

**U.S. NUCLEAR REGULATORY COMMISSION  
REGION I**

**INSPECTION REPORT**

Inspection No. 03012771/2011002  
Docket No. 03012771  
License No. 08-17447-01  
Licensee: Department of Homeland Security, U.S. Customs & Border  
Protection Bureau (CBP)  
Location: 1300 Pennsylvania Avenue, N.W., C/O 1400 L Street, N.W., 9th  
Floor; Attn: Occupational Safety & Health Division – IND;  
Washington, D.C. 20339  
Inspection Location: CBP Sault Sainte Marie, Michigan, Port of Entry  
Inspection Dates: October 25 – 26, 2011, and  
continued in-office until January 12, 2012

Inspectors:	<b>Original Signed by:</b>	<b>01/18/12</b>
	_____ Randolph C. Ragland, Jr. Senior Health Physicist Materials Security and Industrial Branch Division of Nuclear Materials Safety	_____ date
	<b>Original Signed by:</b>	<b>01/18/12</b>
	_____ Craig Z. Gordon Senior Health Physicist Materials Security and Industrial Branch Division of Nuclear Materials Safety	_____ date
Approved By:	<b>Original Signed by :</b>	<b>01/19/12</b>
	_____ Blake Welling, Chief Materials Security and Industrial Branch Division of Nuclear Materials Safety	_____ date

## **EXECUTIVE SUMMARY**

Department of Homeland Security, U.S. Customs and Border Protection Bureau  
Sault Sainte Marie, Michigan, Port of Entry  
NRC Inspection Report No. 03012771/2011002

An inspection was performed at Custom and Border Protection Bureau's (CBP) Sault Sainte Marie, Michigan, Port of Entry, using NRC Inspection Procedure IP 87124, "Fixed and Portable Gauges."

Overall, the inspection determined that CBP implemented appropriate controls to monitor, protect, and secure licensed radioactive sources used in vehicle and cargo inspection system (VACIS) units, and independent radiation survey measurements performed by the inspectors showed that radiation exposures to CBP staff and members of the public were below dose limits for members of the public. No violations of NRC requirements were identified.

The inspection also determined that one self-identified failure to perform radiation surveys of the mobile VACIS source housing, on at least four occasions, represented a deviation from CBP internal procedures, and was not a violation of NRC requirements.

In response to the procedure deviations, the following preventative actions were taken: CBP supervisors were required to be physically present during VACIS scans for approximately one month, and to conduct increased inspection rounds of the VACIS units; electronic notifications were sent to all staff highlighting the importance of adherence to procedures and policies; and multiple discussions occurred at daily musters regarding requirements for adherence to procedures and policies.

## **REPORT DETAILS**

### **I. Organization and Scope of the Program**

#### **a. Inspection Scope**

This inspection reviewed licensed activities at Customs and Border Protection Bureau's (CBP) Sault Sainte Marie, Michigan, Port of Entry. Information was gathered through direct observations, reviews of records, and interviews with cognizant personnel including CBP Officers, Assistant Port Directors, and the CBP Radiation Safety Officer.

#### **b. Observations and Findings**

The licensee operates and maintains a mobile vehicle and cargo inspection system (VACIS) Co-60 unit, a railroad VACIS Co-60 unit, eight Campbell/Harris Security Equipment Company Model K portable gauging devices that utilize low activity Ba-133 sources, and multiple exempt check sources. Day-to-day operations are overseen by the CBP management at the Port including Devin Chamberlain, Port Director, Patrick Wilson, Assistant Port Director, Ryan Kitzmiller, Assistant Port Director, and Douglas Price, Assistant Port Director. David Park, CBP Regional Health Physicist maintains CBP regional oversight of licensed program activities, and Steven Tillman, the CBP Radiation Safety Officer, maintains overall oversight of licensed activities.

#### **c. Conclusions**

No violations of NRC requirements associated with the organization and scope of CBP's licensed program were identified.

