

April 22, 1998
696-2901

70-734

Via Express Delivery Service

Mr. Charles E. Gaskin
Licensing Section 1/Licensing Branch
Division of Fuel Cycle and Safety and Safeguards, NMSS
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Docket No. 70-734; SNM-696: Minor Revisions to General Atomics' Hot Cell Decommissioning Plan (Rev. 4 - January 1998)

Reference: Asmussen, Keith E. Letter No. 696-2858 to Mr. Charles E. Gaskin, "Minor Revision to General Atomics' Hot Cell Decommissioning Plan," dated January 19, 1998

Dear Mr. Gaskin:

In the referenced letter, General Atomics (GA) described a minor revision to a page in Section 2.3.1 of its Hot Cell Decommissioning Plan and indicated that several additional minor revisions were also being prepared and, when those revisions were completed, a new revision of the plan would be submitted. Accordingly, enclosed is a copy of Revision 4 to GA's Hot Cell Decommissioning Plan. In addition, for your convenience, copies of all revised pages are attached to this letter. Please note that the changes are minor, reflecting current knowledge and circumstances, and do not materially affect the approach to decommissioning, nor do they adversely affect health, safety or environmental considerations.

Changes within the revised document are indicated by vertical lines in the left margin. The substance of these changes are as follows:

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Clarification has been added with respect to the Health Physics survey prior to shutdown of the HEPA system.

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This revision is explained in the referenced letter.

Page 10-1

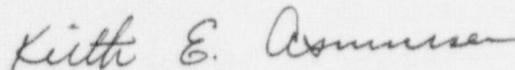
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Unless advised to the contrary, GA intends to continue with its ongoing efforts of decommissioning its hot cell facility in a manner consistent with the above noted revisions.

Under separate cover, GA is also communicating the above to the Radiologic Health Branch of the State of California Department of Health Services.

If you have any questions regarding the above, please do not hesitate to contact me at (619) 455-2823, or Laura Gonzales at (619) 455-2758.

Very truly yours,



Dr. Keith E. Asmussen, Director
Licensing, Safety and Nuclear Compliance

Enclosure: GA Hot Cell Decommissioning Plan - Rev. 4

Attachment: copy of revised pages 2-2, 2-23, 2-27, 2-52, and 10-1

cc: Mr. Frank Wenslawski, U.S. NRC, Region IV, WCFO

predominant one will be abrasive cleaning of the concrete surfaces. The interior of the hot cells will be cleaned using remotely operated cleaning methods followed by abrasive cleaning.

Following decontamination of the facility, Health Physics will conduct a survey to verify preparedness for shutting down the HEPA system. After the HEPA system is shutdown, dismantlement of the structure will commence with removal of the roof.

The wastes from HCF dismantlement and subsequent site/soil remediation will consist of soil, asphalt and concrete rubble, construction material debris, and facility equipment. Survey methods established in this Decommissioning Plan provide means to demonstrate compliance with criteria for release to unrestricted use allowing disposal at sanitary or commercial landfills. Where materials do not meet the criteria for release to unrestricted use, the DOE has committed to removal to approved disposal facilities. Radioactively contaminated debris will include Low-Level Waste (LLW) and Mixed Low-Level Waste (MLLW). Although TRU is expected in trace amounts, threshold amounts for waste designation will not be exceeded. No Mixed Transuranic (MTRU) or High-Level Waste (HLW) will be generated. The radioactively contaminated debris will be packaged and shipped to a low-level radioactive waste disposal facility with due regard for waste minimization where practical. MLLW will be similarly addressed. Hazardous materials will be disposed of at a licensed hazardous waste depository. The remaining noncontaminated debris will be shipped to a local landfill.

After the Facility is dismantled, the affected soil surrounding the Facility will be remediated as necessary. Contaminated soil will either be shipped to an off-site or temporary processing facility or shipped directly to a low-level radioactive waste disposal facility.

