

SAFETY EVALUATION REPORT

DOCKET NUMBER: 70-7022

LICENSE NUMBER: SNM-2016

LICENSEE: Passport Systems, Inc.
Billerica, Massachusetts

SUBJECT: PASSPORT SYSTEMS, INC. – REQUEST TO AMEND LICENSE
SNM-2016 (COST ACTIVITY CODE L33417)

BACKGROUND

Passport Systems, Inc. has been contracted by the Domestic Nuclear Detection Office (DNDO), a part of the U.S. Department of Homeland Security (DHS), to conduct a research program for the development of new technologies that are capable of detecting Special Nuclear Material (SNM) in cargo containers. The DHS's development program includes testing that utilizes SNM placed inside of fully loaded cargo containers during testing of the equipment built by Passport. During testing the contents of the cargo containers will include a variety of typical cargo materials seen in the United States of America (U.S.) ports of entry. DHS has been testing Passport's equipment to determine if it can locate SNM sources placed inside the containers when they are surrounded by the cargo. This work has been going on since licensing in 2011.

The quantity and type of SNM Passport requested to possess is of low strategic significance as defined in Title 10 of the *Code of Federal Regulations*, (10 CFR) Section 70.4. Passport submitted the initial application on November 5, 2010 to the U.S. Nuclear Regulatory Commission (NRC) (Agencywide Documents Access and Management System [ADAMS] Accession Number ML110110731) and a license was issued on December 12, 2011 (ADAMS Accession Number ML112760711) for a variety of SNM of differing enrichments of Uranium-235 (U-235).

The license has been amended twice prior to this request. An amendment was requested in response to a Notice of Violation (NOV) issued April 20, 2012 (ADAMS Accession Number ML12118A048), due to a discrepancy between the specifications of actual possessed material and the material applied for. The license was amended on May 24, 2012 (ADAMS Accession Number ML12130A327). By letter dated May 13, 2013 (ADAMS Accession Number ML13134A262), the Passport license was amended upon notification of an ownership change. Passport Systems, Inc. informed the NRC of an investment being made in Passport by a foreign company, Mohammed Alsubeai & Sons Investment Co. (MASIC).

PROPOSED CHANGES

There is only one change requested in the amendment submitted (ADAMS Accession Number ML16152A420) on May 26, 2016:

- 1) A modification to allow the use of the material on the license at a temporary worksite at the Port of Boston, 940 East 1st St., Boston, Massachusetts 02127.

Enclosure

Passport Systems, Inc. is requesting to temporarily transfer, store, and handle licensed material at the port site. Licensed materials will be used to characterize a fully operational non-intrusive cargo inspection system being installed for routine cargo inspection. The need is to ensure calibration of the system through a process of evaluation and acceptance. Licensed materials will be used for the same purposes and under the same requirements of the standing license. The period of temporary use is for calendar year 2017, by which time characterization of the detection equipment should be complete.

On July 19, 2016, NRC staff issued a Request for Additional Information (RAI) (ADAMS Accession Number ML16200A195) based on review of the program description. Passport submitted their response to the RAIs (ADAMS Accession Number ML16237A305) on August 18, 2016, as supplemental information on the physical security program. Passport amended the RAI response further in submittals dated November 15, 2016 (ADAMS Accession Number ML16323A320), and December 8, 2016 (ADAMS Accession Number ML16347A113).

REGULATORY REQUIREMENTS

The purpose of this review was to determine that the physical security program met all applicable regulations in 10 CFR 73.40, 73.67, and 73.71. These are expanded on in the Findings Section.

Paragraph 70.22(a)(6) of 10 CFR requires identification of the technical qualifications, including training and experience of the applicant and members of his staff to engage in the proposed activities.

DISCUSSION

Passport Systems, Inc. has requested authorization to use material under their license at a temporary location, other than the Billerica, Massachusetts facility. While Passport is authorized to possess and handle materials specified on the license at the headquarters facility in Billerica, Massachusetts, the original license does not authorize the use of these sources at any other location. To date, the use of these materials by Passport has been testing and demonstration of their proprietary technology for locating SNM within cargo, using a non-intrusive detection process involving radiation producing devices. As the program has matured and is moving forward to deployment under DNDO, the Port of Boston has been identified as the first placement of their equipment.

The temporary worksite that Passport is requesting to use is the Port of Boston, 940 East 1st St. Boston, Massachusetts 02127. The site is the Conley Terminal, one of the properties overseen by The Massachusetts Port Authority (Massport). Massport controls access to the Conley Terminal using a biometric access control system. General access to the terminal is via a security card, identified as a Transportation Worker Identification Credential (TWIC), issued only to individuals that have met screening requirements set by the Transportation Security Administration (TSA). This is a means of access for all authorized employees and contractors to the terminal, and is only a basic screening. It has no application to accessing the Passport Systems, Inc. facility.

