

SAFETY EVALUATION REPORT

DOCKET NO: 70-7022

LICENSE NO: SNM-2016

LICENSEE: Passport Systems, Inc.
70 Treble Cove Road, North Billerica, MA 01862

SUBJECT: TERMINATION OF SPECIAL NUCLEAR MATERIALS LICENSE 2016
(ENTERPRISE IDENTIFICATION NUMBER L-2019-LLA-0224)

BACKGROUND

The U.S. Department of Homeland Security (DHS), Domestic Nuclear Detection Office (DNDO), contracted Passport Systems, Inc. (Passport), to conduct a research program for the development of new technologies capable of detecting special nuclear materials (SNM). To conduct the research program, DHS required Passport to have access to SNM sources that would later be placed inside fully loaded cargo containers to test the newly-developed equipment.

To meet the DHS requirements and successfully conduct the research program, Passport submitted an application to the U.S. Nuclear Regulatory Commission (NRC) by letter dated November 5, 2010 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML110110650), requesting a license for possession and use of SNM. Passport's request was made pursuant to the requirements in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 70, "Domestic Licensing of Special Nuclear Material." In its submittal, Passport requested that it be licensed to possess and use SNM to conduct a research program to develop new technologies to detect SNM in cargo containers as described in its license application. Passport supplemented its application with a Request for Exemption from a Criticality Monitoring System dated February 8, 2011 (ADAMS Accession No. ML11131A010). The NRC staff conducted an initial review of Passport's submittal and accepted the application for review by letter dated March 1, 2011 (ADAMS Accession No. ML110600726). Following its review of the information provided by Passport, on December 12, 2011, pursuant to 10 CFR Part 70, the NRC staff issued SNM-2016 for Passport (ADAMS Accession No. ML112760702) for a period of 10 years. Three amendments to the license were issued since the initial licensing. The first amendment was issued on May 24, 2012 (ADAMS Accession No. ML12130A334) to address a discrepancy between the specifications of actual possessed material and the material applied for. The amendment was requested by Passport (ADAMS Accession No. ML12124A318) following a Notice of Violation (ADAMS Accession No. ML12075A139) issued to Passport on March 29, 2012, concerning incorrect specifications on the low-enriched uranium sources referenced in Condition 9 in the original SNM-2016 license. The second amendment was issued on May 14, 2013 (ADAMS Accession No. ML13134A261) to address an investment being made in Passport by a foreign company. The third amendment was issued on January 17, 2017 (ADAMS Accession No. ML16363A164), to allow the use of licensed material at a temporary worksite for the characterization of a non-intrusive cargo inspection system at the Port of Boston, MA. Passport has no other licenses with the NRC.

LICENSEE REQUEST FOR LICENSE TERMINATION

By letter dated October 16, 2019 (ADAMS Accession No. ML19290E196), Passport submitted to the NRC a request to terminate SNM-2016. In support of its request, Passport also provided the following information:

1. A completed, and signed, NRC Form 314, U.S. NRC Certificate of Disposition of Materials (Attachment 1).
2. Three completed NRC Nuclear Material Transaction Forms 741 as records of physical transfer, and acknowledgment of receipt, of all licensed materials to Sensor Concepts & Applications, Inc. (SCA), an NRC licensee (Docket No. 07007020, License Number SNM-2017) (Attachment 2).
3. The latest leak test reports for all radioactive SNM sealed sources possessed under SNM-2016 (Attachment 3).
4. Final inspection and radiation reports of surveys performed for the facilities at 76 Treble Cove Rd, in North Billerica, and at 700 Summer St., Conley Terminal in the Port of Boston, prior to releasing to the landlord (Attachment 4).

In its submittal, Passport stated that, all materials authorized under SNM-2016 have been physically transferred to SCA in Glen Arm, MD, for possession and use under their SNM license. In addition, Passport stated that all SNM possessed under SNM-2016 consisted of sealed sources that were leak tested at 6-month intervals and that, while in their possession, none of these were ever found to have an external contamination level greater than 0.005 microcuries (μCi). Passport also stated that there was no concern for contamination at the facilities authorized under SNM-2016 and that final inspection and radiation surveys performed at both authorized places of use did not result in any measurements exceeding background radiation levels. Finally, in its submittal Passport stated that it will still hold quantities of depleted uranium (DU) under the State of Massachusetts (MA) Radioactive Materials License Number 55-0585.

