Lake Lynn Generation, LLC
c/o Eagle Creek Renewable Energy, LLC
7315 Wisconsin Avenue, Suite 1100W
Bethesda, Maryland 20814
240.482.2700

September 11, 2023

VIA E-FILING

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Subject: Lake Lynn Hydroelectric Project (FERC No. P-2459)
Final License Application –Additional Information Request #2 Response

Dear Secretary Bose:

Lake Lynn Generation, LLC (Lake Lynn or Licensee) is the licensee and operator of the Lake Lynn Hydroelectric Project (Lake Lynn Project). The Lake Lynn Project is located on the Cheat River, in Monongalia County, West Virginia, near the city of Morgantown, and in Fayette County, Pennsylvania, near the borough of Point Marion. The existing Federal Energy Regulatory Commission (FERC or Commission) license for the Lake Lynn Project expires on November 30, 2024. Lake Lynn is pursuing a new license for the Lake Lynn Project and filed its Final License Application on November 30, 2022.

On July 26, 2023, FERC issued Additional Information Request #2 (AIR) for the Final License Application. Lake Lynn's responses to FERC's requests are filed herein and include revised Exhibits E, G, and electronic files as requested for the Cultural Resource locations (filed as privileged).

If you have any questions or require any additional information, please contact me at (804) 338-5110 or via e-mail at joyce.foster@eaglecreekre.com.

Sincerely,

Joyce Foster

Joyce Foster
Director, Licensing and Compliance

Attachment A: AIR Responses
Attachment B: Revised Exhibit E with Revised Appendix A (Filed separately)
Attachment C: Revised Exhibit G
Attachment D: LKLN U2_32102-D Rev- Air Admission Arrangement.pdf
Attachment E: Lake Lynn dissolved oxygen standard operating procedures examples data.xlsx
Attachment F: SHPO Consultation (Filed separately)
Attachment G: Electronic Files (Cultural Resources, Filed as Privileged)
cc: Distribution List

ATTACHMENT A

AIR RESPONSES

AIR #	Action	Response to AIR
1. Project Boundary	Although the revised Table 3.1 provides additional detail regarding the reason for removal for each parcel, the table does not indicate what the original project purpose was and why these areas are no longer necessary to fulfill that purpose. Identify (if applicable) and provide more detail on whether any of the land proposed for removal was originally included in the project boundary as mitigation land, to preserve wildlife habitat, or for other potential project purposes. Include a detailed explanation as to why those areas are no longer needed to serve the original intended project purpose, identify the managed tree plantation, and describe any potential effects to terrestrial, recreation, and aesthetic resources	Lake Lynn Generation reviewed the previous license and identified all land necessary to operate the Lake Lynn Project. Exhibit G reflects all lands necessary to operate the Lake Lynn Project. A column has been added to Table 3.1 in a revised Exhibit E (see Attachment B) to describe the former Lake Lynn Project purpose (under a previous licensee) for all lands proposed to be removed from the Lake Lynn Project boundary.

AIR #	Action	Response to AIR
	from removing these areas from the project boundary.	
2. Coastal Zone Management Act	Provide a copy (if obtained) of the Coastal Zone Management Act certification of consistency from the Pennsylvania Coastal Zone Management Program office.	The Pennsylvania Coastal Zone Management Program office provided a response via email dated April 25, 2023 (see revised Exhibit E Appendix A) that the Lake Lynn Project is located outside of Pennsylvania's designated coastal zones and will not impact them.
3. Water Resources	Please provide a detailed description of the air entrainment feature that is incorporated in Unit 2 and indicate if any other generating units at the power station have such capabilities.	See Attachment D (Drawing titled *LKLN U2_32102-D Rev-Air Admission Arrangement)* for a detailed description of the air entrainment feature incorporated in Unit 2. The other generating units at the power station do not have this feature or similar capability.
4. Water Resources	Lake Lynn Generation's response to Commission staff's January 24, 2023, AIR Item 9 includes DO and generation data for periods before, during, and after initiating the standard operating procedure to ensure DO does not go below 5.0 mg/L. While this data highlights low-DO periods, it does not describe the DO	The standard operating procedure (SOP) to maintain the tailrace dissolved oxygen concentration (DO) above the water quality standard of 5.0 mg/L is based on the DO continuously recorded every 10 minutes in the reservoir upstream of the powerhouse intake. When the DO is 7.0 mg/L or greater, normal operation occurs. When DO decreases to 6.0 mg/L, generation is limited and the spillway Tainter gates are prepared (SOP Stage No. 1 in Excel spreadsheet examples). Unit 2 is operated preferentially when DO concentration is less than 6.0 mg/L since it has an air entrainment feature (SOP Stage No. 2 in Excel spreadsheet examples). When and if DO continues to decrease to 5.5 mg/L, generation is limited to a maximum of 15 MW and at least six spillway Tainter gates are opened (SOP Stage No. 3 in Excel spreadsheet examples). When and if DO reaches 5.0 mg/L, generation is limited to 12 MW with six spillway Tainter gates open. When and if DO is 4.0 mg/L or less, generation ceases and at least 3 Tainter gates are open. When Do concentrations return to at or above 7.0 mg/L, the operational measures may be curtailed and normal operations resumed. These measures are expected to increase the DO concentration to an amount equal to or greater than 5.0 mg/L. It should be noted

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	concentration at which the standard operating procedure is initiated, or the progression through the different stages. To facilitate staff's review of this DO enhancement measure, please revise Appendix D to label the data to show when the standard operating procedures were initiated, and when each stage of the procedures was implemented.	that implementation of these measures and their effectiveness in increasing Do can and are affected by other variables including impoundment elevation and inflow conditions. Examples of how the measures are implemented under variable operating conditions are discussed below. Examples of how these operating procedures are carried out can be seen in Attachment E (six spreadsheets, Lake Lynn dissolved oxygen standard operation procedures examples data).The spreadsheet provides examples of before, during, and after the standard operating procedures have been initiated to illustrate how DO in the Lake Lynn Project tailrace responds. Note that these examples were updated to include Lake Lynn reservoir elevation to provide additional context of environmental and situational conditions as rationale for how the standard operating procedures were implemented. Plots of these examples were also provided to better display how the standard operating procedures influence these conditions. Example 1 displays a typical low summer inflow causing a declining reservoir elevation approaching the minimum summer elevation of 868 ft. Under these conditions, Unit 2 was the only generating unit deployed and generation had already been curtailed below the threshold amounts of 15 and 12 MW. The spillway Tainter gates were opened after Unit 2 generation was decreased further to raise the reservoir elevation a sufficient amount to be able to spill while allowing the reservoir elevation to remain greater than the minimum summer level. As a contrast, Example 2 displays a situation where previously elevated inflow was followed by a rapid increase in inflow. Unit 2 was generating to maintain tailrace DO. A shift to full generation and spilling from six Tainter gates occurred to initially maintain DO and simultaneously manage the rapid increase in reservoir elevation. Example 3 displays a low inflow causing a declining reservoir elevation as minimum flow is released. Generation was curtailed to increase the reservoir elevation to allow Tainter gate spill while not lowering the reservoir below the minimum elevation. Unit 2 was brought online while Tainter gate spill occurred simultaneously to increase tailrace DO. These examples demonstrate how the standard operating procedures are implemented according to the dynamic situation of actual environmental and situational conditions.
5. Aquatic Resources	The response does not describe what the "best practices" are or provide details regarding the maintenance	The single known maintenance drawdown that occurred under the current license was to facilitate dredging of the Sunset Beach marina. This dredging was done for an unknown length of time during November 1 to March 31. The dredging occurred above the normal minimum elevation of 857 ft. for this time period. Limiting drawdowns to above 857 ft. during November 1 to March 31 reduces impacts to aquatic resources. Best management practices are to limit maintenance drawdowns to a minimum

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	drawdowns. Revise Exhibit E to include the "best practices" followed when implementing a maintenance drawdown; and details for the maintenance drawdowns under the current license, including how often maintenance drawdowns have occurred, how long have the drawdowns lasted, and what has been the magnitude of the drawdowns. Also describe any known effects to aquatic and terrestrial resources associated with the drawdowns under the current license and any changes proposed for the drawdown procedure under any new license.	elevation of 857 ft. to avoid impacts to aquatic or terrestrial resources in addition to those already known to occur within this reservoir elevation fluctuation range.
6. Terrestrial Resources and Threatened and Endangered Species	Table 4.18 indicates that Lake Lynn Generation proposes to remove the 2.67/2.886 acres of the "Managed Tree Plantation" from the project boundary. The license application and	Lake Lynn Generation proposes to remove 0.19 acres of the "Managed Tree Plantation" from the Lake Lynn Project boundary. The managed tree plantation is a classification within the NatureServe botanical community's dataset, 2014, and is not an area managed by Lake Lynn Generation as a mitigation requirement under the current license.

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	revised Exhibit E lack information about the managed tree plantation. Provide the following information: (a) the location of this managed tree plantation; (b) the tree species and size class(es) in the plantation; (c) the methods (including frequency) of harvesting and managing the plantation, including manual, mechanical, and chemical treatments, along with any specific best management practices used to prevent erosion and protect streams; (d) a description of any measures to protect wildlife, particularly ESA-listed species, such as surveys and/or time-of-year restrictions on harvesting trees; (e) the entity who manages the tree plantation; and (f) any potential effects to the resources in the area	

AIR #	Action	Response to AIR
	associated with its proposed removal.	
7. Terrestrial Resources and Threatened and Endangered Species	The license application and revised Exhibit E fail to describe the location and extent of the occurrence of Japanese knotweed, garlic mustard, tree-of-heaven, and oriental bittersweet within the project boundary. Describe the locations, extent of coverage, and where these species occur in areas in which Lake Lynn Generation manages vegetation, within the fluctuation zone associated with project operation, and/or in areas proposed for removal from the project boundary.	Section 4.7.1.1.1, of the revised Exhibit E, has been revised to more accurately reflect the documented occurrences in the Lake Lynn Project Vicinity verses within the Lake Lynn Project Boundary. Only two invasive species were documented in the Lake Lynn Project Boundary and were recorded. These occurrences were along the Cheat Lake Trail where Lake Lynn Generation conducts vegetation maintenance as needed, and the extent of coverage was not documented (reported on EDDMapS via iNaturalist observation). Invasive species have not historically been an issue at the Lake Lynn Project therefore, no targeted invasive species surveys have occurred.
8. Recreation	Lake Lynn Generation states that provisions to remove the moratorium on private boat docks and piers would be outlined in a Shoreline Management Plan that would be developed within 1 year of any	Lake Lynn Generation plans to develop a Shoreline Management Plan (SMP) within one year of license issuance for the Lake Lynn Project. The SMP will be developed in consultation with resource agencies and interested stakeholders. Consultation will be critical in determining under what criteria a moratorium on private boat docks and piers on Cheat Lake may be lifted. Lake Lynn Generation understands that there may be many factors under agency and licensee purview that may be pertinent to allowing for additional development around the reservoir. The moratorium was originally put in place due to safety concerns over the density of boats on Cheat Lake. Caveats for lifting a moratorium would be best administered under a FERC-approved SMP, therefore, the licensee does not yet have a timeframe for this decision and will be dependent on when FERC issues approval of the SMP.

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	license that may be issued for the project. Indicate when Lake Lynn Generation would lift the moratorium on private boat docks and piers on Cheat Lake, or reasons why the date cannot yet be determined.	
9. Recreation	File a copy of any related correspondence from West Virginia DNR about removing the 12-acre water-accessible Nature Viewing Area from the Lake Lynn Project boundary.	Lake Lynn Generation has reached out to the West Virginia DNR to schedule a call to discuss the proposal to remove the 12-acre water accessible Nature Viewing Area. To date, Lake Lynn Generation has not received correspondence from the West Virginia DNR since the FLA was filed regarding this proposal.
10. Cultural Resources	Provide a record of consultation with the West Virginia State Historic Preservation Office (SHPO) and Pennsylvania SHPO, including concurrence on the APE and provide an analysis of the effects of the potential removal of lands from the project boundary on known historic properties.	A record of consultation with the West Virginia State Historic Preservation Office (SHPO) and Pennsylvania SHPO is included in Attachment F. To date, neither SHPO has provided comments or concurred with the APE. An analysis of the effects of the potential removal of lands from the Lake Lynn Project boundary on known historic properties is included in the revised Exhibit E Section 4.11.2.1 (Attachment B)
11. Cultural Resources	Provide (as Privileged, if appropriate) Geographic Information System (GIS)	Lake Lynn is filing GIS layers of the locations of the eligible and potentially eligible historic properties (filed as privileged) as well as a Digital Elevation Model.

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	layers, including digital elevation models, if available, depicting the location of these eligible and potentially eligible historic properties in relation to the APE.	
12. Cultural Resources	Discuss how the proposed removal of lands from the project boundary (and federal protection) which could create an adverse effect, would affect known cultural resources. Describe any measures proposed to mitigate for such potential effects and include any correspondence related to potential effects to known resources, including mitigation measures, with the West Virginia SHPO and Pennsylvania SHPO.	A discussion of effects of the proposed action has been included in revised Exhibit E Section 4.11.2.1 (Attachment B).
13. Environmental Justice	Update the information from the 5-year estimates in the 2020 American Community Survey to the 2021 Survey	Section 4.14 of revised Exhibit E (Attachment B) has been updated to include the 2021 American Community Survey data.

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14. (a)(b) Developmental Resources	Provide the hours of peaking generation for each season or period the generation changes, and the ratio of peak hour production to off peak hour production for the project, describe the most likely alternative source of power, and provide the production and size [megawatt-hours (MWh) and megawatts (MW)] of the most likely power source that would replace the generation at the Lake Lynn Project.	The period the generation changes is from summer (May through October) to winter (November through April). The Lake Lynn Project produces power approximately 95% of the time during peak hours. Off-peak hour production only occurs approximately 5% of the time. The electrical output from the Lake Lynn Project is sold to PJM Interconnection, LLC (PJM), a regional transmission organization (RTO). The replacement of energy and capacity provided by the Lake Lynn Project (144,741 megawatt-hour (MWh) annually; based on the period from 2012-2021) would be met through other sources, which could include: purchasing power from electricity markets operated in the region (Delaware, Illinois, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia), construction of new power plants, or other existing projects.
14. (c)	Provide the following values in 2023 $: (1) the net book investment; (2) the estimated annual costs of the project (sections 4.1 through 4.5 of Exhibit D of the license application, including Table D-1); and the cost of the license application (section 7.0 of Exhibit D).	The net book investment of the Lake Lynn Project (in 2023 $) is $109,169,300. The estimated annual costs of the existing Lake Lynn Project (including capital costs, taxes, depreciation and amortization, and O&M costs (in 2023 $): • Capital costs - approximately $452,583 • Taxes - approximately $375.568 • Depreciation - approximately $4,221,730 • Operation and Maintenance Expenses - approximately $2,540,663 The estimated costs of Lake Lynn's proposed protection, mitigation and enhancement (PME) measures proposed in the FLA would result in an additional approximately $101,400 in capital costs and an additional annual cost of approximately $377,000 annually.

<table>
<tr><th>AIR #</th><th>Action</th><th>Response to AIR</th></tr>
<tr><td></td><td></td><td>
Table 1 Estimated Costs of Proposed PME Measures
<table>
<tr><th>Proposed Protection, Mitigation, and Enhancement Measure</th><th>Capital Cost (2023 $)</th><th>Annual O&M Cost (2023 $)</th></tr>
<tr><td>Develop and implement an Operation Plan</td><td>$10,400</td><td>$36,400</td></tr>
<tr><td>Develop and implement a Water Quality Monitoring Plan</td><td>$7,800</td><td>$15,6000</td></tr>
<tr><td>Continue to provide public recreation access at the existing Lake Lynn Project recreation facilities</td><td>$0</td><td>$148,720</td></tr>
<tr><td>Develop and implement updated Recreation Management Plan, including Sunset Beach Marina Public Boat Launch Water Depth Monitoring</td><td>$26,000</td><td>$161,200</td></tr>
<tr><td>Develop and implement a Shoreline Management Plan</td><td>$26,000</td><td>$10,400</td></tr>
<tr><td>Develop and implement a Historic Properties Management Plan</td><td>$31,200</td><td>$5,200</td></tr>
</table>

The estimated cost (in 2023 $) to prepare the license application for relicensing the Lake Lynn Project is $364,000.
</td></tr>
<tr><td>14. (d)</td><td>Provide the dependable capacity for the summer and winter periods, (b) specify the exact timeframes for those periods, and (c) explain the methodology used to determine the dependable capacity</td><td>The dependable capacity is defined as the load carrying ability of a power plant under adverse load and flow conditions. The dependable capacity for the Lake Lynn Project is estimated at 47 MW (summer, May-September) and 50 MW (winter, October-April).</td></tr>
</table>

ATTACHMENT B

REVISED EXHIBIT E WITH REVISED APPENDIX A

(FILED SEPARATELY)

ATTACHMENT C

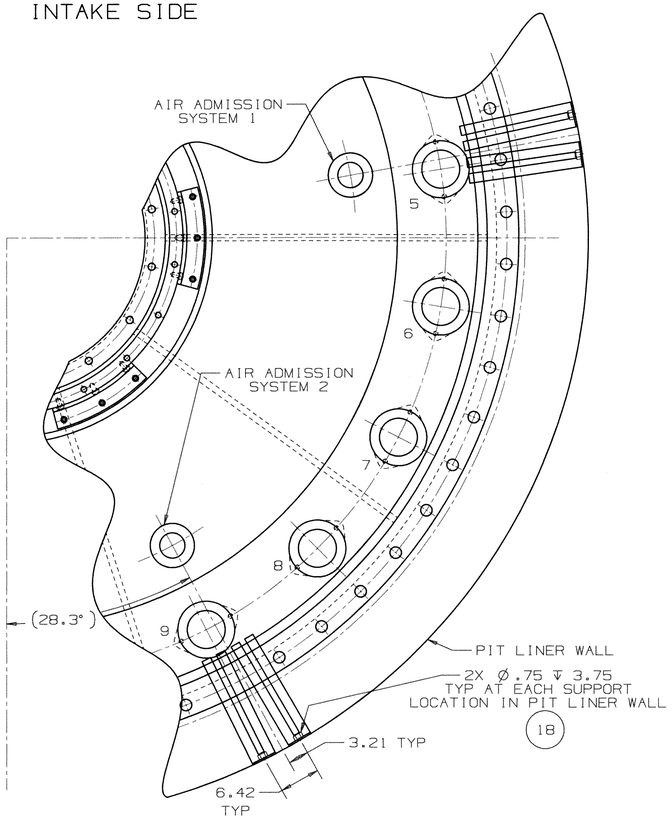
REVISED EXHIBIT G

ATTACHMENT D

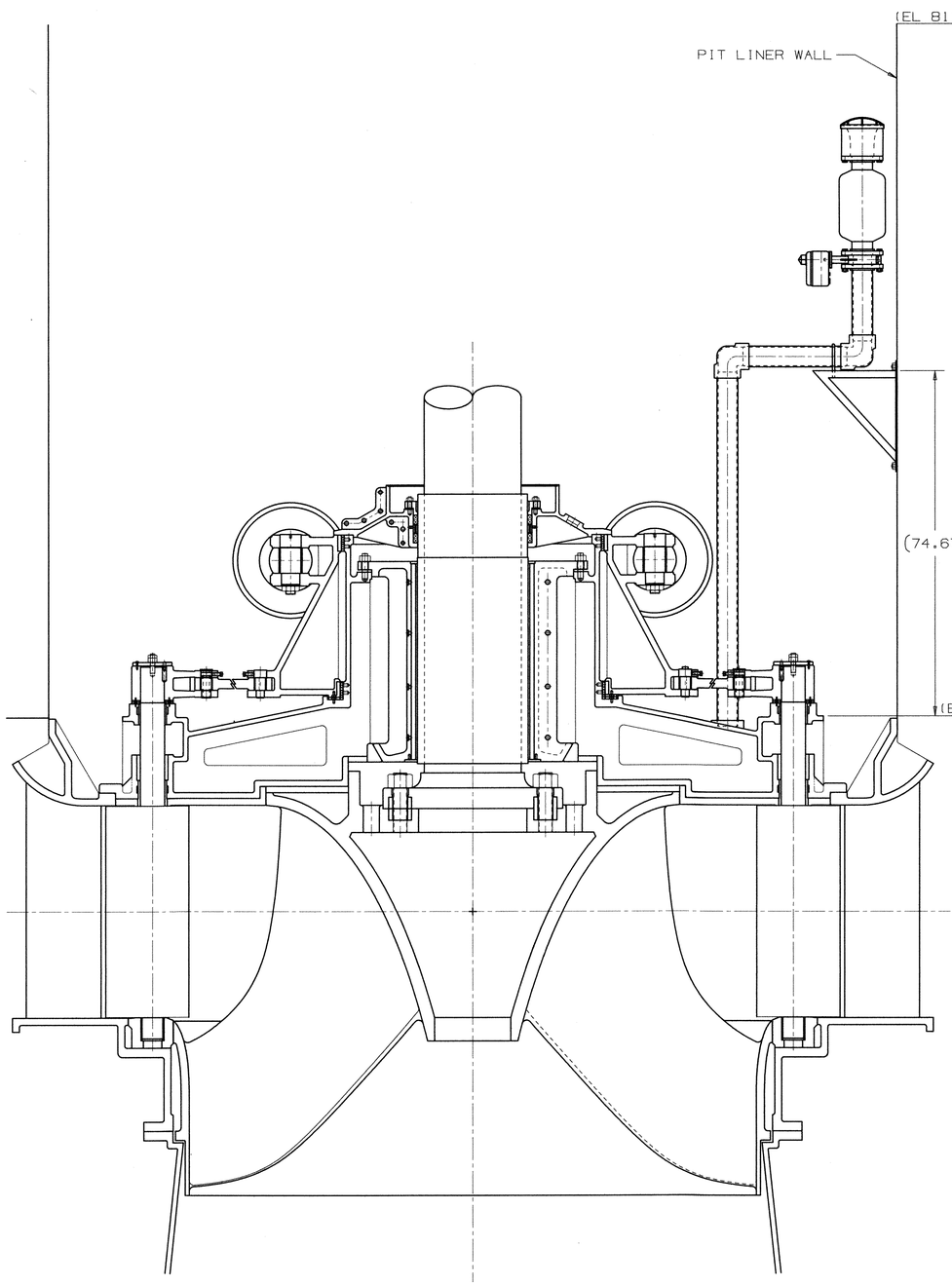
LKLN U2_32102-D REV- AIR ADMISSION ARRANGEMENT