Massachusetts State Police, Troop F, are headquartered at Boston Logan Airport and provides law enforcement, policing, and specialized aviation/seaport security services for all Massport

properties. These include Boston Logan International Airport, Hanscom Field, Worcester Regional Airport, and the Massport waterfront in South Boston, to include the Conley Terminal. Specialized assets provided by the members of the Massachusetts State Police Troop F include a dedicated Detective Unit, Bomb Squad, Community Services Unit, and Marine Unit. In addition, highly-trained, federally-certified State Police K-9 Teams are maintained on site. All the members of Troop F are tasked to ensure compliance with airport security rules and regulations as mandated by both the Federal Aviation Administration (FAA) and TSA.

The Passport Systems, Inc. facility is a secured and separate building from other facilities on the terminal. Drawings of the facility now under construction were provided in the submittal (ADAMS Accession Number ML16152A420). The building has limited accessibility, with a cargo vehicle entrance and exit, and one pedestrian access for authorized employees and contractors. The building is designed to meet Boston City Code and Ordinary Hazard Group II requirements. The fire protection systems installed at Passport's facility include a sprinkler system, smoke/heat detection, and an offsite-monitored fire alarm system with manual pull stations available. Fire loading in Passport's facility is minimal. The fire protection systems interface through an offsite central monitoring station which notifies the local fire department. Portable fire extinguishers are deployed within the building in accordance with industry standards. Fire hydrants are located throughout the area in accordance with industry standards. Boston City Fire department has confirmed full control of any fire within 2 hrs.

When not being used to test the scanning system, sources will be stored in a secured equipment room on the second floor of the building, which is not intended for occupancy. The sources will be contained within a locked 2-hr fireproof safe or equivalent. The facility has an ADT™ security system with door/entry monitors and motion detectors which will be armed when personnel are not present. Passport Systems and Massport Police will be notified when an alarm is activated. Massport Police will provide the first response to any alarm on the site. Procedures have been developed and reviewed that address actions to be taken in response to threat and/or theft.

Passport will maintain its standing radiation protection RP program for this additional facility. Passport provided a description of the RP program used at the facility, including personnel monitoring and training practices, commitments for leak-testing sources, commitments for maintaining doses as low as is reasonably achievable (ALARA), and waste disposal. Passport's written procedures limit access to restricted areas and require personal dosimetry. Passport written procedures also provide for radiation postings in both areas of source use and storage. Passport's procedures provide that sources must be leak tested on a 6-month cycle and that operation of the testing facility will only be done by personnel specifically trained to operate the facility in accordance with specific, written procedures.

FINDINGS

The provisions in 10 CFR 73.40 require that the licensee shall provide physical protection at a fixed site, or contiguous sites where licensed activities are conducted, against radiological sabotage, or against theft of SNM, or against both, in accordance with the applicable sections of this Part for each specific class of facility or material license. If applicable, the licensee shall establish and maintain physical security in accordance with security plans approved by the NRC.

The NRC staff has reviewed the applicant's description of the physical protection of SNM in the section titled "source storage and security" and the revised RAI response dated December 8, 2016, and finds that it meets the requirements of 10 CFR 73.40.

The provisions of 10 CFR 73.67(a) require that the licensee shall: (1) Establish and maintain a physical protection system that will achieve the following objectives: (i) Minimize the possibilities for unauthorized removal of SNM consistent with the potential consequences of such actions; and (ii) Facilitate the location and recovery of missing SNM. (2) To achieve these objectives, the physical protection system shall provide: (i) Early detection and assessment of unauthorized access or activities by an external adversary within the controlled access area containing SNM; (ii) Early detection of removal of SNM by an external adversary from a controlled access area; (iii) Assure proper placement and transfer of custody of SNM; and (iv) Respond to indications of an unauthorized removal of SNM and then notify the appropriate response forces of its removal in order to facilitate its recovery.

The NRC staff has reviewed the applicant's description of the physical protection of SNM in the sections titled "Source Storage and Security", "Source Use", the revised RAI response dated December 8, 2016, the "Nuclear Material Control Plan" dated November 16, 2016, and attached letter from the Massport police dated October 11, 2016, and finds that it meets the requirements of 10 CFR 73.67(a).

The provisions of 10 CFR 73.67(f) require that the licensee shall: (1) Store or use the material only within a controlled access area, (2) Monitor with an intrusion alarm or other device or procedures the controlled access areas to detect unauthorized penetrations or activities, (3) Assure that a watchman or offsite response force will respond to all unauthorized penetrations or activities, and (4) Establish and maintain response procedures for dealing with threats of thefts or thefts of this material. The licensee shall retain a copy of the current response procedures as a record for 3 years after the close of period for which the licensee possesses the SNM under each license for which the procedures were established. Copies of superseded material must be retained for 3 years after each change.

The NRC staff has reviewed the applicant's description of the physical protection of SNM in the sections titled "Source Storage and Security", "Source Use", the revised RAI response dated December 8, 2016, the "Nuclear Material Control Plan" dated November 16, 2016, and attached letter from the Massport police dated October 11, 2016, and finds that it meets the requirements of 10 CFR 73.67(f).

