

April 17, 2002

NRC STAFF REVIEW COMMENTS PERTAINING TO:

**SOUTHEAST MISSOURI STATE UNIVERSITY
CAPE GIRARDEAU, MISSOURI
VISUAL SCOPING AND SURVEY PLAN**

Based on Region III, Decommissioning Staff review of the above plan, certain areas of the Plan needs to be clarified, supplemented or modified. Mike McCann, Senior Radiation Specialist, Decommissioning Branch Staff, will transmit the comments to the licensee, and supplement the e-mail with a telephone call. Representatives of Region III Materials Inspection Branch may also participate in the call. Whether the license will need or not need to be amended will be determined as an outcome of the call.

1. We are probably going to need to amend the license for the following items:
 - A. Amend the license to add authorization to decontaminate americium 241 contaminated items.
 - B. Establish the RSO's qualifications, training and experience to perform the decontamination operations. They will need to amend the license to add anyone else who would do cleanup other than the RSO.
 - C. Designate a centralized area for the decontamination of items found with contamination in excess of a multiple of the R.G. 1.86 limits, e.g., 10 times the removable alpha limit of 20 dpm/1000 cm² or 100 dpm/100 cm² alpha fix
 - D. Incorporate provisions into the license for establishing "Temporary Job-sites" when cleanup of items will be done other than in the centralized cleanup location.
2. When does SEMO propose to start the survey, and how long do they think it will take to complete it?
3. Section 1.1.3

They should insure the radiological surveys are capable of detecting a full range of radiological emissions, e.g., alpha, beta, and gamma. Since other materials were identified in their waste stream, e.g., cesium 137, and the potential masking of the alphas by surface materials, it should be recommended that in addition to alpha surveys that a scanning survey incorporating a beta-gamma GM unit be included.

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4. Section 1.1.2.

Did the NRC or SEMO's consultant look at the three former storage areas for surplus materials? Also, did they characterize the items which were found to be contaminated in these storage areas, by radiological material type, and type of contaminated item? Was the contamination limited to americium 241 only?

SEMO indicated that the materials in these areas were awaiting to be auctioned. Did the University contact the auctioneers to ascertain if they could track down persons who may have purchased materials? Also, did the auctioneers have a listing of items sold? Were there other auctions previous to the one referenced in the Scoping Plan?

5. SEMO indicated that Magill Hall is not to be included in this Plan. Are we confident that there are no areas in Magill Hall which could retain equipment?

They indicated there are no active laboratories in Johnson Hall. As part of the Historical Site Assessment review did they determine whether or not laboratories may have been previously located in this Hall? With the identification of americium 241 in a Acid Dilution Pit located in Johnson Hall, there is indication that licensed material may have been used in this building.

The laboratories listed under Rhodes Hall, how were they selected? It appears to have been limited to Chemistry Laboratories. Couldn't the equipment from Magill Hall have been transferred to other physical laboratories, such as biology, botany, physics?

If it hasn't been done already, SEMO's Plan and survey needs to address what they will do to determine what radiological work was done, Historical Site Assessment, in each building. How were the class rooms used 5 years ago, 10 years ago, etc.

Also, confirm that SEMO will maintain records of interviews, etc., when investigating the potential for contaminated material to exist at one of the off-campus University locations.

6. 1.3.2

Will SEMO's RSO do any type of periodic audit, to check on the graduate

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students? Also, there are periodic indications in the Plan, that other persons (designates) can act during absences of the RSO. SEMO needs to spell out who this is (by position and training).

SEMO indicated that the RSO will perform decontamination. I am not clear if the RSO's training and experience for decontamination has been evaluated for the level of proposed decontamination. If SAIC will certify his training and experience or do some type of over-sight and supervision during any initial decontamination project, then we could accept this training and certify him. Anyone else other than the RSO would need to be added to SEMO's license. See Item 1 above. Similar comment.

In another area, the licensee indicated that if contamination were identified in excess of 10,000 dpm/100 cm² that the RSO in consultation with their HP Consultant will determine the decontamination approach. Will the consultant in these cases perform the decontamination, or will the RSO do it in conjunction with the over-sight of the consultant? This area needs to be clarified.

