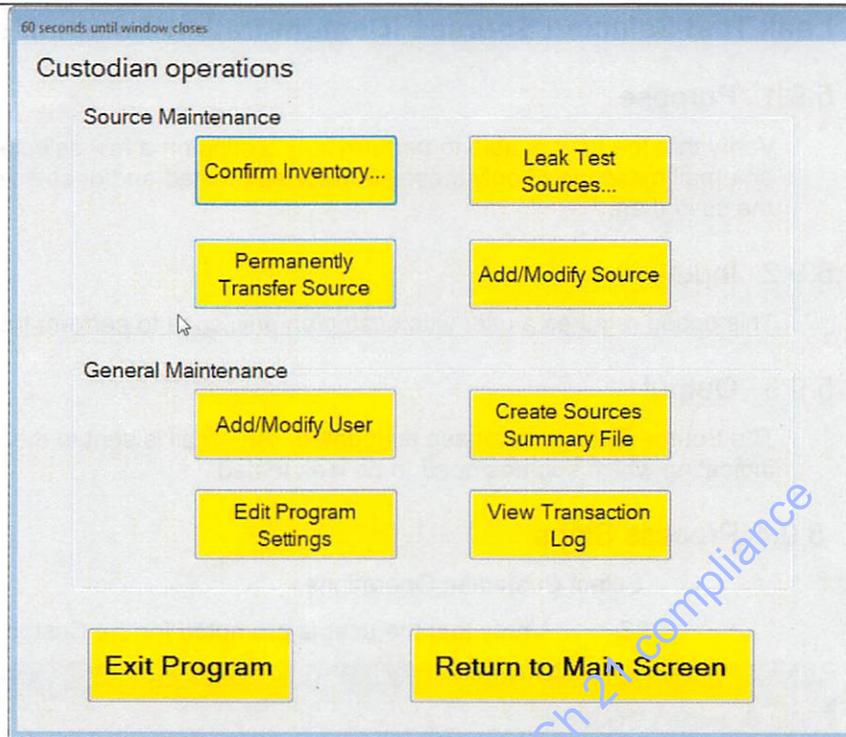
Let the time elapse.

__93. Verify that the program returns to the main screen.

Select the **Custodian Operations** button again and enter a custodian Z number.

__94. Verify that Custodian Operations window is displayed.

Software Test Results for Source Tracker Software

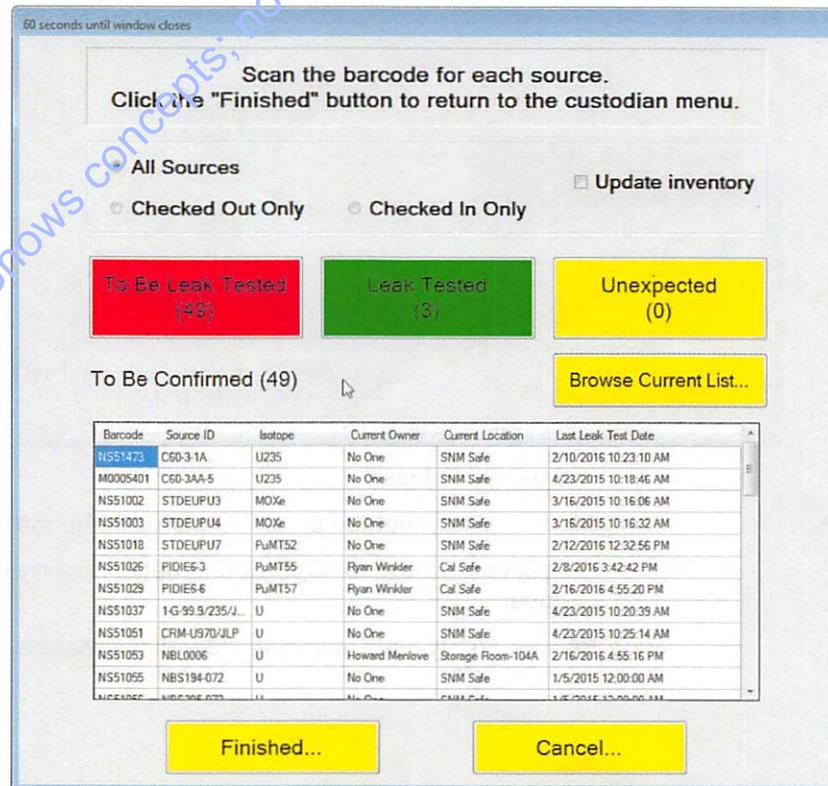


Select Leak Test Sources

The Confirm Inventory Check Box should be unselected

Scan barcodes for three of the source ids listed in the window.

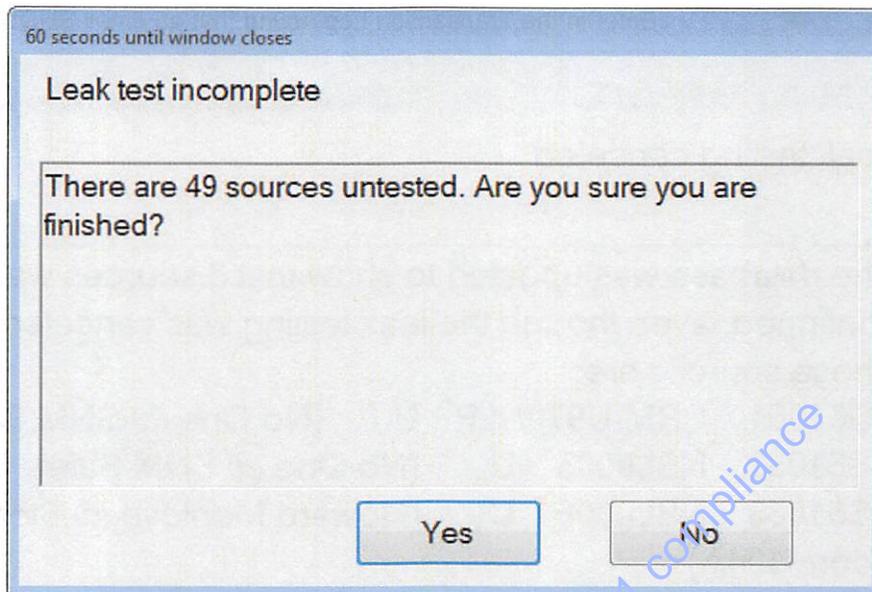
- ___95. Verify that the "To Be Leak Tested" and "Leak Tested" numbers are changed by three.



Click on the **Finished...** button and enter this transaction in your Transaction Log.

Software Test Results for Source Tracker Software

- __96. Verify that the warning that all sources weren't leak tested is displayed.



Click **Yes** to proceed.

- __97. Verify that the custodian is sent an email listing the sources that were tested.

- __98. Using the **Create Source Summary File** option, browse and verify that the source leak test dates have been updated for the three sources.

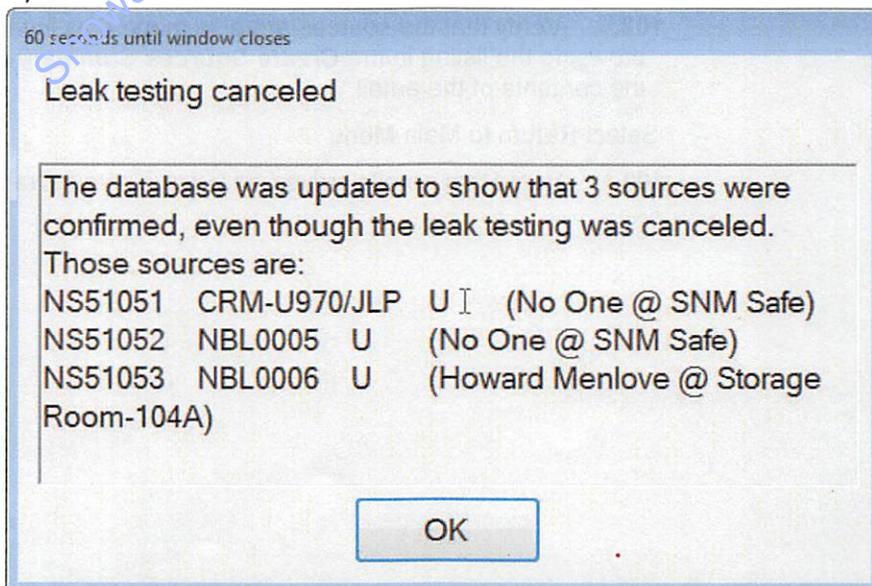
Enter the **Custodian Operations** options again and select the **Leak Test Sources** option.

The Confirm Inventory Check Box should be ~~selected~~

Scan three new sources to be leak tested.

Click on the **Cancel...** button.

- __99. Verify that the following message occurs.

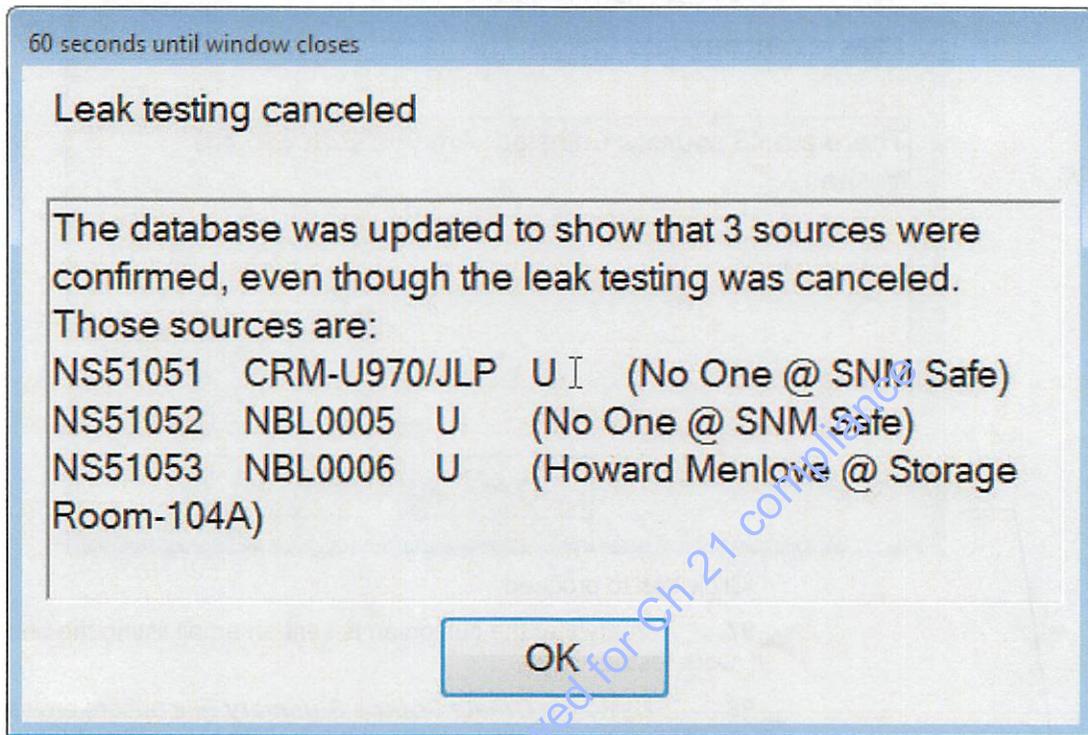


Select **No**.

Software Test Results for Source Tracker Software

__100. Verify that the Leak Test Sources window remains.

Select the **Cancel** button again and select **Yes** on the message window.
Enter in the Transaction Log noting that an email SHOULD NOT be sent.



__101. Verify that the custodian does not receive a message and the figure above appears.

Select the **Leak Test Sources...** option again.

The **Confirm Inventory** check box should be selected.

Scan two sources for leak test and confirmation.

Select **Finished** and enter this in your Transaction Log.

Select **OK**.

__102. Verify that the sources are also marked as inventoried by browsing the listing in the **Create Sources Summary File** option and in the contents of the email.

Select Return to Main Menu

__103. Verify that emails arrived as logged in your Transaction Log.

Software Test Results for Source Tracker Software

Table 5.9 Tests for Leak Test Selected Sources

Test Results		
Date:	Name of Tester:	Signature:
8/18/16		
		Test Status Not tested <input type="checkbox"/> Tested <input checked="" type="checkbox"/> In Process <input type="checkbox"/>
Date:	Name of Acceptance Authority:	Signature:
8/18/16		
		Test Status Accepted <input checked="" type="checkbox"/> Not Accepted <input type="checkbox"/>
Acceptance Notes:		
Enter the version of software tested here:		
Is this test being used for Regression Testing? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Is this a retest? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
If a retest, comment or provide any documentation here of the version of software that failed, the items corrected before the retest and the new software version being tested:		
Transaction Log		
Date/Time:	Description of transaction	Type:
8/18/2016	11:34 - No email inventory cancelled	Email <input checked="" type="checkbox"/> Log <input type="checkbox"/>
"	11:35 email sent confirm selected	Email <input checked="" type="checkbox"/> Log <input type="checkbox"/>
Test #:	Expected Results:	PASS/FAIL
92	Verify that the user is prompted for the Custodian z number.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
93	Verify that the program returns to the main screen.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
94	Verify that Custodian Operations window is displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
95	Verify that the "To Be Leak Tested" and "Leak Tested" numbers are changed by three.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
96	Verify that the warning that all sources weren't leak tested is displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
97	Verify that the custodian is sent an email listing the sources that were tested.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
98	Using the Create Source Summary File option, browse and verify that the source leak test dates have been updated for the three sources.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
99	Verify that the following message occurs.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
100	Verify that the Leak Test Sources window remains.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
101	Verify that the custodian does not receive a message and the figure above appears.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
102	Verify that the sources are also marked as inventoried by browsing the listing in the Create Sources Summary File option and in the contents of the email.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
103	Verify that emails arrived as logged in your Transaction Log.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
Comments		

Software Test Results for Source Tracker Software

the verified emails sent

Shows concepts; not reviewed for Ch 21 compliance

5.10. Add/Remove/Modify Source [Demonstration/Validation/Communication/Boundary Condition Test]

5.10.1. Purpose

Verify that Custodians may enter new sources in the Source Tracker database using the program interface. Verify that newly entered sources are "unverified" until other custodians are notified and verify the source entry. Verify that Custodians can make changes to existing sources in the database. Verify that custodians can add source and certificate photos to the database and that those pictures are accessible to normal users when viewing source details.

