

Revised Study Plan
Boundary Hydroelectric Project (FERC No. 2144)

Study No. 22
Land and Roads Study

Seattle City Light

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Study No. 22 – Land and Roads Study

1.0 INTRODUCTION

The Land and Roads Study (LRS) will provide land ownership and property rights information about the Boundary Project (Project) area that will be used during relicensing, and will provide detailed information on Project-related roads and associated road conditions. Seattle City Light (SCL) is currently collecting some of this land and road information. Relevant information from this research will be available to the Technical Consultant for use in this study.

This study was requested by the USDA Forest Service (USFS) and the U.S. Bureau of Land Management (BLM) (USFS 2006a). Portions of SCL's proposed study, as described below, are modified from the agency study request to reflect SCL's ongoing data collection efforts, to focus on Project-related data collection needs only, and to defer those portions of the requested study/analysis that are more appropriately addressed in the integrated resource analysis phase (see Attachment 1, section 2.4 of this RSP). Portions of the study where the USFS/BLM and SCL differ in approach or timing are noted herein.

One of the key goals of this study is to describe the Project facilities and use areas on federal lands that are necessary for the continued operation and maintenance (O&M) of the Project and to determine whether any of these areas that are currently outside the FERC Project boundary should be included within the boundary. In addition, this study will provide land rights and ownership information that will be pertinent in determining where resource management activities may take place on federally managed lands, and if there are any potentially conflicting uses or rights on these Project lands. Another goal of this study is to define the Project's use of roads on federally managed land and determine the current condition of these roads.

2.0 STUDY PLAN ELEMENTS

2.1. Nexus between Project Operations and Effects on Resources

The Project occupies federally managed lands and waters in the Colville National Forest (CNF) and the Spokane District of the BLM. The Project also requires some use of USFS-managed roads to access Project facilities. The Project's use of the federal land and roadway system creates the need for land ownership and other lands-related information and data on which to base sound resource and program management decisions.

Efficient O&M of the Project, as well as safe public access to the Project shoreline, depends on long-term road access to Project facilities, lands, and waters. Where USFS- or BLM-managed roads are needed to access Project resources, proper authorizations should be granted for their use by the USFS or BLM. Where USFS- or BLM-managed roads are needed solely for Project purposes, these roads should be considered for inclusion within the FERC Project boundary for the term of the new license.

2.2. Agency Resource Management Goals

USDA Forest Service (USFS)

Land

The Colville National Forest Land and Resource Management Plan (CNFP) (USFS 1988), as amended by the Inland Native Fish Strategy (INFISH), provides specific CNF-wide standards and guidelines relating to the use and management of USFS-managed lands. Land use standards are contained on page 4-55 of the CNFP and include the following:

- Existing special uses which conflict with USFS management objectives will be modified to comply or will not be renewed.
- Accomplish property boundary surveys, posting and marking to support planned or on-going resource projects, solve or prevent trespass, and assist CNF users in identifying public lands versus private lands.
- Access to USFS-managed lands will be obtained to meet CNFP goals and objectives.
- Disturbance from construction of utility facilities (electric, phone, water, gas lines) will be promptly rehabilitated.

This USFS direction, in conjunction with the standards and guidelines for specific resources and programs, provides the basis for the USFS's land use objectives.

Forest Service Manual (FSM) direction (FSM 7151) also states that all USFS-managed property boundary lines adjoining private, state, and public trust lands, such as Indian Reservations, shall be located, monuments installed, marked, and/or posted to prescribed USFS standards prior to undertaking land management activities that will occur near or adjacent to the property line (FSM 7152.03).

Roads

The National Forest Roads and Trails Act of October 13, 1964 authorizes USFS construction and maintenance of road systems used for accessing USFS-managed lands. This legislation also authorizes the granting of easements across USFS-managed lands and the imposing of requirements on non-USFS road users for maintaining these roads. Forest roads are generally authorized only for the administration and utilization of USFS-managed lands and are not intended to solely provide access to private or utility lands and uses. However, Forest road use authorizations and rights may be granted by the USFS to individuals and private and public entities to access their lands and facilities.

