OCCUM PROJECT

LIHI APPLICATION

ATTACHMENT F

OCCUM CULTURAL RESOURCE PROTECTION

Norwich Public Utilities

September 1, 2012

ORIGINAL

Kimberly D. Bose, Secretary
Nathaniel J. Davis Sr, Deputy Secretary
Federal Energy Regulatory Commission
888 1st Street, NE
Washington, DC 20426

RE: Occum Project FERC No. 11574 / 2010 Annual Report of Cultural Resources Activities

Dear Secretary Salas:

The City of Norwich, Connecticut, Norwich Public Utilities (NPU), owns and operates the Occum Project (FERC No. 11574) located on the Shetucket River in New London County, Connecticut. NPU herein files an original and eight copies of the annual report of cultural resource activities for the Occum Project. This report complies with the Cultural Resources Management Plan (CRMP), approved by the Federal Energy Regulatory Commission (FERC) on August 30, 2001, and Stipulation II Paragraph D of the Programmatic Agreement (PA).

During 2012, there were no activities that affected cultural resources at the Occum Project. Per the CRMP and PA, we are also forwarding a copy of this letter to the Connecticut Historical Commission. If you have any questions, please contact me at 860-823-4507 or by email at waynemclaughlin@npumail.com.

Sincerely,

Wayne McLaughlin
Project Manager

cc: David Poirier (CT SHPO)

ENVIRONMENTAL INSPECTION REPORT
(ELECTRONICALLY SUBMITTED)
FEDERAL ENERGY REGULATORY COMMISSION

New York Region

Date of Inspection – May 11, 2005

Name Occum **Project No.** 11574-CT

Licensee City of Norwich – Dept. of Public Utilities **License Type** Minor

License Issued September 29, 1999 **License Expires** August 31, 2039

Location Shetucket River (Waterway) None (Reservation)

New London (County) Connecticut (State)

Inspector Joseph Enrico

Licensee Representatives Mr. Roy Borque, Senior Watch Engineer

Other Participants None

Summary of Findings

The licensee is currently installing upstream and downstream fish passage facilities at the project which were completed in July, 2005. The construction area was fenced for security and public safety. There were no environmental issues at the construction area with sufficient safeguards for soil erosion and runoff control. The recreation area was open for access and all public safety measures were in place. There were no follow-up actions as a result of this inspection.

Submitted August 31, 2005

Joseph G. Enrico
Environmental Protection Specialist

A. INSPECTION FINDINGS

Requirements*	Date of Requirement	Follow-up Needed	Photo Nos.
CULTURAL RESOURCES			
Article 408 requires the Licensee to implement the Programmatic Agreement on Cultural Resources. CMP filed on August 30, 2001. **C-185**	**O:** 9-29-99 **Ap:**8-30-01	N	
FISH AND WILDLIFE RESOURCES			
Article 401 requires the Licensee to limit drawdowns of the impoundment to 2 feet below crest or top of flashboards. **C-188**	**O:** 9-29-99	N	
Article 402 requires the Licensee to release a minimum flow of 30 cfs into the bypass reach from leakage or spillage and 100 cfs when the downstream fish passage facility becomes operational. **C-089.**	**O:** 9-29-99	N	
Article 403 requires the Licensee to file a project operation monitoring plan for impoundment fluctuations and minimum flows. Filed 3-29-2000 & 12-18-2000. **C-211**	**O:** 9-29-99 **Ap:** 3-2-01	N	
Article 404 requires the Licensee to submit an erosion control plan prior to any future ground breaking activities at the project. Filed 9-29-00, 12-18-00 & 6-7-04 **C-120**	**O:** 9-29-99 **Ap:** 3-23-01 **Ap:** 8-3-04	N	
Article 405 requires the Licensee to file a final plan for the installation, monitoring and operation of an upstream fish passage. Filed 9-29-00, 12-18-00 & 6-7-04 **C-026**	**O:** 9-29-99 **Ap:** 8-3-04	N	1-3
Article 406 requires the Licensee to file a final plan for the installation, operation and monitoring of downstream fish passage facilities. Filed 9-29-00, 12-18-00 & 6-7-04. **C-026.**	**O:** 9-29-99 **Ap:** 3-23-01 **Ap:** 8-3-04	N	4-6
Article 407 reserves authority to the Commission to prescribe the installation of fish passage facilities. **C-072**	**O:** 9-29-99	N	
PUBLIC SAFETY			
Facilities and measures to assure public safety (18 CFR, Part 12). Plan submitted on April 13, 1994. **C-111**	**O:** 9-29-99 **Ap:** 11-1-94	N	7

Requirements*	Date of Requirement	Follow-up Needed	Photo Nos.
RECREATION RESOURCES			
Article 409 requires the Licensee to file a canoe portage plan. Filed 9-29-2000. NYRO letter dated August 31, 2001 confirming receipt and acceptance of as-builts. **C-113**	**O:** 9-29-99 **Ap:** 11-8-00	N	8
Recreation signing and posting (18 CFR, Part 8) **C-118**	**O:** 9-29-99	N	8
Standard Article 13 requires the Licensee to allow public free access to project waters and adjacent lands **C-118**	**O:** 9-29-99	N	
Submission of the Commission's Form 80 monitoring report **C-112.**	**18CFR:** Filed 4-1-03	N	
OTHER ENVIRONMENTAL RESOURCES			
Article 410 allows the Licensee to grant conveyances for non project use of project lands and waters, for certain actions without prior Commission approval. **C-202**	**O:** 9-29-99	N	

O=Order **C**=OEP-IT Code **18CFR**=Title 18 Code of Federal Regulations, **Ap**=Approved

Comments and Follow-Up Action

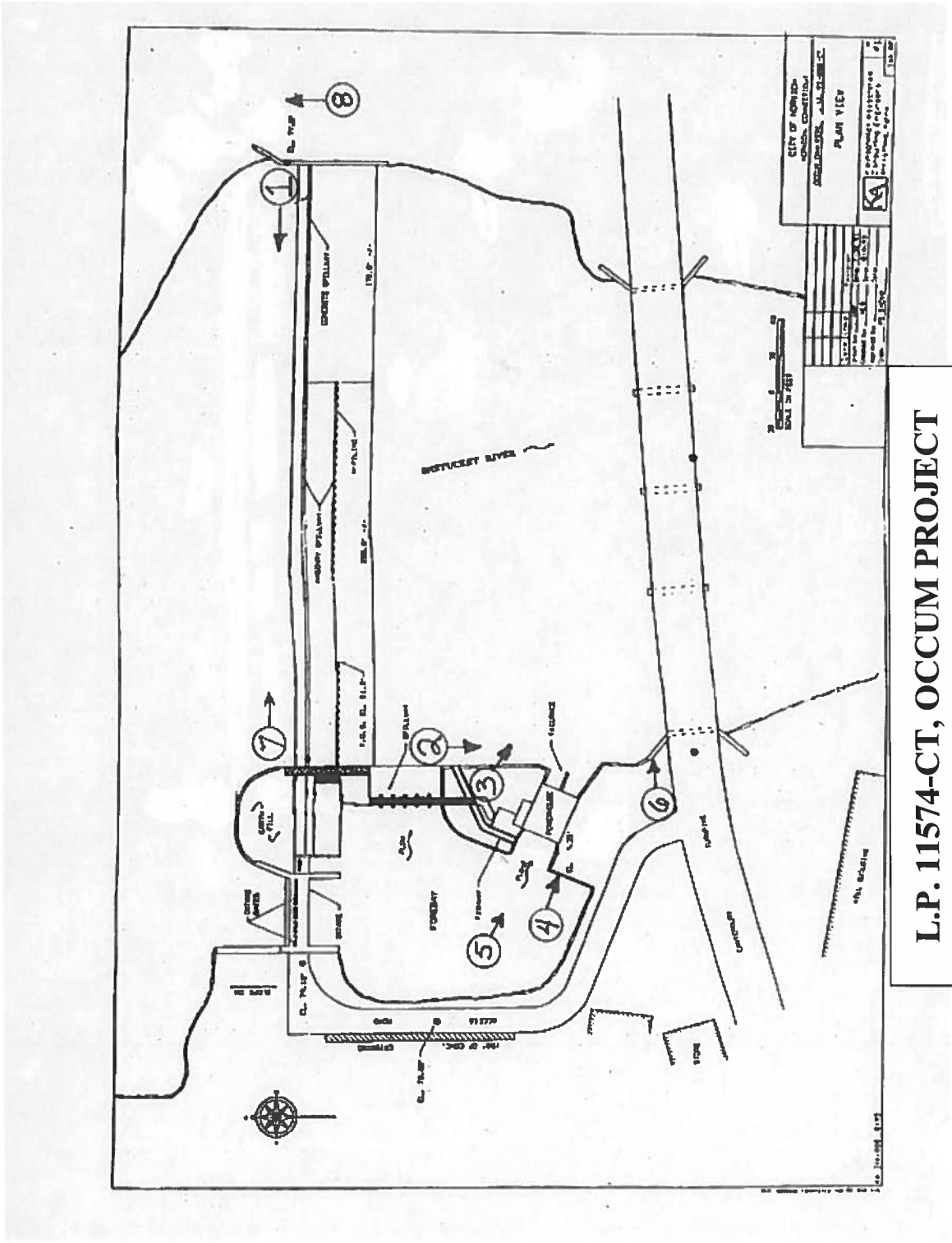
(1) Fish Passage Facilities: The Licensee requested and received an extension of time for facility installation so that the upstream and downstream facilities could be done at the same time for a significant cost savings. The facilities were near completion at the time of inspection.

(2) Recreational Facilities: The canoe portage and access facility was available for public use during construction as it is located on the opposite side of the river from the powerhouse/intake area.

B. EXHIBITS AND PHOTOGRAPHS

The following are provided to show the location of the project and to illustrate project features: Eight photographs and photo location map.

Cc: DHAC
Enrico, J./di



L.P. 11574-CT, OCCUM PROJECT
PHOTOGRAPH LOCATION MAP

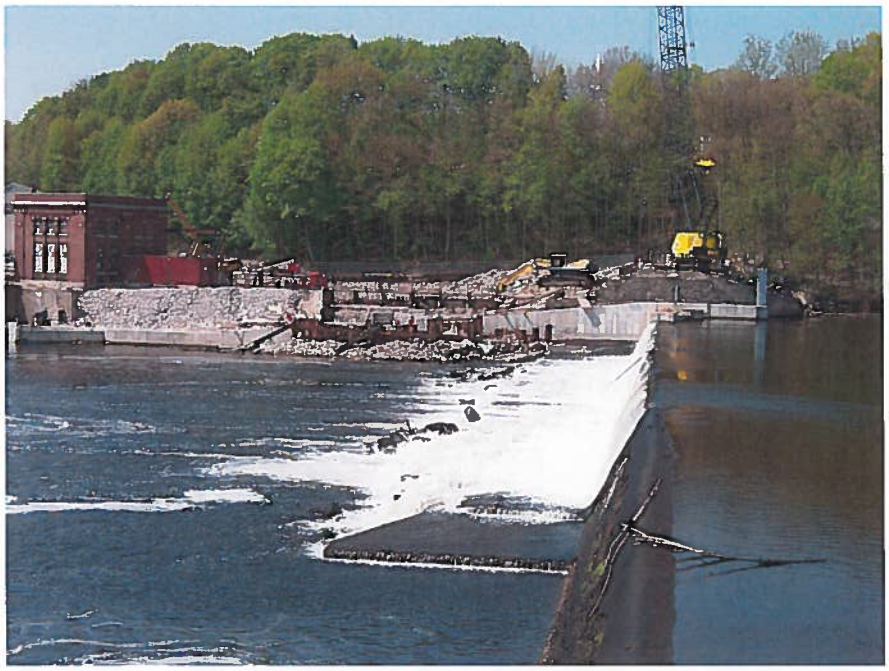


Photo No.1 - View of powerhouse and fish passage construction area from across the river.

Photo No.2 - View of nearly completed concrete fish ladder looking downstream.

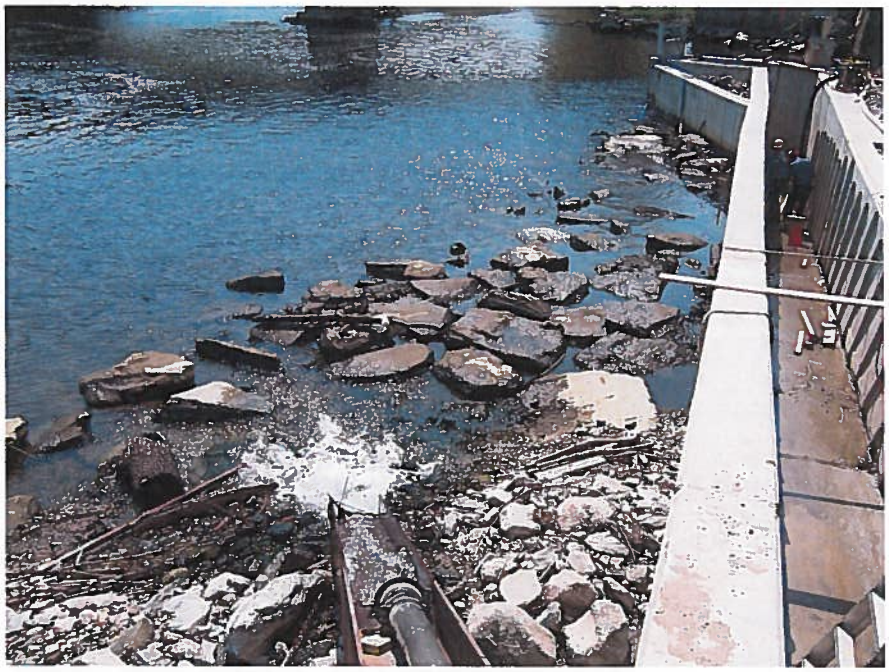


Photo No.3 - View of discharge of construction area leakage. No discernible turbidity was noted.

Photo No.4 - View of downstream passage facility nearing completion.

Photo No.5 - View of dewatered forebay area. Note downstream passage facility to right of trashracks.

Photo No.6 - Discharge pipe for downstream fish passage, prior to installation.

Photo No.7 - Upstream warning sign and staff gage on left dam abutment.

Photo No.8 - Recreation area on opposite side of river with Part 8 sign. The canoe portage takeout is located to the right.

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D.C. 20246

OFFICE OF ENERGY PROJECTS

Project No. 11574-010—Connecticut
Occum Hydroelectric Project
Norwich Public Utilities

Mr. Roy Bourque
Project Manager
16 South Golden Street
Norwich, CT 06360

JAN 26 2004

Subject: Annual Cultural Resources Management Report, Article 408

Dear Mr. Bourque:

This letter is in reference to the report you filed on September 8, 2003 to fulfill the requirement of article 408 of the project license for the Occum Project (FERC No. 11574).

The report was filed pursuant to the Cultural Resources Management Plan (CRMP), as required by article 408 of the project license, issued September 29, 1999. Article 408 requires the licensee to implement the Programmatic Agreement (PA)[1], including, but not limited to, the CMRP for the project. Under stipulation II, paragraph (d), of the PA the licensee is required, on every anniversary of the license issuing, to file a report with the State Historic Preservation Office and the Commission of activities conducted under the implemented CMRP. Your annual report states that during 2003 there were no activities that affected cultural recourses at the Occum Project (project). You also sent a copy of this report to the Connecticut Historic Commission.

The report filed on September 8, 2003 adequately fulfills the filing requirements

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[1] Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the State of Connecticut, State Historic Preservation Officer for Managing Historic Properties That May Be Affected By A License Issuing to the City of Norwich, Connecticut For the Continued Operation and Maintenance of the Occum Hydroelectric Project in Connecticut. Filed December 9, 1999.

of article 408, the CRMP, and the PA. Your next report on cultural resources activities for the above project is due on or before September 1, 2004. If you have any questions, you may contact Kate DeBragga at 202-502-8961.

