April 30, 1996

Mr. Joseph E. Virgona, Project Manager
U.S. Department of Energy
Grand Junction Projects Office
PO Box 2567
Grand Junction, Colorado 81502-2567

SUBJECT: REVIEW OF SUPPLEMENTAL STANDARDS APPLICATION FOR THE SOUTHERN PACIFIC RAILROAD PROPERTY, GRAND JUNCTION, COLORADO

Dear Mr. Virgona:

In a letter dated January 5, 1995, the U.S. Department of Energy (DOE) transmitted a request for approval of the Radiologic and Engineering Assessment (REA) for the Southern Pacific Railroad property. The REA contains an application for Supplemental Standards for two areas, totaling approximately 6 miles in length and up to 39 tracks wide. The U.S. Nuclear Regulatory Commission staff has completed its review of the information provided by DOE and concurs in the application of Supplement Standards for the Southern Pacific Railroad property. The staff's concurrence is conditional to the Cheney tailings disposal cell remaining open beyond the year 2000 to assist disposal of tailings material should excavation become necessary. The staff's technical evaluation of the REA is enclosed.

If you have any questions concerning this letter, please contact the NRC Project Manager, Ms. Charlotte Abrams, at (301) 415-5808.

Sincerely,

(Original signed by)
Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: S. Hamp, DOE Alb
E. Artiglia, TAC Alb

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TECHNICAL EVALUATION REPORT
RADIOLOGIC AND ENGINEERING ASSESSMENT
FOR THE SOUTHERN PACIFIC RAILROAD PROPERTY

SITE: Southern Pacific Railroad Property

LOCATION: Grand Junction, Colorado

PROJECT MANAGER: Charlotte Abrams

TECHNICAL REVIEWER: Elaine Brummett

SUMMARY AND CONCLUSIONS:

In a letter dated January 5, 1995, the U.S. Department of Energy (DOE) transmitted a request for approval of the Radiologic and Engineering Assessment (REA) for the Southern Pacific Railroad property. The REA contains an application for Supplemental Standards for two areas, totaling approximately 6 miles in length and up to 39 tracks wide. The application also includes land 10 feet on either side of the tracks, areas of difficult access, and a state-owned water line on the railroad property. In the area of interest, uranium mill tailings were used as fill and covered by ballast and railroad tracks. All deposits covered under DOE's application, except those associated with the private water main, are within 10 feet of active railroad tracks currently used by freight and passenger trains. No habitable structures are located within 10 feet of any residual radioactive material (RRM) proposed to remain in place. No change in land use is anticipated in these areas for the foreseeable future. Although the Railroad plans to potentially sell off selected portions of its land in the future, the supplemental standards areas do not include any of these projected "developable" areas.

DOE estimates that the cost of remediating approximately 6,400 cubic yards of known contamination (6-102 inches in depth) would cost $609,000. In addition, DOE performed health risk assessments and concluded that by leaving the tailings material in place, "...it is unlikely that the allowable gamma dose rates will be exceeded." Therefore, DOE recommends a supplemental standard of "no remediation" based on the criterion in 40 CFR 192.21 (c), the "cost of remedial action ... is unreasonably high relative to the long-term benefits, and the residual radioactive materials do not pose a clear present or future hazard."

The U.S. Nuclear Regulatory Commission staff has completed its review of the information provided by DOE and concurs in the application of Supplemental Standards for the Southern Pacific Railroad property.

TECHNICAL EVALUATION:

The assessment of the railroad property was conducted in two phases (Phases I and II). The Phase I area is approximately one mile long, and the Phase II area is approximately five miles long. All Phase I areas, including areas

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within 10 feet of the railroad tracks, were radiologically surveyed. Selected Phase I and II railroad track spur lines, designated by the Railroad as being in potentially developable areas, were surveyed and remediated. Because of safety limitations for Railroad operations, all Phase II areas, except those within 10 feet of the tracks, were surveyed. Although no data were collected for the Phase II areas adjacent to the tracks, the pre-remediation radiological assessment for the other Phase II areas was used to provide information regarding the general levels of contamination that exist at the site.

Based on dose estimates for the remaining RRM at the Railroad site, the NRC staff considers that the cost of remediation is unreasonable compared to the minor potential health risk of leaving the contamination in place. NRC staff considers that there is sufficient evidence indicating that the majority of the tailings deposits are surficial and of low Ra-226 content. Therefore, the staff concurs in the REA, conditional to the Cheney tailings disposal cell remaining open beyond the year 2000 to accept excavated contaminated material, should excavation in areas where supplemental standards have been applied be necessary.

Also, to limit future exposures to RRM, detailed descriptions of areas where supplemental standards were applied should be readily available to members of the public. In previous correspondence related to REAs for other Grand Junction sites, DOE committed to establish a data base for cataloging and tracking all sites where residual radioactive material remains. The staff would expect information about the areas where supplemental standards were applied at the Southern Pacific Railroad property to be included in that data base.