### **II. Routine Inspection Using IP 87124**

#### **a. Inspection Scope**

The inspectors conducted a routine inspection of CBP's Sault Sainte Marie, Michigan, Port of Entry, using NRC Inspection Procedure IP 87124, "Fixed and Portable Gauges." Information was gathered through direct observations of mobile VACIS and rail VACIS scans; interviews with CBP Officers who operate VACIS units, an Assistant Port Director (APD) and a Supervisor who oversee VACIS operations, and the CBP Radiation Safety Officer (RSO); and through reviews of records including leak test results, instrument calibration records, source inventory records, and self-assessments.

b. Observations and Findings

Records showed that the CBP Sault Sainte Marie facility performed appropriate source leak tests, source inventories, instrument calibrations, self-assessments, and annual program reviews. Independent radiation survey measurements performed by the inspectors showed that radiation dose rates in locations typically occupied by CBP Officers were at background radiation levels (e.g., 5 – 7 microR/h) and only elevated (e.g., 5 – 25 microR/h) during mobile VACIS scans. CBP Officers were knowledgeable of methods to minimize radiation exposures through postings, access, controls, and scanning techniques which ensure that CBP Officers and members of the public are not directly scanned. In addition, access to VACIS sources was controlled with barriers and locks and keys, or by continuous monitoring by CBP Officers.

c. Conclusions

Licensed activities were conducted in a manner that was protective of the health and safety of workers and the general public. No violations of NRC requirements were identified.

### **III. Mobile VACIS Equipment and Use**

a. Inspection Scope

The inspectors reviewed the use of the mobile VACIS unit including a review to determine if the chosen scanning location was consistent with 10 CFR 20.1101(b) requirements to maintain radiation exposures as low as is reasonably achievable. Information was gathered through direct observations, interviews with cognizant individuals, reviews of records, and independent radiation surveys performed by the inspectors.

b. Observations and Findings

Mobile VACIS

The mobile VACIS unit is a non-intrusive inspection system, manufactured by Science Applications International Corporation (SAIC), which uses gamma rays and an imaging system to examine the contents of vehicles and cargo containers. The unit is a truck mounted system which operates by projecting a collimated fan beam onto a 16 foot high detector tower. The system can be operated in a mobile mode where the VACIS truck drives past and scans a stationary target vehicle, or in a stationary mode where the target vehicle drives past and is scanned by the stationary VACIS truck. Two operators are required to conduct mobile VACIS scans: a primary operator who operates the VACIS unit, and a secondary officer who is responsible for maintaining traffic control and ensuring that scanning target areas are clear of personnel prior to scanning. CBP operating procedures require Officers to ensure that a scanned area is unoccupied before initiating a scan by either visually inspecting potentially occupied areas or by

obtaining a verbal declaration from the driver. Because the collimated gamma beam is aligned with the vertical detector tower and the detector tower is wider than the radiation beam, Officers can ensure that vehicle drivers are not directly exposed to a gamma beam by confirming through direct observation that the detector tower is physically behind the driver before initiating a stationary scan. In addition, CBP's NRC license prohibits CBP from intentionally including an individual in a vehicle scan (e.g., for convenience to speed up a search), and CBP Officers are also required to immediately stop a scan if people are detected in a scan.

The mobile VACIS unit at the Sault Sainte Marie, Michigan, Port of Entry is typically operated in a stationary mode and is located adjacent to the main office building, near a personnel entrance. The scanning location is on a slight incline, the source housing is typically located approximately 55 feet from the main building, and the gamma rays are projected in a westerly direction (i.e., in the direction of the office building).

The inspectors directly observed CBP officers conducting scans of trucks, and cargo containers using the mobile VACIS unit. VACIS operators constantly maintained access control to the VACIS unit, ensured that vehicle drivers were not directly scanned, and verified, through inspection or driver verbal declaration, that scan areas were clear prior to initiation of scans. VACIS operators who were interviewed exhibited thorough knowledge of radiation safety precautions associated with the operation of VACIS units, actions to take to minimize radiation dose to themselves and members of the public, and of actions to take in the event of an emergency. During interviews with CBP Officers, the inspector inquired if Officers knew what actions to take if an individual was inadvertently exposed during a VACIS scan. Without exception, all Officers interviewed stated that the scan would be terminated and the incident would be immediately reported to management for review and evaluation.

#### Review of Mobile VACIS Scanning Location

The inspectors observed that the Mobile VACIS unit was located on a slight incline and inquired about the potential for drivers to drift back into the scanning area when a driver takes his foot off the brake and begins to drive the vehicle forward during a scanning procedure. The CBP Non Intrusive Inspection supervisor stated that this concern had been previously evaluated and was determined to not present a radiation safety issue.