Sincerely,

John E. Estep
Division of Hydropower
Administration and Compliance

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Norwich, Connecticut — Project No. 11574-006

ORDER APPROVING CULTURAL RESOURCE MANAGEMENT PLAN (ARTICLE 408)
(Issued August 30, 2001)

On June 20, 2001, the City of Norwich, Connecticut (City or licensee) filed a cultural resource management plan (CRMP or plan) for the Occum Project, FERC No. 11574, located on the Shetucket River in New London County, Connecticut. The plan was filed pursuant to article 408 of the license issued on September 1, 1999.[1] Article 408 requires the licensee to implement the Programmatic Agreement (PA) executed on September 16, 1999.[2]

LICENSEE'S PLAN

The licensee described the historic properties at the project and included copies of the National Register of Historic Places Registration Forms. As a working hydroelectric project, the Occum Project will be operated under the "continuance of use" concept. The licensee will maintain the project with in-kind replacements wherever feasible and reasonable. Any maintenance activities that require new structural features will trigger consultation with the CtSHPO. The licensee will also consult with the CtSHPO during any ground disturbing activities and will avoid historic properties when possible. The licensee included its procedures should any unanticipated discoveries of historic properties or human remains occur during the course of maintenance or operation of the project. It also included its procedures for establishing a public interpretive program in which it will provide access to the site during Archeology Awareness Week.

CONSULTATION

The licensee prepared the CRMP in consultation with the CtSHPO and incorporated its comments into the final CRMP. Pursuant to Stipulation II. B. of the PA, the Commission staff requested concurrence from the Council in a letter dated

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[1] 87 FERC ¶ 62,262

[2] The PA was executed among the Commission, the Advisory Council on Historic Preservation (Council), and the Connecticut State Historic Preservation Officer (CtSHPO).

August 3, 2001. No comments were filed.

DISCUSSION AND CONCLUSION

The CRMP addresses protection of historic properties at the project. The licensee has established guidelines for consultation with the CtSHPO to ensure the historic properties are protected and, if and when changes are necessary, appropriate actions are taken. The CRMP meets the requirements of article 408 and should be approved.

The licensee is reminded that pursuant to Stipulation II. D. of the PA, it must file with the CtSHPO on every anniversary of the license issuance date, a report of activities conducted under the implemented PA. The first report is due September 1, 2002.

The Director orders:

(A) The Cultural Resources Management Plan for the Occum Hydroelectric Project, filed on June 20, 2001, pursuant to article 408, is approved.

(B) This order constitutes final Commission action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

John E. Estep
Division of Hydropower Administration
and Compliance

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

NOV 13 2001

The Secretary
The Federal Energy Regulatory Commission
Mail Code: DHAC PJ-12.1
888 First Street, NE
Washington, D.C. 20426

REF: Cultural Resource Management Plan
Occum Hydroelectric Project (FERC Project No. 11574-006)
City of Norwich, Connecticut

Dear Secretary:

We want to thank the City of Norwich, Department of Public Utilities for providing us with an opportunity to review the Cultural Resource Management Plan (CRMP) for the Occum Hydroelectric Project (June 2001). The CRMP has been prepared to meet the terms of a Programmatic Agreement (PA) executed on August 16, 1999 between the Federal Energy Commission, the Council, the Connecticut State Historic Preservation Office (SHPO) and the City of Norwich, the project licensee. We have reviewed the CRMP and our comments are enclosed.

We hope that you will find the enclosed review useful. To provide you with further assistance, we have also enclosed draft guidance developed to assist applicants and licensees in preparing an CRMP. Should you have any questions, please contact Dr. Laura Henley Dean by telephone at 202-606-8505 or by e-mail at ldean@achp.gov. Your continued cooperation is appreciated.

Sincerely,

Don L. Klima
Director
Office of Planning and Review

Enclosures

ORIGINAL

CITY OF NORWICH
DEPARTMENT OF PUBLIC UTILITIES

Norwich, Connecticut

OCCUM PROJECT
(FERC NO. 11574) -005

CULTURAL RESOURCES MANAGEMENT PLAN

FEBRUARY 2001

Prepared By:

Kleinschmidt
Energy & Water Resource Consultants

010301-1047.3

CITY OF NORWICH
DEPARTMENT OF PUBLIC UTILITIES
Norwich, Connecticut

OCCUM PROJECT
(FERC NO. 11574)

CULTURAL RESOURCES MANAGEMENT PLAN

FEBRUARY 2001

Prepared By:

Kleinschmidt
Energy & Water Resource Consultants

OCCUM PROJECT
(FERC NO. 11574)
OCCUM, CONNECTICUT

CULTURAL RESOURCES MANAGEMENT PLAN

Based on consultation with the State Historic Preservation Office (SHPO), the Occum Hydroelectric Plant and Dam is listed on the National Register of Historic Places and possesses historic and engineering importance. In addition, upstream impoundment areas may possess moderate to high sensitivity for prehistoric and historic archaeological resources. In order to protect the historic integrity of the project area should any change in the mode of operation, expansion of capacity, alteration to project facilities, or initiation of ground-disturbing activities become necessary, the City of Norwich, Department of Public Utilities (NDPU), proposes the following steps for consultation with the SHPO:

1. NDPU will notify the SHPO of any plans to change the mode of operation, expand capacity, alter project facilities, initiate ground-disturbing activities, dewatering of the impoundment area or changes to the structures described or photographed within the National Register inventory-nomination for the Occum Hydroelectric Plant and Dam (attached). The notification will identify alternatives to the planned actions.

2. NDPU will consult with the SHPO to determine the most feasible option in regard to historic preservation and appropriate mitigation measures if historic impacts are not avoidable.

3. Should any cultural artifacts be discovered during ground-disturbing activities, NDPU will immediately halt work and report the discovery to the SHPO.

The above steps constitute NDPU's Cultural Resources Management Plan for the Occum Project. Implementing these simple measures should protect the historic integrity of the project area.

ATTACHMENT A

PROGRAMMATIC AGREEMENT

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

ORIGINAL

SEP 16 1999

James T. Griffin
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

REF: Occum Hydroelectric Project (FERC Project Nos. 11574-000)
City of Norwich, Connecticut

Dear Mr. Griffin:

Enclosed is your copy of the fully executed Programmatic Agreement for the referenced project. By carrying out the terms of the Agreement, you will fulfill your responsibilities under Section 106 of the National Historic Preservation Act and the Council's regulations. We recommend that you provide a copy of the fully executed Agreement to the Connecticut State Historic Preservation Officer, and the City of Norwich's Department of Public Utilities, the project licensee.

We appreciate your cooperation on reaching a satisfactory resolution of this matter. Should you have any questions, please contact Laura Henley Dean at (202) 606-8527.

Sincerely,

[redacted]L. Klima
Director
Office of Planning and Review

Enclosure

000113.0243.3

PROGRAMMATIC AGREEMENT

AMONG

THE FEDERAL ENERGY REGULATORY COMMISSION,

THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,

AND THE STATE OF CONNECTICUT,

STATE HISTORIC PRESERVATION OFFICER,

FOR MANAGING HISTORIC PROPERTIES

THAT MAY BE AFFECTED BY A LICENSE ISSUING TO

THE CITY OF NORWICH, CONNECTICUT

FOR THE CONTINUED OPERATION AND MAINTENANCE OF THE

OCCUM HYDROELECTRIC PROJECT

IN CONNECTICUT

WHEREAS, the Federal Energy Regulatory Commission or its staff (hereinafter, "Commission") proposes to issue an original license to the city of Norwich, Connecticut (hereinafter, "Norwich") to operate and maintain the Occum Hydroelectric Project, Project No. 11574 (hereinafter, "Project"), as authorized by Part I of the Federal Power Act, 16 U.S.C. Sections 791(a) through 825(r), as amended; and

WHEREAS, the Commission has determined that issuing such a license may affect properties included in or eligible for inclusion in the National Register of Historic Places (hereinafter, "Historic Properties"); and

WHEREAS, the Final Environmental Assessment attached to this Programmatic Agreement, prepared by the Commission pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. Sections 4321 through 4370(a), as amended, provides a description of the Project, Historic Properties identified as of the date of this Programmatic Agreement, and anticipated effects; and

WHEREAS, the Commission has consulted with the Advisory Council on Historic Preservation (hereinafter, "Advisory Council") and the Connecticut State Historic Preservation Office (hereinafter, "SHPO") pursuant to 36 C.F.R. Section 800.14(b)

of the Advisory Council's regulations (36 C.F.R. Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470F; hereinafter, "Section 106"); and

WHEREAS, Norwich has participated in the consultation and has been invited to concur in this Programmatic Agreement; and

WHEREAS, the Commission will require Norwich to implement the provisions of this Programmatic Agreement as a condition of issuing any license for the Project;

NOW THEREFORE, the Commission, the Advisory Council, and the SHPO agree that the Project will be administered in accordance with the following stipulations in order to satisfy the Commission's Section 106 responsibilities during the term of the Project's license.

STIPULATIONS.

The Commission will ensure that, upon a license issuing for this Project, Norwich implements the following stipulations. All stipulations that apply to Norwich will similarly apply to any and all of Norwich's successors. Compliance with any of the following stipulations does not relieve Norwich of any other obligations it has under the Federal Power Act, the Commission's regulations, or its license.

I. CULTURAL RESOURCES MANAGEMENT PLAN

A. Within one year of a license issuing for this Project, Norwich will file for the Commission's approval a Cultural Resources Management Plan (hereinafter, "CRMP") specifying how Historic Properties will be managed in the Project's area of potential effect, as defined in 36 C.F.R. Section 800.16(d), during the term of the license. During development of the CRMP, Norwich will consult with the SHPO and interested persons, as

defined in 36 C.F.R. Section 800.2(c). Norwich will seek the SHPO's concurrence in the CRMP.

B. "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines" (Federal Register, September 29, 1983, Vol. 48, No. 190, Part IV, pp. 44716-44740; hereinafter, "Secretary's Standards") will be taken into account in developing the CRMP. The CRMP will be developed by or developed under the direct supervision of a person or persons who meet, at a minimum, the professional qualifications standards for architectural history and archeology in the Secretary's Standards (48 FR 44738-39).

C. The CRMP will, at a minimum, include principles and procedures to address the following:

1. consultation with the SHPO and interested persons regarding identification and evaluation of Historic Properties, determination of effect, and ways to avoid, minimize or mitigate adverse effects;

2. completion, if necessary, of identification of Historic Properties within this Project's area of potential effect;

3. continued use and maintenance of Historic Properties;

4. protection and preservation of Historic Properties threatened by shoreline erosion, other ground-disturbing activities related to this Project, and vandalism;

5. consideration and, where appropriate, adoption of prudent and feasible project alternatives that would avoid, or minimize, adverse effects on Historic Properties;

6. consideration and implementation of appropriate treatment that would mitigate any unavoidable adverse effects;

7. treatment and disposition of any human remains that may be discovered, taking into account any applicable state laws and the Advisory Council's "Policy Statement Regarding Treatment of Human Remains and Grave Goods" (September 27, 1988, Gallup, NM);

8. discovery of previously unidentified properties during this Project's operations;

9. public interpretation of the historic and archeological values of this Project; and

10. coordination with the SHPO and interested persons during implementation of the CRMP.

II. CRMP REVIEW AND IMPLEMENTATION

A. Norwich will submit the CRMP, along with documentation of the views of the SHPO and interested persons, to the Commission for review and approval.

B. If the SHPO has concurred in the CRMP, and the Commission determines that the CRMP is adequate, the Commission will forward a copy of the CRMP along with the views of the SHPO to the Advisory Council, which will have 30 days to review the CRMP.

1. If the Advisory Council does not object to the CRMP, the Commission will proceed to ensure that Norwich implements the CRMP.

2. If the Advisory Council objects to the CRMP, the Commission will consult with the Advisory Council in an effort to reach agreement on the CRMP. If agreement cannot be reached, the Commission will

request that the Advisory Council comment pursuant to Stipulation IV.B of this Programmatic Agreement.

C. If the SHPO has not concurred in the CRMP, or the Commission finds the CRMP inadequate, the Commission will consult with Norwich and the SHPO to seek agreement on the CRMP. If concurrence is not reached within 30 days, the Commission will request that the Advisory Council enter into consultation to seek agreement on the CRMP.

1. If agreement is reached on the CRMP, the Commission will forward a copy of the revised CRMP to the Advisory Council for review pursuant to Stipulation II.B of this Programmatic Agreement.

2. If agreement on the CRMP cannot be reached among the Commission, the SHPO, Norwich, and the Advisory Council, the Commission or the SHPO will request that the Advisory Council comment pursuant to Stipulation IV.B of this Programmatic Agreement; or the Advisory Council may terminate consultation and comment on its own.

D. Norwich will, on every anniversary of the license issuing, file a report with the SHPO of activities conducted under the implemented CRMP.

III. INTERIM TREATMENT OF HISTORIC PROPERTIES

A. All consultation under this stipulation will be in accordance with 36 C.F.R. Sections 800.4 and 800.5, with Norwich acting as the Agency Official.

B. After a license for the Project has issued, but before the CRMP has been approved by the Commission (hereinafter, "the interim"), Norwich will identify interested persons and will consult with the SHPO and interested persons regarding the effect of the following actions that may be implemented in the interim: (a) all activities, including recreational developments, that require ground disturbance; (b) new construction,

demolition, or rehabilitation of project facilities; or (c) any other procedure or activity that may affect any site, district, object, building, or structure that is included in or may be eligible for inclusion in the National Register of Historic Places. Norwich will consult with the SHPO and interested persons to apply the criteria of effect and adverse effect.

1. If Norwich and the SHPO agree that the activity will not adversely affect Historic Properties, Norwich may proceed in accordance with any agreed-upon treatment measures or conditions. If Norwich and the SHPO do not agree the matter will be resolved in accordance with Stipulation IV of this agreement.

2. If either Norwich or the SHPO determines that the activity may have an adverse effect, they will consult with other interested persons to develop a strategy for avoiding, minimizing or mitigating adverse effects. If Norwich and the SHPO can reach agreement, Norwich will implement the agreed-upon strategy. If they disagree, Norwich will submit the matter to the Commission, which will initiate the process set forth at 36 C.F.R. Sections 800.6 and 800.7(a) through (c)(3).

3. If either Norwich or the SHPO determines that the activity may have an adverse effect, and the affected property is a National Historic Landmark, Norwich will submit the matter to the Commission, which will solicit and consider the views of the consulting parties, and apply the criteria of adverse effect.

4. If the Commission or the SHPO finds that the activity may have an adverse effect, the Commission will initiate the process set forth at 36 C.F.R. Sections 800.6 and 800.7(a) through (c)(3).

C. In the interim, before completion and approval of final design drawings for the construction of facilities at the Project for fish passage and canoe portage, the Licensee will consult with the SHPO and interested persons to consider and, where possible adopt, prudent and feasible project alternatives that would avoid or minimize adverse effects on Historic Properties. If the Licensee and SHPO agree that the adverse effect cannot

be avoid, they will consult to develop a strategy for mitigating adverse effects. If the Licensee and the SHPO can reach agreement, the Licensee will implement the agreed-upon strategy. If they disagree, the Licensee will submit the matter to the Commission, which will initiate the process set forth at 36 C.F.R. Sections 800.6 and 800.7(a) through (c)(3) and to mitigate any such adverse effects found to be unavoidable. The agreed-upon mitigation strategy may be incorporated as a component of the CRMP.

IV. DISPUTE RESOLUTION

A. If at any time during implementation of this Programmatic Agreement and the resulting CRMP, the SHPO, Norwich, the Advisory Council, or an interested person objects to any action or any failure to act pursuant to this Programmatic Agreement or the CRMP, they may file written objections with the Commission.