5.10.2. Input

This input will be done via keyboard/mouse at a Custodian PC and not at a Source Tracker workstation. All source information for new sources should be input. At least two custodian z numbers will be required to complete the verification process. Source and certificate photos should be added to the database, and users should be able to view these photos in the source details of the **Browse Sources** form. For testing purposes, any two image files may be used.

5.10.3. Output

New source records are added to the database or existing records are updated. Photos are added to the database and can be viewed in the **Browse Sources** form.

5.10.4. Process Steps

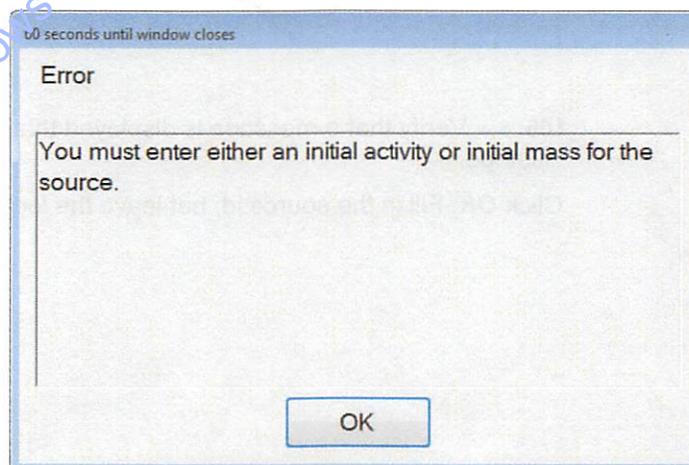
Select **Custodian Operations** and enter a custodian Z number.

Select Add/Modify Source

Enter a new source not in the database (the system admin can provide a barcode of a source not present in the database for testing).

Fill in some basic information about the source. Required fields are marked on the form. Leave both the Initial Activity and Initial Mass fields blank.

Click **Save**.

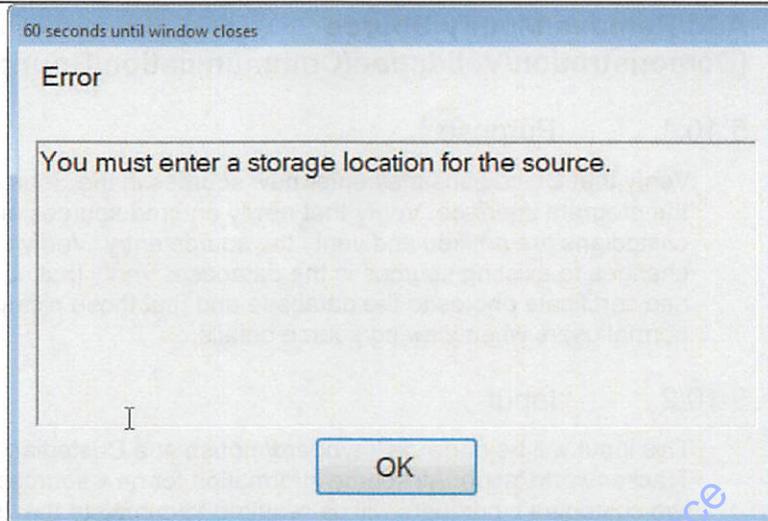


___104. Verify that a message is displayed that you must specify either the initial mass or initial activity.

Click **OK**.

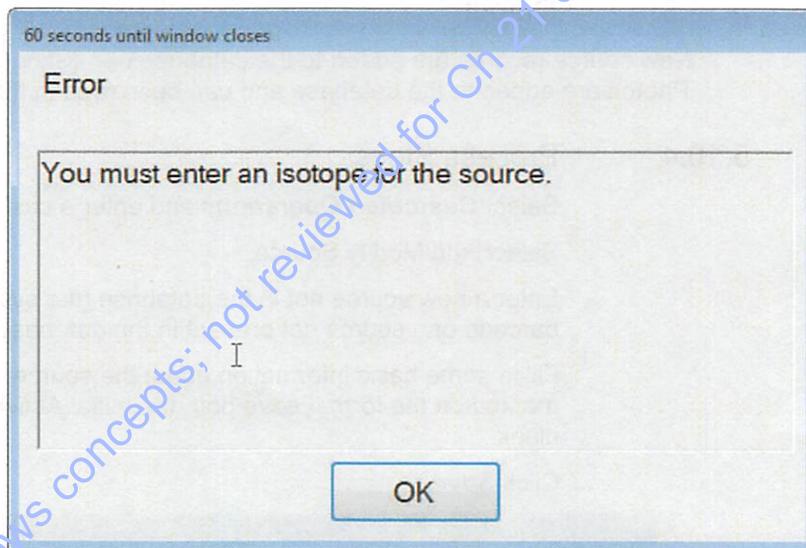
Fill in the Initial Activity or Initial Mass field but remove the isotope. Click **Save**.

Software Test Results for Source Tracker Software



- **105.** Verify that a message is displayed that you must specify a storage location.

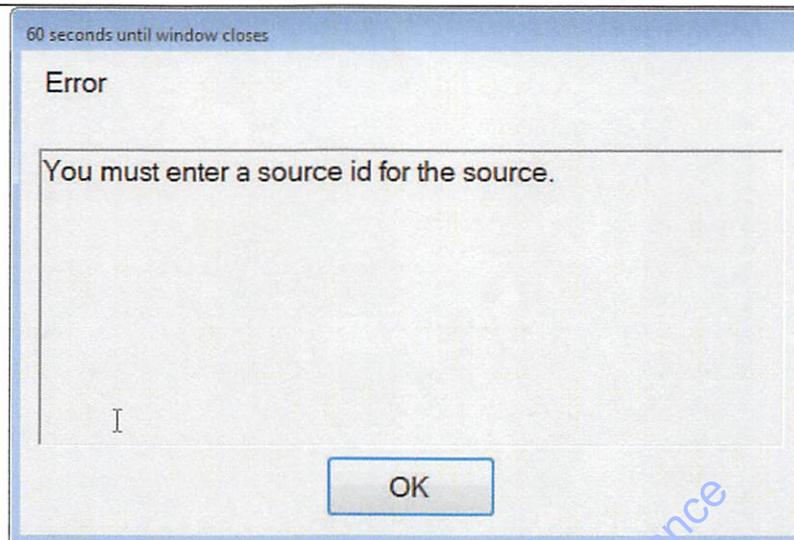
Click **OK**. Fill in the isotope field but remove the isotope. Click **Save**.



- **106.** Verify that a message is displayed that you must specify an isotope.

Click **OK**. Fill in the source id, but leave the location blank. Click **Save**.

Software Test Results for Source Tracker Software



- __107. Verify that a message is displayed that you must specify a source id.

Click **OK**. Select a valid location from the list.

Note your entries here:

Barcode: NS 232323

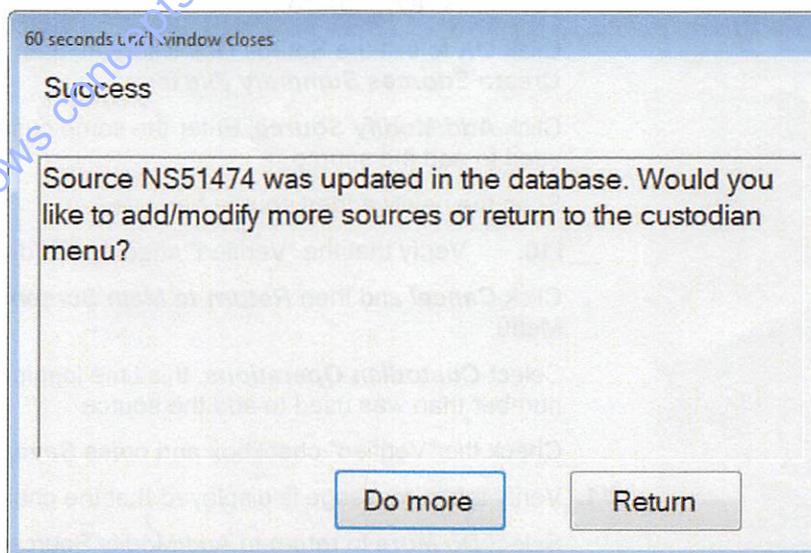
Source ID: M23

Initial Activity/Mass: Am 241

Isotope: 012

Location: 2nd Floor Hot cell

Click **Save**. Note this in your Transaction Log to verify that an email is sent later in the procedure.



- __108. Verify that a message is displayed indicating the source was added to the database.

Click **Return** to return to the Custodian Menu.

Use the **Create Sources Summary File** to browse sources and view the newly added source. Double-click the line in the display or select it and hit **Source Detail** to view the source detail for the newly added source.

Software Test Results for Source Tracker Software

60 seconds until window closes

Browse Sources

Source Bar Code: NS51018

Source Id: 5TDEUPU7

Isotope: PuMT52

Enrichment: 0.000 percent

Initial Mass: 4.000 grams

Initial Curies: 1.116000E+000 curies

Initial Activity Date: Wednesday, December 28, 1988

Percent MAR: 0.000

MAR % Override: 0.000

Dose: -N/A-

RSSQMS Number: 0

ESH-12 Flag:

Storage Location: SNM Safe

Current Location: SNM Safe

Current Owner:

Last Check In/Out Time: Wednesday, March 18, 2015

Steward:

Description: Small MOX vial

Verified

Mass Item

RAD Can

Exempt

Source Image Certificate Image

Leak Swipe:

Last Leak Test Date: Friday, February 12, 2016

Leak Test Comments:

Last Inventory Date: Saturday, February 13, 2016

View Isotopics

View Source Contributions

OK

- __109. Verify that the source is in the list, that the values you entered are displayed and that the status in the upper right-hand corner shows the source is NOT verified.

Click **OK** to exit the Source Detail screen, then **OK** again to exit the **Create Sources Summary File** form.

Click **Add/Modify Source**. Enter the same custodian Z number that was used to add the source.

Scan the newly added source barcode.

- __110. Verify that the "Verified" checkbox is disabled.

Click **Cancel** and then **Return to Main Screen** to return to the Main Menu.

Select **Custodian Operations**, this time logging in with a DIFFERENT Z number than was used to add the source.

Check the "Verified" checkbox and press **Save**.

- __111. Verify that a message is displayed that the changes were saved.

Select **Do More** to return to Add/Modify Source form.

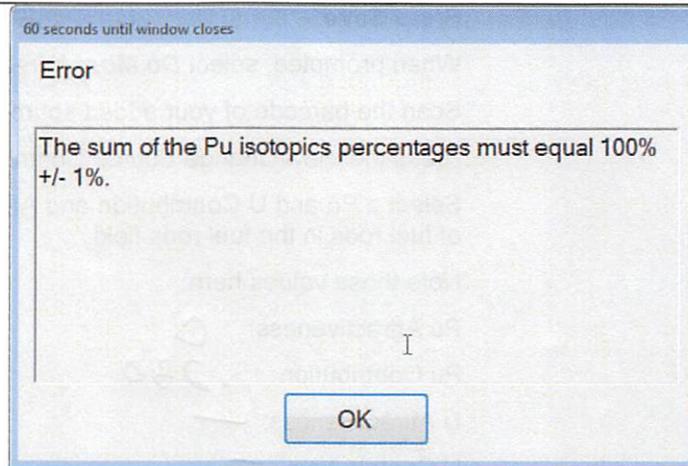
Scan the barcode of the source you just verified.

Select the View/Change Isotopics button

- __112. Verify that the Isotopics for the source are shown.

Enter Pu isotopic values whose sum < 100. Press **OK**.

Software Test Results for Source Tracker Software



__113. Verify that a warning that the values must sum to 100 is displayed.
Press **OK**. Enter Pu isotopic values whose sum > 100. Press **OK**.

__114. Verify that a message is displayed that the isotopic values must add up to 100.

Press **OK**. Change the Pu isotopic values again so that they add up to 100.