The NRC staff conducted an initial review of Passport's submittal and identified no administrative omissions or deficiencies. The NRC staff accepted the submittal for detailed review by letter dated November 20, 2019 (ADAMS Accession No. ML19309E666). Passport's submittal was assigned Enterprise Project Identification (EPID) Number L-2019-LLA-0024.

REGULATORY REQUIREMENTS

The regulations in 10 CFR Section 70.38, "Expiration and termination of licenses and decommissioning of sites and separate buildings or outdoor areas," provide the regulatory requirements relevant to termination of licenses. The regulations in 10 CFR 70.38(j) require licensees to:

- (1) Certify the disposition of all licensed material, including accumulated wastes, by submitting a completed NRC Form 314 or equivalent information; and,
- (2) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee

demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, subpart E.

The regulations in 10 CFR 70.38(k) state the following:

Specific licenses, including expired licenses, will be terminated by written notice to the licensee when the Commission determines that:

- (1) Special nuclear material has been properly disposed;
- (2) Reasonable effort has been made to eliminate residual radioactive contamination, if present; and,
- (3)(i) A radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, Subpart E; or,
- (ii) Other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, subpart E.

REGULATORY GUIDANCE

NUREG-1757, "Consolidated Decommissioning Guidance, Decommissioning Process for Materials Licensees," dated September 2006 (ADAMS Accession No. ML063000243), consolidates numerous decommissioning guidance documents, including guidance for termination of NRC nuclear material licenses. The SNM-2016 material license authorized Passport to possess and use SNM in the form of sealed sources only. Therefore, the applicable guidance for terminating SNM-2016 can be found in Chapter 8 of NUREG-1757, Volume 1, Revision 2, "Decommissioning Process for Materials Licensees."

DISCUSSION AND NRC STAFF EVALUATION

Prior to submitting its request on October 16, 2019, during NRC staff inspections of Passport's main office in North Billerica, MA, and its field office in the Port of Boston on August 29-30, 2018, and March 19, 2019, respectively, Passport stated that it had discussed its intention to terminate their SNM-2016 license since it no longer needed the sources for development of their cargo inspection system. During the inspections, the NRC staff found that in preparation for the submittal of the license termination request, Passport was already conducting radiation surveys at locations no longer used for storage of the SNM. The licensee also stated that, unless DNDO awarded another contract for performing additional work, it expected the license termination request to be submitted to the NRC later in 2019.

In evaluating Passport's submittal, the NRC staff noted that, in accordance with the guidance in Chapter 8 of NUREG-1757, Volume 1, Revision 2, and the requirements in 10 CFR 70.38(j)(1), Passport provided a completed NRC Form 314, "Certificate of Disposition of Materials," dated October 7, 2019. In section B of Form 314, Passport certified that it had disposed of all SNM under its possession by transferring it to SCA, an NRC licensee (Docket No. 07007020, License Number SNM-2017). In support of this information, Passport also provided three U.S. Department of Energy (DOE)/NRC Forms 741, "Nuclear Material Transaction Report." A review

of the information provided in the forms revealed that, on August 14, 2019, Passport shipped all the SNM in its possession to SCA.

The NRC staff evaluated the information in the DOE/NRC Forms 741 provided by Passport and compared it against the information in the U.S Nuclear Material Management and Safeguards System (NMMSS) to verify the material balances for, and transactions between, both Passport and SCA. Based on its evaluation of this information, the NRC staff found that Passport's information in NMMSS, which showed a zero SNM balance, confirmed the information provided by Passport in its license termination request certifying the transfer of all its SNM to SCA, and that it no longer had SNM under its possession. The NRC staff also confirmed, based on its review of the information for SCA in NMMSS, that, as stated by Passport in its license termination request, it did receive the SNM transferred by Passport to them. The NRC staff also confirmed that the amount of materials involved in the transactions and reported by Passport in its license termination request was consistent with the information in NMMSS for both licensees. Based on the information provided by Passport, and the evaluation of the information in NMMSS, the NRC staff finds that Passport has adequately disposed of all the SNM under its possession and has adequately certified the disposal of the SNM in accordance with the requirements in 10 CFR 70.38(j)(1).

