

Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro

SPECIAL OPERATION REPORT
FEDERAL ENERGY REGULATORY COMMISSION
Atlanta Regional Office
Electronically Transmitted

For the period February 27, 2001 to February 24, 2003

Licensee Nantahala Power and Light Company, a Division of Duke Energy **Project No.** 2602
NATDAM ID# NC00339

Project Name Dillsboro

Location Tuckasagee River Jackson North Carolina
(Waterway or reservoir) (County) (State)

License issued 07/17/1980 **Expires** 07/31/2005 **Type** Minor

Date of last amendment June 28, 2000, changing the name of the licensee

Inspected by John C. Lyon, Jr. **Date** February 24, 2003

Purpose of inspection Conduct inspection of project facility including dam, spillway, and powerhouse prior to relicensing.

Weather Partly Cloudy, 45°F Heavy rains in the project vicinity during the previous week have resulted in moderately high flows in the river.

Accompanied by Messrs. John Reigard, E. D. Brockman, and Steve Illman of Duke Power., licensee's representatives.

Summary

Based on observations during the field inspection and review of data submitted by the licensee, the Dillsboro dam, spillways, and powerhouse appear to be in satisfactory condition and adequately maintained. No conditions were found that should adversely affect the safety, permanence, and operational reliability of the project works. The licensee appears to be complying with the license articles and Commission regulations. There are no outstanding deficiencies or unresolved recommendations from previous ARO or consultants' inspections. There were no recommendations as a result of this inspection. During preliminary discussions with various stakeholders. Duke Power is considering decommissioning the Dillsboro project, including possible dam removal.

Submitted: John C. Lyon, Jr., P.E. 3/24/2003

Project No 2602.Name of Project DillsboroName of Development(s) Dillsboro**PERTINENT DATASHEET**

----- FEDERAL ENERGY REGULATORY COMMISSION -----

OFFICE OF ENERGY PROJECTS
DIVISION OF DAM SAFETY
ATLANTA REGIONAL OFFICE**General Data**

Dam Number: 02602-01-01
 Dam Name: DILLSBORO
 Project Name: DILLSBORO
 Development: DILLSBORO
 Licensee: NANTAHALA POWER AND LIGHT COMPANY

Hazard Potential Classification: Low
 Completion: 1913
 River: TUCKASEGEE R
 Drainage Area (sq. mi.): 290
 Seismic Zone:
 Downstream City: DILLSBORO
 Distance: 0

County, State: JACKSON, NC
 USGS Quad
 Latitude: 35.4167
 Longitude: 83.1500

Hydrologic Data

PMF (cfs): Not Evaluated
 IDF (cfs): Not Evaluated
 100-YR Flood (cfs): Not Evaluated
 Flood of Record (cfs): 9,761
 Date Flood of Record:
 Average Flow (cfs): 786
 Minimum Flow Required: None

Reservoir Data

Surface Area (acres):
 Maximum: 20
 Normal: 14
 Minimum: ?
 Pool Elevation (msl)
 Maximum:
 Normal: 1972
 Minimum:
 Reservoir Storage (acre-ft)
 Maximum:
 Normal: 0
 Minimum:

Project Works

Type of Dam:
 Type 1: GRAVITY

Dam Height (ft): 12
 Dam Crest Elevation (msl):
 Length of Dam (ft): 310
 Flashboards installed: No

Overflow Spillway Length (ft): 310
 Overflow Spillway Crest (msl):

Number of Spillway Gates: 0
 Number of Penstocks: 0
 Number of Tunnels: 0
 Number of Canals: 0
 Number of Locks: 0
 Number of Powerhouses: 1
 Number of Generating: 2
 Authorized Generation Capacity (kW): 225

Safety Requirements

Consultants Safety Inspection Report
 Required: No

Emergency Action Plan (EAP) Status: Exempted

Boat Restraining Barrier Required: No

Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro

A. Background. The Dillsboro project is located in Jackson County, in western North Carolina, on the Tukasegee River about 15 miles northeast of Franklin, North Carolina. The project is located along the southern edge of the Appalachian Mountains with the Great Smoky Mountains National Park 20 miles to the north. The project consists of a 12-foot-high, 310-foot-long concrete masonry dam; a powerhouse containing two generating units, one unit rated at 175 kW and the other unit rated at 50 kW; and a reservoir approximately 0.8 mile long with little usable storage and a surface area of 14 acres. The Dillsboro project is operated as run-of-river, with an average annual energy generation of 1,408 MWh.

The licensee is considering decommissioning the Dillsboro project as part of the relicensing of a number of Duke Power projects in the Nantahala area. The Dillsboro powerhouse may be eligible for addition to the historic register.

