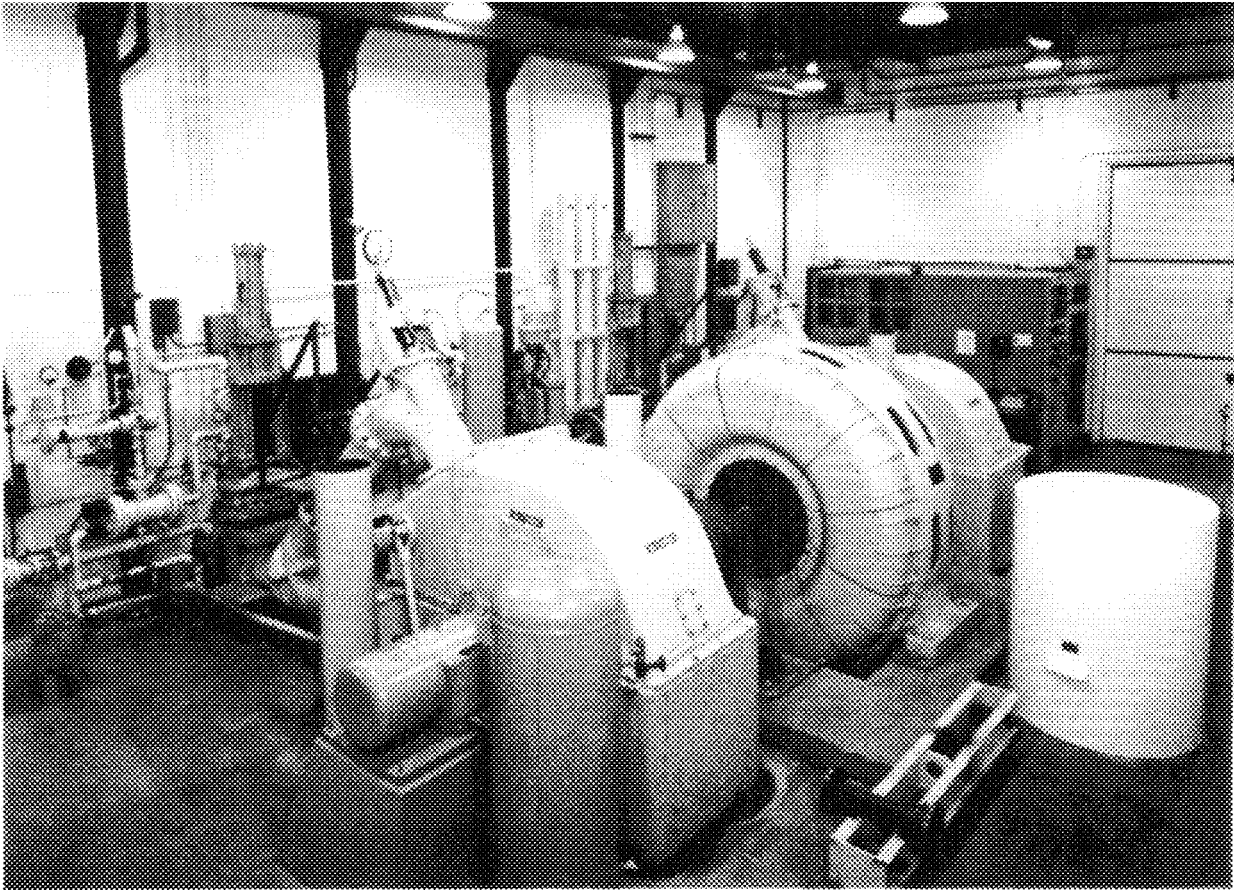

**NEWHALEM CREEK
HYDROELECTRIC
PROJECT**

FERC No. 2705

**HISTORIC RESOURCES MITIGATION
AND MANAGEMENT PLAN**



**City of Seattle
City Light Department**

February 1998

SUMMARY

This Historic Resources Mitigation and Management Plan (HRMMP) provides policy direction and review for historic, architectural, and engineering resources within the boundaries of the Newhalem Creek Hydroelectric Project (Newhalem Project) in Whatcom County, Washington. The HRMMP has been prepared by the City of Seattle, City Light Department (City) to meet the relicensing requirements of the Federal Energy Regulatory Commission and Section 106 of the National Historic Preservation Act of 1966 as amended. In developing the HRMMP, the City has consulted with the Washington State Historic Preservation Officer (SHPO), and the National Park Service (NPS), as an interested intervenor and party to the relicensing. The City included a draft of the HRMMP in its 1992 application for a new license for the Newhalem Project, as well as comments on the draft HRMMP from the SHPO and the NPS.

The management program outlined in the HRMMP will run for the term of the new FERC license. The HRMMP applies to that portion of the Newhalem Project designated as a Contributing Resource within the "Skagit River and Newhalem Creek Hydroelectric Projects Historic District," listed in the National Register of Historic Places in April, 1996. The City's Skagit Area personnel, who maintain and operate the Newhalem Project, will be largely responsible for implementation of the HRMMP. Periodic reports on all implementing activities will be issued by the City under the terms of a Memorandum of Agreement executed with the SHPO in June, 1996.

The City began identification and evaluation of the historic resource base at the Newhalem and Skagit Projects in 1989. Survey and inventory of all architectural and engineering resources was completed to Level I standards of the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER). Based upon the findings of the survey/inventory, the City prepared a nomination to the National Register which extensively documented the history of both the Newhalem and the Skagit Projects and their multiple components. The HRMMP describes the methodology and the end products of that effort and establishes a process for the periodic updating of the National Register listing.

The HRMMP supports the concept that the preservation and re-use of historic resources at the Newhalem Project will now be integrated with the mission and programs of Seattle City Light. Protection of the identified Contributing Resource is ensured through the guidelines, review procedures, and various mitigation measures contained in the HRMMP. A set of ten Project Preservation Standards are herein adopted as official design standards governing changes to historic features of the Newhalem Project. Three levels of review procedures are established, each corresponding to the degree of intervention entailed by any proposed action.

A number of broad-reaching mitigation measures set forth in the Skagit River Hydroelectric Project Historic Resources Mitigation and Management Plan (Skagit Plan) of 1991 are intended to encompass the historic resources of the Newhalem Project as well. Many of the measures described in the Skagit Plan have already been implemented; others will be implemented over

the remaining license term for the Skagit Project. These measures, described anew in this HRMMP, include the Skagit Maintenance Guidelines (completed), developed to encourage a maintenance and repair program that is sensitive to the character of the designated resources throughout the historic district. An annual Historic Preservation Seminar Series for Skagit Area personnel involved in the maintenance of historic resources at both the Skagit and Newhalem Projects has been, and will continue to be, jointly sponsored by the City and the NPS.

Ongoing interpretation and education programs at the Skagit Project have traditionally included the Newhalem Project, and these will be enhanced through several new measures. Under the Skagit Plan, a self-guided walking tour of the company town of Newhalem has been developed to supplement the popular Skagit Tours, and this includes an interpretive stop at the Newhalem Project powerhouse. Exhibits at the Newhalem Visitor Information Center will be revitalized, with new emphasis on the Newhalem Project and its support of the former construction camp at the town of Newhalem. The City will soon publish a booklet for resale incorporating the best of the record photographs and measured drawings produced during the HABS/HAER Survey/Inventory project, including coverage of the Newhalem Project documentation. Under this HRMMP, expanded on-site interpretation at the Newhalem Creek powerhouse site will be developed.