On October 25–26, 2011, the inspectors observed approximately 15 Mobile VACIS scans and observed that none of the drivers drifted back into the scanning zone or had any difficulty maintaining their vehicle in a stationary position. In addition, the inspectors interviewed two Primary Operators who had conducted thousands of scans and who are responsible for evaluating and interpreting the images obtained from the scans. These Officers reported that they had not observed any instances in which drivers were inadvertently exposed in this manner and reported that, in their opinion, the incline is not steep enough to present a problem of this nature. In addition, the Operators added that if they observe a vehicle drifting backwards during a scanning procedure, they can immediately stop the scan by closing the source shutters. Based on direct observations of the scanning area and interviews with experienced VACIS Operators, the inspectors concluded that the slight incline present at the Mobile VACIS scanning area at the Sault

Sainte Marie Mobile VACIS scanning area does not represent a radiation safety concern.

#### Dose Assessment for CBP Sault Sainte Marie Office Staff

The inspectors observed that the Mobile VACIS scanning area was setup so that the source gamma beam was directed in a westerly direction (i.e., in the direction of the office building), and inquired about CBP's dose assessment for personnel who work in the office building. A CBP supervisor stated that dose assessments had been performed and radiation doses to personnel in the office building were minimal. The RSO provided a written assessment of dose rates in areas adjacent to the mobile VACIS scanning area. The assessment included radiation measurements obtained by a CBP Health Physicist during scanning procedures, which showed that the maximum dose rate in the office nearest to the VACIS unit was 5 – 8 microrem per hour.

The inspectors directly observed approximately 15 Mobile VACIS scans and took independent radiation measurements at various locations inside the office building, in order to independently evaluate dose to individuals working inside the office building. With the VACIS source exposed, measurements were taken inside offices that were closest to the VACIS unit. With background radiation subtracted, the maximum dose rate measured inside the offices was 6 microrem per hour. Assuming continuous occupancy during normal working hours, and taking into consideration the number of scans performed per hour, week, and year, the inspectors estimated the maximum dose to an individual inside the office building was less than 1 millirem per year, which is below the 100 millirem dose limit specified in 10 CFR 20.1301, "Dose limits for Individual members of the Public."

#### Dose Assessment for Officers who Operate the Mobile VACIS Unit

The inspectors independently evaluated radiation dose to CBP Officers who operate the mobile VACIS unit. The assessment was made by obtaining independent radiation measurements using a Thermo Electron Corporation Microrem detector, NRC serial number 1888, calibration date 9/21/2011.

- Background radiation levels at the mobile VACIS unit location: 5 - 7 microR per hour.
- Operator cab with source exposed: 11 microR per hour
- Controlled area boundary in front of Port building entrance with source exposed: 18 – 26 microR per hour.

Taking into consideration assumptions for the number of scans performed on a daily basis, the duration of the scans, the location where individuals would be present during the scans, and the frequency that the individuals would be present in these locations, the inspectors calculated that a VACIS Operator is likely to receive less than 3 millirem per year if they work full time as a VACIS operator. This estimate is below the 100 millirem dose limit specified in 10 CFR 20.1301, "Dose limits for Individual members of the Public."

### Dose Assessment for an Officer Involved in an Inadvertent Exposure Incident

The inspectors independently evaluated radiation dose to a CBP Officer who may inadvertently walk through the direct beam during a mobile VACIS scan. The assessment was made by obtaining integrated radiation measurements in the direct beam of the mobile VACIS unit with the source exposed. The inspector requested the CBP RSO to obtain integrated radiation measurements using a calibrated CBP Fluke Victoreen Model 451P-RYR.microR pressurized ion chamber. Measurements were taken in the middle of the detector tower (i.e., center of beam) and at a distance of 12 inches to the left of the detector tower. In both measurements, the survey meter was suspended at a height of approximately 4 feet, and the source to detector distance was approximately 20 feet, 8 inches. Results were as follows:

CBP Dose Measurements of Sault Sainte Marie, Michigan, Port of Entry Mobile VACIS Unit on October 26, 2011 Using a CBP calibrated Fluke Victoreen Model 451P-RYR.microR pressurized ion chamber		
Survey Meter Location*:	Integrated Exposure	Calculated Exposure for a 20 Second Scan
Middle of Detector Tower	200 micro R in 61 seconds	66 micro R
12 inches to the Left of the Detector Tower	2 micro R in 36 seconds	1.1 micro R

\* In both measurements, the survey meter was suspended at a height of approximately 4 feet, and the source to detector distance was approximately 20 feet, 8 inches.

