



PUBLIC UTILITY DISTRICT NO. 1 of CHELAN COUNTY

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April 30, 2013

Honorable Kimberly D. Bose, Secretary, and
Nathaniel J. Davis, Sr., Deputy Secretary
FEDERAL ENERGY REGULATORY COMMISSION
888 First Street, NE
Washington, DC 20426

VIA ELECTRONIC FILING

Re: **Lake Chelan Hydroelectric Project No. 637-043**
Article 403 – Stehekin Area Implementation Monitoring Plan
2012 Annual Report and 2013 Work Plan

Dear Secretary Bose and Deputy Secretary Davis:

On May 6, 2008, the Federal Energy Regulatory Commission (Commission) issued the “*Order Modifying and Approving Stehekin Area Implementation Plan Under Article 403*”¹ requiring the Public Utility District No. 1 of Chelan County, Washington (Chelan PUD) to file an annual report on work planned and completed with funding provided to the U.S. Forest Service (USFS), U.S. Department of the Interior, National Park Service (NPS) and the Washington Department of Fish and Wildlife (WDFW) by April 30, 2009. The Stehekin Area Implementation Monitoring Plan states that all payments for work conducted will be in accordance with section 19 of the Settlement Agreement.²

In accordance with Ordering Paragraph (C) of the above Order, Chelan PUD hereby files the 2012 Annual Report and 2013 Work Plan to the Commission.

Please do not hesitate to contact me regarding any questions or comments regarding this report.

Sincerely,

Michelle Smith
Licensing and Compliance Manager
michelle.smith@chelanpud.org
(509)661-4180

Enclosure

c: Annelise Lesmeister, NPS

¹ 123 FERC ¶ 62,100 (2008)

² Chelan PUD, on behalf of the signatories, filed a comprehensive settlement agreement on October 17, 2003.

LAKE CHELAN HYDROELECTRIC PROJECT NO. 637

Stehekin Area Implementation Monitoring Plan

2012 Annual Report and 2013 Work Plan

Introduction

In accordance with Article 403 of the new License,¹ the Public Utility District No. 1 of Chelan County, Washington (Chelan PUD) filed to the Federal Energy Regulatory Commission (Commission) a Stehekin Area Implementation Monitoring Plan (SAIMP) on November 6, 2007. The purpose of this plan is to provide details on the measures that will be implemented to monitor reductions in dust emissions, establishment of native riparian vegetation, and reduction in non-native plants in the reservoir drawdown zone and along the reservoir shoreline in the area of Stehekin, as specified in the License articles, and the Lake Chelan Comprehensive Settlement Agreement (Settlement Agreement), dated October 8, 2003 (Appendix A of the Project License).

On April 10, 2008, the Commission approved and modified the Wildlife Habitat Plan under Article 406. The plan submitted to the Commission provided details on the implementation of riparian habitat improvements. The improvements or enhancements to the Stehekin area habitat overlap with measures to be implemented under Article 403, so the U.S. Department of the Interior, National Park Service (NPS) and Chelan PUD agreed to combine these in the SAIMP.

Additionally, on May 6, 2008, the Commission issued the “*Order Modifying and Approving Stehekin Area Implementation Plan Under Article 403*”² requiring Chelan PUD to file an annual report on work planned and completed with funding provided to the U.S. Forest Service (USFS), NPS and the Washington Department of Fish and Wildlife (WDFW). However, most of the actions for the SAIMP will be undertaken by the NPS. The SAIMP states that all payments for work conducted by the NPS will be in accordance with section 19 of the Settlement Agreement. The annual report is to be submitted by April 30 each year, beginning April 30, 2009.

The following report provides a summary of SAIMP activities completed with funding provided by Chelan PUD during 2012 and a description of anticipated activities with funding to be provided during 2013. A table is provided at the end of this report that summarizes agency funding provided in 2012, anticipated funding for 2013 and proposed activities for 2014.