Note those values here:

Pu238: 20

Pu239: 20

Pu240: 20

Pu241: 20

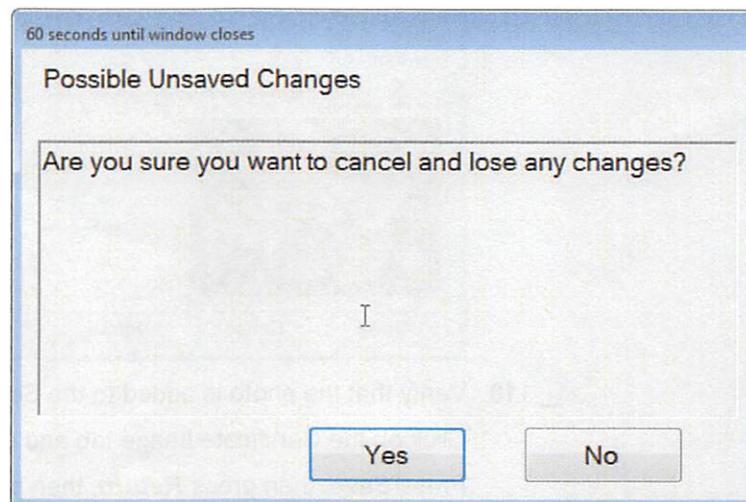
Pu242: 20

Am241: —

Click **OK**.

Verify that the program returns you to the Source Info form.

Press **Cancel**



__115. Verify that a warning that unsaved changes will be lost is displayed.
Press **No**

__116. Verify that the program returns you to the Source add/modify page.

Software Test Results for Source Tracker Software

Press **Save**.

When prompted, select **Do More** to return to the source add/modify page.

Scan the barcode of your added source again.

Press the View/Change Source Contributions button.

Select a Pu and U Contribution and Attractiveness and set some number of fuel rods in the fuel rods field.

Note those values here:

Pu Attractiveness: **C**

Pu Contribution **.230**

U Attractiveness: **—**

U Contribution: **—**

Fuel Rods: **—**

Press **OK**.

Press **Save**.

When prompted, select **Return** to return to the Custodian Menu.

Select **Add/Modify Source** and enter a custodian Z number.

Scan the same source we have been modifying.

Click on the Source Image screen.

- ___117. Verify that a file browser is shown to allow you to choose an image for the source.

Choose one and press Open.

39 seconds until window refresh

Modify Existing Source in DB

Source ID Code: 285214

Source ID: depth

AmBe: AmBe

Enrichment: 0.000 percent

Initial Mass: 0.001 grams

Initial Cures: 0.000000E+000 cures } one of these

Initial Activity Date: Thursday, February 18, 2016

Percent MAR: 0.659

MAR % Override: 0.000

Date: N/A

HSSOMS Number: 0

ESH-12 Flag:

Storage Location: Cage

Current Location: Cage

Current Owner:

Last Check In/Out Date: Thursday, February 18, 2016

Stowed:

Description:

Leak Swep: 0

Last Leak Test Date: Thursday, February 18, 2016

Leak Test Comments:

Last Inventory Date: Thursday, February 18, 2016

Source Image Certificate Image

Save Cancel Delete View/Change Isotopics View/Change Source Contributions

- ___118. Verify that the photo is added to the Source Image Tab.

Click on the Certificate Image tab and choose a photo for it.

Press **Save**, then press **Return**, then press **Return to Main Screen**.

Click **Browse Sources** and enter a normal user's Z Number.

Find your added source in the listing and double-click to view the source detail.

Software Test Results for Source Tracker Software

57 seconds until window closes

Browse Sources

Source Bar Code	MS51474	<input checked="" type="checkbox"/> Verified	
Source Id	deply	Storage Location	Cage
Isotope	AmBe	Current Location	Cage
Enrichment	0.000	Current Owner	
Initial Mass	0.001	Next Check-In/Out Date	Thursday, February 18, 2016
Initial Count	0.000000E+000	Steward	
Initial Activity Date	Thursday, February 18, 2016	Description	
Percent MAR	0.659	<input type="checkbox"/> Mass Item	
MAR % Override	0.000	<input type="checkbox"/> RAD Can	
Date	N/A	<input type="checkbox"/> Exempt	
RISDMS Number	0		
ESH-12 Reg			

Source Image Certificate Image



Look Swaps: 0
Last Look Test Date: Thursday, February 18, 2016
Last Inventory: Thursday, February 18, 2016

- ___119. Verify that the information displayed matches the information you entered, and that the images you added are visible in this view.

Click OK to return to the Main Menu

Choose Custodian Operations and enter a custodian Z number

Select Add/Modify Source

Scan the same barcode added earlier.

Press Delete.

- ___120. Verify that the source is deleted by looking in the Source Summary

Choose Add/Modify Source and enter Custodian Z Number.

Scan the barcode you just deleted.

Add details, recording your entries here on the next page, being sure to select a MASS location from the "Storage Location" list.

Select the "MASS Item" checkbox.

- ___121. Verify that Storage Location is reset and that a list of only MASS locations is displayed.

Software Test Results for Source Tracker Software

58 seconds until window closes

Add New Source to DB

Required Fields Marked with *

Source Bar Code	INS232323	*	Storage Location	Cal Safe	*
Source Id	M24	*	Current Location		
Isotope	Pu238	*	Current Owner		
Enrichment	0.000	percent	Last Check In/Out Time	Friday, February 19, 2016	
Initial Mass	0.000 25.1	grams	Steward		
Initial Curies	0.000000E+000	curies	Description		
Initial Activity Date	Friday, February 19, 2016		<input checked="" type="checkbox"/> Mass Item		
Percent MAR	0.000		<input type="checkbox"/> RAD Cap		
MAR % Override	0.000		<input type="checkbox"/> Exempt		
Dose	-N/A-		Leak Swipe	0	
RSSDMS Number	0 00025		Last Leak Test Date	Friday, February 19, 2016	
ESH-12 Reg			Leak Test Comments		
Source Image	Certificate Image		Last Inventory Date	Friday, February 19, 2016	

Shows concepts, not reviewed for GPO 21 compliance

Software Test Results for Source Tracker Software

__122. SELECT A MASS LOCATION

Select a valid MASS location. Click Save. Note this in your Transaction Log to verify that an email is sent for verification.

Using the Choose Create Sources Summary option, find the newly added source, double-click to view details.

__123. Verify the data entered matches source detail.

Return to the in Menu.

Try to check out the source.

__124. Verify that the transaction is not allowed.

Try to re-assign the source

__125. Verify that the transaction is not allowed.

Try to permanently transfer the source.

__126. Verify that the transaction is not allowed.

__127. Verify that verification emails were sent as recorded in the handwritten Transaction Log.

Shows concepts; not reviewed for Ch 21 compliance

Software Test Results for Source Tracker Software

60 seconds until window closes

Isotopics

Pu 238 Percent	<input type="text" value="0.0000"/>
Pu 239 Percent	<input type="text" value="0.0000"/>
Pu 240 Percent	<input type="text" value="0.0000"/>
Pu 241 Percent	<input type="text" value="0.0000"/>
Pu 242 Percent	<input type="text" value="0.0000"/>
Am 241 Percent	<input type="text" value="0.0000"/>

OK

60 seconds until window closes

Contributions

MBA Pu Attractiveness	<input type="text"/>
MBA Pu Contribution	<input type="text" value="0.000"/>
MEA U Attractiveness	<input type="text"/>
MBA U Contribution	<input type="text" value="0.000"/>
Fuel rod	<input type="text" value="0"/>

OK

Shows concepts not reviewed for Ch 21 compliance

Software Test Results for Source Tracker Software

Table 5.10 Tests for Add/Modify Source

Test Results			
Date:	Name of Tester:	Signature:	Test Status
8/18/16			Not tested <input type="checkbox"/> Tested <input checked="" type="checkbox"/> In Process <input type="checkbox"/>
Date:	Name of Acceptance Authority:	Signature:	Test Status
8/18/16			Accepted <input checked="" type="checkbox"/> Not Accepted <input type="checkbox"/>
Acceptance Notes:			
Enter the version of software tested here:			3.0.6072
Is this test being used for Regression Testing? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Is this a retest? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
If a retest, comment or provide any documentation here of the version of software that failed, the items corrected before the retest and the new software version being tested:			
Transaction Log			
Date/Time:	Description of transaction	Type:	
8/18/2016	Add new Source NS222323 11:43	Email <input checked="" type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
		Email <input type="checkbox"/> Log <input type="checkbox"/>	
Test #:	Expected Results:	PASS/FAIL	
104	Verify that a message is displayed that you must specify either the initial mass or initial activity.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
105	Verify that a message is displayed that you must specify a storage location.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
106	Verify that a message is displayed that you must specify an isotope.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
107	Verify that a message is displayed that you must specify a source id.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
108	Verify that a message is displayed indicating the source was added to the database.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
109	Verify that the source is in the list, that the values you entered are displayed and that the status in the upper right-hand corner shows the source is NOT verified.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
110	Verify that the "Verified" checkbox is disabled.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
111	Verify that a message is displayed that the changes were saved.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>

Software Test Results for Source Tracker Software

112	Verify that the Isotopics for the source are shown.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
113	Verify that a warning that the values must sum to 100 is displayed.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
114	Verify that a message is displayed that the isotopic values must add up to 100.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
115	Verify that a warning that unsaved changes will be lost is displayed.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
116	Verify that the program returns you to the Source add/modify page.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
117	Verify that a file browser is shown to allow you to choose an image for the source.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
118	Verify that the photo is added to the Source Image Tab.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
119	Verify that the information displayed matches the information you entered, and that the images you added are visible in this view.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
120	Verify that the source is deleted by looking in the Source Summary	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
121	Verify that Storage Location is reset and that a list of only MASS locations is displayed.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
122	SELECT A MASS LOCATION	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
123	Verify the data entered matches source detail.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
124	Verify that the transaction is not allowed.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
125	Verify that the transaction is not allowed.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
126	Verify that the transaction is not allowed.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
127	Verify that verification emails were sent as recorded in the handwritten Transaction Log.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>

Comments

Verified emails sent - HW

Shows concepts; not reviewed for Ch 21 compliance

5.16. MAR Calculation Validation [Demonstration/Validation Test]

5.16.1. Purpose

Verify that the calculations for MAR are correct and that movements are properly allowed or disallowed based on the calculations.

These tests verify that MAR values are calculated and handled properly for sources under the following circumstances:

- Removal
- Return
- Reassignment
- Permanent transfer
- Addition
- Modification
- Deletion

This section also verifies that a MAR override value may be set and will be treated the same as calculated MAR.

5.16.1. Input

- User Z numbers and representative source barcodes
- A list of sources ordered by MAR will be useful for selecting sources for the different operations; this list may be obtained by using the *Create Sources Summary File* operation on the Custodian form to list the non-exempt sources, sort by MAR by clicking on the column header, and then emailing the resulting list to yourself.
- MAR values for the buildings used in the test. This may be obtained by selecting the MAR status from the main menu and either writing the values down or doing a screen capture and printing the result.

5.16.2. Output

A filled-in form reflecting the results of the operations performed.

5.16.3. Process Steps

5.16.3.1. Setup

1. Fill in the table provided in Appendix A as described in the steps that follow. Rows already filled in are to serve as examples.
2. Fill the *Source* column with a set of sources that
 - a. will alter the destination MAR value with each move,
 - b. some of which will cause the move to be disallowed because the resultant destination MAR value would be over the allowed limit.
 - c. at least one of which will just put one of the building MAR values over 80%.
3. Select a few exempt sources to show that MAR is not counted.
4. Fill in the *From* column with each source's current room and building.
5. Fill in the *To* column with a location in another building.

Software Test Results for Source Tracker Software

6. Fill in the *Source MAR value (%)* column with the MAR value for each source. This can be found by browsing the sources and noting the value in the MAR column. The MAR column may be sorted by clicking the column header.
7. Fill in the *Building MAR before* columns with the initial MAR value for the buildings that will be used in the tests.

5.16.3.2. *Removing and returning sources*

This section verifies that when sources are removed and returned that the MAR values are taken into account before the transactions are allowed and the values are updated accordingly.

1. Remove the first source on the list to the location specified in column *To* (refer Section 5.2).
2. If the move was allowed, fill in the *Building MAR after* columns by selecting the *MAR Status* button on the main menu for the source building and take the value from the confirmation screen for the destination building. Put a "Y" in the *Move allowed?* column. Select the *MAR Status* button on the main menu and verify that the values shown for the source and destination buildings accurately reflect the transaction.
3. If the move was not allowed fill in the cell from the value determined in the *Confirm Transaction* screen. Note that in this case only one MAR value can be verified. Put a "N" in the *Move allowed?* column.
4. If the move was allowed and the destination building's MAR value is over 80%, verify that an email was sent to custodians warning them of this fact.
5. If the move was allowed, return the source to its original location (refer to Section 5.3).
6. Select the *MAR Status* button on the main menu. Put in a "Y" in the *RETURN Value and condition correct?* column if the MAR values are the same as before step 1.
7. Initial the *Source Tracker meets criteria* column if the values in the *Building MAR before* and *Building MAR after* columns are equal to or within + 1% error.
8. Repeat steps 1 – 8 with the selected sources.