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	i
LISTS OF FIGURES AND TABLES	iv
1.0 INTRODUCTION	1
1.1 BACKGROUND	1
1.2 HISTORIC OVERVIEW	2
1.3 SCOPE OF THE PLAN	3
2.0 IDENTIFICATION AND EVALUATION OF HISTORIC RESOURCES	6
2.1 HAER SURVEY OF ENGINEERING RESOURCES	6
2.2 NATIONAL REGISTER NOMINATION	7
2.3 PERIODIC UPDATING OF NATIONAL REGISTER LISTING	8
3.0 PROTECTION OF HISTORIC RESOURCES	9
3.1 DESCRIPTION OF THE RESOURCE	9
3.2 HISTORIC PRESERVATION STANDARDS	15
3.3 ACTIONS AND REVIEW PROCEDURES	16
3.4 TRAINING IN PRESERVATION TECHNIQUES	24
4.0 INTERPRETATION AND EDUCATION	25
4.1 SKAGIT TOURS	25
4.2 EXHIBITS AND DISPLAYS	26
4.3 PUBLICATIONS	27
5.0 MITIGATION COST ESTIMATES	29
6.0 REFERENCES	31

LIST OF FIGURES

Cover Newhalem Powerhouse, interior view

	<u>Page</u>
1-1 Skagit River and Newhalem Creek Hydroelectric Project Historic District.....	4
3-1 Newhalem Vicinity, 1921	10
3-2 Newhalem Powerhouse, exterior view	11
3-3 Penstock and Turbine	13
3-4 Westinghouse Generator	14

LIST OF TABLES

	<u>Page</u>
5-1 Cost of Mitigation	30

1.0 INTRODUCTION

The City of Seattle, City Light Department (City) owns and operates the Newhalem Creek Hydroelectric Project (Newhalem Project) on Newhalem Creek, a tributary of the upper Skagit River in Whatcom County, Washington. The Newhalem Project is licensed by the Federal Energy Regulatory Commission (FERC) under license number 2705. Although built in 1921, the project was not licensed until 1975, and was relicensed in 1997. As part of the recent proceedings for the new license, the City engaged in discussion with agencies, tribes, and other affected public groups. Among the several areas of concern emerging from these consultations was that of cultural resources, both historic and archaeological.

In this document, the Historic Resources Mitigation and Management Plan (HRMMP), the City presents a program which provides for the mitigation of impacts to, and the long-term management of, historically significant features in the project area. The City will implement this plan for the duration of the new license.

In the preparation of this HRMMP, the City has conferred with interested intervenors and other knowledgeable parties, and considered the various issues and priorities expressed during the course of the relicensing proceedings, including documentation needs, the effects of continued maintenance and repair, the impact of proposed modifications, and educational and interpretive needs. The City included a draft of the HRMMP in its 1992 application for a new FERC license for the Newhalem Project. Comments from the Washington State Historic Preservation Officer (SHPO) and the National Park Service (NPS) were also included in the City's application.

1.1 BACKGROUND

Under the provisions of Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA), the FERC, as a federal agency, is required to consider the impacts of its licensing action upon identified cultural resources of the Newhalem Project listed in, or eligible for listing in, the National Register of Historic Places (National Register). Further, the FERC must afford the Advisory Council on Historic Preservation an opportunity to comment on the proposed undertaking by following the procedures set forth in 36 CFR Part 800, "Protection of Historic and Cultural Properties."

The City, as licensee, has taken specific steps to enable the FERC to meet these compliance responsibilities under Section 106 and its implementing regulations, 36 CFR Part 800. In regard to historic resources, the City has (1) completed an intensive survey and inventory of historic buildings, engineering facilities, and related features in the project area; (2) prepared and submitted to the SHPO a nomination to the National Register for "The Skagit River and Newhalem Creek Hydroelectric Projects"; (3) received a Determination of Eligibility from the SHPO; (4) assessed the impact of the relicensing upon eligible resources and made a Determination of Adverse Effect (i.e., that relicensing of the Project could result in actions that

would adversely affect the historic properties); (5) consulted with the SHPO, the NPS as an interested party to the relicensing, and other interested parties to seek ways of avoiding or reducing these adverse effects; (6) reached an agreement on how the effects will be mitigated and executed in a Memorandum of Agreement (MOA) with the SHPO. In carrying out these steps for purposes of the relicensing, the City has met and exceeded applicable FERC staff guidelines set forth in the Hydroelectric Project Relicensing Handbook (April 1990).

The MOA, executed in June, 1996, calls for the development and implementation of a HRMMP, spells out its major components, and requires the City to report on all plan-implementing activities on a regular basis. Reports to the FERC will be made on a schedule which coincides with that of the Skagit River Hydroelectric Project Historic Resources Mitigation and Management Plan (Skagit Plan).

With the development and implementation of this HRMMP, in consultation with the SHPO, the NPS, and other interested parties, the City meets the final requirements of consultation and mitigation of adverse effect under 36 CFR Part 800.5. This completes the City's obligations on behalf of FERC for historic resources under Section 106 of the NHPA.

1.2 HISTORIC OVERVIEW

The Newhalem Creek Hydroelectric Project was the first facility to be constructed in the Skagit River area by the municipal Lighting Department, now Seattle City Light. Its purpose was to provide temporary power for the construction of Gorge Dam and the company town of Newhalem. In 1920, workers bored a 2,770-foot power tunnel through gneiss to bring the waters of Newhalem Creek from a low log crib dam some 3,000 feet upstream down to a small frame powerhouse. A bifurcated steel penstock channeled the water to two Pelton impulse turbines which, in turn, rotated the shaft of a 2000 kva Westinghouse generator. The plant began operation in August of 1921.

Although initially intended as a temporary plant for construction purposes, it remained in operation long beyond its projected lifespan. Until July of 1966, when the powerhouse burned down, the Newhalem Project provided City Camp, or Newhalem, with an additional source of power and supplied Gorge Powerhouse with back-up station service power.

After the fire, the powerhouse was rebuilt, utilizing the old power tunnel and penstock. The original turbines and generator suffered slight damage but are still in place and still operational. In 1969 a new 9-foot high concrete diversion dam was built near the site of the early crib (log diversion) dam. Until it was automated in the early 1970's -- the first plant in the Skagit area to undergo automation -- the Newhalem powerplant served as a training facility for new operators at the Skagit dams. Today it remains the oldest operating hydroelectric project in the Skagit area.

As an indicator of its significance to the history of Seattle City Light's presence in the Skagit River area, the earliest portion of the Newhalem Project has been listed in the National Register of Historic Places as part of an historic district.

The historic district in its entirety extends in a discontinuous fashion from Newhalem to Diablo and encompasses a wide variety of functional components. Those specific resources that are at least 50 years of age, clearly illustrate the theme of municipal hydroelectric power and related development, and possess integrity of location, design, setting, materials, workmanship, feeling, and association, are included in the historic district as Contributing Resources.

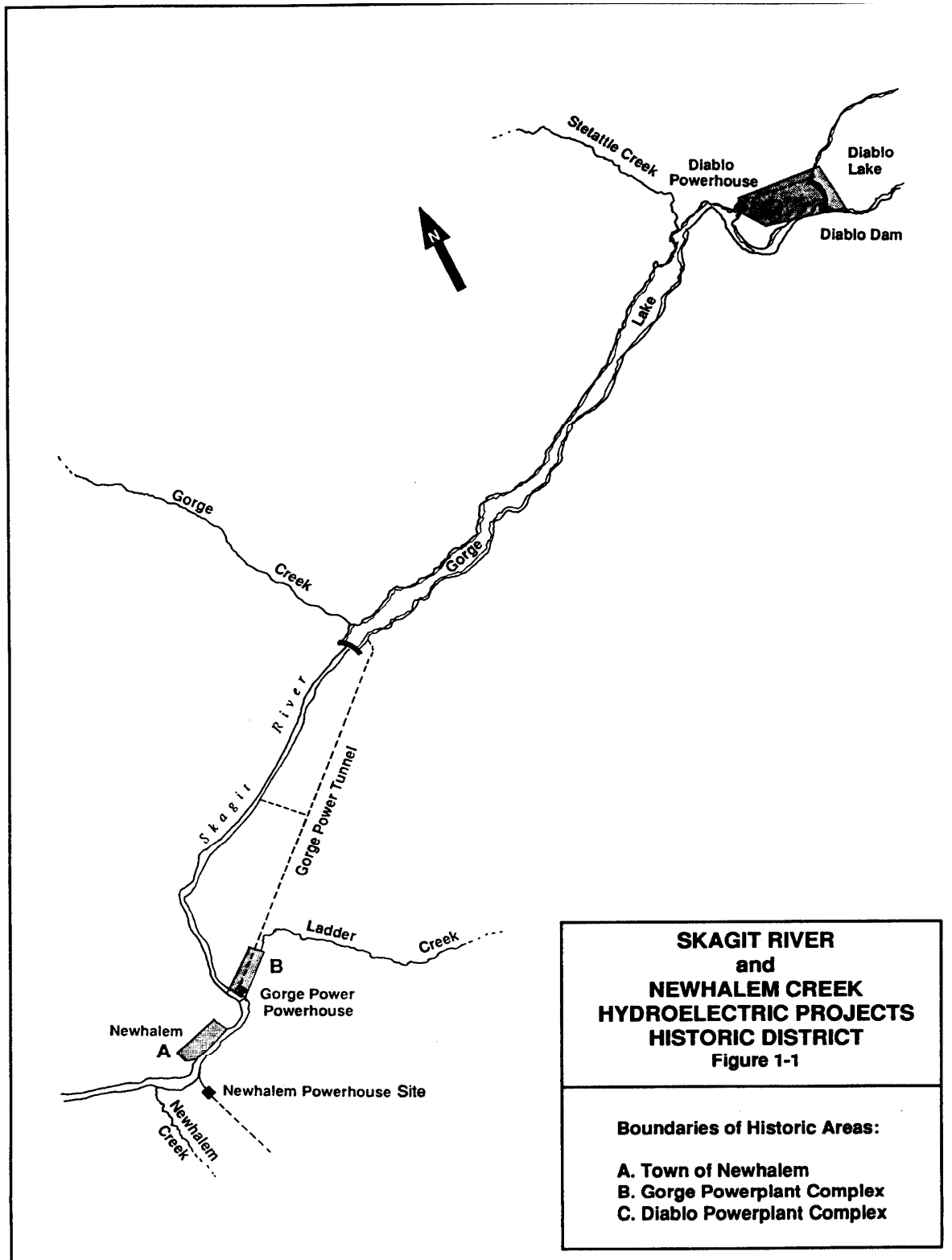
That portion of the Newhalem Project which is designated as a Contributing Resource within the historic district is called the Newhalem Creek Powerhouse Site. Its relationship to other components of the district is depicted on the map in Figure 1-1. The site includes a number of original and still functioning features such as the turbines, generator, penstock, power tunnel, and tailrace. The HRMMP currently applies to the Newhalem Creek Powerhouse Site only, and not to the more recently constructed dam and headworks upstream. With the passage of time, however, these additional elements of the Newhalem Project may be considered for addition to the Contributing Resource category as they reach 50 years of age, and are found to meet standards of integrity and significance.

