

1 040[3], WAC 173-480-060). Standards and/or permits and license requirements (conditions) for  
2 applicable radiation and non-radiation emission unit compliance are compiled in the Hanford Air  
3 Operating Permit (Ecology 2001b).

4  
5 DOE would ensure that U.S. Department of Transportation (DOT) radiation-level limitations for  
6 packaging in 49 CFR 173.441 are met and that requirements in 49 CFR 173.443 related to radioactive  
7 contamination on the external surfaces of each package offered for shipment are met. Transportation  
8 issues are further discussed in Section 6.11.

9  
10 Chapter II of DOE Order 5400.5 states that it is DOE policy to provide a level of protection for  
11 persons consuming water from a drinking water supply operated by DOE or its contractors that does not  
12 exceed the maximum contaminant levels at 40 CFR 141.15 and 141.16. Specifically, DOE Order 5400.5  
13 states that DOE drinking water systems shall not cause persons consuming the water to receive an  
14 effective dose equivalent greater than 4 mrem (0.04 mSv) in a year. Combined radium-226 and radium-  
15 228 shall not exceed  $5 \times 10^{-9}$   $\mu\text{Ci/mL}$ , and gross alpha activity (including radium-226, but excluding radon  
16 and uranium) shall not exceed  $1.5 \times 10^{-8}$   $\mu\text{Ci/mL}$ .<sup>(a)</sup> The maximum contaminant levels at 40 CFR 141.15  
17 and 141.16 are not directly applicable to groundwater and are used in this HSW EIS solely as a  
18 benchmark for water quality in the Hanford aquifer and the Columbia River for the long-term analysis.

19  
20 DOE has a voluntary consensus technical standard that provides methods, models, and guidance  
21 within a graded approach that DOE personnel and contractors may use to characterize radiation doses to  
22 aquatic and terrestrial biota that are exposed to radioactive materials (DOE 2002b).

## 23 24 **6.8 Occupational Safety and Occupational Radiation Exposure**

25  
26 Section 4(b)(1) of the Occupational Safety and Health Act of 1970 [29 USC 653(b)(1)] exempts DOE  
27 and its contractors from the occupational safety requirements of the U.S. Department of Labor  
28 Occupational Safety and Health Administration (OSHA). However, DOE Order 440.1A, *Worker*  
29 *Protection Management for DOE Federal and Contractor Employees* (DOE 1998), states that DOE will  
30 implement a written worker protection program that

31  
32 (1) provides a place of employment free from recognized hazards that are causing or are likely to  
33 cause death or serious physical harm to their employees, and (2) integrates all requirements  
34 contained in paragraphs 4a to 4l of DOE Order 440.1A; 29 CFR 1960, “Basic Program Elements  
35 for Federal Employee Occupational Safety and Health Programs and Related Matters”; and other  
36 related site-specific worker protection activities.

37  
38 Relevant requirements in OSHA regulations and additional DOE-specified requirements are  
39 mandated by the DOE occupational, safety, and health program (DOE 1998).

40  

---

  
(a) In December 2000, EPA issued revised maximum contaminant levels for radionuclides to be effective in  
December 2003 (65 FR 76708). The new rule includes requirements for uranium.

1 DOE Order 5480.4, *Environmental, Safety, and Health Protection Standards* (DOE 1993a), requires  
2 that DOE and its contractors that are subject to this order are to comply with the OSHA Occupational  
3 Safety and Health Standards at 29 CFR 1910.  
4

5 The DOE radiation protection standards, limits, and program requirements for protecting occupational  
6 workers and visitors from ionizing radiation resulting from the conduct of DOE activities are in 10 CFR  
7 835. All activities associated with any alternative would be conducted consistent with 10 CFR 835  
8 requirements. The annual total effective dose equivalent (TEDE) limit for general employees is 0.05 Sv  
9 (5 rem) (10 CFR 835.202[a][1]). DOE policy is to maintain radiation exposure in controlled areas  
10 ALARA through facility and equipment design and administrative controls (10 CFR 835.1001). In  
11 addition, exposure of members of the public authorized to enter the controlled area where there are  
12 activities associated with implementing any alternative would not exceed 1 mSv (100 mrem) TEDE in a  
13 year (10 CFR 835.208). DOE Order 5480.4 specifies a number of American National Standards Institute  
14 standards applicable to radiation protection that DOE and its contractors must meet.  
15

## 16 **6.9 Non-Radioactive Air Emissions**

17

18 Emissions of criteria or toxic pollutants from new sources would most likely be in small quantities  
19 under any alternative evaluated in the HSW EIS. Any such emissions would not be expected to require  
20 prevention of significant deterioration (PSD) permitting under 40 CFR 52.21 or WAC 173-400-141  
21 because Hanford is within an area that is in attainment with or is unclassifiable for all national ambient air  
22 quality standards (40 CFR 81.348). New source review applicability for non-PSD criteria or toxic air  
23 permitting would be evaluated on a case-by-case basis under WAC 173-400-110 and WAC 173-460. All  
24 emissions of criteria or toxic pollutants would comply with applicable standards for air sources, as  
25 specified under the general air regulation (WAC 173-400). The EPA general conformity rule  
26 (40 CFR 93, Subpart B) requires that federal agencies prepare a written conformity analysis and  
27 determination covering compliance with an applicable state implementation plan for proposed activities if  
28 the total of direct and indirect emissions of a non-attainment or maintenance criteria pollutant caused by  
29 the activity would exceed the threshold emission levels shown at 40 CFR 93.153(b). General conformity  
30 is discussed in Section 5.2 of the HSW EIS. As noted earlier, the Washington State Clean Air Act  
31 authorizes Ecology and local air pollution control authorities to implement programs consistent with the  
32 Federal Clean Air Act.  
33

## 34 **6.10 State Waste Discharge Requirements**

35

36 Ecology regulates industrial waste discharges under the WAC 173-216 permit program covering  
37 discharges. Ecology has issued the 200 Area Effluent Treatment Facility (ETF) Discharge Permit  
38 ST-4500 and the 200 Area Treated Effluent Disposal Facility (TEDF) Discharge Permit ST-4502 (DOE  
39 2002a).  
40