¹ 117 FERC ¶ 62,129 (2006)

² 123 FERC ¶ 62,100 (2008)

Activity during the Previous Calendar Year 2012

DUST ABATEMENT WORK

In 2012, the NPS explored and tested dust abatement options. Details of the 2012 work are provided below:

LC04a, Task 1: Dust Abatement Options

In the spring of 2011, a temporary irrigation system was tested on an area of 10 acres thought to be the primary dust source on Stehekin Flats. Based on NPS staff observations, the irrigation system produced a substantial reduction in dust reaching the landing area during wind events blowing downlake (predominant direction) and less than 15 mph. Cross-lake winds and winds greater than 15 mph continued to produce substantial dust at the Landing and did not appear to be affected by the sprinkler system.

A key factor in this result was the extreme drawdown of the lake in 2011, due to a record snowpack, so that an additional 15 acres of the flats, not typically dry in April and May, remained exposed until June. This area, downwind from the irrigation system, contributed significant amounts of dust at the Landing. Also, there was an area uplake from the irrigation system that served as a source of dust that was blown above the irrigation system.

Measurements from a nephelometer, installed in 2011, did not detect differences in dust levels at the landing during wind events under any conditions in early May 2011. This may be due to the larger-than-normal source area downwind of the sprinkler system, the short duration of sprinkler tests or the location of the nephelometer.

Based on these observed results, additional testing was done in 2012. Fourteen new sprinkler heads covering an additional 3 acres were added to cover the potential source area uplake from the 10 acres in hopes of catching that dust before it became airborne.

Due to the wet spring, the test period in 2012 included only two days with conditions to produce visible dust (wind event with a dry surface on the flats). The first day provided light winds (less than 10 mph). The small quantity of dust generated was suppressed by the sprinklers. The second testing day, provided winds in excess of 20 mph. During this strong wind event there was not a visible difference when running the irrigation system. This occurred on the last day the sprinklers were running, May 2. It may be that the sprinkler system is only effective on winds of approximately 15 mph or less. The nephelometer did not detect a measureable difference in the dust generated while running the sprinklers during either the strong or light wind event.

It is worth noting that, in 2010, intermittent rains interfered with the testing. Despite the presence of wind events, there were no significant dust events due to the rain's effect in dampening the dust source areas. This suggests that dampening the flats by other means than rain could be effective in preventing dust events.

Testing of a sprinkler system is hampered by a number of factors, some of which will no longer be relevant when the testing phase is past. The following points outline these factors:

- Every year is different. This may seem too obvious to state, but has nevertheless had a significant impact on the testing. As noted, intermittent rain during the intended test period in 2010 made meaningful testing of the sprinkler system impossible, because there was no dust. In 2011, the lake level was lower and stayed down longer than is usual, resulting in exposure of dust source areas that are not commonly exposed to drying. This threw off the testing since the dust source area was much larger than the test area. In addition to the wet spring in 2012, the lake level was once again relatively low, but did not stay down nearly as long, so equipment had to be removed before very much testing could be accomplished. This variability makes comparison of results from different years practically impossible. Also, since the conditions are not knowable ahead of time, planning a testing program is problematic.
- The testing period is limited by the access needed to install and remove equipment. The pumps, distribution lines and sprinklers must all be taken to the site and set up after the dust areas are dry enough to allow for access. Various streams must be crossed to access the dust source areas and the equipment must be removed once again before the streams rise enough to prevent access. This severely restricts the test period. A more permanent system would not be affected in the same way. The pumping equipment would be likely to be replaced by a well and submersible pump, so only relatively light equipment would need to be placed and removed. Access would then be much less of a limitation.
- Testing is limited by the capacity of the portable pump(s) used to provide water. Since dust from areas upwind or downwind of the test area is unaffected by the test system, this tends to make the sprinkler system appear ineffective. The result is circular: a small test area appears to be ineffective, and as long as it appears ineffective we are unlikely to make the test area larger or to commit to a more permanent system. Presumably, in designing a more permanent system, one could allow for “excess” capacity to address possible expansion of the area to be dampened.

LC04a, Task 3: Monitoring Evaluation

A nephelometer was purchased and installed at Stehekin Landing in early 2011. An E-sampler ambient particulate monitor with a wind speed/direction sensor was determined to be the preferred instrument to provide air quality measurements for its ability to measure both fine and coarse dust particles. There was no clear difference in dust detected when the sprinklers were running and when they were not during the two wind events. Also, the short sample period did not produce enough data for much analysis.

