
3.7 Visual Quality and Noise

3.7.1 Affected Environment

3.7.1.1 Visual Quality

The project site is located in a rural area on a relatively flat bluff about 150 feet above the Columbia River. The site is characterized by basalt outcrops, shrub-steppe habitat, and wetlands, with some scattered trees. The views to the north are of the wide Columbia River (Lake Wallula) and croplands, rangeland, shrub-steppe habitat, and scattered agricultural residences and buildings on the Washington State side of the river. The views to the east also are of the Columbia River and shrub-steppe habitat on the Oregon side of the river. To the south, high brush and smaller trees diversify the view of the surrounding landscape. To the west lies similar shrub-steppe habitat but the view is dominated by the TRCI, a large medium custody facility located about 1.5 miles west of the project site. The facility is an industrial-looking 650,000-square-foot concrete facility surrounded by tall fences with a guardhouse at the entrance. This facility is well-lit and visible at night.

The existing and proposed electrical transmission line and natural gas supply/wastewater discharge pipeline route is comprised of rural residences, irrigated croplands, non-irrigated croplands, grazing land, and low-growing shrub-steppe land.

3.7.1.2 Noise

The existing sound levels in the project area are characterized by rural, ambient/background noises. The closest potential noise source or receptor is the TRCI, located about 1.5 miles west of the project site. Although the background noise levels were not measured, it was estimated that they were in the 35- to 40-decibel range during a site visit.

The Oregon DEQ does not issue noise permits, but industrial facilities must meet the DEQ's noise standards (OAR Chapter 340). These standards require that:

No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused

by that noise source increase the ambient statistical noise levels, L_{10} or L_{50} , by more than 10 decibels on the A-weighted scale (dBA) in any 1 hour, or exceed the levels specified in **Table 3.7-1**, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule.

Table 3.7-1
New Industrial and Commercial Noise Standards (340-35-035),
Allowable Statistical Noise Levels in any 1-Hour

7:00 am – 10:00 pm	10:00 pm – 7:00 am
$L_{50} - 55$ dBA	$L_{50} - 50$ dBA
$L_{10} - 60$ dBA	$L_{10} - 55$ dBA
$L_1 - 75$ dBA	$L_1 - 60$ dBA

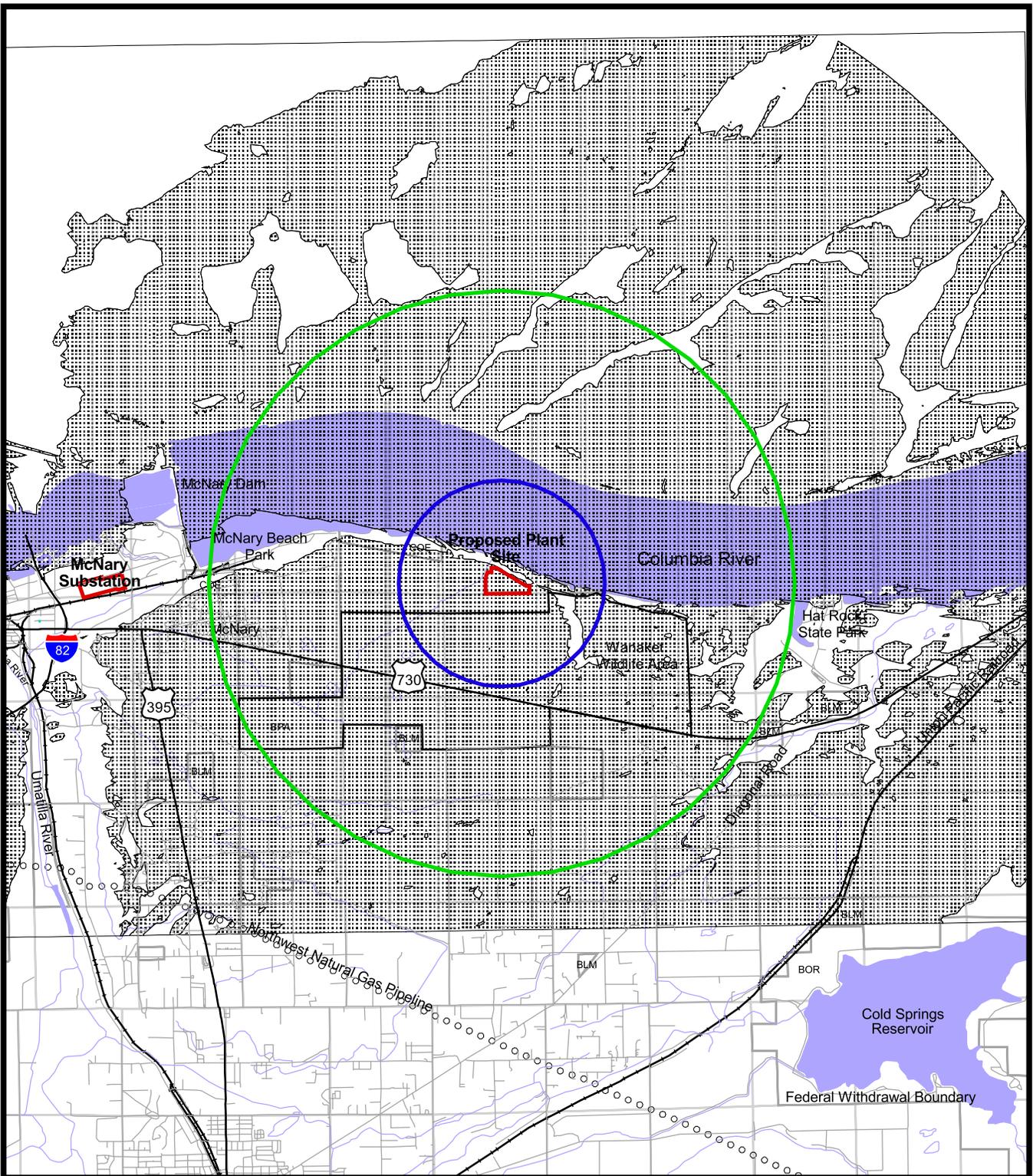
The proposed power plant would operate 24 hours per day, 365 days a year, so the nighttime (i.e., 10:00 p.m. – 7:00 a.m.) noise standards would apply.