7. SEMO submitted RP-11 (Personnel and Equipment Decontamination) and RP-30 (Radiological Instrumentation). They are, in general good, however the Decontamination Procedure for equipment and materials is very general.

Since it appears that the University wishes to be able to clean up items between 20 and 10,000 dpm/100 cm² alpha (removable), I am concerned that cleanup in unrestricted areas, particularly off-site locations, could cause multiple contamination issues. I think the University needs to justify why they should not wrap and contain any items found in unrestricted areas, in excess of the R.G. 1.86 release criteria, and transport the items to a single decontamination point at the University. See item 1 above.

I need to see RP-3. If it is determined that SEMO will need to provide RPs for Posting, Labeling, Access Control, etc, in support of a license amendment to authorize the establishment of Temporary Job-Sites, then will need these other procedures. I don't see where we have received these procedures before as part of a license amendment.

8. Sections 2.3 and 3.4

processing of contaminated items
Second bullet:

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If survey results are below the established release limits (screening levels) found in RPP RP-03, attachment 1, the suspect item may be left unattended and considered released for unrestricted use.

SEMO indicated that if an item is found to be contaminated, and below the Screening Levels, that nothing further may be done to reduce the contamination. Even though an item may be below the release criteria, ALARA would dictate, that if contamination can be reduced with minimal effort, that it should be done. The University should clarify their position here.

Decontamination (suspect items with removable contamination between 20 and 10,000 dpm/100 cm²).

If the contaminated area is small (less than or equal to 1 m² total surface area) and easy to clean, an attempt to decontaminate the item in place will be made. Decontamination will be performed in accordance with RPP procedure RP-10 and an approved radiological work permit.

If the contaminated area is large (greater than 1 m² total surface area), hard to clean, and/or has inaccessible areas (as determined by the RSO), the RSO will determine whether a decontamination attempt is necessary.

9. There is a conflict in statements found in Section 2.2 and 2.3. They indicate if a suspect item is identified that the RSO will be notified at the end of that day in one Section and that they may notify the RSO at the end of the day or whenever they finish their buildings in another Section. The end of the day probably is the most acceptable. Also, they indicated that the suspect items will be checked within 5 days of notification. Will anything be done to prevent the removal of identified suspect items until they can be checked?
10. Southeast will notify the NRC within 24 hours if any suspect item is found in an area where personnel are normally stationed during routine university operations with removable contamination levels exceeding 110,000 dpm/100 cm² averaged over 1 m² (not to exceed 330,000 dpm/100 cm² in any single location). This level of contamination is based upon the conservative assumption that if an individual were present for 24 hours, the individual could receive an intake greater than one occupational annual limit on intake.

SEMO needs to clarify where the above numbers came from. Which ALIs they are using, and if items are found in unrestricted areas then provisions for

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determining and applying limits related to a public dose should be applied instead of an Occupational Limit.

4.2 evaluation to determine REQUIREMENT to monitor

Southeast will monitor for internal exposure those non-occupational personnel identified in section 4.1 that are likely to have received an intake of 2% of the Am-241 ALI (Annual Limit on Intake) listed in 10 CFR 20 Appendix B as determined by the RSO.

Again which ALI is to be applied?

11. Table 3-2. Scan Rates, Investigation Levels, and Fixed Point Count Times

Investigation Level (cpm)
8

SEMO needs to provide the calculations used to derive these investigational values. Which screening value was used 100 dpm/100 cm² or the 300 dpm/100 cm²?

12. SEMO needs to be aware that notification of the NRC also includes the provisions of §20.2203 (see excerpts below).

§20.2203 Reports of exposures, radiation levels, and concentrations of Radioactive material exceeding the constraints or limits.

Reportable events. In addition to the notification required by §20.2202, each licensee shall submit a written report within 30 days after learning of any of the following occurrences:

- (1) Any incident for which notification is required by §20.2202; or
- (2) Doses in excess of any of the following:
 - (iv) The limits for an individual member of the public in §20.1301; or
 - (v) Any applicable limit in the license; or
- (3) Levels of radiation or concentrations of radioactive material in –

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- (I) A restricted area in excess of any applicable limit in the license; or
An unrestricted area in excess of 10 times any applicable limit set
forth in this part or in the license (whether or not involving
exposure of any individual in excess of the limits in §20.1301); o