36 Code of Federal Regulations (CFR) Section 212 sets forth the requirements for the development and administration of the USFS transportation system, including the granting of access across USFS-managed lands. One of the goals of this study is to assess the need for long-term Project-related use of roads across USFS-managed lands and that proper USFS authorizations have been granted for this use, including appropriate management of resources along these routes.

U.S. Bureau of Land Management (BLM)

BLM's Spokane District Resource Management Plan (BLM 1985) does not discuss specific management goals of BLM-managed parcels within the Project vicinity. These parcels are generally managed for dispersed recreational use (J. Spessard, BLM Adjudicator, personal communication, February 2006).

2.3. Study Goals and Objectives

The overall goal of the LRS is to gather additional information on Project-related lands and roads so that appropriate decision making may occur during relicensing to address Project effects. Information from this study will also be made available for use in other relicensing resource studies, such as the Big Game Study (Attachment 2, Study No. 19 of this RSP), Erosion Study (Study No. 1), and Dispersed Recreation Use, Access and Condition Analysis of the Recreation Resource Study (Study No. 21).

The objectives of the LRS are to develop and document current information on Project-related land ownership, rights, and encumbrances, and Project-related roadway ownership, rights-of-way, road use, and access needs within and adjacent to the FERC Project boundary. This information will be used as a basis for discussions on a variety of Project-related analyses and activities.

2.4. Need for Study

Summary of Existing Information

Land

A summary of existing land ownership and use information is provided in section 4.8.10.2 of the Boundary Project Pre-Application Document (PAD; SCL 2006a). SCL is currently conducting additional research to further identify and verify land ownership in the Project area, including fee ownership, flowage and other easements, and other property rights. This study will expand upon this information.

Roads

CNF transportation system mapping in GIS (available online at <http://www.fs.fed.us/r6/data-library/gis/colville/index.html>) shows the locations of existing USFS-managed roads in the area of Boundary Dam. This mapping also shows some of the private roads on privately owned land, along with Washington Department of Transportation (WDOT) - and County-managed roads. In addition to this USFS transportation system mapping, the USFS maintains a road management database documenting the management objectives for all USFS-managed roads on the CNF. This database documents management and road standards, such as the design, vehicle clearance, and speed limit for each road on the CNF.

Lands located within and adjacent to the Project are relatively undeveloped. As a result, there are few roads providing direct access to the Project reservoir. The following are existing roads across USFS-managed lands that provide access to the Project area, as depicted on Reservoir Maps, Project No. 2144, Exhibit K, FERC File D-19247:

- The west-side access road provides access to the powerhouse, dam, and service areas. This road crosses over USFS-managed lands in Section 10, T40N, R43E within the FERC Project boundary shown on Exhibit K; however, the USFS has questioned whether subsequent road re-alignments may have moved this road out of the FERC Project boundary.
- Forest Roads (FR) 3165000 and 3165350 cross USFS-managed lands on the east side of the Pend Oreille River. FR 3165000 is needed for USFS resource management purposes from the junction with SR 31 to the junction with FR 3165200. FR 3165000 is the primary access route to the Vista House overlooking Boundary Dam. According to the USFS, FR 3165000 and FR 3165350 were constructed and then reconstructed by SCL, under a special use permit issued by the USFS in 1964. According to the USFS/BLM in their study request, this USFS permit was terminated in December 1971 and this road is currently maintained by Pend Oreille County under a cooperative arrangement between Pend Oreille County and SCL, as well as the USFS. The USFS states that there is some confusion over the jurisdiction for the road, which should be resolved in this study. The USFS also states that FR 3165350 is not needed for USFS resource management access purposes, which suggests this road is only used to access the east side of Boundary Dam and other Project lands.
- A portion of FR 3165200, and a non-USFS road that intersects FR 3165200, access the east side of the Pend Oreille River in the area of the Boundary Dam tailrace. These roads are on USFS-managed land in Section 2, T40, R43, and are outside the FERC Project boundary. The CNF uses FR 3165200 for resource management access purposes, while the non-USFS road is not needed by the USFS for resource management access purposes.
- FR 6200348 accesses the Project transmission lines between the Machine Hall and the Bonneville Power Administration (BPA) switching station. This road is also used by the CNF for resource management access purposes and is partially located within the FERC Project boundary.