___150. All operations completed as expected.

5.16.3.3. *Returning sources that cause MAR to be exceeded*

This section verifies that when a return is performed that the MAR values are taken into account and returns that would violate MAR are not allowed. Select one or more sets of sources such that you can remove source 1 from building A to another building, then move source 2 into building A, and when you try to return source 1 to building A the MAR will be exceeded.

Use the Appendix A sheet similarly as in the previous section, either filling it ahead of time or while the test is progressing. Log the returns in the same manner as checkouts, i.e., use the current location as the From location and the home location as the To location. This will make the data consistent and allow proper logging of results.

1. Note the building MAR values.
2. Remove source 1 which has a moderate MAR value from building A to building B.
3. Remove source 2 from some other building to building A. Source 2's MAR value should be such that it makes the total MAR for building A close to 100%.

Software Test Results for Source Tracker Software

4. Try to return source 1 to building A. If source 1's MAR is large enough then the move should be disallowed and an error message will be displayed.
 5. Click OK
 6. Return source 2 to its original location.
 7. Return source 1 to its original location. This time the return should be allowed.
 8. Verify that the building MAR values are as they were before the test was executed.
- __151. All operations completed as expected.

5.16.3.4. *Reassigning sources* ✓

This section verifies that when sources are reassigned to another building that the MAR values are calculated correctly and that reassignments that would cause MAR to exceed 100% are not allowed.

As before, log the reassignments in the same manner as removals and returns to allow tracking of success and building MAR values.

1. Identify a large-MAR value source and check it out to a location in the same building.
2. Use the Reassign button on the main menu to reassign the sources location to another building where the source's MAR value added to the building's MAR value would exceed 100%.
3. Verify that the transaction is not allowed because the MAR value for the destination building would be exceeded. Verify that the calculation of (exceeded) MAR for the destination building is correct.
4. Return the source to its original location.
5. Repeat with other sources and buildings as needed.

__152. All operations completed as expected.

5.16.3.5. *Permanently transferring sources* ✓

This section verifies that when sources are permanently transferred to another building that the MAR values are calculated correctly and that permanent transfers that would cause MAR to exceed 100% are not allowed.

As before, log the reassignments in the same manner as removals and returns to allow tracking of success and building MAR values.

1. Access the *Custodian Operation* menu.
2. Identify a large-MAR value source and use the *Permanently Transfer Source* button to attempt to transfer it to a building whose MAR values is such that 100% would be exceeded were the transfer to take place.
3. Verify that the transfer is not allowed and that the excessive MAR value calculation for the destination building is correct.
4. Repeat with other sources and buildings as needed.

__153. All operations completed as expected.

5.16.3.6. *Adding a source* ✓

This section verifies that when sources are added to a building that the MAR values are calculated correctly and that additions that would cause MAR to exceed 100% are not allowed. *Note: The source(s) added in this section will be modified in the next.*

Software Test Results for Source Tracker Software

For Add/Modify/Delete tests, continue to use the log sheet, but in this case only enter values in the From columns to track source and building MAR values for added, modified, and deleted sources.

1. Access the *Custodian Operation* menu.
2. Click the *Add/Modify Source* button to bring up the Add/Modify Source screen.
3. Enter a made-up value in the *Source Bar Code* field and press Enter. The screen name should change to "Add New Source to DB".
4. Enter a Source Id and select a Storage Location that is in a building for which the MAR is known.
5. Select Isotope and Initial Mass values such that the Percent MAR value, when added to the building MAR value, will be over 100%. Note that to cause the Percent MAR field to be updated you must click on a field outside the Initial Mass field.
6. Click on the Save button and verify that the addition is not allowed and that the sum of the displayed Percent MAR field and the known building MAR value is correct.
7. Change the Initial Mass so that the sum of the Percent MAR field and the building MAR value is less than 100% and click Save. Verify that the source is added to the database.
8. Return to the main menu and use the *MAR Status* button to verify the new building MAR value.
9. Repeat with other sources and buildings as needed.

___154. All operations completed as expected.

5.16.3.7. *Modify a source*

This section verifies that when sources are modified that the MAR values are calculated correctly and that additions that would cause MAR to exceed 100% are not allowed. *Note: The source(s) used in this section were added in the previous.*

1. Access the *Custodian Operation* menu (if required).
2. Select the *Add/Modify Source* button to bring up the Add/Modify Source screen.
3. Enter a barcode for a source that was added in the previous test section and press Enter. The screen name should change to "Modify Existing Source in DB" and the previously-entered source's values should be displayed.
4. Modify the Initial Mass such that the new Percent MAR will cause the building's MAR limit to be exceeded and click on Save.
5. Verify that the modification is not allowed and that the calculation of the new Percent MAR and the building MAR values is correct. Click OK and change the Initial mass to a value that decreases the Percent MAR value enough to reduce the building MAR to below 100%. Click Save and verify that the modifications are saved.
6. Return to the main menu and use the *MAR Status* button to verify the new building MAR value.
7. Repeat as needed with other sources and buildings.

___155. All operations completed as expected.

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5.16.3.8. Delete a source

This section verifies that when a source is deleted that the building MAR values are recalculated properly. *Note: The source(s) deleted in this section were added and modified in the previous sections.*

1. Access the *Custodian Operation* menu (if required).
2. Select the *Add/Modify Source* button to bring up the Add/Modify Source screen.
3. Enter a barcode for a source that was added previously. The screen name should change to "Modify Existing Source in DB" and the previously-entered source's values should be displayed.
4. Click the Delete button to delete the source from the database and enter dummy responses to the next screen. Click OK when asked if you really want to delete the source.
5. Return to the main screen and use the *MAR Status* button to display the building MAR values. Verify that the building MAR accurately reflects the new value with the source deleted.
6. Repeat as needed with other sources and buildings.

___156. All operations completed as expected.

5.16.3.9. Verify MAR override setting - *FALSE*

This section verifies that the calculated MAR value for a source may be overridden and that the overridden value will thereafter be used for the source's MAR value.

1. Access the *Custodian Operation* menu (if required).
2. Select the *Add/Modify Source* button to bring up the Add/Modify Source screen.
3. Enter a barcode for a non-exempt source that does not have a MAR override value entered.
4. Note the value that appears in the *Percent MAR* field.
5. Enter a value into the *MAR % Override* field and verify that the new value appears in the *Percent MAR* field when you exit the *MAR % Override* field.
6. Exit the custodian menu and perform a transaction (Remove, Reassign, etc.) and verify that the percent MAR used for the source is the one entered as the override value.
7. Access the *Custodian Operation* menu again.
8. Select the *Add/Modify Source* button to bring up the Add/Modify Source screen.
9. Enter the barcode for the source used previously in this section.
10. Enter a 0 into the *MAR % Override* field and verify that the value that appears in the *Percent MAR* field when you exit the *MAR % Override* field is the one that was initially in that field.
11. Exit the custodian menu and perform a transaction (Remove, Reassign, etc.) and verify that the percent MAR used for the source is the calculated (initial) value.

___157. All operations completed as expected.

Software Test Results for Source Tracker Software

~~10 25 2016~~

Table 5.16 MAR Calculation Validation Test

Test Results			
Date:	Name of Tester:	Signature:	Test Status
8/25			Not tested <input type="checkbox"/> Tested <input checked="" type="checkbox"/> In Process <input type="checkbox"/>
Date:	Name of Acceptance Authority:	Signature:	Test Status
8/29/16			Accepted <input checked="" type="checkbox"/> Not Accepted <input type="checkbox"/>
Acceptance Notes:			
	Enter the version of software tested here:		3.0.6078
	Is this test being used for Regression Testing? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
	Is this a retest? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
	If a retest, comment or provide any documentation here of the version of software that failed, the items corrected before the retest and the new software version being tested:		
Transaction Log			
Date/Time:	Description of transaction	Type:	
		Email <input type="checkbox"/>	Log <input type="checkbox"/>
		Email <input type="checkbox"/>	Log <input type="checkbox"/>
Test #:	Expected Results:	PASS/FAIL	
150	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
151	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
152	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
153	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
154	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
155	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
156	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
157	All operations completed as expected.	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>

HW -
 Movements performed to/from all facilities.
 Sources were sampled to include errors found
 in pause. See attached excel sheet labelled
 'MAR Sources'

7. Appendix A

Verification of MAR calculations and handling during operations

Source	From		To		Source MAR value (%)	Building MAR before		Building MAR after		Move? Y/N		RETURN Value and conditions correct? Y/N	Source Tracker meets criteria (-001% to +1% error) Initial	
	Room	Bldg	Room	Bldg		From	To	From	To	Valid?	Allowed?			
NS51030	CMR School	3/29	Cal Safe	2	48.2	62.9	66.8	62.9	66.8	N				
NS51029	Cal Safe	2	VDG	27	31.3	66.8	54.8	35.5	86.1	Y				
NS51077	Cage	35/27	SNM Safe	35/2	3.5631	8.6355	13.7389	5.0724	17.3028	Y	Y	Y		
NS51026	Cal Safe	35/2	TA66 VTR	66/1	2.5035	17.3028	.0036	14.7986	2.5071	Y	Y	Y		
NS51020	TA66 VTR	66/1	NISC/SV	3/2322	0	2.5071	5.0731	2.5071	5.0731	Y	Y	Y		
NS61036	2nd Flr HC	35/27	NISC/SV	3/2322	3.4087	5.0724	5.0731	1.0637	8.4818	Y	Y	Y		
NS52005	Source Safe	35/2	Bldg 188	35/188	.0216	14.7986	0	14.7770	.0216	Y	Y	Y	Exempt	
NS52005	Bldg 188	35/188	Source Safe	35/27	.0216	.0216	14.7770	0	14.7986	Y	Y	Y		
NS51077	SNM Safe	35/2	Cage	35/27	3.5631	14.7986	1.0637	11.2355	5.228	Y	Y	Y		
NS76649	TA 16	16/-	Source Safe	35/27	70	11.2355	70.0008	81.2355	70008	Y	Y	Y	equal > 80%	
NS78888	TA 16	16/-	Source Safe	35/27	25	25.0008	81.2355	-	-	Y	N	Y	Added to TA-16 Disallowed	
NS51026	TA66/VTR	66/1	Cal Safe	35/2	2.5035	81.2355	.0036	-	-	-	-	-	-	
NS51026	TA66/VTR	66/1	Cal Safe	35/2	2.5035	81.2355	-	-	-	-	-	-	-	
NS51026	TA66/VTR	66/1	Cal Safe	35/2	2.5035	2.5071	81.2355	.0036	83.7389	Y	Y	Y	equal > 80%	
NS61099	Source Vault	3/2322	2nd Flr HC	35/27	.0339	8.4817	5.2268	8.4479	5.2606	Y	Y	Y	Exempt	
NS51020	Source Vault	3/2322	TA66 VTR	66/1	0	.0036	8.4479	.0036	8.4479	Y	Y	Y	Exempt	
NOTE: Found issue in U calcs. Bldg totals may not be same.													Version 3.0.10078	
NISC = 17.4340					35/2	- 84.6271	35/27 = 11.4181	66/1 = 2.1014	16/1 = 25.1128	35/188 = 0				
NS61036	2nd Flr HC	31												
NS61036	NISC/SV	3/2322	2nd Flr HC	35/27	3.4087	17.4340	11.4181	14.0253	14.8267	Y	Y	Y		
NS51026	Cal Safe	35/2	TA66 VTR	66/1	2.5035	2.1014	84.6271							
NS61099	TA66 2nd Flr HC	35/27	Source Vault	3/2322	.0339	14.8267	2.1014	14.7929	14.0592	Y	Y	Y		

Cont. (1)

~~TA-35 Bldg 27~~

7. Appendix A

Verification of MAR calculations and handling during operations

Source	From		To		Source MAR value (%)	Building MAR before		Building MAR after		Move? Y/N		RETURN Value and conditions correct? Y/N	Source Tracker meets criteria (-001% to +1% error) Initial
	Room	Bldg	Room	Bldg		From	To	From	To	Valid?	Allowed?		
NS51030	CMR School	3/29	Cal Safe	2	48.2	62.9	66.8	62.9	66.8	N			
NS51029	Cal Safe	2	VDG	27	31.3	66.8	54.8	35.5	86.1	Y			
NS51020	Source Vault	3/2302	TA16 VTR	16/11	0	14.0592	2.1014	14.0592	2.1014				Exempt
NS54008A	PF4-TA55	55	2nd Flr HC	35/27	6.3746	7.2181	14.7923	8.435	21.1670	Y	Y	Y	Reassign after checkout
NS54008A	2nd Flr HC	35/27	Source Vault	3/2302	16.3746	21.1670	14.0570	20.436	20.436	Y	Y	Y	to Bldg 27
NS76649	Source Safe	35/2				84.6271	N/A	14.6271		Y	Y	Y	Delete
NS78888	TA16	16/11	Source Vault			25.1128		20.1128		Y	Y	Y	Perm Trans.
NS51463	TA16	16/11	TA16	3/2302	0.4885	20.4316		20.9201		N	N	N	No rods @ NISC
NS53558	Cage	35/27	Source Safe	35/2	0.609	14.6271	14.7914	14.6280	14.6280	Y	Y	Y	
NS51024	SNM Safe	35/2	TA16	16/11	1.4614	14.6280	2.1128	1.28	1.5742				
								13.1666					

5.17. Criticality Calculation Validation [Demonstration/Validation Test]

5.17.1. Purpose

Verify that criticality calculations are correct and that transactions are not permitted if limits are exceeded.