By virtue of its listing in the National Register, the Newhalem Creek Powerhouse Site requires special management consideration. The HRMMP sets forth a program to meet this need, and recognizes a long-term stewardship role for Seattle City Light in the care and protection of this significant resource.

1.3 SCOPE OF THE PLAN

This HRMMP is prompted by the relicensing of the Newhalem Project and the anticipated indirect effects of continued operation upon the designated historic resource. Incremental change to project components, which has occurred in the past, is expected to continue in the future. Over the term of the new license, project elements will undergo routine maintenance and rehabilitation, and may be affected by proposals for alteration, demolition, or new construction.

Previously, the City's adherence to a strict policy of efficiency and utility in the management of its building stock at both the Skagit and Newhalem Projects has meant the inevitable loss of some historic resources and the irreversible alteration of others. Now, however, National Register designation of the historic district, and compliance with Section 106 in the relicensing process, require some revision of that policy to reflect the City's new stewardship responsibilities. The intent of the HRMMP is thus to set forth management standards, guidelines, and processes that express historic preservation values.



The HRMMP supports the concept that the preservation and reuse of historic resources at the Newhalem Project will now be integrated with the mission and programs of Seattle City Light.

The methodology employed in the development of the HRMMP was founded on four basic components: (1) reliance upon the historical facts, physical descriptions, and assessments of significance provided in the National Register registration from; (2) discussions with Seattle City Light personnel regarding the impacts of continued operation and existing management constraints; (3) consultation throughout the planning process with the Washington State SHPO and with the Columbia-Cascades Support Office (formerly the Cultural Resources Division of the Pacific Northwest Regional Office) of NPS (NPS-CCSO); and, (4) modeling of the structure, content, and function of the HRMMP upon the recently-implemented Skagit Plan.

The structure of the HRMMP is based on the three sequential objectives of cultural resource management: identification of resources and evaluation of significance, protection of significant resources, and public interpretation of the resource base. These concepts are developed in Chapters 2, 3, and 4. Within each chapter are descriptions of current programs which have met or continue to meet these management objectives, as well as recent and new programs and principles designed to strengthen historic preservation goals. Cost estimations for mitigation measures outlined throughout the text are presented in Chapter 5.

Because the Newhalem Project is maintained and operated by the City's Skagit Area personnel, and because implementation of the HRMMP will be carried out largely by Skagit Area personnel, this document is intended as a practical matter to work in tandem with the Skagit Plan. The management principles, guidelines, and mitigation measures set forth in this HRMMP reflect and reinforce the management principles, guidelines, and mitigation measures of the Skagit Plan.

2.0 IDENTIFICATION AND EVALUATION OF HISTORIC RESOURCES

The first step in any program of historic resource management is the identification, documentation, and evaluation of the resource base. In 1989 and 1990, the City completed this process for the architectural and engineering resources of the Skagit Project. Because of their historical, functional, and locational ties, the facilities of the Newhalem Project were simultaneously addressed. The work was accomplished to Level I standards of the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER), and hence far surpassed the minimum levels of documentation required by 36 CFR Part 800.4.

Under guidelines set forth in FERC's Hydroelectric Project Relicensing Handbook, the HABS/HAER documentation prepared by the City constitutes a major mitigation measure that contributes toward the reduction of adverse impacts to historic resources over the term of the new license for the Newhalem Project.

The HABS/HAER documentation was carried out on behalf of Seattle City Light by the NPS-CCSO and the HABS/HAER, whose professional historians, architects, and engineers followed the standards for inventory, documentation, and evaluation established by Section 110 of the NHPA. The project encompassed three components: Architectural Survey and Documentation, Engineering Survey and Documentation, and Evaluation of National Register Eligibility and Documentation Needs. Newhalem Project facilities were addressed by the latter two components, each of which is described below. A final report encompassing all three products entitled "Historic American Building Survey/Historic American Engineering Record Survey for the Skagit River and Newhalem Creek Hydroelectric Projects" was submitted to the City by the NPS-CCSO in October, 1990.

Copies of the report are on file with the NPS-CCSO, the SHPO, and on-site at the Skagit Project. Duplicate sets of documentation materials have been submitted for permanent retention at the Library of Congress in Washington, D.C. and at the University of Washington, Special Collections and Preservation Division.

2.1 HAER SURVEY OF ENGINEERING RESOURCES

In the summer of 1989, comprehensive HABS/HAER level photodocumentation of the engineering facilities of the Newhalem and Skagit Projects was completed. In the same season, a qualified HAER historian intensely surveyed and inventoried all of the dams, hydraulic and power-generating facilities, and supporting transportation and maintenance facilities of both hydroelectric projects.

In preparation for documenting the technical history of the Skagit and Newhalem Projects' development, the HAER historian reviewed Seattle City Light's archives and photo collection,

visited other local repositories, and interviewed Seattle City Light employees. Historic views and images that best represented the overall development and various construction phases of the Skagit Project were selected for archival reproduction. The HAER historian further prepared an inventory of historic engineering drawings which later served as a foundation for the work of a team of HAER architects the following year.

In a second phase of documentation in the summer of 1990, a HAER team of five students in architecture produced a record set of measured drawings of the historic dams and powerhouses. Among them is a drawing of the Newhalem Powerhouse in plan and section as it appeared in 1921. Also depicted is a 1921 vicinity map of Newhalem Creek.

The HAER survey resulted in Level I documentation which included: a narrative overview of the technical history of the Skagit Project coupled with an annotated bibliography; photodocumentation consisting of large format record photos and reproductions of historic photos, all in accordance with HABS/HAER Photographic Specifications (June 1989); 15 ink-on-mylar measured drawings; and an inventory of historic engineering drawings and photos pertaining to the hydroelectric facilities of the Skagit Project. Newhalem Project facilities are encompassed in all of these products, including one of the ink-on-mylar drawings.

2.2 NATIONAL REGISTER NOMINATION

Upon completion of the inventory process, architectural historians from the NPS-CCSO prepared a detailed National Register nomination of the Skagit Project's historic resources. Again, because of functional and historical ties to the Skagit Project, the facilities of the Newhalem Project were evaluated within the same National Register document. The resulting nomination is thus entitled, "Skagit River and Newhalem Creek Hydroelectric Projects Historic District."

Background data from the HABS/HAER Survey form the basis for the National Register nomination. Documentation put forward in a previously listed multiple-resource nomination for "Hydroelectric Power Plants in Washington State, 1890-1938" was also incorporated into this more focused treatment of the Skagit River and Newhalem Creek facilities. Because of the physical proximity and obvious functional connections between the dams, powerhouses, and company towns and their many associated features, the nomination for the Skagit and Newhalem Projects is structured around the concept of a "discontiguous historic district." The distinct boundaries are not continuous from Newhalem to Diablo, but instead define smaller nodes or clusters of resources in several locations.