1. The Commission will consult with the objecting party, and with other parties or interested persons, as appropriate, to resolve the objection.

2. The Commission may initiate on its own such consultation to remove any of the Commission's objections.

B. If the Commission determines that the objection cannot be resolved, the Commission will forward all documentation relevant to the dispute to the Advisory Council and request that the Advisory Council comment. Within 30 days after receiving all pertinent documentation, the Advisory Council will either provide the Commission with recommendations, which the Commission will take into account in reaching a final decision regarding the dispute; or notify the Commission that it will comment pursuant to 36 C.F.R. Section 800.6(b) and Section 110(1) of the National Historic Preservation Act, and proceed to comment.

C. The Commission will take into account any Advisory Council comment, provided in response to such a request, with reference to the subject of the dispute, and will issue a decision on the matter. The Commission's responsibility to carry out all actions under this Programmatic Agreement that are not the subject of dispute will remain unchanged.

V. AMENDMENT AND TERMINATION OF THIS PROGRAMMATIC AGREEMENT

A. The Commission, the SHPO, Norwich, or the Advisory Council may request that this Programmatic Agreement be amended, whereupon these parties will consult in accordance with 36 C.F.R. Section 800.13, to consider such amendment.

B. The Commission, the SHPO, or the Advisory Council may terminate this Programmatic Agreement by providing 30 days written notice to the other parties, provided that the Commission, the SHPO, Norwich, and the Advisory Council consult during the 30-day notice period to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Commission will comply with 36 C.F.R. Sections 800.4 through 800.6, with regard to individual actions covered by this Programmatic Agreement.

Execution of this Programmatic Agreement and subsequent implementation is evidence that the Commission has satisfied its responsibilities pursuant to Section 106 of the National Historic Preservation Act, as amended, for all individual actions carried out under the license. Provided, however, that unless and until the Commission issues a license for the project and this Programmatic Agreement is incorporated by reference therein, this Programmatic Agreement has no independent legal effect for any specific license applicant or project.

FEDERAL ENERGY REGULATORY COMMISSION

By: _____ Date: 8/27/99
J. Mark Robinson
Director
Division of Licensing and Compliance

CONNECTICUT STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: 9/7/99
John Shanahan
State Historic Preservation Officer

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ Date: 9/16/99
John M. Fowler
Executive Director

Concur: **CITY OF NORWICH**

By: _____ Date: Aug 31, 1999
Peter Polubiatko
Electric Division Manager

ATTACHMENT B

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name OCCUM HYDROELECTRIC PLANT AND DAM

other names/site number FERC NO. UL-93-6-000 CT

2. Location

street & number Bridge Street ☐ not for publication N/A

city or town Norwich ☐ vicinity N/A

state Connecticut code CT county New London code 011 zip code 06360

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☒ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title Date 11/5/96

John W. Shannahan, Director, Connecticut Historical Commission

State of Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

	Signature of the Keeper	Date of Action
☐ entered in the National Register. ☐ See continuation sheet.		
☐ determined eligible for the National Register ☐ See continuation sheet.		
☐ determined not eligible for the National Register.		
☐ removed from the National Register.		
☐ other, (explain:)		

Occum Hydroelectric Plant and Dam
Name of Property

Norwich, New London Co., CT
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [x] **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] **B** Property is associated with the lives of persons significant in our past.
- [x] **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] **A** owned by a religious institution or used for religious purposes.
- [ ] **B** removed from its original location.
- [ ] **C** a birthplace or grave.
- [ ] **D** a cemetery.
- [ ] **E** a reconstructed building, object, or structure.
- [ ] **F** a commemorative property.
- [ ] **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)
ENGINEERING
INDUSTRY

Period of Significance
1865 - c.1940

Significant Dates
1865
1934
1938

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder
Henry T. Potter, engineer, 1865 dam
Chandler & Palmer, engineers, power plant

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- [ ] preliminary determination of individual listing (36 CFR 67) has been requested
- [ ] previously listed in the National Register
- [ ] previously determined eligible by the National Register
- [ ] designated a National Historic Landmark
- [ ] recorded by Historic American Buildings Survey # _____
- [ ] recorded by Historic American Engineering Record # _____

Primary location of additional data:

- [x] State Historic Preservation Office
- [ ] Other State agency
- [ ] Federal agency
- [ ] Local government
- [ ] University
- [ ] Other

Name of repository:
Connecticut Historical Commission
59 South Prospect Street
hartford CT 06106

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

2. Location:

city/town: The power plant, forebay, intake gates, and western part of the dam are all located within the Town of Norwich. Since the Shetucket River forms the boundary between Norwich and the neighboring town of Sprague, the eastern part of the dam lies within Sprague (also New London County).

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

Description:

The Occum plant of the Norwich Public Utilities Department is located on the west bank of the Shetucket River just north of Bridge Street in the Occum section of Norwich. The plant includes a small brick powerhouse (Photograph 1), a set of intake gates leading to a forebay (Photographs 2 and 3), and a stone and concrete dam across the river (Photograph 5). The dam, headgate, and forebay components are enumerated as a single contributing structure, with the powerhouse counted as a second contributing structure. The surrounding neighborhood is fairly densely built and includes numerous residences and a few commercial buildings. Occum was formerly associated with a textile mill that burned several years ago, and most of the houses in the area at one time were company-owned millworker dwellings.

The dam and headgates were originally part of a 19th-century development intended to provide waterpower for sale to mill sites downstream. One of the two textile mills that were built on the west side of the river operated in Occum until about 1980. In 1932 the dam and waterpower rights were purchased by the city and the site was reconfigured for electrical power generation.

The part of the dam dating from 1865 is built of large irregular blocks of granite; it is trapezoidal in section, measuring 14 feet high, 12 feet wide at the base, and 6 feet wide at the crest (Photograph 6). The dam originally was protected with flat stone slabs placed on its upstream face and in the bed of the river immediately downstream; it is not known whether any of this material survives. Currently, the front of the masonry part of the dam has sheet piling at its base, while the back is filled with gravel. Today 280 feet of the stone dam survives, of an original 300 feet.

The dam was heavily damaged in the Hurricane of 1938, especially the eastern portion, where there had been a headgate structure similar to that on the west side. As a result of the damage, the eastern portion was rebuilt in reinforced concrete and extended 170 feet, for a total spillway length of 450 feet.

At the western end of the spillway, beyond a masonry stepped end wall, there is a short earthen embankment and then a series of headgates or intakes. Five of the gates are original and are contained within a stone structure similar to the older portion of the dam, while the sixth easternmost intake is of concrete construction and dates from 1938. The

intakes have wooden gates with double-stem rack-gear lifters (Photograph 4); the reduction gears are currently driven by small electric motors, and there is a small vinyl-sided shed on the earthen embankment sheltering the controls.

The intakes lead to a small forebay, on the east side of which are an overflow spillway, a narrow sluice for removal of material that accumulates on the trash racks, and the intake for the turbine. The turbine's intake, scroll case, and draft tube are constructed as integral parts of the powerhouse's reinforced-concrete substructure. The system can be de-watered by stop-gates that slip in along the west wall of the powerhouse, just inside of the trash racks.

The vertical-shaft turbine is a 1,260-hp unit manufactured by S. Morgan Smith. According to the nameplate, it operates at a head of 13 feet and turns at 112.5 rpm. Company records describe it as a Kaplan-type turbine, indicating that it has a movable-vane runner.

The brick powerhouse measures 40 by 32 feet in plan and is 28 feet in height. Wide pilasters mark the corners of the building and divide the longer elevations into two bays. Although the interior is open to the roof, the exterior appears as two stories, with taller windows on the first level. The lower part of the west bay on the south elevation, facing Bridge Street, is filled in with glass, sheet metal, and a doorway for personnel, all of which is removable to accommodate large pieces of machinery; there are two windows above. The other bay has two windows on each level, and the side elevations have three sets of windows. Window openings have concrete sills and soldier-course brick heads and are fitted with small-pane steel industrial sash, parts of which pivot open to provide ventilation.

The powerhouse reflects no particular architectural style. However, there are a few decorative effects drawn from the then-current revival styles of architecture: brick corbelling above the top tier of windows and along the simple concrete cornice, a plain parapet concealing the powerhouse's flat roof, and concrete blocks in the upper corners of the window openings in imitation of stone imposts. The pilasters have similar blocks and a simple pendant decoration, and there is a brick soldier course encircling the building below the main cornice's corbelling.

A small frame storage building has been appended to the rear of the powerhouse. Mounted high on the powerhouse's west wall is an I-beam that serves as part of a hoist for the stop-gates.

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

The powerhouse's undivided interior features exposed-brick walls painted above the three-foot level, a quarry-tile floor, and a ceiling that is simply the unfinished underside of the prefabricated concrete roof slabs. Most of the interior is taken up by the plant's single vertical-shaft three-phase 4,800-volt, 800kw alternator, a product of the Electric Machinery Manufacturing Company (Photograph 7). Atop the alternator sits a 125-volt DC generator that provides exciter current. An oil-hydraulic-action Woodward governor, model number 6844, is located off to one side, in the northeast corner (Photogragh 8). Against the north wall are a small black-slate switchboard with a mixture of original and modern gauges, other control equipment, and the power cables (Photgraph 9). Large I-beams set into the north and south walls provide rails for a six-ton hand-operated bridge crane (Photogragh 10).

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

Statement of Significance:

Summary

The Occum Hydroelectric Plant and Dam is significant because of its association with the textile industry, the major engine of economic growth in eastern Connecticut throughout the 19th century (Criterion A); as an example of the period's dam engineering (Criterion C); and as a late but well-preserved example of early 20th-century hydroelectric technology (Criterion C). Although there are other large stone dams in the state, they represent only a portion of those that existed during the height of waterpowered industry. Some of the old dams have been rebuilt in concrete and many others were altogether destroyed during the high water of 1938 and 1955. While the Occum Dam has been altered from its original appearance by construction of the power plant in 1934 and by rebuilding of the eastern portion following the Hurricane of 1938, it nevertheless continues to typify the engineering skills that harnessed the waterpower of eastern Conecticut and allowed the textile industry to prosper. The dam was built by the Occum Company, a group of Norwich businessmen with close ties to other commercial and manufacturing enterprises in the region. This model of waterpower development, in which a company built a dam and sold the power to manufacturers who located their factories along the company's canal, was not common, but it had some notable successes in Connecticut, such as the Greeneville Dam farther downstream on the Shetucket River, the Windsor Locks Canal along the Connecticut River, and the Shelton Dam on the Housatonic River.

While the Occum Dam was in the forefront of large-scale water power development in Connecticut, the 1934 electric power plant is a late example of standardized hydroelectric engineering. In the early years of the 20th century, there was great variety in hydroelectric power plants, which differed in type and placement of turbines, type of generators, and how various components were interconnected. By about 1915, however, technological advances in turbines, thrust bearings, and electrical equipment had reduced the diversity to a single configuration that was used for all but the most unusual settings. Also, an electric power industry had emerged, as well as an engineering profession with depth of experience in plant design, leading to further convergence around a single type. With a few exceptions, virtually everything in the Occum plant could have been built 20 years earlier. As a relatively unchanged example of the type, however, the Occum plant has an importance that belies its small size and ordinariness, especially in the context of Connecticut, which has only nine operating hydroelectric power plants built before 1940.

Historical Development

The vicinity of Occum had been eyed as a possible waterpower site as early as 1845, but nothing came of those plans because of the opposition of abutting landowners. In 1864, however, the Connecticut General Assembly enacted a law that gave dam owners an absolute right to flood farmland upstream (with suitable compensation), and the Occum Company immediately took advantage of the new balance of power, buying the rights to the entire Shetucket River between Sprague and Greeneville.

The principals in the Occum Company were men with broad experience in waterpower and manufacturing. Lucius W. Carroll (1815-1900) was a Norwich merchant specializing in wholesale dyestuffs and other mill supplies, a position that would have brought him into contact with every major textile manufacturer in eastern Connecticut. Moses Pierce (1808-1900) was the founder and superintendent of the city's largest textile-related firm, the Norwich Bleaching and Calendaring Company, which had built a large factory in Greeneville in 1840 on the Norwich Water Company's power canal. Leonard Ballou (1794-1880), the company's long-time president, was a manufacturer who retired to Norwich after selling his cotton mill. Ballou and Carroll had worked together to organize Norwich's First National Bank that same year, with Carroll serving as president. With participants such as these, the Occum Company had the technical and financial resources needed to undertake a large-scale water-power development.

The company's goal was to dam the Shetucket and construct canals along both sides of the river to carry water to downstream mill sites. Completion of the project was delayed by a sudden freshet that carried away the partly completed dam and by legal disputes with A. and W. Sprague, owners of the next mill privilege upstream. The total cost was about $50,000. The first of the mill sites was purchased by Joseph H. Converse, who erected a four-story granite woolen mill; another woolen mill was built by R. G. Hooper just downstream. The better part of the company's power potential was sold outright to Cyrus Taft and other investors, who then constructed their own dam at Taftville, along with what became the largest cotton factory of its day, the Ponemah Mills. (The principals of the Occum Company were also investors in the Ponemah Mills, so they stood to gain no matter how the power was developed.) As it turned out, the east side of the river at Occum was never developed beyond the construction of headgates, and the west side served only one company after 1870, the year that the woolen mills were converted to the production of cotton textiles under the name of the Totoket Mills. The Totoket Mills were a project of Lorenzo Blackstone (1819-1888), an

entrepreneur who developed a series of cotton mills extending from Killingly to Montville, including the Ballouville mill he purchased from Leonard Ballou in 1865.

Although the Occum Company continued as a nominally independent corporation, for most of its history it was closely allied with the interests that controlled its only customer, the Totoket Mills. The office of secretary-treasurer, for example, was filled at various times by J. DeTrafford Blackstone, John T. Almy, and C. H. Frisbie, all of whom managed the Totoket Mills and the other Blackstone holdings. In the 1930s, mills throughout the area experienced the effects of the Great Depression and began selling off non-manufacturing assets such as commercial property and company housing. In 1932 Occum Company sold its dam and waterpower privileges to Joseph C. Work, who then immediately re-sold them to the City of Norwich.

The City of Norwich, at that time an incorporated area within the larger Town of Norwich, had espoused a public power policy since 1904, when the city took over privately owned gas and electric utilities in a forced sale. A Board of Gas and Electric Commissioners was formed and a Gas and Electric Department (later renamed the Public Utilities Department) was established within the city administration. In 1927 the city supplemented its steam-powered generating facility by building a hydroelectric plant at the Greenville dam. Construction began on the Occum plant in 1934, with the first power coming on line in 1937. The plant was forced to shut down the following year when high waters accompanying a hurricane washed away a portion of the dam. Although the damage was considerable, the eastern end of the dam was replaced, and the forebay and powerhouse were repaired. The plant has been operating steadily ever since.

Technological Significance: Dam

Occum's stone dam and headgates represent a turning point in the development of dam technology, a transition between the traditional millwright approach and scientific engineering. In terms of design and materials, the Occum Dam is little different from the hundreds of smaller dams that provided power for the region's 18th-century and early 19th-century gristmills, sawmills, and early textile factories. The use of massive masonry structures to impound water was one of two vernacular techniques (the other being gravel-filled wooden cribwork) that were simply scaled up to meet a growing need for industrial power. It was the sheer size of undertakings such as Occum that was notable.

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

American dam building practice evolved largely through experience, as textile mills and other large-scale enterprises made evermore ambitious plans to harness the region's major rivers. DeSazilly's analysis of the cross-sections of gravity dams, published in the 1850s in Europe, was probably not widely known at the time of the Occum Dam. Instead, engineers relied on their own experience and widely publicized examples, such as the 1849 Holyoke Dam across the Connecticut River in Massachusetts. Progress also came about as a result of some spectacular disasters, as well as numerous smaller failures. Protection of the work during construction, erosion control on the downstream side, and anchoring the dam into the river bed were some of the key concerns wrestled with at Occum and other early large-scale dams.