PARTS LIST		32102-501	AIR ADMISSION ARRANGEMENT		
ITEM	QTY	PART NO.	DESCRIPTION	SPECIFICATION	MATERIAL	WEIGHT (LBS)
1	2	32102-001	PIPE	4.00 SCH 40 X 76.62 LG THREADED BOTH ENDS	ASTM A105	
2	4	32102-002	90° THREADED ELBOW	4.00 SCH 40	ASTM A108 GRADE B	
3	2	32102-003	PIPE	4.00 SCH 40 X 22.50 LG THREADED BOTH ENDS	ASTM A105	
4	2	32102-004	PIPE	4.00 SCH 40 X 18.56 LG THREADED BOTH ENDS	ASTM A105	
5	2	32102-005	THREADED FLANGE	4.00-8NPT	ASTM A105	
6	2	32102-006	4.00 BUTTERFLY VALVE	BRAY SERIES 30, WAFER STYLE	CAST IRON BODY NYLON 11 COATED DISC STAINLESS STEEL STEM BUNA-N SEAT	
7	2	32102-007	ELECTRIC ACTUATOR	BRAY SERIES 70		
8	2	32102-008	4.00 ABSORPTIVE SILENCER	UNIVERSAL SILENCER MODEL SU5-4		
9	2	32498-001	4 in BELL MOUTH		WHITE NYLON 6/6	
10	16	32102-010	HEX HD BOLT	.625-11UNC-2B X 1.50 LG	COM'L SST	
11	2	32498-001	4.00 INLET SCREEN		ASTM A36	
12	8	32102-012	WOOD SCREW	#10 ROUND HEAD WOOD SCREW, .75 LG	COM'L SST	
13	16	32102-013	HEX HD BOLT	.625-11UNC-2A X 4.50 LG	COM'L STEEL	
14	16	32102-014	HVY HEX NUT	.625-11UNC	COM'L STEEL	
15	4	32102-015	ANGLE BRACKET	MEDIUM DUTY SIZE 1	COOPER B-LINE P/N B3066-1	
16	2	32102-016	STANDARD U-BOLT	4" U-BOLT	COOPER B-LINE P/N B3188-4	
17	8	32102-017	FENDER WASHER	1/2" STANDARD	COM'L STEEL	
18	1	32102-018	CONCRETE WEDGE ANCHOR	.750-10UNC X 4.75 LG	MCMASTER CARR #97110A554	

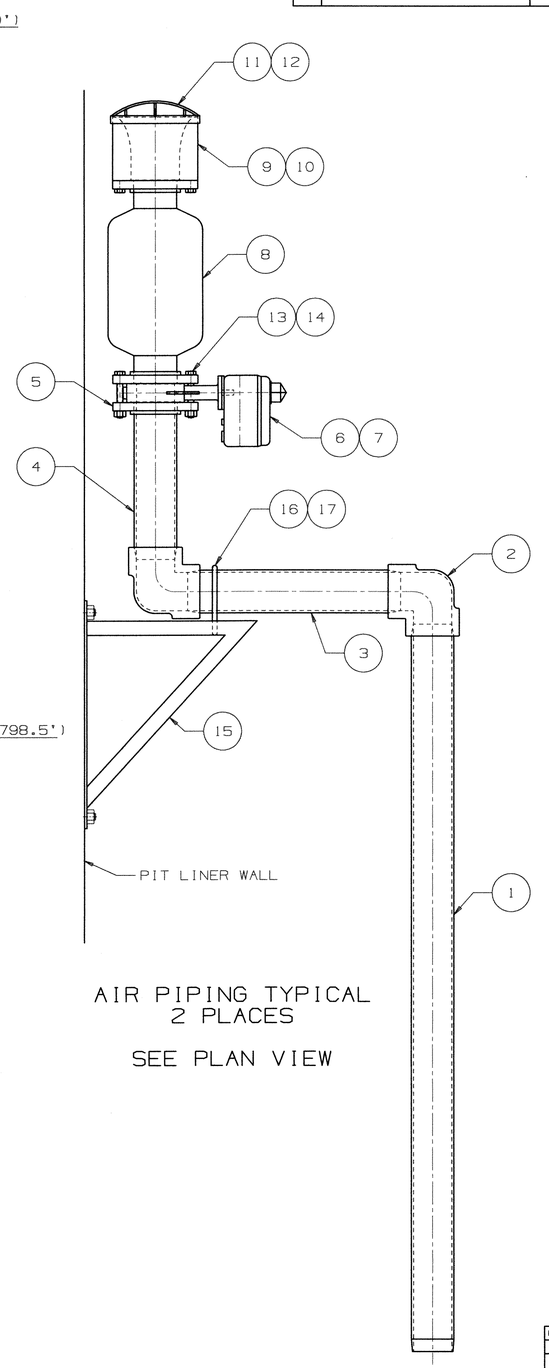
INTAKE SIDE



PARTIAL PLAN VIEW
SCALE 1:12



DISTRIBUTOR CROSS SECTION
SCALE 1:16



AIR PIPING TYPICAL
2 PLACES

SEE PLAN VIEW

NOTES:

1. COATING SPECIFICATION: 20078-A
2. ALL OUTSIDE SURFACES OF AIR PIPING TO BE COATED USING TAB 2
3. DO NOT BLAST AND DO NOT COAT ANY INSIDE SURFACES.
4. DO NOT COAT MATING SURFACES OF COMPONENTS TO BE ASSEMBLED UNLESS OTHERWISE STATED.
5. DO NOT COAT FASTENERS, BUSHINGS, WEAR PADS, OR SEALING SURFACES UNLESS OTHERWISE STATED.
6. ALL EXPOSED THREADED HOLES, SPOT FACING, AND EXPOSED THREADED STUDS TO BE COATED USING TAB 6.
7. ALL THREADED PIPE CONNECTIONS TO BE SEALED USING LOCTITE #567.
8. ONE AIR ADMISSION SYSTEM TO BE INSTALLED AT GATE 5 LOCATION AND THE OTHER TO BE AT GATE 9 LOCATION.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

DWG NO	SIZE	REV
32102	D	-

ORDER & UNIT	QTY
64008 U1	1

USED FOR

CAD DRAWING
NO MANUAL REVISIONS

DIMENSIONING PER ASME Y14.5-2009

UNLESS OTHERWISE NOTED: DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MM
MACHINING TOLERANCES ARE:
1 PLACE DECIM ±.062
2 PLACE DECIM ±.031
3 PLACE DECIM ±.010
ANGLES ±0.500°
REAMED HOLES +.0015/-.0005
BREAK ALL EDGES .015 MIN

CONTRACT
LAKE LYNN GENERATION, LLC
CUBE HYDRO
UNIT 2

AMERICAN HYDRO
A WÄRTSILÄ COMPANY

AMERICAN HYDRO CORPORATION
YORK, PA, USA

DRAWN M.BLACK 8/2/16
CHECKED 1/20/17
HYD ENG APP NOT REQUIRED
APPROVED 1/20/17

TITLE AIR ADMISSION ARRANGEMENT

DWG NO 32102 | SIZE D | REV -
SCALE 1:8 | ORDER NO 64008 | SHEET 1 OF 1

ATTACHMENT E

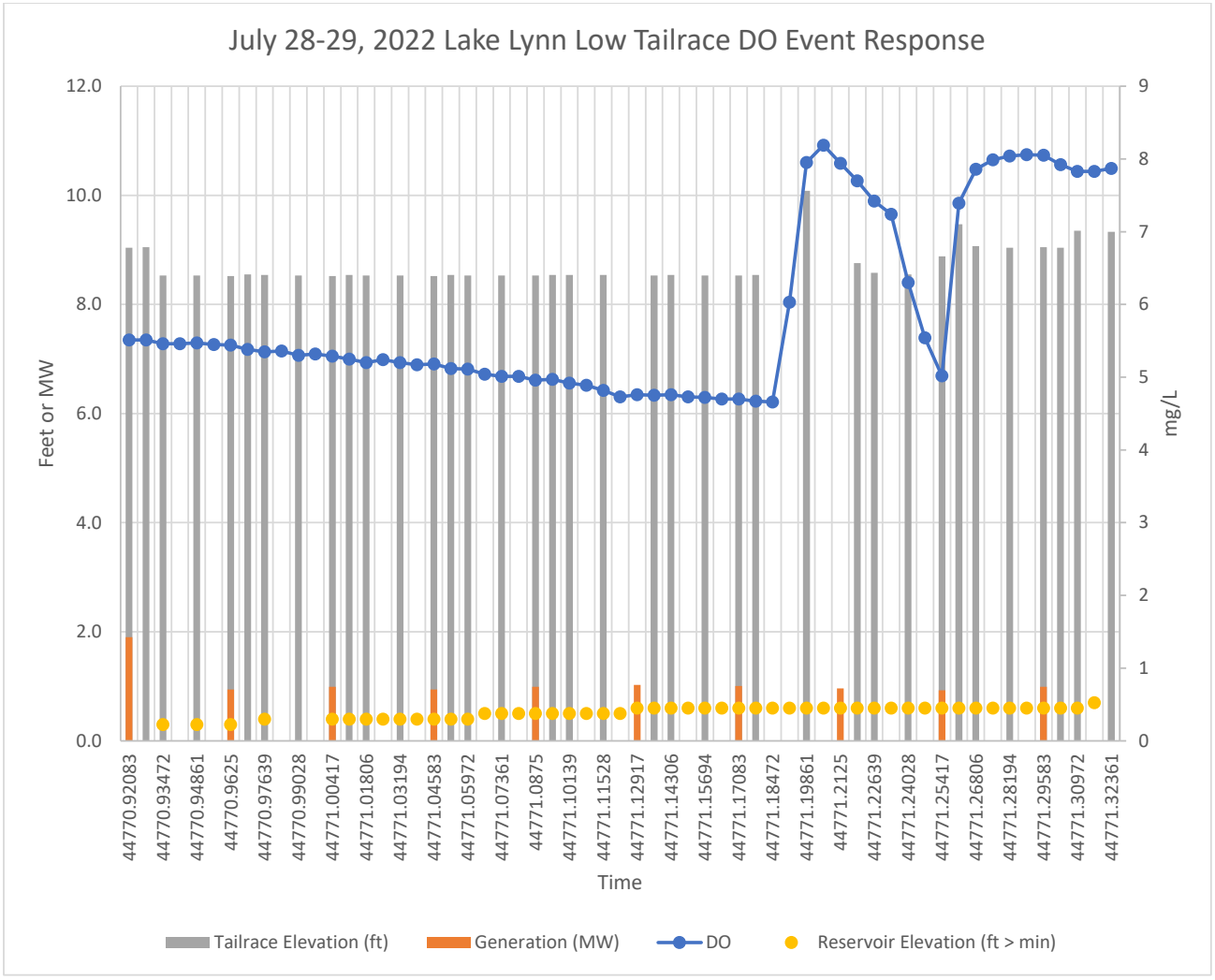
LAKE LYNN DISSOLVED OXYGEN STANDARD OPERATING PROCEDURES EXAMPLES DATA

Date	Time	DO (mg/L)	Generation (kW)	Tailrace Elevation (ft)
7/28/2022	10:06 PM	5.51	1,425	9.04
7/28/2022	10:16 PM	5.51		9.05
7/28/2022	10:26 PM	5.46		8.53
7/28/2022	10:36 PM	5.46		
7/28/2022	10:46 PM	5.47		8.53
7/28/2022	10:56 PM	5.45		
7/28/2022	11:06 PM	5.44	705	8.52
7/28/2022	11:16 PM	5.38		8.55
7/28/2022	11:26 PM	5.35		8.54
7/28/2022	11:36 PM	5.36		
7/28/2022	11:46 PM	5.3		8.53
7/28/2022	11:56 PM	5.32		
7/29/2022	12:06 AM	5.29	742	8.52
7/29/2022	12:16 AM	5.25		8.54
7/29/2022	12:26 AM	5.2		8.53
7/29/2022	12:36 AM	5.24		
7/29/2022	12:46 AM	5.2		8.53
7/29/2022	12:56 AM	5.17		
7/29/2022	1:06 AM	5.18	708	8.52
7/29/2022	1:16 AM	5.12		8.54
7/29/2022	1:26 AM	5.11		8.53
7/29/2022	1:36 AM	5.04		
7/29/2022	1:46 AM	5.01		8.53
7/29/2022	1:56 AM	5.01		
7/29/2022	2:06 AM	4.96	742	8.53
7/29/2022	2:16 AM	4.97		8.54
7/29/2022	2:26 AM	4.92		8.54
7/29/2022	2:36 AM	4.89		
7/29/2022	2:46 AM	4.82		8.54
7/29/2022	2:56 AM	4.73		
7/29/2022	3:06 AM	4.76	769	
7/29/2022	3:16 AM	4.75		8.53
7/29/2022	3:26 AM	4.76		8.54
7/29/2022	3:36 AM	4.73		
7/29/2022	3:46 AM	4.72		8.53
7/29/2022	3:56 AM	4.7		
7/29/2022	4:06 AM	4.7	754	8.53
7/29/2022	4:16 AM	4.67		8.54
7/29/2022	4:26 AM	4.66		
7/29/2022	4:36 AM	6.03		
7/29/2022	4:46 AM	7.95		10.08
7/29/2022	4:56 AM	8.19		
7/29/2022	5:06 AM	7.94	720	
7/29/2022	5:16 AM	7.7		8.76
7/29/2022	5:26 AM	7.42		8.58

7/29/2022	5:36 AM	7.24		
7/29/2022	5:46 AM	6.3		8.55
7/29/2022	5:56 AM	5.54		
7/29/2022	6:06 AM	5.02	696	8.88
7/29/2022	6:16 AM	7.39		9.47
7/29/2022	6:26 AM	7.86		9.07
7/29/2022	6:36 AM	7.99		
7/29/2022	6:46 AM	8.04		9.04
7/29/2022	6:56 AM	8.06		
7/29/2022	7:06 AM	8.05	745	9.05
7/29/2022	7:16 AM	7.92		9.04
7/29/2022	7:26 AM	7.83		9.35
7/29/2022	7:36 AM	7.83		
7/29/2022	7:46 AM	7.87		9.33

Date	Time	DO (mg/L)	Generation (MW)	Tailrace Elevation (ft)	Reservoir Elevation (ft)	SOP Stages (1=curtail generation, 2=Unit 2 preferential operation, 3=tainter gate spill)
7/28/2022	10:06 PM	5.51	1.425	9.04		2
7/28/2022	10:16 PM	5.51		9.05		
7/28/2022	10:26 PM	5.46		8.53	868.3	
7/28/2022	10:36 PM	5.46				
7/28/2022	10:46 PM	5.47		8.53	868.3	
7/28/2022	10:56 PM	5.45				
7/28/2022	11:06 PM	5.44	0.705	8.52	868.3	1, 2
7/28/2022	11:16 PM	5.38		8.55		
7/28/2022	11:26 PM	5.35		8.54	868.4	
7/28/2022	11:36 PM	5.36				
7/28/2022	11:46 PM	5.3		8.53		
7/28/2022	11:56 PM	5.32				
7/29/2022	12:06 AM	5.29	0.742	8.52	868.4	1, 2
7/29/2022	12:16 AM	5.25		8.54		
7/29/2022	12:26 AM	5.2		8.53		
7/29/2022	12:36 AM	5.24				
7/29/2022	12:46 AM	5.2		8.53		
7/29/2022	12:56 AM	5.17				
7/29/2022	1:06 AM	5.18	0.708	8.52	868.4	1, 2
7/29/2022	1:16 AM	5.12		8.54		
7/29/2022	1:26 AM	5.11		8.53		
7/29/2022	1:36 AM	5.04				
7/29/2022	1:46 AM	5.01		8.53		
7/29/2022	1:56 AM	5.01				
7/29/2022	2:06 AM	4.96	0.742	8.53	868.5	1, 2
7/29/2022	2:16 AM	4.97		8.54		
7/29/2022	2:26 AM	4.92		8.54		
7/29/2022	2:36 AM	4.89				
7/29/2022	2:46 AM	4.82		8.54		
7/29/2022	2:56 AM	4.73				
7/29/2022	3:06 AM	4.76	0.769		868.6	1, 2
7/29/2022	3:16 AM	4.75		8.53		
7/29/2022	3:26 AM	4.76		8.54		
7/29/2022	3:36 AM	4.73				
7/29/2022	3:46 AM	4.72		8.53		
7/29/2022	3:56 AM	4.7				
7/29/2022	4:06 AM	4.7	0.754	8.53	868.6	1, 2, 3
7/29/2022	4:16 AM	4.67		8.54		
7/29/2022	4:26 AM	4.66				
7/29/2022	4:36 AM	6.03				
7/29/2022	4:46 AM	7.95		10.08		
7/29/2022	4:56 AM	8.19				

7/29/2022	5:06 AM	7.94	0.72		868.6	1, 2
7/29/2022	5:16 AM	7.7		8.76		
7/29/2022	5:26 AM	7.42		8.58		
7/29/2022	5:36 AM	7.24				
7/29/2022	5:46 AM	6.3		8.55		
7/29/2022	5:56 AM	5.54				
7/29/2022	6:06 AM	5.02	0.696	8.88	868.6	1, 2, 3
7/29/2022	6:16 AM	7.39		9.47		
7/29/2022	6:26 AM	7.86		9.07		
7/29/2022	6:36 AM	7.99				
7/29/2022	6:46 AM	8.04		9.04		
7/29/2022	6:56 AM	8.06				
7/29/2022	7:06 AM	8.05	0.745	9.05		1, 2
7/29/2022	7:16 AM	7.92		9.04		
7/29/2022	7:26 AM	7.83		9.35		
7/29/2022	7:36 AM	7.83			868.7	
7/29/2022	7:46 AM	7.87		9.33		


July 28-29, 2022 Lake Lynn Low Tailrace DO Event Response
Feet or MW
mg/L
12.0
10.0
8.0
6.0
4.0
2.0
0.0
9
8
7
6
5
4
3
2
1
0
44770.92083
44770.93472
44770.94861
44770.9625
44770.97639
44770.99028
44771.00417
44771.01806
44771.03194
44771.04583
44771.05972
44771.07361
44771.0875
44771.10139
44771.11528
44771.12917
44771.14306
44771.15694
44771.17083
44771.18472
44771.19861
44771.2125
44771.22639
44771.24028
44771.25417
44771.26806
44771.28194
44771.29583
44771.30972
44771.32361
Time
Tailrace Elevation (ft)
Generation (MW)
DO
Reservoir Elevation (ft > min)

Date	Time	DO (mg/L)	Generation (MW)	Tailrace Elevation (ft)
9/1/2021	12:01 AM	7.34		10.72
9/1/2021	12:11 AM	7.31		
9/1/2021	12:21 AM	7.37		
9/1/2021	12:31 AM	7.5		10.7
9/1/2021	12:41 AM	7.34		
9/1/2021	12:51 AM	7.24		
9/1/2021	1:01 AM	7.27	11.405	10.69
9/1/2021	1:11 AM	7.35		10.72
9/1/2021	1:21 AM	7.25		
9/1/2021	1:31 AM	7.41		10.68
9/1/2021	1:41 AM	7.3		10.7
9/1/2021	1:51 AM	7.2		
9/1/2021	2:01 AM	7.24	11.363	10.68
9/1/2021	2:11 AM	7.32		10.71
9/1/2021	2:21 AM	7.28		
9/1/2021	2:31 AM	7.28		10.69
9/1/2021	2:41 AM	7.31		10.7
9/1/2021	2:51 AM	7.29		
9/1/2021	3:01 AM	7.31	11.393	10.69
9/1/2021	3:11 AM	7.27		10.69
9/1/2021	3:21 AM	7.27		
9/1/2021	3:31 AM	7.37		10.71
9/1/2021	3:41 AM	7.43		10.71
9/1/2021	3:51 AM	7.27		
9/1/2021	4:01 AM	7.29	11.372	10.68
9/1/2021	4:11 AM	7.29		10.69
9/1/2021	4:21 AM	7.44		
9/1/2021	4:31 AM	7.3		10.71
9/1/2021	4:41 AM	7.32		10.69
9/1/2021	4:51 AM	7.27		
9/1/2021	5:01 AM	7.22	11.375	10.69
9/1/2021	5:11 AM	7.25		10.69
9/1/2021	5:21 AM	7.16		
9/1/2021	5:31 AM	7.13		10.68
9/1/2021	5:41 AM	7.27		10.68
9/1/2021	5:51 AM	7.28		
9/1/2021	6:01 AM	7.21	11.32	10.68
9/1/2021	6:11 AM	7.2		10.69
9/1/2021	6:21 AM	7.18		
9/1/2021	6:31 AM	7.22		10.66
9/1/2021	6:41 AM	7.24		10.68
9/1/2021	6:51 AM	7.32		
9/1/2021	7:01 AM	7.2	11.208	10.7
9/1/2021	7:11 AM	7.11		10.68

