



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVE SE
WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO

5104
Ser 04N/078
14 Aug 2011

From: Commander, Naval Sea Systems Command (NAVSEA 04N)
To: Commander, Naval Facilities Engineering Command, Atlantic
Commander, Naval Facilities Engineering Command, Pacific

Subj: NEW REQUIREMENT TO OBTAIN NAVSEA AUTHORIZATION FOR
CONTRACTS INVOLVING IONIZING RADIATION

Ref: (a) NAVFACINST 5104.1 SAFETY/OPS of 29 Apr 11
(b) COMNAVSEASYS COM Ser 04N/014 of 15 Feb 11
(c) COMNAVSEASYS COM Ser 04N/019 of 2 Mar 11
(d) COMNAVSEASYS COM Ser 04N/020 of 2 Mar 11
(e) COMNAVSEASYS COM Ser 04N/024 of 28 Mar 11
(f) COMNAVSEASYS COM Ser 04N/129 of 22 Nov 10

Encl: (1) Guidance for Requesting Radiation Contract
Authorization

1. Pursuant to the authority stated in OPNAVINST 6470.2B, Naval Sea Systems Command (NAVSEA) has been delegated to act authoritatively for the Chief of Naval Operations concerning the safe use of devices that produce ionizing radiation. Some examples include radiography devices, soil moisture density gauges, and x-ray diffraction equipment. Reference (a) delineates the requirements, responsibilities and procedures for performing oversight of contractor operations involving the use of materials or machines that produce ionizing radiation.

2. Under this authority and reference (a), you are directed to apply for, and obtain, NAVSEA authorization prior to the issuance and radiological safety oversight of new contracts involving the use of materials or machines that produce ionizing radiation aboard U.S. Government controlled property and/or vessels associated with your command. Submit your application to NAVSEA Detachment Radiological Affairs Support Office (NAVSEADET RASO) within 30-days of the date of this letter.

3. Enclosure (1) provides guidance for obtaining authorization.

4. This letter rescinds actions required per references (b) through (f); directing recipients to apply for authorization to

Subj: NEW REQUIREMENT TO OBTAIN NAVSEA AUTHORIZATION FOR
CONTRACTS INVOLVING IONIZING RADIATION

issue and oversight contracts involving the use of materials or
machines that produce ionizing radiation.

5. For further information, contact (b) (6) at
NAVSEADET RASO at (b) (6).

(b) (6)

By direction

Copy to:

CNO (N455)

COMNAVFAC (b) (6)

COMNAVFAC LANT

COMNAVFAC PAC (

COMNAVFAC NORTHWEST

COMNAVFAC MID-ATLANTIC

COMNAVFAC HAWAII

COMNAVFAC FAR EAST

OICC MCI EAST

NAVSEADET RASO (nsscnavsearoadmin@navy.mil)

Guidance for Requesting Radiation Contract Authorization

1. The next revision to NAVSEA S0420-AA-RAD-010 Radiological Affairs Support Program Manual (RASP) will require commands who issue contracts and/or provide oversight of contractor operations involving radiation sources be authorized to perform these functions by NAVSEA 04N, Radiological Controls Program Office. OPNAVINST 6470.2 and 6470.3 assigns NAVSEA to manage the RASP which includes all operational, industrial, and research applications using radiation sources. The purpose of this requirement is to ensure that DON personnel and the environment are appropriately protected from radiation sources used by contractor personnel. This requirement is applicable when the contractor will be performing the radiological work on DOD controlled property.
2. Per the example attached to this enclosure, commands shall submit a letter (attached) requesting authorization to issue contracts involving radiation and to provide radiological safety oversight for those contracts. Examples of contractor work involving radiation include radiography for non-destructive testing, construction requiring the use of soil moisture density gauges employing radioactive materials, and material analysis (lead in paint) using analytical equipment that produce x-rays.
3. Commands will submit with their request letter, a command endorsed Radiological Contractor Oversight Management and Safety Program instruction using the attached ABCDINST 5104.X instruction as a guide. Ensure that the appropriate standard items and checklists are incorporated as enclosures to this instruction. Commands shall also include with their request letter the attached Application Information and RSO/ARSO Designation Letters and Graduation Certificates.
4. Request letters shall be sent by regular mail to Officer in Charge, NAVSEADET RASO, NWS P.O. Drawer 260, Yorktown, VA, 23691-0260 or a signed copy in portable document format (PDF) to nsscnavsearasoadmin@navy.mil.
5. Commands shall not issue indicated contracts until written authorization is received from NAVSEA 04N. Authorizations will have an expiration date indicated on the document (typically 1 year). A request to renew the authorization must be received by NAVSEADET RASO at least 3 months before the expiration date.
6. For further information, contact NAVSEADET RASO at DSN 953-4692 or commercial (757) 887-4692.