These tests verify that criticality is checked and handled properly for sources under the following circumstances:

- Removal
- Return
- Reassignment
- Permanent transfer
- Addition
- Modification
- Deletion

5.17.2. Input

- User Z numbers and representative source barcodes
- A list of sources ordered by criticality will be useful for selecting sources for the different operations; this list may be obtained by using the *Create Sources Summary File* operation on the Custodian form to list the non-exempt sources, sorting by criticality by clicking on the column header, and then emailing the resulting list to yourself.
- Criticality values for the buildings used in the test. This may be obtained by selecting the *Criticality and Fuel Rod Status* button from the main menu and either writing the values down or doing a screen capture and printing the result.
- The criticality limits from the Crit_Limits table of the database.

5.17.3. Output

A filled-in form reflecting the results of the operations performed.

5.17.4. Process Steps

5.17.4.1. Setup

1. Fill in the table provided in Appendix A2 as described in the steps that follow. Rows already filled in are to serve as examples.
2. Fill the *Source* column with a set of sources that
 - a. will alter the destination criticality values with each move,
 - b. some of which will cause the move to be disallowed because the resultant destination criticality values would be over the allowed limit.
3. Select a few fuel rods whose criticality will be 0 because the *To* or *From* building has fuel rod limits.
4. Fill in the *From* column with each source's current room and building.
5. Fill in the *To* column with a location in another building.
6. Fill in the *Criticality* column with the values for each source.

Software Test Results for Source Tracker Software

Comments

Shows concepts; not reviewed for Ch 21 compliance

Software Test Results for Source Tracker Software

7. Fill in the *Building Crit* before columns with the initial criticality values for the buildings that will be used in the tests.

5.17.4.2. *Removing and returning sources*

This section verifies that when sources are removed and returned that the criticality values are taken into account before the transactions are allowed and the values are updated accordingly.

1. Remove the first source on the list to the location specified in column *To* (refer Section 5.2).
2. If the move was allowed, fill in the *Building crit after* columns using the value from the confirmation screen for the destination building and selecting the *Criticality and Fuel Rod Status* button on the main menu for the source building and. Put a "Y" in the *Move allowed?* column.
3. If the move was not allowed fill in the cell from the value determined in the *Confirm Transaction* screen. Note that in this case only one criticality value can be verified. Put a "N" in the *Move allowed?* column.
4. If the move was allowed, return the source to its original location (refer to Section 5.3).
5. Select the *Criticality and Fuel Rod Status* button on the main menu. Put in a "Y" in the *RETURN Value and condition correct?* column if the criticality values are the same as before step 1.
6. Initial the *Source Tracker meets criteria* column if the values in the *Building crit before* and *Building crit after* columns are equal to or within + 1% error.
7. Repeat steps 1 – 6 with the selected sources.

___158. All operations completed as expected.

5.17.4.3. *Returning sources that cause criticality limit to be exceeded*

This section verifies that when a return is performed that the criticality values are taken into account and returns that would violate criticality limits are not allowed. Select one or more sets of sources such that you can remove source 1 from building A to another building, then move source 2 into building A, and when you try to return source 1 to building A the criticality limit for the building will be exceeded.

Use the Appendix A2 sheet as in the previous section, either filling it ahead of time or while the test is progressing. Log the returns in the same manner as checkouts, i.e., use the current location as the From location and the home location as the To location. This will make the data consistent and allow proper logging of results.

1. Note the building criticality values.
2. Remove source 1 which has moderate criticality values from building A to building B.
3. Remove source 2 from some other building to building A. Source 2's criticality values should be such that it makes the total crit for building A close to the limit.
4. Try to return source 1 to building A. If source 1's criticality values are large enough then the move should be disallowed and a warning message should be displayed.
5. Click OK.
6. Return source 2 to its original location.
7. Return source 1 to its original location. This time the return should be allowed.

Software Test Results for Source Tracker Software

8. Verify that the building criticality values are as they were before the test was executed.

__159. All operations completed as expected.

5.17.4.4. *Reassigning sources*

This section verifies that when sources are reassigned to another building that the criticality values are calculated correctly and that reassignments that would cause criticality limits to be exceeded are not allowed.

As before, log the reassignments in the same manner as removals and returns to allow tracking of success and building criticality values.

1. Identify a large-crit source and check it out to a location in the same building.
2. Use the Reassign button on the main menu to reassign the source's location to another building where the source's criticality values added to the building's criticality values would be exceeded.
3. Verify that the transaction is not allowed because the criticality values for the destination building would be exceeded. Verify that the calculation of (exceeded) criticality values for the destination building is correct.
4. Return the source to its original location.
5. Repeat with other sources and buildings as needed.

__160. All operations completed as expected.

5.17.4.5. *Permanently transferring sources*

This section verifies that when sources are permanently transferred to another building that the criticality values are calculated correctly and that permanent transfers that would cause criticality values to be exceeded are not allowed.

As before, log the transfers in the same manner as removals and returns to allow tracking of success and building criticality values.

1. Access the *Custodian Operation* menu.
2. Identify a large-crit source and use the *Permanently Transfer Source* button to attempt to transfer it to a building whose criticality values are such that the building limits would be exceeded were the transfer to take place.
3. Verify that the transfer is not allowed and that the (excessive) criticality values calculated for the destination building are correct.
4. Repeat with other sources and buildings as needed.

__161. All operations completed as expected.

5.17.4.6. *Adding sources*

This section verifies that when sources are added to a building that the criticality values are calculated correctly and that additions that would cause criticality limits to be exceeded are not allowed. *Note: The source(s) added in this section will be modified in the next.*

For Add/Modify/Delete tests, continue to use the log sheet, but in this case only enter values in the From columns to track source and building criticality values for added, modified, and deleted sources.

1. Access the *Custodian Operation* menu.
2. Click the *Add/Modify Source* button to bring up the Add/Modify Source screen.

Software Test Results for Source Tracker Software

3. Enter a made-up value in the *Source Bar Code* field and press Enter. The screen name should change to "Add New Source to DB".
4. Enter a Source Id and select a Storage Location that is in a building for which the criticality values are known.
5. Select Isotope and Contributions values such that the criticality values, when added to the building criticality values, will exceed the building limits.
6. Click on the Save button and verify that the addition is not allowed and that the sum of the source's criticality values and the known building criticality values is correct.
7. Change the Contributions so that the sum of the source and building criticality values is less than the building limits and click Save. Verify that the source is added to the database.
8. Return to the main menu and use the *Criticality and Fuel Rod Status* button to verify the new building criticality value.
9. Repeat with other sources and buildings as needed.

__162. All operations completed as expected.

5.17.4.7. *Modify a source*

This section verifies that when sources are modified that the criticality values are calculated correctly and that modifications that would cause building limits to be exceeded are not allowed. *Note: The source(s) used in this section were added in the previous.*

1. Access the *Custodian Operation* menu (if required).
2. Select the *Add/Modify Source* button to bring up the Add/Modify Source screen.
3. Enter a barcode for a source that was added in the previous test section and press Enter. The screen name should change to "Modify Existing Source in DB" and the previously-entered source's values should be displayed.
4. Modify the contributions such that the new criticality values will cause the building's criticality limit to be exceeded and click on Save.
5. Verify that the modification is not allowed and that the sum of the source and building criticality values is correct. Click OK and change the Contributions to values that decrease the criticality values enough to reduce the sum to below the limits. Click Save and verify that the modifications are saved.
6. Return to the main menu and use the *Criticality and Fuel Rod Status* button to verify the new building criticality values.
7. Repeat as needed with other sources and buildings.

__163. All operations completed as expected.

5.17.4.8. *Delete a source*

This section verifies that when a source is deleted that the building criticality values are recalculated properly. *Note: The source(s) deleted in this section were added and modified in the previous sections.*

1. Access the *Custodian Operation* menu (if required).
2. Select the *Add/Modify Source* button to bring up the Add/Modify Source screen.

Software Test Results for Source Tracker Software

3. Enter a barcode for a source that was added previously. The screen name should change to "Modify Existing Source in DB" and the previously-entered source's values should be displayed.
 4. Click the Delete button to delete the source from the database and enter dummy responses to the next screen. Click OK when asked if you really want to delete the source.
 5. Return to the main screen and use the *Criticality and Fuel Rod Status* button to display the building criticality values. Verify that the building criticality values accurately reflect the new values with the source deleted.
 6. Repeat as needed with other sources and buildings.
- __164. All operations completed as expected.

Shows concepts; not reviewed for Ch 21 compliance

Software Test Results for Source Tracker Software

Table 5.17 Criticality Calculation Validation Test

Test Results		
Date:	Name of Tester:	Signature:
6/25		
Date:	Name of Acceptance Authority:	Signature:
7/29/16		
Test Status		
Not tested <input type="checkbox"/>		
Tested <input checked="" type="checkbox"/>		
In Process <input type="checkbox"/>		
Test Status		
Accepted <input checked="" type="checkbox"/>		
Not Accepted <input type="checkbox"/>		
Acceptance Notes:		
	Enter the version of software tested here:	
	3.0.6078	
	Is this test being used for Regression Testing? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
	Is this a retest? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
	If a retest, comment or provide any documentation here of the version of software that failed, the items corrected before the retest and the new software version being tested:	
Test #:	Expected Results:	PASS/FAIL
158	All operations completed as expected. Error! Reference source not found.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
159	All operations completed as expected.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
160	All operations completed as expected.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
161	All operations completed as expected.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
162	All operations completed as expected.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
163	All operations completed as expected.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
164	All operations completed as expected.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>

HN -
 Verified movements to/from all facilities.
 Sampled sources to include those found in
 CNT error. See Excel sheet attached and
 labeled 'CNT Sources'

8. Appendix A2

Verification of criticality calculations and handling during operations

Source	From		To		Source crit U / Pu	Building crit before U / Pu		Building crit after U / Pu		Move ? Y / N	RETURN Value and condition s correct? Y / N	Source Tracker meets criteria (-001% to +1% error)	Initial
	Room	Bldg	Room	Bldg		From	To	From	To				
NS51047	SNM Safe	2	VDG	27	98.4 / 0	1056 / 247	1090 / 258	953 / 247	1188 / 258	Y			
NS51077	Cage	35/2	SNM Safe	35/27	∅ / 1	1883.86 / 107.23	731.06 / 239.64	1883.86 / 107.23	731.06 / 240.64	Y	Y	Y	
NS51002	SNM Safe	35/2	Source Vault	3/2322	4 / 0	731.623 / 240.6364	816.057 / 11.0087	727.623 / 240.6364	816.057 / 11.0087	Y	Y	X	
NS51019	606 VTR	606/11	Basement	3/2322	∅ / 1	3303.36 / 1838.00	816.057 / 11.0087	3303.36 / 1838.00	816.057 / 12.0087	Y	Y	Y	
NS51019	Basement	3/2322	421	35/188	∅ / 1	816.057 / 12.0087	∅ / 1	816.057 / 11.0087	∅ / 1	Y	Y	Y	Reassign
NS51019	421	35/188	TAU6 VTR	606/11	∅ / 1	∅ / 1	3303.36 / 1838.00	∅ / 1	3303.36 / 1839.00	Y	Y	Y	
NS51260	VDG Safe	35/27	Source Vault	3/2322	∅ / 59	1883.86 / 107.23	816.057 / 11.0087	1883.86 / 48.23	816.057 / 70.09	Y	Y	Y	
NS51447	PF4	55	TAU6 VTR	606/11	∅ / 322.00	3303.36 / 1839	2134.20 / 1266	816.057 / 1	1	N	N	Y	Po over limit
NS60009	Source Vault	3/2322	TAU6	606	∅ / 005	816.057 / 70.09	32.4495 / 81.7010	816.057 / 70.08	32.4541 / 81.7010	Y	Y	Y	
NS99999							777.06						Add New
NS333333	Cal Safe				50 / ∅		777.06 / 240.6364		777.06 / 48.23				
NS333333	Cal Safe						777.06 / 240.6364		727.06 / 240.64				Delete

