

Recertification CARD No. 45
Consideration of the Presence of Resources

BACKGROUND

Section 194.45 implements the assurance requirement that the disposal system be sited so that the benefits of natural barriers if the disposal system will compensate for any increased probability of disruptions to the disposal system resulting from exploration and development of existing natural resources (61 FR 5232).

To comply with the requirements of the Section 194.45, a clear demonstration of the uniqueness of the site, characteristics of the resources present, and their extractability for profit must be considered. A brief description of each of these aspects is presented below.

Site characterization – contains information relative to geology, hydrology, geomechanical, and mining conditions. Each category has several factors which are important in establishing the advantages of the repository site.

Resource characterization – all naturally occurring resources must be properly documented with illustrations. This includes characteristics, location, extent and estimate of the resource and or reserve.

Extractability – identifies the resources which are currently being exploited in the area. This information should also contain details on the reserve potential for future exploitation.

REQUIREMENT

“Any compliance application shall include information that demonstrates that the favorable characteristics of the disposal system compensate for the presence of resources in the vicinity of the disposal system and the likelihood of the disposal system being disturbed as a result of the presence of those resources. If performance assessments predict that the disposal system meets the containment requirements of §191.13 of this chapter, then the Agency will assume that the requirements of this section and §191.14(e) of this chapter have been fulfilled.”

1998 CERTIFICATION DECISION

To meet the requirements for Section 194.45, the U.S. Environmental Protection Agency (EPA or Agency) expected the U.S. Department of Energy (DOE) to demonstrate that any performance assessment (PA) had fully and appropriately incorporated the potential effects of human intrusion on Waste Isolation Pilot Plant’s (WIPP) containment of waste. As described in the Compliance Application Guidance (CAG), EPA expected the Compliance Certification Application (CCA) to document: (1) that the effects of mining and drilling over the regulatory time frame are included in the performance assessment (PA); (2) that the effects of any activities that occur in the vicinity of the disposal system, or are expected to occur in the vicinity of the

disposal system soon after disposal, are incorporated in the PA; and (3) that the results of the PA demonstrate compliance with the containment requirements of EPA's radioactive waste disposal regulations (Section 191.13). The CCA was required to provide specific cross-references to detailed information on incorporation of human intrusion into PA (CAG, p. 65).

DOE described the measures it took to comply with the requirements of Section 194.45 in Chapter 7.5 of the CCA. Chapter 7.5 stated that the results of the PA, taking into account the potential for resource exploration, met EPA's containment requirements as dictated by the disposal regulations and compliance criteria (p. 7-96). DOE concluded that the WIPP's favorable characteristics compensate for any possible disturbance (p. 7-98). DOE also provided cross-references for the following information in Chapter 7 of the CCA (p. 7-97 to 7-98):

EPA found that the information contained Chapter 7.5, portions of the CCA cross-referenced in Chapter 7.5, and other relevant documentation demonstrated that DOE took into account the potential for resource exploration and met the Agency's requirements based on the results of the PA. Furthermore, DOE's Final Environmental Impact Statement (FEIS) for the WIPP indicates that resource considerations were taken into account during the disposal system's site selection process. Based on these factors, EPA concluded that DOE complied with the requirements of Section 194.45.

A complete description of EPA's 1998 Certification Decision for Section 194.45 can be obtained from Docket A-93-02, Items V-A-1 and V-B-2.

CHANGES IN THE CRA

DOE did not report any significant changes to the information on which EPA based the 1998 Certification Decision. Chapter 7.5 of the 2004 Compliance Recertification Application (2004 CRA)(pp.7-87 to 7-89) contains all the changes related to resource considerations since 1998. However, DOE did initiate some minor changes relative to features, events, and processes (FEPs) at WIPP, which were included in the 2004 CRA but did not affect the outcome or the PA process. These changes are mentioned below. In addition, minor clarifying language has been added to show where resource-related information can be found (e.g., 2004 CRA, Chapter 6.5, CCA Appendices GCR, IRD, and DEL).

1. Enhanced oil and gas production (H28) – Screening decision was changed SO-R to SO-C.
2. Hydrocarbon storage (H29) – Screening decision was changed SO-R to SO-C
3. Liquid waste disposal (H27) – Screening decision was changed SO-R to SO-C
4. Solution mining for potash (H58) – New FEP for CRA SO-R
5. Solution mining for other resources (H59) New FEP for CRA SO-C (SO-R, Screened Out – Regulatory, SO-C, Screened Out – Consequences)

DOE's discussion of these changes indicates that "FEPs screening for the [2004] CRA is not significantly different than the CCA, but now reflects the most recent information available."

EVALUATION OF COMPLIANCE FOR RECERTIFICATION

Based on EPA's review of the activities and conditions in and around the WIPP site, EPA did not identify any significant changes related to the presence of resources since the 1998 Certification Decision.

The 2004 CRA discusses the purpose of this assurance requirement. In doing so, DOE summarizes EPA's 40 CFR Part 194 guidance, stating that they have:

- ◆ documented that the effects of mining and drilling over the regulatory time frame have been incorporated into PAs according to the requirements of Sections 194.32, 194.33, and 194.43;
- ◆ documented that PAs incorporate the effects on the disposal system of any activities that occur in the vicinity of the disposal system or are expected to occur in the vicinity of the disposal system soon after disposal according to the requirements of Section 194.32; and
- ◆ documented whether the results of PAs demonstrate compliance with the containment requirements of Section 194.13.

The results of the recertification performance assessments are documented in Chapter 6.5 of the 2004 CRA and in supplemental information on the Performance Assessment Baseline Calculation (PABC). In addition, the impacts of resource development outside the controlled area were considered in the development of the WIPP's conceptual models, as well as in the site selection process (as previously discussed).

EPA did not receive any public comments on DOE's continued compliance with the consideration of the presence of resources requirements of Section 194.45.

RECERTIFICATION DECISION

Based on a review and evaluation of the 2004 CRA, supplemental information in appendices GRC, IRL, DEL provided by DOE (FDMS Docket ID No. EPA-HQ-OAR-2004-0025, Air Docket A-98-49) and an assessment of changes since 1998, EPA determines that DOE continues to comply with the requirements for Section 194.45.