Following removal of all contamination, a comprehensive final radiation survey will be conducted and documented in report form. The survey will verify that radioactivity has been reduced to sufficiently low levels allowing unrestricted release of the site. The final release survey for the HCF will consist of a direct radiation survey and sampling and analysis of the HCF site/soils only, as the facility will have been completely dismantled. After GA has surveyed the site and documented that it complies with approved criteria for release to unrestricted use, GA will submit the final report to the State and NRC requesting release. Confirmatory surveys may be performed by the NRC and/or the State of California.

The anticipated sequence for dismantlement is summarized in Table 2-1 (refer to Figure 2-1 for the room numbers). There will be two major tasks progressing in parallel. They are (1) the dismantlement of the rooms around the hot cells, and (2) the decontamination and dismantlement of the hot cells.

Table 2-1—D&D Approach

Period Beginning After Plan Approval	Room	Tasks
1st Quarter	Controlled Machine Shop and Weld Area (10B, 10BA)	Decon of walls, floor, and ceiling. Removal of added floor. Removal of filler material between added floor and original floor. Removal of original floor.
	Met Cell (112)	Removal of equipment inside cell. Decon of walls, floor, and ceiling.
2nd Quarter	Ladies and Men's Restrooms, Men's Change Room (116)	Removal of all equipment from rooms. Decon of walls, floor, and ceiling. Removal of internal, non-supporting walls. Removal of floor.
	Met Cell (112)	Complete removal of equipment inside cell. Decon walls, floor, and ceiling.
3rd Quarter	Dark Room (105A) Counting Room (106)	Removal of all equipment from room. Decon of walls, floor, and ceiling. Removal of internal, non-supporting walls. Removal of floor, showers, and drop ceiling. Removal of hot drains under floor. Capping of hot drain line going to Room 121.
	Met Cell (112)	Begin removal of walls.

- Before removing contaminated systems, structures, and components, they will either be decontaminated or externally fixed to stabilize the contamination as appropriate.
- Hot Cell embedded contaminated piping, conduit, ducts, plates, sleeves, etc. will be removed or decontaminated during area and building structural decontamination activities.

Dismantling Techniques—Listed below is the planned approach for dismantling hot cells following initial cell contamination reduction efforts:

- The master-slave manipulators will be removed using the Facility's existing removal procedure. The contaminated ends of the manipulators will be protected with plastic and the manipulators packaged.
- A hydraulic table will be utilized in the removal of the lead-glass windows. The table will be used to pull the windows out, support them, and allow them to be moved to the Service Gallery.
- The Programmable and Remote (PaR) electromechanical crane manipulator will be removed using the existing eye-bolt in the cell roof and on the PaR as lifting points.
- The solid steel guillotine hydraulic operated door will be removed by crane using the existing access hatch through the roof.
- Lifting lugs will be added to existing drilled and tapped holes in the solid steel HLC door and the door removed with a crane.
- Cranes will be used to remove the solid steel horizontal sliding doors that provide access to the LLC and Metallurgical Cell.
- The penetration plugs in the hot cells will be cored-out as appropriate to make jackhammering easier.

Listed below is the planned approach for dismantling the HCF:

- Remaining fume hoods will be dismantled using saws or other appropriate dismantling equipment.
- The electrical system will remain in service until all contaminated process systems have been dismantled. Portions of the electrical system will be disconnected and isolated as the systems they support are dismantled. Prior to area and building dismantlement, the electrical system will be physically isolated from the power supply grid and a temporary electrical supply system installed to provide electrical power.
- The equipment in the Boiler Room consists of the boiler, air compressors, controls for the HEPA system, make-up air supply, office area heating, ventilating and air conditioning (HVAC), hot water heater, and main power panel. The systems are easily accessible from the outside of the building. They will be dismantled only when they are no longer needed to support decommissioning. They are not expected to be contaminated and will be dismantled using conventional techniques as appropriate and surveyed for release to unrestricted use.
- The main HEPA system will be dismantled only after it is no longer needed. Contamination control will be maintained under HP supervision. The HEPA unit will

In association with cell decontamination, the paint on the interior may be removed and disposed of as radioactive waste. The steel plates will then be removed, followed by cleaning of the concrete. The concrete and steel will be surveyed and disposed of as radioactive waste if contaminated. After removal of the outside roofing material, the concrete will be cut into sections for disposal.