The engineer of the Occum Dam was Henry T. Potter (1821-1887). Potter received a common-school education in Smithfield, Rhode Island, and went to work for a series of local textile manufacturers. His talents enabled him to rise to the point where, in 1852, he was given chief responsibility for laying out a mill village in Warwick, Rhode Island, and building the Artic Mills there. Five years later he built a dam and mill for A. and W. Sprague at Baltic, just upstream from Occum on the Shetucket River; it was the largest textile mill in Connecticut at the time. Potter was brought to Norwich in 1863 and shortly thereafter began work on both the Occum project and the Ponemah Mills. After completing those two dams, he undertook the massive Shelton Dam spanning the Housatonic River between Shelton and Derby, Connecticut. Except for its size (860 feet long, with canals that run for more than a mile), the Shelton Dam was prefigured in almost every detail by the Occum project: a stone dam with headgates and canals leading to manufacturing sites on both sides of the river.

Later engineers faulted Potter's designs, particularly their insufficient foundations. Losses during construction occurred not only at Occum, but also during the building of the Shelton Dam and other Potter projects, a problem the engineer acknowledged when he commented, "the patter of rain upon my roof at night is to me what a battery pouring forth grape shot is to the soldier." Because of excessive scour, the Baltic Dam failed in the flood of March 26, 1876, an event that also caused $27,000 of damage to the dam at Occum. Such events were far from uncommon, however, and rather than indicating any deficiencies peculiar to Potter, they reflect the traditional origins of the technology and its development through experience. In his day Potter was regarded as an eminent engineer. Although he retired from active practice following the Shelton project, he continued to exert an influence on the profession as one of the state's official supervisors of dams, a position in which he reviewed and approved all major dam projects in eastern Connecticut.

Technological Significance: Power Plant

The Occum power plant represents early 20th-century American hydroelectric engineering in its fully developed state. The plant was designed by Chandler & Palmer, a local engineering firm, with what were essentially off-the-shelf components. In the first years of this century, there had been a great variety of design in turbines, generators, regulators, and powerhouses. Many early turbines and generators, for example, had been horizontally mounted, with some generators even connected to the turbine by belts and pulleys; there often were separately driven sources of exciter current. The first governors were flyball-regulated units like those on steam engines.

By about 1915, the pioneering phase was over. The perfection of the Kinsgbury thrust bearing allowed vertical-shaft turbines to eclipse the horizontal-shaft units that had been adapted from mechanical waterpower usage. The vertical turbine arrangement also allowed the generator and exciter unit to be mounted on the same axis above the turbine, which was usually set in a reinforced-concrete substructure that had been built with integral turbine supports and passageways for the intake and tailrace. In place of the flyball and mechanical linkage of the early governors, the Woodward Company and its competitors perfected magnetic-induction hydraulic governors like the one at Occum, patented in 1914. Finally, the development of interconnected electric-power utilities had defined a nationwide standard of 60-cycle alternating current, thereby presenting equipment manufacturers with a growing market for components designed to a common set of specifications.

Powerhouse architecture also reached a peak. The powerhouse served two main functions: shelter for the controls and generators and support for the bridge crane that lifted the units out for service. Consequently, it was always a single story in height, though sometimes it had a mezzanine for offices or transformers. Brick and concrete construction was used for strength and fire-resistance, and tall windows provided light for the interior and, equally important, ventilation of the waste heat produced by the generators. Prior to about 1920, powerhouses often served as architectural statements of the prosperity and good taste of the utilities that built them. But by the 1930s, they were so commonplace that architectural embellishment seemed pointless. Most of the power-houses of the 1920s and 1930s are like Occum's: simple, highly functional brick buildings with only a minimum of decoration to relieve the overall plainness.

Subsequent developments in hydropower engineering represented relatively minor improvements. The generator at Occum, for example, incorporates a support frame patented in 1928 by its manufacturer, the Electric Machinery Manufacturing Company of Minneapolis. The Kaplan turbine's variable-pitch runner was introduced in America in 1929; although it provided slightly less efficiency at optimum conditions, its power output was far less affected by changes in head and flow, and it was selected for a number of installations built in the 1930s. By and large, however, Occum's significance is not as an illustration of pioneering ideas but as an example of standard practice, one that is relatively unchanged since its original construction.

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

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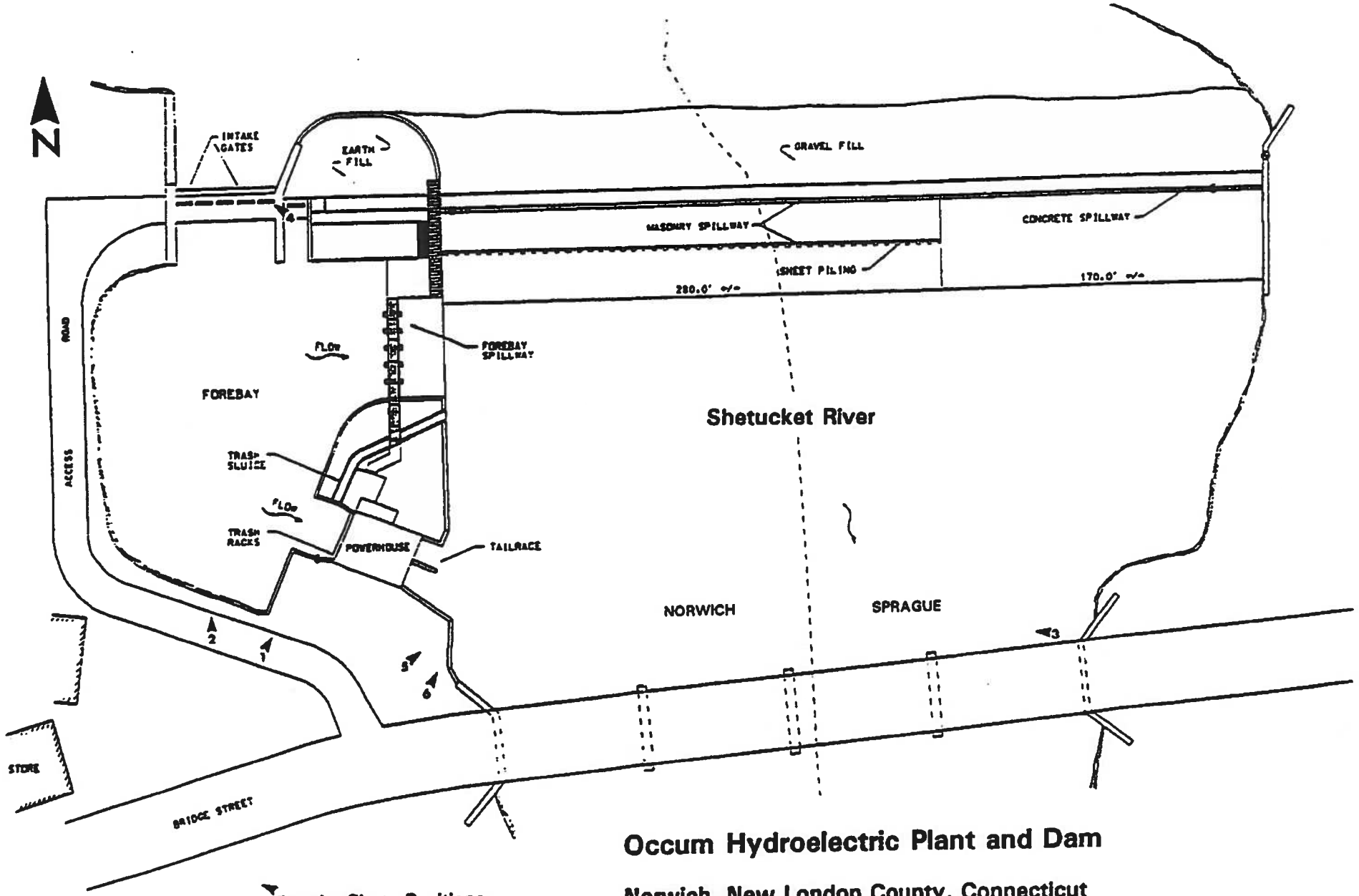
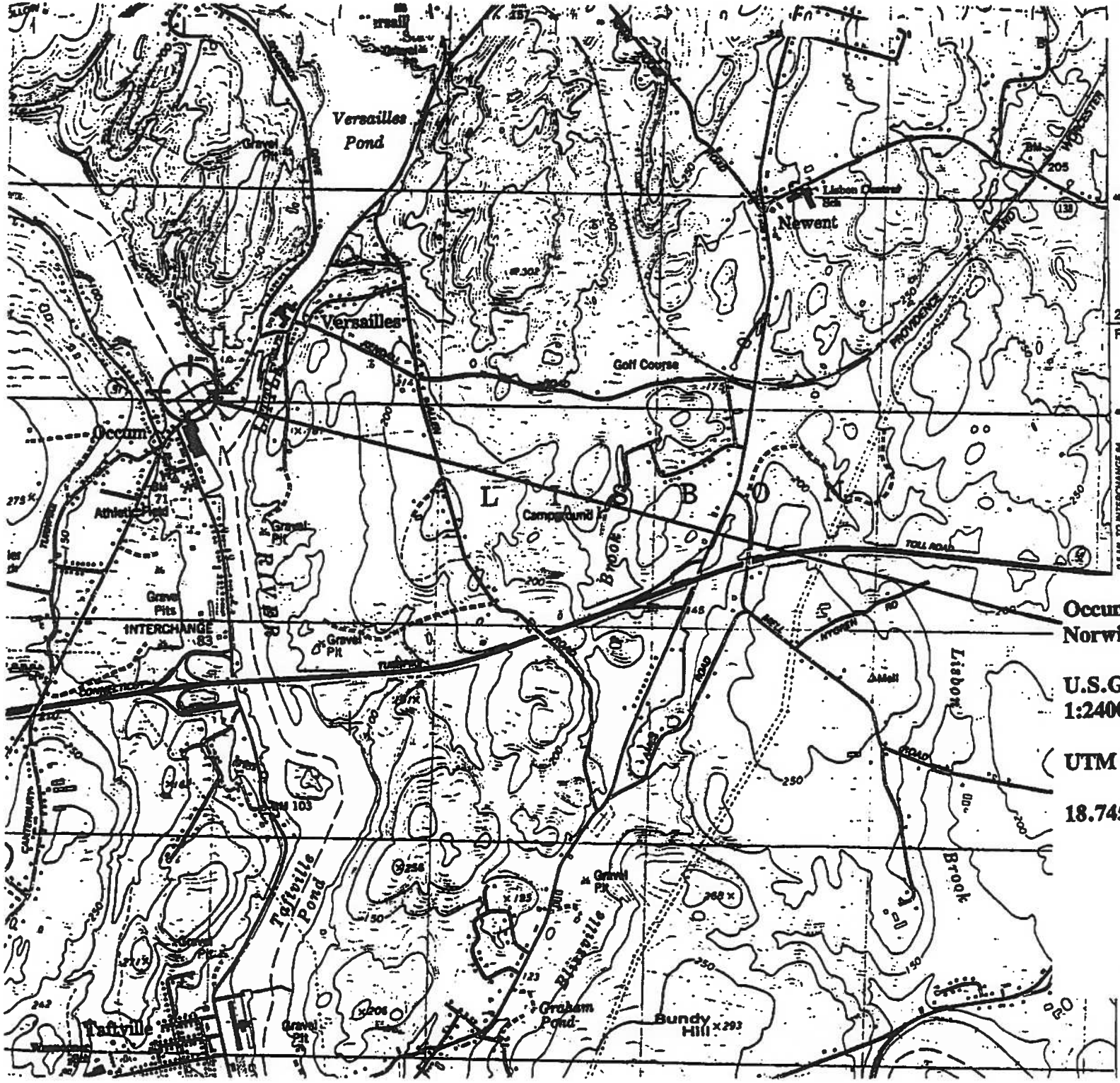


Occum Hydroelectric Plant and Dam

Norwich, New London County, Connecticut

Site Plan



Occum Hydroelectric Plant and Dam
Norwich, New London County, CT

U.S.G.S. Norwich Quadrangle
1:24000

UTM Reference:

18.745850.4609040

NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number Photos Page 1

Occum Hydroelectric Plant and Dam
Norwich, New London County, Connecticut

All photographs:

1. Occum Hydroelectric Plant and Dam
2. Norwich, New London County, CT
3. Photo Credit: HRC, Hartford, CT
4. Negative filed with Connecticut Historical Commission Hartford, CT

Photographs 1-3, 5, 6: October 1995
Photographs 4, 7-10: February 1996

Captions:

Powerhouse, south elevation, camera facing northeast
Photograph 1 of 10

Intake gates, forebay side, camera facing north
Photograph 2 of 10

Trash sluice and forebay spillway, camera facing west
Photograph 3 of 10

Detail of gate lifter, camera facing northwest
Photograph 4 of 10

Dam, camera facing northeast
Photograph 5 of 10

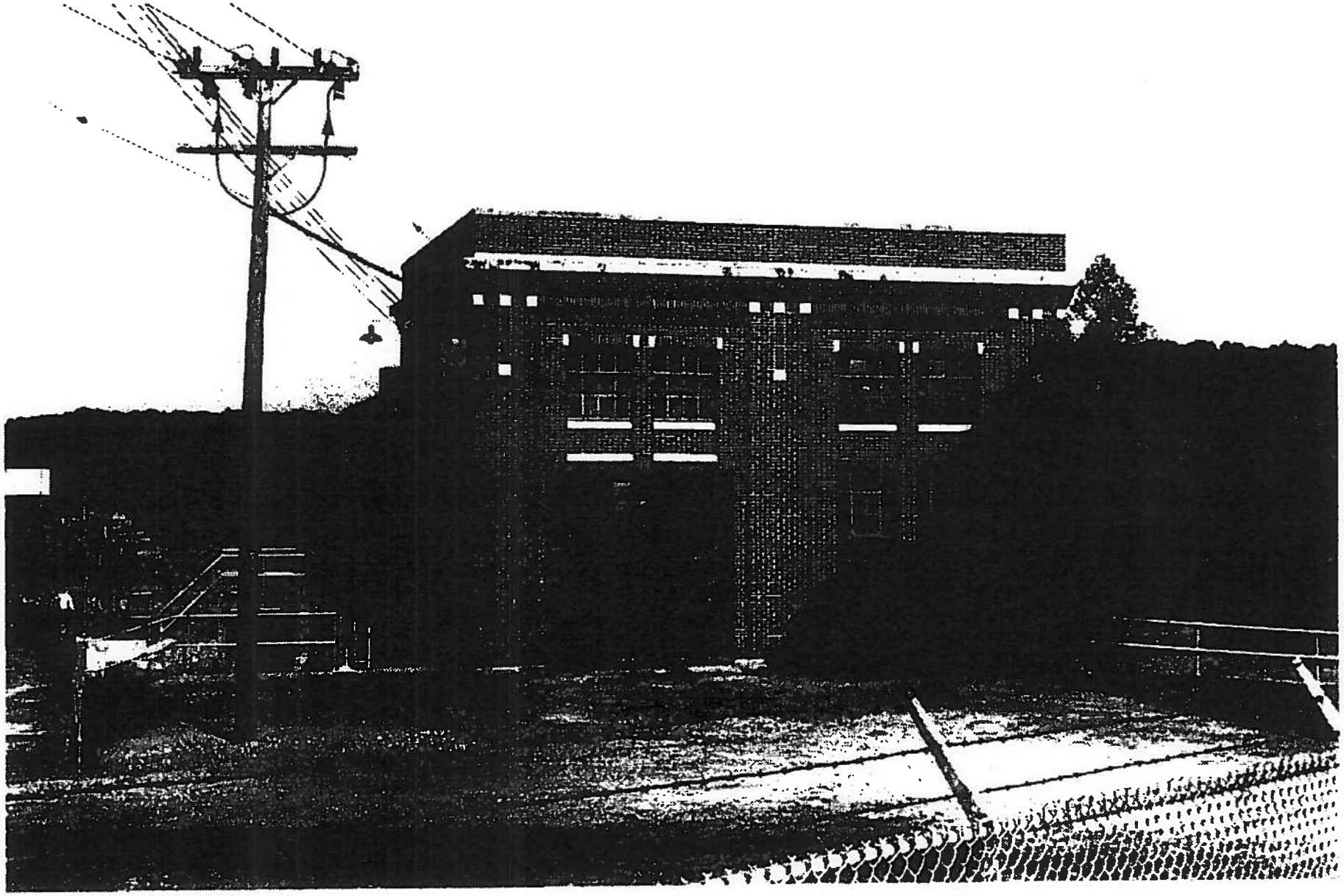
Detail of original stone part of dam, camera facing northeast
Photograph 6 of 10

