30-16055

Advanced Medical Systems, Inc.

1020 London Road
Cleveland, Ohio 44110
(216) 692-3270
Fax (216) 692-3269

March 31, 1997

Mr. John R. Madera, Chief
Nuclear Materials Licensing Branch
United States Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60523-4351

Re: USNRC License No. 34-19089-01

Dear Mr. Madera:

As follow-up to the March 31 1997 telephone conversation between representatives of Advanced Medical Systems, Inc. (AMS) and the USNRC, the following is a summary of recent events at the London Road facility that pertain to water being pumped from the foundation drainage system:

- During the weekend of March 15, 1997, the pump used to remove water from the foundation drainage system failed. The cause of the failure was later determined to be the float switch.
- The failure was identified on Monday, March 17, 1997, when AMS personnel discovered approximately 1,000 gallons of water in the basement of the London Road facility.
- The water was collected from the basement and placed into a storage tank located in the Isotope Shop Warehouse. The ^{60}Co concentration in the basement water is approximately two (2) microcuries per liter. The action plan for this water not yet determined

The immediate follow-up actions taken by AMS include the following:

- Additional tank capacity was secured.
- The security service was asked to install sensor in manhole and basement that will alert AMS during off-hours if water levels rise.
- A duplex pump will be installed in the manhole in the place of the existing pump to ensure redundant operations.
- AMS personnel will check the status of the pump and basement once per day, including weekends, until the sensors and duplex pump are installed.
- A hydrogeologist was brought in for consultation, and has rendered the following initial opinion (to be confirmed during a pending on-site inspection). In general, he stated that the pump failure caused storm water to back up into the foundation drainage system. Because it was not possible to maintain a hydraulic gradient into the basement during the flooding event, ^{60}Co was carried back into the system. During subsequent rainfall events, the ^{60}Co will move preferentially through the footer drains and into the manhole, and over

1/0

IE07

time, the ^{60}Co concentrations in the manhole will decrease to those noted prior to the basement flooding event.

- An aggressive sampling program of water pumped from the foundation drainage system was instituted in order to track the contamination status of the system. To date, the ^{60}Co concentrations have dropped from a high of 332 pCi per liter to less than 36 pCi per liter as determined by direct counting. There has been no evidence of the presence of insoluble ^{60}Co above a nominal detection limit of nine (9) pCi per liter.

The longer-term actions to be instituted by AMS include the following:

- Immediately after the water sampling program demonstrates no detectable ^{60}Co from the foundation drainage system (e.g., after 5,000 gallons of water are tanked and confirmed to contain no detectable ^{60}Co above a nominal detection limit of 50 pCi per liter by direct counting and 15 pCi per liter by the filtration method), the soils in the immediate vicinity of the system will be sampled to confirm there is no residual contamination. The soils will be collected using a drill rig at specific points along the foundation drainage system. The ^{60}Co concentration in the samples will be determined using a combination of in-house screening capability and confirmatory analyses by a commercial analytical laboratory.

- AMS will tank and sample all water that accumulates in the underdrain system prior to discharge until the soil sampling effort demonstrates there is no residual contamination in the underdrain system, and until 10,000 gallons of water are tanked and confirmed to contain no detectable ^{60}Co above a nominal detection limit of 50 pCi per liter by direct counting and 15 pCi per liter by the filtration method. At that time, USNRC approval to "free release" the water from the foundation drainage system will be solicited.

- Once the 16 drums and 4 inserts of high-level waste are removed, the basement of the London Road facility will be decontaminated, and the WHUT Room will be hydrologically-stabilized as described in the June 10, 1996 Building Recovery Project proposal.

- Once the basement is remediated, the lateral connection from the AMS building for storm water and sanitary discharges to the regional sewer system will be re-established.

All of the ^{60}Co that was released from the basement during the flooding event did not leave the underdrain system, thus there has been no impact on the environment or the surrounding population. Furthermore, residual contamination of the underdrain system is improbable because of the local hydrology, and because the ^{60}Co at AMS has consistently demonstrated a lack of ionic strength.

Because our available tank space is limited, AMS request that the USNRC approve Radiation Safety Procedure RSP-018, "Operation of the Gamma Spectrometer", and RSP-019, "Assessment of Radioactivity in Water Samples", with the provision that AMS will only release water from the foundation drainage system that has been tanked, sampled, and confirmed to contain no residual ^{60}Co above the release criteria contained in RSP-019 by the close of business on Friday, April 4, 1997. In addition, because AMS continues to be at risk of underdrain system contamination as long as the basement of the London Road facility remains contaminated, we are also asking for timely approval of our February 21, 1997 request for release of additional decommissioning funds in order to complete Task 2 (Waste Disposal) of the Building Recovery Project. (AMS has issued purchase orders for the disposal of all of its packaged waste with the exception of 16 shielded drums and 4 drum inserts of high-level waste that

are currently stored in the basement. The basement cannot be remediated until these drums are removed. Because the exposure rates associated with the handling of these drums are relatively high, AMS is desirous of moving them only once - from the basement to the vehicle that will be used to ship them to Barnwell. However, if additional funds are not released in a timely fashion, the drums will be moved from the basement to High Level Waste Storage until such time as funds become available for their disposal. At that time, they will be moved again, to the transport vehicle.)

Please call me at (216) 692-3270 if I can answer any questions or provide you with additional information. Timely USNRC response on this request is imperative.

Sincerely,

Stephen J. Haddock, R.S.O.

cc: E. L. Svigel
D. A. Miller, Esq. - Stavole & Miller
C. D. Berger, C.H.P. - IEM