Mar Sources

Barcode	SourceID	Isotope	InitMass	InitCuries	StorageLoc	CurrLoc
MYERS PD	1606C	Pd103	NULL	0.00126	Source Vault	Source Vault
MyersIn111	RX#461763	In111	NULL	0.001	Source Vault	Source Vault
NS52075		270 Ra226	0	2.5	2nd Floor Hot Cell	2nd Floor Hot Cell
NS52076		832 Ra226	0	1.97	2nd Floor Hot Cell	2nd Floor Hot Cell
NS53150	Q30514	Pm147	0	4.50E-06	Source Safe	Source Safe
NS61099	10261-2	C14	NULL	0.131	Source Vault	Source Vault
NS61129	10261-4	Cl36	NULL	1.45E-05	Source Vault	Source Vault
NS62073	424-9(ER)	Ir192	NULL	31	Source Vault	Source Vault
NS62118	ATI-BC-1	Ra223	NULL	0.000162	Source Vault	Source Vault
NS62130	1316-5-9	Eu154	NULL	0.00001036	Source Vault	Source Vault
NS62142	1309-82-2	Ag110m	NULL	5.39E-05	Source Vault	Source Vault
NS62173	1405-88-1	Ge68	NULL	1.00E-04	Source Vault	Source Vault
NS62175	094-6F	Pd103	NULL	6.18E-04	Source Vault	Source Vault
NS62181	KS-574	Kr85	NULL	0.001	Source Vault	Source Vault
NS62183	1422-39	Tl204	NULL	1.00E-04	Source Vault	Source Vault
NS62187	1422-73-1	Cr51	NULL	0.0015	Source Vault	Source Vault
NS62190	T321532	Pd103	NULL	0.001	Source Vault	Source Vault
NS62192		24585 In111	NULL	7.00E-03	Source Vault	Source Vault
NS62200		38364 F18	NULL	0.001	Source Vault	Source Vault
NS62208	1442-28	Cr51	NULL	0.001065	Source Vault	Source Vault
NS62209	T323273	Pd103	NULL	0.06013	Source Vault	Source Vault
NS62212		39444 In111	NULL	5.00E-03	Source Vault	Source Vault
NS62217	B583	Ni63	NULL	0.0063	603 Safe	603 Safe
NS62235	60192B	Co60	NULL	15.9	Source Vault	Source Vault
NS62237	1476-27-1	C14	NULL	1.02E-07	Source Vault	Source Vault
NS62240	1476-27-3	Cl36	NULL	1.00E-08	Source Vault	Source Vault
NS62252	NEZ072	Rb86	NULL	5.00E-03	Source Vault	Source Vault
NS80004	92SR4700753	Sr90	0	0	A179	A179
NS80005	90PU4703191	Pu239	0	0	A179	A179
NS80019	5018-03	Th232	0	0	A179	A179
NS80020	5016-03	Th232	0	0	A179	A179
NS90013	RX#149327	I123	NULL	5.68E-04	Source Vault	Source Vault
NS90014	RX#150738	In111	NULL	9.00E-03	Source Vault	Source Vault
NS90017	RX#150736	F18	NULL	0.00125	Source Vault	Source Vault
NS90018	1555-37-3	zr95	NULL	0.00065	Source Vault	Source Vault
NS90020	1555-37-1	Cr51	NULL	0.0015	Source Vault	Source Vault
NS90038	U232-2	U232	NULL	4.99E-05	Source Vault	Source Vault

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NS90039	U232-6	U232	NULL	2.03E-05	Source Vault	Source Vault
NS90046	1686-67-1	Ag110m	NULL	4.00E-05	Source Vault	Source Vault
NS90049	1686-67-3	Sb124	NULL	1.00E-04	Source Vault	Source Vault
NS90051	1686-67-5	Zr95	NULL	1.00E-04	Source Vault	Source Vault
NS90059	RX#30873	In111	NULL	5.32E-04	Source Vault	Source Vault
NS90075	3393447SO	Pd103	NULL	0.00155	Source Vault	Source Vault
NS90077	Sample A	Sr82	NULL	4.94E-05	Source Vault	Source Vault
NS90078	66-0216	Ra223	NULL	5.00E-04	Source Vault	Source Vault
NS90086	1702-13-4	Sb124	NULL	0.001	Source Vault	Source Vault
NS90089	0607-02 (ER)	Co60	NULL	1.05	Source Vault	North Hot Cell
NS90104	1742-93-2	Sb124	NULL	0.0001056	Source Vault	Source Vault
NS90108	1742-93-1	Sb124	NULL	0.0001015	Source Vault	Source Vault
NS90112	1749-44	Gd148	NULL	0.0000001	603 Safe	603 Safe
NS90118	3788700SO	Pd103	NULL	0.00164	Source Vault	Source Vault
NS90127	C-IIAC Sr-82	Sr82	NULL	0.0000611	Source Vault	Source Vault
NS90129	97304B	Co60	NULL	4.04	303C	Classified Vault
NS90134	Myers Sr82	Sr82	NULL	1.00E-05	Source Vault	Source Vault
NS90135	NEZ030001MC	Cr51	NULL	0.001	Source Vault	Source Vault
Steve Ra2	ET37. 2016	Ra223	NULL	4.00E-05	Source Vault	Source Vault

(56 rows affected)

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Crit Sources

NISC
 - Choose short HL
 #192 = NS62073

ID	BarCode	SourceID	Isotope	Enrichment	InitMass	InitCuries	InitActivityDa	Mar_Perc	DoseRate	Registered	ESH12_Reg	StorageLoc	CurrLoc
1349	NS70064	C-CDE-118	Pu239		0	0.387	0.024	00:00:0	0	0	0	C118	C118
1350	NS70065	C-CDE-18	Pu239		100	0.3915	0.025	00:00:0	0	0	0	C18	C18
46	NS51074		646119 MOXe		21.16	0.2684	0.07497827	00:00:0	0	0	1308	-1 Cage	Cage
47	NS51075		646066 MOXn		1.7	0.1553	0.1436	00:00:0	0	0	1306	-1 Cage	Cage
48	NS51076		646078 MOXn		9.3	0.8203	0.7566	00:00:0	0	0	1322	-1 Cage	Cage
50	NS51078		646089 MOXn		2.54	0.2346	0.2164	00:00:0	0	0	1323	-1 Cage	Cage
349	NS52011	P385	Pu239		0	0	0.0001	00:00:0	0	0	244	-1 Cage	Cage
350	NS52012	P386	Pu239		0	0	0.0001	00:00:0	0	0	243	-1 Cage	Cage
351	NS52013	P387	Pu239		0	0	0.0001	00:00:0	0	0	242	-1 Cage	Cage
352	NS52014	P388	Pu239		0	0	0.0001	00:00:0	0	0	245	-1 Cage	Cage
58	NS51087	655-000	PuMTS2		0	10	2.79	00:00:0	0	0	1321	-1 Cage	Cage
272	NS51267	1.0WJ	PuMT83		0	1.9	0	00:00:0	0	0	1247	-1 Cal Safe	Cal Safe
273	NS51268	1.5WF	PuMT83		0	3	0	00:00:0	0	0	1250	-1 Cal Safe	Cal Safe
274	NS51276	GVB24-0.1WB	PuMT83		0	0.3	0	00:00:0	0	0	1252	-1 Cal Safe	Calorimetry Lab
275	NS51277	GVB24-0.2WC	PuMT83		0	0.4	0	00:00:0	0	0	1254	-1 Cal Safe	Cal Safe
276	NS51280	GVB24-1.5WG	PuMT83		0	3	0	00:00:0	0	0	1251	-1 Cal Safe	Cal Safe
277	NS51281	GVB24-1.5WJ	PuMT83		0	2.9	0	00:00:0	0	0	1253	-1 Cal Safe	Cal Safe
278	NS51283	MAD-1469-F79	PuMT83		0	7.8	0	00:00:0	0	0	1255	-1 Cal Safe	Cal Safe
279	NS51284	UAS-1403-B85	PuMT83		0	7.9	0	00:00:0	0	0	1249	-1 Cal Safe	Cal Safe
24	NS51032	GVB24-5W1	PuMT83		0	0.7524	11.06	00:00:0	0	0	1248	-1 Cal Safe	Aries Lab
4	NS51002	STDEUP3	MOXe		5.17	0.218	0.0608787	00:00:0	0	0	1298	-1 SNM Safe	SNM Safe
5	NS51003	STDEUP4	MOXe		9.83	0.436	0.1217783	00:00:0	0	0	1290	-1 SNM Safe	SNM Safe
353	NS52015	P389	Pu239		0	0	0.0001	00:00:0	0	0	339	-1 SNM Safe	SNM Safe
354	NS52016	P390	Pu239		0	0	0.0001	00:00:0	0	0	246	-1 SNM Safe	SNM Safe
348	NS52010	119-40-1	Pu239		0	0	0.0001	00:00:0	0	0	247	-1 SNM Safe	SNM Safe
53	NS51081	STDIS03	PuMTS1		0	11	1.604	00:00:0	0	0	1315	-1 SNM Safe	SNM Safe
55	NS51083	STDSGA100	PuMTS1		0	100	14.58	00:00:0	0	0	1287	-1 SNM Safe	SNM Safe
57	NS51085	STDSGMC-6	PuMTS1		0	50	7.29	00:00:0	0	0	1294	-1 SNM Safe	SNM Safe
13	NS51018	STDEUP7	PuMTS2		0	4	1.116	00:00:0	0	0	1296	-1 SNM Safe	SNM Safe
72	NS51107	STDIS09	PuMTS3		0	12	5.489	00:00:0	0	0	1316	-1 SNM Safe	SNM Safe
73	NS51108	STDIS012	PuMTS4		0	20	18.45	00:00:0	0	0	1333	-1 SNM Safe	SNM Safe
75	NS51110	STDIS015	PuMTS5		0	12	13.88	00:00:0	0	0	1317	-1 SNM Safe	SNM Safe
1555	NS60006	Casson Sources	Pu238	NULL	0	0	7.26E-11	00:00:0	NULL	0	0	Source Vault	Source Vault
1541	NS51082	STDSGA10	Pu239	NULL	10	1.46	00:00:0	NULL	0	0	1222	Source Vault	Source Vault
1557	NS60009	Casson Sources	Pu239	NULL	0.0046	0.00028346	00:00:0	NULL	0	0	1222	Source Vault	Source Vault
1989	NS6BAG#3P	BAG#3P	Pu239	NULL	0.0886	0.00549	00:00:0	NULL	0	0	0	Source Vault	Source Vault
7	NS51005	STDEUP6	MOXe		76.59	4.271	0.9124417	00:00:0	0	0	1289	-1 TA-66 VTR	TA-66 VTR
9	NS51007	JLP151	PuMTS1		0	3	0.4374	00:00:0	0	0	1330	-1 TA-66 VTR	TA-66 VTR
10	NS51008	STDSGCAL20	PuMTS1		0	20	2.916	00:00:0	0	0	1335	-1 TA-66 VTR	TA-66 VTR
11	NS51009	ISOSTD117	PuMTS2		0	3	0.837	00:00:0	0	0	1311	-1 TA-66 VTR	TA-66 VTR
62	NS51091	86-000	PuMTS2		0	10	2.79	00:00:0	0	0	1318	-1 TA-66 VTR	TA-66 VTR
63	NS51092	87-000	PuMTS2		0	10	2.79	00:00:0	0	0	1303	-1 TA-66 VTR	TA-66 VTR
64	NS51093	88-000	PuMTS2		0	10	2.79	00:00:0	0	0	1319	-1 TA-66 VTR	TA-66 VTR
65	NS51094	89-000	PuMTS2		0	10	2.79	00:00:0	0	0	1304	-1 TA-66 VTR	TA-66 VTR
66	NS51095	90-000	PuMTS2		0	10	2.79	00:00:0	0	0	1320	-1 TA-66 VTR	TA-66 VTR
67	NS51096	91-000	PuMTS2		0	10	2.79	00:00:0	0	0	1305	-1 TA-66 VTR	TA-66 VTR
69	NS51099	CBNM-PU93-JLP	PuMTS2		0	6	1.674	00:00:0	0	0	1309	-1 TA-66 VTR	TA-66 VTR
307	NS51436	STD11	PuMTS2		0	60	16.74	00:00:0	0	0	1331	-1 TA-66 VTR	TA-66 VTR
14	NS51019	ISOSTD118	PuMTS4		0	1	0.927	00:00:0	0	0	1328	-1 TA-66 VTR	TA-66 VTR
15	NS51020	ISOSTD119	PuMTS4		0	2	1.855	00:00:0	0	0	1312	-1 TA-66 VTR	TA-66 VTR
16	NS51021	ISOSTD116	PuMTS5		0	1	1.257	00:00:0	0	0	1327	-1 TA-66 VTR	TA-66 VTR
17	NS51022	ISOSTD120	PuMTS5		0	2	2.314	00:00:0	0	0	1329	-1 TA-66 VTR	TA-66 VTR
74	NS51109	CBNM-PU84-JLP	PuMTS5		0	6	6.942	00:00:0	0	0	1325	-1 TA-66 VTR	TA-66 VTR
18	NS51023	ISOSTD121	PuMTS6		0	3	3.942	00:00:0	0	0	1313	-1 TA-66 VTR	TA-66 VTR
76	NS51111	CBNM-PU70-JLP	PuMTS6		0	6	7.884	00:00:0	0	0	1334	-1 TA-66 VTR	TA-66 VTR
306	NS51433	LAQ250C10	PuMTS6		0	60	55	00:00:0	0	0	1314	-1 TA-66 VTR	TA-66 VTR
51	NS51079	FZC158	Pu240		0	1	0.2268	00:00:0	0	0	1326	-1 VDG Safe	VDG Safe
56	NS51084	STDSGA30	PuMTS1		0	30	4.374	00:00:0	0	0	1295	-1 VDG Safe	VDG Safe
270	NS51260	GVB18-#21	PuMTS6		0	5	60	00:00:0	0	0	1310	-1 VDG Safe	VDG Safe
77	NS51112	CBNM-PU61-JLP	PuMTS7		0	6	16.77	00:00:0	0	0	1324	-1 VDG Safe	VDG Safe

Total Pu Mass 593.2277

7/6/2016 TA-66 ST Total	1604.95
TA66 Total	236
	1840.95
7/6/2016 TA35/2 ST Total	2.35
TA35/2 Total	238.3849
	240.7349
7/6/2016 TA35/27 ST Total	2.23
TA35/27 Total	107.4786
	109.7086
7/6/2016 TA3/2322 ST Total	0
TA3/2322 Total	10.0932
	10.0932

Values adjusted to reflect only Pu mass

Shows concept not reviewed for compliance

5.22. Network Outage and other Failure Modes [Demonstration/Failure Mode Test]

5.22.1. Purpose

Verify that Source Tracker appropriately handles the case where the central database is not available.

