



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

Paula / Joe

June 28, 1995

MEMORANDUM TO: Kevin Null  
Materials Licensing Section  
Division of Radiation Safety  
and Safeguards, Region III

FROM: Louis M. Bykoski *Louis M. Bykoski*  
Materials Decommissioning Section  
Low-Level Waste and Decommissioning  
Projects Branch  
Division of Waste Management, NMSS

SUBJECT: REVIEW OF ADVANCED MEDICAL SYSTEMS, INC., COST ESTIMATE  
RESPONSE NRC LICENSE NO. 34-19089-01

We have reviewed the Advanced Medical Systems, Inc., May 30, 1995, response to NRC's comments on the decommissioning cost estimate for the London Road site. We have provided our comments in the Attachment.

Attachment: As stated

Contact: Larry Pittiglio, NMSS/DWM  
415-6702  
Louis M. Bykoski, NMSS/DWM  
415-6754

1418

SUBJECT: REVIEW OF ADVANCED MEDICAL SYSTEMS, INC., MAY 30, 1995, RESPONSE TO NRC'S COMMENTS ON DECOMMISSIONING COST ESTIMATE FOR THE LONDON ROAD SITE IN CLEVELAND, OHIO, (NRC LICENSE NO. 34-19089-01)

I have completed my review of the Advanced Medical Systems, Inc. (AMS) May 30, 1995, response to the NRC's comments (March 30, 1995,) on the decommissioning cost estimate for the London Road site and again concluded that the estimated cost of \$1,795,612 does not realistically reflect the cost to decommission the facility. The basic reasons for my concerns about the cost estimate were the ones identified in my initial review and in the NRC Request for Additional Information of March 30, 1995, to AMS. My initial concerns were: 1) the cost estimate is based on the assumption that the soil under the building is uncontaminated; and 2) the disposal cost was based on a cost of \$181 per cubic foot. AMS' response (May 30, 1995,) did not adequately respond to our initial concerns. In addition, because Region III is familiar with the site, we recommend that Region III needs to evaluate whether AMS has adequately characterized the site to support their position regarding soil contaminations and extent of contamination at the site. Finally, AMS' assumptions that the cobalt source will be shipped to "other" sites, and decommissioning will not take place until the cobalt has decayed to a manageable level are unsupported.

AMS decommissioning cost is based on a disposal cost of \$181 per cubic. I recommends using a more realistic cost of approximately \$300 per cubic foot (based on July 1, 1995, reopening at Barnwell) base charge plus surcharges associated with curie content, weight, cask, etc. This will result in a significant increase in decommissioning cost.

As previously discussed, recent water problems at the site has resulted in three additional problems that may significantly impact the cost of decommissioning the London Road site. The two problems are: 1) the concrete slab may have to be removed from the Hot Cell as a result of the water causing additional contamination of the concrete; and 2) the contaminated water may have caused extensive soil contamination. Based on past experience, the impact of having to remove and dispose of the contaminated concrete, and to remove and dispose of significant quantities of contaminated soil, the cost estimate for the AMS, London Road site, may be several times greater than the initial estimate.

While AMS' response of May 30, 1995, stated that no structural damage was observed, and that recent core borings indicated no "significant" outside contamination exists, AMS has not performed an adequate site characterization to support their conclusions. In addition, AMS' statement regarding "significant" outside contamination is a clear indicator that outside contamination exists.

With regards to AMS' assumption that the soil under the Waste Hold-up Tank Room is not contaminated, the three core samples taken under the slab may not be sufficient characterization to support this assumption. Based on the current conditions at the AMS, London Road site, the estimated cost of \$1,795,612 may be off by several times the actual cost to decommission the site. As we discussed above, significant changes in the quantities will have a significant impact on the total decommissioning cost.

Attachment

In order to have a reasonable level of confidence in the cost estimate, we recommend that NRC require AMS revise the cost estimate to reflect the recent cost for disposal at Barnwell, provide sufficient funds to address the uncertainties in their assumptions, or have Region III (because Region III is familiar with the AMS' site) review the adequacy of the three existing cores and the condition of the building to determine if more characterization is required to assess the extent of the concrete and soil contamination identified above. If Region III determines that AMS needs to perform an additional detailed characterization, we recommend that AMS be required to implement a rigorous schedule for characterizing the site, and that the site characterization plan be reviewed by NRC to assure that the characterization addressed all outstanding issues.

Please contact Larry Pittiglio, if you need additional help.

## Update on AMS Licensing Issues as of 7/3/95

### 1. Basement and ground water processing project

Amendment 32. was issued on March 17, 1995 to authorize AMS to process contaminated basement and ground water to 200 pCi/L and store it in special storage bladders in the facilities warehouse area. This process included water stored outside the facility in above ground tanks.

Amendment 32. also authorized AMS to excavate around the outside underdrain system, remediate or replace it, reconnect the underdrain system to a sump pit, analyze the ground water until it consistently revealed no detectable non-soluble cobalt-60 and less than 200 Pci/L soluble cobalt-60, grout in the contaminated manhole and lateral on AMS property, develop a subsurface monitoring system to assess contamination migration from the facility, and to remediate the London Road interceptor in the vicinity of the abandoned lateral.

This amendment was important because it required AMS to maintain a positive hydrostatic pressure from outside to inside the facility's basement.

### 2. Renewal application

Deficiency letter mailed 4/17/95. Licensee given 45 days to respond. Response due June 1, 1995. Licensee FAXED a letter on 5/31 requesting an extension on their response to 6/16. Extension granted via letter dated June 7, 1995. Revised due date is June 16, 1995. Response received 6/16 and is currently being reviewed.

