EXECUTIVE SUMMARY

Associated Electric Cooperative, Inc. (AECI) is requesting a modification of the Arkansas Water Quality Standards (WQS) set forth in Regulation No. 2 of the Arkansas Pollution Control and Ecology Commission. AECI requests: (a) a modification of the sulfate, total dissolved solids (TDS) and temperature criteria for Ditch No. 27; (b) modification of the TDS and sulfate criteria for Ditch No. 6 from the confluence of Ditch No. 27/Ditch No. 6 to the mouth of Ditch No. 6; (c) a modification of the sulfate criterion for the Tyronza River from its confluence with Ditch No. 6 to its mouth; and (d) removal of the domestic drinking water supply use designation for the Ditch No. 27 and for Ditch No. 6 from the confluence of Ditch No. 27/Ditch No. 6 to the mouth of Ditch No. 6. The specific amendment to Regulation No. 2 requested by AECI are set forth more fully below.

In 2002 TECO Power Systems (TECO) began construction on a gas fired combined cycle electric generating plant in Dell, Arkansas (the Dell Power Plant). TECO halted construction of the facility when it was approximately 65% complete. ADEQ issued NPDES Permit No. AR0049425 to TECO based on TECO's application which included a proposal to construct a seven (7) mile pipeline for discharging plant effluent to a large drainage ditch (Ditch No. 3) located to the west of the facility. Ditch No. 3 flows into an Ecologically Sensitive Waterbody – the Right Hand Chute of the Little River. AECI has purchased the facility and is in the process of completing construction.

As a more environmentally acceptable and less costly alternative to piping the discharge to Ditch No. 3 which flows to an Ecologically Sensitive Waterbody, AECI wishes to discharge to Ditch No. 27 which originates at the southern property boundary of the Dell Power Plant. Ditch No. 27 flows south for approximately 4.3 miles and empties into Ditch No. 6. Ditch No. 6 is a large drainage ditch with a watershed of approximately 55 mi^2 (at its confluence with Ditch No. 27) which flows approximately 25 miles southwest to the Tyronza River which in turn flows another 36 miles prior to emptying into the St. Frances River just upstream of Parkin, Arkansas.

The ditches are part of a vast network of regularly maintained, man-made ditches constructed in the early 1900s in Mississippi County for the purpose of draining the area to promote and establish agricultural activities. Ditch No. 27 and the reach of Ditch No. 6 under consideration have a domestic drinking water supply use designation which was assigned by default and is neither existing nor attainable.

Groundwater from the Wilcox Aquifer will be used to supply water for the power plant. The effluent from the Dell Power Plant will consist primarily of cooling tower blowdown along with filter backwash and low volume waste (boiler blowdown, wastewater from water treatment and effluent from floor and yard drains). The sulfate and TDS in the plant effluent originate from the groundwater supply; but their concentrations will be increased because of evaporation in the cooling tower. The

ambient water temperature in Ditch No. 27 (as well as other drainage ditches in the area) naturally exceeds the Arkansas WQS temperature criterion of 89.6° F.

Pursuant to Section 2.306 of Arkansas Pollution Control and Ecology Commission (APCEC) Regulation No. 2, Section 3.4 of APCEC Regulation No. 8 and the Continuing Planning Process, AECI is requesting the following modifications to Regulation No. 2:

a. modify the dissolved minerals and temperature criteria for the entire length of Ditch No. 27 as follows:

TDS from 411 mg/L to 1,200 mg/L
sulfate from 37 mg/L to 480 mg/L
temperature from 89.6° F to 95° F

b. modify the dissolved minerals criteria for Ditch No. 6 from the confluence of Ditch 27/Ditch 6 to the mouth of Ditch No. 6 as follows:

TDS from 411 mg/L to 630 mg/L
sulfate from 37 mg/L to 210 mg/L

c. modify the sulfate criterion for the Tyronza River from its confluence with Ditch 6 to its mouth as follows:

sulfate from 30 mg/L to 60 mg/L

d. remove the Domestic Drinking Water Supply use designation for the entire length of Ditch No. 27, and for Ditch No. 6 from the confluence of Ditch No. 27/Ditch No. 6 to the mouth of Ditch No. 6.

This request is supported by the following:

- Based upon the performance specifications of the Dell Power Plant cooling tower, the effluent temperature is not expected to exceed 95° F and the historical temperature data for the region shows that the maximum summertime ambient water temperatures in the delta ecoregion naturally exceed the ecoregion temperature criterion of 89.6° F;

- The requested changes will have no adverse effect on the aquatic life communities of the St. Francis River into which the affected drainage ditches and the Tyronza River empty, nor will it cause WQS to be exceeded in the St. Francis River;

- Chronic toxicity testing of simulated Dell Power Plant effluent showed no lethal or sub-lethal toxicity;

- The discharge effluent from the Dell Power Plant will not have an adverse affect on the aquatic life in Ditch No. 27, Ditch No. 6, or the Tyronza River;

- The domestic water supply use designation for Ditch Nos. 27 and 6, which was assigned by default, is not an existing use and is not an attainable use because: (i) natural, ephemeral and low flow conditions prevent the attainment of the use; and (ii) the hydrologic modifications prevent the attainment of the use.

- The requested changes will not adversely affect the agricultural water supply use (irrigation) of Ditch No. 27, Ditch No. 6 or the Tyronza River;

- The activities necessary to construct the 7 mile pipeline would disturb large tracts of farm land and would significantly disrupt local agricultural interests;

- The only technologically feasible effluent treatment (reverse osmosis) is prohibitively expensive, generates a concentrated brine which is environmentally difficult to dispose of, is not required to meet the existing uses, and would not add any significant environmental protection.