

MEMORANDUM TO: John R. Madera, Chief
Materials Licensing Branch, RIII

June 13, 1996

FROM: Josephine M. Piccone, Acting Chief (ORIG. SIGNED BY DSERIG, FOR)
Operations Branch, IMNS

SUBJECT: REVIEW OF AMS RESPONSES TO COMMENTS ON THEIR EMERGENCY PLAN

We have reviewed the responses and proposed actions submitted by Advanced Medical Systems in reply to your February 28, 1996, deficiency letter. Our assessment of the responses is attached. Most of the proposed actions are adequate, however some additional changes are still needed.

Attachment: As stated

cc: D. Cool
F. Combs

Contact: Kevin Ramsey, IMOB
(301) 415-7887

DISTRIBUTION:IMNS-5317

Hard copy

IMOB/TAR file
NRC File Center
IMNS r/f
CEstep
KNull, RIII
JDeCicco

IMOB r/f w/incoming
IMAB r/f w/incoming
PVacca w/incoming
Originator w/incoming
IMOB r/f

E-Mail only

FCostello, RI	JJohansen, RI
MShanbacky, RI	JKinneman, RI
WPasciak, RI	JPelchat, RII
CHosey, RII	JPotter, RII
JMadera, RIII	BJHolt, RII
BSpitzberg, RIV	LHowell, RIV
BPrange, WCFO	JDeMedico, OE
JLieberman, OE	

Hard copy w/incoming & E-mail

RBellamy, RI
RScarano, RIV
FWenslawski, WCFO
PLohaus, OSP

DOCUMENT NAME: G:IMNS5317.KMR

receive a copy of this document, indicate in the box:
" = Copy w/o att/encl. "E" = Copy w/att/encl. "N" = No copy

OFC	IMOB	E	IMOB	E	IMNS
NAME	KRamsey/kr/11	<i>KMR</i>	<i>DS</i> G-Dserig JPiccone		<i>DS</i> JDeob1
DATE	6/10/96		6/11/96		6/13/96

OFFICIAL RECORD COPY

96062/0278 XA

*6/13/96
JDeob1*

10/28

IMNS REVIEW OF THE MARCH 21, 1996 RESPONSE
TO NRC COMMENTS ON THE EMERGENCY PLAN FOR
ADVANCED MEDICAL SYSTEMS

Contact: Kevin Ramsey, IMOB
(301) 415-7887

Response to Comment 1(a): The proposed actions are adequate.

Response to Comment 1(b): The proposed actions are adequate.

Response to Comment 1(c): The proposed actions are adequate.

Response to Comment 1(d): The proposed actions appear to be adequate, but it is still unclear how ADT will detect a power failure at the facility, or a disruption in telephone services. If ADT monitors the line such that it can promptly detect a loss of contact, a statement to that effect should be added to the plan.

Response to Comment 1(e): In addition to the proposed actions, the plan should contain a commitment to maintain a map showing the restricted areas, or some other warning sign, at each entrance that a first responder may use to enter the facility.

Response to Comment 2: Concerns about technical basis for worst-case earthquake scenario remain unresolved pending receipt and review of AMS response to Inspection Report No. 030-16055/95006.

Response to Comment 3(a): The proposed actions are adequate.

Response to Comment 3(b): The proposed actions are adequate.

Response to Comment 3(c): The proposed actions are adequate.

Response to Comment 3(d): The proposed actions are adequate.

Response to Comment 3(e): The proposed actions are adequate.

Response to Comment 3(f): The proposed actions are adequate for NRC approval, however we believe it would be helpful if the sand shield in the basement and the access manholes on the first floor (as described in Section 1.2.3) were shown in the drawings.

Response to Comment 3(g): If offsite features significant to emergency response (as described in Section 1.2 of Regulatory Guide 3.67) are clearly labeled on the topographical map or an additional map of the site area, the proposed action will be adequate.

Response to Comment 4(a): The proposed actions are adequate.