Enclosure (1)

Command Letterhead

5104
Ser XXXX-11
01 Jan 2011

From: Commanding Officer {or Commander / Officer in Charge}
Command Name

To: Commander, Naval Sea Systems Command (NAVSEA 04N)

Subj: REQUEST FOR AUTHORIZATION TO ISSUE AND PROVIDE
RADIOLOGICAL SAFETY OVERSIGHT FOR CONTRACTS THAT
INVOLVE IONIZING RADIATION

Ref: (a) NAVFACINST XXXX.X (when published) or NAVSEA 04N ltr
5104 Ser xxx of DD MMM YYYY (ltr sent specifically to
the NAVFAC Region directing SEA 04N contract
authority)

Encl: (1) Application Information
(2) ABCDINST 5104.1 of DD MMM YYYY (command instruction)
(3) Designation Letters and Graduation Certificates for
RSO and ARSO

1. A request for authorization to issue and/or provide
oversight of contractor operations involving radiological
services is required by reference (a).

2. Enclosures (1) and (2) provide information required in
applying for contract authorization and oversight. Enclosure
(3) provides training and appointment documents for the
Radiation Safety Officer (RSO) and Assistant RSO (ARSO).

3. The command point of contact is Mr. John Smith at
DSN 123-4567 or commercial (000) 123-4567.

(SIGNATURE)
Commanding Officer

Copy to:
CNO (N455)
NAVSEADET RASO (nsscnavsearoadmin@navy.mil)

*Note: Examples and guidance are provided in italicized text below.

1. This application is for a new (or continued) authorization

2. Name, Mailing Address and UIC of Applicant:

*COMMANDING OFFICER (Commander / OIC)
US Navy Command
BOX 0001
FPO-AP 96000-0000*

UIC: 12345

3. Area of responsibility or Navy Region where contracts will be issued:

(State physical locations or if issued throughout a Navy Region state the Navy Region. For overseas commands state the countries that activities may be performed at in addition to the region)

4. Name of the person to be contacted about this application:

*LCDR A. B Ceely, Contracting Officer, THISCOM, DSN 123-4567,
Comm (000) 123-4567, ab.ceely@navy.mil.*

5. This application will authorize contracting and/or oversight of radiological work.

6. Types of radiological contracts that will be issued:

(List the types of activities to be contracted. Authorization will only cover the types of activities requested.)

- a. Gamma Radiography*
- b. X-ray radiography*
- c. Moisture Density Analysis (construction)*
- d. On-site XRF analysis*
- e. Lead Paint Analysis*
- f. Use of radioactive materials (explain)*
- g. Use of x-ray producing machines (explain)*

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

(Names, contact information and training)

Enclosure (2)

Mr. Don E. Form, Radiation Safety Officer, THISCOM

Master and Bachelor of Science Public Administration/Law.

Graduate of Navy Radiation Safety Officer Course (RSO)
S-4J-0016, DD MMM YYYY.

8. TRAINING FOR INDIVIDUALS ISSUING RADIOLOGICAL CONTRACTS AND PROVIDING OVERSIGHT:

(Select the applicable statements or describe the training required by your instruction.)