Generator, interior of powerhouse, camera facing northeast
Photograph 7 of 10

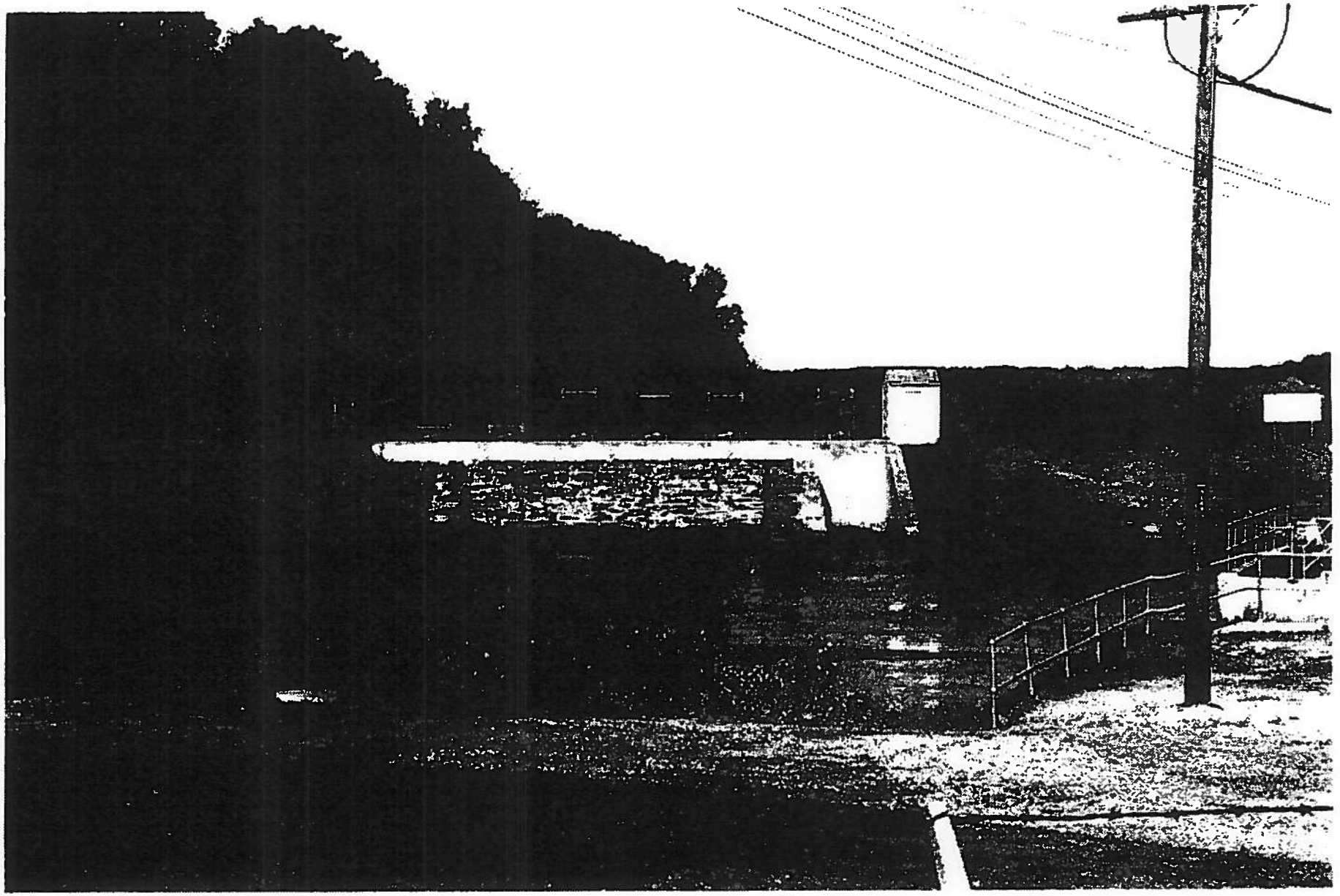
Woodward governor, camera facing northwest
Photograph 8 of 10

Switchboard, north wall of powerhouse, camera facing north
Photograph 9 of 10

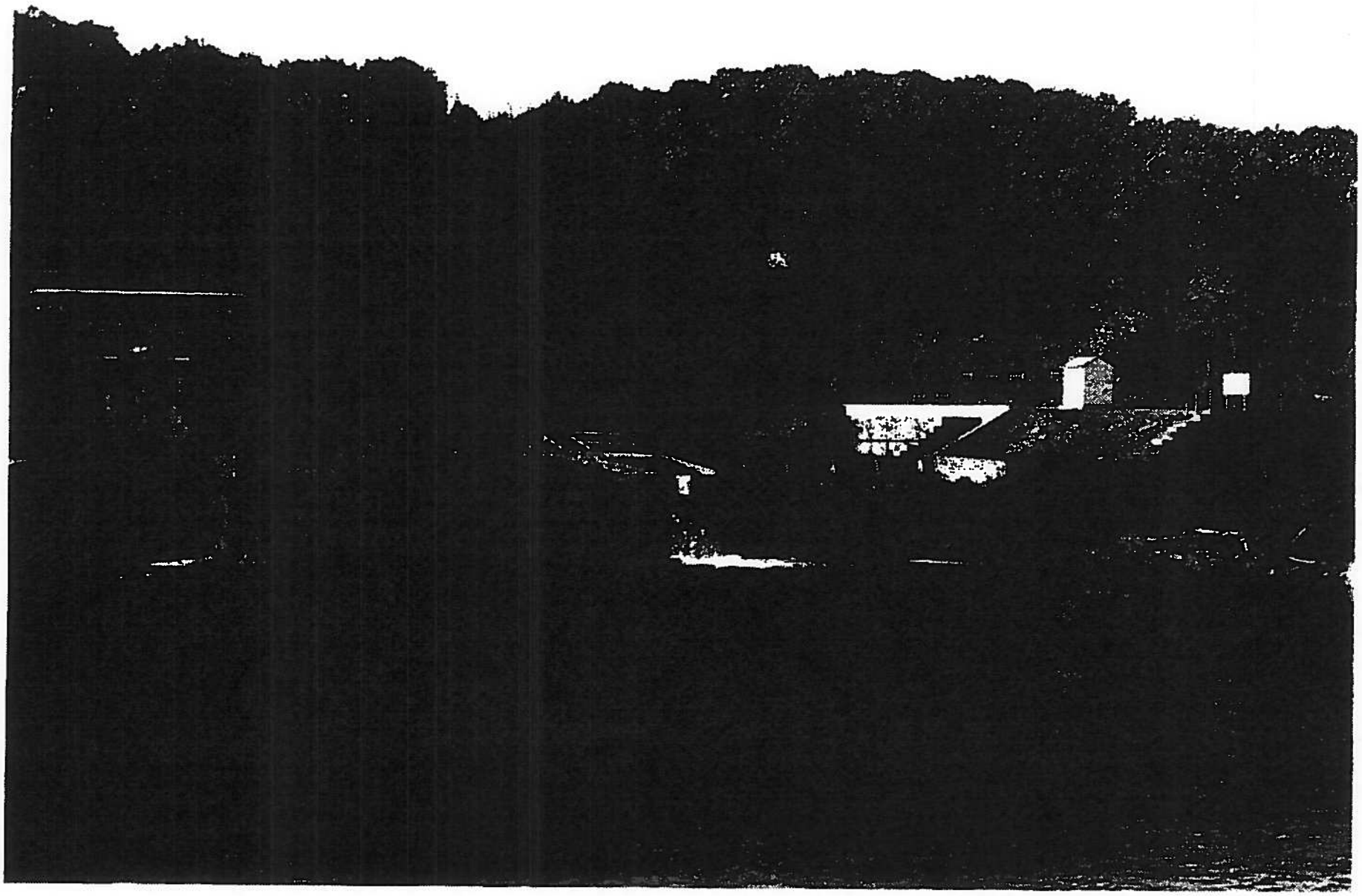
Bridge crane, east end of powerhouse, camera facing south
Photograph 10 of 10



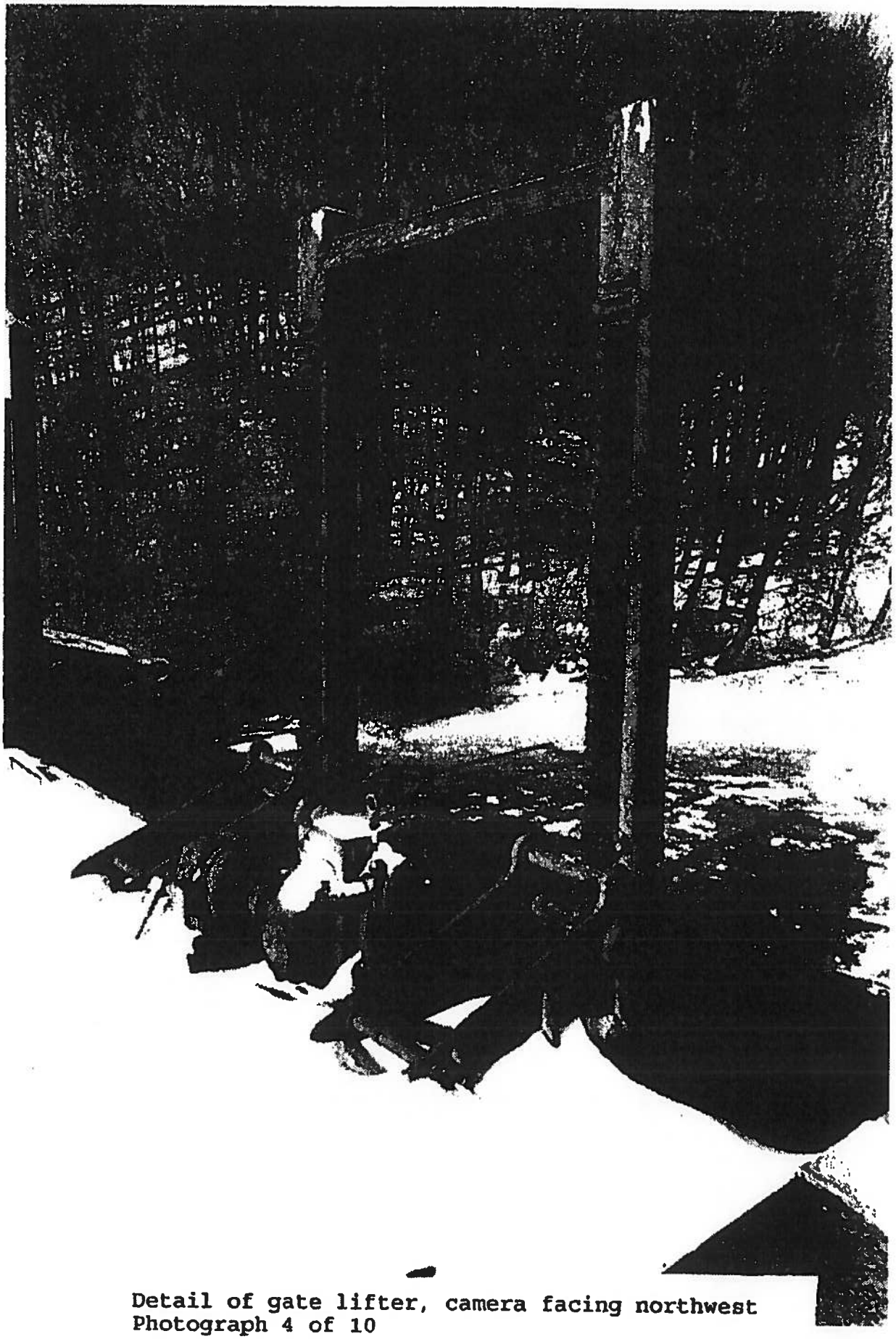
Powerhouse, south elevation, camera facing northeast
Photograph 1 of 10



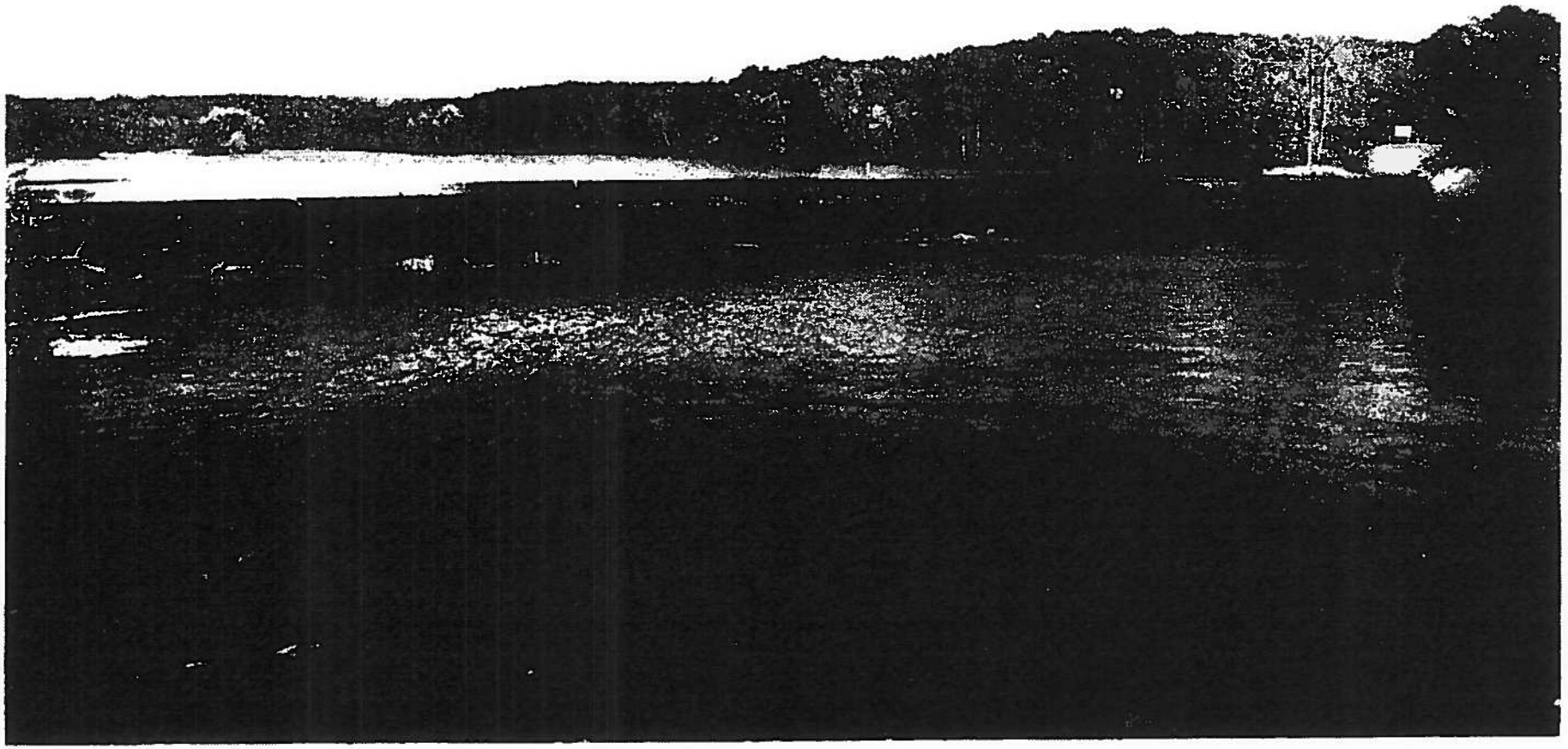
Intake gates, forebay side, camera facing north
Photograph 2 of 10



