

Sollenberger, Dennis

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Sent: Friday, March 13, 2009 4:06 PM
To: Dennis Sollenberger; Torre Taylor
Cc: Bill Csaszar; Jenny Goodman; Richard Peros
Subject: 3/12/09 AS Conference Call Items
Attachments: BER 7.05 Guidance on Reactive or Special Inspections.doc; BER 7.06 Follow-up actions and action levels for radiation exposures involving members of the public.doc; NJRAD Form 241.doc; Instructions for completing initial application.doc; Introduction 4.3.1 final.doc; BER 3.01 Attachment 1.doc; Matrix.doc

Torre - Here are the revised files addressing the changes we discussed and a revised matrix. Let me know if there is anything that needs additional clarification. Thanks
Pat

M/93

NJDEP – BER Procedure No. 7.05 Guidance on Reactive or Special Inspections

The NJ Department of Environmental Protection State's "Radioactive Materials and Radiological Assessment Team" manual includes the necessary steps that will be taken to respond to, assess and mitigate any material event that occurs within the State. If the event occurred due to the actions of a licensee, staff and management will decide if a reactive inspection is warranted. Steps the licensee took to minimize the likelihood of a recurrence will be reviewed during this followup inspection. Reach-back capabilities to Federal agencies are included for events that exceed the capabilities of the State. The Bureau of Environmental Radiation, in conjunction with the New Jersey State Police and the New Jersey Office of Counter-Terrorism, also utilizes the "New Jersey Radiological Response Protocol" as a template for the use of radiation detection and isotope identification equipment to classify radioactive substances and ascertain their legitimacy.

Criteria for Evaluating Special Inspections

1. Examples that normally require consideration of immediate dispatch (typically within 2 days) of one or more inspectors, for follow-up action, are listed below. These reactive inspections are carried out at the discretion of the Radioactive Materials Supervisor, depending on the information available and the immediate implications of the accident.
 - (a) Single exposure of an occupational worker in excess of the dose limits in 10 CFR 20.1201.
 - (b) Loss of control of radioactive material that caused a member of the public to receive an exposure in excess of the limits in 10 CFR 20.1301.
 - (c) Discovery of State -licensed material in an unrestricted area.
 - (d) An unplanned contamination event that requires a 24-hour report to the State, as per 10 CFR 30.50(b), 40.60(b), or 70.50(b), as applicable.
 - (e) An intake of radioactive material in excess of an annual limit on intake.

Examples that normally require consideration of a special inspection before the next routine inspection (typically within a few weeks) may include the following:

- (a) Medical misadministrations that meet the abnormal occurrence threshold. See MD 8.1, "Abnormal Occurrence Reporting Procedure," and MD 8.10, "NRC Medical Event Assessment Program."
- (b) Release of radioactive material to an unrestricted area in excess of 2 times the concentration limits in 10 CFR 20.1302.
- (c) Disposal of license material in quantities or concentrations in excess of the limits in 10 CFR 20.2003, 2004, or 2005.
- (d) Loss of control of radioactive material that could have caused a member of the public to receive an exposure in excess of the limits in 10 CFR 20.1301.

Criteria for Conducting Special Inspections

During a special inspection, the RMS Supervisor should make an initial determination of the hazard, the need for further action, and should proceed as follows:

1. Discuss the current status of the incident with the licensee, or if not a licensee, the individual(s) who found the radioactive material.
2. Collect details about the cause of the incident and the incident chronology.
3. Review licensee follow-up actions for consistency with the regulations, license requirements, approved procedures, and the nature of the incident.
4. Evaluate the potential radiological consequences and personnel exposure, using all available.
5. Evaluate the need for a medical consultant, based on the potential radiological consequences and personnel exposure.
6. Determine if proposed licensee actions and plans will provide a safe recovery from the incident and help prevent a recurrence.

Follow-up Actions

The Team Lead is responsible for the screening, evaluation, follow-up, and closeout of reports of all types of incidents reported by licensees under their cognizance. The regional offices should:

- a. Use the Nuclear Medical Event Database (NMED) system to track, review, and follow up written reports of incidents. Initial input of entries is handled by central office.
- b. Document all types of reports of incidents in an inspection report or other type of record. Corrective actions should be tracked to completion.

