U. S. DEPARTMENT OF ENERGY

FINDING OF NO SIGNIFICANT IMPACT

DRUM STORAGE FACILITY FOR INTERIM STORAGE OF MATERIALS GENERATED BY ENVIRONMENTAL RESTORATION OPERATIONS

SUMMARY: The Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-0995, for the construction and operation of a drum storage facility at Rocky Flats Environmental Technology Site, Golden, Colorado. The proposal for construction of the facility was generated in response to current and anticipated future needs for interim storage of waste materials generated by environmental restoration operations. A public meeting was held on July 20, 1994, at which the scope and analyses of the EA were presented. The scope of the EA included evaluation of alternative methods of storage, including no action. A comment period from July 5, 1994 through August 4, 1994, was provided to the public and the State of Colorado to submit written comment on the EA. No written comments were received regarding this proposed action, therefore no comment response is included in the Final EA. Based on the analyses in the EA, DOE has determined that the proposed action would not significantly affect the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA). Therefore, preparation of an Environmental Impact Statement is not required and the Department is issuing this Finding of No Significant Impact.

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SUPPLEMENTARY INFORMATION:

Background: The current mission of the Rocky Flats Environmental Technology Site (RFETS) is to remediate the effects of past manufacturing activities by cleaning up sites where releases of hazardous and/or radioactive materials are thought to have occurred. Environmental restoration activities are being undertaken pursuant to provisions of the Comprehensive Environmental Response, Compensation, and Liability Act, the Resource Conservation and Recovery Act (RCRA), and the Inter-Agency Agreement between the Colorado Department of Public Health and Environment (CDPH&E), the U. S. Environmental Protection Agency, and DOE.

Remediation activities generate waste materials — primarily soil, sediment, rock, and geologic material— but also small quantities of other wastes from site investigations and interim remedial measures, such as retired well casings, filtercake, spent granular activated carbon, and similar materials. These waste materials are typically placed in 30-gallon or 55-gallon drums or larger containers and bins pending remediation or disposal. This material may be classified prior to specific analytical characterization as hazardous, radioactive, or mixed (both hazardous and radioactive).

RFETS procedures state that a) drummed material generated by environmental restoration activities and suspected of containing contaminants will be managed as a hazardous waste from the moment of generation, and that b) drummed material originating from a specific Operable Unit (i.e., a defined management unit of suspected release sites) will be managed as part of that Operable Unit with regard to final disposition. Until that final remedy is identified and implemented, the drummed material will be held in storage.

Drums of waste are taken from their point of generation to an approved RCRA storage unit until their contents are remediated. The storage period could last several years, and the number of drums expected to accumulate from environmental restoration activities through 1997 has been estimated to significantly exceed the current storage capacity available. A permitted storage facility is needed to provide additional space for the drums containing this material.

Proposed Action: In response to the shortage of adequate storage capacity, and to RFETS best management practices which require protecting waste storage drums from the harmful effects of weather, DOE proposes to construct and operate a new storage building in permitted RCRA Unit 18.04, located in the Field Operations Yard southwest of the 903 Pad. It is estimated that the facility would be constructed and be operational within a year of notice to proceed with construction, and it would be in service for the duration of the restoration activities at RFETS.

Phase I of the structure would be 7,200 square feet in size. Ultimately, Phase II of the structure would double the size to 14,400 square feet. The structure would be a prefabricated steel storage building with a concrete slab-on-grade floor. Minimal excavation for concrete footings, grading, and soil compaction would be required. All excavated material would be redistributed on the ground at the building site. A 6-inch concrete berm would be constructed around the perimeter of the inside of the building to provide secondary containment. The slab would be sloped for positive drainage into one or more spill collection sumps. Sump contents would be pumped into a tanker truck for transport to one of RFETS water treatment facilities.

Access for vehicles as large as a semitrailer truck would be provided by roll-up vehicle doors with concrete apron entries at either end of the building. Electrical service would be provided from a transformer approximately 260 feet northwest of the proposed building pad and providing power to the building would require the placement of two power poles. The electrical service would operate the lighting, convenience outlets, and roll-up doors. Ventilation requirements would be addressed by installation of turbine ventilators on the roof ridge line. The building contents would not require radiological or other safety systems, although fire suppression would be installed. Water would be supplied by a nearby buried water line. Sanitary sewer service would not be necessary since no office space would be provided in the building.

Operation of the facility would include unloading drums; storage, stacking, and shipment of drums; and weekly inspection of drums in the facility. Shipping would occur when drums arrive from a remediation or field investigation location or when drum contents are ready to be returned for remediation to the Operable Unit where they were derived.

As requested in a RCRA permit modification submitted to CDPH&E for the building, drums would be stored in rows three drums high, along a 12-foot-wide central aisle. The rows would be arranged to allow the required weekly inspections of individual drums. The central aisle would run the length of the building and would be wide enough to permit passage of a transport truck. Other permit modifications may be submitted to CDPH&E in the future to allow the storage of additional quantities of wastes or for wastes to be stored in different configurations.

