

Pumps dropped from Delta water tunnel plan

Switch to gravity intakes meant to ease local concerns

Matt Weiser, Sacramento Bee, 12-19-14

The massive water diversion tunnels proposed in the Sacramento-San Joaquin Delta have undergone another major design change aimed at appeasing local residents: The three intakes planned on the Sacramento River will no longer require pumps.

The project, known as the Bay Delta Conservation Plan, has been in the works for eight years and is estimated to cost \$25 billion. It calls for a pair of giant tunnels, 40 feet in diameter that would draw water out of the Sacramento River and route it 30 miles away to existing state and federal diversion canals near Tracy. The goal is to improve reliability of water supplies drawn from the estuary while also restoring its natural environment.

Instead of giant electric pumps, the plan now calls for water to enter the three huge intakes by gravity flow. This, in turn, means most tall buildings can be eliminated at each intake. And there will be no need for permanent new high-voltage power lines. New power lines are still required to serve the tunneling machines, but these would be considered temporary: They would be removed after the 10-year construction period.

The project still includes massive water pumps, but they would now be at the project's southern end, at Clifton Court Forebay, an existing reservoir near Tracy. They would move water from the new tunnel outlets to existing canals that distribute water across the state.

"There were a lot of concerns about the industrial look of the pumping plants," said Chuck Gardner, program manager of the Bay Delta Conservation Plan. "We're going to continue to look at ways to reduce impacts to Delta communities."

The Delta is the largest single source of freshwater in California, serving about 25 million people and 3 million acres of farmland. That water is now exported from two huge pump and canal systems in the south Delta, near Tracy, and operated by state and federal agencies.

Demand for the Delta's water has contributed to a sharp ecological decline in the estuary, with numerous native fish species at the edge of extinction, including Delta smelt, longfin smelt and several species of salmon.

Officials at the California Department of Water Resources, which is leading the tunnel project, say the goal is to restore a more natural pattern of water flows in the Delta, which is expected to help native fish species. The current pumping arrangement reverses flows in the estuary at times, because water is drawn south when the existing diversion pumps are operating. This alters the aquatic habitat and confuses fish.

The plan also calls for thousands of acres of habitat restoration, largely by breaching levees in the Delta to restore tidal action on some islands.

The tunnel project would place the three intakes much farther upstream on the Sacramento River, capturing water as it flows by naturally.

But there are a host of potentially harmful side effects. The giant intakes also have the potential to reverse flows when runoff in the Sacramento River is low. This could alter water quality in the north Delta as well as downstream. The intakes will be equipped with modern fish screens, but could still suck in larval fish and potentially create other problems for adult fish in the vicinity.

The U.S. Environmental Protection Agency warned the state earlier this year that it needs to do more work to analyze these potential effects.

Local residents seem to be underwhelmed by the latest design changes. Osha Meserve, an attorney who represents a number of Delta property owners, noted the intake sites will still be very large: about 80 acres each, consisting of fill dirt to raise the entire site 10 feet or more above surrounding farmland.

Also, Meserve said, the absence of pumps at the intakes does not change the potentially harmful water quality and other environmental effects that could occur once the new diversions begin operating. The same amount of water – a maximum of 9,000 cubic feet per second – would still be diverted with or without pumps. And each intake will still span about a quarter-mile along the riverfront, a potentially dramatic change in the area's rural scenery.

“I think a slight improvement in aesthetics is a very nominal change from our perspective,” Meserve said. “Fundamentally, it doesn't really change any of the things that we have the most concerns about.”

Another new design change involves Staten Island, a large tract west of Lodi owned by The Nature Conservancy. The island is important winter habitat for sandhill cranes, an endangered migratory bird.

In a previous change meant to appease communities along the Sacramento River, officials moved the tunnel route east and placed a long segment directly under Staten Island. Soil excavated from the tunnel would have been disposed on the island surface. A number of tunnel entrances, shafts and construction staging areas were proposed on the island as well, prompting concern from conservation groups working to protect the cranes.

Now, the plan calls for moving all the soil excavated from Staten Island to locations to the north and south: Glanville Tract, along Twin Cities Road, and Bouldin Island off Highway 12. The number of tunnel shafts and construction areas on Staten Island also would be reduced.

“We are pleased to see the department is taking measures to reduce the habitat impacts at Staten,” said Jay Ziegler, director of policy and external affairs at The Nature Conservancy. “But I think we also want to be sure that construction and operational changes overall improve habitat values across the Delta.”

Another concern is financing. The major water contractors that stand to benefit from the project – including the Metropolitan Water District of Southern California and Westlands Water District in the San Joaquin Valley – have already put up \$240 million for the planning so far. Only about \$15.8 million of that remains, and there is a lot of work left to do.

The state earlier this year released a draft environmental impact study on the tunnel project. But in August, it delayed that document for further analysis, including more study of air quality and traffic during construction, and to address the concerns raised by the EPA. A revised draft is expected next year that will also consider the changes proposed at the intakes and on Staten Island.

Gardner said there's enough money left to complete the environmental study, partly because work is being shifted away from engineering and design and onto the planning document instead.

“Our directive is that the (water) contractors are not putting more money into the planning process,” Gardner said. “So we need to finish it with the money we have left.”

Assuming the environmental impact study is approved, an estimated \$1.2 billion is then needed to finish engineering and design. This cost, along with billions more for construction, would be funded by higher water rates paid by Californians who would benefit from the project, including ratepayers in the Bay Area and Southern California, and farmers in the San Joaquin Valley.