STEHEKIN HABITAT WORK

On November 1, 2010, Chelan PUD filed a Riparian Zone Plan (plan) for Commission approval pursuant to Article 403 of Project License. Pending approval of the Riparian Zone Plan, no work was conducted during the first half of 2011. On August 2, 2011, the Riparian Zone Plan was approved.³ Upon Commission approval, work ensued during the second half of 2011 with collection and propagation of native plant material and establishing baseline transects and photo points. In 2012, plant propagation and collection of plant material were the only task with reimbursable activity in 2012.

Riparian Zone Plan

On August 2, 2011, the Riparian Zone Action Plan was approved by the Commission. NPS was informed of Riparian Zone Plan approval on August 4, 2011 via e-mail. After the third quarter billing of 2012, the NPS initiated a change in their billing system. As a result, work conducted in the fourth quarter of 2012 on the Riparian Zone Plan could not be billed due to system changeover. While work was completed in the fourth quarter of 2012, the billings are not expected until the second or third quarter of 2013.

LC09c1, Task 1, Item 1: Collect Plant Material

During the third quarter of 2012, NPS continued efforts for seed and propagule planting in and management in the Marblemount greenhouse. In the fourth quarter of 2012, additional seeds and propogules were collected for propogation in the greenhouse.

LC09c1, Task 1, Item 2: Plant Propagation

Seeds and propagules were planted and maintained in the Marblemount greenhouse. During October of 2012, collected additional seeds and propagules for future plantings.

LC09c1 Task 1, Item 4: Contain Canary Grass

Installed a 20-foot by 50-foot section of weed cloth to evaluate this method for potential reed canary grass control. Two live stakes were placed in hole cut on one-foot centers of the weed cloth. Approximately 225 live stakes including willow, dogwood and cottonwood were planted.

LC09c1, Task 1, Item 6: Crew Lead

Reed canary grass control work, seed collection and plantings.

LC09c1, Task 1, Item 7: Plant Ecologist

Reed canary grass control work, seed collection and plantings.

LC09c1, Task 2 Item 3: Osprey and Eagle Surveys

Monitoring postponed to 2014.

³ 136 FERC ¶ 62,096

2012 Meeting Activity

The NPS and Chelan PUD met on November 26, 2012, to discuss 2012 activities and estimated costs for proposed 2013 work. In addition to the above meetings, telephone and email correspondence ensued.

Activity Planned for Calendar Year 2013

DUST ABATEMENT WORK

In 2013, the NPS plans to gather information needed to design a permanent irrigation system on the flats.

LC04a, Task 1: Dust Abatement Options

In a meeting on April 9, 2013, project managers from Chelan PUD and NPS decided not to pursue another year of sprinkler tests. The reasons included the high cost of labor to install and break down the system and the unreliability of weather conditions to produce measureable results.

A number of questions were generated during the meeting relating to the design of a permanent irrigation system. Items that need to be addressed include:

- Determine how much water is needed to stabilize the soil and how long it takes to dry out again, so that we can develop a water budget for the project.
- Evaluate what type of irrigation system can be designed to water a 30 acre site, using the least amount of infrastructure.
- Estimate the cost of the system, including equipment, installation and maintenance?
- At what depth does permanently installed pipe need to be buried?

The detailed design information is needed prior to seeking approval from the Lake Chelan Cultural Resources Forum and the NPS Interdisciplinary Team. Following the agencies' approval, the necessary compliance will be completed which includes NEPA, NHPA, Section 401 (Water Quality Certification), Section 404 and Section 10. Clearly this work will extend beyond 2013. For this year, the goal is to gather the information necessary to design a permanent system.

LC04a, Task 3: Dust Monitoring and Evaluation

The nephelometer installed at Stehekin Landing in 2011 will continue to operate during the drawdown and will provide information of wind events and dust generated. The nephelometer data, coupled with precipitation and wind information provided by the Stehekin Remote Automated Weather Station and also visual observations, will provide information for use in creating a water budget for the project.

