ATTACHMENT A
Description of Designated Outfalls

Our existing permit contains two designated outfalls as described below:

No. 001 Non-Contact Cooling Water - Outfall for once-through cooling water system. Water is withdrawn from the river, passed through condensers and other heat exchangers, and returned to the river. The outfall is considered a non-process waste stream. A portion of this discharge may be treated as described in Attachment H, Macroinvertebrate Control.

Note that treated river water from the water treatment plant is used to lubricate the circulating water and screen wash pump bearings in the intake structure. This lube water mixes with the normal pump flow and is normally discharged via the circulating water system, Outfall 001 or from the screen wash system. When both circulating pumps in one intake bay are not operating, this lube water could be slowly discharged from the bay at the face of the intake structure. The total flow of treated water to the intake structure for bearing lubrication is about 100 gpm. Although treated water pH is typically above 9 due to the lime treatment process, it would not affect the outfall pH, due to the insignificant flow (relative to the circulating water system).

No. 002 Ash Pond - Outfall for plant wastewater treatment pond. The pond provides treatment for fly ash, bottom ash and low volume waste and treated sanitary waste streams. The ash pond discharge is treated to control pH. The outfall is considered a process waste stream.

The sanitary waste that is routed to the ash pond is treated by aerobic digestion in a package plant prior to being routed to the ash pond. This Sewage Treatment Plant (STP) consists of clarifier and aeration basin set in an inground concrete tank. The plant employs the extended aeration activated sludge process. Periodically to optimize treatment, sludge is wasted from the unit to an installed holding tank. As necessary, this holding tank is pumped by a licensed waste hauler for disposal. The STP is operated in accordance with plant procedures and adjustments are made as necessary. Recent effluent monitoring shows

that the discharge easily meets normal secondary treatment limits. As it does not discharge directly, but discharges to the ash pond, we request that no monitoring requirements or limits be placed upon the discharge from the STP.

The water in the ash pond is normally above a pH of 9. As such, the discharge is treated with CO_2 to reduce the pH. The CO_2 is injected into the gravity discharge line which results in the formation of carbonic acid that reacts with some of the alkalinity in the water. The discharge usually cycles on and off approximately five times per day to maintain ash pond level. The CO_2 system automatically cycles on whenever the discharge valves open. The feed rate is adjusted manually to give an acceptable effluent pH. This system works well and no changes are planned in the near future for the discharge structure.

There are currently two seeps at the plant that are believed to be originating from the ash pond. Although dye studies have not confirmed their origin, the location and chemical make up of the seeps indicate that their source is the ash pond. As described below, we do not believe these seeps constitute separate discharges, but are only alternate routes for Outfall 002 within the authorization under our existing permit.

The first seep is located at the effluent end of the ash pond gravity discharge structure. The seep consists of a flow of approximately 2-5 gpm that comes from the fill material around the ash pond discharge pipe. This flows into the discharge canal which carries the Outfall 002 effluent to the Missouri River. We believe this discharge is authorized as a component of Outfall 002. This position is supported by seep's close proximity to the outfall, and its insignificant contribution to the discharge flow.

The second seep flows into an area of several acres at the southwest corner of the ash pond. The seep emanates from coarse fill material and appears to have a flow of up to 30 gpm. The area that this water flows into is bounded on all sides by elevated road bed with no outlets. Thus, the seep is not directly discharged to waters of the state. We believe that there is no need to regulate this seep since it is confined on site.