Assuming that a CBP Officer is located continuously at the detector tower for a 20 second scan, the inspector concluded that the Officer would receive approximately 0.066 millirem (66 microrem). This dose is below the 100 millirem dose limit specified in 10 CFR 20.1301, "Dose limits for Individual members of the Public."

#### c. Conclusions

- VACIS operators were knowledgeable of radiation safety precautions associated with the operation of VACIS units, actions to take to minimize radiation dose to themselves and members of the public, and of actions to take in the event of an emergency.
- Radiation doses to CBP Sault Sainted Marie staff due to the operation of the mobile VACIS unit, including Officers who operate the mobile VACIS unit and staff who work in the adjacent office building, were estimated to be below the 100 millirem public dose limit specified in 10 CFR 20.1301, "Dose limits for Individual members of the Public."
- The operation and use of the Mobile VACIS unit at the Sault Sainte Marie Port of Entry, including procedures and engineering controls, were based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).
- No violations of NRC requirements were identified.

#### **IV. Railroad VACIS**

a. Inspection Scope

The inspectors reviewed the operation and use of the railroad VACIS unit. Information was gathered through direct observations, reviews of records, and interviews with CBP Officers.

b. Observations and Findings

The inspectors observed CBP Officers performing a railroad VACIS scan on an inbound train. CBP Officers maintained appropriate access controls to the source with the use of continuous monitoring by authorized personnel, or with the use of barriers and locks and keys. The inspectors observed a CBP Officers use a calibrated radiation survey instrument to obtain radiation dose readings on the source housing, as required by CBP procedures, and CBP Officers maintained access controls to the source when the source was unlocked.

During interviews, CBP officers demonstrated thorough knowledge regarding source access controls, radiation surveys, operation of the rail VACIS unit, methods to ensure personnel are not exposed to the direct gamma beam, and steps to take in the event of an emergency.

The inspectors observed that during a period of non-use, there were lights illuminated on the rail VACIS environmental enclosure which houses the source, and inquired if that meant one of the source shutters was open. A CBP Officer stated that the source was securely locked-up, and explained that because there is no heat in the environmental enclosure, they routinely keep the circuit breaker for electrical circuits in the environmental enclosure on in the winter time, in order to prevent a delayed startup of electrical systems in cold weather.

A review of a shift log indicated that a similar concern was reported on November 11, 2007, in which the lights on the receiver tower were left on. Upon notification, a CBP Officer and Supervisor responded and found that the source was securely locked-up, but the circuit breaker to the receiver tower had been left on. The CBP Supervisor stated that they have not had any events in which the railroad VACIS source had been left unlocked, exposed, and unattended. The CBP Supervisor added that as a safety measure, the railroad VACIS system will automatically close the source shutters in 15 seconds, if the system receives no new velocity information (i.e., if there is no moving train present) VACIS system.

Independent radiation surveys performed by the inspector showed that areas occupied by CBP Officers who operate the rail VACIS were at background radiation levels (e.g., 5 – 7 microrem per hour), including the rail VACIS control room during rail VACIS scans of a cargo train and the source environmental enclosure with the source in a shielded position.



c. Conclusions

The rail VACIS source was properly secured and shielded during periods of non-use; operators maintained proper access controls to the source through continuous monitoring by authorized personnel, or with barriers, locks, and keys; operators were knowledgeable regarding operation of the rail VACIS unit and radiation safety practices; and no known incidents had occurred in which the railroad VACIS source was left unlocked, unattended, with the source exposed.

No violations of NRC requirements were identified.

## **V. Personal Radiation Monitoring Policy**

a. Inspection Scope

The inspectors reviewed CBP policies and practices with respect to 10 CFR 20.1502 requirements for issuance of individual radiation monitoring devices (i.e., personal dosimetry). Information was gathered through a review of documents, interviews with cognizant personnel, independent measurements obtained by the inspectors, and independent dose assessments performed by the inspectors for individuals working in an office adjacent to the mobile VACIS unit, CBP Officers who operate the VACIS units, and CBP Officers who may accidentally be exposed to the direct gamma beam of the VACIS unit.

b. Observations and Findings

Title 10 CFR 20.1502(a)(1) requires licensees to issue individual monitoring devices (i.e., personal dosimetry) to adults likely to receive, in 1 year, a dose in excess of 10 percent of the limits in 10 CFR 20.1201(a). The total effective dose equivalent limit is 5 rem, and 10 percent of that limit is 500 millirem.