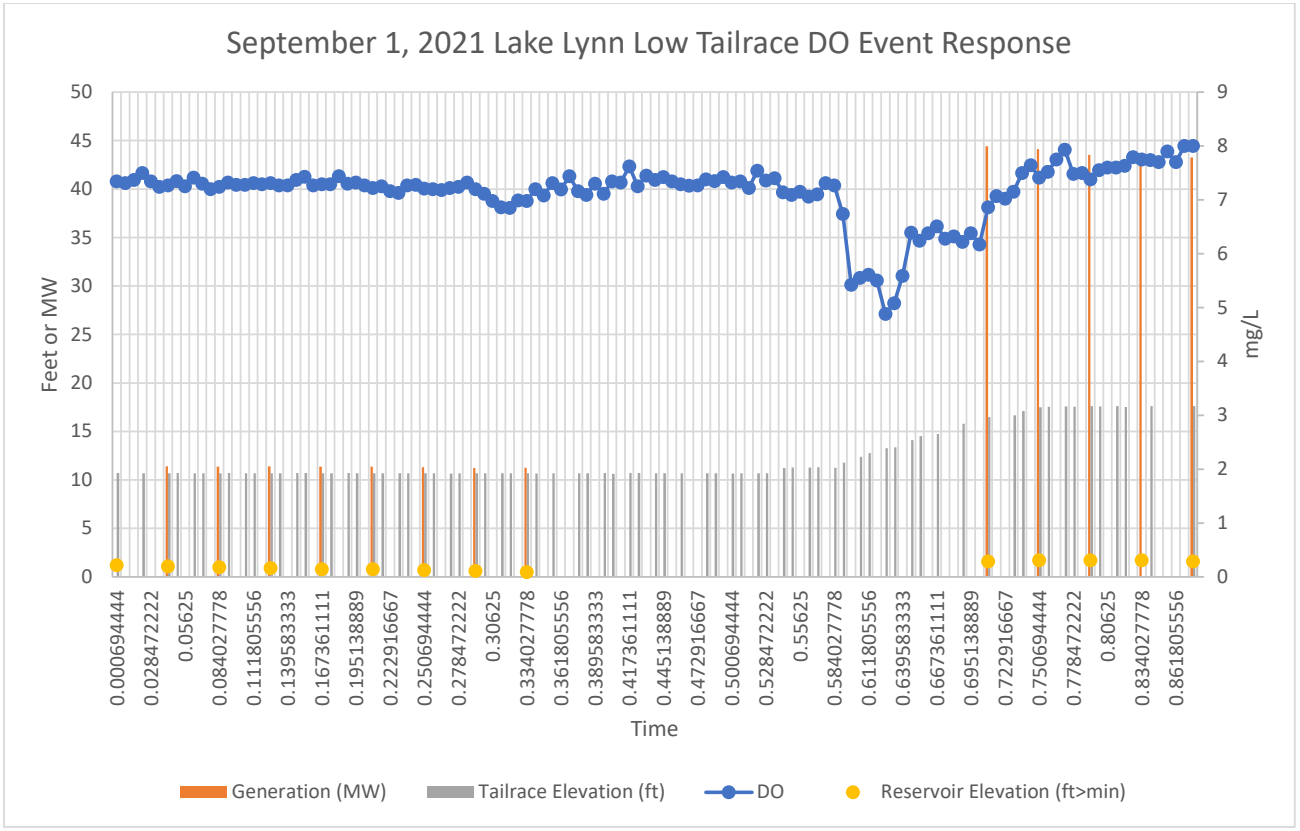
9/1/2021	7:21 AM	6.98		
9/1/2021	7:31 AM	6.86		10.68
9/1/2021	7:41 AM	6.85		10.69
9/1/2021	7:51 AM	6.99		
9/1/2021	8:01 AM	6.98	11.244	10.69
9/1/2021	8:11 AM	7.2		10.67
9/1/2021	8:21 AM	7.08		
9/1/2021	8:31 AM	7.31		10.7
9/1/2021	8:41 AM	7.19		
9/1/2021	8:51 AM	7.44		
9/1/2021	9:01 AM	7.16		10.68
9/1/2021	9:11 AM	7.09		10.69
9/1/2021	9:21 AM	7.3		
9/1/2021	9:31 AM	7.11		10.71
9/1/2021	9:41 AM	7.34		10.64
9/1/2021	9:51 AM	7.32		
9/1/2021	10:01 AM	7.62		10.72
9/1/2021	10:11 AM	7.25		10.71
9/1/2021	10:21 AM	7.45		
9/1/2021	10:31 AM	7.37		10.7
9/1/2021	10:41 AM	7.42		10.68
9/1/2021	10:51 AM	7.34		
9/1/2021	11:01 AM	7.29		10.69
9/1/2021	11:11 AM	7.26		
9/1/2021	11:21 AM	7.27		
9/1/2021	11:31 AM	7.38		10.68
9/1/2021	11:41 AM	7.35		10.69
9/1/2021	11:51 AM	7.42		
9/1/2021	12:01 PM	7.32		10.67
9/1/2021	12:11 PM	7.34		10.69
9/1/2021	12:21 PM	7.22		
9/1/2021	12:31 PM	7.54		10.68
9/1/2021	12:41 PM	7.36		10.7
9/1/2021	12:51 PM	7.4		
9/1/2021	1:01 PM	7.14		11.21
9/1/2021	1:11 PM	7.09		11.28
9/1/2021	1:21 PM	7.15		
9/1/2021	1:31 PM	7.06		11.29
9/1/2021	1:41 PM	7.1		11.3
9/1/2021	1:51 PM	7.31		
9/1/2021	2:01 PM	7.27		11.25
9/1/2021	2:11 PM	6.74		11.79
9/1/2021	2:21 PM	5.42		
9/1/2021	2:31 PM	5.55		12.39
9/1/2021	2:41 PM	5.61		12.78
9/1/2021	2:51 PM	5.5		
9/1/2021	3:01 PM	4.88		13.28

9/1/2021	3:11 PM	5.08		13.36
9/1/2021	3:21 PM	5.59		
9/1/2021	3:31 PM	6.39		14.1
9/1/2021	3:41 PM	6.24		14.52
9/1/2021	3:51 PM	6.38		
9/1/2021	4:01 PM	6.51		14.74
9/1/2021	4:11 PM	6.28		
9/1/2021	4:21 PM	6.32		
9/1/2021	4:31 PM	6.22		15.79
9/1/2021	4:41 PM	6.38		
9/1/2021	4:51 PM	6.17		
9/1/2021	5:01 PM	6.86	44.425	16.48
9/1/2021	5:11 PM	7.07		
9/1/2021	5:21 PM	7.02		
9/1/2021	5:31 PM	7.15		16.67
9/1/2021	5:41 PM	7.5		17.1
9/1/2021	5:51 PM	7.64		
9/1/2021	6:01 PM	7.41	44.129	17.49
9/1/2021	6:11 PM	7.52		17.54
9/1/2021	6:21 PM	7.75		
9/1/2021	6:31 PM	7.93		17.57
9/1/2021	6:41 PM	7.48		17.54
9/1/2021	6:51 PM	7.5		
9/1/2021	7:01 PM	7.38	43.515	17.61
9/1/2021	7:11 PM	7.55		17.58
9/1/2021	7:21 PM	7.6		
9/1/2021	7:31 PM	7.6		17.62
9/1/2021	7:41 PM	7.63		17.52
9/1/2021	7:51 PM	7.79		
9/1/2021	8:01 PM	7.75	43.415	
9/1/2021	8:11 PM	7.74		17.61
9/1/2021	8:21 PM	7.7		
9/1/2021	8:31 PM	7.9		
9/1/2021	8:41 PM	7.7		
9/1/2021	8:51 PM	8		
9/1/2021	9:01 PM	8	43.268	17.62

Date	Time	DO (mg/L)	Generation (MW)	Tailrace Elevation (ft)	Reservoir Elevation (ft)	SOP Stages (1=curtail generation, 2=Unit 2 preferential operation, 3=tainter gate spill)
9/1/2021	12:01 AM	7.34		10.72	869.2	2
9/1/2021	12:11 AM	7.31				
9/1/2021	12:21 AM	7.37				
9/1/2021	12:31 AM	7.5		10.7		
9/1/2021	12:41 AM	7.34				
9/1/2021	12:51 AM	7.24				
9/1/2021	1:01 AM	7.27	11.405	10.69	869.1	2
9/1/2021	1:11 AM	7.35		10.72		
9/1/2021	1:21 AM	7.25				
9/1/2021	1:31 AM	7.41		10.68		
9/1/2021	1:41 AM	7.3		10.7		
9/1/2021	1:51 AM	7.2				
9/1/2021	2:01 AM	7.24	11.363	10.68	869	2
9/1/2021	2:11 AM	7.32		10.71		
9/1/2021	2:21 AM	7.28				
9/1/2021	2:31 AM	7.28		10.69		
9/1/2021	2:41 AM	7.31		10.7		
9/1/2021	2:51 AM	7.29				
9/1/2021	3:01 AM	7.31	11.393	10.69	868.9	2
9/1/2021	3:11 AM	7.27		10.69		
9/1/2021	3:21 AM	7.27				
9/1/2021	3:31 AM	7.37		10.71		
9/1/2021	3:41 AM	7.43		10.71		
9/1/2021	3:51 AM	7.27				
9/1/2021	4:01 AM	7.29	11.372	10.68	868.8	2
9/1/2021	4:11 AM	7.29		10.69		
9/1/2021	4:21 AM	7.44				
9/1/2021	4:31 AM	7.3		10.71		
9/1/2021	4:41 AM	7.32		10.69		
9/1/2021	4:51 AM	7.27				
9/1/2021	5:01 AM	7.22	11.375	10.69	868.8	2
9/1/2021	5:11 AM	7.25		10.69		
9/1/2021	5:21 AM	7.16				
9/1/2021	5:31 AM	7.13		10.68		
9/1/2021	5:41 AM	7.27		10.68		
9/1/2021	5:51 AM	7.28				
9/1/2021	6:01 AM	7.21	11.32	10.68	868.7	2
9/1/2021	6:11 AM	7.2		10.69		
9/1/2021	6:21 AM	7.18				
9/1/2021	6:31 AM	7.22		10.66		
9/1/2021	6:41 AM	7.24		10.68		
9/1/2021	6:51 AM	7.32				

9/1/2021	7:01 AM	7.2	11.208	10.7	868.6	2
9/1/2021	7:11 AM	7.11		10.68		
9/1/2021	7:21 AM	6.98				
9/1/2021	7:31 AM	6.86		10.68		
9/1/2021	7:41 AM	6.85		10.69		
9/1/2021	7:51 AM	6.99				
9/1/2021	8:01 AM	6.98	11.244	10.69	868.5	2
9/1/2021	8:11 AM	7.2		10.67		
9/1/2021	8:21 AM	7.08				
9/1/2021	8:31 AM	7.31		10.7		
9/1/2021	8:41 AM	7.19				
9/1/2021	8:51 AM	7.44				
9/1/2021	9:01 AM	7.16		10.68		2
9/1/2021	9:11 AM	7.09		10.69		
9/1/2021	9:21 AM	7.3				
9/1/2021	9:31 AM	7.11		10.71		
9/1/2021	9:41 AM	7.34		10.64		
9/1/2021	9:51 AM	7.32				
9/1/2021	10:01 AM	7.62		10.72		2
9/1/2021	10:11 AM	7.25		10.71		
9/1/2021	10:21 AM	7.45				
9/1/2021	10:31 AM	7.37		10.7		
9/1/2021	10:41 AM	7.42		10.68		
9/1/2021	10:51 AM	7.34				
9/1/2021	11:01 AM	7.29		10.69		2
9/1/2021	11:11 AM	7.26				
9/1/2021	11:21 AM	7.27				
9/1/2021	11:31 AM	7.38		10.68		
9/1/2021	11:41 AM	7.35		10.69		
9/1/2021	11:51 AM	7.42				
9/1/2021	12:01 PM	7.32		10.67		2
9/1/2021	12:11 PM	7.34		10.69		
9/1/2021	12:21 PM	7.22				
9/1/2021	12:31 PM	7.54		10.68		
9/1/2021	12:41 PM	7.36		10.7		
9/1/2021	12:51 PM	7.4				
9/1/2021	1:01 PM	7.14		11.21		2
9/1/2021	1:11 PM	7.09		11.28		
9/1/2021	1:21 PM	7.15				
9/1/2021	1:31 PM	7.06		11.29		
9/1/2021	1:41 PM	7.1		11.3		
9/1/2021	1:51 PM	7.31				
9/1/2021	2:01 PM	7.27		11.25		2, 3
9/1/2021	2:11 PM	6.74		11.79		
9/1/2021	2:21 PM	5.42				
9/1/2021	2:31 PM	5.55		12.39		
9/1/2021	2:41 PM	5.61		12.78		

9/1/2021	2:51 PM	5.5				
9/1/2021	3:01 PM	4.88		13.28		3
9/1/2021	3:11 PM	5.08		13.36		
9/1/2021	3:21 PM	5.59				
9/1/2021	3:31 PM	6.39		14.1		
9/1/2021	3:41 PM	6.24		14.52		
9/1/2021	3:51 PM	6.38				
9/1/2021	4:01 PM	6.51		14.74		3
9/1/2021	4:11 PM	6.28				
9/1/2021	4:21 PM	6.32				
9/1/2021	4:31 PM	6.22		15.79		
9/1/2021	4:41 PM	6.38				
9/1/2021	4:51 PM	6.17				
9/1/2021	5:01 PM	6.86	44.425	16.48	869.6	3
9/1/2021	5:11 PM	7.07				
9/1/2021	5:21 PM	7.02				
9/1/2021	5:31 PM	7.15		16.67		
9/1/2021	5:41 PM	7.5		17.1		
9/1/2021	5:51 PM	7.64				
9/1/2021	6:01 PM	7.41	44.129	17.49	869.7	3
9/1/2021	6:11 PM	7.52		17.54		
9/1/2021	6:21 PM	7.75				
9/1/2021	6:31 PM	7.93		17.57		
9/1/2021	6:41 PM	7.48		17.54		
9/1/2021	6:51 PM	7.5				
9/1/2021	7:01 PM	7.38	43.515	17.61	869.7	3
9/1/2021	7:11 PM	7.55		17.58		
9/1/2021	7:21 PM	7.6				
9/1/2021	7:31 PM	7.6		17.62		
9/1/2021	7:41 PM	7.63		17.52		
9/1/2021	7:51 PM	7.79				
9/1/2021	8:01 PM	7.75	43.415		869.7	3
9/1/2021	8:11 PM	7.74		17.61		
9/1/2021	8:21 PM	7.7				
9/1/2021	8:31 PM	7.9				
9/1/2021	8:41 PM	7.7				
9/1/2021	8:51 PM	8				
9/1/2021	9:01 PM	8	43.268	17.62	869.6	3


September 1, 2021 Lake Lynn Low Tailrace DO Event Response
Feet or MW
mg/L
Time
0.000694444
0.028472222
0.05625
0.084027778
0.111805556
0.139583333
0.167361111
0.195138889
0.222916667
0.250694444
0.278472222
0.30625
0.334027778
0.361805556
0.389583333
0.417361111
0.445138889
0.472916667
0.500694444
0.528472222
0.55625
0.584027778
0.611805556
0.639583333
0.667361111
0.695138889
0.722916667
0.750694444
0.778472222
0.80625
0.834027778
0.861805556
Generation (MW)
Tailrace Elevation (ft)
DO
Reservoir Elevation (ft>min)

Date	Time	DO (mg/L	Generation (MW)	Tailrace Elevation (ft)
7/30/2020	0:00	6.08		8.19
7/30/2020	0:10	6.15		8.19
7/30/2020	0:20	6.05		
7/30/2020	0:30	6.13		8.19
7/30/2020	0:40	6.17		
7/30/2020	0:50	6.19		
7/30/2020	1:00	6.18		8.19
7/30/2020	1:10	6.17		8.18
7/30/2020	1:20	6.14		
7/30/2020	1:30	6.19		8.18
7/30/2020	1:40	6.16		8.18
7/30/2020	1:50	6.14		
7/30/2020	2:00	6.21		8.18
7/30/2020	2:09	6.2		
7/30/2020	2:19	6.14		8.18
7/30/2020	2:30	6.14		8.18
7/30/2020	2:40	6.16		
7/30/2020	2:50	6.17		
7/30/2020	3:00	6.19		
7/30/2020	3:10	6.21		8.18
7/30/2020	3:20	6.17		
7/30/2020	3:30	6.1		8.18
7/30/2020	3:40	5.98		8.18
7/30/2020	3:49	6.09		
7/30/2020	3:59	6.04		8.18
7/30/2020	4:10	6.12		8.18
7/30/2020	4:20	6.12		
7/30/2020	4:29	6.04		8.18
7/30/2020	4:40	6.07		8.18
7/30/2020	4:50	6.02		
7/30/2020	5:00	6.15		
7/30/2020	5:09	6		8.18
7/30/2020	5:20	6.11		
7/30/2020	5:30	6.04		8.18
7/30/2020	5:40	6.06		8.18
7/30/2020	5:49	6.09		
7/30/2020	6:00	6.04		8.18
7/30/2020	6:10	5.89		8.18
7/30/2020	6:20	5.96		
7/30/2020	6:30	6.09		8.18
7/30/2020	6:40	6.05		8.18
7/30/2020	6:50	5.97		
7/30/2020	7:00	6.05		8.18
7/30/2020	7:10	6.03		8.18
7/30/2020	7:20	6.08		

7/30/2020	7:29	6.02		8.18
7/30/2020	7:40	6.03		8.18
7/30/2020	7:50	6.04		
7/30/2020	8:00	6.14		8.18
7/30/2020	8:10	6.12		8.18
7/30/2020	8:19	6.03		
7/30/2020	8:30	6.21		
7/30/2020	8:40	6.25		8.18
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7/30/2020	8:59	6.21		
7/30/2020	9:09	6.2		8.18
7/30/2020	9:20	6.21		
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7/30/2020	9:40	6.12		8.18
7/30/2020	9:50	6.14		
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7/30/2020	11:40	7.29		9.77
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7/30/2020	13:09	7.63		
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7/30/2020	14:09	7.27		9.45
7/30/2020	14:20	7.26		
7/30/2020	14:29	7.26		9.45
7/30/2020	14:40	7.25		9.66
7/30/2020	14:49	7.28		
7/30/2020	15:00	7.45	0.232	9.58
7/30/2020	15:10	7.31		8.59

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7/30/2020	15:39	7.06	
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7/30/2020	16:20	7.09	
7/30/2020	16:30	6.94	8.2
7/30/2020	16:40	6.74	8.2
7/30/2020	16:50	6.66	
7/30/2020	16:59	6.51	8.2
7/30/2020	17:10	6.54	8.2
7/30/2020	17:20	6.58	
7/30/2020	17:30	6.59	8.2
7/30/2020	17:40	6.51	8.2
7/30/2020	17:50	6.52	
7/30/2020	18:00	6.47	8.2

Date	Time	DO (mg/L	Generation (MW)	Tailrace Elevation (ft)	Reservoir Elevation (ft)	SOP Stages (1=curtail generation, 2=Unit 2 preferential operation, 3=tainter gate spill)
7/30/2020	0:00	6.08		8.19	868.4	1
7/30/2020	0:10	6.15		8.19	868.4	
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7/30/2020	0:50	6.19			868.4	
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7/30/2020	1:30	6.19		8.18	868.4	
7/30/2020	1:40	6.16		8.18	868.4	
7/30/2020	1:50	6.14			868.4	
7/30/2020	2:00	6.21		8.18	868.4	1
7/30/2020	2:09	6.2			868.4	
7/30/2020	2:19	6.14		8.18	868.4	
7/30/2020	2:30	6.14		8.18	868.4	
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7/30/2020	2:50	6.17			868.4	
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7/30/2020	3:30	6.1		8.18	868.4	
7/30/2020	3:40	5.98		8.18	868.4	
7/30/2020	3:49	6.09			868.4	
7/30/2020	3:59	6.04		8.18	868.4	1
7/30/2020	4:10	6.12		8.18	868.4	
7/30/2020	4:20	6.12			868.4	
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7/30/2020	7:29	6.02		8.18	868.4	
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7/30/2020	7:50	6.04			868.4	
7/30/2020	8:00	6.14		8.18	868.4	1
7/30/2020	8:10	6.12		8.18	868.4	
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7/30/2020	8:40	6.25		8.18	868.4	
7/30/2020	8:50	6.1			868.4	
7/30/2020	8:59	6.21			868.4	1
7/30/2020	9:09	6.2		8.18	868.4	
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7/30/2020	11:00	5.26	0.269	8.65	868.4	2, 3
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7/30/2020	12:00	7.6	0.233	9.78	868.3	2, 3
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7/30/2020	14:00	7.28	0.223	9.45	868.2	2, 3
7/30/2020	14:09	7.27		9.45	868.2	
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7/30/2020	14:29	7.26		9.45	868.2	

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7/30/2020	14:49	7.28			868.2	
7/30/2020	15:00	7.45	0.232	9.58	868.1	1
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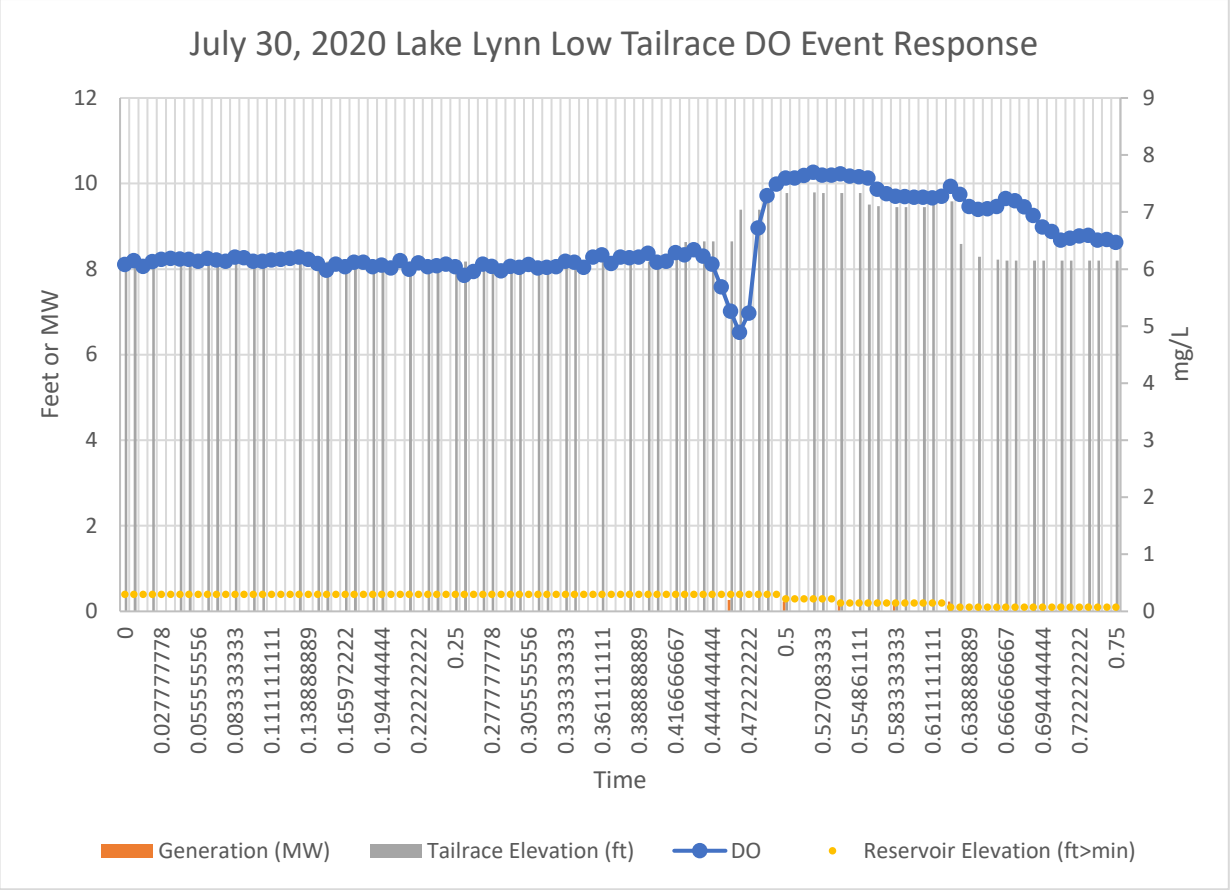
7/30/2020	15:20	7.1			868.1	
7/30/2020	15:30	7.05		8.29	868.1	
7/30/2020	15:39	7.06			868.1	
7/30/2020	15:49	7.1		8.22	868.1	
7/30/2020	16:00	7.24		8.2	868.1	1
7/30/2020	16:10	7.2		8.2	868.1	
7/30/2020	16:20	7.09			868.1	
7/30/2020	16:30	6.94		8.2	868.1	
7/30/2020	16:40	6.74		8.2	868.1	
7/30/2020	16:50	6.66			868.1	
7/30/2020	16:59	6.51		8.2	868.1	1
7/30/2020	17:10	6.54		8.2	868.1	
7/30/2020	17:20	6.58			868.1	
7/30/2020	17:30	6.59		8.2	868.1	
7/30/2020	17:40	6.51		8.2	868.1	
7/30/2020	17:50	6.52			868.1	
7/30/2020	18:00	6.47		8.2	868.1	1


July 30, 2020 Lake Lynn Low Tailrace DO Event Response
Feet or MW
mg/L
Time
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0.055555556
0.083333333
0.111111111
0.138888889
0.165972222
0.194444444
0.222222222
0.25
0.277777778
0.305555556
0.333333333
0.361111111
0.388888889
0.416666667
0.444444444
0.472222222
0.5
0.527083333
0.554861111
0.583333333
0.611111111
0.638888889
0.666666667
0.694444444
0.722222222
0.75
Generation (MW)
Tailrace Elevation (ft)
DO
Reservoir Elevation (ft>min)

ATTACHMENT F

SHPO CONSULTATION

(FILED SEPARATELY)

ATTACHMENT G

ELECTRONIC FILES (CULTURAL RESOURCES, FILED AS PRIVILEGED)

Foster, Joyce

From: Blair, Michelle A.
Sent: Monday, May 20, 2019 3:06 PM
To: Absentee-Shawnee Tribe of Oklahoma; Amanda Pitzer; Anita Carter; Betty Wiley; Bob Irvin; Bonney Hartley; Brett Barnes; Brian Bridgewater; Brice Obermeyer; Bryan Printup; Cassie Harper; Clint Halftown; Colleen McNally-Murphy; Coopers Rock State Forest; Cosmo Servidio; Curtis Schreffler; Dana Kelly; Danny Bennett; Darren Bonaparte; David Wellman; Delaware Nation, Oklahoma; Delaware Tribe of Indians; Duane Nichols; Eastern Shawnee Tribe of Oklahoma; Edgewater Marina; Ella Belling; Heather Smiles; Jacob Harrell; Jay Toth; Jesse Bergevin; John

To: Spain; Kevin Colburn; Kevin Mendik; Laura Misita; Megan Gottlieb; Mike Strager; Oneida Indian Nation; Oneida Tribe of Indians of Wisconsin; Onondaga Nation; Rennetta McClure; Richard McCorkle; Sean P McDermott; Shannon Holsey; Shaun Wicklein; Steve Moyer; Steve Moyer (smoyer@tu.org); Stuart Welsh; Sunset Beach Marina; Susan Bachor; Susan Pierce; Tonawanda Band of Seneca; Tonya Tipton; Vincent Vicites; William Fisher; William Tarrant
Cc: jsmet@cubehydro.com; Foster, Joyce
Subject: Information Request for the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project (FERC No. 2459)
Attachments: LLG PAD Info-TLP Request Letter_5-20-19.pdf

Good afternoon-

Attached is an Information Request for the Pre-Application Document for the FERC relicensing of the Lake Lynn Hydroelectric Project (FERC No. 2459).

Please provide your comments within 30 days of this letter. If you have any questions regarding this request please contact Jody Smet at jsmet@cubehydro.com or Joyce Foster at jfoster@trccompanies.com.

Thank you,
Michelle

Michelle Blair
Project Coordinator

14 Gabriel Drive, Augusta, ME 04330
T 207.620.3845 | **F** 207.621.8226 | mblair@trccompanies.com
LinkedIn | Twitter | Blog | TRCcompanies.com

Lake Lynn Generation, LLC
Two Bethesda Metro Center, Suite
1330 Bethesda, MD 20814

May 20, 2019

DISTRIBUTION LIST

RE: Information Request for the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project (FERC No. 2459)

Dear Recipient:

The current Federal Energy Regulatory Commission (FERC) license for the Lake Lynn Hydroelectric Project (Project) expires on November 30, 2024. The Project is owned and operated by Lake Lynn Generation, LLC (LLG). In accordance with FERC's regulations, LLG must file a Notice of Intent (NOI) to relicense the Project with FERC between May 30, 2019 and November 30, 2019. At the same time, LLG is required to file a Pre-Application Document (PAD) for the Project. The PAD will provide FERC, agencies, local governments, and interested parties with existing, relevant, and reasonably available information that pertains to the Project. The information will then be used to identify potential issues and help identify any information needs and related study plans for the relicensing.

The Project is located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania approximately 8 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence of the Cheat River with the Monongahela River. The Project dam is located in Monongalia County, West Virginia, while most of the tailrace area is in Fayette County, Pennsylvania. Major features of the Project include a 1,000-foot long concrete gravity dam, a 624-foot long spillway, a powerhouse near the east abutment of the dam with four generating units, and a reservoir that is approximately 13 miles long with a surface area of approximately 1,700 acres. The Project operates as a daily peaking facility and the current Project license requires that the Project release into the Cheat River a minimum flow of 212 cubic feet per second (cfs), or inflow to the Project reservoir, whichever is less, with an absolute minimum release flow of 100 cfs regardless of reservoir inflow, evaporation or other withdrawals. The current Project license also requires that the Licensee maintain the Project reservoir at a surface elevation between 868 feet National Geodetic Vertical Datum (NGVD) and 870 feet NGVD from May 1 to October 31, between 857 feet NGVD and 870 feet NGVD from November 1 to March 31, and between 863 feet NGVD and 870 feet NGVD from April 1 to April 30.

We are writing to initiate additional information gathering for the Project and to request your input. The purpose of this letter is to request your assistance in identifying existing relevant and reasonably available information, which cannot be obtained online, that describes either the existing environmental conditions at the Project or any known or potential effects of continuing Project operations. Project resources that will be described in the PAD, and which we would be interested in information about, include water use and water quality, fish and aquatics, wildlife resources, terrestrial resources, rare species, recreation use and facilities, and cultural and tribal resources. We will compile this information with information already in our possession for

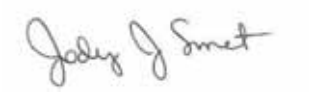
incorporation into the PAD. Your response to this request for information within 30 days would be appreciated.

In addition, LLG plans to request FERC approval to use FERC's Traditional Licensing Process (TLP) for the relicensing instead of the Integrated Licensing Process (ILP) (FERC's default process for relicensing) because we believe the TLP will be the most efficient, effective, and least burdensome process for relicensing the Project. Both the TLP and ILP processes provide opportunities for agency/stakeholder/public engagement and input. The TLP is more streamlined and less complex with fewer process steps and; therefore, is less demanding of agency/stakeholder's time and resources. The TLP does not have a strict timeline and provides more flexibility for completion of the various steps of the licensing process. The Project is an existing FERC-licensed project with existing requirements for minimum flow and reservoir surface elevation that has well-known and understood impacts. There is a large amount of resource information and data available for the Project based on monitoring and reporting efforts that have occurred since the most recent relicensing of the Project in 1995, including shoreline erosion surveys, water quality monitoring (including dissolved oxygen, temperature, pH, and conductivity in Cheat Lake and downstream of the Project), recreation use monitoring, and information collected and reported in accordance with the Biological Monitoring Plan. The resource agencies that will be involved in the relicensing process for the Project have knowledge of the Project from the various resource monitoring and reporting efforts that have occurred under the existing FERC license. LLG and the agencies are aware of the issues likely to be raised during the relicensing. LLG does not anticipate that the relicensing will involve complex issues, study needs, or controversy that cannot be resolved with a properly implemented cooperative TLP.

Please provide your comments within 30 days of this letter on the use of the TLP for the relicensing of this Project.

We thank you in advance for providing any pertinent information that meets the criteria for inclusion in the PAD. We look forward to working with you throughout the process. If you have any questions regarding the Project or the relicensing process, please contact either me at jsmet@cubehydro.com or Joyce Foster at TRC Companies at jfoster@trccompanies.com.

Sincerely,



Jody Smet
Lake Lynn Generation, LLC

Lake Lynn Generation, LLC
Lake Lynn Project (P-2459)
Distribution List May 20, 2019

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The Honorable Shelley Capito
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The Honorable Bob Casey
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Foster, Joyce

From: Blair, Michelle A.
Sent: Wednesday, June 12, 2019 9:53 AM
To: Absentee-Shawnee Tribe of Oklahoma; Amanda Pitzer; Anita Carter; Betty Wiley; Bob Irvin; Bonney Hartley; Brett Barnes; Brian Bridgewater; Brice Obermeyer; Bryan Printup; Cassie Harper; Clint Halftown; Colleen McNally-Murphy; Coopers Rock State Forest; Cosmo Servidio; Curtis Schreffler; Dana Kelly; Danny Bennett; Darren Bonaparte; David Wellman; Delaware Nation, Oklahoma; Delaware Tribe of Indians; Duane Nichols; Eastern Shawnee Tribe of Oklahoma; Edgewater Marina; Ella Belling; Heather Smiles; Jacob Harrell; Jay Toth; Jesse Bergevin; John

To: Spain; Kevin Colburn; Kevin Mendik; Laura Misita; Megan Gottlieb; Mike Strager; Oneida Indian Nation; Oneida Tribe of Indians of Wisconsin; Onondaga Nation; Rennetta McClure; Richard McCorkle; Sean P McDermott; Shannon Holsey; Shaun Wicklein; Steve Moyer; Steve Moyer (smoyer@tu.org); Stuart Welsh; Sunset Beach Marina; Susan Bachor; Susan Pierce; Tonawanda Band of Seneca; Tonya Tipton; Vincent Vicites; William Fisher; William Tarrant
Cc: jsmet@cubehydro.com; Foster, Joyce
Subject: REMINDER: Information Request for the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project (FERC No. 2459)
Attachments: LLG PAD Info-TLP Request Letter_5-20-19.pdf

Importance: High

Good morning -

Attached is an Information Request for the Pre-Application Document for the FERC relicensing of the Lake Lynn Hydroelectric Project (FERC No. 2459).

As a reminder, please provide your comments within 30 days of this letter (by June 20). If you have any questions regarding this request please contact Jody Smet at jsmet@cubehydro.com or Joyce Foster at jfoster@trccompanies.com.

Thank you,
Michelle

Michelle Blair
Project Coordinator

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Lake Lynn Generation, LLC
Two Bethesda Metro Center, Suite
1330 Bethesda, MD 20814

May 20, 2019

DISTRIBUTION LIST

RE: Information Request for the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project (FERC No. 2459)

Dear Recipient:

The current Federal Energy Regulatory Commission (FERC) license for the Lake Lynn Hydroelectric Project (Project) expires on November 30, 2024. The Project is owned and operated by Lake Lynn Generation, LLC (LLG). In accordance with FERC's regulations, LLG must file a Notice of Intent (NOI) to relicense the Project with FERC between May 30, 2019 and November 30, 2019. At the same time, LLG is required to file a Pre-Application Document (PAD) for the Project. The PAD will provide FERC, agencies, local governments, and interested parties with existing, relevant, and reasonably available information that pertains to the Project. The information will then be used to identify potential issues and help identify any information needs and related study plans for the relicensing.

The Project is located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania approximately 8 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence of the Cheat River with the Monongahela River. The Project dam is located in Monongalia County, West Virginia, while most of the tailrace area is in Fayette County, Pennsylvania. Major features of the Project include a 1,000-foot long concrete gravity dam, a 624-foot long spillway, a powerhouse near the east abutment of the dam with four generating units, and a reservoir that is approximately 13 miles long with a surface area of approximately 1,700 acres. The Project operates as a daily peaking facility and the current Project license requires that the Project release into the Cheat River a minimum flow of 212 cubic feet per second (cfs), or inflow to the Project reservoir, whichever is less, with an absolute minimum release flow of 100 cfs regardless of reservoir inflow, evaporation or other withdrawals. The current Project license also requires that the Licensee maintain the Project reservoir at a surface elevation between 868 feet National Geodetic Vertical Datum (NGVD) and 870 feet NGVD from May 1 to October 31, between 857 feet NGVD and 870 feet NGVD from November 1 to March 31, and between 863 feet NGVD and 870 feet NGVD from April 1 to April 30.

We are writing to initiate additional information gathering for the Project and to request your input. The purpose of this letter is to request your assistance in identifying existing relevant and reasonably available information, which cannot be obtained online, that describes either the existing environmental conditions at the Project or any known or potential effects of continuing Project operations. Project resources that will be described in the PAD, and which we would be interested in information about, include water use and water quality, fish and aquatics, wildlife resources, terrestrial resources, rare species, recreation use and facilities, and cultural and tribal resources. We will compile this information with information already in our possession for

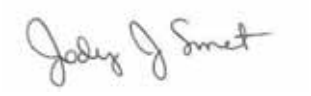
incorporation into the PAD. Your response to this request for information within 30 days would be appreciated.

In addition, LLG plans to request FERC approval to use FERC's Traditional Licensing Process (TLP) for the relicensing instead of the Integrated Licensing Process (ILP) (FERC's default process for relicensing) because we believe the TLP will be the most efficient, effective, and least burdensome process for relicensing the Project. Both the TLP and ILP processes provide opportunities for agency/stakeholder/public engagement and input. The TLP is more streamlined and less complex with fewer process steps and; therefore, is less demanding of agency/stakeholder's time and resources. The TLP does not have a strict timeline and provides more flexibility for completion of the various steps of the licensing process. The Project is an existing FERC-licensed project with existing requirements for minimum flow and reservoir surface elevation that has well-known and understood impacts. There is a large amount of resource information and data available for the Project based on monitoring and reporting efforts that have occurred since the most recent relicensing of the Project in 1995, including shoreline erosion surveys, water quality monitoring (including dissolved oxygen, temperature, pH, and conductivity in Cheat Lake and downstream of the Project), recreation use monitoring, and information collected and reported in accordance with the Biological Monitoring Plan. The resource agencies that will be involved in the relicensing process for the Project have knowledge of the Project from the various resource monitoring and reporting efforts that have occurred under the existing FERC license. LLG and the agencies are aware of the issues likely to be raised during the relicensing. LLG does not anticipate that the relicensing will involve complex issues, study needs, or controversy that cannot be resolved with a properly implemented cooperative TLP.

Please provide your comments within 30 days of this letter on the use of the TLP for the relicensing of this Project.

We thank you in advance for providing any pertinent information that meets the criteria for inclusion in the PAD. We look forward to working with you throughout the process. If you have any questions regarding the Project or the relicensing process, please contact either me at jsmet@cubehydro.com or Joyce Foster at TRC Companies at jfoster@trccompanies.com.

Sincerely,



Jody Smet
Lake Lynn Generation, LLC

Lake Lynn Generation, LLC
Lake Lynn Project (P-2459)
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From: Webber, Tina <twebber@pa.gov>
Sent: Wednesday, June 19, 2019 12:52 PM
To: jfoster@trccompanies.com
Cc: Jody Smet <jsmet@cubehydro.com>
Subject: C_19891217051MM.pdf

Thank you for contacting the Pennsylvania State Historic Preservation Office (SHPO) for project review in accordance with state and federal laws. Our response is attached to this email. A hard copy will not follow in the mail unless requested. If this review requires a response, please mail to the address below; we cannot accept electronic submissions. This message is being sent on behalf of the SHPO review staff. If you have any questions about this review, please contact the appropriate reviewer. A list of reviewers by region and discipline is available at: http://www.phmc.pa.gov/Preservation/Project-Review/Pages/Contact-Information.aspx

If you have questions regarding our review for above ground, please contact Cheryl Nagle at chnagle@pa.gov.

Tina Webber*/Clerk Typist II*
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Phone: (717) 705-4036/Fax: (717) 772-0920
twebber@pa.gov

Pennsylvania has a new statewide historic preservation plan! Check it out and learn how we can work together to make sure #preservationhappenshere in Pennsylvania every day.

June 19, 2019

Jody Smet
Lake Lynn Generation, LLC
Two Bethesda Metro Center, Suite 1330
Bethesda, MD 20814

Re: File No. ER 1989-1217-051-MM
FERC No. 2459: Information Request for Pre-Application Document for Relicensing of Lake Lynn Hydroelectric Project, Lake Lynn, Fayette County

Dear Ms. Smet:

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Above Ground Resources

A preliminary review of this project indicates that there may be National Register-eligible above ground resources in the project area. In order to facilitate the review process, the agency, or applicant acting on their behalf, must conduct surveys to identify these resources before final plans are developed. For more information on survey strategies and methodologies, please consult the *Guidelines for Architectural Investigations in Pennsylvania* and/or other relevant guidelines available here: http://www.phmc.pa.gov/Preservation/About/Pages/Forms-Guidance.aspx.

Archaeological Resources

There is a high probability that archaeological resources are located in this project area. In our opinion, the activity described in your proposal should have no effect on such resources. Should the scope of the project be amended to include additional ground disturbing activity this office should be contacted immediately and a Phase I Archaeological Survey may be necessary to locate all potentially significant archaeological resources.

If you need further information in this matter, please contact Cheryl L. Nagle at chnagle@pa.gov or (717) 772-4519.

Sincerely,

Douglas C. McLearen, Chief
Division of Environmental Review

DCM/tmw

April 2020 Consultaiton on Draft Study Plan

From: Jody Smet
To: Janet_Norman@fws.gov; Megan.K.Gottlieb@usace.army.mil; sean.mcdermott@noaa.gov; Kevin_Mendik@nps.gov; clschref@usgs.gov; smwickle@usgs.gov; Jacob.D.Harrell@wv.gov; Danny.A.Bennett@wv.gov; David.I.Wellman@wv.gov; coopersrocksf@wv.gov; Brian.L.Bridgewater@wv.gov; susan.m.pierce@wv.gov; scwilliams@pa.gov; peiswerth@pa.gov; hsmiles@pa.gov; olbraun@pa.gov; chnagle@pa.gov; agastbray@moncommission.com; dr.hawk@comcast.net; rmcclure@moncommission.com; vvicites@fayettepa.org; harold.peterson@bia.gov; clint.halftown@gmail.com; ec@delawarenation.com; cbrooks@delawaretribe.org; info@oneida-nation.org; admin@onondaganation.org; wfisher@sctribe.com; cassie@shawnee-tribe.com; tonseneca@aol.com; 106NAGPRA@astribe.com; ethompson@delawarenation-nsn.gov; dkelly@delawarenation.com; sbachor@delawaretribe.org; bbarnes@estoo.net; jbergevin@oneida-nation.org; lmisita@oneida-nation.org; jay.toth@sni.org; wtarrant@sctribe.com; tonya@shawnee-tribe.com; darren.bonaparte@srmt-nsn.gov; bprintup@hetf.org; duane330@aol.com; mstrager@gmail.com; ella@montrails.org; amanda@cheat.org; owen@cheat.org; betty.w304@gmail.com; fjernejcic@comcast.net; greystone.poa@hotmail.com; dgriff66@aol.com; seangoodwin@yahoo.com; graceandparke@yahoo.com; kevin@americanwhitewater.org; birvin@americanrivers.org; smoyer@tu.org; colleen@hydroreform.org; DMiller@potesta.com; swelsh@wvu.edu; edgewater@cheatlakedocks.com; stratdouglas@gmail.com; KCampitell@oxforddevelopment.com; shall@jccpgh.org; awagner1595@gmail.com; chestermcgraw@gmail.com; donnaweems@rocketmail.com; davecyndy@frontier.com; szybarnes@yahoo.com; mlutman@comcast.net; Reecejames98@gmail.com; qtrking86@yahoo.com; rogerdalephillips@gmail.com; scalvert@greenrivergrouplc.com; jkotcon@gmail.com; john.spain@ferc.gov; andrew.bernick@ferc.gov; dtrested (Guest); Foster, Joyce; Dale Short; Robert Flickner
Subject: [EXTERNAL] Lake Lynn Project Relicensing - Draft Study Plan
Date: Wednesday, April 15, 2020 1:08:27 PM
Attachments: image001.png
Lake Lynn Draft Study Plan_April 2020_Rev.pdf

Dear Stakeholders,

Lake Lynn Generation LLC (Lake Lynn) is relicensing the Lake Lynn Hydroelectric Project (FERC No. P-2459) (Project) with the Federal Energy Regulatory Commission (FERC). Lake Lynn initiated the relicensing process in August 2019 by filing a Notice of Intent (NOI) and Pre-Application Document (PAD). At the same time, Lake Lynn requested FERC approval to use the Traditional Licensing Process (TLP). FERC approved the use of the TLP in October 2019, and Lake Lynn held a Joint Meeting and Site Visit in December 2019. Following the Joint Meeting and Site Visit, resource agencies and other stakeholders were afforded the opportunity to comment on the PAD and to request resource studies that they deemed were needed to evaluate Project impacts on natural, cultural and recreational resources. Based on the comments received, we prepared the attached draft Study Plan to document the resource studies we plan to undertake at the Project in 2020.

We would like to convene a meeting via conference **next week** to discuss the attached draft Study Plan. Please respond to the Doodle poll at the link below by the end of this week, close of business on Friday, April 17, to let us know your availability for a call next week. We will schedule a time that works for the majority of the respondents.

https://doodle.com/poll/byziw97sfp7eukz25b4dqrki/private?utm_campaign=poll_invitecontact_participant_invitation_with_message&utm_medium=email&utm_source=poll_transactional&utm_content=participatenow-cta

Please do not hesitate to contact me at (804) 739-0654 or by email at jody.smet@eaglecreekre.com if you have any questions or trouble accessing the Doodle poll.

Jody Smet, AICP | Director, FERC Licensing and Compliance
Eagle Creek Renewable Energy
Desk: 804 739 0654
Mobile: 804 382 1764
Email: jody.smet@eaglecreekre.com *[Please note my new email - Eagle Creek and Cube Hydro have merged!]*

Lake Lynn Hydroelectric Project (FERC No. P-2459)
Draft Study Plan
April 2020

Background

Lake Lynn Generation LLC (Lake Lynn or Licensee) is relicensing the Lake Lynn Hydroelectric Project (FERC No. P-2459) (Project) with the Federal Energy Regulatory Commission (FERC). The current FERC license for the Project expires on November 30, 2024. The Project is located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania (Attachment 1).

Lake Lynn initiated the relicensing process in August 2019 by filing a Notice of Intent (NOI) and Pre-Application Document (PAD). At the same time, Lake Lynn requested FERC approval to use the Traditional Licensing Process (TLP). FERC approved the use of the TLP in October 2019, and in accordance with FERC regulations, Lake Lynn held a Joint Meeting and Site Visit in December 2019. Following the Joint Meeting and Site Visit, resource agencies and other stakeholders were afforded the opportunity to comment on the PAD and to request resource studies that they deemed were needed to evaluate Project impacts on natural, cultural and recreational resources.

In response to the NOI/PAD filing and the Joint Meeting and Site Visit, Lake Lynn received written comments and study requests from the U.S. Fish and Wildlife Service (USFWS), West Virginia Division of Natural Resources (WVDNR), Cheat Lake Environment and Recreation Association (CLEAR), Friends of the Cheat (FOC), Monongahela River Trails Conservancy (MRTC), and individual residents in the local community. A summary of the study requests and comments is provided in Attachment 2. The complete study requests are provided in Attachment 3.

Lake Lynn is utilizing the TLP. There is no requirement to prepare a formal study plan document as is required in the Integrated Licensing Protocol (ILP), and therefore, there is no subsequent study plan determination by FERC. Nonetheless, Lake Lynn has prepared this Study Plan to document and share with resource agencies and stakeholders its plans for conducting resource studies and ongoing monitoring efforts in 2020 to inform the relicensing process. The individual study plans detailed below are proposed for the Project relicensing.

1.0 Geology and Soils

1.1 Reservoir Shoreline Erosion Survey

Study Request

WVDNR requested the Licensee conduct a reservoir sedimentation study at areas that have demonstrated an affinity for a build-up of sediment (i.e., Sunset Beach Marina) and develop a plan to monitor and address any sedimentation issues. WVDNR suggested that the Licensee examine possible sources of sedimentation within the reservoir and identify potential preventive measures that could be taken to reduce the level of sedimentation in those areas where sediment builds up (i.e., Sunset Beach Marina). In addition, CLEAR requested that the Licensee continue monitoring and remediation of the ongoing shoreline erosion.

Study Goals

Article 402 of the existing FERC License requires the Licensee to: 1) conduct annual shoreline erosion surveys of the Cheat Lake Park shoreline extending from the dam to the Cheat Haven peninsula and 2) conduct triennial shoreline erosion surveys of the entire Cheat Lake shoreline to identify new areas of erosion. Since 1995, the Licensee has been conducting shoreline erosion surveys and documenting areas of shoreline erosion within the Project boundary, which can influence sedimentation in Cheat Lake. In recent years, no new areas of active shoreline erosion have been identified and previously identified areas have exhibited minimal annual changes, therefore, the Licensee believes that an additional study is not warranted at this time. The goals of this study are to: 1) conduct a visual shoreline erosion survey of the Cheat Lake Park shoreline extending from the dam to the Cheat Haven peninsula to evaluate changes in shoreline erosion monitoring stations where historic erosion has been observed and 2) conduct a shoreline erosion survey of the entire Cheat Lake shoreline to identify new areas of erosion.

Study Scope

For the upcoming 2020 annual shoreline erosion survey of the Cheat Lake Park shoreline, the Licensee will conduct a visual survey by boat of the Cheat Lake Park shoreline extending from the dam to the Cheat Haven Peninsula. During the survey, the boat will be kept as close to the shoreline as practical to allow for careful observation. Sixteen (16) shoreline erosion monitoring stations where historic erosion has been observed will be visually inspected and photographed for future reference and comparison. Any evidence of new areas of erosion will be noted and photographed. Additionally, for the 2020 shoreline erosion survey, the same scope will be performed along the entire reservoir shoreline to identify and document any new areas of erosion. The Licensee will prepare a report summarizing the results of the shoreline survey.

Study Schedule

The Licensee anticipates that the shoreline erosion survey will be conducted in November or December 2020, when the reservoir level is lowered and vegetation has died back. This timing is consistent with the timing in previous years. It is anticipated that the annual report will be filed with FERC by February 2021.

2.0 Water Resources

2.1 Water Quality Monitoring

Study Request

At this time, no stakeholders have requested new studies related to water quality at the Project. However, the USFWS and WVDNR requested the existing water quality monitoring be continued throughout the term of the new License.

Study Goals

In accordance with the existing FERC License (Article 405) and the Project Water Quality Monitoring Plan (West Penn Power Company, 1995), the Licensee will continue to monitor water quality and report the results to USFWS, WVDNR, Pennsylvania Fish and Boat and Commission (PFBC), Pennsylvania Department of Environmental Protection (PDEP), and FERC annually during the relicensing process. The water quality data will be used in the development of the License Application.

Study Scope

In accordance with the existing FERC License (Article 405) and the Project Water Quality Monitoring Plan (West Penn Power Company, 1995), the Licensee will continue to monitor and record hourly water quality data from April 1 through October 31 on an annual basis during the relicensing process. For the purposes of this 2020 relicensing study, the Licensee will collect dissolved oxygen and water temperature from April 1, 2020 through October 31, 2020 at the existing three locations in conjunction with U.S. Geological Survey (USGS) gages located in Cheat Lake, the Project tailrace, and downstream of Grassy Run. The Licensee will prepare and provide an annual report of the monitoring results to USFWS, WVDNR, PFBC, and PDEP for review and comment. The Licensee will submit the final annual report to FERC.

Study Schedule

For this 2020 relicensing study, the Licensee will monitor and record hourly water quality data from April 1 through October 31, 2020. The Licensee will provide an annual report of the monitoring results to USFWS, WVDNR, PFBC, and PDEP within 90 days (by February 1, 2021) of the end of the monitoring season. The Licensee will file the final annual report with FERC within 150 days following the end of the monitoring season (by April 1, 2021).

2.2 Streamflow Data Collaboration

Additional Information Request

The USFWS requested additional information so that it could fully evaluate the seasonality, duration, and magnitude of streamflow into the Project. The USFWS requested the existing Project Instream Flow Study (EA Engineering, Science, and Technology, Inc. (EA Engineering), 2014) discussed in the PAD and noted that, without this information, the USFWS may have remaining questions and recommend an Instream Flow Study. The USFWS also requested the graphs (Flow Duration Curves) in Appendix E of the PAD be revised so that the maximum flow

event(s) and duration for the period of record (2016 to 2019) is displayed separately from the rest of the graphs.

The Licensee will provide additional information to the USFWS to assist it with evaluating the seasonality, duration, and magnitude of streamflow into the Project. The Licensee will provide the USFWS with the Project Instream Flow Study and supporting information referenced in the PAD. The Licensee will also collaborate with the USFWS on the presentation of the Flow Duration Curves and revise the curves in a manner that will assist the USFWS with its evaluation. The Licensee plans to provide the USFWS with the Project Instream Flow Study by May 2020. The Licensee also plans to collaborate with the USFWS on the presentation of the Flow Duration Curves and provide revised curves by October 2020. .

3.0 Fish and Aquatic Resources

3.1 Desktop Fish Entrainment Assessment

Study Request

The USFWS and WVDNR requested the Licensee conduct a desktop entrainment study to determine the number of fish that are either entrained or impinged by Project operation and to estimate the injury and mortality of fish that pass through the turbines during Project operation. WVNDR also recommended a field component to verify results.

Study Goals

The goals of this study are to 1) conduct a desktop assessment of the potential for impingement/entrainment and 2) estimate the numbers of fish entrained at the Project.

Study Scope

The Licensee will conduct a desktop fish entrainment assessment for the Project that includes the following:

- A description of the Project reservoir, intake structure, turbine units, and seasonal operational regime;
- Summary of available fisheries information historically collected in the Cheat River upstream of the Project;
- Life history and habitat requirements for target fish species;
- Assessment of impingement and entrainment potential as a function of (1) the existing rack spacing, (2) calculated approach velocities, (3) the physical dimensions of target fish species, and (4) the swim capabilities (i.e., burst speed) of target fish species;
- Review of information contained in the 1997 Electric Power Research Institute (EPRI) database to provide a summary of (1) the size class composition of target fish species, (2) entrainment densities of target fish species, and (3) calculated survival rates of target species for the subset of hydroelectric projects comparable to the Project;
- Calculation of site-specific turbine passage survival rates for target fish species using the USFWS Turbine Blade Strike Analysis Tool (TBSA); and

- Utilize seasonal species/size class-specific entrainment densities from comparable projects and project-specific discharge volumes to generate estimates of numbers of fish entrained at the Project.

The results of the desktop assessment will be documented in a study report.

Study Schedule

The desktop fish entrainment assessment will be conducted during the period June through December 2020, with a draft report for agency review anticipated in January 2021.

3.2 American Eel Environmental DNA Sampling

Study Request

The USFWS requested the Licensee continue the American eel monitoring that was conducted in 2018 and 2019 under the Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a). For this second year of collecting water samples for American eel environmental DNA (eDNA), USFWS requested that the Licensee improve sampling locations and include areas lower in the Cheat River before the confluence with the Monongahela River. WVDNR supported the USFWS request for additional analysis of Project waters for American eels. The USFWS and WVDNR also requested the Licensee assess movement of fish throughout the Project area and assess the feasibility of incorporating alternative routes or additional fish protection measures at the Project. The USFWS' proposed methodology includes a literature review of available options for upstream passage of eels, downstream passage bypass of the turbines, and other fish protection measures, in addition to discussions with the USFWS fishway engineers.

Study Goals

In accordance with the Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), developed in consultation with the USFWS, WVDNR, and PFBC, the Licensee worked collaboratively with the USFWS to select four sampling locations in the Project tailwater and to collect quarterly samples in 2018 and 2019 to sample the Project tailwater for American eel environmental DNA (eDNA). No American eel eDNA has been detected to date, however, concerns have been raised by the USFWS and WVDNR regarding the sampling locations.

The goals of the second year of American eel eDNA sampling are to: 1) collaborate with the USFWS, WVDNR, and PFBC to determine if the sampling locations used in the first year of the sampling need to be adjusted; and 2) continue the American eel eDNA sampling performed in 2018 and 2019 to determine whether American eels are present in the tailwater.

Study Scope

The Licensee will initiate the second year of sampling by working collaboratively with the USFWS, WVDNR, and PFBC to determine if there should be any adjustments to the four sampling locations in the Project tailwater or any adjustments to the methodology. The Licensee will work with the USFWS to continue to collect quarterly samples at four sampling locations in the Project tailwater in accordance with the USFWS' Protocol, *Field Collection of*

Environmental DNA (eDNA) Water Samples from Streams (USFWS, no date) and additional training from the USFWS. The Licensee will coordinate with the USFWS to provide the samples to the USFWS Northeast Fishery Center Conservation Genetics Lab in Lamar, Pennsylvania for analysis. Once the second year of sampling results are available, the Licensee will consult with the USFWS, WVDNR, and PFBC to determine if any additional fish passage assessment is warranted.

Study Schedule

The Licensee will finalize the quarterly sampling schedule with the USFWS, WVDNR, and PFBC by May 2020. The Licensee anticipates that the quarterly sample periods will be April-June 2020, July-September 2020, October-December 2020, and January-March 2021. The sample results will be provided to the Licensee by the USFWS Lamar lab. The Licensee will provide the results upon receipt to the USFWS, WVDNR, and PFBC.

3.3 Tailwater Mussel Survey

Study Request

The USFWS requested that a mussel survey be conducted in the tailwater area and downstream reaches to assess this component of the aquatic community.

Study Goals

The goal of this study is to conduct a mussel survey within the Project boundary downstream of the Project dam to document mussel habitat (location, depth, and substrate) and the occurrence density, distribution, and relative abundance of any mussel species present.

Study Scope

The Licensee will conduct a mussel survey to evaluate the likelihood of the presence or absence of mussels within the Project boundary downstream of the Project dam (approximately 200 meters downstream of the dam at the furthest point). The area inside the Project boundary downstream of the dam is in West Virginia and ends at the Pennsylvania/West Virginia state line (Attachment 1). A malacologist experienced in mussel collection and qualified to work in West Virginia will lead all mussel sampling efforts.

The Licensee will prepare a survey plan and coordinate with WVDNR for approval. The survey plan will outline the methods and approach for conducting the mussel survey following the West Virginia Mussel Protocol (Protocol) guidelines for hydroelectric projects. WVDNR approval of the survey plan will be required prior to initiating fieldwork.

The Licensee will evaluate for mussel presence/absence within the Project boundary downstream of the dam. The Licensee will survey approximately 5 transects spaced 25 meters apart that will span bank to bank. Snorkeling and surface supplied air diving will be used to visually and tactilely search for mussels at the substrate surface and minor excavation will occur where appropriate to ensure recovery of buried mussels. Qualitative timed searches will be employed

based on mussel and habitat distribution along transects throughout the survey area. Search effort will meet minimum Protocol requirements (1 min/m^2 in heterogenous substrates).

A report summarizing mussel habitat, survey observations, occurrence, location maps, density, distribution, and relative abundance of any mussel species present within survey area will be prepared. Figures will present mussel distribution and high-quality habitat areas within the survey area.

Study Schedule

The mussel survey will be conducted during the period June through October 2020. It is anticipated that a draft report will be available for stakeholder review in December 2020.

3.4 Aquatic Habitat Enhancement and Monitoring

Study Request

The Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), developed in consultation with USFWS, WVDNR, and PFBC, includes the installation and monitoring of fish habitat enhancement structures. The Licensee worked with WVDNR and West Virginia University in 2019 to purchase and install artificial fish habitat structures along the Cheat Lake shoreline and to monitor their effectiveness. The Licensee reviewed the results of the 2019 activities with the USFWS, WVDNR, and PFBC and determined that a second year of monitoring in 2020 was warranted (Lake Lynn, 2020b). A scope for the second year of monitoring was developed in consultation with the USFWS, WVDNR, and PFBC (Welsh, 2019). No new studies related to fish aquatic habitat enhancement and monitoring at the Project have been requested.

Study Goals

The goals of the 2020 aquatic habitat enhancement and monitoring are to: 1) document the timing of spawning, as well as examine spawning habitat characteristics, i.e., water depth, distance from shore, and water tubidity; and 2) examine water level fluctuation as a variable of influence on the timing of spawning, as well as its role in the potential for egg dewatering.

Study Scope

During February 2020, forty artificial spawning structures were placed (submerged) at two sites on Cheat Lake (Welsh, 2019). Each site will also have four benthic artificial habitat reefs, which were placed during 2019 aquatic habitat enhancement and monitoring efforts. The forty artificial spawning structures and the eight artificial reef areas will be checked daily for the presence of egg masses during the expected spring spawning period. The artificial spawning structures will be checked by removing them from the water, and the reef structures will be checked with an underwater camera. The presence/absence of egg masses will be recorded and the number of egg

masses on each spawning or reef structure will be counted. A subsample of egg masses will be evaluated to estimate the average number of eggs per egg mass.

Additional habitat data will be recorded daily, primarily at the time when spawning structures are checked and will include water depth at the spawning structure, distance of the structure to the nearest shoreline's high water mark (i.e. full pool elevation level), distance of the structure to the nearest shoreline's current water level, surface water temperature, bottom water temperature using data loggers at depth ranges from shallow to deep water consistent with habitat unit placement, and secchi disk depth at each site to provide an index of water turbidity.

A study report will be developed and provided to the USFWS, WVDNR, and PFBC in accordance with the scope for the second year of aquatic habitat enhancement and monitoring (Welsh, 2019).

Study Schedule

Artificial spawning structures were placed (submerged) in February 2020 at two sites on Cheat Lake. The structures will be monitored daily until the end date of the spawning period has been determined. A study report will be developed and provided to the USFWS, WVDNR, and PFBC by August 2020.

3.5 Angler Creel Survey

Study Request

The Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), developed in consultation with USFWS, WVDNR, and PFBC, includes an angler creel survey component (a sampling survey that targets recreational anglers) to be conducted in 2020 to document a baseline of recreational fishing effort and success. At this time, no new studies related to angling or creel surveys at the Project have been requested.

Study Goals

The goal of the angler creel survey is to document a baseline of recreational fishing effort and success.

Study Scope

In accordance with the Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), the Licensee consulted with the resource agencies in December 2019 and January 2020 on a workplan (Lake Lynn, 2020a) and survey instrument (Lake Lynn, 2020b) for the angler creel survey. The Licensee initiated the angler creel survey in January 2020 and will continue collecting surveys through December 2020[1].

The Licensee is conducting the survey utilizing a standardized questionnaire (administered via survey boxes and in-person interviews) at the following locations:

[1] The survey may be temporarily suspended and continued in 2021 due to COVID-19.

- Upper Cheat Lake: Ices Ferry Bridge access, Edgewater Marina, Lakeside Marina;
- Middle Cheat Lake at the Sunset Beach Marina public boat ramp/dock;
- Lower Cheat Lake at Cheat Lake Park (the winter boat ramp, the fishing pier at Morgan Run, and the fishing pier at Rubles Run); and
- Lake Lynn Project Tailwater Fishing Pier.

A report summarizing the results of the survey will be developed in accordance with the Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018) and the Angler Creel Survey Workplan (Lake Lynn, 2020a). Information collected during the survey will provide useful information on recreational angling.

Study Schedule

The Licensee initiated the angler creel survey in January 2020 and will continue collecting surveys through December 2020[2]. A report summarizing the results of the survey will be provided to USFWS, WVDNR, and PFBC, with a report anticipated in February 2021.

4.0 Rare, Threatened and Endangered Species

4.1 Rare Species Survey

In the PAD, the Licensee proposed to conduct presence/absence surveys for rare, threatened and endangered (RTE) species that are likely to occur within the Project boundary. The USFWS provided comments on the four federally listed species with the potential to occur in the Project area that were discussed in the PAD (Indiana bat, northern long-eared bat, running buffalo clover, and the flat-spired three toothed snail) and noted that except for occasional transient individuals, no other federally proposed or listed threatened or endangered species are known to exist within the Project area. The USFWS noted that the proposed presence/absence surveys for RTE species may not be warranted; therefore, the Licensee is no longer proposing to conduct these surveys.

5.0 Recreation and Land Use

5.1 Recreation Site Enhancement Feasibility and Assessment

Study Request

Several stakeholders have requested recreation site enhancements or new recreation sites at the Project.

MRTC, CLEAR, FOC, and several individuals requested that the Licensee work with stakeholders on planning and building a connection from the Cheat Lake Trail to the Sheepskin Trail, including opening the gate at the northern end of the trail to create a passageway from the northern end of the Cheat Lake Trail through the dam facility. CLEAR also requested a continued commitment for a connection to other regional trails.

[2] The survey may be temporarily suspended and continued in 2021 due to COVID-19.

MRTC and FOC have requested the Licensee extend the Cheat Lake Trail toward the south.

FOC requested the Licensee create public access to the upper reaches of Cheat Lake by improving an existing gated road in the Snake Hill Wildlife Management Area (WMA) along Buzzard Run to provide a trailhead for hikers, angler access to upper Cheat Lake, and egress for whitewater paddlers running the Lower Cheat Canyon. WVDNR commented that it is unequivocally opposed to creating public access to the upper reaches of Cheat Lake by opening a gated road that passes through Snake Hill WMA property because continued maintenance of the access road would be problematic and an undue burden for the State of West Virginia and the Licensee with very little benefit to the WVDNR's prime constituents.

CLEAR requested the Licensee extend the swimming beach area toward the day-use boat docks to create a dog beach. CLEAR also requested the Licensee add additional picnic tables in this area.

Study Goals

The goals of this study are to evaluate the feasibility of the recreation site/facility enhancements requested by stakeholders at the Project, as described in the Study Scope.

Study Scope

The Licensee will evaluate the feasibility of making certain recreation site/facility enhancements at the Project. Specific enhancements to be evaluated include:

- Connection from the Cheat Lake Trail to the Sheepskin Trail at the northern end of the Cheat Lake Trail;
- Extension of the Cheat Lake Trail toward the south;
- Public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill WMA along Buzzard Run; and
- Extension of the swimming beach area to create a dog beach.

The feasibility assessment will include both desktop and in-field assessments. The desktop phase will examine existing tax and property records to determine property ownership and access limitations associated with each site or enhancement. The Licensee will also assess safety and security concerns and considerations associated with Project operations, including a review of any history of past safety or security concerns at the Project.

With basic information in hand, the Licensee will conduct an in-field assessment of each of the listed enhancements. The field review may be conducted in coordination with appropriate stakeholders and may include specific site visits with adjacent property owners and VDGIF, as appropriate.

The results of the feasibility assessment and any enhancement alternatives developed will be documented in a study report.

Study Schedule

The recreation site enhancement feasibility and assessment will be conducted during the period May through December 2020, with a draft report for stakeholder review anticipated in December 2020.

5.2 Recreation Use and Recreation Facility Inventory

Study Request

At this time, no stakeholders have specifically requested a study related to recreation use at the Project.

Study Goals

In accordance with FERC's Order dated August 10, 2018 modifying and approving the 2018 Recreation Plan Update (Lake Lynn, 2018b), the Licensee is collecting recreation use data in 2020 and must file the next Recreation Plan Update with FERC by March 31, 2021 that includes this data. As part of the next Recreation Plan Update, the Licensee will also conduct an inventory of the existing Project recreation sites to update and expand the discussion of the existing Project recreation sites and amenities in the next Recreation Plan Update.

Study Scope

In accordance with FERC's Order dated August 10, 2018 modifying and approving the 2018 Recreation Plan Update (Lake Lynn, 2018b), the Licensee initiated the collection of recreation use data in January 2020 and will collect recreation use data through December 2020[3]. This data will be summarized in the next Recreation Plan Update that must be filed with FERC by March 31, 2021.

In the PAD, the Licensee proposed to conduct a field inventory of the existing Project recreation sites that included identifying the amenities or facilities at each site, photographs of the sites, an evaluation of the overall condition of each site, and general observations on site use and accessibility. The Licensee will conduct a field inventory of the existing Project recreation sites in 2020 and include the full recreation site inventory in the next Recreation Plan Update, which is due to be filed with FERC by March 31, 2021.

Study Schedule

The Licensee initiated recreation use data collection in January 2020 and will collect recreation use data through December 2020[4]. The Licensee will conduct a field inventory of the existing Project recreation sites during the summer of 2020 and include the full recreation site inventory in the next Recreation Plan Update. The next Recreation Plan Update must be filed with FERC

[3] The data collection may be temporarily suspended and continued in 2021 due to COVID-19.
[4] The data collection may be temporarily suspended and continued in 2021 due to COVID-19.

by March 31, 2021 and the Licensee anticipates a draft report will be available for stakeholder review by February 2021.

5.3 Shoreline Classification and Aquatic Habitat Mapping

Study Request

At this time, no stakeholders have specifically requested a study related to shoreline classification at the Project or development of a shoreline management plan.

Study Goals

The goals of classifying the Cheat Lake shoreline and developing an aquatic habitat map of Cheat Lake are to: 1) collect information that will be used in the development of a Shoreline Management Plan for the Project and the License Application and 2) create datasets to assist the Licensee in managing shoreline uses.

Study Scope

The Licensee will classify the Cheat Lake shoreline (the area up to 100 feet inward from the summer pool elevation of the reservoir) into the following classifications: Forest, Industrial, Private, Public Recreation, and All Other Classes. The shoreline classification will utilize 2018 imagery from the National Aerial Image Program at 1-meter resolution and 1:10,000 scale, which is the best available temporal and spatial resolution imagery for the shoreline classification. The entire 31.3 miles of Cheat Lake shoreline will be classified. The shoreline classification will also indicate the natural versus constructed or converted shoreline habitat areas. A spatially referenced shapefile (polyline) with metadata will be prepared.

An aquatic habitat map of Cheat Lake will be developed based on data collected from an Aquatic Water Drone. The aquatic habitat areas will be digitized as polygon areas and include aquatic vegetation, silt substrate, cobble and boulder substrate, historical river channels, and water depth.

The datasets for the shoreline classification and the aquatic habitat mapping will be added to the online map viewer of the Cheat Lake Dock and property management system developed for the Project in 2019.

Study Schedule

The shoreline classification and aquatic habitat mapping will be completed by December 2020. The shoreline classification and aquatic habitat mapping will be used in the development of a Shoreline Management Plan for the Project and the License Application.

6.0 Cultural Resources

6.1 Cultural Resources (Section 106) Consultation

Study Request

At this time, no resource agencies or Tribes have requested studies of cultural resources at the Project. The Cherokee Nation commented that Monongalia County and Fayette County are

outside the Cherokee Nation's Area of Interest, thus, the Cherokee Nation defers to federally recognized Tribes that have an interest in this landbase. The Delaware Nation commented that the location of the Project does not endanger cultural or religious sites of interest to the Delaware Nation and requested that if any artifacts are discovered that the Licensee halt work and contact state agencies and its office within 24 hours.

Study Goals

The Licensee will initiate formal consultation with the WVSHPO and PHMC to inform the development of the License Application.

Study Scope

The Licensee is aware of two potentially significant cultural resources within the Project boundary – the railroad bed along the Cheat Lake Trail (a linear historic archaeological site) and the Lake Lynn powerhouse and dam (potentially eligible for the National Register of Historic Places [NRHP]). The Licensee will consult with the West Virginia State Historic Preservation Office (WVSHPO) and its Interactive Map Viewer and submit the Project information for a formal review. The Licensee will also consult with the Pennsylvania Historical and Museum Commission (PHMC) and the Cultural Resources Geographic Information System (CRGIS) and submit the Project to the PHMC for review.

Study Schedule

The Licensee plans to initiate formal consultation with the WVSHPO and PHMC by July 2020.

7.0 References

EA Engineering, Science, and Technology, Inc. (EA Engineering). 2014. Instream Flow Study: Lake Lynn Hydroelectric Project. December 2014.

Lake Lynn Generation, LLC (Lake Lynn). 2018a. Lake Lynn Hydroelectric Project (FERC No. 2459) Aquatic Biomonitoring Plan (2018-2020). January 31, 2018.

Lake Lynn Generation, LLC (Lake Lynn). 2018b. Lake Lynn Hydroelectric Project 2018 Recreation Plan Update. April 2018.

Lake Lynn Generation, LLC (Lake Lynn). 2020a. Lake Lynn Hydroelectric Project (FERC No. 2459) Angler Creel Survey Workplan. January 2020.

Lake Lynn Generation, LLC (Lake Lynn). 2020b. Lake Lynn Hydroelectric Project (FERC No. 2459) Aquatic Biomonitoring Plan (2018-2020): 2019 Annual Status Report. 2020.

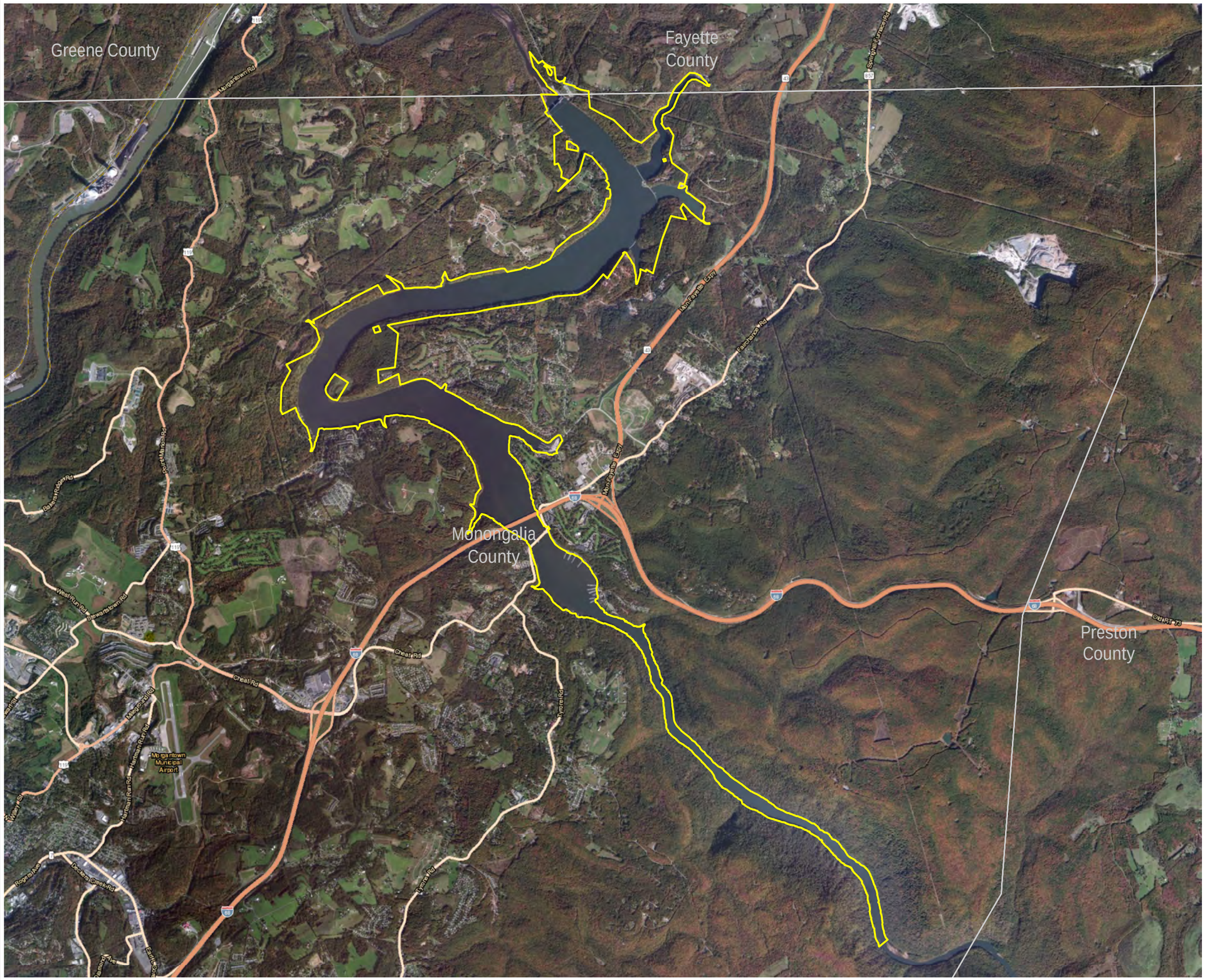
U.S. Fish and Wildlife Service (USFWS) Northeast Fishery Center Conservation Genetics Lab. No date. Field Collection of Environmental DNA (eDNA) Water Samples from Streams. No date.

Welsh, Stuart A. West Virginia Cooperative Fish and Wildlife Research Unit. 2019. Evaluations of Yellow Perch Spawning and Water Level Fluctuations for Cheat Lake, West Virginia: A Research Proposal. November 29, 2019.

West Penn Power Company. 1995. Water Quality Monitoring Plan for Lake Lynn Hydro Station FERC Project No, 2459. October 6, 1995.

Attachment 1

Project Boundary Figure



LEGEND

- FERC Project Boundary
- County Boundary

N

0 0.5 1 2 Miles

PROJECT:

LAKE LYNN GENERATION, LLC

TITLE:

Lake Lynn
Project Boundary

DRAWN BY:	K. BABCOCK	PROJ. NO.:
CHECKED BY:		
APPROVED BY:		
DATE:	AUGUST 2019	

TRC

14 Gabriel Drive
Augusta, ME 04330

FILE NO.: Lake_Lynn_Project_Boundary.mxd

Plot Date: LAYOUT: ANSI B(11"x17") S:\1-PROJECTS\Cube_PE_Hydro
Path: \Lake_Lynn_Project_Boundary.mxd

Coordinate System: NAD 1983 UTM Zone 17N (Foot US)
Map Rotation: 0

TRC - GIS

Attachment 2
Summary of Study Related Comments and Study Requests

Agency/ Stakeholder	Study Related Comment/ Study Request
SEDIMENTATION AND SHORELINE EROSION	
WVDNR	Requests reservoir sedimentation study at problem areas and a sedimentation plan to monitor/address any future sedimentation issues. Proposed methodology includes examining possible sources of sedimentation within the reservoir and identifying potential preventive measures that could be taken to reduce the level of sedimentation in those areas where sediment builds up (i.e., Sunset Beach).
CLEAR	Monitoring and remediation of the on-going shoreline erosion are needed with components of these activities taking place on an annual basis.
WATER QUANTITY AND QUALITY	
USFWS and WVDNR	Requests that water quality monitoring be continued throughout the term of the new License.
USFWS	The Project Instream Flow Study is not contained in the PAD. Without this information, the USFWS has remaining questions and would recommend an Instream Flow Study to help determine appropriate flow releases in license articles.
FISH AND AQUATICS	
USFWS	A mussel survey should be conducted downstream in the tailwater area and downstream reaches to assess this component of the aquatic community and inform the USFWS flow regime recommendations.
USFWS and WVDNR	Requests a desktop entrainment study. WVNDR recommends a field component to verify results and requests the opportunity to review data for use in the desktop analysis. USFWS suggests that the USFWS Turbine Blade Strike Analysis Model could be used as one component of the assessment.
USFWS and WVDNR	Requests American eel monitoring study that improves on sampling conditions and includes areas lower in the Cheat River before the confluence with the Monongahela. WVDNR is not be opposed to any USFWS request regarding additional analysis of Project waters for American eel.
USFWS and WVDNR	Requests upstream/downstream fish passage and feasibility study. Proposed methodology includes a literature review of available options for bypass routes/fish protection measures and an analysis on how such measures could be incorporated into current project design. USFWS mentions the methodology would include a literature review of available options for upstream passage of eels.
WILDLIFE AND RARE, THREATENED AND ENDANGERED (RTE) SPECIES	
USFWS	The proposed survey for RTE species may not be warranted.
RECREATION/AESTHETICS	
MRTC and FOC	Trails - Requests the Licensee extend the Cheat Lake Trail toward the south.
MRTC, CLEAR, FOC Dave Harshbarger ,and Gary Marlin	Trails - Request License work with stakeholders on planning and building a connection from the Cheat Lake Trail to the Sheepskin Trail, including opening the gate at the northern end of the trail to create a passageway from the northern end of the Cheat Lake Trail through the dam facility. CLEAR also requests a continued commitment for a connection to other regional trails.

Agency/ Stakeholder	Study Related Comment/ Study Request
WVDNR	Snake Hill Wildlife Management Area (WMA) - WVDNR is unequivocally opposed to creating public access to the upper reaches of Cheat Lake by opening a gated road that passes through Snake Hill WMA property because continued maintenance of the access road would be problematic and an undue burden for the State of West Virginia and the Licensee with very little benefit to the WVDNR's prime constituents.
FOC	Snake Hill Wildlife WMA - Supports creating a public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill WMA along Buzzard Run to provide trailhead for hikers, angler access to upper Cheat Lake, and egress for whitewater paddlers running the Lower Cheat Canyon.
CLEAR	Dog Beach - The swimming beach area needs to be extended toward the day-use boat docks to include a dog beach and additional picnic tables
WVDNR	Boating - Law enforcement records do not show any significant increase in boating incidents. WVDNR is not opposed to the temporary moratorium on new private piers/boat docks and would not be opposed to the moratorium continuing.
CLEAR	Boating - Requests boating guidelines and limits consistent with the rules and regulations of the WVDNR. Boat guidelines/regulations, public dock maintenance, channel depth (dredging), and parking lot criteria are all in need of explicit definition and guidance.
CLEAR	Recreation Operations and Maintenance (O&M) - Requests clear and complete procedures for trail maintenance and repair.
CLEAR	Recreation O&M - Requests clear and complete goals, guidelines and procedures for Sunset Beach Marina and other marinas, including O&M and future.
CLEAR	Recreation O&M - Periodic lake cleanup activities need to be continued by CLEAR and others with the support of the Licensee.
CLEAR	Recreation O&M - Swimming beach season should match the boating season of May 1-Oct 31.
CLEAR	Recreation O&M - Regular maintenance of the swimming beach is needed to remove large debris and to keep quality sand fresh and deep
CLEAR	Recreation O&M - For the Fishing Pier, there is a need to identify the opportunities, guidelines, operation and maintenance schedules.
CLEAR	Recreation O&M - Hillside slips, ground subsidence, and washouts along the Trails must be prepared for so that temporary work-arounds/repairs can take place in a timely manner.
CLEAR	Recreation O&M - For the Recreation Season protocol, there is a need to reiterate the schedule of May 1 thru October 31, with the Trail being open and accessible year-round.
CLEAR	Recreation O&M - The boat launch in the Park is essential for summer use by kayak & canoe users and for winter use by fishing boat users.
CLEAR	Recreation O&M - There is a need for a description of the functions of (existing & new) recreation personnel, security personnel, park maintenance personnel; and guidelines are needed for the interaction of these people with public.
MRTC	Recreation O&M - Requests the Licensee hire onsite recreation staff.
WVDNR	Boating - Law enforcement records do not show any significant increase in boating incidents. WVDNR is not opposed to the temporary moratorium on new private piers/boat docks and would not be opposed to the moratorium continuing.

Agency/ Stakeholder	Study Related Comment/ Study Request
CLEAR	Boating - Requests boating guidelines and limits consistent with the rules and regulations of the WVDNR. Boat guidelines/regulations, public dock maintenance, channel depth (dredging), and parking lot criteria are all in need of explicit definition and guidance.
ENHANCED COMMUNICATIONS/INFORMATION	
CLEAR	Telephone(s) & email address(es) are needed on signs and on web page(s) for information and for emergencies.
CLEAR	Formal plans and procedures are needed that assigns responsibilities for the various types of emergency at the dam, on the trails, on Cheat Lake, and downstream.
CLEAR	Public brochures are needed that include the history, overview of facilities, rules/regulations, contacts, etc.
CLEAR	The website needs additional pages that includes the brochure information, lake level, operational updates, warnings, etc.
CLEAR	News releases are needed providing general information, trail closings, warnings and other items for current news.
CLEAR	Signage on WV 857 for the Cheat Lake Park and Trail needs to be maintained year-round and the signage on the Trail maintained for public use year-round.
CLEAR	For the lake level protocol, need to reiterate the water level ranges vs. months of the year on the website and in the brochure(s).
MRTC	Requests improved public communication (website, social media, phone), and creating a process for holding events on the Cheat Lake Trail.
GENERAL	
WVDNR	Supports studies proposed in the PAD.
CLEAR	A study of the history of Cheat Lake and the dam is needed to examine the role of the Project affecting WV and PA - whether it is a private “for-profit” entity with public obligations or whether it is “for the public interest” to provide recreation and a public service (electricity).

Attachment 3

Copies of Comments and Study Requests

DIVISION OF NATURAL RESOURCES
Wildlife Resources Section
District 1
P.O. Box 99
1110 Railroad Street
Farmington, West Virginia 26571-0099
Telephone (304) 825-6787
Fax (304) 825-6270

Jim Justice
Governor

Stephen S. McDaniel
Director

February 12, 2020

Electronic file

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: Lake Lynn Hydroelectric Project (FERC no. P-2459); Notice of Intent, Pre-Application Document, and Study Requests

Dear Secretary Bose:

Thank you for allowing the West Virginia Division of Natural Resources, Wildlife Resources Section (WRS) the opportunity to provide comments with regards to the referenced Pre-Application Document (PAD) for the relicensing of the Lake Lynn Hydroelectric Project (Project), FERC No. 2459. Lake Lynn Generation, LLC (Licensee or Applicant) has elected to utilize the Traditional Licensing Process in preparing for a new license. The current Project license was issued on December 27, 1994 and is set to expire on November 30, 2024. The applicant submitted the referenced NOI/PAD in accordance with FERC regulation and consistent with the requirements of 18 CFR § 5.5.

The Project is an established hydroelectric project located on the Cheat River adjacent to the border between Pennsylvania and West Virginia with Project areas located occupying lands in

both states. The Project has an installed project capacity at 51.2 MW using four Francis generating units. The comments below are being provided pursuant to 18 C.F.R §4.38(b)(5).

Section 4.2 Project Facilities

The description of the Project facilities described within this section makes mention of trash racks installed at the intake facility. Beyond that, there is no further information regarding the specifications of the trash racks. Based on a preliminary site visit, it would appear as if the trash racks were of a steel construction and installed with spacing of approximately 5-inches. Such large trash rack spacing allows for the entrainment of larger fish that would be more susceptible to blade strikes and turbine-induced mortality as these fish enter the intake structures and pass through the turbines. In an effort to reduce fish mortality, the WRS would request that the trash rack spacing not exceed 3 inches and have an approach velocity of no more than 2.0 fps. The WRS further recommends angled trash racks be employed as a means to further reduce entrainment.

Section 4.4 Current and Proposed Project Operations

The current FERC license requires an operation schedule whereby the lake elevation is maintained between 868 and 870 feet from May 1 to October 31, between 857 and 870 feet from November 1 through March 31, and between 863 feet and 870 feet from April 1 through April 30. The April 1 to April 30 schedule was initially designed as a provision to reduce the Project's impacts on spawning fish populations within the lake, particularly yellow perch and walleye. The thinking at that time was that these fish species predominantly spawned during the early Spring month of April. Recent data has become available through the triennial biomonitoring studies, in particular a recent analysis of yellow perch habitat, which may indicate that in some years, based on temperature and weather conditions, the spawn may begin in mid-March and extend into Mid-April or later. Similar results were observed in a study on the walleye populations within the lake by a member of the WRS staff whereby the walleye spawn was documented as early as mid-March. Considering, there is concern that the lake elevation schedule during the month of March (between 857 and 870 feet) would not be sufficient in protecting the spawn and would have the potential to dewater a great many eggs thus impacting recruitment. It may be necessary, then, to revisit the current project operations and examine possible avenues to protect these species throughout the spawning season. A new schedule could be based on temperature such that in normal years the schedule can remain as is, but in warm years where the WRS, based on water temperature variables (45°F for a sustained period in March), anticipates that an early spawning period would occur, the April elevation schedule could be moved back to mid-March.

Section 5.2

The continuous monitoring of water quality as required by License Article 405 of the existing Project License is an invaluable tool in the management of the resources. As such, the WRS would request that water quality monitoring within the reservoir and tailwaters be continued throughout the term of the upcoming license.

Section 5.3.2.2 Catadromous and Diadromous Species

This passage asserts that "there is no known occurrence of the American eel in the Cheat River basin, however...eels have been collected in the Ohio River basin from the Kanawha, New, and Greenbrier Rivers." In fact, the American eel has also been collected in the Monongahela River within the past 10 years as far upstream as the Morgantown Lock and Dam. This point is upstream of the confluence of Cheat River with the Monongahela River. It could therefore be assumed that there is a strong likelihood that the American eel may also be located within the Cheat drainage. However, it should be noted that, at least with regards to recent data collection, the American eel has not been observed within the tailwaters of the project. A recent eDNA study of the Project tailwaters resulted in no positive recordings of the American eel. The reasons for the negative results may be because of study design or perhaps because there were no eels in the Cheat River watershed. Nonetheless, it is the WRS' understanding that the US Fish and Wildlife Service (USFWS) will be requesting additional analysis of the Project waters to determine presence or absence of the American eel. The WRS would not be opposed to any USFWS request regarding this particular subject matter.

Section 5.3.2 Fish Resources and Habitats

As per state rule §47-5A-6, reimbursement for the incidental loss of fish due to project operation will be required. Therefore, the WRS would request that a comprehensive desktop entrainment study be utilized to determine the likely number of fish, fish species, and size classes to become entrained and experience mortality as a result of the Project's operation.

Section 5.3.2.3 Fish Passage

The major components of a hydropower facility (i.e. the turbines) pose a particular risk to fish passage and an additional impediment to fish passage. Project operations may attract fish moving downstream to pass through the turbines creating an unnecessary risk for mortality. It is the flowing water through the Project that initially attracts the migrating fish. Additionally, passage over the spillway could also be hazardous for fish. To minimize the potential hazards for the downstream movement of fish, the WRS would request that a feasibility study be conducted to explore potential options for a bypass system or diversionary tactics.

Section 5.8.3.4 Public Boat Launching Facility at Sunset Beach Marina

Sedimentation at the Sunset Beach Marina has become a significant issue over the years and has only worsened to the point by which anglers and boaters are affected. Launching a boat from this area has become more challenging and at some levels, is next to impossible. The Licensee has made great strides in correcting the sedimentation via dredging the embayment. Still, there is concern that this is a temporary fix and without a plan in place to address future sedimentation of the embayment, this is a problem that will likely occur again. Therefore, the WRS would request the licensee draft a sedimentation plan in an effort to minimize future sedimentation and reduce costly dredging activities.

Section 5.8.5 Boating Carrying Capacity Study

The results of the boating carrying capacity study would suggest that the number of boaters using Lake Lynn at any given time has exceeded that of a safe operating amount for the lake. Law enforcement records have yet to show any significant increase of incidents. Nevertheless, the WRS is not opposed to the Licensee's moratorium on new private piers/boat docks within the Project reservoir. According to the scoping meeting, the moratorium was enacted by the Licensee as a temporary measure to reduce the number of boats on the lake with the intention to lift the moratorium, or at least re-examine its effectiveness, following the relicensing process. The WRS views the moratorium as being beneficial in reducing the level of impact to shoreline habitat caused by the continued construction of the lake shoreline. Shoreline habitat is critical for a healthy, sustainable fishery and therefore, the WRS would be not be opposed to continuing the moratorium beyond the FERC relicensing of the Project.

Section 6.2.7.1 Potential Issues and Project Effects

This section lists a proposal to "create public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill Wildlife Management Area along Buzzard Run." The WRS would be unequivocally opposed to this proposal. The WRS is not interested in opening up the gated road that passes through the WMA property. Continued maintenance of the access road would be problematic and an undue burden for the state and the Licensee with very little benefit to the WRS' prime constituents.

State 401 Water Quality Certification

Section 401(a)(1) of the federal Clean Water Act, 33 U.S.C. § 1341(a)(1) provides that any applicant of a federal license or permit must obtain a state certification from the appropriate state certifying agency. This certification is to ensure that any activity conducted under the license are to be in compliance with all applicable provisions of the Clean Water Act. The state of WV will have one year to act on a received 401 application from the date the US Army Corps of Engineers deems the federal 404 application to be complete.

Study Requests

The WRS is in support of the studies proposed by the Licensee for the Lake Lynn Hydroelectric Project as identified within the PAD. Additional studies not previously included within the PAD are being provided by the WRS. The WRS makes these requests in support of currently proposed studies, to correct deficiencies in data and to offer a greater level of detail where needed. The WRS further requests the opportunity to review any study plans associated with this project. The request format is in accordance with that described in 18 CFR § 5.9 (b).

Study Request 1: Entrainment Study

Goals and Objectives:

The goal of the proposed study is to determine the number of fish that are either entrained or impinged and to estimate the injury and mortality of fish that pass through the turbines during

Project operation. The WRS is requesting a desktop entrainment study be conducted on the Lake Lynn Project. The goal of the desktop study will be to estimate mortality for compliance with state code.

As the resource agency, it is the goal of the WRS to manage and protect the resources. To the furtherment of this goal, WV code §47-5A-6 requires that mitigation be completed for any impacts to the resources. In this case, entrainment of fish through the turbines causes undue stress to the fish and can potentially be fatal. Therefore, the WRS would request that any mortality in fish be compensated. In order to properly ascertain the number of fish that succumb to mortality, an entrainment study will need to be performed.

The WRS recommends a desktop entrainment analysis utilizing the EPRI database. Data used for the analysis should be presented by species and by two-inch size classes. The WRS would further recommend that a field component be incorporated to verify results.

Resource Management Goals:

The WRS is charged with the protection and management of all wildlife within West Virginia, including within Cheat river and Lake Lynn. As per state rule §47-5A-6, the State would require the applicant to compensate the state for any loss of fish.

Existing Information:

To the best of its knowledge, the WRS is not aware of any entrainment studies that have been conducted at the Project. The years of biomonitoring data conducted in accordance with the existing license, will help to inform this entrainment analysis.

Nexus Between Project Operation:

During Project operation, fish of a certain size are able to pass through the trash racks and become entrained through the turbines. As the turbines operate, it is likely that some fish will be struck by the turbine blades while others will succumb to changes in barometric pressures as they pass through the intake. The likelihood of a blade strike and turbine-induced mortality increases as the size of the fish increases. Therefore, compensatory mitigation will be required as replacement for the loss of fish.

Study Methodology:

The methodology employed should include a combination of desktop entrainment analysis and field verification. The standard practice has been to utilize the Electric Power Research Institute (EPRI) turbine entrainment and survival database as a model in evaluated the potential of entrainment at a facility. The WRS has had concerns that this particular practice lacks the scientific creditability necessary to make informed decisions about the management of the fishery. Therefore, the WRS requests the opportunity to review any entrainment data considered

for use in the desktop entrainment analysis. Further, the WRS may request that a verification procedure be incorporated as a means to test the veracity and accuracy of the desktop entrainment results. Deploying hydroacoustics sampling techniques may be one way to achieve this goal as a more cost-effective method than deploying nets downstream. Data for any type of analysis should be presented by species and by 2-inch class sizes to remain consistent with general state practices. The WRS is willing to further discuss methodologies with the applicant.

Level of Effort and Cost:

The level of effort required to conduct a desktop entrainment analysis is relatively minor and most consulting firms/universities are well equipped to perform such an analysis. Additionally, the cost of a desktop entrainment analysis is much more attainable when compared to the alternative of an in-field entrainment analysis. Incorporating an in-field verification procedure with the analysis will increase the level of effort and cost and would require certain levels of training, expertise, and equipment. Nonetheless, an in-field verification procedure is still attainable and within reasonable limits of effort and cost.

Study Request 2: Upstream/Downstream Fish Passage and Feasibility Study

Goals and Objectives:

The goals of this study are to assess movement of fish through the project area; identify likely routes fish would take under a variety of conditions; and assess the feasibility of incorporating alternative routes or additional fish protection measures.

Existing Information:

To the best of its knowledge, the WRS is unaware of any study on upstream/downstream passage at the Project. Any study that may have been completed is likely dated material and incompatible in reflecting current conditions and population dynamics.

Nexus Between Project Operation:

Dam features, because of their general nature, impede the upstream and downstream movement of fish. By design, the dam at the Project affords no migration upstream. Downstream migration is offered by one of two routes: through the dam gates; and through the Project's powerhouse. Neither of these two routes provides for a safe migration downstream. The route through the powerhouse would mean risking turbine strikes or dangerous changes in barometric pressure. The route through the dam gates may provide for an equally perilous journey with fish tumbling down rough concrete faces. It is evident, then, that the Project has a direct relationship to fish passage.

Study Methodology:

Methodology would include a literature review of all available options for bypass routes and fish protection measures and an analysis on how such measures could be incorporated into the current project designs. Architectural design and structural engineers would need to be consulted for their expertise in determining feasibility of any new structural component at the project.

Level of Effort and Cost:

A study such as this would most likely take less than a year to complete with minimal effort. Discussions with engineers and reviews of designed structures would be necessary to properly assess the feasibility of any bypass channels or fish protection structures. Additionally, this study could be completed in concert with study request #1 (entrainment study) to reduce costs and effort. The WRS is not aware of the cost associated with this study but would assume it to be at a nominal rate.

Study Request 3: Reservoir Sedimentation Study

The WRS is requesting that a sedimentation study of the Project's reservoir be conducted at the problem areas and a plan to monitor and address any sedimentation issues be developed.

Goals and Objectives:

The goal of this survey is to asses sedimentation within certain problem areas within the Project reservoir and to develop a plan to address any deficiencies as they arise.

Existing Information:

Reports of sedimentation affecting boaters and anglers have risen in recent years, but as of yet no study that the WRS is aware of has been conducted on the sedimentation and no plan has been developed to address it. Steps to remedy sedimentation are typically taken when the issue rises to unsuitable levels. A more preventive strategy here may reduce future costs of sediment removal and keep recreation areas open without issue.

Nexus Between Project Operation:

By their very nature, dams cause sedimentation within the reservoir as the moving water slows down and particles are allowed to settle out. Therefore, the Project operations have a direct influence on the level of sedimentation.

Study Methodology:

The methodology should begin by examining possible sources of sedimentation within the reservoir and then by identifying potential preventive measures that could be taken to reduce the level of sedimentation in those areas that have demonstrated an affinity for a build-up of sediment (i.e. Sunset Beach).

Level of Effort and Cost:

Most consulting firms and universities would be fully capable of conducting a sedimentation study, including interpreting and analyzing the data. The costs of such a study is variable dependent on contractor used to conduct the study and the level of attention to detail.

The WRS appreciates the opportunity to provide comments and to make study requests. If you have any questions regarding this letter, comments made, or these study requests, please contact me by telephone at (304)825-6787, or by email at Jacob.D.Harrell@wv.gov.

Sincerely Yours,

Jacob Harrell
Hydropower Coordination Biologist

Cc: Jody Smet, Lake Lynn Generation, LLC
David Fox, Lake Lynn Generation, LLC
Janet Norman, USFWS
Paul Johanson, WVDNR
Mark Scott, WVDNR
Zack Brown, WVDNR
David Wellman, WVDNR
Danny Bennett, WVDNR

LAKE LYNN HYDRO PROJECT: ISSUES AND COMMENTS FOR RELICENSING

SUBMITTED BY: Duane Nichols, President, Cheat Lake Environment & Recreation Association, 330 Dream Catcher Circle, Morgantown, WV 26508

RE: Project P-2459, Relicense for Lake Lynn Hydroelectric Project. Date: February 10, 2020

1. Clear and complete procedures are needed for Trail maintenance and repair, for both routine and non-routine circumstances.

2. Clear and complete goals, guidelines and procedures are needed for the Sunset Beach marina and other marinas, to cover the operation, maintenance and planning for the future.

3. Boating is a primary recreational activity on the Lake, so there is a need for boating guidelines and limits consistent with the rules and regulations of the WV DNR. Boat guidelines and regulations, public dock maintenance, channel depth (dredging), parking lot criteria, etc., are all in need of explicit definition and guidance.

4. Periodic lake cleanup activities need to be continued by CLEAR and others with the support of Lake Lynn Hydro to remove plastic and structural debris floating in the lake and backwaters. The CLEAR pontoon boat should be useful for these activities.

5. Given that the Lake is limited in boating capacity during busy weekends, the limit has been reached for the number of marinas, boat slips and personal access area sites.

6. Swimming beach season should match the boating season of May 1st to October 31st

7. Regular maintenance of the swimming beach is needed to remove large debris (mainly tree segments) and to keep quality sand fresh and deep, as mostly children use it.

8. The swimming beach area needs to be extended toward the day-use boat docks to permit the designation of a dog beach, given that dogs interfere with the swimming experience of small children; this will also add space for additional picnic tables, that are already needed.

9. Monitoring and remediation of the on-going shoreline erosion are needed with components of these activities taking place on an annual basis.

10. Hillside slips, ground subsidence and washouts along the Trails must be prepared for, as they are not uncommon, so that monitoring, temporary work-arounds and repairs can take place in a timely manner.

11. Signage on WV 857 for the Cheat Lake Park & Trail needs to be maintained year round and the signage on the Trail maintained for public use year round.

12. Telephone(s) & email address(es) are needed on signs and on web page(s) for information and for emergencies.

13. Formal plans and procedures are needed that assigns responsibilities for the various types of emergency at the Dam, on the Trails, on the Lake, downstream in Pennsylvania, etc.

14. Brochures are needed for public distribution to include the history, overview of facilities, rules/regulations, contacts, etc.

15. The Internet Web-Site is needed with multiple pages to include the brochure information, lake level, operational updates, warnings, etc.

16. News Releases (quarterly & timely) are needed providing general information, trail closings, warnings and other items for current news.

17. For the Fishing Pier, there is a need to identify the opportunities, guidelines, operation and maintenance schedules.

18. A continued commitment to regional trail development should include interfacing with the proposed Sheepskin Trail in Pennsylvania, for a connection to other regional trails, to involve the opening of the trail level gate at the Lake Lynn Dam for daylight walking, hiking, jogging and bicycling.

19. For the Lake level protocol, there is a need to reiterate the water level ranges vs. months of the year on the Web-site and in the Brochure(s).

20. For the Recreation Season protocol, there is a need to reiterate the schedule of May 1 thru October 31, with the Trail being open and accessible year round. The “boat launch” in the Park is essential for summer use by kayak & canoe users and for winter use by fishing boat users.

21. There is a need for a description of the functions of (existing & new) recreation personnel, security personnel, park maintenance personnel; and guidelines are needed for the interaction of these people with public.

22. An Advisory Committee is needed with Quarterly meetings and quarterly reports, consisting of members from Monongalia County, WV-DNR, WVU, WV trail group, PA trail group, PA-DNR/DEP, plus 2 or 3 local environmental/conservation groups.

23. A study of the details of the history of Cheat Lake and the Lake Lynn Dam is needed to examine the role of the project there on the Mason-Dixon Line affecting both West Virginia and Pennsylvania, whether it is a private “for-profit” entity with public obligations or whether it is “for the public interest” to provide recreation and a public service (electricity). These considerations take on a greater significance when foreign ownership is under way.

The Cheat Lake Environment & Recreation Association (CLEAR) has been active to promote the public use of Cheat Lake for over 30 years. The officers are Duane Nichols, President, Mike Strager, Vice President, Ann Chester, Secretary, and Donna Weems, Treasurer.

CONTACT INFORMATION: Duane G. Nichols, 330 Dream Catcher Circle, Morgantown, WV 26508. Phone: 304-216-5535, Email Address: Duane330@aol.com

Submitted by Duane Nichols of CLEAR this 10th day of February 2020.

Document Content(s)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

February 13, 2020

Jody Smet
Director, FERC Licensing and Compliance
Lake Lynn Generation, LLC
2 Bethesda Metro Center, Suite 1330
Bethesda, MD 20814

Dear Ms. Smet:

The U.S. Fish and Wildlife Service (Service) has reviewed the October 17, 2019 Notice of Intent (NOI) to File for a License and attached Pre-Application Document (PAD) for the Lake Lynn Hydroelectric Project (FERC #2459), filed by Lake Lynn Generation, LLC (Applicant). The Applicant has elected to use the Traditional Licensing Process (TLP) for this re-licensing application of the Lake Lynn Hydroelectric Project on the Cheat River near Morgantown, West Virginia and in Fayette County, Pennsylvania. The current project license was issued on December, 1994 and will expire on November 30, 2024.

The Service attended the Joint Agency meeting and site visit on December 12, 2020 in Morgantown, WV, with the Applicant, state and local agencies, and interested residents. We offer the following recommendations on the PAD and our Study Requests.

The following comments are provided pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended: 16 U.S.C. 1531 *et seq.*), the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat.755), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

The project is a 51.2 megawatt (MW) single development project operated since 1926. It consists of: 1) a 125-foot high by 1,000-foot long concrete gravity-type dam with a 624-foot long spillway controlled by 26 Tainter gates, each 17 feet high by 21 feet long; 2) a reservoir with a surface area of 1,729 acres and containing about 72,00 acre-feet of water at full pool elevation of 870 feet National Geodetic Vertical Datum; 3) a log boom and track racks at the intake facility; 4) eight 12-foot by 18-foot gated penstocks of reinforced concrete; 5) a 72-foot by 165-foot by 68-foot high brick powerhouse containing four identical Francis generating units with a total rated capacity of 51.2 MW; 6) dual 800-foot long 138-kilovolt transmission lines; and 7) appurtenant facilities. In 2018, the licensee completed a turbine replacement and upgrade of Unit 2.

Pre-Application Document

Section 4.4 Current and Proposed Project Operations.

The Service supports the concerns of the West Virginia Division of Natural Resources (WV DNR) regarding the quality and timing of available yellow perch (*Perca flavenscens*) and walleye (*Sander vitreus*) habitat within the reservoir lake, with proposed drawdown operations. Their assessment is that the lake elevation schedule during the month of March (between 863 and 870 feet) is likely insufficient to protect the spawning period and could dewater many fish eggs which would hamper recruitment to the populations. We would like to better understand how lake levels, downstream flow releases, and draw down schedules impact fish and wildlife resource needs so we can determine whether there are ways to minimize these impacts.

Section 5.2 Water Resources

The current License Article 405 (continuous monitoring of water quality) has proved very beneficial to the Licensee and resource agencies as this monitoring resulted in effective management of a low flow event during the summer/early fall of 2019. The Service believes this monitoring should be continued in any new license condition granted.

Section 5.2.3 Streamflow, Gage Data and Flow Statistics

This section of the PAD does not provide sufficient information for the Service to fully assess the seasonality, duration and magnitude of streamflows inflowing to the reservoir and dam, and the appropriate flow releases for the upcoming license period. The graphs in Appendix E (Flow Duration Curves) are not scaled appropriately to discern the patterns of what occurs in the 5 to 99 percent exceedance flows that we would need to examine. It would be helpful if the maximum flow event(s) and duration for the period record 2016 to 2019 is displayed separately from the rest of the graphs so as not to flatten all other flow interpretation.

The Service does not see the Project Instream Flow Study which is referenced in this section of the PAD, contained in Appendix E, in order to assess its applicability to current and future conditions. Without this information, we have many remaining questions, and would recommend an Instream Flow Study to help us determine appropriate flow releases in the new license articles.

The Service also believes a mussel survey should be conducted downstream in the tailwater area and downstream reaches to assess this valuable component of the aquatic community and potentially help inform our flow regime recommendations for the project.

Section 5.7.2 Rare, Threatened and Endangered Resources and Habitats

Table 5.16 of the PAD identifies four species federally listed under the ESA with the potential to occur in the project area, Indiana bat *(Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), running buffalo clover (*Trifolium stoloniferum*), and the flat-spired three-toothed snail (*Triodopsis platysayoides*).

The federally threatened northern long-eared bat and the federally endangered Indiana bat are temperate, insectivorous migratory bats that hibernate in mines and caves during the winter and spend summers in wooded areas. There are no known northern long-eared bat maternity roosts

or hibernacula within the immediate vicinity of this site. Indiana bats are most likely to be in maternity roosts from May 1 to July 31.

Any project-related tree removal (e.g., for maintenance or recreational improvements) should involve consultation with the Service under Section 7 of the ESA, for the protection of the Indiana bat and northern long-eared bat.

The Service filed an August 27, 2019 Proposed Rule in the Federal Register for the de-listing of running buffalo clover (*Trifolium stoloniferum*) found at this web address: https://www.govinfo.gov/content/pkg/FR-2019-08-27/pdf/2019-18413.pdf#page=1. Its current status is still federally endangered as of this comment date. However, we believe this existing project with minor habitat modification of the project area will not likely adversely affect running buffalo clover, a terrestrial plant. We therefore, are not requesting surveys for the plant.

The flat-spired three-toothed snail is found within Monongalia County, West Virginia in close proximity to the project, but is not found within the project boundary. It is found in Coopers Rock State Forest, primarily on the rock bluffs. The area within the project boundary lacks the habitat requirements for the snail, therefore, this project will have "no effect" on the species.

Except for occasional transient individuals, no other federally proposed or listed threatened or endangered species are known to exist within the project area. Should project plans change or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

Study Requests

The Service has reviewed the evaluation of study proposals in the PAD by the Applicant for the Lake Lynn Hydroelectric project. We feel the proposed presence/absence surveys for rare, threatened, and endangered species may not be warranted, based upon our comments on the PAD. Aside from a field inventory of existing project recreation sites, a creel survey, and a cultural resources examination along the Cheat Lake Trail and Lake Lynn dam and powerhouse, the Applicant is not proposing any other studies. The only protection, mitigation, and environmental (PM&E) measures the Applicant proposes relate to recreation and land use. The Service believes the studies we and other resource agencies have identified are necessary to determine appropriate PM&E measures for the upcoming license period.

The Service requests the opportunity for further review and discussion as the study plans develop from a conceptual phase into more defined proposals.

Study Request 1: American Eel Monitoring Study

Goals and Objectives: To assess if American eel (*Anguilla rostrata*) is currently present below the Lake Lynn dam on the Cheat River and to help inform project operations and fishway prescription needs.

Resource Management Goals: Resource management goals include providing safe, timely, and

effective passage for fish species that migrate. Additional goals include providing passage to fish species which serve as glochidial hosts to freshwater mussels in the Cheat River, in order to prevent negative impacts to fish and mussel populations from the proposed project.

Public Interest: The requestor is a resource agency.

Existing Information: American eels have been documented in the Monongahela River within the past 10 years as far upstream as the Morgantown Lock and Dam, upstream of the confluence of the Cheat River with the Monongahela River. The Lake Lynn Hydropower Project is 3.7 miles upstream on the Cheat River from its confluence with the Monongahela River, therefore there is significant potential for current and future eel habitat usage within the Cheat River below Lake Lynn Hydroelectric project, and within the upstream miles of the Cheat River and tributaries. A preliminary sampling effort was conducted using the technique of environmental DNA (eDNA) detection technology as detailed in the "Project Report: June 2019 qPCR analysis of eDNA filter samples collected at Lake Lynn Dam, Target species: American eel (*Anguilla rostrata*)," dated December 4, 2019 by the Northeast Fishery Center's Conservation Genetics Lab.

Study Methodology: The recommended study uses standardized protocols employed in published literature.

Level of Effort and Cost: The methodology employed by the pilot sampling project described in the December 4, 2019 Project Report has shown that this method is a lower cost technique. This new study would seek to improve on sampling conditions to greatly reduce the influence of above dam released water on the collected samples, and to include areas lower in the Cheat River before its confluence with the Monongahela River.

Study Request 2: Entrainment Study and Mortality Study

Goals and Objectives: The goal of the proposed study is to determine the number of fish that are either entrained or impinged by the project operation, and to examine methods to reduce this injury and mortality to fishes.

Resource Management Goals: The Service's strategic conservation priorities include aquatic connectivity efforts that provide for passage, community protection, and enhanced recreational opportunities using the best available science and decision support tools.

Public Interest: The requestor is a resource agency.

Existing Information: The Service is not aware of previous entrainment studies conducted at the project. The biomonitoring data conducted under prior license conditions and filed in the FERC record can be used to assist in this analysis.

Nexus To Project Operation: Due to the large spacing of the current trash racks, certain sizes of fish are able to pass through the racks and become entrained through the turbines as they operate, causing fish mortality of an unknown quantity.

Study Methodology: The Applicant could use the Service's Turbine Blade Strike Analysis Model as one component of their assessment of current operational impact on entrainment and mortality of fishes. It can be found at https://www.fws.gov/northeast/fisheries/fishpassageengineering.html, along with other Service guidelines such as the Northeast Region Fish Passage Engineering Design Criteria, Fish Passage Design Criteria, and the Federal Interagency Nature-Like Fishway Passage Design Guidelines. Some literature analysis of mortality from Francis units of the diameter that exist at the project could also be utilized.

Level of Effort and Cost: These desktop analyses should be achievable within the one year timeframe.

Study Request 3: Upstream and Downstream Fish Passage Study

Goals and Objectives: The goals of the study are to assess movement of fish through the project area. It would identify likely routes fish would take under a variety of conditions, and assess the feasibility of incorporating alternative routes or additional fish protection measures.

Public Interest: The requestor is a resource agency.

Existing Information: The Service is not aware of previous studies examining passage options for the Lake Lynn Hydroelectric Project.

Nexus To Project Operation: The dam at the project blocks migration of fishes upstream and likely impedes safe, timely, and effective passage downstream. Downstream migration is currently only available through the dam gates, and through the project's powerhouse.

Study Methodology: The methodology would include a literature review of available options for upstream passage of eels, downstream passage bypass of the turbines, and other fish protection measures, in addition to iterative discussions with the Service's fishway engineers and other case studies.

Level of Effort and Cost: We anticipate that evaluating feasibility of passage would be fairly straightforward and not a lengthy process. Discussions with engineers would be necessary to properly assess the feasibility of bypass channels or fish protection structures.

We appreciate the opportunity to provide review and comment on the PAD and draft study proposals developed by the Applicant. We look forward to further discussions with you on how the Applicant can incorporate all the above listed studies. Finally, it would be helpful if the study proposals incorporated into the Draft Study Plan are as detailed as possible so that all parties

know exactly what is being agreed upon when the study plan is approved. If you have any questions regarding this matter, please contact Janet Norman of my staff at 410-573-4533 or Janet_Norman@fws.gov.

Sincerely,

for Genevieve LaRouche
Field Supervisor

cc: Lindy Nelson, Regional Environmental Officer, DOI OPEC

References

U.S. Fish and Wildlife Service. Endangered and Threatened Wildlife and Plants; Removing Trifolium stoloniferum (Running Buffalo Clover) From the Federal List of Endangered and Threatened Plants. 84 FR 44832, August 27, 2019. https://www.govinfo.gov/content/pkg/FR-2019-08-27/pdf/2019-18413.pdf#page=1

U.S. Fish and Wildlife Service. 2019. Fish Passage Engineering Design Criteria. USFWS, Northeast Region R5, Hadley, Massachusetts.

Mon River Trails Conservancy
P.O. Box 282
Morgantown
West Virginia
26507-0282

February 9, 2020

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Mailcode PJ- 12.1
Washington, DC 20426

Re: *Information Request for the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project (FERC No. P-2459-005)*

Dear Ms. Bose,
On behalf of the Monongahela River Trails Conservancy Ltd. (MRTC), I am submitting comments concerning the Relicensing of the Lake Lynn Hydroelectric Project (FERC No. P-2459-005). MRTC is a non-profit 501c3 organization founded in 1991 to develop and manage 40 miles of a 48-mile, tri-county rail-trail network in North Central West Virginia. The remaining 8 miles are managed by the city of Morgantown and Star City, with MRTC as an active partner. The Mon River, Caperton, Deckers Creek Trail network was established as a National Recreation Trail in 1996. MRTC shares with other regional stakeholders the vision of having the Cheat Lake Trail connect with the Sheepskin Trail in Pennsylvania and the Mon River Trail network in West Virginia and ultimately be part of a long-distance trail network that extends from Ohio through West Virginia and Pennsylvania to Washington D.C.

Cube Hydro, in now owning and managing the Cheat Lake Dam aka Lake Lynn Facilities, has continued to provide a wide mix of public recreational options to enjoy the area including hiking, biking, birding, paddling, fishing, swimming, and boating. MRTC supports these recreational activities and would like to see improvements to these recreational opportunities be included in this re-licensing process:

1. To restore the Cheat Lake Trail to its 4.5 mile length by repairing a major wash-out that occurred in the summer of 2019.
2. To plan and build a connection of the Cheat Lake Trail to the Sheepskin Trail at the north end of the 4.5 mile Cheat Lake Trail. This would connect the Cheat Lake Trail into a nearly 60 mile rail-trail network and connect many communities including Point Marion, PA, Morgantown, WV, and Fairmont, WV. This involves opening the gate at the north end of trail and working with other stakeholders to build new trail on Cube Hydro property to link into the Sheepskin Trail corridor. The Sheepskin Trail Corridor is owned by Fayette County, PA and is currently being engineered and built. The Sheepskin Trail is not yet built to Cheat Lake Trail but we anticipate it will be in the next 5 years.
3. To extend the Cheat Lake Trail south on Cube Hydro property and in doing so, open up more area to hiking, biking, birding and fishing.
4. To improve fish, bird, and pollinator habitat along the Cheat Lake Trail.

5. To improve recreational promotion of the Cheat Lake recreation area by hiring on-site recreation staff, by improving public communication (website, social media, phone), and by creating a process for holding events on the Cheat Lake Trail such as walks and runs.

Recreation on the river and neighboring rail-trails ties our communities in West Virginia and Pennsylvania together economically and socially. Bass tournament participants cross city, county and state lines. Both the Monongahela River and Cheat Rivers are regionally promoted water trails, and both paddlers and boaters move up and down the rivers to access different communities. Our rail-trails are used for commuting to work and school, trail tourism, and recreation. Our communities are dependent on each other to provide access, amenities, and tourism services in order to recruit new businesses and people to live in the region and entice visitors into extended stays and return visits.

The Cheat Lake Trail is one of a cluster of rail-trails in the region that provides recreation, a social gathering space, and a chance to connect with nature. It is widely used by local groups such as Hike it Baby, an outdoor meet-up group for families with young children, the Mountaineer Chapter of the National Audubon Society for public birding outings and the Christmas Bird Count, and cycling and running groups for exercise and outdoor recreation. Additionally, the Cheat Lake Trail is a part of a growing 1,500+ mile trail network connecting 50+ counties in four states (WV, OH, PA and NY). The Industrial Heartland Trails Coalition is a group comprised of more than 100 organizations, whose vision and mission it is to advance the trail network by closing gaps and connecting communities to bring health and wealth to communities through trail tourism and safe, equitable trail access by local residents.

Thank you for considering these recommendations from community stakeholders as part of the re-licensing process. Please feel free to contact me at 304-692-6782 or ella@montrails.org with any questions or if you need additional information.

Sincerely,
Monongahela River Trails Conservancy, Ltd.

Ella Belling, Executive Director

Document Content(s)

Owen Mulkeen, Kingwood, WV.
On behalf of Friends of the Cheat, I'd like to start by thanking you for the opportunity to submit comments to be included as part of the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project.
For 25 years, Friends of the Cheat (FOC) and our River of Promise (ROP) partners have worked diligently to restore water quality to the Cheat River and Cheat Lake through reclamation of mine lands and the remediation of acid mine drainage (AMD). Irresponsible mining had left the Cheat and nine of its lower tributaries severely damaged by AMD. Walleye were extirpated by the late 1940s. Historic data collected by WV Division of Natural Resources (DNR) show mean lake pH levels less than 5 between the 1950s and early 1990s. A few pollution tolerant fish species including bullhead catfish and white suckers sought refuge in the lake's sheltered embayments. Massive pollution releases from the T&T mine into Muddy Creek in 1994 and 1995 dropped the pH of the lake to 4. As a result, the Cheat River was named one of America's Most Endangered Rivers in 1995 by the national organization American Rivers. These events catalyzed the formation of Friends of the Cheat and the River of Promise task force.
The efforts of FOC and our ROP partners, most notably the US Office of Surface Mining (OSM) and WV Department of Environmental Protection (DEP), have restored water quality to the Cheat River main stem and Cheat Lake. Over 200 land reclamation and water treatment projects have been implemented with millions of dollars of funds resulting in millions of pounds of AMD pollution removed from the Cheat's tributaries. The river and lake have not seen a pH depression below 6 since 2011 and the main stem has been removed from the state's list of impaired waters for pH impairment. The removal of iron (ferrous hydroxide or "yellow boy") as well as aluminum and manganese is visibly noticeable by reduced staining of rocks near the water's edge as well as armoring of fiberglass boat bottoms, which was a prevalent problem through the '90s.
Improved water quality has fostered the rebound of Cheat Lake's fishery. DNR reports a dramatic recovery of species richness (27-34 species per year) including abundant sportfish such as largemouth and smallmouth bass, yellow perch, and walleye. Fishing tournaments now attract anglers from across the country which benefits the local economy. FOC is particularly excited about the walleye, which research shows are spawning up into the northern reaches of the Cheat Canyon.
With a drainage area of roughly 1400 square miles all flowing down to Cheat Lake, not only does the Cheat River constitute a critical piece of the region's ecosystem, it is also home to a large human population that lives, works and plays within the drainage. Friends of the Cheat recognizes that opportunities to recreate and connect with nature and the outdoors can not only improve the quality of life for a region's citizens, but it also leads to the engagement with and appreciation of our resources that can help prevent them from being squandered and abused. Cheat Lake and the surrounding area already Working to restore, preserve, and promote the outstanding natural qualities
of the Cheat River Watershed since 1994

provides a plethora of outdoor activities; including paddling, boating, fishing, hiking, cycling, birding and more. Cube Hydro has already improved and created recreation
opportunities around Cheat Lake. FOC and key partners have identified several opportunities for additional improvement of recreational opportunities that we believe should be considered as part of this next re-licensing process.

FOC is aware and supportive of the proposal to create a public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill Wildlife Management Area along Buzzard Run. This would provide another trailhead for hikers to enter the WMA, fishermen to access this upper section of the lake usually only reachable by boat, and would provide an egress opportunity for whitewater paddlers running the Lower Cheat Canyon. Despite being located in close proximity to the Cheat Lake and Morgantown metropolitan areas, and providing a wonderfully scenic and exciting float through class 2 rapids in a deep canyon, this section is infrequently paddled. This is mostly due to the 4.5 mile paddle across Cheat Lake to the nearest existing public access at the Ices Ferry bridge, which can be a laborious task in short maneuverable whitewater craft that are well suited for the rapids upstream, not to mention the danger of encounters with fast moving power boats. The creation of a new public access by improving Buzzard Run Road would shorten this flatwater paddle to 1.9 miles and thereby make this whitewater trip much more attractive.

Another opportunity for recreation enhancement in the Cheat Lake area would be to improve access and connectivity of both ends of the existing Cheat Lake Trail. Currently the trail follows the eastern shoreline of Cheat Lake for 4.4 miles and provides opportunities for walking, running, biking and fishing. The north end of the trail can be accessed via a trailhead and steep flight of stairs off of Morgan Run Road. The south end of the trail dead ends abruptly. With the future route of the Sheepskin Trail passing by just to the north, and local businesses, residential neighborhoods, and Coopers Rock State Forest to the south, there lies an opportunity to work towards increased connectivity of these trail system. By doing so, we can enhance the value of these isolated trail sections in such a way that their value becomes greater than the sum of their parts. We recommend that possibilities to extend the southern end of the Cheat Lake Trail, around the peninsula where it currently terminates, to a newly developed trailhead be thoroughly investigated, as well as the streamlining of the northern terminus to avoid the steep stairs and improve the connectivity to the future route of the Sheepskin Trail.

Thank you for this opportunity to comment on the upcoming relicensing of the Lake Lynn Hydroelectric Project.

Sincerely,

Owen Mulkeen
Associate Director
Friends of the Cheat

Document Content(s)

Dave Harshbarger, Morgantown, WV.
Pleas see the Cheat Lake Trail restored at the wash-out and re-opened to the public ASAP from the storm damage in summer of 2019.
A commitment to connecting to the Sheepskin Trail once the Sheepskin Trail is developed to this area.
And an entrance for cyclists and walkers on the northern end with a replacement of the gate and fence to a gate with a bike/ped pass-thru on the Cheat Lake Trail.

Document Content(s)

GARY V MARLIN, WESTOVER, WV.
January 9, 2020

I am a member of the Morgantown community and would like to submit some suggestions to be considered for Project # P-2459. I would like to see the slip on the Cheat Lake Trail repaired and to see a passage way from the Trail through the dam facility so that there will be a connection to the Sheepskin Trail when it comes by the dam.
Respectfully,
Gary Marlin

Document Content(s)

From: Jody Smet

To: Janet_Norman@fws.gov; Megan.K.Gottlieb@usace.army.mil; sean.mcdermott@noaa.gov; Kevin_Mendik@nps.gov; Pond.greg@Epa.gov; clschref@usgs.gov; smwickle@usgs.gov; Jacob.D.Harrell@wv.gov; Danny.A.Bennett@wv.gov; David.I.Wellman@wv.gov; coopersrocksf@wv.gov; Brian.L.Bridgewater@wv.gov; susan.m.pierce@wv.gov; dadrake@pa.gov; peiswerth@pa.gov; hsmiles@pa.gov; olbraun@pa.gov; chnagle@pa.gov; agastbray@moncommission.com; dr.hawk@comcast.net; rmcclure@moncommission.com; vvicites@fayettepa.org; harold.peterson@bia.gov; clint.halftown@gmail.com; ec@delawarenation.com; cbrooks@delawaretribe.org; info@oneida-nation.org; admin@onondaganation.org; wfisher@sctribe.com; cassie@shawnee-tribe.com; tonseneca@aol.com; 106NAGPRA@astribe.com; epaden@delawarenation-nsn.gov; dkelly@delawarenation.com; sbachor@delawaretribe.org; bbarnes@estoo.net; jbergevin@oneida-nation.org; lmisita@oneida-nation.org; jay.toth@sni.org; wtarrant@sctribe.com; tonya@shawnee-tribe.com; darren.bonaparte@srmt-nsn.gov; bprintup@hetf.org; duane330@aol.com; mstrager@gmail.com; ella@montrails.org; amanda@cheat.org; owen@cheat.org; betty.w304@gmail.com; fjernejcic@comcast.net; greystone.poa@hotmail.com; dgriff66@aol.com; seangoodwin@yahoo.com; graceandparke@yahoo.com; kevin@americanwhitewater.org; birvin@americanrivers.org; smoyer@tu.org; colleen@hydroreform.org; DMiller@potesta.com; swelsh@wvu.edu; edgewater@cheatlakedocks.com; stratdouglas@gmail.com; KCampitell@oxforddevelopment.com; shall@jccpgh.org; awagner1595@gmail.com; chestermcgraw@gmail.com; donnaweems@rocketmail.com; davecyndy@frontier.com; szybarnes@yahoo.com; mlutman@comcast.net; Reecejames98@gmail.com; qtrking86@yahoo.com; rogerdalephillips@gmail.com; scalvert@greenrivergroupllc.com; jkotcon@gmail.com; john.spain@ferc.gov; andrew.bernick@ferc.gov; dtrested (Guest); Foster, Joyce; Dale Short; Robert Flickner; Karen Baldwin

Subject: [EXTERNAL] Lake Lynn Project Relicensing (FERC No. 2459) - April 24, 2020 Meeting Notes and REVISED Study Plan

Date: Friday, May 8, 2020 2:57:01 PM

Attachments: image001.png
Lake Lynn Study Plan_04-24-2019 Meeting_Notes.pdf
Lake Lynn Study Plan_May 2020_revised.pdf

Dear Stakeholders,

As follow-up to my email dated April 15, 2020 providing the Lake Lynn Hydroelectric Project (FERC No. P-2459) draft Study Plan for the FERC relicensing and the April 24, 2020 conference call/meeting to discuss the draft Study Plan, I have attached several documents for your review. If you have any comments on the attached revised draft Study Plan, please provide them to us within two weeks, or by May 22, 2020. We are planning to convene several calls with the resource agencies as follow-up to the April 24 call.

I have also attached notes from the April 24 call. Please let us know if we did not capture any discussions correctly. Thank you for your time discussing and reviewing the draft Study Plan.

Please do not hesitate to contact me at (804) 739-0654 or by email at jody.smet@eaglecreekre.com if you have any questions.

Thanks,

Jody Smet, AICP | Director, FERC Licensing and Compliance
Eagle Creek Renewable Energy
Desk: 804 739 0654
Mobile: 804 382 1764
Email: jody.smet@eaglecreekre.com *[Please note my new email - Eagle Creek and Cube Hydro have merged!]*

LAKE LYNN HYDRO GENERATION, LLC
LAKE LYNN HYDROELECTRIC PROJECT (FERC NO. P-2459) RELICENSING

Draft Study Plan Meeting Notes

Meeting Date and Time

Date: April 24, 2020
Time: 11:00 a.m. – 12:30 p.m.
Meeting via MS Teams

Meeting Attendees

Janet Norman - U.S. Fish and Wildlife Service (USFWS)
Greg Pond- U.S. Environmental Protection Agency, Wheeling Office (USEPA)
Harold Peterson - Bureau of Indian Affairs (BIA)
Brian Bridgewater - West Virginia Environmental Protection (WVDEP)
Jacob Harrell - West Virginia Division of Natural Resources (WVDNR)
Danny Bennett - WVDNR
David Wellman - WVDNR
Heather Smiles - Pennsylvania Fish and Boat Commission (PFBC)
Cheryl Nagle - Pennsylvania Historical and Museum Commission (PHMC), State Historic Preservation Office (SHPO)
Erin Paden - Delaware Nation
Andrew Gast-Bray - Monongalia County Planning Commission
Duane Nichols - Cheat Lake Environment and Recreation Association (CLEAR)
Ann Chester - CLEAR
Mike Strager - CLEAR and West Virginia University (WVU)
Owen Mulkeen - Friends of the Cheat (FOC)
Sean Goodwin - Greystone Property Owners Association (POA)
Parke Johnson - Greystone Estates
Kelly Campitell - Emma Kaufmann Camp and Oxford Development Company
Amy Wagner - Mariner Village Resident
Richard Scott - Resident
Jody Smet - Lake Lynn Generation, LLC (Lake Lynn)
Dale Short - Lake Lynn
Bob Flickner - