

FINAL LICENSE APPLICATION

Carmen-Smith Hydroelectric Project

FERC No. 2242

web version



Stakeholder Transmittal Letter

Executive Summary

Initial Statement

Exhibit A - H

Appendices to Exhibit E

Consultation Record

Submitted by:
Eugene Water & Electric Board
Eugene, Oregon
November 2006

Contents of Disks

Eugene Water & Electric Board
Carmen-Smith Project
FERC Project No. 2242

Final License Application

CONTENTS of DISKS

EXHIBITS, APPENDICES, and CONSULTATION RECORD

DISK: CSHP_FL_(CD or DVD)

EXHIBITS

VOLUME: 1

Stakeholder Transmittal Letter
Executive Summary
Definitions of Abbreviations, Acronyms, and Initialisms
Definitions of Units and Measurements
Glossary of Terms
Initial Statement
Exhibit A - Description of Project
Exhibit B - Project Operations and Resource Utilization
Exhibit C - Construction History
Exhibit D - Project Finances

Exhibit E - Environmental Report (4.7Mb)

VOLUME: 2

Exhibit E-1 - Introduction
Exhibit E-2 - Proposed Project Modifications
Exhibit E-3 - General Locale
Exhibit E-4 - Water Use and Quality
Exhibit E-5 - Geology and Stream Channel Geomorphology
Exhibit E-6 - Fisheries
Exhibit E-7 - Botanical Resources
Exhibit E-8 - Wildlife
Exhibit E-9 - Historic and Archaeological Resources
Exhibit E-10 - Recreational Resources
Exhibit E-11 - Aesthetic Resources
Exhibit E-12 - Land Use and Management

VOLUME: 3

Exhibit E-13 - Agency Proposals
Exhibit E- Figures (39.7Mb)

APPENDICES TO EXHIBIT E

DISK: CSHP_FLA_(CD or DVD)

Aquatics Issues:

E-4 WATER USE AND QUALITY

Appendix E-4A. Hydrologic Regimes (11.6Mg)

Hydrologic Regimes at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

Appendix E-4B. Water Quality (10.8Mg)

Water Quality at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

E-5 GEOLOGY AND STREAM CHANNEL GEOMORPHOLOGY

Appendix E-5A. Sediment Budget (21.1Mg)

Sediment Budget for the Carmen-Smith Hydroelectric Project Area, Upper McKenzie River Basin, Oregon, March 2006, Stillwater Sciences, Arcata, California.

Appendix E-5B. Large Woody Debris Dynamics (14.9Mg)

Large Woody Debris Dynamics at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

Appendix E-5C. Fluvial Geomorphic Processes and Channel Morphology (15.1Mg)

Fluvial Geomorphic Processes and Channel Morphology at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, March 2006, Stillwater Sciences, Arcata, California.

E-6 FISHERIES

Appendix E-6A. Fish Population Distribution and Abundance (15.9Mg)

Fish Population Distribution and Abundance at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

[ Video]

DISK: CSHP_FLA_AE-6A

Appendix E-6B. Fish Passage (14.2Mg)

Fish Passage Technical Report for the Carmen-Smith Hydroelectric Project, January 2006, MWH Americas, Bellevue, Washington and Stillwater Sciences, Arcata, California.
(Public Version without CEII Figures)

Appendix E-6C. Fish Entrainment (10.1Mg)

Fish Entrainment at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, January 2006, Stillwater Sciences, Arcata, California.
(Public Version without CEII Figures)

[ Video]

DISK: CSHP_FL_AE-6C

Appendix E-6D. Downstream Passage Survival

Downstream Passage Survival Estimation at the Trail Bridge Development, McKenzie River, Oregon, March 2006, Normandeau Associates, Westmoreland, New Hampshire.

Appendix E-6E. Aquatic Habitat Connectivity (4.6Mg)

Aquatic Habitat Connectivity at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

Appendix E-6F. Genetic Analysis of Bull Trout

Genetic Analysis of Bull Trout from the Upper McKenzie River, April 2006, University of Montana Conservation Genetics Lab, Missoula, Montana.

Appendix E-6G. Flow Fluctuations and Stranding (10.2Mg)

Flow Fluctuations and Stranding at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

[ Video]

DISK: CSHP_FL_AE-6G

Appendix E-6H. Aquatic Habitats and Instream Flows (14.7Mg)

Aquatic Habitats and Instream Flows at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

[ Video]

DISK: CSHP_FL_AE-6H

Appendix E-6I. Population Dynamics (4.3Mg)

Population Dynamics of Bull Trout and Spring Chinook Salmon at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, March 2006, Stillwater Sciences, Arcata, California.

Appendix E-6J. Aquatic Protection, Mitigation, and Enhancement Opportunities (11.7Mg)

Aquatic Protection, Mitigation, and Enhancement Opportunities for the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

[ Video]

Appendix E-6K. 2006 Stranding Study at Trail Bridge Reservoir (11.8Mg)

2006 Stranding Study at Trail Bridge Reservoir for the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, November 2006, Stillwater Sciences, Arcata, California.

Appendix E-6L. Preliminary Evaluation of the Biological Effects of Two Downstream Fish Passage Construction Scenarios at Trail Bridge Dam (2.2Mg)

Preliminary evaluation of the Biological Effects of Two Downstream Fish Passage Construction Scenarios at Trail Bridge Dam. Summary tables. Prepared by Stillwater Sciences, Arcata, California.

Terrestrial Issues:

E-7 BOTANICAL RESOURCES

Appendix E-7A. Vegetation and Wetland Mapping and Characterization (17.7Mg)

Vegetation and Wetland Mapping and Characterization at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

Appendix E-7B. Botanical Field Surveys and Evaluation of Project Effects (13.8Mg)

Botanical Field Surveys and Evaluation of Project Effects at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

E-8 WILDLIFE

Appendix E-8A. Wildlife Distribution (25.5Mg)

Wildlife Distribution at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.

Appendix E-8B. Wildlife Analyses (6.9Mg)

Wildlife Analyses at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, April 2006, Stillwater Sciences, Arcata, California.

Social Sciences Issues:

E-9 HISTORIC AND ARCHAEOLOGICAL RESOURCES

Appendix E-9A. Archaeological Investigations (CONFIDENTIAL)

Archaeological Investigations for the Eugene Water & Electric Board Carmen-Smith Hydroelectric Project, Lane and Linn Counties, Oregon, April 2006, Heritage Research Associates, Eugene, Oregon.

DISK: CSHP_FL_A_CON

Appendix E-9B. Historic Properties (12.3Mg)

Oregon Inventory of Historic Properties Section 106 Documentation Form, March 2006, Heritage Research Associates, Eugene, Oregon.

Appendix E-9C. Traditional Cultural Properties (CONFIDENTIAL)

Literature Review for the Identification of Traditional Cultural Properties, for the Eugene Water & Electric Board Carmen-Smith Hydroelectric Project, Lane and Linn Counties, Oregon, April 2006, Heritage Research Associates, Eugene, Oregon.

DISK: CSHP_FL_A_CON

E-10 RECREATIONAL RESOURCES

Appendix E-10A. Existing Recreational Uses (15Mg)

Existing Recreational Uses at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, March, 2006, Martha Goodavish Planning & Design, Walnut Creek, California and Stillwater Sciences, Arcata, California.

Appendix E-10B. Recreation Suitability (11.6Mg)

Recreation Suitability at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, April 2006, Martha Goodavish Planning & Design, Walnut Creek, California and Stillwater Sciences, Arcata, California.

Appendix E-10C. Whitewater Boating Feasibility (6.1Mg)

Whitewater Boating Feasibility in Bypass Reaches of the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, December 2005, Confluence Research & Consulting, Corvallis, Oregon and Stillwater Sciences, Arcata, California.

[ Video]

DISK: CSHP_FL_AE-10C

E-11 AESTHETIC RESOURCES

Appendix E-11A. Aesthetic Resources (44.7Mg)

Aesthetic Resources at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, April 2006, Martha Goodavish Planning & Design, Walnut Creek, California and Stillwater Sciences, Arcata, California.

E-12 LAND USE AND MANAGEMENT

Appendix E-12A. Land Use and Management (15.1Mg)

Land Use and Management at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, April 2006, Martha Goodavish Planning & Design, Walnut Creek, California and Stillwater Sciences, Arcata, California.

CONSULTATION RECORD

VOLUME: 1

Meetings

Decision Points

Correspondence

CRITICAL ENERGY INFRASTRUCTURE INFORMATION (CEII) FERC ONLY

DISK: CSHP_FL_A_CEII

Exhibit F - Design Drawings (CEII)

VOLUME: 5

Appendix E-6B. Fish Passage (CEII)

Fish Passage Technical Report for the Carmen-Smith Hydroelectric Project, January 2006, MWH Americas, Bellevue, Washington and Stillwater Sciences, Arcata, California.

Appendix E-6C. Fish Entrainment (CEII)

Fish Entrainment at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, January 2006, Stillwater Sciences, Arcata, California.

[ Video]

NON-INTERNET PUBLIC (NIP)

DISK: CSHP_FL_A_CEII

Exhibit G - Project Maps (NIP)

VOLUME: 4

CONFIDENTIAL REPORTS

DISK: CSHP_FL_A_CON

Appendix E-9A. Archaeological Investigations (CONFIDENTIAL)

Archaeological Investigations for the Eugene Water & Electric Board Carmen-Smith Hydroelectric Project, Lane and Linn Counties, Oregon, April 2006, Heritage Research Associates, Eugene, Oregon.

Appendix E-9C. Traditional Cultural Properties (CONFIDENTIAL)

Literature Review for the Identification of Traditional Cultural Properties, for the Eugene Water & Electric Board Carmen-Smith Hydroelectric Project, Lane and Linn Counties, Oregon, April 2006, Heritage Research Associates, Eugene, Oregon.

Appendix E-8A. Wildlife Distribution (SENSITIVE)

Wildlife Distribution at the Carmen-Smith Hydroelectric Project, Upper McKenzie River Basin, Oregon, February 2006, Stillwater Sciences, Arcata, California.