Documentation Guidance

Any follow-up actions that the staff takes on a reported incident should be summarized in writing and maintained in an official file.

Examine Regulatory Significance of Incident

Examine regulatory significance of the incident and close out the DEP response, considering the following factors:

- a. Possibility of generic implications.
- b. Value of documented case study.
- c. Need to prevent recurrence.
- d. Possible need for new rulemaking.

NJDEP-BER Procedure No. 7.06
FOLLOW-UP ACTIONS AND ACTION LEVELS FOR RADIATION EXPOSURES
ASSOCIATED WITH INCIDENTS INVOLVING MEMBERS OF THE PUBLIC

01 PURPOSE

To provide advice and guidance on a course of action to follow in case of incidents involving radiation exposure to members of the public. The guidance provided in this document is for Bureau of Environmental Radiation (BER) staff to use in responding to incidents that do not require activation of the Department's Nuclear Power Station Emergency Response Plan. It is specifically for use after actions have been taken to prevent the source of exposure from further affecting the public, and it is intended for use as initial guidance, when situations arise.

02 OBJECTIVES

To ensure that correct follow-up action is taken when there is an incident involving radiation exposure to members of the public.

03 DEFINITIONS

03.01 Agreement State. A state that has signed an agreement with the NRC under which the State regulates the use of by-product, source and small quantities of special nuclear material and NARM within that state.

03.02 Member of the Public. Any individual except when that individual is receiving an occupational dose

03.03 Radioactive Material in the Public Domain. Any radioactive material, subject to NRC or Agreement State jurisdiction, for which control in accordance with NRC or Agreement State regulations or with applicable license conditions is not being implemented, and which may, or have already resulted in, radiation exposures to members of the public.

04 APPLICABILITY

This procedure applies to BER staff.

05 RESPONSIBILITY

The Incident Team Leader shall have the lead responsibility for follow-up actions for incidents involving radiation exposure to members of the public, unless directed otherwise.

06 GENERAL GUIDANCE

Incidents involving radiation sources are, by nature, event-specific. Because the conditions surrounding each incident are unique, follow-up action must be developed on a case-by-case basis. The information provided in this procedure is meant to be a guide, and should not be used in isolation of other guidance for incidents and basic radiation safety principles. Staff should use the other guidance as deemed appropriate for responding to radioactive source incidents, including incident assessment; dose assessment if individuals are exposed to radiation; need for medical consultants;

interaction with other Federal, State and local government agencies; types of inspections, etc.

Staff should use the guidance in BER 7.05 in conjunction with the guidance in this procedure to direct staff to: (1) evaluate the potential or actual exposure of a member of the public, (2) keep public exposures as low as possible, and (3) evaluate the potential radiological consequences and personnel exposures. With any incident, staff will be working closely with any known licensees involved with the incident. If a responsible licensee is not immediately known, general response procedures are outlined in RAMRAT manual and the Radiation Response Protocol which include descriptions of which Federal, State or local entity would be in charge under various circumstances. The purpose of BER 7.06 is to provide additional information and dose ranges/guidance if members of the public are exposed to radiation.

Some incidents may be considered abnormal occurrences. NRC submits an abnormal occurrence report to Congress annually. The report, NUREG-0090, "Report to Congress on Abnormal Occurrences," includes the criteria for abnormal occurrences. As part of an incident assessment involving radiation exposure to members of the public, Central Office should also provide appropriate information to the NRC State Liaison in accordance with current procedures for submitting incidents considered possible Abnormal Occurrences.

06.01 Specific Guidance

The guidance is intended for incidents involving radiation sources and not for routine, non-accident operations. The regulations have specific limits for exposures to members of the public. The dose limit for members of the public is given in Section 20.1301, "Dose limits for individual members of the public." Licensees are to conduct operations so that the limits in Section 20.1301 are not exceeded for members of the public. Currently, the public dose limit is 1 mSv (100 mrem). Section 20.1301 (c) allows a licensee to permit visitors to an individual who is undergoing medical treatment and cannot be released under Section 35.75 to receive a dose not to exceed 5 mSv (500 mrem). Note that any accidental exposures to members of the public may be investigated, depending on the nature of the exposure, regardless of the dose. However, exposures from routine operations, for example, when material is disposed or released via effluents in accordance with the regulations, would not be part of the scope of this.