Hot Cell Facility Roof—The roof of the HCF is a steel deck roof consisting of a ribbed steel deck topped with a layer of rigid insulation, multiple layers of roofing felt, and a bituminous top dressing. The steel decking consists of sheets of corrugated steel, which are welded together. The bottoms (inside of building) are lined with sheet metal welded to the corrugated metal to give a flat surface. The tops (exterior) of the metal are covered with rigid insulation ranging in depth from 1 to 2 in. The rigid insulation is covered with multiple layers of roofing felt and a bituminous top dressing.

The removal process for the weather coating layers includes cutting the layers into sections, freeing the cut sections from the roof deck, gathering the material into rolls or stacks, and conveying it to the ground as appropriate. Because of the age of the material and the detected contamination during characterization, precautions will be taken to assure that the debris is contained on the roof during cutting. All removed material will be monitored for radiological contamination and dispositioned appropriately.

The steel deck will only be removed after the main HEPA system is no longer needed. The hot cells will have already been surface decontaminated, all floors and walls will have been either cleaned of contamination, or the contamination fixed, the branch of the hot drains not located under the hot cells will have been removed. The roof of the general Facility must be removed prior to dismantlement of the LLC and HLC because the cells form half of the support structure for the roof.

The roof removal process will involve cutting the welds on the steel deck as appropriate, removing the sheets of decking, grouping them into bundles, and transferring them from the roof to the ground. If loose contamination is identified, appropriate measures (e.g., decontamination, applying a fixative, or wrappings) will be implemented to prevent its spread.

Until proven otherwise, the removed steel decking will be considered contaminated. The radiological controls will focus on preventing the spread of contamination during removal and handling. The contaminated decking will be decontaminated or prepared for containerization and shipment as radioactive waste. Radiological controls during this phase will focus on preventing the spread of contamination during the cutting and containerization operations.

If it is considered cost-effective to decontaminate the decking, or if contamination in the decking is not widespread, decontamination techniques will be utilized to prepare the material for unrestricted release.

Maintaining Building Containment—Containment controls will be implemented during and following roof removal operations. These controls will focus on 1) preventing any residual contamination inside the building from spreading to the building's exterior, and 2) preventing any contamination within the roof zone from spreading to the building's interior. These measures will also provide weather protection for the building's interior. As mentioned earlier, the roof will only be removed after all significant surface contamination within the building has been removed or fixed.

Any remaining contamination in the roof zone will be fixed prior to commencing dismantlement.

2.3.1 Radiological Safety Training/Retraining

General Employee Radiological Training (GERT 4 Hour)—Training will be provided to personnel required to enter Restricted Areas (with the exception of visitors and infrequent support personnel), including Radiation Areas and some Radioactive Materials Areas, but not perform “hands-on work” or who may perform limited work with radioactive material. If the worker requires entry into any of the above special areas or if the job requires any of the “hands-on” work mentioned, then the worker must attend Radiological Worker Training.

Radiological Worker Training (RWT 16 Hour)—Training will be provided to personnel who require unescorted access to Restricted Areas and who may perform more complex radiological job functions.

Periodic Advanced Radiological Worker Training (ARWT)—Training will be provided to personnel who require unescorted access to Restricted Area(s) of the HCF (Building 23) and who may perform complex radiological job functions. This training is provided to address specific aspects of radiological work that may be encountered at the Hot Cell D&D Project. This training is provided to further improve specific radiological work skills and practices. Specific content of ARWT modules will vary according to specific needs of the Project.

GERT and RWT are required initially. Both are effective for 2 years except when a change of visitor status (GERT) to worker status occurs, in which case RWT is required.

ARWT is provided periodically at the discretion of HCF HP Management and according to special needs.

2.3.2 Health Physics Technician Training

HP Technicians must successfully complete Radiological Worker Training as described in Section 2.3.1. In addition, HP Technicians must review and understand procedures according to the HP Technician Training Plan. HP Technicians will also review applicable procedure revisions in a timely manner. HP Technicians will also be familiarized with the site and facility characterization results.

2.3.3 Equipment Operator Training

All equipment operators will have proper training completed and documented prior to working with the equipment.

