

Kaiser has determined that in order to reach 10 percent of the derived air concentration (DAC) limit, the soil must exceed 7.4 Bq/g (200 pCi/g) Th-232 + Th-228. Based on characterization information, Kaiser has a good database to identify where soil exceeds 7.4 Bq/g (200 pCi/g) Th-232 + Th-228. If the Th-232 + Th-228 is less than 7.4 Bq/g (200 pCi/g) soil, Kaiser will perform occasional air sampling near the dust source. If the soil exceeds 7.4 Bq/g (200 pCi/g) Th-232 + Th-228 where airborne dust from nearby soil might reach 0.1 DAC, Kaiser will perform continuous, stationary air sampling near the dust source while workers are present.

Air sampling will also be conducted at work area boundaries to evaluate off-site releases. Action will be taken if radioactivity levels exceed 50 percent of the regulatory limit at the work area boundary.

Kaiser's DP includes controls for keeping radiation exposures to workers, and the public, "as low as is reasonably achievable" (ALARA). These controls include implementing: (1) The HSP and EHSP; (2) radiation worker training; (3) a respiratory protection program; (4) safety work permit procedures; and (5) radioactive material storage and handling procedures. In addition, Kaiser presented an ALARA analysis (Chapter 7 of the DP) which compared dose and cost of the planned action with the cost benefits of incremental soil removal to further reduce the dose. The analysis demonstrates that removal of additional soil/dross is not cost beneficial.

The potential for radiological impacts during transportation is limited. Spillage during transportation is the only credible scenario for workers receiving a potential dose. Since any spills could be immediately recovered, doses due to direct exposure will be minimal. The potential exists for contaminated material to become airborne during loading, unloading, or as a result of accidental spills. In the DP, Kaiser commits to using a controlled material handling/processing/storage area to package waste for disposal. Packaging will include Department of Transportation and disposal facility approved containers. After packaging, waste will be transferred to a secured on-site storage area or loaded directly for shipping. Potential radiological impacts to workers and the public due to airborne material will be controlled as described above.

Potential radiological impacts resulting from the stockpiling of the contaminated soil on Kaiser property include doses to the public from airborne material and precipitation runoff. In the DP, Kaiser commits to

minimize the spread of contamination by lining the stockpile area with a high density polyethylene liner, or equivalent. In addition, berms or ditches will be constructed at the stockpile perimeter to control precipitation falling on the stockpile. Kaiser has committed to minimize storm water contact with stockpiled soil. Contact may be minimized by: (1) Diverting water around remediation and stockpile areas; (2) covering stockpiles; or (3) performing work during dry season.

The potential for groundwater contamination at the site is minimal. Site characterization sampling at the site indicates that the vertical migration of the thorium is limited. Sampling revealed that thorium concentrations dropped quickly in undisturbed soil.

Potential non-radiological impacts include; increased traffic from transportation of waste, esthetic degradation, and economic impacts. Waste will be transported by either rail or truck. Kaiser estimates that approximately 33,984 m³ (1,200,000 ft³) of material will be generated for off-site disposal. This volume of material will require less than 1000 rail cars, which will be spread over a three year time period. Therefore, the impact from transportation should be insignificant.

The Kaiser facility is located in an area which is completely developed with no pre-settlement vegetation existing. Land use within a one mile radius from the site is a mixture of commercial, industrial, and residential. Commercial or industrial properties in the area include Union Pacific Railroad (right-of-way), Specific Systems, Beejay Inc., Smalley Equipment, and Red Man. Kaiser has committed to restore the site following remediation. Restoration will include; placement of vegetative cover, seeding and mulching, permanent surface water controls, and permanent erosion and sedimentation controls. U.S. Fish and Wildlife Service has determined that the proposed action will not have an adverse impact on threatened and endangered species. The Oklahoma Historical Society informed Kaiser that there are no historic properties affected by the project. The Oklahoma Archeological Survey has stated that no archeological sites are listed as occurring within the project area and no archeological materials are likely to be encountered. Further, the Creek Nation of Oklahoma informed Kaiser, that there are no religious or sacred sites within the project area that will be affected by the undertaking of this project. Therefore, the esthetic impact from decommissioning activities should be insignificant.

The residential population within a 3 km (1.9 miles) radius of the site is approximately 24,000. Additionally, in 1990, there were approximately 3500 business entities within the same area. The facility lies within two separate zones; the Industrial Moderate District and Industrial Light District. Zoning within the vicinity of the facility is not expected to change. According to Chapter 15.0 of the DP, less than 15 workers will be required to perform decommissioning activities. Due to the small number of workers required for decommissioning, and the short duration of the project, this effort should have minimal socioeconomic impact on the community.

Air quality and noise impacts will result from excavation and transport of waste. Kaiser will use appropriate dust control measures during excavation. These activities will be sporadic in nature and relatively short in duration; and, therefore, will have minimal impact on the surrounding community and environment.

NRC has found no other activities in the area that could result in cumulative impacts.

Agencies and Persons Consulted

NRC staff provided a draft of the EA to Oklahoma Department of Environmental Quality (ODEQ) for review. By facsimile dated May 30, 2003, ODEQ informed NRC that it had no comments on the draft EA.

NRC contacted the U.S. Fish and Wildlife Service to ensure that the proposed action will not have an adverse impact on threatened and endangered species. Mr. Ken Frazier informed the NRC on April 16, 2003, that the proposed action will have no impact on threatened and endangered species.

Prior to approval of the Kaiser Phase 1 DP, NRC contacted the Oklahoma Historical Society to determine if the proposed action would have any adverse impacts on sacred or historical properties near the Kaiser site. The Oklahoma Historical Society informed Kaiser, by letter dated August 31, 1999, that there are no historic properties affected by the project.

The Oklahoma Archeological Survey informed NRC, by letter dated August 6, 1999, that no archeological sites are listed as occurring within the project area and no archeological materials are likely to be encountered.

The Creek Nation of Oklahoma informed Kaiser, by letter dated August 5, 1999, that there are no religious or sacred sites within the project area that will be affected by the undertaking of this project.