Response to Comment 4(b): The response is inadequate. With regard to packaged waste and surface contamination, the worst-case scenario must assume that the entire quantity authorized by the license is available for release

unless some justification is provided to explain why it is unreasonable to make that assumption. The actual inventory currently possessed is irrelevant if the license will authorize an increase in that inventory. If the material is stored or used in a manner that would prevent the entire inventory from being involved in accident, that justification must be provided in the plan. With regard to bulk cobalt-60, we accept that containers stored inside portions of the facility with heavy concrete construction are unlikely to be subject to falling debris that could rupture them. However, the movement of the containers outside of those areas still needs to be addressed. If the containers of bulk cobalt-60 will be packaged in Type-B shipping casks or other containers likely to withstand accident conditions (such as those described in 10 CFR 71.73) before being moved into the warehouse or other areas subject to structural damage, the plan should include that information as justification for not including any of the bulk cobalt in the source term available for release. Otherwise, we would expect the worst-case scenario to assume that some containers of bulk cobalt (such as the number of containers typically involved in a shipment) are in an area subject to structural damage when an earthquake or other accident occurs, and that some of these containers (50% would be acceptable) are broken open by falling debris.

With regard to the assumption of a 10-meter release height, we consulted with regional inspection staff familiar with the site. It appears that most of the door and windows through which a plume could be released are on the second floor so we will accept the assumption of a 10-meter release height.

With regard to the calculations used to estimate potential offsite doses, the response acknowledges that the CAP88-PC code models a gradual release of radioactive material over 12 months and estimates doses using several environmental pathways including the food and water pathways. The response states that the CAP88-PC code over-estimates the dose from a fire and no additional analysis is required even though this model has no resemblance to the conditions that would exist during a fire at the facility. This response is unacceptable. We have obtained more conservative dose estimates using the calculations in NUREG-1140. The calculations in NUREG-1140 are based on exposure times and other conditions that would be expected during a fire. These calculations form the technical basis for the emergency plan requirements in 10 CFR Part 30. Use of the same calculations would provide a basis for NRC to find that your accident analysis is adequate, and it would eliminate contentions that it is fortuitous that the CAP88-PC results are close to the NUREG-1140 results. The formula in Section 2.1.3 of NUREG-1140 is not difficult to complete and we would accept the use of the stability class D curves on Figure 1 of the NUREG. We recommend that you use this formula.

Response to Comment 4(c): The proposed actions are adequate.

Response to Comment 4(d): The plan should reflect your response that it is likely that a tornado would impose structural damage to restricted areas that are not of "hardened" construction. The plan should also mention the possibility that some containers may be in these damage prone areas (during shipments, etc.) when a tornado strikes and discuss whether the containers would be expected to withstand accident conditions. See the discussion of comment 4(b).

Response to Comment 5(a): The proposed actions are adequate.

Response to Comment 5(b): The revised emergency action levels (EALs) are defined in terms of projected effluents and site boundary exposure rates. It is still unclear how the Emergency Manager will be able to project these conditions in a timely manner. It would be better to define EALs in terms of the quantity of material that would be needed to produce those conditions. The Emergency Manager then would be able to declare an emergency based simply on the location of the emergency and the amount of radioactive material in those areas.

We also note that the proposed revision to Attachment 1 of Appendix D classifies a 20 mR/hr dose rate at the site boundary as an incident and indicates that an emergency will only be declared if the dose rate at the site boundary could exceed 100 mR/hr. These action levels are too high. Part 30 defines an "Alert" as an event that is not expected to require a response by offsite response organizations to protect persons offsite. Part 20 limits the dose to members of the public in unrestricted areas to 2 millirem in any one hour (see 20.1301). Therefore, we would expect offsite organizations to take actions to restrict access to offsite areas exceeding 2 mR/hr. More appropriate action levels should be established.

Response to Comment 5(c): The proposed actions are adequate.

Response to Comment 5(d): The plan should contain more detailed recommendations for offsite protective actions based on the worst-case accident scenarios defined in the plan. The initial recommendations should define the offsite areas where the protective actions should be implemented. We note that you have not postulated any accidents with projected doses approaching 1 rem so it is unclear why you indicate that evacuations may be recommended. Your emergency classifications and protective action recommendations should be consistent with your accident analysis.