2.3.4 Safety/Accident Prevention Training

GA has an Accident Prevention Program which is defined in the Accident Prevention Program Manual (APPM). All employees are required to abide by the requirements of this Manual. Additional specific Project requirements are specified in the plans and procedures for this Project. These additional requirements arise because of the nature of the work to be performed.

Hazard Communication Training—A hazard communication training program has been developed for this Project in accordance with OSHA 1910.1200 and the GA APPM. This program promotes awareness of chemical hazards that are present at this Facility, and provides means to communicate those hazards to employees. A designated person will maintain the hazardous material inventory and Material Safety Data Sheets (MSDS) for on-site hazardous materials, and provide all Project personnel with information advising them of the potential for hazardous constituents in the work place. A list of such materials for this Project is maintained at the job site, and copies of the appropriate MSDS are available

10. ENVIRONMENTAL COMPLIANCE

The GA Hot Cell D&D Project utilizes the support of GA's LS&NC organization and, as needed, an Environmental Compliance Specialist to assist in addressing permitting and compliance issues related to the areas listed. Below is a brief description of GA's compliance status with regard to the specific items listed above:

National Environmental Policy Act (NEPA)—This act requires that Federal Projects, such as the Hot Cell D&D Project, be reviewed for potential impacts to the environment. In accordance with this law, GA and DOE have prepared the document entitled "Environmental Assessment for the General Atomics Hot Cell Decontamination and Decommissioning" (PC-000414). The result of this process is expected to be a "Finding of No Significant Impact" (FONSI) for the Hot Cell D&D Project. The Hot Cell D&D Project is in compliance with the requirements of this act.

Resource Conservation and Recovery Act (RCRA)—This act and its implementing regulations establishes a comprehensive hazardous waste management system which provides "cradle-to-grave" regulation of hazardous wastes as defined by 40 CFR 261. The GA Hot Cell D&D Project has implemented a hazardous and mixed waste management program which insures compliance with RCRA requirements. The Hot Cell D&D Project is in compliance with the requirements of this act.

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendment and Re-authorization Act of 1986 (SARA)—This Act was passed to address the problem of investigating and cleaning up hazardous substance contamination at inactive or abandoned facilities. Radionuclides and mixed wastes are regulated under CERCLA, which also specifies how clean-ups must be conducted at Federal Facilities. The GA site is not considered to be a Federal Facility and is therefore not included in the ranking system used for designation of Federal Facilities listed on the National Priorities List (NPL). In addition, the GA site is under an NRC license; the NRC is the lead agency for conducting clean-ups at NRC-licensed sites. The GA site is in compliance with the provisions of applicable sections of this act.

Permits Required for Decommissioning Activities—Environmental permitting requirements for the HCF Decommissioning program are assessed on a case-by-case basis by the San Diego Regional Permit Assistance Center. The following list contains permits that are known to be required, based on discussions with local regulators.

- Building Demolition—Local agencies will be notified in advance of demolition and permits obtained if required.
- Asbestos Removal—Requires a permit from the Air Pollution Control Department (APCD) and 10 days' notification prior to any removal actions.
- Rock Drilling Equipment—Drilling equipment used for the purpose of rock removal will require a permit from the APCD if diesel powered.
- Grading Permit—The City of San Diego requires a Grading Permit for the grading of soils within city properties.
- Diesel Tank Removal and Soil Excavation—Requires a tank removal permit from the Regional Permit Assistance Center and 48 hour advance notice.
- Engines for Power Demolition—Engines used (if over 200 HP) for power supply for demolition must be permitted by the APCD.



INTERNAL DISTRIBUTION:

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L Gonzales
(w/o enclosures):
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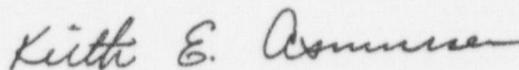
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Table 2-1—D&D Approach

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Hot Cell Facility Roof—The roof of the HCF is a steel deck roof consisting of a ribbed steel deck topped with a layer of rigid insulation, multiple layers of roofing felt, and a bituminous top dressing. The steel decking consists of sheets of corrugated steel, which are welded together. The bottoms (inside of building) are lined with sheet metal welded to the corrugated metal to give a flat surface. The tops (exterior) of the metal are covered with rigid insulation ranging in depth from 1 to 2 in. The rigid insulation is covered with multiple layers of roofing felt and a bituminous top dressing.

