



**PASSPORT**  
SYSTEMS INC

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November 15, 2016

REF: License Number SNM-2016

Office of Nuclear Material Safety and Safeguards  
Fuel Cycle Safety, Safeguards, and Environmental Review  
Fuel Manufacturing Branch  
US Nuclear Regulatory Commission  
Washington, DC 20555-0001

Attention: Tyrone Naquin

Subject: Request for Amendment to license SNM-2016 for DHS testing

Attachment(s): (1) Facility Layout  
(2) Facility Drawings  
(3) Nuclear Material Plan  
(4) Massport letter  
(5) DOE letter

Dear Mr. Naquin,

Passport Systems, Inc. (Passport) hereby requests that our current license be amended for the following items.

Passport requests a temporary worksite under this license for the characterization of non-intrusive cargo inspection system developed with US Government funding. The characterization is requested and funded by US Government (Department of Homeland Security). The additional location is a cargo screening facility located on the Port of Boston, 940 East 1<sup>st</sup> St. Boston, MA 02127. Schematics of Passport's facility are provided in Attachments 1 & 2. The total possession at all sites shall not exceed that of the license.

Source Storage: The sources will be stored in a secured room in an area free from large quantities of flammable material. The sources will be contained within a locked 2-hr fireproof safe or equivalent. The location of the storage room and safe/drum location is shown in red on page 3 of Attachment 1.

Fire Response: The facility 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.

Source Storage and Security: When not being used to test the scanning system the sources will be secured in the safe. The RSO will maintain a list of Authorized Users who have been appropriately trained and who will have the code to the safe. The storage room will be a locked area, which only authorized personnel have access to. The facility itself is located on the Conley terminal and has restricted entry to get access onto the port. Only authorized personnel have access to enter the facility. Conley terminal is enclosed by fence/wall and security (Massport Police) is present 24 hours, 7 days a week. 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 and Massport Police will act as the first response.

When the sources are stored in the secured room in a 2-hour fireproof the scanner building is locked or access controlled by Passport personnel. The building is alarmed with door entry sensors and motion sensors. When the building is not occupied and controlled by Passport personnel it is locked and the alarm is armed. Massport Police serve as the first response and are present on the port 24 hours a day. Massport police has guaranteed that they would respond to an alarm (See Attachment 4). Massport police would assess the potential of unauthorized access to the material and potential removal and coordinate with Passport personnel. The building is located within the Conley port terminal which has restricted access to personnel. The port controls access using the TWIC (Transportation Worker Identification Credential) Card Biometric Access Control System. TWIC cards are only issued to individuals that have met screening requirements set by the Transportation Security Administration. Additionally personnel are required to apply for and obtain Massport Identification cards.

Source Use: Procedures for the use of the sources will be maintained. Only Authorized Users, who have completed the Passport Radiation Safety Training and source handling training will be allowed to check out the sources. The Authorized User is responsible for the material being placed in specifically designed cargo containers and vehicles. The Authorized User is also responsible for maintaining control of the material while the vehicles/cargo is scanned, and the material is removed and placed in the next cargo/vehicle or returned to its storage location. During testing and the material is placed in the cargo container which is then locked. While the container is being scanned it is locked inside the facility. The cargo containers will not leave the immediate vicinity of the scanner or the port when the material is inside the container.

If necessary, the documents describing control of the source will be stored in an appropriate location such as locked cabinet or safe approved for storage of classified materials. Only employees with "need-to-know" will have access to the Safeguards information. An example of the nuclear material control plan is provided as Attachment 3. A report shall be made to the NRC within one hour of the discovery of a loss or theft of SNM in accordance with 10 CFR 74.11.

Radiation Protection Training: Passport will maintain its radiation protection program for the facility. Under this program all individuals who work in, or frequent, restricted areas undergo radiation safety training courses provided by Passport's RSO or Assistant RSO tailored specifically to the radioactive materials used at Passport. Training is provided prior to using any radioactive material and refreshed on an annual basis.

#### Radiation Safety Program:

Passport has an established Radiation Protection Program under its Massachusetts Radioactive Materials License covering the safe use of radioactive materials and radiation sources. Procedures and training materials are reviewed and amended at regular intervals. All individuals working with the proposed radioactive materials will adhere to the following minimum safety requirements.