5.22.2. Input

Disconnecting network connections when instructed.

5.22.3. Output

Verification of response in Source Tracker GUI.

5.22.4. Process Steps

- Shut down Source Tracker using the **Custodian Options/Exit Program** option.
- Start Source Tracker.
 - ___190. Verify that the program displays an error that the database cannot be connected, but that the Main Menu and black screen still lock the entire screen.
- Plug the network cable back in.
- Use **Remove Source from Home Repository** to check out a source to another location (any random source at your current location is ok).
 - ___191. Verify that the source can be moved and that no database errors are displayed.
- Return the source using the **Return Source to Home Repository**.
- Repeat the steps to **Remove Source from Home Repository**, but when the transaction detail screen is displayed, stop.
- Disconnect the network cable.
 - Press the **Log Transaction** button.
 - ___192. Verify that an error is displayed to the screen showing the database is unavailable and warning that the transaction was not completed.
 - ___193. Verify that the program returns to the Main Menu and the screen is still locked by the Source Tracker Main Menu and black screen.
- Reconnect the network cable.
 - ___194. Verify that some other Source Tracker functions are available. (Maybe try to browse sources or Custodian options).

Software Test Results for Source Tracker Software

Table 5.22 Tests for Network Outage and other Failure Modes

Test Results		
Date:	Name of Tester:	Signature:
		Not tested <input type="checkbox"/> Tested <input checked="" type="checkbox"/> In Process <input type="checkbox"/>
Date:	Name of Acceptance Authority:	Signature:
8/31/16		
Acceptance Notes:		Accepted <input checked="" type="checkbox"/> Not Accepted <input type="checkbox"/>
	Enter the version of software tested here:	3.0.6078
	Is this test being used for Regression Testing? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	Is this a retest? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
	If a retest, comment or provide any documentation here of the version of software that failed, the items corrected before the retest and the new software version being tested:	
Transaction Log		
Date/Time:	Description of transaction	Type:
		Email <input type="checkbox"/> Log <input type="checkbox"/>
		Email <input type="checkbox"/> Log <input type="checkbox"/>
Test #:	Expected Results:	PASS/FAIL
190	Verify that the program displays an error that the database cannot be connected, but that the Main Menu and black screen still lock the entire screen.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
191	Verify that the source can be moved and that no database errors are displayed.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
192	Verify that an error is displayed to the screen showing the database is unavailable and warning that the transaction was not completed	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
193	Verify that the program returns to the Main Menu and the screen is still locked by the Source Tracker Main Menu and black screen.	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
194	Verify that some other Source Tracker functions are available. (Maybe try to browse sources or Custodian options).	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
Comments		
auto restart added to 3.0.		

	H	I	J	K	L	M	N	O	P	Q
1	Assessed Solution	Solution Date	Source Tracker Ver	SVN Change Number	Test Plan Section Executed	Item Type	Path	Program	Action Year	ActionNo
2	Do a full QA check on DB. Also, schedule sanity checks in DB to be performed regularly to avoid any degradation. Implemented currently in SQL job CheckDB.	8/16/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	45
3	Modify MAR calculation to display message with a list of relevant sources when calculations fail, send email to custodians with the same list, flag displays (MAR table, Browse Sources) such that relevant sources are shown with a red background.	7/25/2016	3.0.5925	667,668,670,671,672,677	5.16	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	43
4	Populate Add/Modify source window with isotopes from the Nuclear_Data table.	7/19/2016	3.0.5925	664	5.10	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	42
5	Deleted on 7/14 using SQL.	7/14/2016	3.0.5925	N/A	N/A -- See DB QA	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	41
6	This inconsistency between Test and Production db's resulted in incorrect criticality totals. Solution is to modify code to accept either 0's or nulls as having no isotopes for the source, thus defaulting back to initial mass/activity.	7/8/2016	3.0.5925	682	5.17	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	40
7	Avoid endless loop in case of network outage.	5/13/2016	3.0.5925	663	5.22	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	39
8	Email script on SQL changed to also notify owner of source that it is not in permanent storage.	7/7/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	38
9	Allow only selection from pre-filled values. Simple to do as a control proerty. No other functionality affected by this change.	5/11/2016	3.0.5925	N/A	5.10	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	37
10	Add additional test to see that connection is not currently active. If it is, close, change string, reopen	5/11/2016	3.0.5925	638	5.22	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	36
11	Script created to flag strange DB values. Full DB QA performed on existing sources weekly. Custodians complete DB QA.	8/16/2016	3.0.5925	N/A	N/A -- See DB QA	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	35
12	There is no addition datestamp, DateStamp in the Source table is the check in/out date and time and it gets modified as needed in the current code. No changes are required.	4/7/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	34
13	Have implemented writing to local log file when mailer is not there. Needs to be tested. SVN #634	4/1/2016	3.0.5925	634	5.10 5.17	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	32
14	Was a permissions setting on the folder w/attachments. Fixed.	4/1/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	30
15	Jeff worked with SAFE-4 to spot check these. They were determined to be at TA55. Manually updated inventory date in DB. (Heather)	3/31/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	28
16	Sorting by text date that is sortable fixes this (for the most part). SVN#633	4/6/2016	3.0.5925	633	5.6 5.9	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	27
17	By formatting the date string: yyyy/MM/dd HH:mm:ss This is fixed. SVN #631	3/31/2016	3.0.5925	631	5.6 5.9	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	26
18	Bob fixed to show micro curies in SVN#643	4/6/2016	3.0.5925	643,666	5.10 5.5	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	25
19	Fixed string comparison to ignore case. SVN fix #626 Include in next build and retest inventory form (many other fixes needed)	3/30/2016	3.0.5925	626	5.6 5.9	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	24

Shows concepts; not reviewed for Ch 21 compliance

	H	I	J	K	L	M	N	O	P	Q
20	Query updated to allow for apostrophe SVN fix #627. Include in next build and test the inventory again.	3/30/2016	3.0.5925	627	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	23
21	Locations are ok.	8/16/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	22
22	Full DB QA	8/16/2016	3.0.5925	N/A	N/A -- See DB QA	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	21
23	Set locations to actual existing locations. No more MAR = -100 Leonard still has a couple of these.	5/13/2016	3.0.5925	N/A	N/A -- See DB QA	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	20
24	The transferred sources were reassigned using Source Tracker. Duplicates were handled through DB changes, and the original barcodes will need to be re-inventoried.	3/29/2016	3.0.5925	N/A	N/A -- See DB QA	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	19
25	Full DB QA.	3/24/2016	3.0.5925	N/A	N/A -- See DB QA	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	18
26	Bob updated code to actually show the DB field in that form. SVN Fix#625. Rebuild. Should not require retest.	3/30/2016	3.0.5925	625	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	17
27	SVN #632 has fix. Simulates Cancel Button push to return to previous form.		3.0.5925	632	5.5	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	16
28	Changed in DB.	3/24/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	15
29	Added to desirable list for config file change. Immediate problem solved by changing hard-coded value.	3/31/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	14
30			3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	13
31	I have added scheduled checks in the DB for leak test and inventory overdue. They should be sent 1x per month. The first should go out on April 1, 2016 and I will check any feedback with custodians for changes for May reports. Sent 4/1/2016 -- Wait for feedback.	4/1/2016	3.0.5925	N/A	N/A	Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	10
32	Made timeout for inventory and leak test 3 minutes and captured clicks to reset when activity happens. SVN #628	3/31/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	8
33		3/23/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	6
34		3/22/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	5
35		3/22/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	3
36		3/22/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	2
37		3/22/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	1
38	Calculate mass from activity to avoid failure	5/2/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	0
39		5/2/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	0
40	Hard-coded c:\Source Tracker\ as root dir for logging.	5/3/2016	2.0			Item	programs/sourcetracker/Lists/Source Tracker Reporting	STCAP	16	0

	A	B	C	D	E	F	G
1	ActionID	Date Reported	Description of Problem	Assessed by	Date Assessed	Assessed Cause/Rationale for Change	Severity
2	STCAP:16-045	8/16/2016	Full DB QA needed	Nordquist, Heather	7/19/2016	Multiple errors and inconsistencies in data pulled from old ST database.	Urgent
3	STCAP:16-043	7/19/2016	When calculating MAR for an MBA, if errors occurred for specific sources, no warning was displayed or email generated.	Parker, Robert Francis	7/19/2016	Display indicator that MAR calculation had issues, send email to custodians indicating there was a MAR calculation problem.	Urgent
4	STCAP:16-042	7/19/2016	List of isotopes in Add/Modify Source window was being populated with Source table entries instead of Nuclear_Data table entries.	Nordquist, Heather	7/19/2016	Allowed sources without corresponding isotope entries to be added to DB.	Urgent
5	STCAP:16-041	7/14/2016	Duplicate source entry found in Source Tracker DB.	Nordquist, Heather	7/14/2016	Verified that source id 508-26-9 was entered in the ST DB twice. Verified with custodian that barcode NS62128 should be deleted and NS62226 should be kept in the DB.	Moderate
6	STCAP:16-040	7/6/2016	Pu criticality totals not consistent with validated test values from qualification activities.	Nordquist, Heather	7/6/2016	ST software was validated using a test database. This database was ported to a production database and Pu isotopic fields that were NULL were changed to 0's.	Urgent
7	STCAP:16-039	6/14/2016	I tried to check out a source today and got a message that Source Tracker was unable to check it against our building's MAR. (NISC). This source was just leak tested and Leonard updated the info on it yesterday. Also, on many of these error messages that pop up there is a countdown from 60s, and an "OK" box to acknowledge the message. Pressing OK just restarts the countdown from 60 seconds again and the message doesn't go away.	Nordquist, Heather	7/19/2016	Multiple log entries indicate the endless loop when network errors occurred in ST. Change 663 dated 5/13/2016 should fix these but need final testing.	Moderate
8	STCAP:16-038	6/2/2016	"Source Tracker Requirements Specification" SR24-Email notification Requirements states: Section 3.4, SR 24.6, Scheduled check to verify that sources are placed in permanent storage locations at close of business. It should read, that a scheduled check will be sent to Custodians and Source User's to verify that sources that are checked out will be placed back into permanent storage locations at close of business.	Nordquist, Heather	6/6/2016	Add email also to person that has source checked out in addition to custodians.	Low
9	STCAP:16-037	5/12/2016	null pointer in source add/modify page	Nordquist, Heather	5/11/2016	The dropdown lists in the source info form allowed manual entry, which caused a null pointer exception when bad data was entered (for instance, w/an isotope that didn't exist)	Low
10	STCAP:16-036	5/12/2016	Fatal error for network pops up multiple times.	Nordquist, Heather	5/11/2016	The "inick()" function would try to reassign the connection string to an already active db connection and would puke.	Low
11	STCAP:16-035	4/7/2016	Have custodians look at init activity and timestamp fields in DB Are NULLs ok?	Nordquist, Heather	5/12/2016	Full DB QA.	Moderate
12	STCAP:16-034	4/7/2016	Change Add to update timestamp	Nordquist, Heather	4/7/2016	This field wasn't being updated on add new source.	Moderate
13	STCAP:16-032	4/1/2016	TA-16 Source Tracker must not try to mail things.	Nordquist, Heather	4/1/2016	The TA-16 server will operate standalone and should not attempt to send emails. I suggest a local log instead. I think it is only in a couple of functions (sendemail??) Will start working on this.	Urgent
14	STCAP:16-030	3/31/2016	Something strange going on with CreateSourceSummary file since swich over to SourceTrackerProd	Nordquist, Heather	3/31/2016	When switching to trackerbeta server and using old \\trackerbeta\attachments for file, then TrackerBeta as profile, I get the emails again.	Low
15	STCAP:16-028	3/31/2016	PM NSS4008B NIMA-L Np237 PF4-TASS PF4-TASS 7/7/09 2:05 PM NSS1214 MTLPLT-3 U PF4-TASS PF4-TASS 4/5/06 2:47 PM NSS1215 MTLPLT1 U PF4-TASS PF4-TASS 4/5/06 2:50 PM NSS1258 GVB14-27 MOXn PF4-TASS PF4-TASS 9/30/04 9:19 AM NSS1259 GVB14-30 MOXn PF4-TASS PF4-TASS 9/30/04 9:19 AM NSS1261 GVB14-H22 PuMT56 PF4-TASS PF4-TASS 9/22/06 1:36 PM NSS1406 PUF-C1 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1407 PUF-C2 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1408 PUF-C3 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:21 AM NSS1417 PUOA-1 PuMT52 PF4-TASS PF4-TASS 3/2/04 9:48 AM NSS1418 PUOA-2 PuMT52 PF4-TASS PF4-TASS 3/2/04 9:49 AM NSS1419 PUOA-3 PuMT52 PF4-TASS PF4-TASS 3/2/04 9:48 AM NSS1420 PUOB-1 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1421 PUOB-2 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1422 PUOB-3 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1423 PUOC-1 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1424 PUOC-2 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1425 PUOC-3 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1426 PUOD-1 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1427 PUOD-2 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1428 PUOD-3 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1429 PUOE-1 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1430 PUOE-2 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1431 PUOE-3 PuMT52 PF4-TASS PF4-TASS 9/30/04 9:20 AM NSS1445 PEO-1 PuMT53 PF4-TASS PF4-TASS 5/17/06 12:00 AM NSS1447 LAO252C10 PuMT56 PF4-TASS PF4-TASS 8/14/13 11:36 AM NSS1459 Q2-39 U PF4-TASS PF4-TASS 1/16/08 12:00 AM NSS1464 U-238971 PuMT54 PF4-TASS PF4-TASS 6/10/14 8:37 AM NSS2028 C-737 AmLi PF4-TASS PF4-TASS 6/19/05 12:00 AM NSS1100 MTLDISC-7 PuMT52 PF4-TASS PF4-TASS 2/26/07 1:50 PM NSS1080 Pz40 Pu240 PF4-TASS PF4-TASS 9/22/06 1:36 PM NS62627 LE150 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62628 LE151 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62629 LE152 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62630 LE153 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62631 LE154 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62632 LE155 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62633 LE156 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62634 LE157 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62635 LE158 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62636 LE159 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62637 LE160 U PF4-TASS PF4-TASS 4/5/13 12:00 AM NS62638 LE161 U PF4-TASS PF4-TASS 4/5/13 12:00	Archuleta, Jeffrey Christopher	3/31/2016	These sources are bundled in barrels and are not easily inventoried.	Moderate
16	STCAP:16-027	3/31/2016	Annoyance. If doing inventory and you sort by date, when you scan something it undoes the sorting.	Nordquist, Heather	4/1/2016	It is helpful to sort by date in inventory and leak check if they are not completed in one session. When sorted, they should stay that way.	Low
17	STCAP:16-026	3/31/2016	Dates not sorted correctly in Leak Test and Inventory grids	Nordquist, Heather	3/30/2016	Sort should sort	Low
18	STCAP:16-025	3/31/2016	Wants all activity fields displayed in micro curies. (Browse grid and source details).	Nordquist, Heather	3/31/2016	This shouldn't be a big deal and is more cosmetic. I would like you to do it, however, since it gets at the heart of the calculations.	Low
19	STCAP:16-024	3/30/2016	Hand-entering barcodes (sometimes needed) would say source not in correct location. Was failing to compare barcode.	Nordquist, Heather	3/30/2016	The barcode was case sensitive. When being hand-entered, if it didn't have exact match, would falsely say you had a location issue.	Moderate