3.7.2 Environmental Consequences and Mitigation

3.7.2.1 Visual Quality

The project would result in the introduction of a new industrial facility into the relatively natural area. The facility would include a turbine building, the administration building, the water treatment building, a natural gas metering building, a warehouse, switchyard, raw water storage tank, demineralization water storage tank, cooling towers, HRSGs, and four 213-foot-tall HRSG exhaust stacks. An analysis was conducted using a Digital Elevation Model to determine the locations where the stacks of the generating facility could be seen over a radius of approximately 4 miles from the site. The results of this analysis are illustrated on **Figure 3.7-1**. The visibility of the project and the distance, in miles, from various key viewing locations are described in **Table 3.7-2**.

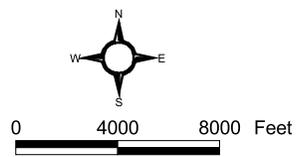
The facility could be viewed from residential areas at McNary, residences on the Columbia River bluff near Hat Rock State Park, and by motorists traveling U.S. Highway 730 east of Umatilla.



Legend

-  The stacks are visible
-  The stacks are not visible
-  5,280 foot radius circle
-  15,000 foot radius circle

Source: ENSR, 2003.



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Figure 3.7-1

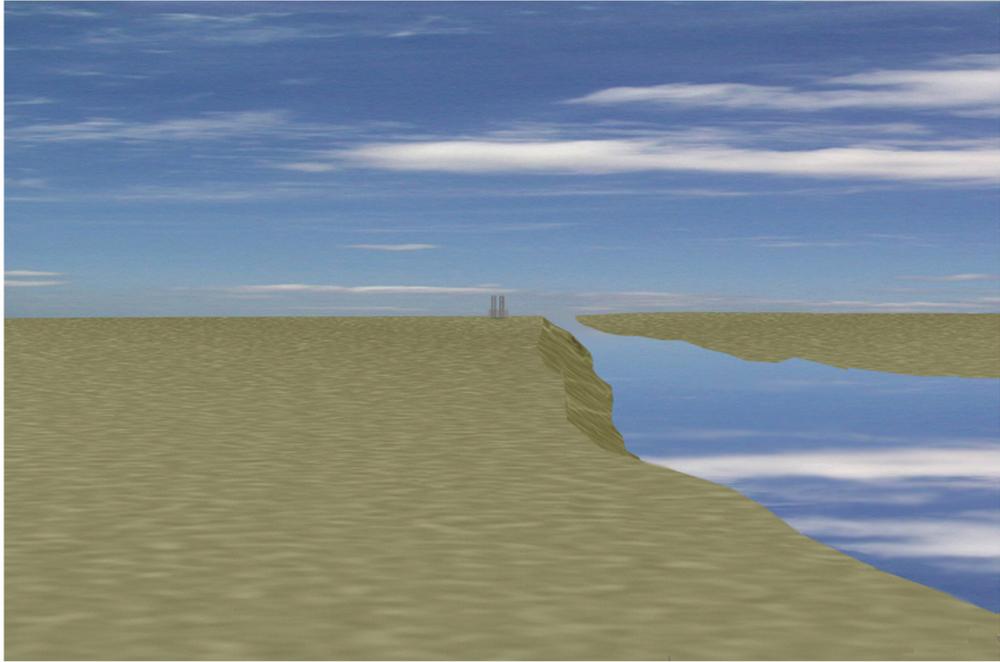
Visibility to Generating Facility Stacks