Contracting Officials will be trained in accordance with enclosure (2).

Personnel providing radiological contract oversight will be trained in accordance with enclosure (2).

9. RADIATION SAFETY PROGRAM:

The radiation safety program associated with contracting and oversight will be operated in accordance with enclosure (2).

ABCDINST 5104.1

XX XXX 11

XXX INSTRUCTION 5104.1

Subj: RADIOLOGICAL CONTRACTOR OVERSIGHT MANAGEMENT AND SAFETY PROGRAM

Ref: (a) NAVSEA S0420-AA-010 (RAD-010), Radiological Affairs Support Program Manual

Encl: (1) Standard Radiological Item
(2) Standard Item for Prevention of Radiographic-Inspection Ionizing-Radiation Hazards
(3) Contractor Radiography Oversight Check Sheet

1. Purpose. To delineate the requirements, responsibilities and procedures for issuance and oversight of contractor operations use of industrial sources of ionizing radiation per reference (a).

2. Background. Operations using sources of ionizing radiation have a potential for personnel (public and workers) to receive significant radiation exposures if not conducted in a safe manner. Therefore, all contracts executed by COMMAND NAME requiring the use of sources of ionizing radiation must include measures to ensure the safety of the public per reference (a). Planning and oversight of contractor operations is essential to safeguard personnel from undue radiation exposure.

3. Scope. This procedure applies to the administration of all contracts requiring the use of sources of ionizing radiation to be performed.

4. Responsibilities

a. Commanding Officer shall:

(1) Ensure the requirements of this instruction are enforced.

(2) Designate in writing a Radiation Safety Officer (RSO) and Assistant Radiation Safety Officer (ARSO) who have successfully completed NAVSEADET RASO RSO Course (S-4J-0016) and have direct access to the Commanding Officer on matters dealing with radiation safety within the region.

Enclosure (2)

b. Contracting Officer shall:

(1) Ensure that the Standard Radiological Item, enclosure (1) is included in all contracts.

(2) Forward all information required by enclosure (1) to RSO/ARSO at least 5 working days prior to the start of work for review and approval.

(a) Coordinate with the contractor in correcting any deficiencies noted by RSO/ARSO.

(b) Ensure no operations commence without written approval from the RSO/ARSO.

(3) Ensure that the Standard Item for Prevention of Radiographic-Inspection Ionizing-Radiation Hazards, enclosure (2), is included in all contracts that utilize radiographic inspection as part of their work.

(4) Ensure that the Radiography Worksite Planning Sheet, enclosure (2), Attachment A is completed and submitted by the contractor at least 14 days prior to commencement of radiography operations. Forward enclosure (2), Attachment A to the RSO/ARSO for review and approval.

(a) Coordinate with the contractor in correcting any deficiencies noted by the RSO/ARSO.

(b) Ensure no radiography operations commence without the RSO/ARSO's written approval.

c. Radiation Safety Officer (RSO) and Assistant Radiation Safety Officer (ARSO) shall:

(1) Be responsible for conducting oversight of contractor operations using sources of ionizing radiation that are conducted onboard U.S. Government property and/or vessels associated with COMMAND NAME contracts in the region.

(2) Act as the principle point of contact for contractor radiation safety issues. Contact NAVSEADET RASO when assistance is needed.

(3) Implement this instruction, serve as subject matter expert for the program and ensure all personnel designated to

assist the RSO (ARSOs) are fully trained and comply with the requirements of this instruction.

(4) Designate in writing all Contract Oversight Technicians (COT) qualified to oversee radiological contractors.

(a) Verify the COT has attended the NAVSEADET RASO Radiological Safety Oversight of Contractor Operations course (S-493-0612).

(b) Provide initial training with the COT on:

(1) Command radiation safety operating and emergency procedures.

(2) Radiation exposure limits and control levels.

(3) Facility or site survey requirements.

