UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE:

SUBJECT: Visits to Gulf Power Co. Lansing Smith and Crist Generating Plants, July 20, 1983 Relative to Permit Reissuances

FROM: Jim Newton, SAPU
8/30/83

TO: File

1. On July 20, 1983, Charles Kaplan and myself along with Ken Klos, FDER, Tallahassee, Ray Harry, Jim Vick, Charles Tugwell and Dan Holt of Gulf Power and Brad Burke of Southern Company Services toured the Lansing Smith Electric Generating Plant. The tour included an inspection of the intake and discharge structures, recycle ash pond facilities, metal cleaning waste treatment facilities, and chlorine injection equipment.

   Several problems were seen to exist at the facility:

   a) The pH of the ash pond tended to be low preventing proper treatment of metals. Acid is added in the ash sluice lines to lower the pH to meet permit limitations. The acid was also used to prevent clogging of the ash sluice water recycle lines. It was agreed that if the proposed permit allowed a higher ash pond pH, the acid could be injected in the return line thus allowing the pH in the ash pond to increase.

   b) The ash pond consists of an approximately 50 acre wet area and 150 acres of dry ash. The large dry area can create serious problems during high rainfall events by allowing transport of much of the normally dry ash either to the wet area or out the ash pond overflow. We recommended that some of the pond, particularly in the areas nearest the ash sluice lines be taken out of service. Much of this area has no room for additional ash deposits and would serve a better purpose if capped and allowed to drain away from the ash pond reducing wet weather flows into the pond. The company was very reluctant to do this.

   c) An additional 70-80 acres has been purchased to extend the ash pond. No definite schedule was available as to when the additional acreage would be in use, a guess provided to us was the end of 1984.

   d) A large sump consisting of two pumps each capable of handling the 10 year 24 hour storm event was inspected. This sump handles low volume wastes as well as floor drains and yard drains and was the main sump transporting these flows to the ash pond. During periods of water wash metal cleaning, these wastes are also routed to the ash pond via this sump. The sump has an unpermitted emergency overflow and there was evidence that in the past it had overflows. There is no provision for this overflow either in the previous permit or proposed permit. We informed the company they could either apply for a serial number

and monitor the overflow or seal the overflow. The company representatives initially indicated that they would seal the overflow. However, later informed us that they would like a permit page.

e) Based upon a chlorine minimization study, the company has determined that continuous chlorination of the condensers is required to control macrofouling. This system is presently being installed. However, the procedure presently is use and proposed for continuation is to inject chlorine prior to the water passing through the intake bar screen through a header system located 30 to 40 feet in front of the screen. This not only allowed for condenser chlorination but controlled growth on the screen. We informed the company that this procedure violated state water quality standards. The location of the header is technically in waters of the state and waters of the United States and must meet 0.1 mg/l TRC limitation. We suggested that the injection system be moved behind the screen and that the screen be manually cleaned, a procedure necessary only every 3 to 4 months. The company agreed to our recommendation but did not provide an implementation schedule.

2. On July 21, 1983 Charles Kaplan and myself along with Ken Klos, FDER, Tallahassee, Ray Harry, Jim Vick and Bill Pote of Gulf Power Company and Brad Burke of Southern Company Services toured the Crist Electric Generating Plant. The tour included an inspection of the ash pond facilities, intake and discharge structures, helper cooling towers and coal pile runoff collection facilities presently under construction.