Table 3.7-2
Scenic Visibility Effects at Public Use Areas

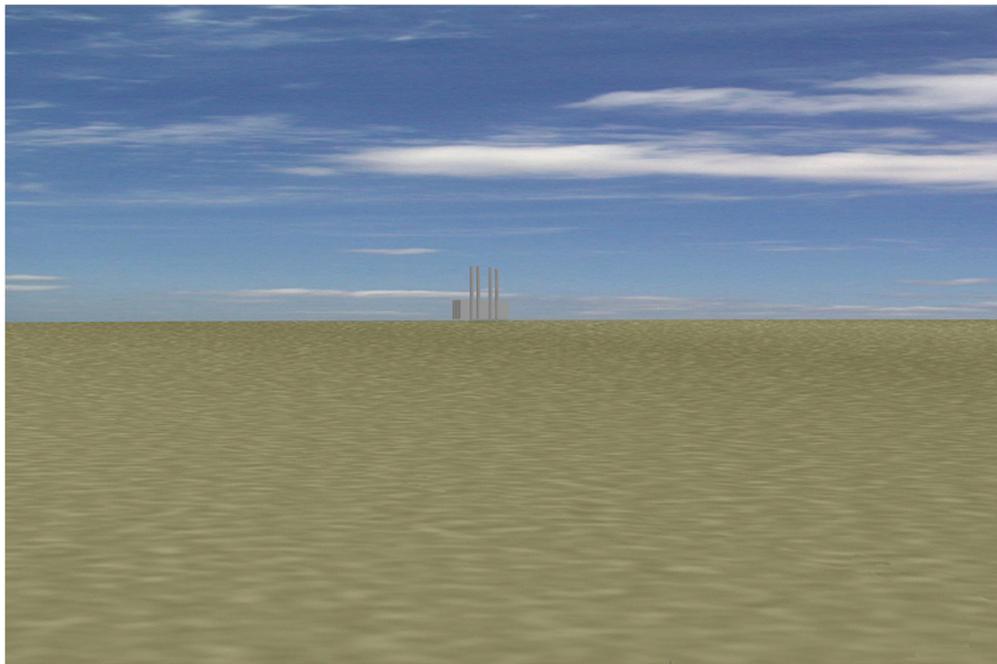
Feature	Visibility and Distance from Project (Miles)
Columbia River (Lake Wallula)	The project would be visible to recreational boaters, anglers, and windsurfers using the Columbia River, 0.2 mile north of the project site.
McNary Beach State Park and Recreation Area	Would not be visible, 1.7 air miles northwest of the site along the Columbia River (RM 295) and 150 feet below the bluff.
Hat Rock State Park	Would not be visible, 2.9 air miles east of the site and in a 150-foot ravine below the Columbia River bluff (RM 299).
Columbia River Gorge National Scenic Area	The power plant and exhaust stacks would be visible from the Columbia River, but would be about 80 air miles east of and not seen from the Gorge Scenic Area.
Cold Springs National Wildlife Refuge	Could be visible to wildlife observers, hikers, horseback riders, and bicyclers, about 4.6 air miles to the southeast of the project site.

Figure 3.7-2 provides simulations of the proposed plant and stacks at distances of approximately 1 mile and 2 miles to provide perspective on the scale of the facility. There is almost no natural screening provided by trees except along U.S. Highway 730 parallel to the Wanaket Wildlife area, where trees and shrubs adjacent to the highway screen the view to the north.

In addition to the above, Wanaket Wildlife Area is located east of the project site and the facility would be visible to hunters during hunting season. In addition, the TRCI is located about 1.5 miles west of the project site and the project would be visible from that location. Also, the McNary Dam is located about 3.0 miles west of the project site and could be visible from there. The tallest and most visible parts of the power plant would be the four 213-foot-tall HRSG exhaust stacks and the turbine building. In addition, at times the project would emit a visible steam plume from the cooling towers that would be visible over a wide area.