Response to Comment 5(e): We believe that 90 minutes is too long for the first update. Sixty (60) minutes would be better.

Response to Comment 6(a): The proposed actions are adequate.

Response to Comment 6(b): The proposed actions will be adequate if agreement letters are obtained and submitted with the emergency plan.

Response to Comment 6(c): The proposed actions are adequate. However, the emergency plan must provide reasonable assurance that a sufficient number of survey meters will be available since the local fire and police departments do not have the capability to perform radiation surveys.

Response to Comment 6(d): The Ohio Department of Health needs to be added to Section 4.4 also.

Response to Comment 6(e): The proposed actions are adequate.

Response to Comment 7(a): The proposed actions are adequate.

Response to Comment 7(b): The proposed actions are adequate.

Response to Comment 7(c): The proposed actions are adequate.

Response to Comment 7(d): If the licensee will rely on offsite firefighters to conduct search and rescue operations, the plan should include a statement to that affect.

Response to Comment 7(e): Even though the footnote will be deleted, the response doesn't address the question of whether licensee personnel will be able to accompany firefighters during the fire if self-contained breathing apparatus is required to enter the building. If the assistance during fire fighting efforts mentioned in the plan is limited to conducting surveys outside of the building, that should be stated in plan.

Response to Comment 7(f): The proposed actions are adequate.

Response to Comment 7(g): The proposed actions are adequate.

Response to Comment 7(h): The proposed actions are adequate.

Response to Comment 7(i): The proposed actions are adequate.

Response to Comment 7(j): The proposed actions are adequate.

Response to Comment 8(a): The proposed actions are adequate.

Response to Comment 8(b): The proposed actions are adequate.

Response to Comment 8(c): Pencil-type pocket dosimeters that use a thin filament are susceptible to false readings if they are bumped or dropped. Pocket dosimeters are susceptible to environmental conditions also. We believe that more reliable dosimeters should be provided for emergency response personnel.

Response to Comment 8(d): The proposed actions are adequate.

Response to Comment 8(e): The response fails to provide a basis for us to find that there is reasonable assurance that an operable survey meter will be available during an emergency. If the main building is inaccessible, the survey meter in the pump house will be the only one available in the early stages of the response. You have already indicated that local fire and police departments have no survey meters. The fact that this meter will not be used routinely between quarterly checks indicates that a malfunction may not be detected for several months. The plan must provide reasonable assurance that an inoperable survey meter will not prevent response personnel from performing initial assessments. This assurance could be provided by a second survey meter, or more frequent operational checks (weekly would be acceptable).

Response to Comment 9(a): The proposed actions are adequate.

Response to Comment 9(b): The proposed actions are adequate.

Response to Comment 9(c): The proposed actions are adequate.

Response to Comment 9(d): The proposed actions are adequate.

Response to Comment 9(e): Although a statement describing typical calibration intervals and operational check frequencies is preferred, referencing

Radiation Safety Procedure No. RSP-008 is acceptable. A copy of this procedure should be provided for information when the plan is resubmitted.

Response to Comment 10: The regulations in 10 CFR 30.35(g) require that records important to decommissioning be retained until the license is terminated. The plan should describe the provisions for ensuring that records of incidents are retained until the license is terminated.

Response to Comment 11(a): The proposed actions are adequate.

Response to Comment 11(b): The proposed actions are adequate.

Date: June 17, 1996

Call made June 17, 1996 to Tom Lenhart (NEORS) ((216) 881-6600) at 3:30 pm our local time was unsuccessful; Mr Lenhart was not in the office today. I left a message on his voice mail that I would call him later.

Call at 5:12 pm our local time yielded no answer at his extension.

Date: June 18, 1996

Call made June 18, 1996 to Tom Lenhart (NEORS) ((216) 881-6600) at 2:12 pm our local time. This call yielded no answer at his extension.

Call made at 3:12 pm our local time was fruitful in making contact with Tom Lenhart. I indicated that as far as a status report, there was no new information that I could give him except that the first petition draft decision was moving between OGC and NMSS. He inquired how many commissioner positions were filled, and I indicated that there are three, naming them for him. No other information was exchanged.

14/29