(4) Justification for not requiring dosimetry.

(5) Biological effects and risks associated with exposure to ionizing radiation.

(6) Types and sources of ionizing radiation contributing to personnel exposure.

(7) Specific procedures for using time, distance and shielding to maintain individual exposures ALARA.

(8) Duties, responsibilities and reporting requirements.

(9) Lessons learned from contractor operations.

(c) Provide annual refresher training covering the topics listed in paragraph 4.c(4)(b).

(5) For all contracts that utilize radiographic inspection as part of their work:

(a) Upon receipt of the Radiography Worksite Planning Sheet, enclosure (2), Attachment A from the Contracting Officer, initiate Contractor Radiography Oversight Check Sheet, enclosure (3) for tracking the required contract oversight actions.

(b) Review the Radiography Worksite Planning Sheet, enclosure (2), Attachment A. Provide WRITTEN deficiencies or approval of the contractor's plan to the contracting officer.

(c) Arrange and conduct a briefing with the contractor, and tended vessel (if applicable), to discuss radiography operations including type of radiography, expected length of radiography operations, location of radiography operations, location of 2 milliRem per hour (mR/hr) (0.02 milliSievert per hour (mSv/hr)) physical boundary, words to be passed over ship's announcing system before, during and after radiography operations (if applicable).

(d) Perform independent checks to verify 2 mR/hr (0.02 mSv/hr) boundaries during radiography operations. In some circumstances the boundary may be established at a point where the dose to an individual in any unrestricted area would not exceed 2 mRem in any one hour and the radiation level at the boundary does not exceed 100 mR/hr. The perimeter of the radiation area shall be a physical barrier established by an enclosure or by stanchions and rope, as necessary. Verify that this boundary is posted with tri-foil radiation warning symbol, "Radiation Area", "Radiography in Progress", and "Keep Out" signs written in English and host-country language. The signs shall be visible to any person approaching the radiation area barrier from any accessible direction.

(e) For gamma radiography, arrange with Base Security to escort contractor from Base gate to site of radiography and back to gate once operations are completed. Perform a survey of contractor's vehicle upon arrival and prior to leaving the worksite to ensure radiation levels are <2 mR/hr (0.02 mSv/hr) on contact of the vehicle. If radiation levels on contact with the vehicle are >2 mR/hr (0.02 mSv/hr), have the contractor shield or reposition the source of radiation until levels are <2 mR/hr (0.02 mSv/hr) on contact with the vehicle. Do not allow security to approach the vehicle until radiation levels are <2 mR/hr (0.02 mSv/hr) on contact with the vehicle. Accompany base security during the transport.

(f) **IMMEDIATELY STOP** all radiography operations for any unsafe condition or for any violation of the 2 mR/hr (0.02 mSv/hr) boundary. Have the contractor place the source of radiography in a safe mode. Report the violation to the Commanding Officer/Officer-In-Charge and to NAVSEASYS COM DET RASO prior to recommencing operations. Inform the contractor

that radiography shall not re-commence without authorization from the RSO/ARSO.

(g) The RSO shall maintain completed copies of enclosure (2), Attachment A and enclosure (3) of this instruction for a period of 3 years.

d. Contracting Oversight Technician (COT) shall:

(1) Ensure that contractor operations within their area of responsibility are conducted in compliance with the provisions of this instruction.

(2) Perform the duties in paragraphs 4c(5)(c-f) as authorized by the RSO/ARSO, reporting initiation, completion and forwarding completed attachment (A) and enclosure (3) documents to the RSO/ARSO.

(3) Notify the RSO/ARSO and contracting officer of any reportable violation of this instruction or unsafe condition that involves any contractor radiation source.

5. Administration and Maintenance. The COMMAND NAME is responsible for administration, maintenance and revision of this instruction. All changes to this instruction, including enclosures (1) and (2), must be approved by NAVSEADET RASO prior to implementation.