The provisions of 10 CFR 73.67(g)(1), (2) and (3) require (in part) that the licensee shall: (i) Provide advance notification to the receiver of any planned shipments specifying the mode of transport, estimated time of arrival, location of the nuclear material transfer point, name of carrier and transport identification, (ii) Receive confirmation from the receiver prior to commencement of the planned shipment that the receiver will be ready to accept the shipment at the planned time and location and acknowledges the specified mode of transport, (iii) Transport the material in a tamper indicating sealed container, (iv) Check the integrity of the containers and seals prior to shipment, (2)(i) Check the integrity of the containers and seals upon receipt of the shipment, (ii) Notify the shipper of receipt of the material as required in 10 CFR 74.15, (g)(3)(i) Establish and maintain response procedures for dealing with threats or thefts of the material. The licensee shall retain a copy of the current response procedures as a record for 3 years after the trace investigation of any shipment that is lost or unaccounted for

after the estimated arrival time and notify the NRC Operations Center within 1 hour after the discovery of the loss of the shipment and within 1 hour after recovery of or accounting for such lost shipment in accordance with the provisions of 10 CFR 73.71 of this part.

The NRC staff has reviewed the applicant's description of the physical protection of SNM in the sections titled "source storage and security", "source use", "source transport", the revised RAI response dated December 8, 2016, the "Nuclear Material Control Plan" dated November 16, 2016, and attached letter from the Consolidated Nuclear Security, LLC for Y-12 dated November 2, 2016, and finds that it meets the requirements of 10 CFR 73.67(g)(1), (2) and (3).

The provisions of 10 CFR 73.71(a) require that the licensee shall: (1) notify the NRC Operations Center within 1 hour after discovery of the loss of any shipment of SNM or spent fuel, and within 1 hour after recovery of or accounting for such lost shipment.

The NRC staff has reviewed the applicant's description of the physical protection of SNM in the sections titled "Source Storage and Security", "Source Use", the revised RAI response dated December 8, 2016, the "Nuclear Material Control Plan" dated November 16, 2016, and finds that it meets the requirements of 10 CFR 73.71(a).

This amendment request is consistent with the authorized uses of these materials by Passport Systems, Inc., the requirements of 10 CFR 70.34, and is in accordance with the requirements of 10 CFR 70.21(a) and the terms of use enclosed in the standing license. The staff finds that this amendment to the license is acceptable and meets the requirements of the regulations.

ENVIRONMENTAL REVIEW

According to 10 CFR 51.22(c)(11), the issuance of amendments to licenses for fuel cycle plants which are administrative, organizational, or procedural in nature—or which result in a change in process operations or equipment—are eligible for categorical exclusion provided that:

- i. There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.
- ii. There is no significant increase in individual or cumulative occupational radiation exposure.
- iii. There is no significant construction impact.
- iv. There is no significant increase in the potential for or consequences from radiological accidents.

The changes in this amendment do not affect the scope or nature of the licensed activity and will not result in a significant change in the types or amounts of effluents released offsite. There will not be any significant increase in individual or cumulative occupational radiation exposure, and there will not be any significant increase in the potential or consequences from radiological accidents. There is no construction associated with these changes, so there will not be any impact from construction.

CONCLUSION

The NRC staff reviewed the licensee's amendment request as submitted on May 26, 2016, supplemented by responses to RAI dated August 18, 2016, November 15, 2016, and December 8, 2016, assessing the use of a temporary worksite as described.

The physical security program description outlined in Passport's license amendment request, satisfy the performance objectives, systems capabilities, and reporting requirements specified in 10 CFR 73.40, 73.67, and 73.71. Therefore, NRC staff finds the Passport physical security program is acceptable and provides reasonable assurance that the requirements for the physical protection of SNMs of Low Strategic Significance will be met. The NRC staff's review of the applicant's physical security program contains information that has been marked as "Official Use Only – Security Related Information" by the applicant, and is therefore withheld from public disclosure.

The staff reviewed the information submitted by the licensee and determined that the licensee's equipment, facilities, and procedures will be adequate to protect the health and minimize danger to life or property, consistent with 10 CFR 70.23(a)(3). The staff reviewed the information provided by the licensee to describe the procedures and uses of materials at the temporary worksite and determined the procedures are acceptable and consistent with the requirements of 10 CFR 70.23(a)(4). The information provided was sufficient for staff to make this determination and is, therefore, compliant with 10 CFR 70.34.

The NRC staff concludes that the information and regulatory commitments provided by Passport Systems, Inc. provide reasonable assurance of adequate safety of the proposed operations and that the proposed operations will not have an adverse impact on the public health and safety, the common defense and security, or the environment; and meet the applicable requirements in 10 CFR Parts 19, 20, 40, 51, 70, 73, and 74.

PRINCIPAL CONTRIBUTORS

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