Need for Additional Information

Existing information on Project lands and roads is presented in the PAD, section 4.8. SCL is currently conducting additional research on Project land and roads to further supplement this information. In their study request, the USFS and BLM have requested additional information, such as detailed roadway conditions, that does not currently exist. This study is intended to collect and analyze this additional information.

2.5. Detailed Description of Study

Study Area

Land

For Project land ownership and rights, the study area will include all lands and waters within the FERC Project boundary, parcels immediately adjoining the FERC Project boundary, and any other lands needed to operate and maintain the Project.

Roads

For Project-related roads, the study area will include the area between the Pend Oreille River shoreline and the nearest State or County road or highway parallel to the river. On the east side of the Pend Oreille River, the study area will extend to State Route (SR) 31 and County Road 3669 from Box Canyon Dam to below Boundary Dam; on the west side of the river, the study area will extend to SR 31 and County Road 2975 along the length of the Project, as well as SCL's Machine Hall and maintenance area and the Tailrace Recreation Area below Boundary Dam.

Proposed Methodology

This study will include researching available records with some data analysis and field work. Most of the information required for this study may be found in USFS, BLM, County, and SCL records. A summary of information to be gathered and displayed for the study area includes the following:

- Land:
 - Land ownership and mapped information in GIS
 - Property rights information
 - Property boundary survey information
 - Mining claim information (within the Project boundary)
- Roads:
 - Roadway rights-of-way (ROW)
 - Roadway easements
 - Road use agreements or authorizations
 - Road condition and maintenance
 - Roads needed for Project operations and maintenance
 - Roads that provide public access to the reservoir shoreline

Land Methodology

The land-based tasks that will be completed within the study area are described below.

Task 1) Land Ownership Analysis

Within the study area, land ownership will be identified in tabular and mapped (GIS) format and will include parcel name, tax parcel number (if applicable), legal description, and approximate acreage (if currently available). SCL initiated this work in 2005; results will be available by March 31, 2007.

Task 2) FERC Boundary Analysis

SCL lacks complete information regarding where the new FERC boundary should be drawn to appropriately encompass all Project elements. As a result, an assessment of the FERC Project

boundary and related survey work will be conducted by SCL in connection with the establishment of a new Project boundary as authorized in a new license. FERC boundary information will be compiled and displayed in tabular and mapped (GIS) format, including legal description, location of surveyed lines (e.g., east line of NE 1/4) and monuments (corners), date of survey, and record of survey filing information (if applicable). Results of an initial review of the FERC Project boundary will be made available to relicensing participants in 2007. SCL will generally identify a new FERC Project boundary in connection with its Preliminary License Proposal. Formal proposed revisions to FERC Exhibit G (formerly Exhibit K) drawings defining a new FERC Project boundary will be provided in the License Application. SCL will adhere to FERC guidance regarding the preparation of Project exhibits (FERC 2005), including the FERC Project boundary. Appropriate geo-referenced survey monument data will be provided to FERC in a revised FERC Exhibit G.

Task 3) Mining Claim Analysis

Within the FERC Project boundary, current mining claim information will be collected and displayed in tabular and mapped (GIS) format including legal description, name, holder, and mineral survey (if applicable). The USFS/BLM requested a broader review of mining claims information in the river corridor; however, SCL believes that it is appropriate to address only mining claims within the FERC Project boundary where SCL has control or management authority.