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HP Technicians must successfully complete Radiological Worker Training as described in Section 2.3.1. In addition, HP Technicians must review and understand procedures according to the HP Technician Training Plan. HP Technicians will also review applicable procedure revisions in a timely manner. HP Technicians will also be familiarized with the site and facility characterization results.

2.3.3 Equipment Operator Training

All equipment operators will have proper training completed and documented prior to working with the equipment.

2.3.4 Safety/Accident Prevention Training

GA has an Accident Prevention Program which is defined in the Accident Prevention Program Manual (APPM). All employees are required to abide by the requirements of this Manual. Additional specific Project requirements are specified in the plans and procedures for this Project. These additional requirements arise because of the nature of the work to be performed.

Hazard Communication Training—A hazard communication training program has been developed for this Project in accordance with OSHA 1910.1200 and the GA APPM. This program promotes awareness of chemical hazards that are present at this Facility, and provides means to communicate those hazards to employees. A designated person will maintain the hazardous material inventory and Material Safety Data Sheets (MSDS) for on-site hazardous materials, and provide all Project personnel with information advising them of the potential for hazardous constituents in the work place. A list of such materials for this Project is maintained at the job site, and copies of the appropriate MSDS are available

10. ENVIRONMENTAL COMPLIANCE

The GA Hot Cell D&D Project utilizes the support of GA's LS&NC organization and, as needed, an Environmental Compliance Specialist to assist in addressing permitting and compliance issues related to the areas listed. Below is a brief description of GA's compliance status with regard to the specific items listed above:

National Environmental Policy Act (NEPA)—This act requires that Federal Projects, such as the Hot Cell D&D Project, be reviewed for potential impacts to the environment. In accordance with this law, GA and DOE have prepared the document entitled "Environmental Assessment for the General Atomics Hot Cell Decontamination and Decommissioning" (PC-000414). The result of this process is expected to be a "Finding of No Significant Impact" (FONSI) for the Hot Cell D&D Project. The Hot Cell D&D Project is in compliance with the requirements of this act.

Resource Conservation and Recovery Act (RCRA)—This act and its implementing regulations establishes a comprehensive hazardous waste management system which provides "cradle-to-grave" regulation of hazardous wastes as defined by 40 CFR 261. The GA Hot Cell D&D Project has implemented a hazardous and mixed waste management program which insures compliance with RCRA requirements. The Hot Cell D&D Project is in compliance with the requirements of this act.

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendment and Re-authorization Act of 1986 (SARA)—This Act was passed to address the problem of investigating and cleaning up hazardous substance contamination at inactive or abandoned facilities. Radionuclides and mixed wastes are regulated under CERCLA, which also specifies how clean-ups must be conducted at Federal Facilities. The GA site is not considered to be a Federal Facility and is therefore not included in the ranking system used for designation of Federal Facilities listed on the National Priorities List (NPL). In addition, the GA site is under an NRC license; the NRC is the lead agency for conducting clean-ups at NRC-licensed sites. The GA site is in compliance with the provisions of applicable sections of this act.

Permits Required for Decommissioning Activities—Environmental permitting requirements for the HCF Decommissioning program are assessed on a case-by-case basis by the San Diego Regional Permit Assistance Center. The following list contains permits that are known to be required, based on discussions with local regulators.

- Building Demolition—Local agencies will be notified in advance of demolition and permits obtained if required.
- Asbestos Removal—Requires a permit from the Air Pollution Control Department (APCD) and 10 days' notification prior to any removal actions.
- Rock Drilling Equipment—Drilling equipment used for the purpose of rock removal will require a permit from the APCD if diesel powered.
- Grading Permit—The City of San Diego requires a Grading Permit for the grading of soils within city properties.
- Diesel Tank Removal and Soil Excavation—Requires a tank removal permit from the Regional Permit Assistance Center and 48 hour advance notice.
- Engines for Power Demolition—Engines used (if over 200 HP) for power supply for demolition must be permitted by the APCD.