(Signature)
COMMANDING OFFICER

Distribution:
Command Codes as applicable
NAVSEADET RASO

XXX 5104.1

XX XXX 11

NAVSEA
STANDARD ITEM

FY-12

ITEM NO: 009-01

DATE: 30 JUL 2010

CATEGORY: I

3.14 Comply with **applicable federal, state, local, and foreign contractor host country requirements** when using Nuclear Regulatory Commission (NRC) licensed radioactive material, **licensed radioactive material, and/or** machine sources of ionizing radiation on Government property.

3.14.1 Do not commence **operations** using radioactive material or machine sources of ionizing radiation on Government property until authorized by NAVSEADET RASO, via the SUPERVISOR. NAVSEADET RASO's address/telephone number is:

Naval Sea Systems Command Detachment
Radiological Affairs Support Office
NWS P.O. Drawer 260
Yorktown, VA 23691-0260
(757) 887-4692

PLAD: NAVSEA DET RASO YORKTOWN VA (UC)

3.14.2 Contract personnel shall not be used as operators under a Navy Radioactive Material Permit (NRMP) issued to a naval facility. Navy personnel shall not be used as operators under a Nuclear Regulatory Commission (NRC) or Agreement State License issued to a contractor.

3.14.3 Submit one legible copy, in electronic media, of a consolidated inventory of all ionizing radiation producing machines or material that will be utilized aboard the ship and/or naval facility during the performance of this Job Order to NAVSEADET RASO, via the SUPERVISOR, 5 working days prior to the start of work.

3.14.4 Submit one legible copy, in electronic media, of the applicable NRC or Agreement State License including procedures regarding system process and operation for use of licensed radioactive material, to NAVSEADET RASO, via the SUPERVISOR. Agreement State licensees shall provide evidence of NRC Form 241 (Report of Proposed Activities in a Non-Agreement State) with the copy of the license for Agreement State licensees.

3.14.5 Submit one legible copy, in electronic media, of the applicable State license, authorization, or registration for machines

Enclosure (1)

that produce ionizing radiation, to NAVSEADET RASO, via the SUPERVISOR.

3.14.6 Submit one legible copy, in electronic media, of a formal Radiological Safety Plan which shall include operating and emergency procedures pertinent to the items listed in 3.14.2, and actions to control jobsite-boundary radiation exposures below those allowed for members of the general public under NRC and OSHA standards, to NAVSEADET RASO, via the SUPERVISOR.

3.14.7 Provide NAVSEADET RASO, via the SUPERVISOR, with remedies to any radiation safety shortcomings identified by NAVSEADET RASO, to be rectified prior to commencing operations.

NAVSEA
STANDARD ITEM

FY-12

ITEM NO: 009-AA
DATE: 30 JUL 2010
CATEGORY: I

1. SCOPE:

1.1 Title: Prevention of Radiographic-Inspection Ionizing-Radiation Hazards; accomplish

2. REFERENCES:

2.1 None.

3. REQUIREMENTS:

3.1 This item applies to all contracts that utilize radiographic inspection as part of their work. "Foreign contractor" refers to a contractor that is contracted from the U.S. Navy host country in which U.S. Navy contracts may be executed onboard U.S. Government property and/or vessels.

3.2 Each foreign contractor shall comply with the regulatory standards of the host country when conducting radiographic inspections on U.S. Government property and/or vessels.

3.3 Submit one legible copy, in hard copy or electronic media, of completed Radiography Operations Planning Work Sheet, Attachment A, to the SUPERVISOR and obtain approval prior to commencement of radiography operations.

3.4 Submit one legible copy, in hard copy or electronic media, of a diagram illustrating the boundary where the exposure rate shall not exceed 2 mr/hr (0.02 mSv/hr) or under special circumstances, the dose to an individual in any unrestricted area would not exceed 2 mrem (0.02mSv) in any one hour. In addition, the boundary shall meet the requirement that no individual member of the public will receive a dose in excess of 100 mrem (1mSv) in a calendar year from the radiographic work, exclusive of background radiation.