Several problems were seen to exist at the plant:

a) A large amount of condenser cooling water was being bypassed into the discharge canal, avoiding the helper cooling towers. It was Charles's understanding that this is not allowed by the present permit. Only one pump was pumping water into the tower, the second was shut down because the basin is to be drained with both pumps operating. Both pumps pump more than the condenser discharge from units 1-5. The pumps are manually operated and only one is generally necessary under normal operation, which is to use only 3 units. The plant has plans to expand the basin by moving the overflow weir. We suggested that they consider a float type of control on the basin to control the second pump, however they indicated that the pumps are not designed for continuing on-off operation.

b) The coal pile runoff collection system is currently being constructed, however no definite schedule has been submitted to us. In addition the overflow pipes under construction currently are discharging into Governors Bayou. These discharges are unpermitted in the old permit.

c) There appear to be several pipes which discharge into the intake canal which may not have permit serial numbers, some may contain stormwater.

d) There appear to be several points of run off from the Crist island ash disposal area across Governors Bayou from the plant. They are not permitted, however since the island is being reclaimed, it may not be necessary to proceed further with this problem.

e) A stream of contaminated water was flowing into a yard drain, however no source of the water could be found nor could it be determined where the water ultimately discharged. (Company representatives later indicated that this drain presently joins the auxiliary cooling water line which flow to the plant intake canal, but which will be rerouted to the ash pond via one of the coal pile sumps.)

f) A large oil sheen was observed within the discharge basin, this same oil was seen to be entering through the intake canal, a possible source could be the coal barges located adjacent to the intake canal, it may prove helpful to address control measures.

g) The sampling procedure for TRC from Thompson's Bayou consisted of pumping a sample approximately 400 feet through PVC pipe. The use of the pipe could present a chlorine demand due to any biological growth within the pipe which could result in a lower concentration than actually exists at the Thompson Bayou underflow. It may be necessary to periodically assess the cleanliness of the pipe by collecting and analyzing a sample from Thompson's Bayou.

h) It was observed that one of the six weirs used as the ash pond discharge exhibited a hydraulic jump. It was explained that this was because of material buildup next to the weir. It may be necessary to periodically clean the area to prevent the discharge to the material.

3. On July 21, 1983, Charles Kaplan and myself along with Ken Klos of FDER, Brad Burke, Jim Vick and Ray Harry met at the Crist plant to discuss the draft permits for the Crist, Smith and Scholz plants. Minor changes and typo corrections were discussed and agreed to. Problems arose in several areas with each permit.

a) Smith

Ash pond limits are a major problem. Gulf Power has a philosophical problem with flow weighted concentrations. They are maintaining the position presented by the Utility Water Act Group in opposition to this approach. Headquarters has indicated the need to utilize the flow weighting procedure to be consistent with EPA regulations. Flow calculations are to be provided to GPC. A major problem arises from the large dry areas within the pond, which contributes ash solids to wet area and overflow during high rainfall. We will consider calling the area "material storage"; for purposes of calculations, however it would be better if a portion if the dry area were capped off and the area reclaimed so as to drain away from the pond.

b) Crist

There was a question regarding the 0.2 mg/l TRO limit for the once through cooling water discharge. We informed them that the limit can not be increased because it is an effluent guideline.

They said they could not meet it at Thompson Bayou. The state permit gives them a 0.3 mg/l limit. This is definitely not a water quality standard based limitation. They may have to consider dechlorination; however, they are considering asking for a 301(g) variance request.

GPC requested that they be allowed to operate the helper towers only to meet the 94°F limit. This allowance is not acceptable to us, unless an assessment is made to ascertain actual thermal conditions at the point of discharge.

The company is not willing to accept flow weighted ash pond limitations, however they can accept the anti-backsliding concept and can live with the present limits. We told them we would provide flow-weighted calculations and would consider relaxing the daily average limitation since dry fly ash handling and hydrobins for bottom ash have been installed.

c) Scholz

The company may not be able to meet the 0.2 TRC limitation at the discharge structure, and they don't want a 1/week frequency. We have subsequently learned that a 301(g) variance request will be filed for this pollutant. They pointed out that the plant is generally chlorinated. We indicated that we would reconsider the situation.

once per month

The company's objection to flow weighted ash pond concentrations was reiterated. They did agree that the calculations were correct and could probably comply with them, but are opposed to the philosophy.