The building would normally be unoccupied by personnel except during movement or inspection of drums. Personnel involved in constructing and operating the facility would be subject to the safety practices defined by the RFETS Health and Safety Practices Manual. A project specific Health and Safety Plan for operation of the facility would be developed prior to start-up of storage operations.

The proposed facility is to be operated as a non-nuclear facility, meaning that the facility cannot contain more than 8.4 grams of plutonium. This requirement would be met by developing and implementing a process to identify the plutonium contents of each drum as it enters or leaves the building, and keeping a running total of the quantity of plutonium in the building.

Public Participation: The proposed action was presented at the public meeting held July 20, 1994. A comment period from July 5, 1994 through August 4, 1994, was provided to the public and the State of Colorado to offer written comment on the EA. No comments were received regarding this proposed action, therefore no comment response has been included in the Final EA.

Environmental Impacts: Construction of the proposed facility and its utilities would take place on fill material barren of vegetative cover. Minor air emissions associated with construction (fugitive dust and vehicle exhaust) would be temporary. No impacts would occur to threatened or endangered species or environmentally sensitive areas due to their distance from the proposed site and the nature of the proposed action. Routine operation of the proposed facility is expected to result in no environmental impact other than air emissions and dust resulting from the transportation of drums to and from the facility.

Impacts to individuals from accidents were analyzed in a Preliminary Safety Analysis (PSA). Based on analysis of drum contents, the PSA projected the most toxic contaminants (or those found in the highest concentrations) to be: trichloroethene (17 mg/kg), methylene chloride (9 mg/kg), acetone (39 mg/kg), plutonium (180 picoCuries per gram alpha activity), beryllium (18.3 mg/kg), and lead (86.9 mg/kg).

Using these projections, the proposed building specifications, and the operating procedures, the PSA concluded that for routine operation of the facility: a) worker and public exposure to chemicals is expected to be negligible because the facility would store materials in drums that are non-vented; b) worker exposure to radiation is expected to be negligible because measured contamination levels are extremely low and the contaminants are contained in closed metal containers (alpha radiation from Plutonium^{239} is the dominant exposure hazard, but is shielded by the soil and walls of the drums); c) public exposure to radiation is expected to be nonexistent because release of radioactive material is not expected to occur due to container integrity.

The PSA concluded that for postulated accidents at the facility: a) the worst-case radiation exposure for a worker would be 0.69 rem/hour [Roentgen equivalent man] or 0.0115 rem for a 1-minute exposure, which is well within DOE's limit for annual routine exposure (5.0 rem) and RFETS limit for annual routine exposure (1.0 rem), b) for workers, the concentrations of

chemical contaminants in the air for one minute would be less than those allowed by the Occupational Safety and Health Administration for 40 hours of exposure; c) maximally-exposed public individual would receive a whole-body dose of 1.8E-2 (0.018 rem), which is well below the DOE annual limit for exposure by a member of the public from an accident (25 rem) and the RFETS annual limit (0.5 rem); d) the risk to the public of developing cancer from chemical exposure is 5.0E-9 (or five chances in one billion).

Alternatives Considered: DOE considered the following alternatives to the proposed action in detail: no action; construct only a concrete drum storage pad; and add additional cargo containers at the site for storage. Alternatives considered but eliminated from further analysis were: use existing storage facilities; use the planned Centralized Waste Storage Facility (CWSF); use a storage facility at another RFETS location; and store drums off site.

The no-action alternative was determined to be unacceptable, since it would not meet the requirement of providing additional waste storage space at RFETS. Construction of a concrete drum storage pad not covered by a building was considered unacceptable because the drums would be subjected to weather and expected to deteriorate over time. Use of additional cargo containers was determined to be unreasonable due to the excessive space and cost required to provide the necessary storage capacity.

A survey of the available land area in the RFETS developed area revealed that no suitable areas other than the Field Operations Yard are available for the siting of a new facility of the type and size of the proposed storage facility. Existing storage facilities were assessed for suitability to house environmental restoration investigation derived wastes, and no single building with sufficient space was found. Portions of multiple facilities could have been converted for waste storage and permitted under RCRA, but this effort would have negated the cost and schedule benefits of using existing facilities. The planned CWSF could be expanded to add the initial phase (7,200 square feet) of the proposed building, but the facility could not accommodate the additional 7,200 square feet planned for phase II. Schedule delays in CWSF construction to add additional space could jeopardize the continuity of mixed waste management operations at RFETS. RFETS does not currently have off site facilities suitable for conversion to permitted waste storage.

DETERMINATION: Based on the information and analyses in the EA, DOE has determined that the proposed construction of the drum storage facility at Rocky Flats 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, an Environmental Impact Statement for the proposed action is not required.

Issued at Golden, Colorado, this 7th day of September, 1994.

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