During the review of Passport's license termination request, the NRC staff reviewed Passport's initial and revised license applications (ADAMS Accession Nos. ML110110650 and ML11279A191, respectively) and the NRC staff safety evaluation (ADAMS Accession No. ML113430779) of the application. A review of these documents showed that all SNM Passport was authorized to possess and use under SNM-2016 was in the form of sealed sources and that it was not authorized to perform work using unsealed materials. In its license termination request, Passport provided a report of leak tests performed on these sources (Attachment 3). The NRC staff evaluated the information in the report and noted that the tests were performed in accordance with NRC requirements and that, as stated by Passport in its license termination request, the results of the tests showed none of the sources being found to have an external contamination level greater than 0.005 μCi . The NRC staff also reviewed the information in two reports of inspections conducted by the NRC staff on December 21, 2015 (ADAMS Accession No. ML16005A438), and on August 29-30, 2018, and March 19, 2019 (ADAMS Accession No. ML19093B383) to determine whether any leaks of SNM greater than 0.005 μCi from the sources had been previously reported and followed-up upon by the NRC staff during the inspections. Based on the information in the inspection reports, no violations of NRC requirements nor issues regarding SNM source leakage were identified. The NRC staff then determined that as stated by Passport in its license termination request, while under Passport's possession, none of the sources were found or reported to have external contamination. The NRC staff, therefore, concludes that Passport has met the requirements in 10 CFR 70.38(k)(3)(ii) and that, in accordance with the guidance in NUREG-1757, Volume 1, Revision 2, has adequately provided to the NRC the results from the most recent leak tests demonstrating there has been no leakage.

During the review of Passport's license termination request, the NRC staff reviewed Passport's initial license application to determine whether the SNM it was disposing of was the same material it requested authorization for possession and use in its initial license application. The NRC staff noted that Passport's license application identified several sources containing SNM in the form of uranium and plutonium for evaluation of nuclear criticality safety. This was because, by using all the sources Passport identified in its application, the criticality analysis was more conservative and bounding. However, since having all the sources, including the plutonium, at the facility at one time would cause Passport to exceed the upper limit of the quantity allowed

under the definition of a quantity of SNM of low strategic significance in 10 CFR 73.2, Passport was not authorized for possessing the plutonium. Passport stated that, should it use plutonium in their testing program, it would request an amendment to their license to increase the possession limits to include this material. On this regard, the NRC staff reviewed the information in Passport's docket (i.e., 07007022) to determine whether it ever submitted such a request. The NRC staff found that such an amendment was never requested by Passport. This is consistent with the information provided by Passport in its license termination request, and the information in NMMSS, which did not identify plutonium as one of the materials possessed or being disposed of by Passport. All other sources that Passport is disposing of as part of the termination of the SNM-2016 license were consistent with those initially identified in their license application.

In its license termination request, Passport stated that it conducted inspections and radiation surveys at its facilities in North Billerica and at the Port of Boston prior to their release. Passport also stated that the inspection and radiation surveys confirmed that no sources of radiation remained at either facility and that these did not result in any measurements that exceeded background radiation levels at either facility. In support of its license termination request, Passport provided the reports of the surveys conducted at both, the North Billerica and Port of Boston, locations as Attachment 4 of its request. The NRC staff reviewed these reports and noted that the results of the surveys showed no measurements exceeding background radiation levels at any of Passport's facilities. Based on the information provided in Passport's reports, the NRC staff determined that no contamination of Passport's premises exist and that the information submitted by Passport is sufficient to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, Subpart E. Therefore, the NRC staff finds that Passport's license termination request meets the requirements in 10 CFR 70.38(j)(2) and 70.38(k)(3).