	A	B	C	D	E	F	G
20	STCAP:16-023	3/30/2016	If location is set to a name with an apostrophe (i.e. Sprinkle's Lab) it crashes in inventory.	Nordquist, Heather	3/30/2016	The apostrophe should not break things.	Moderate
21	STCAP:16-022	3/29/2016	Update SourceTrackerLocations in SharePoint when finalized.	Nordquist, Heather	3/29/2016	Custodians can't seem to agree if these should be just room numbers or something else. Delayed for now.	Low
22	STCAP:16-021	3/29/2016	Changes to DB for Dups (NISC and TA-35) Changed NISC version to new barcodes, changed -D back to original numbers. Was too hard to change barcodes on fuel rods.	Nordquist, Heather	8/16/2016	You have done most of this. I believe the rest will shake out in inventory.	Urgent
23	STCAP:16-020	3/29/2016	There were a number of bogus locations (especially in NISC sources). We have fixed the bulk of them to be verified during physical inventory. These are the remaining ones (-100 MAR)	Nordquist, Heather	3/29/2016	Let me know where remaining sources are.	Urgent
24	STCAP:16-019	3/24/2016	From Dave's inventory of TA-66 Not too many issues with the TA-66 inventory except for the following: NSS1469 (PEO382C) and NSS1470 (HUA5069) are at TA-66/VTR. NSS1447 (LAO252C10) is at TA-55/PP4. NS62311 (D001) and NS62342 (D501) had their barcodes changed to add a -D on the end. Will need a new barcode. System timing out after 60 seconds regardless of activity (Really Annoying). A 100% leak check was done on 1/11/16. All sources at TA-66 should have that (or newer) as the leak check date. Thanks, Dave	Nordquist, Heather	3/24/2016	NSS1469 and NSS1470 were permanently transferred to TA-66/VTR NSS1447 was permanently transferred to TA-55 PF4 The two barcodes with a -D appended will be reverted back to a non-D number shortly and will have been inventoried. Check on time out and leak test later.	Urgent
25	STCAP:16-018	3/24/2016	Delete: NS61035 NS61037 Rename: NSS1084-D -> NSS1084 NSS2099-D -> NSS2099 NS61014-D -> NS61014 NS61035-D -> NS61035 NS61036-D -> NS61036 NS61037-D -> NS61037	Nordquist, Heather	3/24/2016		Urgent
26	STCAP:16-017	3/24/2016	Inventory date on the SourceInfoForm is not being populated with the correct date. It appears to be set to the current date.	Parker, Robert Francis	3/22/2016		Moderate
27	STCAP:16-016	3/24/2016	While browsing sources the main form pops up topmost before the timeout period has elapsed, even if the browse sources form timeout indicated in the title bar keeps getting reset as the form is accessed. When the main form pops up the browse sources form is still on the screen behind it.	Parker, Robert Francis	3/24/2016		Moderate
28	STCAP:16-015	3/23/2016	Maybe a problem in TimedForm.	Nordquist, Heather	3/24/2016		Moderate
29	STCAP:16-014	3/23/2016	Change location named tracker1 to Jeff's office in room 112 in Locations	Nordquist, Heather	3/24/2016		Moderate
30	STCAP:16-013	3/23/2016	SQL profile name was hard-coded in ST code. Had to change this and rebuild the executable to switch to production DB 3.0.5924-2 was rebuilt as 3.0.5925 with this change.	Nordquist, Heather	3/25/2016	Changed hard-coded value. Need to add to *.config file for long-term solution.	Moderate
31	STCAP:16-010	3/23/2016	C155 inventory (Source Safe and SNM Safe) uncovered the following inconsistencies: SNM-Safe (Sources not inventoried): NSS1111 CBNM-PU70-JLP PuMT56 SNM Safe SNM Safe NSS1235 UI50-12 U SNM Safe SNM Safe Unexpected sources (Permanently transfer?) SNM Safe: NSS1207 - Found at SNM Safe, should be in VDG Safe Source Safe: NSS3288 - Found at Source Safe, should be in Cage NSS2157 - Found at Source Safe, should be in Cage NSS3289 - Found at Source Safe, should be in Cage NSS3286 - Found at Source Safe, should be in Cage NSS3676 - Found at Source Safe, should be in C110 NS70030 - Found at Source Safe, should be in TA-16	Nordquist, Heather	3/23/2016	Please figure out where these should actually live.	Urgent
32	STCAP:16-008	3/22/2016	Schedule reports for out of date inventory and leak test sources (maybe once a month or so)? We can do this without messing with code by scheduling in the DB.	Nordquist, Heather	3/23/2016	No other way to check this.	Low
33	STCAP:16-006	3/22/2016	Inventory Form times out too quickly. Would be nice to be able to create a report something like this... SELECT BarCode, SourceID, Isotope, CurrLoc, StorageLoc FROM SourceTrackerProd.dbo.Sources WHERE LastInv < '2016-03-22' AND CurrLoc = 'SNM Safe'	Nordquist, Heather	3/23/2016	Looks like the timeout is still only 60 seconds and should be longer during an inventory. Probably makes sense to do same for leak testing. Also, I added a keypress and mouseclick reset to the TimedForm, but I used a hard-coded 60 seconds, but we should use the interval specified in constructor.	Moderate
34	STCAP:16-005	3/22/2016	Sources are still listed at TA-18. We will need to assign these a new storage location, then delete the location. These are the three sources: NSS1214 MTLPLT-3 NSS1215 MTLPLT1 NSS3504 738-31-2	Archuleta, Jeffrey Christopher	3/22/2016	Jeff will need to let you know when he has permanently moved them to a different location.	Moderate
35	STCAP:16-003	3/21/2016	Sources noted as dups in DB transfer were not. When doing initial physical inventory of sources at Source Safe and SNM Safe in C155, 6 sources were noted as NISC dups and were not. Please delete the following sources in the SourceTrackerProd DB: NS62193 NS62194 NS62214 NS62256 M0005394 M0005401 After that is complete, please change the following bar codes in the Sources table: NS62193D - NS62193 Location: Source Safe NS62194D - NS62194 Location: Source Safe NS62215D - NS62215 Location: Source Safe NS62256D - NS62256 Location: Source Safe M0005394D - M0005394 Location: SNM Safe M0005401D - M0005401 Location: SNM Safe	Nordquist, Heather	3/22/2016		Urgent
36	STCAP:16-002	3/10/2016	Initial settings for MAR limits in production DB. Attached are values in Test DB. Dave Mike to amend and get to Dave Warner.	Nordquist, Heather	3/22/2016	Spreadsheet updated to reflect new limits. Was sent in email 3.21.2016 Please update to new values after initial port to production db.	Urgent
37	STCAP:16-001	3/4/2016	The initial Leak Test Parameters for Source Tracker should be: 365 -- non-MASS 182 - MASS D - Grace Period	Warner, D.K.	3/22/2016	We can verify these through the GUI.	Urgent
38	STCAP:16-000	5/3/2016	Dave, Move over these tables without changes: Configuration Crit_Limits Locations MASS_Locations MBA_Limits Nuclear_Data Source_Types You can clean out: Mar_Log Removed_Sources System_Log Transaction_Log Authorized_Users should be from the old ST Sources is wherever you're getting what's current, with TA-66 changed to TA-66 VTR and FuelRod added I think that's it	Nordquist, Heather	3/22/2016	Initial DB updates	Urgent
39	STCAP:16-000	5/3/2016	MAR calculation failed for PuMT52 sources w/no initial mass. Bob fixed to calculate mass from activity, then used Pu isotopes.	Nordquist, Heather	5/2/2016	This would cause an error. Needs to be fixed	Low
40	STCAP:16-000	5/3/2016	Date failed to update in display during inventory and leak testing. Bob fixed to update.	Nordquist, Heather	5/2/2016	Confusing to not update this field.	Low
40	STCAP:16-000	5/3/2016	Shell for ST doesn't have a valid Current Working Directory. Causes logging for network failure to fail.	Nordquist, Heather	5/3/2016	When running under GPO current directory gives windows dir, which is not accessible.	Low

3.0.6081

Source Tracker Reporting

+ new item or edit this list

CurrentItems All Items ClosedItems

✓	Edit	ActionID	Date Reported	Description of Problem	Assessed by	Date Assessed	Assessed Cause/Rationale for Change	Severity	Assessed Solution	Solution Date	Source Tracker Ver	SVN Change Number	Test Plan Section Executed
		STCAP-16-050	8/29/2016	Sources with no initial mass or initial activity not being flagged in MAR calcs	Parker, Robert Francis	8/29/2016	Suspect sources not flagged.	Moderate	Added code to check for this condition at front of MAR calc and flag sources red in browse.	8/29/2016	3.0.6072	695	5.5
		STCAP-16-049	8/31/2016	Intermittent network issue causing trouble.	Nordquist Heather	8/31/2016	The network occasionally times out when reading the GPO from the domain server. The application recognizes the error but is sometimes unable to recover.	Low	Code added to detect network outage for more than 2 retries. If cannot recover, a restart is performed.	8/31/2016	3.0.6072	696	N/A -- Jeff checking in his office
		STCAP-16-048	8/18/2016	Non-parameterized source selection query in Source Tracker breaks because source type contains forward slashes. Also, wrong join used.	Nordquist Heather	8/18/2016	First, the join was a left join. No source types were selected until I changed the left join to an inner join. Next, I can then query 'Alpha' sources or 'Beta' sources or even 'Alpha/Beta' sources, but not 'Alpha/Beta/Gamma' sources.	Low	Join changed and retested. 3.0.6078	8/22/2016	3.0.6072	693	5.5
		STCAP-16-047	8/17/2016	Strange location problem... There were a couple of sources in NISC that had completely invalid locations. One was called 'NISC'. If trying to modify or move a source that is in an invalid location, error saying 'Could not acquire MAR...' continues in an endless loop. This doesn't need immediate fix, as this is not usual. Also, consider DB check for any invalid locations?		8/17/2016	Bogus locations in DB. Is a DB QC issue	Moderate	Talked to Leonard. All crazy locations related to NISC. The source locations were assigned and "transmogrified"	8/25/2016	3.0.5925	N/A	N/A

Shows concepts; not reviewed for Gen 2.1 compliance