B. Inspection Observations. The Dillsboro dam, powerhouse, generating equipment, and tailrace were observed during the inspection. No conditions were noted that should adversely affect the immediate safety or have significant adverse impact on the future stability, safety, and permanence of the project structures. The licensee operates the unmanned project in the run-of-river mode by the use of reservoir float controllers for automatic turbine wicket gates. Remote operation is not available for the Dillsboro plant. Daily visits to the plant are made by the licensee's maintenance personnel. Maintenance on project structures is based on observations made during the annual in-house inspections. Rather than performing comprehensive annual maintenance on each generating unit, major components are serviced at required intervals, taking advantage of low-flow periods or other departures from normal operation. Based on observations and discussions with the licensee's representatives, no significant operation or maintenance deficiencies presently exist. No major maintenance was performed on the civil structures during the report period. The 12-foot-high cyclopean and stone masonry dam/spillway is founded on hard metamorphic rock of the Blue Ridge. At the time of the inspection, approximately 18 inches of water was flowing over the dam/spillway, preventing close examination. However, the licensee's representative stated the last time the generating units were in operation allowing for visible observation of the downstream face of the dam, no visible changes were noted. There are no spillway gates at the project. Inspection of the powerhouse interior reflected good housekeeping. At the time of this inspection both generating units were available for power generation, but only one unit was online. The only unscheduled outages during the report period were periods of highwater that prevented generation. The reservoir is very small and heavily silted with very little storage space. A log boom crosses the power plant intake channel. During the inspection, the reservoir water surface was approximately 18 inches above the spillway crest. Observations of the reservoir from the dam revealed no slides along the reservoir banks, and no debris adjacent to the log boom.

Project No 2602.

Name of Project Dillsboro

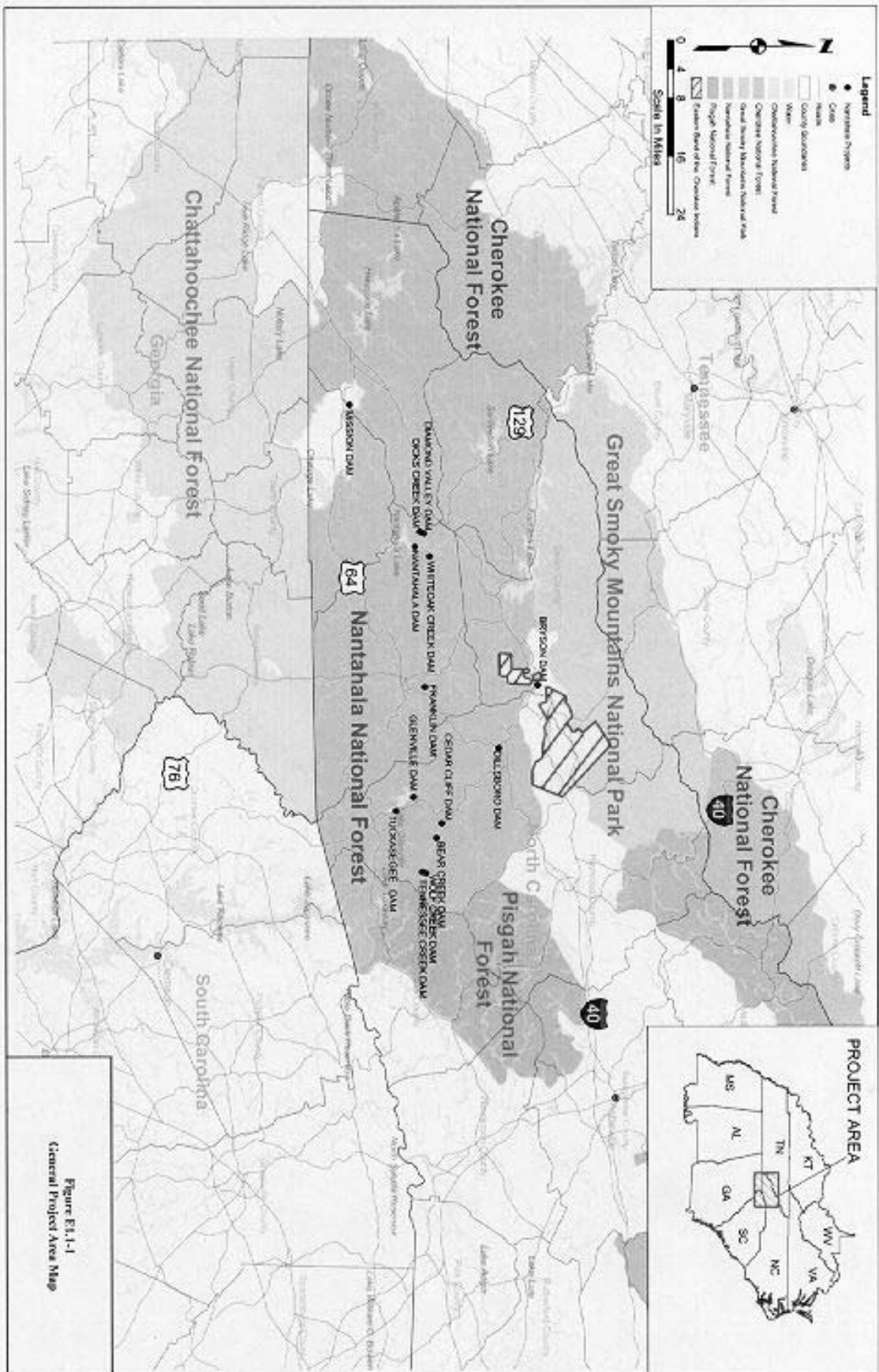
Name of Development(s) Dillsboro

There are no outstanding items from the previous operation inspection with the exception of the faded lettering on certain signs, which are scheduled for replacement. Permanent project records are maintained at the licensee's headquarters in Franklin, North Carolina. Design drawings required for maintenance of equipment are on file in the Dillsboro power plant.