The CBP RSO maintains documentation of survey data for VACIS units that show dose rates at the controlled area boundary are below 0.05 mrem/h and assuming an individual was continuously present during a standard working year (i.e., 2,000 hours), then the calculated dose is less than 100 mrem, which is below the 10 CFR 20.1502(a)(1) limit of 500 millirem per year, that requires issuance of individual monitoring devices. He further stated that taking into consideration realistic occupancy factors and that dose rates are only elevated during scanning procedures, CBP has determined that radiation doses to CBP Officers from the VACIS units, are more accurately estimated to be approximately several millirem per year.

The RSO acknowledged that CBP Officers may also be exposed to radiation dose from radioactive material included in commercial conveyances, radioactive contraband, and from members of the public who have received diagnostic or therapeutic nuclear medicine treatments. He stated that CBP Officers who are assigned to investigate the presence of radioactive material in cargo or from humans, are assigned a personal radiation detector (PRD) which alerts the Officer to the presence of radioactive material.

If an Officer detects radiation with their PRDs, the Officer is trained to secure the area and maintain a safe distance. He stated that the policy enables Officers to minimize their radiation dose and estimated that the maximally exposed individual would likely receive several millirem per year from these sources.

The RSO added that issuance of personal dosimeters to CBP officers would not result in the collection of useful information because the estimated quarterly dose to CBP officers who operate the VACIS units is less than 1 millirem per quarter, which is below the detection limit for most commercially available dosimeters. He stated that because radiation doses to CBP officers is so low, CBP's policy is to not issue personal monitoring devices to CBP officers who operate VACIS units. The RSO added that CBP Officers who operate the VACIS units frequently express concerns relative to their radiation exposure and CBP's policy to not issue personal dosimetry. The RSO stated that he and the CBP health physics staff are available to discuss any radiation safety issues CBP Officers may have.

The inspectors noted that the independent dose assessments performed by the inspectors and documented in Section III of this report, show that radiation doses to CBP staff are below the radiation dose criteria for issuance of personal radiation monitoring devices and below NRC dose limit for individual members of the public.

c. Conclusions

The inspectors concluded that radiation doses to CBP Officers at the Sault Sainte Marie, Michigan, Port of Entry are below the 10 CFR 20.1502(a)(1), 500 millirem per year limit which requires issuance of individual monitoring devices.

No violations of NRC requirements were identified.

## **VI. Failure to Perform Procedurally Required Radiation Surveys**

a. Inspection Scope

The inspectors were informed that Port management had self-identified approximately four examples in which CBP procedurally required radiation surveys of the mobile VACIS source housing were not properly performed and documented.

The inspectors reviewed the incident to determine if the event represented a violation of NRC requirements and to evaluate the adequacy of corrective actions. Information was gathered through interviews with cognizant individuals, review of records, and through direct inspections.

b. Observations and Findings

CBP established a policy, which is documented in the Mobile VACIS Inspection System Operator Course, that Officers who operate the mobile VACIS unit, shall obtain a survey of the external source housing using a calibrated portable radiological survey instrument,

three times per shift (i.e., day). That data is collected, reviewed by Port management, and sent by electronic mail to CBP Headquarters Office on a daily basis. The APD stated that the intent of the survey is to confirm to CBP Management that VACIS sources are being properly controlled by CBP officers.

An APD stated that during a management review of survey data generated for the mobile VACIS unit, data for April 8, 9, 10, and 12, 2011, appeared suspicious in that the documented survey data points for the beginning, middle, and end-of-the-day were the same. The RSO stated that due to the randomness of radioactive decay, one would expect some variation in the recorded data.

The APD stated that the Port employed video monitoring and noted that on at least four occasions (April 8, 9, 10, and 12, 2011), the video did not show an Officer performing a survey of the source housing at the time documented in the Non-Intrusive Inspection Equipment Radiation Readings data base.

