

**Comanche Peak Nuclear Power Plant, Units 3 & 4**  
**COL Application**  
**Part 2, FSAR**

4 km (2.5 mi) from a distance of 8 km (5 mi) to 16 km (10 mi), and at increments of 8 km (5 mi) thereafter to a distance of 80 km (50 mi). Estimates of  $\chi/Q$  (undecayed and undepleted; depleted for radioiodines) and D/Q radioiodines and particulates is provided at each of these grid points.

The results of the analysis, based on the five years of on-site data for years 2001 through 2004 and 2006, are presented in Tables 2.3-340, 2.3-341, 2.3-342, 2.3-343, 2.3-344, 2.3-345, and 2.3-346. RAI MET-01

Annual average undecayed and undepleted dilution factors to a distance of 50 mi from the plant are shown in Table 2.3-340. The maximum value at the actual EAB is  $5.5 \times 10^{-6}$  seconds/meter<sup>3</sup> and occurs north-northwest of the plant at a distance of 0.37 mi. There are no higher values beyond the site boundary because for ground level releases concentrations monotonically decrease from the release point to all locations downwind. Annual values for undecayed and depleted  $\chi/Q$ s are given in Table 2.3-241. Annual average undecayed and undepleted dilution and deposition factors for special off-site receptor locations are given in Table 2.3-342. Values for eight day decay depleted  $\chi/Q$ s are given in Table 2.3-244 D/Q values out to a distance of 50 mi are given in Table 2.3-245.

#### **2.3.5.2.2 Evaporation Pond**

An additional CPNPP Units 3 and 4 gaseous release source is the evaporation pond (EP). The purpose of the EP is to prevent tritium concentration in the SCR from exceeding the limit described in the existing CPNPP Off-site Dose Calculation Manual (ODCM), Revision 26, due to tritium discharge from Units 3 and 4. The EP decrease the level of tritium discharge into the SCR by accepting liquid wastes, including tritium, from the liquid waste management system (LWMS) and evaporating the liquid wastes by natural processes. The atmospheric transport and dispersion of radioactive materials, in the form of aerosols, vapors, or gases, released from the EP are discussed below.

The  $\chi/Q$  and D/Q values for the evaporation pond are determined at points of potential maximum concentration, outside the site boundary, at points of maximum individual exposure and at points within a radial grid of sixteen 22.5° sectors extending to a distance of 50 miles. Radioactive decay and dry deposition are considered. The atmospheric dispersion calculation uses meteorological data collected at CPNPP for the five-yr period beginning January 1, 2001 and ending December 31, 2006, excluding January 1 through December 31 of 2005.

The evaporation pond is located approximately 0.4 mi southwest of CPNPP Units 3 and 4 power blocks. Given the distance from the power block, the effects of building wake are conservatively neglected in the atmospheric dispersion analysis. Consistent with the guidance of Regulatory Guide 1.111, a ground level release mode is used. The release elevation of the EP is 0.0 m relative to the plant grade. The evaporation pond has a surface area of approximately one acre. Although the evaporation pond is a diffuse area source, in the atmospheric dispersion evaluation, it is assumed to be a point source. This assumption is