U.S. Department of Energy (DOE)
Finding of No Significant Impact
Decontaminating and Decommissioning the
General Atomics Hot Cell Facility
San Diego, California

AGENGY: U. S. Department of Energy (DOE)
ACTION: Finding of No Significant Impact (FONSI)
SUMMARY: The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-1053, evaluating the proposed action to decontaminate and decommission General Atomics' (GA's) Hot Cell Facility in northern San Diego, California. This privately-owned facility has been used for DOE-funded as well as commercial nuclear research and development for more than thirty years.

Based upon the information and analyses in the EA, the DOE has determined that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. Therefore, an Environmental Impact Statement is not required.

DESCRIPTION OF THE PROPOSED ACTION:
The proposed action is to decontaminate and decommission (D&D) GA's Hot Cell Facility (HCF). D&D includes removing or decontaminating equipment, decontaminating building surfaces and structural members, and characterizing, packing, and shipping the resulting waste. Decontamination employs increasingly aggressive techniques until the residual contamination is low enough to permit unrestricted use. Decontamination proceeds from vacuuming or wiping with a damp cloth to more aggressive hand washing, scrubbing, blasting with dry abrasive, and scarification. About 30,000 cubic feet (840 cubic meters) of decontamination debris and up to 50,000 cubic feet (1500 cubic meters) of radiologically contaminated soil are to be removed. Low-level radioactive waste would be shipped to either a DOE-owned disposal facility, such as Hanford, Washington, or to a commercial disposal facility, such as Envirocare, near Clyde, Utah. If the HCF cannot be decontaminated cost-effectively, the building will be dismantled.

ALTERNATIVES:
Three alternatives to the proposed action were considered: (1) HCF dismantlement with minimal decontamination, (2) protracted low-level D&D activity, and (3) no action. Each alternative would maintain the safe shutdown institutional controls currently in place until the contamination had been either fixed in place or removed.

(1) Facility dismantlement with minimal decontamination would involve minimal decontamination activities. Fixatives would be applied to all contaminated surfaces to prevent the dispersal of contaminants during dismantlement. The entire facility would then be dismantled and the debris shipped to a disposal site as radioactive and mixed waste. Dismantlement with minimal decontamination would generate twice as much radioactive waste as would decontamination alone. For this reason, complete dismantlement would make a transportation accident or fatality twice as likely.

(2) Protracted low-level decontamination activities would maintain the HCF in a safe-shutdown status, including ongoing surveillance and maintenance, while gradually decontaminating the HCF as funding permits.

(3) The no action alternative is no D&D. The safe-shutdown institutional controls currently in place at the HCF would continue, as would long-term surveillance and maintenance of the HCF and its health, safety, and radiation protection equipment.

ENVIRONMENTAL IMPACTS:

Human Health Effects: The key hazards for workers performing the D&D would involve external radiation, inhalation of hazardous or radioactive materials, or dermal contact with such materials during characterization, decontamination, dismantling, packaging, transportation, and disposal of contaminated equipment, debris, and (if necessary) soil. The potential for chemical exposure is low because the High Efficiency Particulate Air (HEPA) filters in the HCF ventilation system and worker respirators efficiently remove airborne particles of lead and beryllium, the dominant toxic materials.

A somewhat conservative estimate of worker radiological exposures may be obtained from actual worker exposures measured during refurbishment of the HCF in 1978 and 1979. They averaged 840 mrem/yr from external exposure (from radiation generated outside a person's body) and 6.9 mrem/yr from internal exposure (from radiation generated from material within a person's body). The maximum dose was 2040 mrem/yr. The Nuclear Regulatory Commission's (NRC's) limit for occupational doses is 5000 mrem/yr. Receiving the average annual dose of 847 mrem/yr throughout the five-year duration of this project would sum to 4234 mrem, which carries a 1/590 chance of dying prematurely from cancer.

The maximum cumulative Committed Effective Dose Equivalent (CEDE) for all HCF D&D workers is projected to be less than 63 person-rem over the life of the project, which is equivalent to 0.025 excess cancer fatality arising from this project.

