

ENVIRONMENTAL ASSESSMENT
FOR
ATLANTIC RICHFIELD COMPANY'S
BLUEWATER MILL SITE
CIBOLA COUNTY, NEW MEXICO

IN CONSIDERATION OF AN AMENDMENT TO
NRC SOURCE MATERIAL LICENSE SUA-1470

PREPARED BY

THE U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF WASTE MANAGEMENT
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

1.0 INTRODUCTION

1.1 Background

Atlantic Richfield Company (ARCO) is reclaiming its Bluewater Mill site under a reclamation plan approved by the U.S. Nuclear Regulatory Commission on August 10, 1990. The plan covers the Main Tailings Pile (about 250 acres), the Carbonate Tailings Pile (about 50 acres), the Acid Tailings Pile (about 25 acres) and seven synthetically lined evaporation ponds. The tailings piles contain roughly 25 million tons of tailings. Modifications to the reclamation plan were approved January 30, 1992; May 27, 1994; July 20, 1994; July 20, 1995; July 8, 1996; and July 18, 1996. The groundwater Corrective Action Plan for the Bluewater Mill site was approved by the NRC on August 18, 1989 and groundwater Alternate Concentration Limits were approved by the NRC on February 22, 1996.

1.2 Proposed Action

By letter dated May 25, 1995, ARCO requested NRC approval of the disposal of mill waste containing polychlorinated biphenyls (PCBs) at the Bluewater Mill site. ARCO characterized the waste as being composed primarily of spillage of ore residues from the mill ore crushing and milling circuit, and PCBs from electrical transformers in or adjacent to the mill. The waste is in 145 drums (less than 1200 cubic feet or 100 tons), and would be disposed of in a special disposal cell, backfilled with soil cement, with a clay cap and liner each a minimum of 3 feet thick and designed for 1000 year containment, within Disposal Area No. 1. Disposal Area No. 1 has an additional 1 foot of compacted engineered fill as a bottom liner and 2 feet as a top cover. There are no free liquids in the drums. The Ra-226 content of the waste material varies up to about 200 pCi/gram, with an average of about 10 pCi/gram. Based on samples taken during cleanup of the waste, the PCB concentration within the drums is estimated by ARCO to be greater than 50 ppm but less than 500 ppm.

1.3 Review Scope

In accordance with Title 10, Code of Federal Regulations, Part 51, this supplemental Environmental Assessment (EA) serves to: (1) present information and analysis for determining whether to issue a finding of no significant impact or to prepare an environmental impact statement (EIS); (2) fulfill the NRC's compliance with the National Environmental Policy Act when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary. Should the NRC issue a finding of no significant impact, no EIS would be prepared and the commercial source material license, or amendment thereof, would be granted subject to operating conditions contained in the existing source and byproduct material license.

2.0 SITE CHARACTERISTICS

The Bluewater mill was in continuous operation from 1953 until February 1982, when the mill was shut down. Initially, the mill used a carbonate leaching process. The carbonate process was discontinued in 1959 and was replaced by an acid leach process. From 1982 until 1985, ARCO dewatered the Main Tailings Pile by pumping liquids from wells located in the tailings impoundment sands, and removed the dissolved uranium from the liquid by solvent extraction.

The Bluewater Mill site is located ten miles northwest of the city of Grants in Cibola County, New Mexico. The nearest residence is located to the southeast approximately 1.5 miles from the tailings area. The geographical area is semi-arid with average annual precipitation of ten inches and a near average annual pan evaporation of approximately 70 inches. Two aquifers have been identified beneath the site, the San Andreas-Glorietta Aquifer and the Basalt-Alluvial Aquifer.

3.0 OPERATIONS

The Bluewater Mill ceased operation in 1982 and was decommissioned in 1991. Site reclamation was essentially completed in 1995 with the placement of the final radon barrier and erosion protection riprap on all disposal cells.

4.0 ENVIRONMENTAL EFFECTS

The ARCO Bluewater Mill site is licensed by the NRC under Materials License SUA-1470 to possess byproduct material in the form of uranium waste tailings as well as other radioactive wastes generated by past milling operations. Except for the PCBs, the waste could have been disposed of in the tailings piles as was done with other mill debris and windblown cleanup material, or with other drummed waste which was disposed of in a similar cell in Disposal Area No. 1 (ARCO Letter to NRC, February 3, 1995; NRC letter to ARCO, July 8, 1996). The PCB-contaminated waste is in drums, and would make a negligible contribution to the radon releases or groundwater contamination from the tailings impoundments even in the event of failure of the drums.