View of Generating Structures from 15,000 feet



View of Generating Structures from 5,280 feet

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Figure 3.7-2
Simulated Views of
Generating Facilities

At night, the facility would be illuminated with lights on utility poles. These lights would be shielded to reduce glare and overall visibility from public roads and residences. In addition, to meet FAA requirements, the exhaust stacks also would be lit with warning lights that would be visible for extended distances.

The 500-kV transmission line exiting the power plant facility and connecting to BPA's McNary Substation would be visible to area residents and vehicular traffic on area highways and roads (i.e., McNary Beach Access Road, U.S. Highway 730, and U.S. Highway 395/SR32). The aesthetic impact of these lattice tower transmission lines would depend upon whether they are a new element to the landscape, and single- or double-circuit towers are being used. Single-circuit towers can be up to 145 feet tall and double-circuit towers can be up to 180 feet tall. Where the new ROW paralleled an existing ROW, the towers would be located parallel to existing towers (i.e., not staggered) to avoid the additional visual disruption that would otherwise be created. These towers would be located in a 150- to 200-foot-wide ROW and would contain 16- to 20-foot-wide access roads. Expanding the McNary Substation by another 160 by 750 feet, or about 2.75 acres, would result in a minor additional aesthetic impact to the existing substation in an industrial area.

Recommended Mitigation Measure. No mitigation measures would be required for visual resources.

3.7.2.2 Noise

During construction, noise would be generated by graders, bulldozers, cranes, other construction equipment, power hand tools, dump trucks and semi-trailer trucks, and by personal vehicles. Some rock drilling and blasting may be required to level the site and would generate additional noise. To minimize the amount of disturbance that could occur during the constructing phase, construction would only occur between the hours of 7 a.m. and 5 p.m. Because the nearest consistent noise receptors are the residents and workers at the TRCI, located about 1.5 miles west of the project site, noise impacts are expected to be minimal to these receptors during construction and operation. The occasional recreational users of the Columbia River, located 0.2 mile (at the closest point) to the north of the project site, and hunters on the nearby Wanaket Wildlife Area could be affected by the noise generated during construction and operation of the project.

During operation, noise would be generated by the combustion turbines and generators, HRSGs and steam turbines, transformers, the cooling towers, other operating equipment, and by vehicles. Noise level estimates have not yet been generated for this project, but the applicants commit to meeting the state industrial standards at the plant site fenceline.

Electrical transmission conductors can cause corona noise, which is a hissing, crackling sound that is most evident during wet weather (rain, fog). The BPA has established a design criterion for corona-generated audible noise from transmission lines of 50 dBA exceeded 50 percent of the time at the edge of the ROW (BPA 2002). This noise level is equivalent to moderate rainfall on foliage. No residential or commercial structures are located within 100 feet of the proposed transmission line centerline, which equates to the edge of the ROW for the purposes of establishing the noise criterion.

Recommended Mitigation Measure. No mitigation measures would be required for noise.

3.7.3 *Proposed Action Impact Summary*

3.7.3.1 Visual Resources

Construction of the power plant facility would result in visual impacts on residential areas at McNary and on the Columbia River bluff near Hat Rock State Park, motorists using U.S. Highway 730 east of Umatilla, and hunters in the Wanaket Wildlife Area. The most visible parts of the facility would be the HRSG exhaust stacks and the turbine building. In addition, a steam plume from the cooling towers would be visible in winter over a wide area. Facility lighting at night also would be seen from public roads and residences. Construction of the electric transmission line would be seen by area residents and motorists on area highways and roads. The visual effect would depend on whether the use of single or double circuit towers and whether the structures are new landscape features. The effects of the McNary Substation expansion would be considered minor, since the expansion area is industrial.

3.7.3.2 Noise

Increased noise levels would occur in the local area as a result of construction equipment, traffic, and facility operation. Construction traffic would be short term for the plant (24 to 36 months), pipelines (3 months), and transmission line (4 months) and long term for plant operation. By

scheduling construction between 7 a.m. and 5 p.m., the duration of noise during the day would be minimized. Noise impacts would be minor, since the residences and the TRCI are 1.5 miles from the plant. Recreational users of the Columbia River (0.2 mile from the plant) and hunters on the Wanaket Wildlife Area could be affected by construction and operation noise.

Implosive fittings would be used to connect lengths of transmission line conductor. The loud noise of the implosion would reverberate for a few seconds.