##### I. Source Use Procedures

1. Maintain daily exposure to radiation as low as possible. Personnel monitoring devices will be worn when in areas where radioactive materials are used or stored.
2. After working with radioactive source, hands shall be washed before leaving the laboratory and exposed skin, hair and/or clothing shall be surveyed for contamination.
3. Insure that radioactive sources that will be used are secured from access by unauthorized personnel and may not be exposed to greater than 2 mrem in any one hour. Return sources to their proper storage area as soon as practical.
4. Posting of source storage and use areas is required. The permanent source storage is posted, and any temporary source use areas where a source is being used must be posted.

##### II. Source Contamination Procedures

All sources are maintained as sealed sources and not dispersible. Although the risk of contamination is very low, the sources will undergo a smear test to check for accidental contamination every 6 months, or before being returned to DOE possession.

##### III. Personnel External Exposure Monitoring Program

It is not anticipated that personnel will be exposed to radiation sources in excess of public limits. Passport will issue to all personnel working with or near source material with dosimetry provided by a NVLAP accredited vendor (currently Landauer, Inc.). The sources will continue to be leak tested at 6 month intervals and provide the samples to F.X. Massé Associates under State license number 44-0070 for analysis. The SNM will be in containers made to sealed source standards or metallic and as a result are not in a soluble or readily dispersible form. As such, personnel are not expected to receive 10% of the applicable limit and therefore will not be routinely monitored for internal exposure. However, if there is evidence of dispersible material or suspected that an uptake has occurred, appropriate bioassay will be performed to determine the uptake and dose. Passport will follow contamination guidelines and limits as described in "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," April 1993. The facility is subject to CFR 1020.40 "Cabinet X-ray Systems" regulations with ascension number 1610277-000. As part of this regulation Passport will have area monitors around the building to monitor the dose levels and shut the beam down if they exceed safe levels. Additionally, while this temporary

license is valid, Passport will operate the facility and will place dosimetry (e.g. TLD monitors) around the facility to monitor the dose levels.

1. All individuals who are occupationally exposed to ionizing radiation on a regular basis such that they may receive as much as 10% of the maximum permissible whole body dose will be issued a TLD or LLD whole body monitor that will be processed by a NVLAP-Accredited contract service on a regular basis.
2. All individuals who, on a regular basis, handle radioactive material that emits ionizing radiation such that they may receive as much as 10% of the maximum permissible extremity dose will be issued a TLD finger monitor that will be processed by a NVLAP-Accredited contract service on a regular basis.
3. Other individuals who are exposed to radiation on an occasional basis such as security personnel and secretarial personnel will not normally be issued exposure monitors.
4. The supplier of whole body monitors and finger TLD, when applicable, will be Landauer, Inc. They will be exchanged on a regular basis, at least quarterly.
5. The RSO will promptly review all exposure reports to look for workers or groups of workers whose exposure is unexpectedly high or low. This procedure does not apply to backup monitor records, for example, pocket ionization chambers, when the monitor of record is a TLD or LLD.

#### IV. Material Control and Accountability

Passport will not possess and use at any one time and location SNM in a quantity exceeding 1 effective kilogram. The material control procedures are described in Attachment 3. A report shall be made to the NRC within one hour of the discovery of a loss or theft of SNM in accordance with 10 CFR 74.11. Passport is seeking an exemption to the criticality accident requirements in 10 CFR 70.24.

#### V. Source Transport

The transport of the source to and from the facility will be handled by DOE, or personnel trained to DOE standards. Passport does not pack, ship or transport the material. DOE will receive and/or ship the material from all Passport facilities and the material will be transferred from DOE/Passport via chain of custody forms. Passport will follow procedures mandated by DOE. An agreement between Passport and DOE is included as Attachment 5.

**Waste Management:** There is no waste associated with this license since the SNM objects are encapsulated and will not be unsealed. The sources will be returned to DOE possession after use. The SNM objects are U.S. Government owned material. As such, the disposal costs for final disposition of these materials will be the responsibility of the U.S. Government. It is anticipated that no contamination will occur. After the material is returned to DOE the storage area will be surveyed for contamination. If contamination is identified then decontamination will occur before the area is turned over to the landlord. Any decommissioning or decontamination costs will be the responsibility of Passport.

Please do not hesitate to contact me at (978) 263-9900, ext. 2206 if further information is required.

Yours truly,

Stephen E. Korbly, Ph.D.  
VP Research & Development, Radiation Safety Officer  
Passport Systems, Inc.

Cc: P. Johnson – Passport Systems, Inc.  
F.X. Massé Associates