STEHEKIN HABITAT WORK

In 2013, the NPS plans to continue implementing the Riparian Zone Plan. Details of the 2012 work are provided below:

LC09c1, Task 1, Item 1: Collect Plant Material

Continue collection of seeds, cuttings and propagules. Plants may be salvaged on sites that are slated for weed control.

LC09c1, Task 1, Item 2: Plant Propagation

Seeds and cuttings collected will be propagated in the NPS greenhouse facility in 2013.

LC09c1, Task 1, Item 4: Contain Canary Grass

NPS will use an integrated approach to control reed canary grass per the approved Riparian Zone Plan.

LC09c1, Task 1 Item 5: Plant Nursery Stock

NPS will begin planting seedlings and cuttings grown in the Marblemount greenhouse in 2011 and 2012 per the approved Riparian Zone Plan.

LC09c1, Task 1, Item 6: Crew Lead

Labor and oversight for Task 1, Items 1-5.

LC09c1, Task 1, Item 7: Plant Ecologist

Labor and oversight for Task1, Items 1-5.

LC09c1, Task 2 Item 3: Osprey and Eagle Surveys

Postpone monitoring until 2014.

Funding Activity

Section 19.3 of the Settlement Agreement requires Chelan PUD to enter into payment agreements with the NPS prior to allocation of funds. Chelan PUD coordinated with the NPS to obtain a 2013 annual work plan, including estimated funding amounts, as prescribed under Section 19.3 of the Settlement Agreement and in the payment agreement.

The table below provides a summary of funds available, stated in net present value, where applicable. The amounts have been adjusted to 2013 dollars using the CPI adjustment as of January 31, 2013, as outlined in Section 19.1 of the Settlement Agreement.

FUNDING PROVISIONS – YEAR 2012 SPENT – YEAR 2013 ACTIVITIES – YEAR 2014 PROPOSED ACTIVITIES
2013 YEAR START
March 2013

AGMT ARTICLE	DESCRIPTION	2012 SPENT	2013 ACTIVITIES	ESTIMATED COSTS 2013	2014 PROPOSED ACTIVITIES	ESTIMATED COSTS 2014	TOTAL FUNDING AVAILABLE AS OF JANUARY 31, 2013
LC04a One Time (Combo)	NPS Stehekin Dust Abatement (SAIMP)	\$11,473.49	Task 1: Abatement Task 3: Monitoring and Evaluation	\$19,193.81 \$2,904.29	Task 1: Abatement Task 3: Monitoring and Evaluation	\$34,569.00 \$1,382.76	\$171,331.82
LC09c1 (Combo)	NPS Stehekin Habitat (made part of SAIMP)	\$5,969.63	Task 1, Item 1: Collect Plant Material Task 1, Item 2: Propagate Plans Task 1, Item 3: Regrade Deltas Task 1, Item 4: Contain Canary Grass Task 1, Item 5: Plant Nursery Stock Task 1, Item 6: Crew Lead Task 1, Item 7: Plant Ecologist	\$2,304.60 \$7,166.59 \$6,913.80 \$22,124.00 \$4,148.14 \$18,642.00 \$3,361.76	Task 1, Item 1: Collect Plant Material Task 1, Item 2: Propagate Plans Task 1, Item 3: Regrade Deltas Task 1, Item 4: Contain Canary Grass Task 1, Item 5: Plant Nursery Stock Task 1, Item 6: Crew Lead Task 1, Item 7: Plant Ecologist Task 2, Item 1: Riparian Monitoring Task 2, Item 3: Osprey/Eagle Surveys	\$1,152.30 \$6,568.11 \$6,913.80 \$11,062.08 \$15,139.00 \$5,531.04 \$3,456.90 \$624.36	\$330,914.22
LC09c2B One Time (Combo)	NPS Lake Chelan Basin Riparian Habitat (made part of SAIMP)	\$0.00	No activity planned	\$0.00	No activity planned	\$0.00	\$63,808.74
	TOTALS	\$17,443.12	2013 Year Start	\$86,758.99	2014 Proposed	\$86,399.35	