



Advanced Medical Systems, Inc.

1020 London Rd.
Cleveland, Ohio 44110
216-692-3270

DCD

June 7, 1996

Mr. Geoffrey C. Wright
Acting Deputy Director,
Division of Nuclear Materials Safety
U. S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60523-4351

Re: USNRC Inspection Report No. 030-16055/95006 (DNMS)

Dear Mr. Wright:

Advanced Medical Systems, Inc. (AMS) is in receipt of your March 12, 1996 letter in regard to the referenced inspection report. In that report, the USNRC concluded that the 1994-1995 basement flooding had no observable impact on the structural integrity of the London Road facility. However, the USNRC asked AMS to provide an evaluation of the facility's ability to provide protective confinement of the radioactive materials stored therein over the facility's intended use period; plans for structural remediation, if warranted; and plans to periodically inspect and evaluate the building's ability to perform its defined functions over the intended use period.

Enclosed is the AMS response to the inspection report and to the USNRC's March 12, 1996 request. These responses are based upon the findings of an independent evaluation of the building's status that was performed by Dr. James Beavers, P.E. (MS Technologies, Inc., Oak Ridge, Tennessee). If you have any questions, please call me at (216) 692-3270.

Sincerely,

Robert Meschter, R.S.O.

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enc.

cc: D. Cesar
D. Miller - Stavole & Miller
C. Berger - IEM
M. Weber - USNRC Region III

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RESPONSE TO COMMENTS FROM U. S. NUCLEAR REGULATORY COMMISSION

Agency Comment 1: The depth and extent of cracking, structural impact, and any measures identified as necessary to repair the cracking identified in the load-bearing masonry wall in the 1958 building's southeast corner [should be addressed]. Associated distress that could limit the facility's ability to continue to provide protective confinement of the radioactive materials should also be assessed and corrective actions identified as necessary.

AMS Response: AMS contracted a registered Professional Engineer to perform an independent evaluation of this comment. The engineer's report of findings, included herein as Appendix A, states that the cracking noted by the inspector is likely from differential settlement, but that the vertical load-carrying capacity of the wall has not been significantly reduced as a result. He also confirms that a failure of the building at this location would not result in a breach of the concrete core structure wherein licensed radioactive materials are stored.

Action Taken: None required.

Agency Comment 2: The depth and extent of cracking, structural impact, and any measures identified as necessary to repair the cracking identified in the 1958 building's north bay of the east masonry filler/curtain wall [should be addressed]. Associated distress, caused by the introduction of moisture and other waterborne contaminants, that could limit the facility's ability to continue to provide protective confinement should also be assessed and corrective actions identified as necessary.

AMS Response: In the engineer's report of findings (Appendix A), it states that the cracking noted by the inspector is the result of the second floor in-filled wall moving outward over the lobby area. However, he confirms that the cracking and associated distress does not limit the facility's ability to provide protective confinement, and that a failure of the building at this location would not result in a breach of the concrete core structure wherein licensed radioactive materials are stored.

Action Taken: None required.

Agency Comment 3: The precast concrete roof panels that in several areas exhibit corrosion products on the visible surface [should be addressed].

AMS Response: The engineer's report of findings states that no evidence of roof decking structural degradation was noted upon inspection.

Action Taken: None required.

Agency Comment 4: The second floor concrete slab in the area where it forms the ceiling of the hallway in front of the hot cell and the radiography room, which exhibits the effects of previous fluid penetration through the slab from above [should be addressed].

AMS Response: The engineer's report states that equipment failure in the equipment room has caused leakage on the second floor. However, he concludes that the floor slab's structural strength has not been compromised as a result of the leak.

Action Taken: None required.

Agency Comment 5: The need to periodically inspect and evaluate the building's ability to perform its defined functions over the utilization period [should be addressed]. If a program is deemed appropriate, it should include inspection frequencies and evaluation activities.

AMS Response: The engineer's report concludes that even with no repair or maintenance the AMS building on London Road is capable of providing protective confinement for its licensed radioactive materials inventory for many years into the future. Therefore, a routine inspection program is not required.

Action Taken: None required. However, to ensure the long-term useability of the remainder of the building in light of the instances of cracking, settling, and distress that were noted by both the USNRC inspector and the AMS structural engineer, a survey program to monitor the movement of the walls for the purpose of predicting future corrective actions will be instituted. For this program, a survey crew will be contracted to set up a base of measurement for the north wall (first bay) of the 1963 building, the east wall of the 1963 building, the wall above the lobby of the 1958 building, and the southeast corner of the building. The crew will then return approximately six (6) months later to determine if any movement occurred. If none is noted, the survey will be repeated every two (2) years thereafter. However, if the six-month survey does reveal movement, a registered Professional Engineer will be asked to specify the frequency of future surveys in light of the magnitude of movement.

In addition to the survey program, the AMS radiation protection staff, as part of the routine surveillance program described in RSP-008, "Instrumentation and Surveillance", will inspect the building at the locations of interest in order to identify unusual conditions. Any follow-up action that might be warranted (e.g., repeat surveillance, repair, reconstruction) will be specified by a registered Professional Engineer.

APPENDIX A
SEISMIC AND STRUCTURAL REVIEW OF
ADVANCED MEDICAL SYSTEMS LABORATORY FACILITIES