3.7.4 Component Alternatives Impact Summaries

Visual quality effects associated with the gas/plant discharge water pipeline route alternatives would be primarily confined to areas where the public can view the landscape contrasts (e.g., a linear grassland discontinuity caused by the revegetated pipeline ROW within in a native shrubland). The major public viewpoints of these landscape changes would be evident along Highway 730, which is bounded by native shrub communities on each side. The Proposed Action, and Alternatives 3, 4, 5, and 6 would be located parallel to Highway 730 for distances ranging from 0.5 mile (Proposed Action) to approximately 4 miles for Alternative 3. These visual quality changes would be long term because of the long-term recovery time for shrubland communities. The majority of the remaining lengths of all alternatives would cross cropland where the pipeline ROW would not be evident after crops are replanted.

There would be visual quality differences among the electrical transmission line and plant discharge water location alternatives. These differences are compared in Table 3.7-3 and 3.7-4 respectively.

Noise effects associated with the gas/plant discharge water pipeline alternative would be confined to short-term construction activities (trenching, pipelaying, and backfilling) conducted near residences. There are distinct differences in the number of residences that would be affected by construction noise. The Proposed Action, and Alternatives 1, 3, and 4 are located away from roads and residential areas, and consequently 12 to 16 residential structures are located within 200 feet of the construction areas. Alternatives 2, 5, and 6 are located adjacent or within existing roads where many residences are also located. Construction of any one of these latter alternatives would pass within 200 feet of 42 to 44 residential structures (see 3.9 Land Use and Recreation).

**Table 3.7-3
Electric Transmission Line Alternatives Comparison – Visual**

Resource/Impact Issue	Alternatives				
	No Action	Proposed Action	1	2	3
Visual Resources					
Visual effects on public use areas	No impact	The transmission line segment located in a new ROW between the plant site and the existing BPA transmission corridor would represent a new industrial element to viewers along Highway 730, and visitors to the Wanaket Wildlife Area.	The transmission line segment located in a new ROW between the plant site and the existing BPA transmission corridor would represent a new industrial element to viewers along Highway 730, and visitors to the Wanaket Wildlife Area.	The transmission line would represent a new industrial element that traverses the Columbia River bluff between the TRCI and the McNary Substation (about 2 miles). The transmission line would intercept the view of approximately 17 McNary residences that overlook the Columbia River and McNary Dam. The transmission line would represent a new industrial element for visitors to the McNary State Park and the COE park facilities at McNary Dam and visitor center.	The transmission line would represent a new industrial element that traverses the Columbia River bluff from Wanapa Plant Site to the McNary Substation (about 3 miles). The transmission line would intercept the view of approximately 17 McNary residences that overlook the Columbia River and McNary Dam. The transmission line would represent a new industrial element for visitors to the McNary State Park and the COE park facilities at McNary Dam and visitor center.

**Table 3.7-4
Plant Discharge Location Alternatives Comparisons – Visual**

Resource/Impact Issue	No Action	Proposed Action	Alternative 1
Visual Resources	No new facilities would be built, and therefore no changes in the rural landscape would occur.	The wastewater pipeline segment between the natural gas pipeline ROW and Cold Springs Reservoir would be located in cropland, or adjacent to an existing roadway, and therefore would not contrast with current land cover.	The wastewater pipeline segment between the plant site and the Columbia River would cross a tall sagebrush community. The new pipeline ROW would represent a sharp discontinuity in color and form. This new ROW could be easily seen by boaters on Lake Wallula, but would not be seen from any public roadways on the south side of the Columbia River .
Noise	No new facilities would be built, and therefore no new construction or operational noise would occur.	The wastewater pipeline segment between the natural gas pipeline/Feed Canal intersection and Cold Springs Reservoir would be constructed within 200 feet of one residential structure, resulting in increases in construction noise and traffic over a period of about 1-2 weeks. The remainder of the surface disturbance for the waste water pipeline is included in the ROW for the gas supply pipeline, which is the same for both alternatives. There would be no operational noise.	The wastewater pipeline segment between the plant site and the Columbia River would not be constructed within 200 feet of any residential structures. There would be no operational noise.

It is predicted that 8 residences located within 300 feet of the Proposed Action and Alternative 1 electrical transmission line routes could experience corona noise that slightly exceeds the Oregon state standard of 50 dBA at the edge of the ROW (See 3.11, Public Safety). The other two alternatives would be located at greater distances from existing residences.

Construction of any of the plant discharge water pipeline route alternatives that deliver water to Cold Springs Reservoir would cause short construction noise near residential areas where the water pipeline is co-located with the gas supply pipeline (see discussion above, and Land Use). The plant discharge water location alternative that delivers water to the Columbia River would not be located near any residences.