Probable radiological exposures to non-HCF workers within and beyond the GA site, as well as to the nearest residents, were estimated from stack effluent data obtained during the 1978-79 refurbishment. The maximum estimated exposure to a non-HCF worker would be 0.04 mrem/yr, which is far below the 100 mrem/yr allowable exposure limit (in 10 CFR 20.105) for unrestricted areas. The estimated maximum CEDE at the GA site boundary would be 0.046 mrem/yr. The estimated CEDEs at the day care center on John Jay Hopkins Drive and at the nearest residence would be even lower. The cumulative CEDE (projected dose multiplied by the population exposed) to the more than 58,000 non-HCF workers located within and around the GA site during the five-year project life is estimated to be less than 2 person-rem, which corresponds to 0.001 excess cancer fatality within the entire population exposed.

Waste Disposal: Low-level radioactive waste would be temporarily stored at the GA Nuclear Waste Processing Facility, where liquid waste would be solidified and solid waste would be compacted, if possible. The waste would then be trucked to either a DOE-owned disposal facility, such as Hanford, or to a commercial disposal facility, such as Envirocare. The 30,000

cubic feet of low-level radioactive waste to be generated (over five years) by D&D of the HCF would add relatively little to the 250,000 cubic feet received annually by the Hanford site or the 3 million cubic feet accepted annually by Envirocare. Neither Hanford nor Envirocare expect capacity problems and both expect to continue receiving radioactive and mixed waste well into the next century.

Mixed waste requiring additional treatment before land disposal would be stored at Hanford until suitable treatment capacity became available.

Noise: Decontamination may require use of jackhammers, scabblers, concrete saws, and backhoes. Nearby workers would wear ear protection devices. The nearest non-HCF workers who frequently venture outside are 500 feet (150 m) away and the nearest off-site business is 0.25 miles (400 m) away. These distances will attenuate noise substantially.

Air Quality: D&D would be a temporary source of air emissions, primarily dust and vechicular emissions from employee vehicles and haul trucks. Contaminated dust within the HCF would be trapped by HEPA filtration. Fugitive dust from excavating and packaging contaminated soil, if any, would be limited by dust control measures. If the HCF were demolished, dust would be controlled by tarping, wetting, or possibly tenting. Attainment of Regional air quality standards would not be impacted.

Transportation: The primary impacts to the environment arise from vehicular traffic, primarily trucks hauling waste from the site. Fewer than 200 round trips by truck are anticipated during the five-year D&D effort between the HCF and the waste disposal site. The traffic impacts would be negligible.

Waste would be shipped primarily along Interstate highways and their urban bypasses. From 200 round trips by truck to Hanford, one can expect a 5.5% chance of an accident and a 0.5% chance of a traffic fatality arising from this project. Because it is closer, shipping to Envirocare would reduce these probabilities to 3.4% and 0.4%, respectively.

If a low-level waste spill accompanied an accident, the spilled and contaminated material would be packed into containers on site and public use of the roadway would be restricted until the cleanup had been completed.

Other Accidents: If a HEPA filter tore or was bypassed by contaminated air, radiation instruments that continuously monitor radiations levels downstream of the HEPA filter would sound an alarm, the exhaust fan would shut down, and workers would evacuate the HCF; any radionuclide release would be negligible.

A power failure would shut down the exhaust fan and likewise force evacuation of the HCF, but no radionuclide release would be expected.

Areas Not Affected: D&D would not affect or imperceptibly affect surface water or ground-water, biota, population, land use, cultural resources, or aesthetics.

Cumulative Effects: No cumulative effects are anticipated. Radiological exposures to workers would be well within the limits established by the NRC and the incremental radiological exposure to others would add very little to normal background exposures. Radiation exposures are expected to yield 0.025 cancer fatalities and truck accidents are expected to yield another 0.004 fatalities. The waste generated would not tax waste disposal capacity.

DETERMINATION:
Based on the information and analyses in the EA, the DOE has determined that the proposal to D&D the GAHot Cell Facility does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. Therefore, a FONSI is made and an Environmental Impact Statement is not required.

PUBLIC AVAILABILITY:
Copies of this EA (DOE/EA-1053) are available from:

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For further information regarding the DOE National Environmental Policy Act (NEPA) process, contact:

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