The registration form includes a descriptive overview of both the Skagit and Newhalem Projects in 1989, as well as a thorough accounting of changes which have occurred over time. Each Contributing Resource and Non-Contributing Resource is described in detail and the rationale for each designation explained. The distinctive "character-defining features" of each resource are noted in narrative fashion. A statement of significance, or assessment of historical value,

documents the importance of the district in terms of the published criteria for National Register listing. The requirement for physical “integrity,” or authenticity of a project’s historic identity, is applied to the varied resources of the Newhalem Creek and Skagit Projects both individually and collectively.

The “Skagit River and Newhalem Creek Hydroelectric Projects Historic District” registration form is a document that is valuable above and beyond its most obvious function as an evaluation device. It is in itself the most comprehensive history of the Skagit Project yet compiled, and the only one which covers the evolution of the Newhalem Project to the present day. It will likely remain for many years the standard reference on the history of Seattle City Light on the Skagit. In the implementation of this HRMMP, the National Register nomination will serve as the basic reference tool.

A formal Determination of Eligibility for the “Skagit River and Newhalem Creek Hydroelectric Projects Historic District” was issued by the SHPO in November 1990 (formal listing of the district in the National Register of Historic Places took place in April, 1996). The SHPO concurred with the recommendations of the NPS-CCSO and the City on the list of Contributing Resources, including the Newhalem Creek Powerhouse Site. This HRMMP has been developed to address that particular resource.

2.3 PERIODIC UPDATING OF NATIONAL REGISTER LISTING

The headworks of the Newhalem Project, including the concrete diversion dam, gatehouse, and intake, fail at this time to qualify for listing because they have undergone substantial alteration and are not yet 50 years old. When these resources reach the 50-year-old benchmark, there will be a need to assess their significance and integrity and perhaps to amend the National Register nomination by designating these components as Contributing Resources.

As part of this HRMMP and in concert with provisions of the Skagit Plan, the City will undertake an update of the entire Skagit River and Newhalem Creek Historic District in 2001 and every ten years thereafter, until 2025. The update will be done by a qualified architectural historian and may result, as necessary, in a formal amendment to the historic district designation. In developing the documentation for these amendments, the City will consult with the NPS-CCSO and the SHPO. Any update activity will be reported by the City as provided in both the Skagit and Newhalem MOAs.

3.0 PROTECTION OF HISTORIC RESOURCES

The goal of historic resource management is to promote the longevity of the historic resource base. Having completed the identification and evaluation of historic properties at the Newhalem Project, the City will now implement a program of resource protection. This chapter presents the framework for such a program. The elements of this program are consistent with the provisions of the Skagit Plan and are designed to be implemented in concert with it.

Each historic resource requires individualized care. The Newhalem Creek Powerhouse Site, like every other resource now designated as contributing to the character of the historic district, calls for special consideration in matters of maintenance, use, and ultimate disposition. Without such special consideration, individual resources will incrementally lose their distinctive, character-defining features, and the historic integrity of the district as a whole will erode.

3.1 DESCRIPTION OF RESOURCE

That portion of the Newhalem Project which has been identified as a Contributing Resource within the “Skagit River and Newhalem Creek Hydroelectric Projects Historic District” is called the Newhalem Creek Powerhouse Site. This chapter on protection applies to just that portion of the Project and the various components that comprise it (Figure 3-1). The Powerhouse Site extends southward to include the course of the penstock and power tunnel and northward to include the tailrace channel. Not included in the Powerhouse Site are the recently built headworks, some 3000 feet upstream on Newhalem Creek. The headworks consist of the 1969 concrete division dam, substantially rebuilt in 1984, and the 1984 apron and gatehouse.

Every Contributing Resource in the historic district has **character-defining features**. These are features that reflect the significance of the property, and these are the characteristics which must be protected if the property is to retain its significance. A resource with its character-defining features intact is said to have **integrity**.

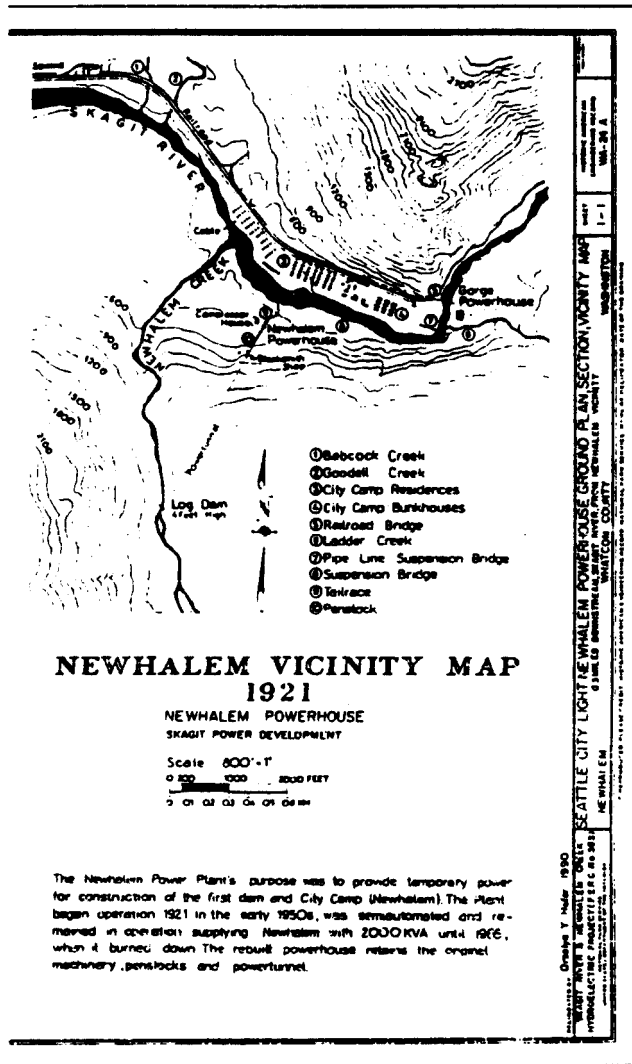


Figure 3-1: Detail of the HAER record drawing depicting the vicinity of the Newhalem Project in 1921.

The Newhalem Creek Powerhouse Site has character-defining features which date to the plant's original construction in 1921. The following pages list these features, summarize the historic significance of the resource, and illustrate the various components of the site. This Contributing Resource is unusual in that the powerhouse itself, having been rebuilt in the late 1960's after the fire, is not an original element of the plant, and is not therefore considered a character-defining feature.



Figure 3-2: View of the present Newhalem Powerhouse from the edge of the tailrace channel. Note the two interpretive markers.

NEWHALEM CREEK POWERHOUSE SITE

Character-Defining Features

1921

- 2,770-foot rock-lined power tunnel, 5x7 feet
- 500-foot bifurcated steel penstock (a sectioned pipeline 30-33 inches in diameter elevated above the forest floor by concrete supports; the penstock is metallic green in color)
- two Pelton water-wheel impulse turbines (steel) (see Fig. 3-3)
- 2000 kva, 3-phase, 60 cycle Westinghouse generator, horizontal shaft (steel) (see Fig. 3-4)
- two timber-lined flumes that discharge water from the powerhouse into the tailrace channel

Significance

The oldest hydroelectric plant operational in the Skagit River area, built to provide power for construction of Gorge Dam and Newhalem Camp.

