

SUPPLEMENTAL RESPONSE TO OPSB STAFF DATA REQUESTS

Oregon Clean Energy Center

Case Nos. 12-2959-EL-BGA and 15-297-EL-BGA

Second Supplement to Data Request No 17

On March 25, 2015, the Staff requested additional information to the Supplement to Data Request No. 17 filed on March 10, 2015. The Staff noted that in the supplemental response:

it was indicated that the facility would incorporate a second aqueous ammonia tank and that the size of each tank would be greater than the one originally proposed. In addition, the original proposal incorporated a double-walled tank, but the recent proposal incorporates single-walled tanks. Are any additional measures being taken to account for the reduced security associated with the change from double-walled to single-walled tanks? If not, please explain why the currently planned methods of containment would adequately address safety and environmental issues associated with leaks.

Oregon Clean Energy Response:

The planned ammonia system is comprised of stainless steel, single walled tanks that are placed inside a concrete containment basin with pump skids. The double wall tank design was comprised of two carbon steel walls without contained pump skids and did not have a containment basin. The concrete basin provides at least as much liquid release security as a double walled ammonia tank and could be considered improved since the ammonia pump skids are now located inside the containment basin. The planned system is designed with proper handling, safety, and alarming equipment to minimize risk of release and exposure to ammonia. The system proposed is typical for combined cycle power plants utilizing a 19% aqueous ammonia system for NOx control. The EPC Contractor's position is that for an above ground ammonia tank, a single wall ammonia tank with containment where the pumps are located with the tank inside containment is a better arrangement than a double wall tank.

Additional security for the single walled ammonia storage tanks is provided by concrete containment walls to prevent an accidental release of liquid from spreading to uncontrolled areas. Oregon Clean Energy Center's engineers believe concrete containment provides better security for a liquid release than a double wall tank. For a vapor release, containment wouldn't provide as much protection as a double wall tank but the new system has ammonia gas detectors.

The bottom of the containment is also constructed from concrete. The containment area will be designed to contain 110 percent of the gross volume of one of the tanks with additional allowances for volume displaced by rainfall and 5,000 gallons of fire water. The containment system would ensure that no aqueous ammonia would come in contact with the ground. The area of the ammonia containment is also protected by yard fire hydrants.

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A transfer line from the containment is routed to the plant wastewater system. After a rain event, and the water is confirmed to be clean, the contents of the containment area can be transferred via a portable temporary pump to the wastewater system. In the event of an ammonia spill, the spill would be pumped into a truck or appropriately sized container for proper disposal. The ammonia truck unloading pad is also sloped into the containment to contain any spills during offloading.

The design includes ammonia gas detectors around the tank system to rapidly alert operators of any problems and warning of ammonia gas release. Operators will be trained in accordance with safe process design and operations. Proper maintenance, inspection and testing procedures will also be utilized to ensure employees working on and around the process are aware of hazards and proper response. Safety showers, eyewash stations and personal protective equipment will be provided to personnel working in and around the storage area. Oregon Clean Energy Center will also work with local responders to ensure proper emergency response procedures are in place should an offsite response ever be required.

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Summary: Response Response to Staff questions concerning Supplement to Data Request
electronically filed by Teresa Orahod on behalf of Sally Bloomfield