If a licensee is required to report to the Department, under 10 CFR Section 20.2202, "Notification of incidents," and Section 20.2203, "Reports of exposures, radiation levels, and concentrations of radioactive material exceeding the constraints or limits," the licensee is responsible, in accordance with Section 19.13(d), for notifying and providing an exposure report to any individuals that were exposed. Depending on the circumstances of the incident, BER may also notify the affected individuals. For example, BER might notify individual(s) if the staff believes that the licensee response is not adequate, a responsible licensee is not known at the time, or the staff wants to make sure the individual(s) are getting complete information.

The actual doses to members of the public are likely to be uncertain, especially during the initial follow-up after an incident. Doses will usually be estimated in a dose range or a maximum dose based on the circumstances of the incident. For this reason, it is important to talk with exposed individuals because this can help the staff in assessing the incident and in estimating the dose'.

Depending on the nature of the incident, further analysis of the estimated dose may be necessary, using techniques such as bioassays, whole body counting, and cytogenetic analysis, and should be considered as the estimated doses approach 10-20 rem and up. In evaluating the need for these types of analyses, staff should keep in mind that performing the study can help reassure an individual who was exposed to radiation, but it can also increase the anxiety about the exposure. Therefore, staff should be sensitive to this and use their best judgment in deciding when to recommend cytogenetic analysis.

Because people are often more anxious about radiation exposure than with other hazards and risks, staff should be especially sensitive when providing information about the incident and the estimated doses. Staff must be as factual as possible about characterizing the dose based on available information, without causing undue stress. Staff should not discuss medical issues or provide medical advice to exposed individuals. Instead, staff should refer individuals to their personal physicians.

06.02 Dose Ranges and Guidance

1. Dose Range from 0 to 1 mSv (100 mrem)

Exposures with estimated doses in this range are within the public dose limit in 10 CFR Part 20. There are no regulatory requirements requiring reporting and notifications. Typically, no further action is needed, but the need for additional action must be evaluated based on the specific incident.

2. Dose Range from 1 mSv (100 mrem) to 50 mSv (5 rem)

In cases when the estimated dose is between 1 and 50 mSv (100 mrem and 5 rem), staff will need to determine if a medical consultant is necessary. If a medical consultant is necessary, the medical consultant will determine whether or not a medical evaluation of exposed individuals is necessary. Staff should not discuss medical issues with an individual who was exposed, or provide medical advice. Instead, if an individual expresses concern or wishes additional information on possible medical affects, staff should refer the individual to his/her personal physician or to the department's medical consultant, if DEP has consulted with one to analyze the incident. If additional assistance is needed, BER staff can call the Radiation Emergency Assistance Center/Training Site (REAC/TS). Information on REAC/TS is provided below in Attachment 3, "Medical Assistance in Radiation Exposure Emergencies."

3. Dose Range Greater than 50 mSv (5 rem)

For estimated doses that appear to be over 50 mSv (5 rem), assess the incident following the guidance in 2. above. If the calculated effective dose equivalent is more than 100 mSv (10 rem), further medical evaluation should be considered. Depending on the circumstances of the incident, a medical consultant may be brought in, the exposed individual will be referred to his/her personal physician, and/or REAC/TS may be consulted for additional guidance. At dose estimates in this range, and approaching 200

mSv (20 rem), the need for further analysis of the dose, as discussed above, should be evaluated.

4. Members of the Public Who Are Pregnant

Information regarding the disclosure of pregnancy must be on a voluntary basis because of issues involving individual privacy. If, in the course of evaluating an incident involving exposures to members of the public, staff is informed by a female member of the public that she is pregnant, the follow-up action is essentially the same as in 1. through 3. above, extending the evaluation to look at the impact on the embryo/fetus. A medical consultant will probably be asked to evaluate the incident and the likely dose to the embryo/fetus. As stated previously, staff should not discuss medical issues or provide medical advice to the woman, but should refer her to her personal physician. Additional information on exposures to the embryo/fetus can be found in: 1) NRC Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Exposure," and 2) National Council on Radiation Protection and Measurements Report No. 128, "Radionuclide Exposure of the Embryo/Fetus." Additionally, staff may get additional guidance if needed from REAC/TS.