### 3. DFP/Cost Estimate

Deficiency letter mailed March 30, 1995. Licensee was given 30 days to respond. They requested an additional 30 days. Response due May 30, 1995 and received June 2, 1995. Licensee response inadequate; therefore, a TAR was submitted to HQ on 6/15/95 requesting contractor assistance. Per 6/26 telecall with Lou Bykoski, expect response to the Region NLT 7/18.

### 4. Financial Instrument and Standby Trust Agreement (STA)

Technical Assistance Request submitted to HQ for contractor review on 4/14/95. A telephone call was made to HQ re: status. Was informed the package is in hands of contractor. HQ will do what they can to push through. Following HQ review it must go through OGC for concurrence. This typically takes 10 to 14 days.

Called Lou Bykoski on 6/1 to check on status of contractor's review. Lou stated that their review is complete and he expects to receive their comments on 6/2. He will then forward to OGC for concurrence. As noted above, this typically takes 10 - 14 days.

Contractor comments received 6/19. A deficiency letter is in typing as of 6/22.

6/19

Deficiency letter mailed 6/28. Modified and restated STA very poor and deficient. Contractor suggested AMS resubmit new STA in accordance with R.G. 3.66, or go back to original 11/92 STA and make modifications per our March 1995 letter. Licensee given 30 days to respond.

5. Amendment request to: 1) evaporate water in bladders, 2) install sampling device, 3) reconnect underdrain, and 4) discharge water to sewer with Co-60 < 200 pCi/liter.

This action was submitted to HQ for technical assistance on 4/7/95. NMSS response received 6/6/95 and supplemented with information from Bob Shewmaker on 6/7/95. Deficiency letter regarding 3 of the 4 above requests (excluding the evaporator request) sent to AMS on 6/14/95. The licensee's response to the deficiency letter is due 7/14/95. A second TAR was sent to NMSS on 6/14/95, regarding the evaporator request.

Licensee's response to the deficiency letter was received 6/16/95. The response will be reviewed with assistance from Bob Shewmaker. HQ has completed their review of the evaporator issue. Their memo is going through concurrence.

6. Emergency Plan

Deficiency letter issued 6/7/95. Response due 7/7/95. Comments on AMS's emergency plan received in early June from two offsite response organizations. Comments from other response organizations expected within next few weeks. The Region will wait until AMS forwards all the comments it receives from offsite response organizations, before the region will review them for appropriateness.

7. Amendment to change analytical labs

Was issued on May 18, 1995 via Amendment No. 33.

8. Amendment to increase the release criterion for treated water into the storage bladders from 200 to 1,000 pCi/L of water

Was issued on June 9, 1995 via Amendment No. 34

9. Amendment to extend due date of June 17 For Water Processing Project Completion as required by License Condition 19. of license

Amendment # 35 issued 6/16/95, tying-in interim milestone completion dates for various phases of the project. Amendment #35 requires that the activities required by License Condition # 19 be completed by 7/7/95, with the exception of remediation of the London Road interceptor.

10. Amendment Request to Allow the RSO to Make Minor Changes as the Water Processing Project Continues

Amendment # 36 was issued on June 21, 1995, authorizing the RSO to make minor changes to operations that are not considered to be safety

significant. AMS's request for this amendment received via letter dated 6/6/95, and supplemented by letter dated 6/14/95. Also issued in this amendment was authorization to re-connect a new manhole and lateral to the underdrain system. This does not allow connection to the sewer system, nor does it preclude them from requirement to continue to take water samples for cobalt-60 concentration.

11. Amendment no. 37 issued 6/27/95

Amendment 37 authorizes installation of water evaporator eqpt. per licensee's 3/22/95 and 6/18/95 letters. The amendment does not authorize operation of the device. This is specified in L/C no. 21. Cover letter described 5 additional areas the licensee must submit for our review and approval prior to receiving authorization to operate the evaporator. Also, cover letter states that we are currently reviewing AMS proposal to install a water sampling device in lateral, and soil sampling program as described in their 6/16 letter to us. This has been controlled in under C/N 98777 as additional info. to C/N 98334.

12. FAXED AMS response to our 6/14 letter to R. Shewmaker for assistance in review on 7/3.

Asked Bob to look at AMS response to his questions which were incorporated in our 6/14 deficiency letter (C/N 98777).



Date: August 1, 1995

Call made August 1, 1995 to Tom Lenhart (NEORSD)((216) 881-6600) at 11:45 am our local time.

Information given: Primarily indicated that conditions of the Petitions is status quo. He indicated that he understood that with the Commission having only two Commissioners, that that would slow things down. I indicated the following:

(Petition Manager - Responsible for ensuring that the petitioner is notified at least every 60 days of the status of the petition, or more frequently if significant actions occur.)

1. Concerning the 1st Petition (March 3, 1993, cost recovery and decontamination of the sewer)

a. NRC reviewing for approval all proposed actions for the alleviation of the problem of the accumulating water in the basement and surrounding area.

b. Petition is presently in NRC Counsels management, being elevated to Commission review and proposal submission

c. Decontamination addressed in Amendment No. 32 to AMS license.

2. Second Petition (August 19, 1994) concerns monitors and alarms on sewer line

This issue is being addressed in the license renewal by AMS. The renewal is presently being reviewed by RIII and IMNS.

Second draft was sent to OGC on February 2, 1995

Mr Lenhart did not have any questions at this time.

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