

U.S. ENVIRONMENTAL PROTECTION AGENCY  
NPDES PERMIT FL0000159

HELPER COOLING TOWER PROGRESS REPORT

SUBMITTED BY:  
FLORIDA POWER CORPORATION

FOR:

CRYSTAL RIVER HELPER COOLING TOWER PROJECT  
CRYSTAL RIVER ENERGY COMPLEX  
CITRUS COUNTY, FLORIDA

JANUARY 30, 1992

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FLORIDA POWER CORPORATION  
CRYSTAL RIVER HELPER COOLING TOWER PROJECT  
PROGRESS REPORT

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## 1.0 INTRODUCTION

This progress report is submitted in accordance with the schedule of compliance contained in Part I.B of United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Permit FL0000159. The permit was issued by EPA on October 1, 1988 and modified on March 5, 1991 and September 25, 1991.

The permit requires construction of Helper Cooling Towers to reduce the temperature of circulating water discharged from Crystal River Units 1, 2 & 3 to the Gulf of Mexico via the site discharge canal. The Helper Cooling Towers are being constructed adjacent to the site discharge canal at the western edge of the Crystal River Energy Complex. This report summarizes progress to date on the Helper Cooling Tower Project.

## 2.0 WORK COMPLETED TO DATE

The final permit required for the project, the Florida Department of Environmental Regulation (FDER) Prevention of Significant Deterioration (PSD) Air Construction Permit, was issued on August 29, 1990. The issuance of this permit allowed Florida Power Corporation to begin construction of the Helper Cooling Towers.

### Site Preparation

Site preparation work at the Helper Cooling Tower site commenced on November 8, 1990. The following agencies were notified of the commencement of construction:

- EPA
- Florida Department of Environmental Regulation (FDER)
- Southwest Florida Water Management District (SWFWMD)
- U.S. Army Corps of Engineers (COE)

Initial site preparation work involved installation of sediment control measures, clearing, grubbing, placement of clean limerock fill and installation of underground utilities. This work was necessary to prepare the site for construction of the cooling tower foundations and basins.

In accordance with the requirements of the Dredge and Fill Permits (FDER 091623349 and COE 198920295(IP-ME)) a 5.2 acre wetland mitigation area was constructed at the site concurrently with the site preparation work.

Removal of ash from the southern portion of the North Ash Pond and relocation of the southern berm of the pond was also begun during the site preparation phase. This work will be completed in accordance with the requirements of FDER Permit IC09-162036 during the first General Construction phase.

All work required under the site preparation phase of construction was completed in May 1991.

#### General Construction - Phase 1

The first phase of general construction began after site preparation was complete and is currently ongoing. The major work activities of this phase include subsurface soil densification, construction of cooling tower basins, construction of cofferdams and deep intake and discharge structures, installation of underground utilities, construction of building foundations, and precasting of concrete cooling tower superstructure elements.

Subsurface soil densification was completed in mid 1991, and followed by an intensive construction effort on the concrete cooling tower basins, which are essentially complete.

Cofferdams for the deep intake structure and the two discharge structures were completed in late 1991. Concrete placements for these structures are continuing.

Construction of building foundations is nearly complete. Installation of underground utilities continues to be coordinated with other onsite activities.

Approximately 45% of the precast concrete cooling tower elements have been fabricated. Delivery of precast pieces to the site began in late 1991.

The first statistical vegetation survey of the wetland creation area was completed in August, 1991 (five months after completion of the wetland construction effort). The results showed some initial growth of wetland species. Monitoring will continue in accordance with FDER and SWFWMD permit conditions.

#### General Construction - Phase 2

The contract for the second phase of general construction was competitively bid and awarded. The contractor will mobilize in February, 1992.

## 3.0 WORK REMAINING

### General Construction - Phase 1

The first General Construction phase of the work should be substantially completed in the next six months. Work remaining includes the finalization of the concrete tower basins, intake and discharge structures, underground utilities, slope reinforcement (along the banks of the site discharge canal), site fill (to elevation 14), two detention ponds, and several small buildings.

### General Construction - Phase 2

General Construction Phase 2 will begin in February 1992 and continue for approximately 12 months. During this phase, mechanical and electrical equipment will be received and installed in the intake and discharge structures, cooling towers, and buildings. This equipment includes piping, valves, pumps, motors, power systems, control equipment, chemical equipment and other miscellaneous systems.

### Cooling Tower Erection

Erection of the precast concrete towers will begin in early 1992. This work involves setting and securing the structural and mechanical components of the cooling towers, and will continue for approximately 12 months.

All activities are currently on schedule to support the operational date of April 1, 1993, which is in accordance with the EPA permit date. Thermal and drift testing in accordance with the requirements of the PSD Permit will be performed during the summer of 1993. Discharge temperature monitoring and seagrass surveys will also commence after the Helper Cooling Towers are in operation, in accordance with the NPDES Permit schedule of compliance.