Enclosure (2)

3.4.1 In addition to the boundary requirements of 3.4, the foreign contractor shall also illustrate the foreign radiation-boundary requirements.

3.5 Establish a physical boundary where the exposure rate is 2mr/hr or less. In some circumstances the boundary may be established at a point where the dose to an individual in any unrestricted area would not exceed 2 mrem in any one hour. The perimeter of the radiation area shall be a physical barrier established by an enclosure or by stanchions and rope, as necessary. Post this boundary with tri-foil radiation warning symbol, "Radiation Area", "Radiography in Progress", and "Keep Out" signs written in English and host-country language. The signs shall be visible to any person approaching the radiation area barrier from any accessible direction.

3.5.1 Radiographer shall maintain constant surveillance of the entire area boundary through direct observation or Radiation Safety Officer (RSO)/Radiation Safety Oversight Manager (RSOM) approved positive communication with boundary monitor who is in a position to provide visual surveillance.

3.5.2 Monitor the entire boundary using radiation detection equipment appropriate for the source of radiation during the first radiation exposure of the day. If the beam's orientation, kVp, mA, collimation, or shielding is changed between exposures, the boundary shall be re-surveyed and re-established in accordance with 3.5, if necessary.

3.5.2.1 Submit one legible copy, in hard copy or electronic media, of a report listing results of the requirements of 3.5.2 within 24 hours. The report shall include Attachment A diagram identifying survey locations, time, date and location of the survey, the highest radiation level recorded, the kVp, mA, and beam direction of the x-ray machine or, if using gamma source material, the half value of the collimator and beam direction at the time of exposure.

3.6 If an unauthorized individual crosses the boundary, the boundary monitor shall immediately notify the radiographer who will immediately stop radiography operations.

3.6.1 Report any boundary violation immediately to the RSO/RSOM via the SUPERVISOR. Submit one legible copy, in hard copy or electronic media, of a follow-up report within 4 hours of the violation, using Boundary Violation Report, Attachment B. The report shall include the time, date of violation, name of individual(s), the

names of the radiography crew, including boundary monitor, the kVp, mA, duration of actual exposure and beam direction for the x-ray machine or if using source material, the half value of the collimator and the beam direction at the time of violation. Include a diagram showing the location of the violation and the egress path in relation to the source.

3.7 Upon discovery of loss or theft of radioactive material or x-ray producing devices, the radiographer shall cease and make safe all radiographic operations and immediately notify the RSO/RSOM via the SUPERVISOR.

3.7.1 Report verbally each incident to the SUPERVISOR as soon as management becomes aware of such an event.

3.7.1.1 Submit one legible copy, in electronic media, of a formal written report of the incident within 24 hours.

4. NOTES:

4.1 The SUPERVISOR shall perform oversight and surveillance of all radiography operations on U.S. Government property and/or vessels associated with contracted work.

4.2 The technical point of contact for the requirements contained in this Standard Item is SUPERVISOR's RSO or RSOM for radiographic inspections conducted in the host-country and any U.S. Government Detachment.

4.3 This Standard Item complies with 10 CFR Parts 19, 20, and 34 and 29 CFR 1910.1096.

ATTACHMENT A

RADIOGRAPHY OPERATIONS PLANNING WORK SHEET

General Information

1. Prime Contractor Name:
2. Subcontractor Name (if applicable):
3. Proposed Date(s) and Time(s) of Planned Radiography:
4. Purpose of Radiographic Operation:
5. Host country regulatory standards applicable to radiographic inspections preferably translated to English.