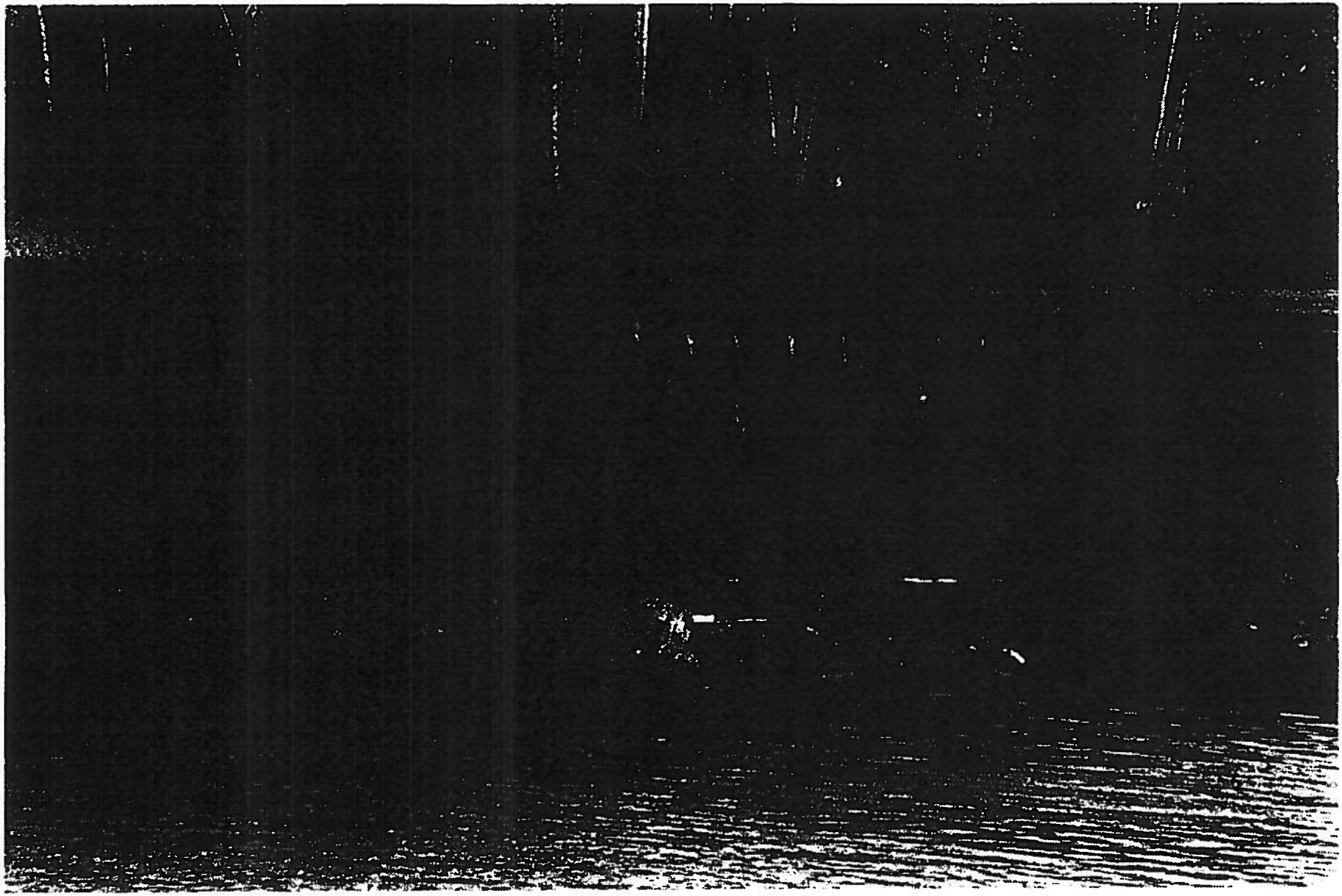
Trash sluice and forebay spillway, camera facing west
Photograph 3 of 10



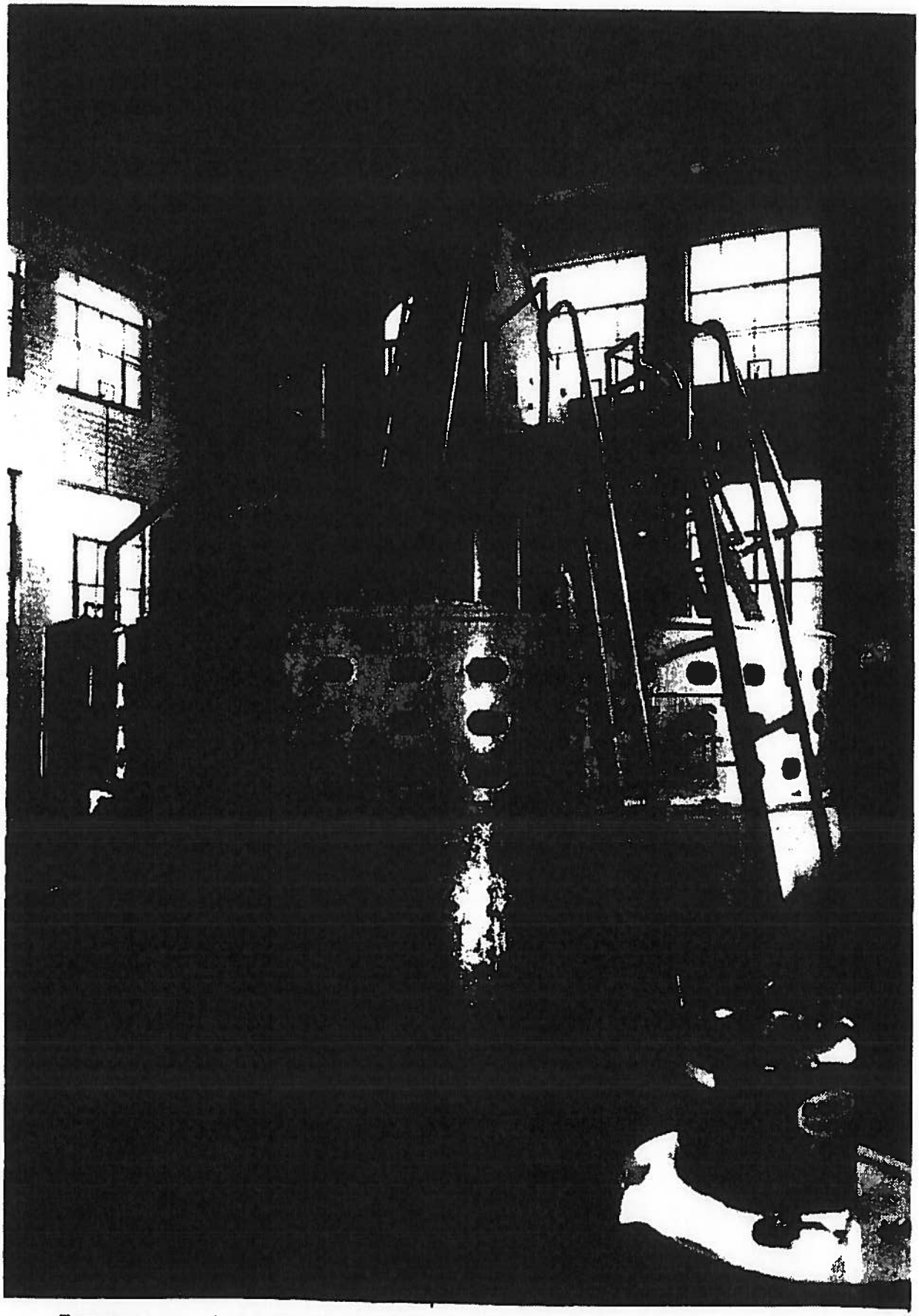
Detail of gate lifter, camera facing northwest
Photograph 4 of 10



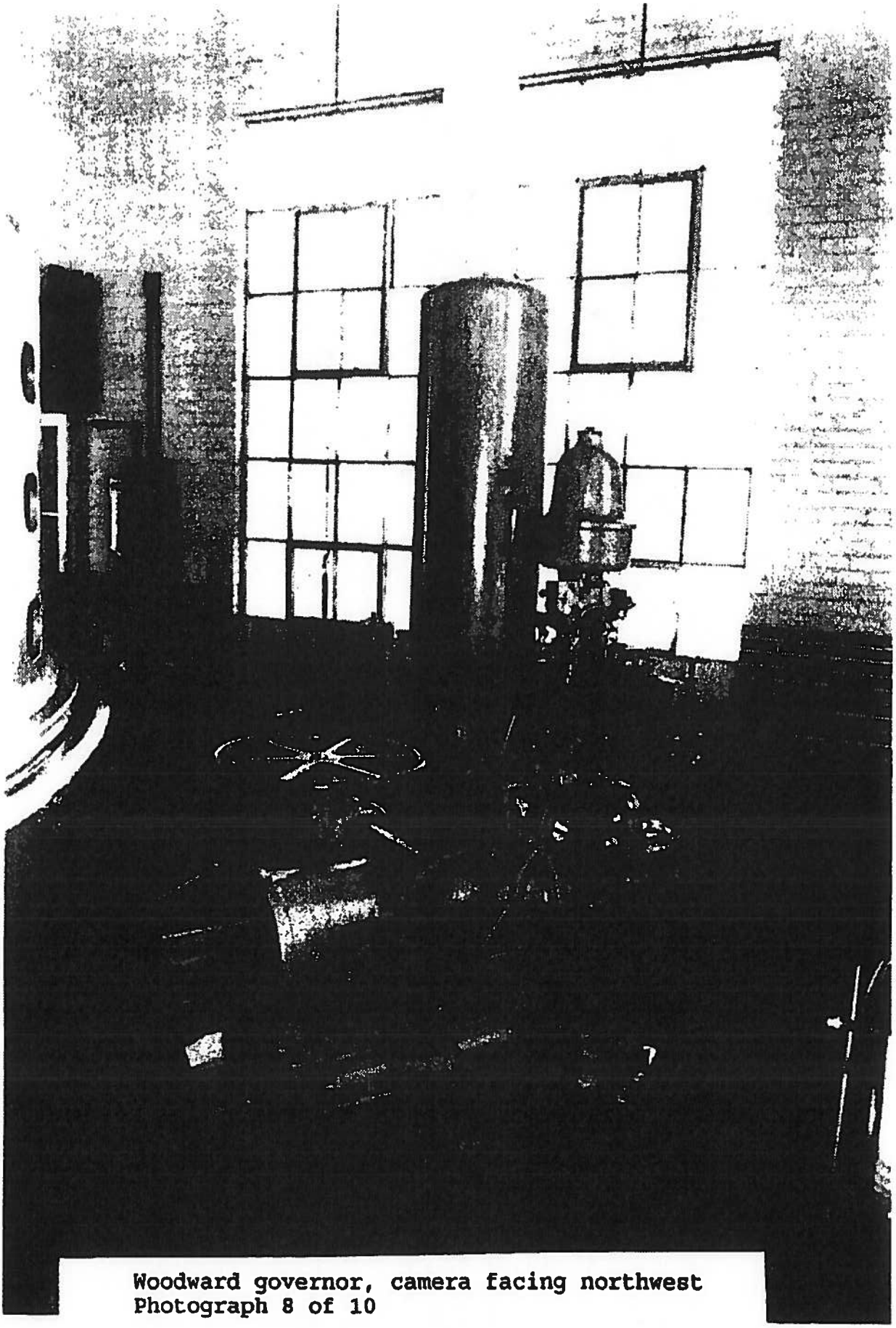
Dam, camera facing northeast
Photograph 5 of 10



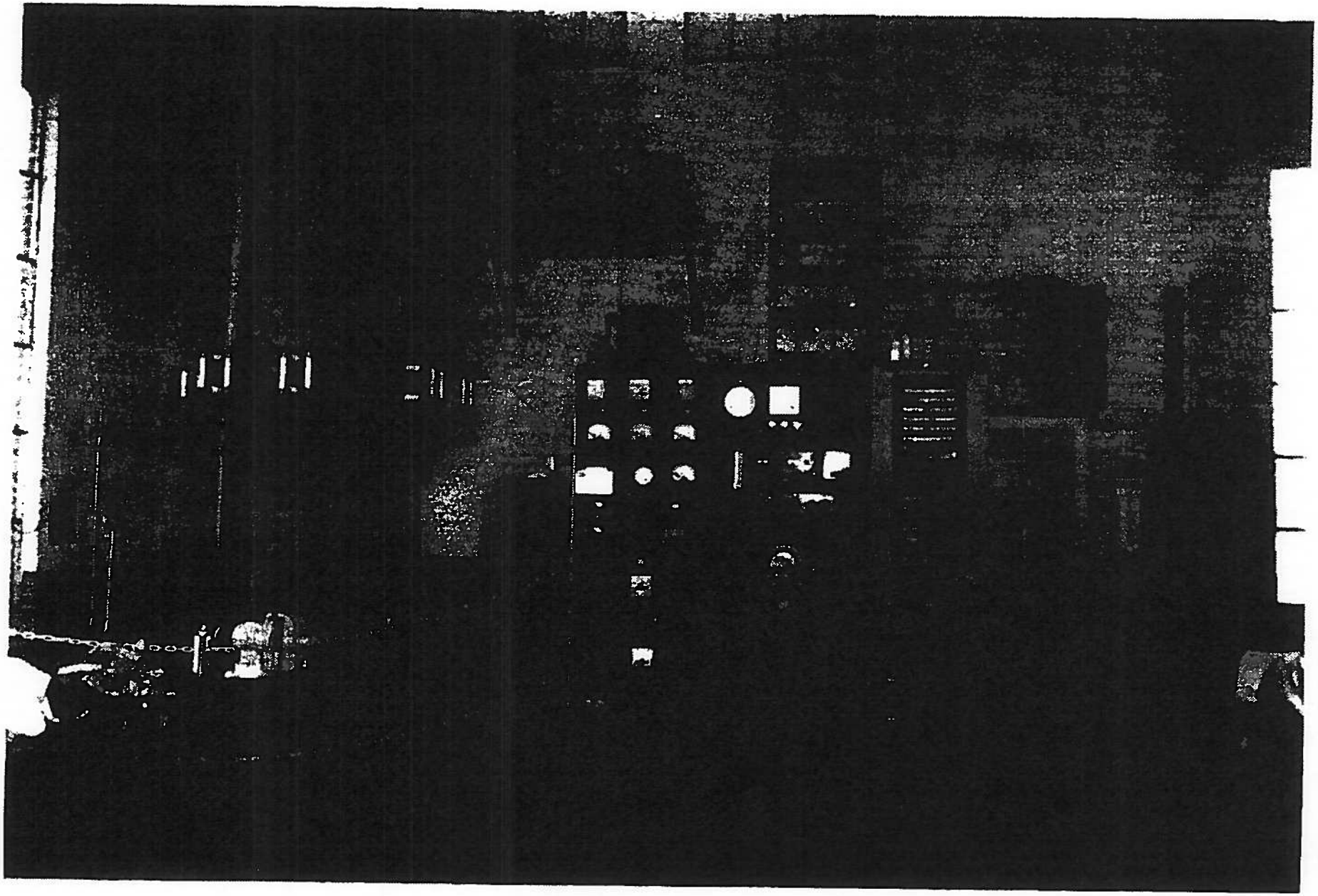
Detail of original stone part of dam, camera facing northeast
Photograph 6 of 10