Task 4) Private Shoreline Development Analysis

Private shoreline development potential will be estimated for parcels of private land directly adjacent to the FERC Project boundary, showing the currently documented (County approved) development potential (i.e., recorded subdivision) near the Project. The USFS/BLM requested a broader review of private development potential in the river corridor; however, SCL believes that it is appropriate to limit its analysis to private development potential surrounding the FERC Project boundary that may directly impact Project lands.

Roads Methodology

A three-step process will be used to identify Project-related road access needs for the Project, including Project operations and maintenance, and public shoreline access. The road-based tasks that will be completed within the study area are described below.

Task 1) Project Roadway Needs Analysis

Determine what roads across USFS- and/or BLM-managed lands are needed for known Project operations and maintenance during the term of the new license. This will be accomplished by evaluating the existing and proposed road system near the Project. The existing transportation system that accesses the Project will be evaluated to determine if currently available routes meet access needs for the safe and efficient O&M of the Project. In addition, SCL will analyze road access needs to active monitoring well sites. The USFS/BLM requested that existing and potential need for public/recreational roadway access to the Project also be analyzed. This agency request will be addressed in a phased approach, initially as part of the Dispersed Recreation Use, Access, and Condition Analysis, a study element of the RRS (Study No. 21). Analysis of future public/recreational access needs to the Project will be conducted during the

integrated resource analysis phase (see Attachment 1, section 2.4 of this RSP) when all or most study results are available for review, and in conjunction with the recreation needs analysis and synthesis and development of the Preliminary Licensing Proposal.

Task 2) Project Roadway Condition Analysis

Determine the condition of the existing road system needed for Project O&M, with respect to user vehicle types, soil and water resource impacts, and administrative use by the CNF or others. The current condition of the existing transportation system used by the Project will be inventoried and assessed. Roads will be evaluated for potential impacts to soil and water resources through erosion or mass wasting from the road prism. Road maintenance standards and guidelines in the CNFP, as amended, will be reviewed for roads on USFS-managed land. The evaluation of roads on USFS- and BLM-managed land for soil and water resource impacts and road prism stability will be done by a professional hydrologist, soil scientist, geologist, and/or engineer. Locations of soil movement outside of the road prism, and locations where mass wasting has impacted the road prism, will be assessed. This task will inventory the locations of soil erosion and mass wasting by road milepost. This task will result in a standard professional engineering report with tabular and mapped (GIS) information that describes the condition of the existing BLM and/or USFS road system needed for Project O&M activities. If appropriate, alternatives for road maintenance or repairs will be identified to reduce identified Project-related impacts to soil and water resources or to stabilize roads needed for Project operations or access. As noted above, the USFS/BLM requested that the potential need for additional public/recreational roadway access to the Project should be analyzed. If it is determined that additional roadway access to the Project is needed for public and recreational use, based on the results of the RRS and follow-on analyses noted above in Task 1, SCL will conduct future roadway condition analyses along these new routes.

Task 3) Project Road Use Easement and Permit Analysis

Determine if appropriate road use easements or permits exist for routes needed for Project O&M and if these routes cross non-SCL-owned land. Once the transportation network needed for current Project purposes has been determined, a search of appropriate records will be completed to determine if appropriate ROWs or other rights have been granted to SCL. If this research establishes that there are inadequate authorizations issued to SCL covering needed access across non-SCL-owned lands, then required authorizations will be identified. Road access and ROW information will be presented in tabular and mapped (GIS) format, including road name and/or number, land ownership, and documented ROW, easement, or road use agreement. As noted above, the USFS/BLM requested that the potential need for additional public/recreational roadway access to the Project should also be analyzed. If it is determined that additional roadway access to the Project is needed for public and recreational use, based on the results of the RRS and follow-on analyses noted above in Task 1, SCL will conduct a future assessment of appropriate road use easements or permits that may be needed along these new routes.

2.6. Work Products

LRS work products include a study report that will include tabular and mapped (GIS) information and GIS shape files with metadata. The study report may be separated into land and road components for review and use in other relicensing resource studies.