RECIPROCITY APPLICATION FORM

REPORT OF PROPOSED ACTIVITIES WITHIN NEW JERSEY JURISDICTIONAL BOUNDARIES INCLUDING OFFSHORE AND STATE WATERS

1. NAME OF LICENSEE (Person or firm proposing to conduct the activities described below)		2. TYPE OF REPORT <input type="checkbox"/> Initial <input type="checkbox"/> Change	
3. ADDRESS OF LICENSEE		4. LICENSEE CONTACT AND TITLE	
		5. TELEPHONE NUMBER	6. FACSIMILE NUMBER

7. ACTIVITIES TO BE CONDUCTED UNDER THE GENERAL LICENSE GIVEN IN N.J.A.C. 7:28-52.1 (See 10 CFR 31)

WELL LOGGING LEAK TESTING AND/OR CALIBRATIONS TELETHERAPY/IRRADIATOR SERVICE

PORTABLE GAUGES OTHER - Specify: _____

RADIOGRAPHY - Specify: _____

REGISTERED AS USER OF PACKAGING (CERTIFICATES OF COMPLIANCE NUMBERS)

LOCATIONS OF USE - LIST ADDITIONAL WORK SITES ON SEPARATE SHEET(S)

8. CLIENT NAME & ADDRESS		9. ACTUAL PHYSICAL ADDRESS OF WORK LOCATION	
		10. CLIENT TELEPHONE #	11. WORK LOCATION TELEPHONE #

12. DATES SCHEDULED		13. NUMBER OF WORK DAYS	14. ADD	15. DELETE	16. LOCATION ID # (To be assigned by NJ DEP)
FROM:	TO:				

17. LIST RADIOACTIVE MATERIAL, WHICH WILL BE POSSESSED, USED, INSTALLED, SERVICED, OR TESTED (Include description of type and quantity of radioactive material, sealed sources, or devices to be used.)

18. NRC or AGREEMENT STATE SPECIFIC LICENSE (One copy must accompany the initial NJRAD FORM 241)	LICENSE NUMBER	STATE	EXPIRATION DATE
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19. CERTIFICATION (MUST BE COMPLETED BY APPLICANT)

I, THE UNDERSIGNED, HEREBY CERTIFY THAT:

- All information in this report is true and complete.
- I have read and understand the provisions of the general license N.J.A.C. 7:28-62.1 (see 10 CFR 150) and I understand that I am required to comply with these provisions as to all byproduct, source, or special nuclear material which I possess and use within the jurisdictions of New Jersey, including its offshore waters, under the general license for which this report is filed with the NJDEP Bureau of Environmental Radiation.
- I understand that activities, including storage, conducted in New Jersey under general license N.J.A.C. 7:28-52.1 (see 10 CFR 31) are limited to a total of 180 days in calendar year. With the exception of work conducted in offshore waters, which is authorized for an unlimited period of time in the calendar year.
- I understand that I may be inspected by NJDEP Bureau of Environmental Radiation at the above listed work site locations and at the Licensee home office address for activities performed within the jurisdictions of New Jersey, including its offshore waters.
- I understand that conduct of any activities not described above, including conduct of activities on dates or locations different from those described above or without NJDEP Bureau of Environmental Radiation authorization, may subject me to enforcement action, including civil or criminal penalties.

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CERTIFYING OFFICER - RSO or Management Representative (Name and Title)	SIGNATURE	DATE
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WARNING: False statements in this certificate may be subject to civil and/or criminal penalties.

FOR NJDEP USE ONLY	REVIEWING OFFICIAL (Name and Title)	SIGNATURE	DATE	TOTAL USAGE -- DAYS TO DATE
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REPORT OF PROPOSED ACTIVITIES WITHIN NEW JERSEY JURISDICTIONAL BOUNDARIES INCLUDING OFFSHORE AND STATE WATERS

INSTRUCTIONS

Licenses cannot perform work in areas of exclusive New Jersey State jurisdiction without either (a) filing (and receiving approval of) NJRAD Form 241 for reciprocity in accordance with N.J.A.C. 7:28-62.1 (see 10 CFR 150) or (b) applying for (and receiving approval of) a specific New Jersey radioactive materials license. An area of exclusive New Jersey State jurisdiction is an area over which the State government exercises legal control without interference from the jurisdiction and administration of Federal law. If the work is to be performed on Federal property within New Jersey, the licensee must first determine the jurisdictional status of the area where the licensee plans to work. If the jurisdictional status of the work site is unknown to the licensee, the licensee should contact the Federal agency that controls the facility where the work is to be performed. A written statement concerning the jurisdictional status is not required in order to file for reciprocity; however, it is recommended that the licensee obtain such a statement for the file for future reference and inspection purposes.