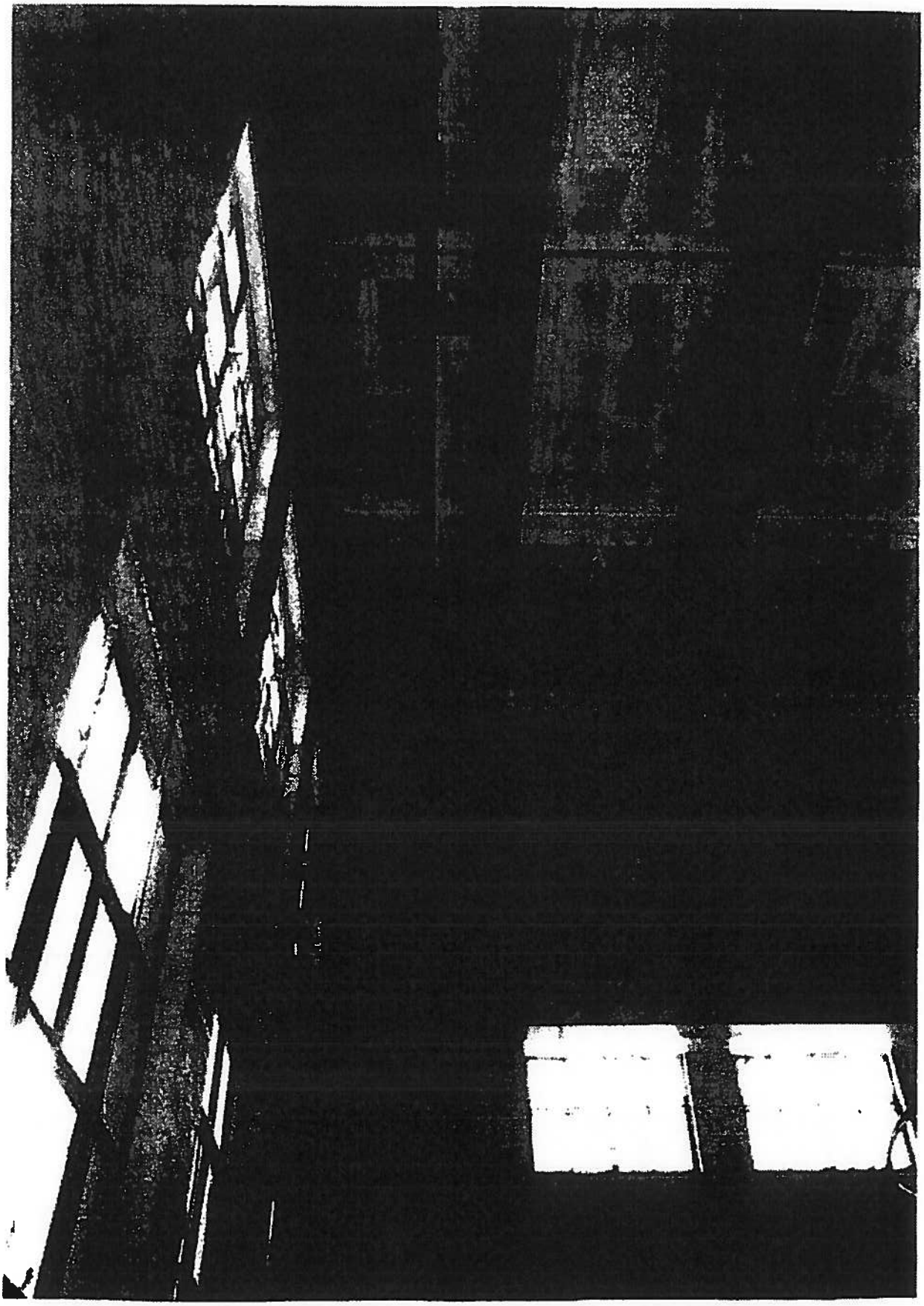
Generator, interior of powerhouse, camera facing northeast
Photograph 7 of 10



Woodward governor, camera facing northwest
Photograph 8 of 10



Switchboard, north wall of power house, camera facing north
Photograph 9 of 10



Bridge crane, east end of power house, camera facing south
Photograph 10 of 10

ATTACHMENT C

CORRESPONDENCE

STATE OF CONNECTICUT

CONNECTICUT HISTORICAL COMMISSION

November 9, 2000

Mr. Alfred Nash
Kleinschmidt Associates
PO Box 576
Pittsfield, ME 04967

Subject: Occum Hydroelectric Project
Norwich, CT
FERC #11574

Dear Mr. Nash:

The State Historic Preservation Office has reviewed the draft Cultural Resources Management Plan prepared by Kleinschmidt Associates, on behalf of the Norwich Department of Public Utilities, concerning the above-named project. This office strongly supports and encourages the continued hydroelectric use of this historic power generation facility.

The State Historic Preservation Office recommends that the following technical changes be incorporated into the Norwich Department of Public Utilities' Cultural Resource Management Plan:

- The introductory section should be modified as follows: *Based on consultation with the State Historic Preservation Office, the Occum Hydroelectric Plant and Dam is listed on the National Register of Historic Places and possesses historic and engineering importance. In addition, upstream impoundment areas may possess moderate to high sensitivity for prehistoric and historic archaeological resources. In order to protect ...*

- Stipulation 1 should be amended as follows: *NDPU will notify the SHPO of any plans to change the mode of operation, expand capacity, alter project facilities, initiate ground-disturbing activities, dewatering of the impoundment area, and/or changes to the structures described or photographed within the National Register inventory-nomination for the Occum Hydroelectric Plant and Dam. The notification will identify alternatives to the planned actions.*

- The National Register inventory-nomination for the Occum Hydroelectric Plant and Dam should be incorporated within the Cultural Resource Management Plan.

This office appreciates the opportunity to have reviewed and commented upon the draft document. For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely,

Dawn Maddox
Deputy State Historic
Preservation Officer

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ORIGINAL

COMMENTS
submitted by the
ADVISORY COUNCIL ON HISTORIC PRESERVATION
on the
CULTURAL RESOURCE MANAGEMENT PLAN
for the
OCCUM HYDROELECTRIC PROJECT (FERC Project No. 11574)

November 6, 2001

We have reviewed the Cultural Resource Management Plan (CRMP) submitted for the Occum Hydroelectric Project (Project No. 11574) and offer the following comments.

- It is worthwhile to include a short, but concise, synopsis of the National Register form in order to identify, within the body of the plan, those properties which contribute to the Occum Hydroelectric Plant and Dam, a property which is listed in the National Register as an historic district and those character-defining elements of the district. Because that information is critical to informed management decision making, it should be readily available in the body of the CRMP.
- The plan states that *"upstream impoundment areas may possess moderate to high sensitivity for prehistoric and historic archeological resources."* However, it is not clear if this location is within the area of potential effects (APE) that is referred to in Appendix A to the Programmatic Agreement (PA) executed on August 16, 1999 between the Federal Energy Commission, the Council, the Connecticut State Historic Preservation Office (SHPO) and the City of Norwich, the project licensee. If this impoundment is indeed located within the APE, then to reduce confusion, the CRMP should include a map showing the APE that was established for the issuance of the original license. In addition, there does not appear to be a map of the APE included in attachment B as stated on page 3 of the CRMP.
- Furthermore, Appendix A appears to report a low probability of finding eligible archeological properties within the project APE. This is in apparent contradiction to the CRMP. We ask that you please resolve this matter.
- The CRMP should establish a decision making process that facilitates the consideration of effects early in project planning and identifies mechanisms for reaching resolution. The Proposed Measures section should be more precise about how and when the licensee will notify the SHPO, and about what information will be provided at that time. Likewise, it would be constructive if the CRMP defined exactly what constitutes "*a change to structures described or photographed within the National Register inventory nomination.*" Since we consider it a change if the City cannot maintain the historic property with in-kind replacements, this section regarding maintenance should be linked with the earlier discussion under Proposed Measures section.
- In addition, it is not at all clear what happens if effects on historic properties are unavoidable. Although the CRMP mentions appropriate mitigation measures, the process does not provide a clear mechanism for reaching resolution in their development and

agreement as to their implementation. Please revise the plan accordingly.

- Likewise, we recommend that you reconsider the procedures proposed for discovery situations so that it is clear when project work could be resumed and what information would be included in the report to the SHPO. Would any work be required to identify and treat historic properties discovered in this manner. Furthermore, to facilitate the implementation of this section, the relevant state law and procedures should be referenced and included as an appendix.
- There is no provision for the identification and evaluation of historic properties other than the Occum Hydroelectric Plant and Dam prior to implementation of a proposed action. This approach would not be unreasonable if a low probability for eligible archeological sites was predicted. However, this prediction directly contradicts the statement regarding upstream impoundment areas which we referenced above. Please resolve this matter and also incorporate into the plan any information about previous archeological surveys or other information regarding the likelihood for identifying historic properties other than the power plant and dam within the APE.
- Be advised that prior to deciding to implement a proposed action the City should determine if historic properties are present. In order to do this, the City may have to conduct an archeological study. Based on that information, the City can determine if historic properties will be affected by the proposed action. However, studies of this kind are not assumed to be infallible and may indeed miss significant archeological resources or overlook important effects. For that reason, the management process needs to take into account the possibility of discovery situations.
- We would hope that the City's commitment to participate in Connecticut's Archeology Awareness Week would extend beyond this year. Also, in this section the City should establish how it will determine the appropriate form content for interpretative materials.
- The section evaluating the consistency between the CRMP and the requirements in the PA is not necessary nor do you need to reiterate the terms of the PA. Rather, the components of this section and the accompanying procedures (absent the terms of the PA) should be integrated as management components of the plan.
- Although the City has not yet identified any organizations or persons interested in effects on historic properties that situation might change over time. Accordingly, the CRMP should establish mechanisms for the City to identify and include parties in consultation other than the SHPO for any proposed action. For example, if the plan has correctly established the probability for eligible archeological resources in the upstream impoundment, Indian tribes should be consulted by the City.

Draft Guidelines for the Development of Historic Properties Management Plans FOR FERC HYDROELECTRIC PROJECT LICENSE APPLICANTS

I. INTRODUCTION AND PURPOSE OF THIS GUIDANCE

Section 106 of the National Historic Preservation Act (NHPA) requires the Federal Energy Regulatory Commission (FERC) to take into account the effect of its undertakings on historic properties and to afford the Advisory Council on Historic Preservation (Council) a reasonable opportunity to comment. FERC considers the issuance of new and original licenses, and license amendments, surrenders and terminations to be undertakings requiring compliance with Section 106. Section 106 is implemented through the Council's regulations, "Protection of Historic Properties" (36 CFR Part 800). For hydropower licensing actions, FERC typically completes Section 106 by entering into a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) with the license applicant, the Council, and the State and/or Tribal Historic Preservation Officer (SHPO/THPO)[1]. This agreement is then incorporated by reference into the project license when it is issued.

Because it is not possible for FERC to determine all of the effects of various activities over the course of the license, under the terms of a PA or MOA, FERC typically requires the licensee to develop and implement a Historic Properties Management Plan (HPMP) as part of a new license. Through the HPMP, FERC can encourage consideration and appropriate management of effects on historic properties throughout the term of the license. In so doing, FERC meets the requirements of Section 106 for its undertaking, issuance of the license.

The purpose of this document is to provide guidance for the development of HPMPs.

What is an HPMP?

An HPMP is a plan for considering and managing effects on historic properties of activities associated with hydropower generation and implemented pursuant to the FERC license. It establishes a decision-making process through which potential effects on historic properties can be considered, hopefully early, in project planning. When preparing an HPMP and considering possible effects, current and future, start with the license order or the proposed terms and conditions of the license depending on whether or not the license has already been issued. because it identifies the licensee's responsibilities for the term of the license. It is the effect on historic properties of the actions taken to implement the license over its term over the entire course of the license which should be considered and managed through the HPMP.

A good HPMP identifies the nature and significance of historic properties that may be affected by day-to-day project maintenance and operations, any proposed improvements to project facilities, and public access. It identifies goals for the preservation of historic properties; establishes guidelines for routine

[1]The 1992 amendments to the NHPA include provisions for Indian tribes to assume the responsibility of the SHPO on tribal lands. The Council's regulations use the term Tribal Historic Preservation Officer to mean the THPO under Section 101(d)(2) of the NHPA for undertakings occurring on or affecting tribal lands.

maintenance and operations; and establishes procedures for consulting with SHPOs, THPOs, Indian tribes, historic preservation experts and the interested public when effects to historic properties or contributing elements of a historic district cannot be avoided.

The HPMP should be responsive to the purposes of the Project[2] and should be realistic in terms of those purposes. It is not the intent of Section 106 or the HPMP to transform a hydroelectric powerhouse into a "museum" or jeopardize the ability of the licensee to safely produce hydroelectricity in the marketplace. Accordingly, the HPMP should recognize that the need to fulfill all of the terms and conditions of the Project license, and should not impede the safe efficient production of energy.

The HPMP should be:

- ❑ integrated into the licensee's Project decision-making process so that historic preservation needs are considered during Project planning and operation
- ❑ written in plain English with a minimum of historic preservation jargon
- ❑ a stand-alone document (not dependent on access to previous studies).
- ❑ consistent with any other Project management plans, settlement agreements and/or long-range planning documents.

What does the HPMP propose to manage?

The HPMP should provide for the management of properties listed in or eligible for listing in the National Register of Historic Places, the National Park Service's official list of properties recognized for their significance in American history, architecture, archeology, engineering, and culture. Such places, are referred to as **historic properties,**[3] and may include the project facilities, such as the dam, powerhouse and substations; other kinds of buildings and structures; prehistoric and historic archeological sites, cultural landscapes; and properties of traditional religious or cultural significance to Indian tribes. [4]

The management of historic properties involves both the long term protection of historic values of historic properties and consideration of the effects of a licensee's actions on historic properties. Hydroelectric projects may affect[5] historic properties in a number of ways. Modes of Project operation that cause erosion can result in the significant loss of archeological sites located along shorelines. Likewise, construction of recreational developments and providing greater public access can seriously damage fragile archeological sites. Even actions which initially may seem fairly innocuous and routine,

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[2] "Project" means any licensed or unlicensed, existing or proposed water power project, including minor projects, major projects, and major modified projects as defined in the FERC "Hydroelectric Project Relicensing Handbook (April 1990).

[3] In the past under the terms of hydropower relicensing PAs, FERC has required licensees to develop "Cultural Resources Management Plans" (CRMP). In this guidance, however, the term HPMP is used because it more accurately reflects of the requirements of Section 106 of the NHPA.

[4] An applicant may develop a management plan dealing with all cultural resources (a CRMP, for example), as part of a settlement agreement. This approach is not required for Section 106 review, but can certainly improve understanding between parties, and facilitate better coordination of all the applicable laws and regulations relating to cultural resources.

[5] Effect as defined in the Council's regulations means "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" [36 CFR § 800.16(j)]

can undermine the integrity of an historic property. For example, since windows are quite often a character defining feature of historic buildings, their replacement in an historic powerhouse can significantly alter that property.[6]

Who's responsible for carrying out the plan?

Because the Project licensee develops and implements the HPMP, pursuant to the license conditions, the plan should identify the staff position within the Project which will be responsible for implementing the plan over the course of the license. However, FERC remains legally responsible for ensuring that the HPMP is carried out as conditioned by the license.

Successful implementation of the HPMP is more likely when Project staff are educated about the specific requirements of the plan within the general context of historic preservation law and practice. Even with this staff training, however, consultants with specialized training may be needed to complete certain aspects of the plan, such as archeological studies, for example.