The APD stated that he identified two CBP Officers who were working at the time the suspicious data was generated and confronted the two CBP Officers with this information. The APD stated that the Officers admitted that on several occasions, they did not perform a survey of the source housing as required by CBP policy. The Officers stated that they knew the source was properly shielded and at that time did not feel it was necessary to take an additional survey of the source housing.

In response to this finding, the APD stated that he evaluated the extent of condition. He acknowledged that it is difficult to fully assess the extent of conditions, and that it is possible there were other occurrences. However, based on interviews with the Officers involved and a review of survey data, he determined that the suspicious data appeared isolated to approximately 4 days in April 2011, that no other Officers were involved, and that the survey data obtained before and after the suspicious data, appeared normal and indicated that the source was properly controlled during these time periods.

The APD stated that the following preventative actions were taken: the involved Officers were counseled by the Port Director; the involved Officers committed to improved performance; Port management assigned CBP supervisors to be physically present during VACIS scans for approximately one month and required supervisors to increase inspection rounds of the VACIS units, e-mails were sent to all staff highlighting the importance of adhering to procedures and policies; multiple discussions occurred at daily musters regarding adherence to procedures and policies.

The APD stated that the failure to perform the surveys was treated as a serious and significant event; however, because the preventative actions taken were extensive, he believes that Port management and staff have a heightened awareness regarding survey requirements and that the actions taken will be effective in preventing recurrence.

#### NRC Evaluation

The inspectors evaluated the procedural violations to determine if they represented a violation of NRC requirements.

The inspectors reviewed the commitments made by CBP during the NRC licensing process and noted that the CBP policy which requires CBP Officers to obtain an external radiation survey of the VACIS source housing, using a calibrated portable radiological survey instrument, three times per shift (i.e., day), was not submitted to NRC as a license commitment.

The inspectors then evaluated CBP compliance with 10 CFR 20.1501, which requires licensees to make surveys that are necessary to comply with the regulations in 10 CFR 20, and 10 CFR 20.1302, which requires the licensee to make surveys which are necessary to demonstrate compliance with the dose limits for members of the public.

The inspector noted the following:

- Each time a VACIS scan is performed, the system utilizes radiation detectors to detect the gamma ray beam and generate a scan image, and the system cannot generate a scan image unless the source is exposed. Therefore, a type of a survey is performed for each scan.
- The VACIS unit has a source position indicator on top of the source housing which indicates if a shutter is open (unshielded) or closed (shielded). This enables operators to verify the source is shielded without the aid of a survey instrument.
- When the shutter is open and the source is exposed, an indication is provided on the control console, and visible and audible warning signals are annunciated.
- Radiation surveys performed before and after the missed surveys showed that the source was properly shielded.
- A survey frequency of three surveys per day on the source housing is not required to demonstrate compliance with the requirements in 10 CFR 20 including radiological postings, issuance of dosimetry, and public and occupational dose limits.

Based on this review, the inspectors concluded that the failure of two CBP Officers to perform radiation surveys of the mobile VACIS source housing, on at least four occasions, represented a deviation from CBP policies documented in CBP Mobile VACIS Inspection System Operator Course, but did not represent a violation of NRC requirements.

c. Conclusions

CBP policy documented in the Mobile VACIS Inspection System Operator Course, requires Officers who operate the mobile VACIS unit to obtain a survey of the external source housing using a calibrated portable radiological survey instrument, three times per shift (i.e., day).

Contrary to CBPs policies and a draft "Ionizing Radiation Safety" Directive, on April 8, 9, 10, and 12, 2011, CBP Officers did not obtain an external radiation survey of the mobile VACIS source housing using a calibrated radiological survey instrument. Specifically, surveys were not performed and properly documented. This represented a deviation of CBP's policies and internal procedures," but did not represent a violation of NRC requirements. The inspector also concluded that the preventative actions taken to prevent recurrence appeared reasonable.

## **VII. Safety Conscious Work Environment**

### **a. Inspection Scope**

The inspectors reviewed avenues in which licensee employees can raise safety issues. The inspectors discussed NRC's expectation that each licensee, although not required by regulation, will establish and maintain a safety conscious work environment (SCWE), which is an environment in which employees feel free to raise safety concerns, both to management and to the NRC without fear of retaliation. The inspectors also provided the RSO and an Assistant Port Director with a copy of NUREG BR-0500, which is NRC's Safety Culture Policy Statement.