Passport's possession of DU

In its license termination request, Passport stated that it will still hold quantities of DU under MA Radioactive Materials License Number 55-0585 (ADAMS Accession No. ML20071C998). [NOTE: Under the Atomic Energy Act of 1954, as amended, Section 274, "Cooperation with States, the NRC entered into an agreement with the State of Massachusetts under which the NRC relinquished to the State portions of its regulatory authority. Under the Agreement, the State of MA is the regulatory authority for licensing and regulating byproduct materials (radioisotopes); source materials (uranium—including DU—and thorium); and certain quantities of special nuclear materials.] To verify whether Passport was authorized for the possession of this material, the NRC staff obtained a copy of the MA-55-0585 license and noted that DU was not listed there as an authorized material. The NRC staff contacted Passport, by phone, on January 2, 2020, to ask for clarification on this discrepancy. During the call, Passport stated that it possessed no more than 7 kg (15.4 lb) of this material and that, it was their understanding that, under MA's regulations for the control of radiation, they were authorized to possess that amount of material under a general license (GL). Passport acknowledged the NRC staff concerns and stated that it will provide the necessary information to address the issue. The NRC staff documented the discussions in an electronic communication (e-mail) sent to Passport on that same day (ADAMS Accession No. ML20009E332). In the e-mail, the NRC staff requested Passport to provide any additional information regarding this matter. The NRC staff again e-mailed Passport on January 16, 2020, asking for an update on the status of the January 2, 2020, clarification request. In a January 20, 2020, e-mail reply (ADAMS Accession No. ML20027A313), Passport stated that it had been coordinating with MA to address the NRC staff's January 2, 2020, request. In addition, Passport stated that, in 2010, they submitted a

two-part amendment request to MA requesting authorization for possessing 150 kg of DU but that only one part of the amendment request was addressed. Passport further stated that, on the previous week, it had submitted the appropriate paperwork to MA (see ADAMS Accession No. ML20071D045) and provided contact information for the cognizant MA staff at the MA Radiation Control Program (MA-RCP).

On January 23, 2020, the NRC staff called the MA-RCP to inquire about Passport's license amendment request. During the call, the NRC staff discussed Passport's request to terminate the SNM-2016 license and the issue regarding Passport's possession of DU that the NRC staff identified during its review of Passport's request. The MA-RCP staff confirmed that on January 9, 2020, Passport submitted a request to amend their MA license to include DU as an authorized material. The NRC staff stated that Passport's DU possession issue had to be addressed before the SNM-2016 license could be terminated, and asked when the MA-RCP would finalize their review of Passport's MA license amendment request. The MA-RCP staff stated that it could take a few days, or possibly weeks to finalize their response. Based on this information, the NRC staff determined that terminating Passport's SNM-2016 license could not be completed by January 31, 2020, as stated in its November 20, 2019, acceptance letter to Passport. The NRC staff documented its discussions with MA-RCP staff in an e-mail to MA-RCP staff dated January 23, 2020 (see ADAMS Accession No. ML20073J976). Subsequently, the NRC staff placed its review of Passport's license termination request on hold until the DU issue was resolved and the appropriate documentation supporting the resolution of the issue was provided (see ADAMS Accession No. ML20027A773).

By e-mail dated February 28, 2020 (ADAMS Accession No. ML20073J977), the MA-RCP staff provided the NRC staff information on the actions taken by the MA-RCP staff regarding Passport's request to amend their MA license. In their e-mail, the MA-RCP staff stated that on January 31, 2020, they conducted a site visit to Passport, and that based on the results of their inspection of Passport's licensed activities, MA-RCP staff determined that Passport possessed several sealed sources including Cobalt-60, Cesium-137, Californium-252, and several exempt check sources, in accordance with the conditions of Passport's MA license. Regarding DU, the MA-RCP staff determined that Passport was in possession of quantities of DU totaling less than 7.5 Kg. The MA-RCP staff determined that Passport was authorized to possess this amount of DU in accordance with the GL provisions of the MA regulations, specifically under 105 CMR 120.121(A), "General Licenses - Source Material." Based on the results of their inspection, the MA-RCP staff did not identify any Passport violations to the conditions of their license, and subsequently amended Passport's MA materials license (Amendment 9) authorizing the possession of DU. The amendment was necessary since the amount of DU that Passport requested to possess exceeded the maximum amount it could possess under a GL.