B. If conducting gamma radiography complete the following:

1. Radioisotope: Serial Number:
2. Activity: Date of Determination of Activity:
3. Collimator Serial Number:
4. Half Value Thickness:
5. Transportation and vehicle information:
 - a. Manufacturer:
 - b. Model:
 - c. License Plate Number:
 - d. Sign on Vehicle:
 - e. Driver's Name:
 - f. Passengers:
 - g. Location of radiography operation site (ship, submarine, building, pier):

h. Transportation route to be taken to and from work site while on Government activity:

C. If conducting x-ray radiography complete the following:

1. Machine Manufacturer:
2. Serial Number:
3. Maximum kVp:
4. Maximum mA:
5. Total Number of Exposures:
6. Direction of Beam:

D. Provide a diagram of each work site that illustrates:

1. Each location of the radiography, including major features such as walls, bulkheads, tanks, walkways or passageways that may provide shielding or difficulty in controlling the area.

2. The location of the exposure device drive cable, guide tube, and end stop if using gamma radiography equipment, or the location of the tube head and control panel if conducting x-ray radiography.

3. The location of the 2 mr/hr (0.02 mSv/hr) controlled boundary.

E. Provide the calculations for the 2 mr/hr (0.02 mSv/hr) controlled boundary from the distance from the gamma radiography source, or the x-ray machine tube head, to the location where the boundary shall be established.

F. Review/Approval:

Contractor's Radiographer:

Name (Printed)

Signature

Date:

RSO/RSOM (SUPERVISOR'S)
Approval:

Name (Printed)

Signature

Date:

CONTRACTOR RADIOGRAPHY OVERSIGHT CHECK SHEET

ATTRIBUTE	RSO/ARSO SIGNATURE	DATE
Contractor has submitted Appendix A of reference (b) .		
RSO/ARSO performs area or ship check of proposed radiography site with the Contractor.		
RSO/ARSO independently verify the Contractor's proposed location for the 2 mr/hr (0.02 mSv/hr) boundary, maintain as part of the official records.		
RSO/ARSO arrange and conduct a pre-job brief with the tended ship if applicable.		
RSO/ARSO arrange with Base Security to escort the Contractor and the source on base.		
RSO/ARSO perform radiation survey external to the Contractor's vehicle to ensure radiation levels are < 2mR/hr (0.02 mSv/hr) on contact, if levels are > 2mR/hr (0.02 mSv/hr), have the Contractor provide shielding or to reposition the source to ensure levels are < 2mR/hr (0.02 mSv/hr) on contact with the vehicle.		

ATTRIBUTE	RSO/ARSO SIGNATURE	DATE
Provide the ship with the proper wording to be passed over the ship's announcing system before, during and after radiography operations.		
Have the ship's SDO/CDO meet the RSO/ARSO at the Quarterdeck prior to bringing the source on board; obtain the SDO/CDO's permission to bring the source on board.	SDO/CDO Signature and date: RSO/ARSO Signature:	
RSO/ARSO Escort the Contractor to the job site		
RSO/ARSO verify the Contractor has established and properly manned the 2 mr/hr (0.02 mSv/hr) boundary. Ensure proper warning signs are posted and they are in English and in the host-nation language (if applicable). Ensure effective communications are established between the radiographer and boundary monitors.		
RSO/ARSO conduct surveys during radiography operations to verify the 2 mr/hr (0.02 mSv/hr) boundary. Maintain survey records as official documents.		

ATTRIBUTE	RSO/ARSO SIGNATURE	DATE
Upon completion of radiography operations for the day, obtain permission from the SDO/CDO to remove the source from the ship, have the SDO/CDO present at the Quarterdeck.	SDO/CDO Signature and date RSO/ARSO Signature	
RSO/ARSO escort the Contractor and source from the ship to the Contractors vehicle.		
Arrange with Base Security to escort the Contractor from the job site to the base gate, accompany Base Security.		
For gamma radiography, RSO/ARSO perform radiation survey external to the Contractor's vehicle to ensure radiation levels are < 2mR/hr (0.02 mSv/hr) on contact, if levels are > 2mR/hr (0.02 mSv/hr), have the Contractor provide shielding or to reposition the source to ensure levels are < 2mR/hr (0.02 mSv/hr) on contact with the vehicle.		