### **b. Observations and Findings**

The Assistant Port Director stated that there are many avenues available to CBP staff to raise safety concerns including the following: two Safety Committee Meetings are conducted with the Sault Sainte Marie staff per year; daily musters (i.e., meetings) include an open forum for raising safety concerns; all supervisors are approachable to discuss safety concerns; and Port management has an open door policy with regard to receiving safety concerns. The Radiation Safety Officer stated that he and the Regional Health Physicist are available to discuss any concerns that CBP staff might have and there is an annual onsite audit of the Port's licensed program which is conducted by CBP's Regional Health Physicist and during that audit, the Health Physicist is available to answer any questions CBP staff may have. In addition, all Officers are free to contact the NRC if they have a concern.

During interviews with CBP Officers, the inspectors asked the Officers if they have avenues available to raise safety concerns and if they feel comfortable raising safety issues. All individuals interviewed, stated that there are multiple avenues available at the Port to raise safety concerns and they feel comfortable raising safety issues.

### **b. Conclusions**

The inspectors concluded that CBP staff at the Sault Sainte Marie, Michigan Port of Entry has multiple avenues available to raise safety concerns, and individuals interviewed felt comfortable raising safety issues. No violations of NRC requirements were identified.

## **VIII. Exit Meeting**

On January 12, 2012, Randolph Ragland, Sr. Health Physicist, NRC Region I, conducted an exit meeting by telephone with Devin Chamberlain, Port Director, Douglas Price, Assistant Port Director, Patrick Wilson, Assistant Port Director, and Steven Tilden, CBP Radiation Safety Officer. The inspector summarized the inspection findings and observations. The Radiation Safety Officer acknowledged the inspection findings and affirmed CBP's commitment to compliance with NRC requirements and to conduct licensed activities in a manner that ensures the safety of CBP staff and members of the public.

## **PARTIAL LIST OF PERSONS CONTACTED**

### **Licensee**

Dan Buhro, CBP Training Officer  
#\* Devon Chamberlain, Port Director  
Brian Faulkner, CBP Officer  
#\* Ryan Kitzmiller, Assistant Port Director  
Gordon Lane, CBP Supervisor  
Douglas Price, Assistant Port Director  
Brian Vogel, CBP Officer  
#\* Steven Tilden, CBP Radiation Safety Officer  
Todd Slotegraaf, CBP Officer  
\* Patrick Wilson, Assistant Port Director

# Individual(s) present at entrance meeting

\* Individual(s) present at exit meeting conducted by telephone on January 12, 2012

## **INSPECTION PROCEDURES USED**

IP 87124, "Fixed and Portable Gauges."

## **NRC SURVEY INSTRUMENTS**

Thermo Electron Corporation, Microrem detector, NRC serial number 1888, calibration date 9/21/2011

Thermo Electron Corporation, Microrem detector, NRC serial number A911X, calibration date 11/08/2010

## **ITEMS OPEN, CLOSED, AND DISCUSSED**

None

## **LIST OF DOCUMENTS REVIEWED**

- CBP's NRC license no. 08-17447-01
- CBP Mobile VACIS Job Aids
- Letter dated September 3, 2003, from Gary T. McMahan, Chief, CBP Occupational Safety & Health Branch, to Sattar Lodhi, Ph.D., USNRC (ML032470766)
- Sealed Source and Device Registry No. CA0215D107S, Mobile VACIS Co-60
- Sealed Source and Device Registry No. CA0215D105B, Railroad VACIS Cesium- 137, Railroad VACIS Co-60
- Core Mobile VACIS Inspection System Operator Course, Lesson 3: Using Mobile VACIS System Radiation Safety

## **LIST OF ACRONYMS USED**

APD	Assistant Port Director
CBP	Customs & Border Protection Bureau
CFR	Code of Federal Regulations
Co-60	Cobalt 60
DHS:	Department of Homeland Security
μ	micro (1/1,000,000)
microR	microRoentgen
m	milli (1/1,000)
mR/h	milliRoentgen per hour
NRC	Nuclear Regulatory Commission
R	Roentgen
RSO	Radiation Safety Officer
SSDR	Sealed Source and Device Registry
SOP	Standard Operating Procedure
VACIS	Vehicle and Cargo Inspection System