Presence of the PCBs made the waste subject to the Toxic Substances Control Act which is under the jurisdiction of the U.S. Environmental Protection Agency (EPA). The presence of PCBs also requires the agreement of the U.S. Department of Energy (DOE) because DOE is responsible for long-term care of the site. ARCO was notified of these issues in a letter dated June 12, 1995.

It is worth noting that there are presently no commercial waste disposal sites in the United States licensed to accept radioactive waste contaminated with PCBs. The only current alternatives to permanent onsite disposal are relocation to a separate disposal area (which would have to be licensed by the NRC and permitted by the EPA), or temporary storage onsite or in another location (again requiring licensing and permitting) until a permanent disposal site is available.

Disposal of PCB-contaminated material at the Bluewater site was evaluated by EPA Region 6. ARCO submitted documentation concerning its disposal plans to the EPA in letters dated October 9, 1995; January 26, 1996; and July 8, 1996. The EPA published a copy of its proposed approval to land dispose of PCBs at ARCO's Bluewater Mill site for a 45-day public comment period on April 30, 1996 in the Albuquerque (New Mexico) Journal newspaper. By letter dated June 24, 1996, the EPA notified ARCO that no comments were received during the public comments period and the EPA was issuing final approval of the disposal. DOE notified ARCO that it would accept the site, subject to certain conditions including EPA approval, in a letter dated February 23, 1996.

5.0 ALTERNATIVES

The action that the NRC is considering is approval of an amendment request to a source material license issued pursuant to 10 CFR Part 40. The alternatives available to the NRC are:

- Approve the license amendment request; or
- Deny the request.

Based on its review of the request, the NRC staff has concluded that from the radiological standpoint there are no significant environmental impacts associated with the proposed action. Therefore, alternatives with equal or greater impacts need not be evaluated.

The principal alternative to the proposed action would be to deny the requested action. Based on its review, the NRC staff has determined that the environmental impacts of the proposed action are less than the alternative actions. Therefore, there is no need to further evaluate alternatives to the proposed action.

6.0 SUMMARY AND CONCLUSIONS

Based on an evaluation of the radiological impacts of ARCO's amendment request, EPA permitting and DOE acceptance of PCBs disposal at the site, the NRC has determined that the proper action is to issue a Finding of No Significant Impact (FONSI) in the Federal Register. The following statements support the FONSI and summarize the conclusions resulting from the EA.

1. The waste is drummed, and will be placed in a special clay-lined cell within Disposal Area #1, and would make a negligible contribution to radon releases or groundwater contamination if both the drums and the clay liners failed.
2. The PCB's are regulated by the EPA under RCRA, and the EPA has permitted disposal of the PCB-contaminated waste at the Bluewater Mill site.
3. DOE has agreed to accept the site subject to EPA permitting and ARCO funding of any PCB-related site monitoring and future remediation.

7.0 CONSULTATION AND SOURCE INFORMATION

In preparing this EA, the NRC staff held discussions with personnel of EPA Region 6 and the New Mexico Environment Department, which has discharge permits pertaining to the Bluewater site. The staff also attended meetings between ARCO and EPA Region 6 on November 1, 1995 and December 7, 1995.

References

1. Letter NRC to ARCO, August 18, 1989.
2. Letter NRC to ARCO, August 10, 1990.
3. Letter NRC to ARCO, January 30, 1992.
4. Letter NRC to ARCO, May 27, 1994.
5. Letter NRC to ARCO, July 20, 1994.
6. Letter NRC to ARCO, July 20, 1995.
7. Letter ARCO to NRC, February 3, 1995.
8. Letter ARCO to NRC, May 25, 1995.
9. Letter NRC to ARCO, June 12, 1995.
10. Letter ARCO to NRC, June 23, 1995.
11. Letter ARCO to EPA Region 6, October 9, 1995.
12. Letter ARCO to EPA Region 6, January 26, 1996.
13. Letter NRC to ARCO, February 22, 1996.
14. Letter DOE Grand Junction to ARCO, February 23, 1996.
15. Letter EPA Region 6 to ARCO, June 14, 1996.
16. Letter ARCO to EPA Region 6, July 8, 1996.
17. Letter NRC to ARCO, July 8, 1996.
18. Letter NRC to ARCO, July 18, 1996.