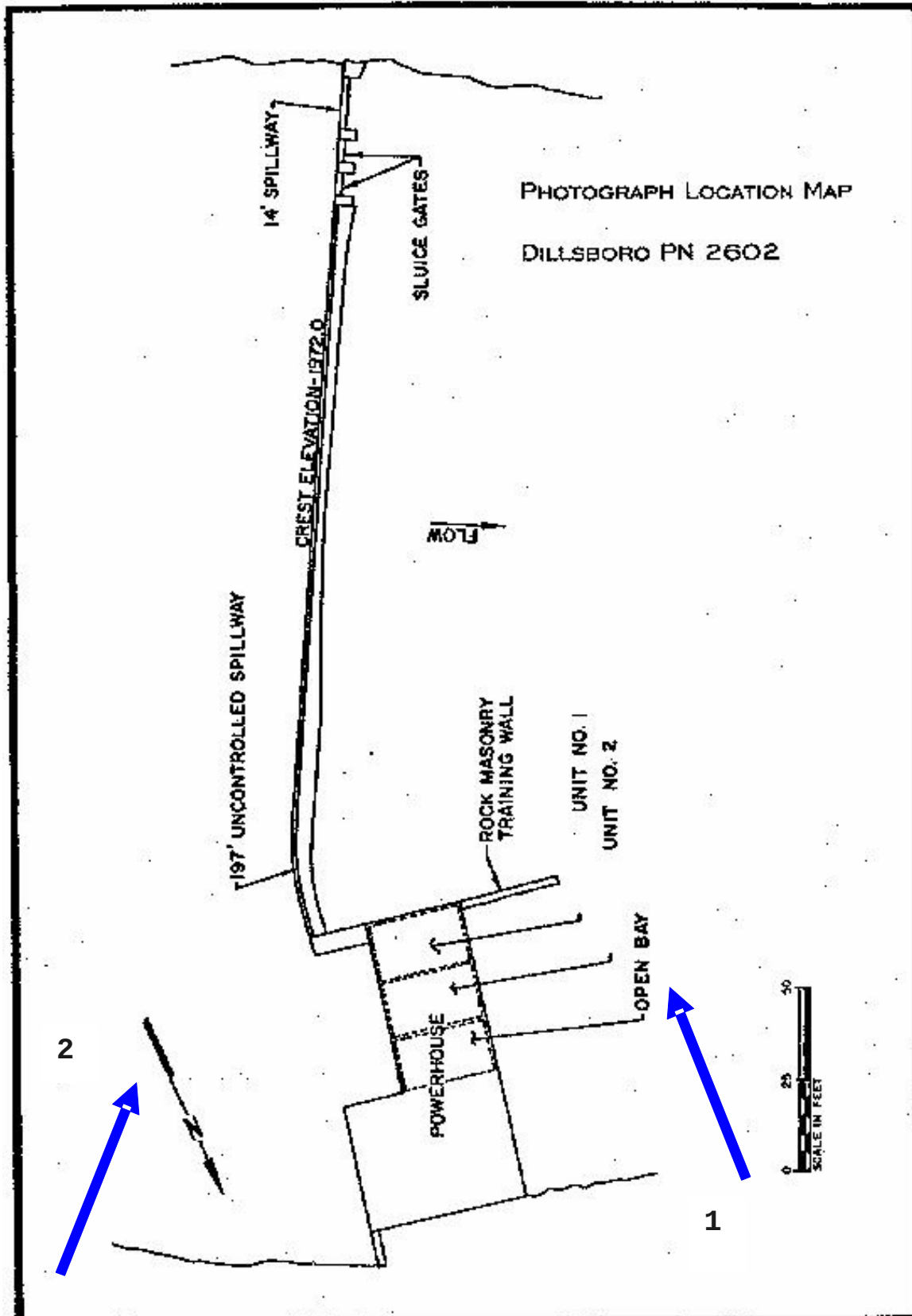
There are no specific environmental requirements for the Dillsboro project. No adverse comments have been received by this office concerning environmental issues due to project operation.

This report contains 2 drawings and 3 photographs.

Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro



Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro



Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro



Photograph 1 Dillsboro dam and powerhouse tailrace, note high flows from recent rainfall.

Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro



Photograph 2 Upstream side of Dillsboro dam and powerhouse as seen from the right bank.

Project No 2602.
Name of Project Dillsboro
Name of Development(s) Dillsboro



Photograph 3 Dillsboro powerhouse interior, both units visible.

JCL

CEII