

ENVIRONMENTAL IMPACT STATEMENT

1. TRANSPORTATION

- 1-2 Describe the proposed rail and highway vehicles that would be used to transport the storage casks to the site.

Provide the number of these vehicles to be utilized, the turning radius of the vehicle, the parking location of the vehicle when not in use, and the location of the vehicle maintenance activities.

RESPONSE

A discussion of the proposed rail and highway vehicles are presented in PFSF SAR Section 4.5.4.2, "Shipping Cask Heavy Haul Tractor/Trailer," and Section 4.5.5.2, "Shipping Cask Rail Car." A figure of the proposed heavy haul tractor/trailer is shown on SAR Figure 4.5-4. A diagram of the proposed rail car is shown on SAR Figure 4.5-5.

As noted in PFSF ER Section 3.3, the number of shipping casks transported to the site is expected to be between 100 and 200 casks per year. Assuming 200 casks per year, the site would receive on average four casks per week. To handle this volume, a minimum of 2 heavy haul tractor/trailer units would be used if the casks were transported by highway from the ITP to the PFSF. All transportation casks will be transported across the country via rail car to the ITP or Low Junction. A minimum of 2 fleets would be used to continue to the site from the mainline if the casks were transported using the rail line. Each fleet would consist of 3 to 6 rail cars.

Based on vendor information from three of the largest trailer manufacturers for this type of trailer, the heavy haul trailers range from 150 ft to 180 ft in length and are typically 12 ft wide. The trailers use up to 100 tires to distribute the weight within typical highway limits. However, use of these trailers usually requires permitting due to the overall weight and length. The trailers are articulated, that is they can pivot in several places and include steerable axles to accommodate tight radius turning. The turning radius ranges 75 ft to 150 ft, depending on whether steerable dollies are used. The tractor/trailers will usually be stored in either the Canister Transfer Building truck bay or in the intermodal transfer point enclosure in preparation for their next assigned task. Both buildings are designed to fully enclose the tractor/trailer unit. Maintenance activities will be conducted at the Operation and Maintenance Building, except such maintenance duties that are complex enough in nature that they require off-site contracted major maintenance. It is anticipated that contract facilities within the area would be used for such items as engine overhaul, etc.

The rail cars will either be heavy duty 145 ton flatbed cars with 3 axle-trucks or depressed center flatbed cars with double bolsters (two sets of 2-axle trucks) similar to those used by the Department of Defense for their spent fuel shipments. The radius of the track for rail cars is dependent on various factors such as car length. The final design is not complete on the rail car, so the turning radius of the cask car has not been determined. However, the car would be somewhat short (probably not exceeding 50' in length) and the turning radius would be fairly tight. However, direct rail transportation to the PFSF has been designed using 10 degree curves (574 ft radius), which is typical in the industry. The rail cars, which typically will be in transit to pickup more spent fuel, will be stored on the railroad storage siding at the PFSF when not in use (See PFSF SAR Figure 1.2-1). If the intermodal transfer point is utilized, parking for the cars when not in use would either be provided at the intermodal transfer point or at leased space somewhere in the vicinity. Routine maintenance will be performed at the PFSF or the intermodal transfer point, depending on the case. Major overhauls and maintenance would have to be in a privately operated railroad equipment servicing shop approved for such activities and inspections.