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Licenses seeking to conduct activities under reciprocity for the first time in a calendar year must submit this Form, one copy of the NRC or Agreement State specific license and one-half the fee listed in Tables 1 and 2 of N.J.A.C. 7:28-64.2. NJDEP must receive this filing at least 3 days before the licensee engages in activities permitted under the General License established by N.J.A.C. 7:28-62.1 (see 10 CFR 150). This evidence can be a copy of the check that will be mailed to the NJDEP Bureau of Environmental Radiation. The preferred method of filing is through the facsimile transmission however, the licensee may file the required information through the mail or other means as long as NJDEP receives the information at least 3 days before the licensee engages in the activity. **NO ACTIVITIES MAY BE CARRIED OUT WITHOUT FIRST RECEIVING APPROVAL OF A RECIPROcity OR SPECIFIC LICENSE APPLICATION.**

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In completing NJRAD Form 241, it is important that the information submitted on NJRAD Form 241 be specific regarding the location and date of use as well as the activity requested. If it is not possible to provide complete information, such as addresses for the locations of work, the licensee should provide as much information as possible. The licensee is responsible for providing additional information as revisions or clarifications as soon as such information becomes available.

Item 2:

The licensee should check the "initial" box if this is the first submission of Form 241 for the year. Licensees should check the "change" box to indicate changes to the information provided on the initial NJRAD Form 241. Changes may include modifications such to as additional work locations, changes to radioactive material, work activities, information that clarifies or deletes specific locations or work sites, modifies work site contacts, or adds or deletes dates of work, licensees should file by NJRAD Form 241 or letter, so that NJDEP receives the filing at least 3 days prior to engage in such activity. It is not necessary to resubmit the NRC or Agreement State license unless the license has been amended since the filing of the initial NJRAD Form 241. No fee is required for changes. Once one year passes from the date of initial application, a new Initial application must again be filed with the associated fees included. Additional sheets may be used, provided it includes all of the requested information in NJRAD Form 241.

Under the general license, reciprocity activities are authorized only as long as the licensee holds a valid radioactive material license. If the license expires during the year, an extension letter or a renewed license

issued by the regulating agency must be submitted to NJDEP before performing any additional work under reciprocity.

Under the general license, reciprocity activities, including storage (usage), conducted in New Jersey State jurisdiction, are limited to a total of 180 days in any calendar year. NJDEP tracks reciprocity usage on the basis of approved usage days. NJDEP will not approve any activity under the general license which causes the total usage days to exceed 180 days. It is important that licensees track the days of use and clarify or delete dates of work when applicable.

Item 12 should reference the proposed beginning and ending dates of work for each work location with the total number of days worked recorded in Item 13. Item 14 should be completed to show additional work dates different from those provided on the initial NJRAD Form 241 and Item 15 should indicate dates when work was not performed, as initially requested, that need to be deleted from the total work days. The Location ID Number in Item 16 is generated by the NJDEP for use in tracking reciprocity activities and is specific for each work location. The Location ID Number should be referenced for any revisions or clarifications to work location information.

Item 17: Licensees should identify the specific make and model numbers of sealed sources and devices.

NOTE: Inspections by NJDEP of activities performed in New Jersey or areas of New Jersey jurisdiction, including offshore waters operating under the general license in N.J.A.C. 7:28-62.1 (see 10 CFR 150) will be conducted at the listed work site location(s). Failure to file an NJRAD Form 241 may result in the issuance of formal enforcement actions.

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Completed application forms may be mailed to:

New Jersey Department of Environmental Protection, Bureau of Environmental Radiation, Radioactive Materials Section, P.O. Box 415, Trenton, NJ 08625 or sent via facsimile to (609) 633-2110.