2.7. Consistency with Generally Accepted Scientific Practice

The LRS methodology described herein is generally consistent with land- and road-related research methodology and practices used in other comparable relicensing study plans in the Pacific Northwest involving large hydroelectric projects and federally managed lands within and adjacent to the FERC Project boundary. Study results will be adequate to address FERC requirements and USFS and BLM needs related to land and road resources.

2.8. Consultation with Agencies, Tribes, and Other Stakeholders

Comments and questions regarding road and land issues were received at the relicensing resource workgroup meetings in 2006. The USFS indicated that it was considering filing an official request for a roads-related study; however no specific study requests were made by any relicensing participants during the course of the workgroup meetings. In the USFS's PAD/Scoping comment letter, filed with FERC on August 31, 2006 (USFS 2006a), the USFS and BLM jointly submitted a request for a Lands and Access Study; this study proposal is presented in response to that request. SCL also had follow-up conversations with USFS staff to clarify points made in the USFS/BLM study request; a summary of these communications is included in the Proposed Study Plan (PSP) (SCL 2006b). The LRS plan was included in the PSP that was filed with FERC October 16, 2006.

Since filing the PSP, SCL has continued to work with relicensing participants on its proposed study plans. In response to comments made during the November 15 study plan meeting and comments filed with FERC by the USFS (2007), SCL has further modified the LRS plan (SCL's responses to comments are summarized in Attachment 3 and consultation documentation is included in Attachment 4 of this RSP). Modifications included adding clarification, additional supporting rationale, and additional detail to address USFS comments. Where differences remain between study requests and study elements, SCL has so noted in Attachment 3 of this RSP.

2.9. Schedule

Finalization and implementation of this study plan will be in accordance with the process schedule presented in Attachment 1, section 2.2. The LRS and its individual study elements will be implemented and completed per the schedule defined in Table 2.9-1.

This study will provide information that will be useful for other studies and/or analyses. The LRS information will be compiled and presented during the first study season with the results made available by late 2007.

Table 2.9-1. Proposed Land and Roads Study schedule.

Land and Roads Study Tasks	2007				2008
	1 Q	2 Q	3 Q	4 Q	1 Q
Technical Consultant study refinement	•				
Lands					
1. Land Ownership Analysis	▲▲	▲---			
2. FERC Boundary Analysis	▲▲	▲---			
3. Mining Claim Analysis	▲▲	▲---			
4. Private Shoreline Development Analysis	▲▲	▲---			
Roads					
1. Project Roadway Needs Analysis	▲▲	▲---			
2. Project Roadway Condition Analysis	▲▲	▲---			
3. Project Road Use Easement and Permit Analysis	▲▲	▲---			
Prepare draft study report				•	
Distribute draft study report for relicensing participant review					•
Meet with relicensing participants to review efforts and results					•
Include final study report in Initial Study Report (ISR) filed with FERC					•
Hold ISR meeting and file meeting summary with FERC					•

Notes:

- ▲ Research including field activities and non-field based information gathering
- (---) Data analysis and summary

2.10. Progress Reports, Information Sharing, and Technical Review

The draft study report will be made available for relicensing participant review and comment per the Process and Schedule Overview provided in Attachment 1, section 2.3 of this RSP and the LRS schedule described above. Prior to release of the Initial Study Report, SCL will meet with relicensing participants to discuss study results.

2.11. Anticipated Level of Effort and Cost

It is estimated that the LRS (except for the engineering analysis noted below) will require approximately 500 to 600 person-hours at a cost of approximately \$50,000. A significant portion of the research and other information gathered and reported under this study is currently being collected and analyzed by SCL.

An engineering assessment within the LRS will describe Project-related road condition and any maintenance or repairs needed to reduce impacts to soil and water resources. This effort will likely require 1 to 2 weeks of field work for a team consisting of a professional hydrologist or soil scientist, geologist, and engineer, and 1 to 2 weeks of report writing. Additional time for

SCL and relicensing participant consultation will be needed. It is estimated that the total cost for this engineering assessment will be approximately \$50,000.

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