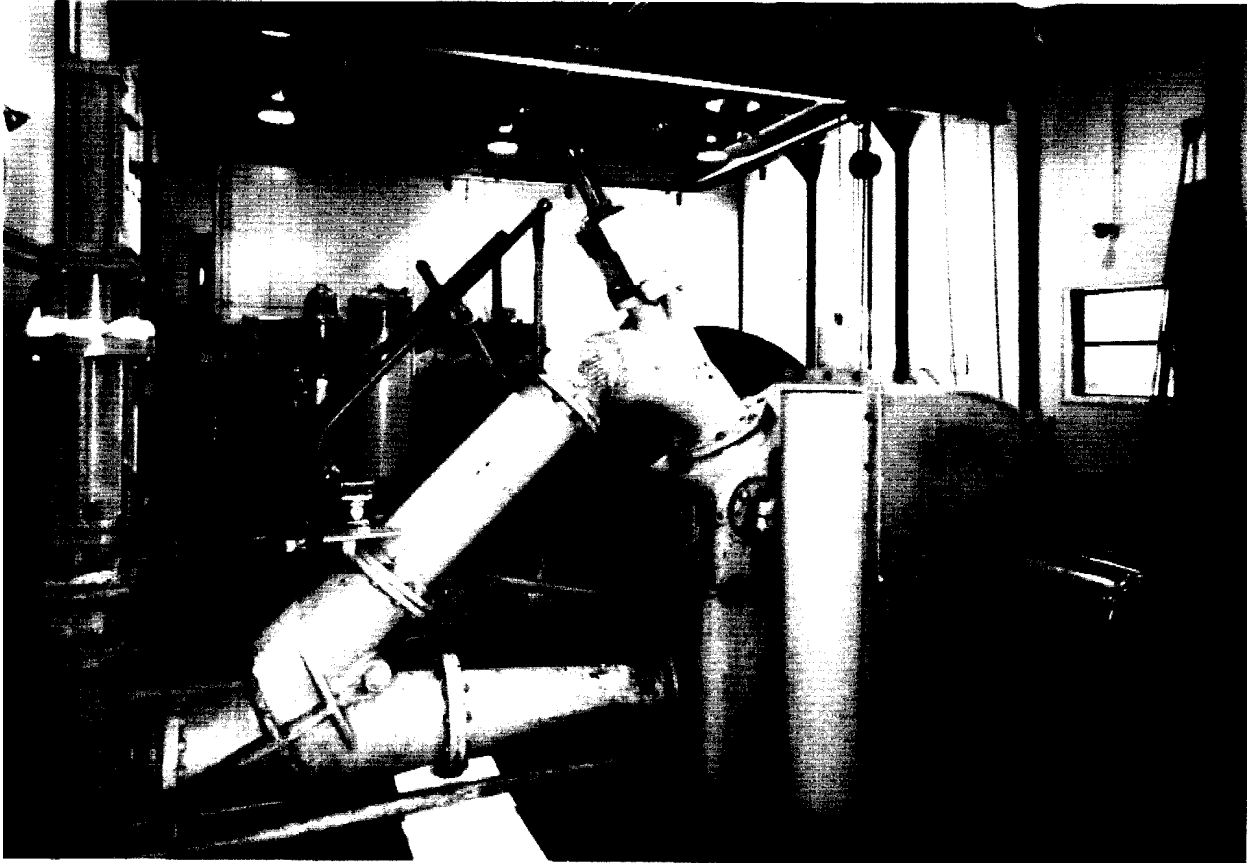


Figure 3-3: View from the interior of the powerhouse, at the junction of the penstock with one of two original Pelton wheels.

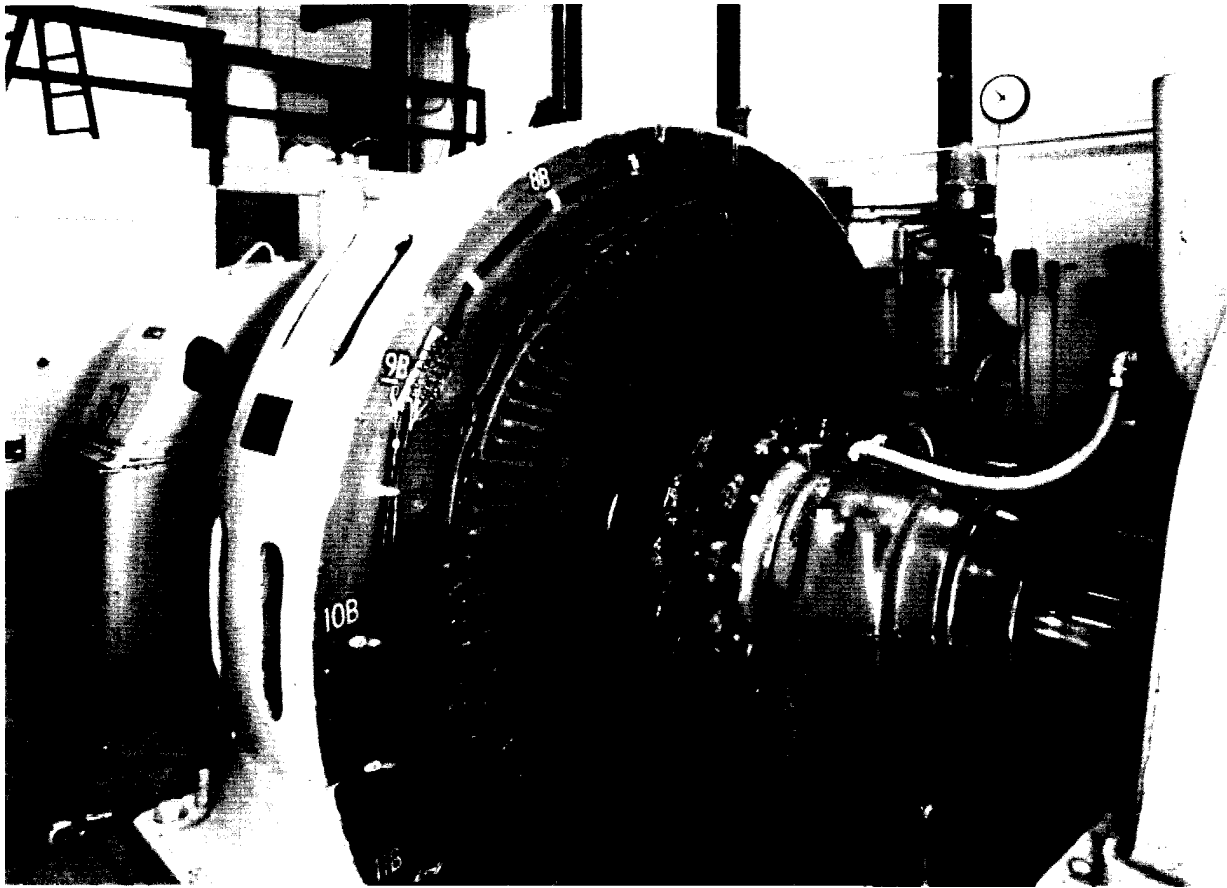


Figure 3-4: View of the original horizontal shaft Westinghouse generator.

3.2 HISTORIC PRESERVATION STANDARDS

Future actions which affect the Newhalem Creek Powerhouse Site, a Contributing Resource within the historic district, will be guided by the “Skagit Project Preservation Standards” set forth below. These guidelines first appeared in their entirety in the Skagit Plan. Adapted from the Secretary of the Interior’s Standards for Historic Preservation Projects, they cover a wide range of potential actions and pertain to all Contributing Resources within the historic district.

The Skagit Project Preservation Standards are to be applied to specific projects in a reasonable manner, taking into consideration economic and technical feasibility, the requirements of the new license, and the other resource plans, and the overall mission of Seattle City Light.

Retention and protection of character-defining features is the underlying principle which governs the Skagit Project Preservation Standards. These standards recognize, however, that change is inherent in working engineering facilities. Through the application of these standards, the City will endeavor to maintain the historic integrity of the entire district, while retaining the flexibility to upgrade its operating equipment at Newhalem Creek and elsewhere on the Skagit, as required by law and by advancing technology.

Skagit Project Preservation Standards

1. An historic resource shall be used for its original purpose or be placed in a new use that requires minimal change to the defining characteristics of the resource and its site and environment.
2. The historic character of a resource shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a resource shall be avoided when possible.
3. Each historic resource shall be recognized as a physical record of its time, place, and use. Changes which seek to create an earlier appearance but have no historical basis shall be avoided.
4. Changes which have taken place to a resource over the course of time may have acquired significance in their own right, and shall be retained and preserved.
5. Distinctive stylistic features and finishes and examples of skilled craftsmanship which characterize a resource shall be treated with sensitivity.
6. Deteriorated architectural features shall be repaired rather than replaced wherever possible. When replacement is necessary, the new material should match the old in design, color, texture, and other visual qualities. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Replacement of outmoded, deteriorated, or defective engineering equipment shall avoid unnecessary alteration or removal of character-defining features.
8. Chemical or physical treatments that cause damage to historical materials shall not be used. The surface cleaning of structures, when appropriate, shall be undertaken using the gentlest means possible.
9. New additions, exterior alterations, and related new construction shall not destroy historic materials that characterize a resource. The new work shall be differentiated from the old and shall be compatible with size, scale, material, and character of the resource and its environment.
10. All actions shall seek to maintain and preserve the overall integrity of the historic district.

3.3 ACTIONS AND REVIEW PROCEDURES

3.3.1 Actions

Various types of actions, direct and indirect, will impact the designated historic resources of the Newhalem Project over the term of the 1997 license. Maintenance and repair, and alteration to one degree or another will certainly take place. Actions such as demolition, relocation, new construction, and/or rehabilitation may also affect the Newhalem Creek Powerhouse Site.