By e-mail dated March 3, 2020 (ADAMS Accession No. ML20071D176), Passport provided its response to the NRC staff's, January 2, 2020, request for clarification. Attached to its e-mail, Passport provided a copy of the MA-RCP correspondence providing the final resolution on Passport's DU possession issue and a copy of Amendment 9 of MA Radioactive Materials License Number 55-0585 (ADAMS Accession No. ML20071C995). The NRC staff reviewed the information provided by Passport and by the MA-RCP staff and, based on this information, determined that, in accordance with the MA regulations, Passport has adequately requested authorization for possessing DU, and that all material possessed by Passport under the MS license has been accounted for. The NRC staff concurred with the MA-RCP staff on their findings regarding Passport's State-regulated activities.

Based on the discussion above, the NRC staff concludes that Passport has adequately responded to the NRC staff's January 2, 2020, request for clarification, that Passport's possession of all State-regulated materials, including DU, has been appropriately authorized, and that all regulated materials have been accounted for. The NRC staff has no additional concerns regarding this matter.

CLOSURE INSPECTION OF NRC-REGULATED ACTIVITIES

The NRC staff also reviewed the guidance in NUREG-1757 to determine whether a closure inspection of Passport's NRC-regulated activities was needed. Based on the guidance in Table 1.2, "Principal Regulatory Features of Decommissioning Groups," of NUREG-1757, Volume 1, Revision 2, the NRC staff determined that Passport's activities belong to those described under Group 1. Therefore, based on this guidance, the information provided by Passport in its license termination request, Passport's operating history (i.e., NRC inspection showing no violations identified), the complexity and safety significance of its licensed and decommissioning activities, the NMMSS reports showing zero SNM balance at Passport's facilities in North Billerica and the Port of Boston, and the NRC staff findings discussed above, the NRC staff determined that a closure inspection is not necessary.

ENVIRONMENTAL REVIEW

Terminating a license is a licensing action that would ordinarily require an environmental assessment under 10 CFR 51.21, unless a categorical exclusion (CATX) in 10 CFR 51.22(c) applies and no special circumstances under 10 CFR 51.22(b) exist. Actions listed in 10 CFR 51.22(c) were previously found by the Commission to be part of a category of actions that "does not individually or cumulatively have a significant effect on the human environment."

The CATX identified in 10 CFR 51.22(c)(20) includes:

Decommissioning of sites where licensed operations have been limited to the use of:

- (i) Small quantities of short-lived radioactive materials;
- (ii) Radioactive materials in sealed sources, provided there is no evidence of leakage of radioactive material from these sealed sources; or
- (iii) Radioactive materials in such a manner that a decommissioning plan is not required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1), and the NRC has determined that the facility meets the radiological criteria for unrestricted use in 10 CFR 20.1402 without further remediation or analysis.

This CATX captures decommissioning activities at sites where contamination from radioactive material is determined to be nominal.

In Passport's case, the NRC staff determined that no associated radiological contamination exists because regulated activities were limited to the use of radioactive materials in sealed sources. The NRC staff also determined that, in accordance with 10 CFR 70.38(j), the licensee provided the required NRC Form 341, which certified disposition of all sources, and reports of leak tests performed to the sources showing no evidence of SNM leakage. Therefore, in accordance with 10 CFR 51.22(c)(20), an environmental assessment is not required for terminating SNM-2016.

CONCLUSION

Based on the discussion above, the NRC staff concludes that, in accordance with the guidance in Chapter 8 of NUREG-1757, Volume 1, Revision 2, and the requirements in 10 CFR 70.38(j) and 70.38(k), Passport has submitted all the necessary information to demonstrate that:

- the actions it has taken to terminate the SNM-2016 license provide reasonable assurance that public health and safety and the environment will be adequately protected
- it has properly disposed of all SNM
- it has made reasonable efforts to eliminate residual radioactive contamination, if present
- it has performed radiation surveys which demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, Subpart E, and
- it has provided information sufficient to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, Subpart E.

The NRC staff also concludes that a sufficient basis exists to terminate SNM-2016 materials license for Passport and that the actions taken by Passport provide reasonable assurance that public health and safety and the environment will remain adequately protected. Therefore, the NRC staff recommends that Passport's SNM-2015 license be terminated, without any further actions, as requested by Passport.

PRINCIPAL CONTRIBUTOR:

Osiris Siurano-Pérez, NMSS/DFM/FFLB