Timing

In the last few years, FERC has concluded Section 106 review for most hydroelectric licensing undertakings through execution of a PA. Section 106 review is concluded when the PA whose terms are developed through consultation between FERC, the SHPO/THPO, Indian tribes, the applicant, and others, is signed by FERC, the SHPO/THPO, and, as appropriate, the Advisory Council before the license is issued. Under the terms of a PA, applicants for a new license are usually required to develop an HPMP within one year of the issuance of the FERC license. However, use of FERC's Alternative Licensing Processes (ALP) affords the license applicant an opportunity to work collaboratively with stakeholders to resolve resource issues of concern, and to draft a HPMP and EA before an application is filed with FERC.

This collaborative process offers an excellent opportunity to identify, consider and possibly resolve issues pertinent to historic resources management and protection. The ALP process may also provide a convenient means through which to involve the SHPO and/or THPO, as appropriate, and other stakeholders in consultation early on so that they might reach agreement regarding the scope and results of studies. In consultation with the SHPO and/or THPO, and the collaborative group (or a cultural resources work group), a license applicant may develop a draft HPMP during the prefiling stage that may then be referenced to a PA, MOA, or other document used to comply with Section 106.

An HPMP should not be concluded without the involvement of FERC, who is the responsible Federal agency for purposes of Section 106. It is, therefore, wise to involve FERC in resolving questions or issues that arise in drafting an HPMP, even when the document is drafted prior to filing a license application. Check with FERC's Office of Energy Projects for more information.

II. HOW TO DEVELOP A HPMP

Who should prepare a HPMP?

The preparer of the HPMP should be knowledgeable about:

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[6] An adverse effect is found when a proposed action may alter the characteristics that qualify a historic property for inclusion in the National Register "in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." [36 CFR § 800.5(a)(1)].

- hydropower project operations and maintenance;
- historic preservation law, policy and practice; and
- management and treatment issues pertaining to all the types of historic properties that may be affected by Project operations.

Professional qualification standards in the areas of archeology, history, architecture and architectural history have been established by the Secretary of the Interior's Professional Qualification Standards {48 FR 44738-9}. Although the Secretary of the Interior has drafted revised standards, as of June 1, 2000, these revised draft professional standards are not yet finalized.

The licensee is encouraged to consult these standards and to seek technical guidance from the Council and the appropriate SHPO and/or THPO. However, the degree of expertise needed to develop a HPMP will depend on the complexity of the Project and its historic preservation issues.

Consultation with Others

The HPMP should be developed in consultation with the following parties:

- The State Historic Preservation Officer (SHPO) reflects the interests of the state and its citizens in the preservation of their cultural heritage, and advises Federal agencies in carrying out their Section 106 responsibilities. Because the SHPO usually plays an important role in the implementation of the HPMP throughout the term of the license, SHPO participation is crucial to the development of the plan.
- If the Project is on OR affects historic properties on tribal lands, and the tribe has assumed the responsibilities of the SHPO for Section 106 in accordance with Section 101(d)(2) of the NHPA, the Tribal Historic Preservation Officer (THPO) must be consulted. Where a tribe does not have a THPO,, the applicant and FERC should consult with the representative officially designated by the tribe. Because Indian Tribes exercise sovereign authority over tribal lands, the participation of the THPO or other designated representative is crucial to the development and implementation of the HPMP.
- Consultation must also involve Indian tribes or Native Hawaiian organizations that attach traditional religious or cultural significance to historic properties that may be affected by the operation of the Project. Such resources may be located on tribal lands, ceded lands, or other lands within the traditional territory of a tribe.
- State and local governments, other agencies, non-government organizations, property owners, and other individuals may wish to participate in the development of the HPMP due to the nature of their legal or economic relation to the undertaking or affected historic properties, or their concern with the undertaking's affects on historic properties. This might include other Federal and state agencies. For example, the Project may be constructed on lands owned by or under the jurisdiction of the Forest Service or the Bureau of Land Management.
- The Advisory Council on Historic Preservation (Council) oversees the Section 106 process, and may be asked to help resolve disagreements and provide guidance, advice and technical assistance to FERC, license applicants, licensees and other consulting parties in completing Section 106 and developing the HPMP.

III. MANAGEMENT OBJECTIVES, PRINCIPLES AND DECISION-MAKING

The Council recommends that license applicants and licensees apply the following principles in

developing an HPMP for a hydroelectric project.

Principle 1: ***The HPMP needs to be responsive to the purposes of the Project, including the safe efficient production of hydroelectric power, and realistic in terms of those purposes.***

The HPMP should be responsive to the purposes of the Project and should be realistic in terms of those purposes. It is not the intent of Section 106 or the HPMP to transform a hydroelectric powerhouse into a "museum" or jeopardize the ability of the licensee to safely produce hydroelectricity in the marketplace. Accordingly, the HPMP should acknowledge the need to fulfill all of the terms and conditions of the Project license, and should not impede the safe efficient production of energy.

Principle 2: ***The scope of the HPMP should be explicit and clearly defined, and establish an approach to address effects on private lands.***

The HPMP is limited to the consideration of actions which fall under the jurisdiction of the licensee. The HPMP should recognize that the Project area and the area that is affected by project operations and management are not necessarily the same. Since Project effects can extend beyond the Project boundary, the geographic scope of the HPMP should not be limited to Project lands. However, in order to comport with the Council's regulations, the HPMP cannot compel actions on private lands where the licensee has been denied access. In defining the scope, the plan should

- describe and include a map depicting the area of potential effect (APE), as defined in the Council's regulations at 3 CFR § 800.16(d);
- where applicable, identify how to access private lands; and
- describe outreach efforts that can encourage the treatment of effects on private land

Principle 3: ***The HPMP should establish achievable realistic goals and targets for completing specified tasks that can serve as the basis for budget decisions, staff assignments, and performance measures.***

It is important to establish management goals and objectives, and identify who will carry out the HPMP and how. In order to facilitate implementation of the HPMP, the licensee might find it useful to develop a field operations manual which would operationalize its procedures for line staff. This would include a description of how staff will be trained to ensure that the HPMP is properly implemented.

Principle 4: ***The HPMP should be based on a full understanding of the applicable Federal, state and local laws and regulations which establish the authority for its implementation and may affect its scope.***

Although the focus of an HPMP is the protection of "historic properties" and compliance with the National Historic Preservation Act (NHPA), the treatment of historic properties and review procedures included in the HPMP cannot be inconsistent with other applicable laws and regulations. For example, if the Project is located on Federal or tribal lands, the HPMP needs to take into account the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulations, which detail procedures for determining the disposition of Native American human remains intentionally excavated or discovered during

ground disturbing activities. The HPMP should therefore:

- ❑ Identify all applicable Federal, state and local laws and regulations; and
- ❑ Establish how the HPMP will be implemented in conjunction with other legal responsibilities.

This is especially important when dealing with the treatment and disposition of any human remains that may be discovered so that the HPMP is consistent with applicable Federal, state, and local laws, and the Council's policy on the treatment of human remains.

Principle 5: ***The HPMP should avoid the use of jargon, and rely on the consistent use of correct and precise terms.***

It is important to remember that project staff who will use the HPMP and supervise its implementation, may not be familiar with terminology commonly used among archaeologists or historians. As such, if specialized terms are used they should be defined. Each sentence should be straight forward, to the point, and easy to understand to a "cold reader." For example, terms such as *Phase I archeological survey, certified archaeologist, state approved contracting archeologist, Phase II survey, Phase IA survey,* should be clearly defined so that whoever implements the HPMP is not confused about terminology and meaning.

Principle 6: ***The HPMP should be based on sufficient studies to predict the likely affects of Project activities on historic properties, and should provide for the conduct of additional studies that may be needed.***

The HPMP should include a description of previous inventories and historic properties that have been identified. It is not good practice to defer identification and evaluation of historic properties until after the license is issued, especially with large and/or complex Projects. However, it is not necessary to complete identification of each and every historic property within the APE before licensing. The HPMP should also specify if and when additional identification and evaluation of historic properties are needed. It should:

- ❑ Identify what additional surveys and evaluation are needed and a schedule for completion,
- ❑ Establish procedures to ensure that the pertinent information will be gathered (for example, consultation with Indian tribes regarding properties of traditional religious and cultural significance), and considered prior to the implementation of any action that might affect historic properties,
- ❑ Provide for re-evaluation of historic properties during the term of the license due to changing circumstances, such as the passage of time or changes in the property's integrity.

Principle 7: ***The HPMP should provide Project staff with ready access to pertinent information, but must also include mechanisms to protect sensitive data and to establish an appropriate level of security to discourage abuses.***

Access to relevant information, such as survey data, standards and guidelines, and points of contact for consultation, is essential for the effective implementation of the HPMP. However, confidentiality, especially regarding the location of archeological sites and historic properties of traditional religious or

cultural significance to Indian tribes, may be crucial for long term protection, particularly to protect against such activities as vandalism and looting.[7]

Principle 8: ***The HPMP should provide for an appropriate level of consultation with others before decisions are made.***

The HPMP should establish procedures to identify when and how others, such as the SHPO, the THPO and Indian tribes, will participate in review and decision-making. The communication protocol developed for the ALP might be a useful place to start developing such procedures. Remember it is essential to consult with others early, before decisions have been made, when the maximum options are still available for consideration. It is essential that the HPMP establish through these procedures a way to reach decisions through consultation, including resolving disputes, when they occur.

Principle 9: ***HPMPs should establish management priorities and steps to be taken to ensure long-term protection of historic properties.***

Where historic properties of particular importance to stakeholders have been identified in the APE, the plan should provide for their special consideration, avoidance and, if necessary, treatment. The HPMP should also provide for and establish a schedule for implementation of protective measures, such as monitoring or stabilization; and for public education and interpretation of the historic and archeological values of the project.

Principle 10: ***The HPMP should establish a decision-making process that provides for the consideration of effect on historic properties early in project planning and mechanisms for reaching resolution.***

The plan should include procedures to minimize and/or mitigate damage to historic properties, to promote their proper use, and to encourage beneficial effects. It should also provide for the review of proposed actions by SHPO and/or THPO, and other stakeholders, and include specific standards for operations and maintenance activities. Procedures in the HPMP should:

- ❑ Address possible effects to historic properties resulting from the continued operation and maintenance of the Project.
- ❑ Provide for the protection of historic properties threatened by shoreline erosion, other project-related ground disturbing activities and vandalism; this may include implementing a program of shoreline monitoring on a regular basis within the APE and follow-up procedures depending on the nature of the observed damage.
- ❑ Determine ways to avoid or mitigate adverse effects on historic properties that include consultation as appropriate with the SHPO/THPO, Indian tribes and other stakeholders.
- ❑ Determine the process to be followed if previously unidentified properties or effects are discovered
- ❑ Determine how effects to historic resources will be considered in event of a Project

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[7]Section 304 of NHPA provides that the head of a Federal agency or other public official receiving grant assistance pursuant to NHPA, after consultation with the Secretary of Interior, shall withhold from disclosure to the public information about the location, character, or ownership of a historic resources when disclosure may (1) cause a significant invasion of privacy; (2) risk harm to the historic resource; or (3) impede the use of a traditional religious site by practitioners (see also 36 CFR § 800.11[c]).

emergency

- ❑ Establish what, if any, actions have little or no potential for affecting historic properties and, as such, can be implemented without any review (exempt activities)
- ❑ Establish procedures for dispute resolution

Principle 11: The HPMP should be developed and implemented in coordination with other plans required by the license.

In addition to operating plans, recreation plans, and wildlife mitigation plans, the HPMP should be coordinated with any settlement agreement developed either through the traditional or collaborative process.

Principle 12: The HPMP is not a static document.

The HPMP should provide mechanisms for its periodic review, update and revision. Any steps to revise, amend or otherwise alter the plan should be approached in the same manner as the development and approval of the initial HPMP.

Principle 13: Annual reporting should be a part of the HPMP activities.

Plans should establish the scope and contents of the annual report and the deadline for submission to the SHPO/THPO, other consulting parties, and FERC. Through this reporting the licensee and other, most notably the SHPO/THPO, are able to periodically assess the effectiveness of the plan.

IV. ORGANIZATION

A Project's HPMP should be organized in a logical manner so that information is easy to find and appropriate procedures can be quickly identified. The following is an example of how the HPMP might be organized. The following is only a model or guide, and is not meant to be rigidly applied to each and every Project.

1. **Overview and Executive Summary**

The HPMP should begin with a statement of purpose describing the scope of the plan, how it will be used, and the authority under which it is developed (the statutory and regulatory context). This section should also identify who participated in the plan's development as well as any ongoing commitment and procedures/protocols to continue consultation with Indian Tribes, SHPO/THPO, and other organizations in implementation of the plan. In addition, this section might also summarize the contents of the HPMP.

2. **Background Information**

The HPMP should include:

- ❑ Basic contextual data, such as a description of the Project to which it applies and its location and the APE
- ❑ HPMP appendices should include fully executed PA, maps, relevant correspondence, technical studies or summaries of these studies, for example

- ❑ Background information on historic resources (e.g. context)
- ❑ Description of surveys and/or inventories that have been completed with maps and other graphics, as needed (including analysis of the scope and quality of existing surveys), and those that will be required to identify historic properties that may be affected by planned actions (include survey standards here, such as SHPO standards, that will be followed)
- ❑ Description of known historic properties (and cultural resources) with an explanation of their significance and public values

3. **Management Principles, Goals and Standards, and Priorities for Preservation**

The HPMP should include a presentation of those preservation goals and standards which will guide implementation of the plan, and identify any historic resources which will be accorded special consideration. The goals and standards should be specific as to the type of historic properties or to particular properties. The HPMP should also describe the philosophy guiding management of historic properties within the Project's APE and relate the plan to the specific management structure of the Project; for example, to the processes by which planning and budgetary decisions are made.

4. **Project Effects and Mitigation/Management Measures**

- ❑ Include a schedule for the completion of all actions required in the HPMP, and provide for FERC, as well as SHPO/THPO, approval of revisions to this schedule, if any are needed
- ❑ In consultation with the SHPO/THPO and other consulting parties, identify activities which will be considered exempt from further review under the HPMP because they possess little or no chance of affecting historic properties
- ❑ Develop and implement rehabilitation standards and oversight protocol
- ❑ Include procedures to evaluate the effects of shoreline erosion, construction of fish passage facilities, construction of recreation facilities and other Project activities on historic properties and provide for treatment of adverse effects as appropriate, in consultation with others
- ❑ Consider relevant future, ongoing and past effects, as appropriate
- ❑ Include a monitoring protocol and provisions for enforcement, as appropriate
- ❑ Provide for the treatment of human remains (distinguishing between NAGPRA, if applicable, and State law requirements)
- ❑ Describe provisions for public interpretation, including when, where, what and how - the details of any proposed measures
- ❑ Describe procedures to address effects when unanticipated historic properties are discovered and during project emergencies

5. **Implementation Procedures**

The HPMP should include provisions for:

- ❑ HPMP coordinator
- ❑ Training of project personnel
- ❑ Internal decision-making process (Refer to Principle #10)
- ❑ Consultation with SHPO/THPO and others, including the Council if NHLs are involved
- ❑ Annual reporting and periodic meetings
- ❑ Periodic review and revision of the HPMP
- ❑ Actions requiring consultation with SHPO/THPO, Indian Tribes, Federal land managers,

others

- ❑ Include a procedure for dispute resolution if one is not already provided in the PA or MOA

References

1990 "Guidelines for Preparing Cultural Resource Sections of Exhibit E," in Appendix G of FERC's Hydroelectric Project Relicensing Handbook.

1993 U.S. Department of Defense Legacy Resource Management Program, Draft Principles of Cultural Resource Management Planning in the Department of Defense.

1998 Tom King, Cultural Resource Laws & Practice: An Introductory Guide, Alta Mira Press.

n.d. Advisory Council on Historic Preservation, "Proposed Council Guidelines: Historic Resource Management Plans" (draft).