

## HYD-06 Response

### HYD-06 Information Needs:

Please provide a knowledgeable expert to discuss hydraulic conductivity determinations and groundwater travel time calculations.

### Action:

Pump test from fill material in the ravine was not used. Rational for not including the results of the test in site analysis will be provided in the hydrogeology package.

### Response:

During the groundwater assessment of the CPNPP Unit 3 and 4 area, it was determined that the only area that could provide sufficient groundwater to sustain a groundwater pump test was the area of a former drainage swale located east of the Unit 3 center point. This drainage swale was filled with undifferentiated fill material during construction activities for CPNPP Units 1 and 2 and then converted to a construction parking lot. Based on slug test data collected from 6 groundwater monitoring wells located at the Unit 3 and 4 site, it was determined that the former drainage swale area has a higher hydraulic conductivity than the rest of the Unit 3 and 4 site. The former drainage swale area is believed to be in hydraulic communication with Squaw Creek Reservoir (SCR) with groundwater elevations in the swale area apparently controlled by the water elevation of SCR.

Alternative conceptual models were used to determine a bounding set of plausible groundwater flow paths by considering the nearest surface water body (SCR). Groundwater elevations measured in wells near the proposed plant area, the measured pool elevation of SCR (gradient to the SCR), and a conservative pathway from a postulated release point to SCR were utilized. Four postulated groundwater pathway scenarios were considered: two from Unit 3 to SCR (through the regolith and through shallow bedrock) and two from Unit 4 to SCR (through the regolith and through shallow bedrock). In all four cases, the location of the most limiting tank, the boric acid tank, was the northeast corner of the Auxiliary Building. The four pathways utilized conservative straight-line flow paths (worse-case scenarios).

Due to the distance between the postulated release point and the drainage swale area it was concluded that the distance between the postulated release point and SCR was the shortest and most conservative pathway to consider. Consequently, the data collected during the groundwater pump test was not included in the pathway determinations.

*Stacy H. Burgess*

4/9/2009

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Signature

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Date