A basic premise of historic resource management is that actions involving the least degree of intervention are always preferable. Protection and maintenance are the first steps in this hierarchy. Repair and replacement-in-kind are preferable to alteration, which may change or diminish a resource's historic character. Sensitive alteration in turn can extend a property's useful life without loss of integrity. Relocation may save a resource but will reduce its significance by removing it from historic context. Demolition, in principle, is always the most radical and least desirable alternative. Reconstruction of a vanished resource is considered new construction, and because it poses problems of authenticity, is less frequently attempted today than in years past.

In the planning of actions that will impact the designated historic resource at Newhalem Creek (i.e., the Powerhouse Site), the City will take into full consideration these basic principles. Further, all actions will be evaluated in light of the Skagit Project Preservation Standards.

3.3.2 Review Procedures

The procedural review of proposed actions that will affect historic resources at Newhalem Creek will continue to take place largely within the context of Seattle City Light's project and budget review processes. National Register designation of the historic district, however, does require certain adjustments to these procedures. First, Skagit Area personnel will have improved access to technical information and guidelines for sound preservation decision-making. Second, the role of Seattle City Light's Environment and Safety Division in obtaining technical assistance for Skagit Area personnel on historic preservation issues will be increased. Third, the review of historic resource projects under the State Environmental Policy Act (SEPA) will expand.

One important new component of protection procedures, described in full in the Skagit Plan, will be the Annual Project Review Meeting. At this meeting, Skagit Area managers will apprise Environment and Safety of all proposed projects for the coming year which might impact historic resources, including those of the Newhalem Project. The kinds of actions which will be addressed include: all proposed alterations, both Capital Improvement Projects (CIP) and non-CIP activities, all proposed demolitions, relocations, reconstructions, and new construction. Each proposed action will then be discussed in light of the Skagit Project Preservation Standards. To assist in answering questions or issues of concern regarding appropriate preservation techniques, Environment and Safety will seek advice from professionals with expertise in specialized areas of historic preservation, and will convey this technical advice to Skagit staff.

Review procedures set forth in both the HRMMP and the Skagit Plan correspond to the degree of intervention entailed by the proposed action. Roughly three categories of review will occur:

- ▶ **Level One Review - for all Maintenance and Repair-in-kind.** This level of review will take place at Skagit. Existing procedures for prioritizing, scheduling, and supervising projects will remain in effect. Added is the responsibility of Skagit staff to apply the Skagit Project Preservation Standards and to consult the technical reference materials and the Skagit Maintenance Guidelines found in Appendix A and Appendix B of the Skagit Plan. Maintenance and repair records for the contributing resource at the Newhalem Project, i.e., the Newhalem Creek Powerhouse Site, will be kept at Skagit.

- ▶ **Level Two Review - for all Alteration.** This level of review will occur at Skagit with technical assistance provided by Environment and Safety. Through the mechanism of the Annual Project Review Meeting, Skagit and Environment and Safety staffs will jointly discuss proposed alterations to the Newhalem Creek Powerhouse Site, and apply the Skagit Project Preservation Standards. Environment and Safety will obtain and convey any necessary technical advice from professionals in historic preservation. For non-CIP alterations, this consultation process concludes the review procedure. At the conclusion of the project, Environment and Safety will include a description of the work in its periodic report under the terms of the Newhalem MOA.

- ▶ **Level Three Review - for CIP Alteration, Demolition, Relocation, New Construction, and Reconstruction.** This level of review will occur both within Seattle City Light through the existing CIP contracting and SEPA processes, as well as outside the department, when mandated by SEPA and NHPA rules and regulations. Based upon project proposals put forward by Skagit staff at the Annual Project Review Meeting, Environment and Safety will conduct all legally-required reviews under SEPA for actions impacting the Newhalem Creek Powerhouse Site through consultation with the SHPO. In instances where further federal licensing or federal funding is required, appropriate consultations under Section 106 of the NHPA will be initiated by Environment and Safety.

The charts which follow correlate proposed actions with applicable Skagit Project Preservation Standards and appropriate review procedures. When planning work within the Newhalem Creek Powerhouse Site, Seattle City Light project planners should refer to the appropriate action chart, and check the description of character-defining features given above in Section 3.1. The action charts are consistent with those presented in the Skagit Plan.

Chart 1

ACTION: MAINTENANCE AND REPAIR-IN-KIND

Maintenance is taking care of what is already there. Repair-in-kind involves keeping as much of the original or existing material as possible. When deterioration is severe, repair-in-kind means the limited replacement of deteriorated materials with like materials.

The following tasks are examples of Maintenance and Repair-in-kind: removing vegetation, cleaning an exterior surface, rust removal, caulking, painting, replacing window panes, piecing-in siding that matches the original, patching concrete.

APPLICABLE STANDARDS:

2. The historic character of a resource shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a resource shall be avoided when possible.
5. Distinctive stylistic features and finishes and examples of skilled craftsmanship which characterize a resource shall be treated with sensitivity.
6. Deteriorated architectural features shall be repaired rather than replaced whenever possible. When replacement is necessary, the new material should match the old in design, color, texture, and other visual qualities. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
8. Chemical or physical treatments that cause damage to historic materials shall not be used. The surface cleaning of structures, when appropriate, shall be undertaken using the gentlest means possible.
10. All actions shall seek to maintain and preserve the overall integrity of the historic district.

PROCEDURES: LEVEL ONE REVIEW

- ▶ 1 ◀ Skagit Area staff refer to Section 3.1 for character-defining features.
- ▶ 2 ◀ Skagit staff apply Skagit Project Preservation Standards.
- ▶ 3 ◀ Proposed work is considered in light of Skagit Maintenance Guidelines and pertinent reference material in Appendix A of the Skagit Plan. Environment and Safety may be consulted for additional assistance.
- ▶ 4 ◀ Work proceeds in accordance with standards and guidelines.
- ▶ 5 ◀ Work is recorded in a maintenance and repair data base at Skagit.

Chart 2

ACTION: ALTERATION

Alteration encompasses a very wide range of changes, including replacements, removals, and additions. Alteration changes the way a resource looks or functions by modifying its materials, massing, spacial configuration, detailing, or its relationship to its environment.

The following tasks are examples of Alteration: replacing generators, modifying a tailrace, upgrading transformers, adding a porch, updating systems, inserting new structural openings, painting surfaces not originally painted, replacing wood shingle roofs with metal, or replacing wood shingle or drop siding with lapped siding.

APPLICABLE STANDARDS:

1. An historic resource shall be used for its original purpose or be placed in a new use that requires minimal change to the defining characteristics of the resource and its site and environment.
2. The historic character of a resource shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a resource shall be avoided when possible.
3. Each historic resource shall be recognized as a physical record of its time, place, and use. Changes which seek to create an earlier appearance but have no historical basis shall be avoided.
4. Changes which have taken place to a resource over the course of time may have acquired significance in their own right, and shall be retained and preserved.
5. Distinctive stylistic features and finishes and examples of skilled craftsmanship which characterize a resource shall be treated with sensitivity.
7. Replacement of outmoded, deteriorated, or defective engineering equipment shall avoid unnecessary alteration or removal of character-defining features.
9. New additions, exterior alterations, and related new construction shall not destroy historic materials that characterize a resource. The new work shall be differentiated from the old and shall be compatible with size, scale, material, and character of the resource and its environment.
10. All actions shall seek to maintain and preserve the overall integrity of the historic district.

[continued]

Chart 2 (continued)

PROCEDURES:

NON-CIP PROJECTS - LEVEL TWO REVIEW

- ▶ 1 ◀ Skagit Area and Environment and Safety discuss proposed non-CIP alteration at Annual Project Review Meeting.
- ▶ 2 ◀ Environment and Safety assists Skagit in applying Skagit Project Preservation Standards, seeking outside expertise on technical issues whenever advisable.
- ▶ 3 ◀ Work proceeds in accordance with standards and guidelines.
- ▶ 4 ◀ Environment and Safety includes project description in periodic report to agencies and FERC under terms of the Newhalem MOA.

CIP PROJECTS - LEVEL THREE REVIEW

- ▶ 1 ◀ Skagit Area and Environment and Safety discuss proposed CIP alteration at Annual Project Review Meeting and apply Skagit Project Preservation Standards.
- ▶ 2 ◀ Environment and Safety, and/or Engineering Division red-flags CIP project as having probable impact on an historic resource.
- ▶ 3 ◀ Environment and Safety conducts SEPA or Section 106 review as required, establishing necessary mitigation measures.
- ▶ 4 ◀ Engineering Division, Finance Division, Executive Services Department, and Seattle Public Utilities, as appropriate, ensure that historic status is reflected in all bid and construction contract documents.
- ▶ 5 ◀ Contract administrators ensure adherence to specified preservation constraints.
- ▶ 6 ◀ Environment and Safety includes a project review in its report to agencies and FERC under terms of the Newhalem MOA.

Chart 3

ACTION: DEMOLITION AND RELOCATION

Demolition is the razing of an entire historic resource. Relocation changes the physical context of a resource. It includes both the moving of a resource off Seattle City Light property, as well as the re-siting of a resource to another location within Newhalem Creek or Skagit Project Area boundaries.

Examples of Demolition and Relocation could include: removal of the Powerhouse Site and/or its various components, or resale of pieces of hydroelectric equipment out of the area.

APPLICABLE STANDARDS:

1. An historic resource shall be used for its original purpose or be placed in a new use that requires minimal change to the defining characteristics of the resource and its site and environment.
10. All actions shall seek to maintain and preserve the overall integrity of the historic district.

PROCEDURES: LEVEL THREE REVIEW

- ▶ 1 ◀ Skagit Area and Environment and Safety discuss proposed demolition/relocation at Annual Project Review Meeting.
- ▶ 2 ◀ Using a qualified historical architect (as appropriate), Environment and Safety initiates a Historic Structure Report and/or Needs Assessment documenting a range of alternative options.
- ▶ 3 ◀ Environment and Safety conducts the required SEPA or Section 106 review, establishing necessary mitigation measures.
- ▶ 4 ◀ Work proceeds in accordance with mitigation measures.
- ▶ 5 ◀ Environment and Safety includes description of project outcome in its periodic report to agencies and FERC under terms of the Newhalem MOA.

Chart 4

ACTION: NEW CONSTRUCTION AND RECONSTRUCTION

New construction adjacent to an historic resource modifies the historic character of the resource's environment. New construction includes historically-based reconstruction of resources no longer extant.

Examples of New Construction and Reconstruction include: installing a pump system on the tailrace channel in the vicinity of the powerhouse, adding a new structure to the powerhouse site, or replicating the 1921 powerhouse.

APPLICABLE STANDARDS:

9. New additions, exterior alterations, and related new construction shall not destroy historic materials that characterize a resource. The new work shall be differentiated from the old and shall be compatible with size, scale, material, and character of the resource and its environment.
10. All actions shall seek to maintain and preserve the overall integrity of the historic district.

PROCEDURES: LEVEL THREE REVIEW

- ▶ 1 ◀ Skagit Area and Environment and Safety discuss proposed new construction at Annual Project Review Meeting.
- ▶ 2 ◀ Environment and Safety, and/or Engineering Division red-flags CIP project as having probable impact on an adjacent historic resource.
- ▶ 3 ◀ Environment and Safety conducts SEPA or Section 106 review as required, establishing necessary mitigation measures.
- ▶ 4 ◀ Engineering Division, Finance Division, Executive Services Department, and Seattle Public Utilities, as appropriate, ensure that historic status of adjacent resource is reflected in all bid and construction contract documents.
- ▶ 5 ◀ Contract administrators ensure adherence to specified preservation constraints.
- ▶ 6 ◀ Environment and Safety includes a project review in its report to agencies and FERC under terms of the Newhalem MOA.

3.4 TRAINING IN PRESERVATION TECHNIQUES

The diversity of buildings and facilities that exist throughout the Newhalem and Skagit Project areas has required that Seattle City Light personnel charged with the maintenance of these structures employ a wide range of technical approaches. Further, departmental policy has dictated different management goals for different resources. National Register listing of the historic district, however, now establishes a common denominator - the need to preserve the historic character of the resources and to prevent the erosion of that character. To introduce this historic preservation ethic into the ongoing maintenance and repair activities at Skagit, the City has recently undertaken a two-pronged program which is outlined in full in the Skagit Plan.

The first component of the program, completed in 1992, is the Skagit Maintenance Guidelines. The Guidelines apply to the care of all Contributing Resources within the historic district, including the Newhalem Creek Powerhouse Site.

The Skagit Maintenance Guidelines has a materials preservation focus emphasizing appropriate methods of protecting, cleaning, repairing, and stabilizing historic concrete, metals, and wood. Preventive cyclical maintenance measures and procedures for repair are set forth and illustrated by drawings and photos. The Guidelines are to be used as a tool in the planning of maintenance and repair projects.

As an adjunct to the Skagit Maintenance Guidelines, the City was to provide a computer, software, and training to Skagit Area personnel for an historic resources maintenance and repair record-keeping system. The program will allow a continuity of treatment for any given resource in the historic district from one year to the next and from one maintenance worker to another. A software application ("Wintercross") currently in use at the Skagit to track and plan maintenance on all structures at the Skagit and Newhalem Projects will be used to meet this need.

A second component of the program is a continuing education or Historic Preservation Seminar Series, jointly supported and funded by the City and the NPS-CCSO. A framework for the Seminar Series is outlined in full in the Skagit Plan. The seminars are held annually for the benefit of all City and NPS personnel. Topics presented will cover a wide range of preservation issues. Early sessions focused on the implications of the National Register historic district listing, and the use of both the Skagit Plan and the Newhalem HRMMP. Subsequent sessions will offer up-to-date technical information on historic materials maintenance and repair, information directly applicable to the care of historic resources at both the Newhalem and Skagit Projects.

4.0 INTERPRETATION AND EDUCATION

When historic resources have been identified and evaluated, and a protection program put in place, the next step in cultural resource management is to provide for interpretation and education. Interpretation communicates the significance and value of the historic resource to the general public. In various forms, interpretation and education enlist the public's understanding and appreciation of the historic resources and contribute to their preservation and management.

Interpretation can take many forms, including tours, exhibits, displays, and publications of various types. The City has already undertaken many of these interpretive measures, the most notable being the popular Skagit Tours, which began in the 1920s and are themselves an important component of both the Newhalem Project's and the Skagit Project's history.

4.1 SKAGIT TOURS

The Skagit Tours began in the 1920s as a tool for gaining public and political support during construction of the municipal hydroelectric projects on the Skagit River. With a pause during the decade of World War II, the Skagit Tours have remained to the present day a popular tourist attraction for Seattle citizens and their out-of-town visitors, and the centerpiece of Seattle City Light's interpretive program at the Skagit.

The Skagit Plan outlines two measures for enhancing or rounding-out the interpretive presentation associated with the Skagit Tour program. Both of these mitigation elements help to highlight the important role of the Newhalem Project in the history of the Skagit.

The first measure involves revision of the Skagit Tour Guide Manual that is issued each summer season to the college students who are hired as tour guides. The revision will incorporate new material from the HABS/HAER and National Register documentation reflecting the fact that both the Newhalem and Skagit Projects are now listed as an historic district in the National Register of Historic Places. The presentation text will be revised to cover the historic role of lesser known features of the Projects like the municipally-owned company towns of Newhalem and Diablo, Ladder Creek Falls Gardens, Ross Crypt, and the Newhalem Creek Powerhouse Site. The revision is expected to be completed by the end of 1999.

The second measure involves the development of a self-guided walking tour which features the Newhalem Creek Powerhouse Site as one point-of-interest. Because the Skagit Tours now begin and end in Diablo, there remains a need to better interpret the historic importance of Newhalem and its continuance today as a company town. To meet this need, the City devised in 1997 a walking tour of the Newhalem/Gorge area and prepared an accompanying explanatory brochure. The brochure includes a map of the tour route and brief statements on the history and significance of buildings and sites along the way. This self-guided tour includes Newhalem Creek Powerhouse, the important buildings along Main Street, a view of Silk Stocking Row,

Ladder Creek Falls Gardens, Gorge Powerhouse, and Ross Crypt. The tour brochure has been set up digitally so that it can be readily updated or revised as needed.

4.2 EXHIBITS AND DISPLAYS

Seattle City Light has developed a variety of interpretive displays at five key locations throughout the larger Skagit Project area. The exhibits provide pictorial detail on the history of the project, the technology of hydroelectricity, and recreational opportunities.

One of these exhibit sites, the Newhalem Visitor Information Center, is located in the town of Newhalem in close proximity to the Newhalem Creek Project. The Newhalem Visitor Information Center primarily serves the auto traveler entering the Skagit Project area on Highway 20 from the urban Puget Sound region to the west. It is open to the public from spring through autumn. The existing exhibit gives a brief overview of the region, with information available on hiking, camping, and other recreational activities in the area.

The Skagit Plan calls for the City to carry out an internal re-evaluation and revitalization at the five key locations at Skagit. A long-range Interpretive Exhibits Program is to be formulated, setting forth an overall thematic approach, describing a unified design approach, and identifying site-specific themes for three of the existing displays (at Ross and Diablo Powerhouses and the Newhalem Visitor Information Center) and a new display at the Incline Lift waiting area.

In implementing the new Interpretive Exhibits Program, the Skagit Plan gives first priority to the redesign of the Newhalem Visitor Information Center exhibit. Whether the existing facility in Newhalem is then expanded or refurbished, or whether the visitor information functions are relocated to another location in Newhalem, new exhibitry will be designed and installed. It is likely to include, among other informational materials, a low-maintenance video disk that presents the visitor with an overview of all the things to see and do at Skagit. New visual displays will depict the story of the Skagit Project, with special emphasis on the important early role of the Newhalem Creek Project and on the development of Newhalem as a construction camp, municipal company town, and early-day tourist center. Seattle City Light will share its planning and design concepts for alteration or redesign of the Newhalem Visitor Information Center building with NPS-CCSO and SHPO.

The Newhalem Creek Powerhouse Site itself offers a unique opportunity for enhanced on-site interpretation. Because of its historical importance, relative safety, and small scale, the powerhouse is a good candidate for a more comprehensive interpretive treatment. Newhalem Creek Powerhouse is not currently a component of the Skagit Tour program, but the site will experience increased visitation as a result of the proposed self-guided walking tour described above.

Visitors currently approach the site from the town of Newhalem to the east over the Trail of the Cedars footpath, or over the graveled roadway from Newhalem Creek Campground to the west. At the powerhouse, two small free-standing interpretive markers are positioned along the east side of the tailrace channel. These markers briefly summarize the history of the site, but stop short of interpreting the workings of the powerplant. From a platform on the north facade of the powerhouse, three small windows provide some visual access to the interior.

To expand visitor understanding of the Newhalem Creek Powerhouse Site, the City will provide new on-site interpretive markers to be placed strategically around the site and/or on the powerhouse itself. A combination of mounted plaques on the exterior of the building, and free-standing "waysides" (angled low markers, 2 by 3 feet in dimension, on simple metal bases) will be considered. Important topics/features to interpret include the history and role of the Newhalem Project as a whole, the operation of the turbines and generators, the function of the penstock at the rear of the powerhouse, and the role of the tailrace channel.

The appearance of the markers will be consistent with the overall design theme for the Skagit exhibitry as established by the Interpretive Exhibits Program set forth in the Skagit Plan. The City will ensure that there is good visibility through each of the three windows on the north elevation of the powerhouse and that there is adequate lighting on the interior to highlight the operating equipment.

The City will install the new markers in 1999. The City will consult with NPS-CCSO in the design and installation of the markers. The estimated cost of the new on-site interpretive markers is given in Table 5-1.

Area visitors will soon have an additional way to visit the Newhalem Creek Powerhouse Site. The City and the NPS have agreed to construct in 1999 a walking trail linking Newhalem Creek Campground and the powerhouse site. The trail agreement is contained in the City's "Newhalem Creek Recreation Plan" that FERC approved in 1997.

4.3 PUBLICATIONS

One publication on the history of Seattle City Light at Skagit is available for sale to the general public for under five dollars at the Commissary in Newhalem. Entitled Building the Skagit by Paul C. Pitzer (Portland: Galley Press, 1978), the 100-page booklet gives well documented coverage of the region's early history and of Seattle City Light construction, including that on Newhalem Creek. It includes a balanced collection of historic photos as well as maps and footnotes.

The Skagit Plan identified a need to make new information discovered through the HABS/HAER documentation process available to the public in a readable, accessible format. The City has completed, in conjunction with the NPS-CCSO, a new interpretive booklet incorporating this documentation. The HAER drawings of the dams and powerhouses, including the drawing of the Newhalem Creek Powerhouse Site, are among the images chosen for inclusion in this publication.

5.0 MITIGATION COST ESTIMATES

Because the Newhalem Creek Powerhouse Site is one of 24 Contributing Resources within the “Skagit River and Newhalem Creek Hydroelectric Projects Historic District,” the body of mitigation measures and management programs set forth in the Skagit Plan were intended from their inception to include and encompass Newhalem Creek. Nine mitigation measures described in this HRMMP are drawn from the Skagit Plan and their costs are to be fully borne under the Skagit Project relicensing. These measures are as follows:

1. HABS/HAER Documentation
2. National Register Update
3. Skagit Maintenance Guidelines
4. Computer, software, and training for maintenance record-keeping
5. Historic Preservation Seminar Series
6. Newhalem Walking Tour Brochure
7. Interpretive Exhibits Program
8. Newhalem Visitor Information Center Exhibit Rehabilitation
9. HABS/HAER Publication

One new and additional mitigation measure, On-site Interpretive Markers, is put forth under this HRMMP. That initiative, described in Section 4.2 above, is estimated to cost a total of \$12,000 for two or three markers, based upon cost estimates supplied by the NPS-CCSO.

The chart below depicts the costs for mitigation measures that encompass the Newhalem Creek Powerhouse Site and are borne entirely by the Skagit Plan, as well as the costs for the new measure, On-site Interpretive Markers, covered under the Newhalem Project relicensing.

Table 5-1 Cost of Mitigation		
Item	Costs Under Skagit Relicense (No. 553) ¹	Costs Under Newhalem Creek Relicense (No. 2705)
HABS/HAER Documentation	\$ 70,000	
National Register Update	16,000	
Skagit Maintenance Guidelines	40,000	
Computer, software and training for maintenance record-keeping	6,000	
Historic Preservation Seminar Series	10,000	
Newhalem Walking Tour Brochure	48,000	
Interpretive Exhibits Program	10,000	
Newhalem Visitor Center Rehabilitation	45,000	
HABS/HAER Publication	12,000	
Skagit Plan Total	\$ 257,000	
On-site Interpretive Markers		\$ 12,000 ²
Newhalem HRMMP Total		\$ 12,000
TOTALS	\$ 257,000	\$ 12,000

¹ Costs in this column are estimates prepared in 1990-91. Actual expenditures may vary somewhat from these figures due to inflation and other factors.

² Cost of markers was estimated at \$10,000 in 1992 based on information provided by NPS-CCSO. This estimate has been adjusted for inflation since 1992.

6.0 REFERENCES

Advisory Council on Historic Preservation.
1989 Preparing Agreement Documents.

Advisory Council on Historic Preservation.
1986 Section 106, Step by Step.

Advisory Council on Historic Preservation and National Park Service
1989 The Section 110 Guidelines: Annotated Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act.

Erigero, Patricia and Gretchen Luxenberg.
1990 National Register nomination for "Skagit River and Newhalem Creek Hydroelectric Projects Historic District."

Federal Energy Regulatory Commission.
1990 Hydroelectric Project Relicensing Handbook.

Federal Energy Regulatory Commission.
1996 "Memorandum of Agreement for Newhalem Creek Project Historic Resources"

Hansen, David.
1988 Coast Defense Resources Management Plan. Submitted to the Washington State Parks and Recreation Commission by Office of Archaeology and Historic Preservation, Olympia, WA.

National Park Service.
1985 NPS 28 -- Cultural Resources Management Guideline.

National Park Service, Pacific Northwest Regional Office.
1990 Historic American Building Survey/Historic American Engineering Record Survey for the Skagit River and Newhalem Creek Hydroelectric Projects.

Pitzer, Paul.
1978 Building the Skagit. The Galley Press. Portland, OR.

Seattle City Light.
1990 1990 Skagit Tour Guide Manual. Prepared by the Community Relations Division.

Seattle City Light.

1990 "Newhalem Creek Recreation Plan." Submitted to FERC on August 7, 1997.

Soderberg, Lisa.

1988 National Register multiple-resource nomination for "Hydroelectric Power Plants in Washington State, 1890-1938".

U.S. Department of the Interior.

1983 36 CFR Part 68 - The Secretary of the Interior's Standards for Historic Preservation Projects.

U.S. Department of the Interior.

1989 36 CFR Part 800 - Protection of Historic and Cultural Properties.

Washington State Department of Ecology.

1988 State Environmental Policy Act Handbook.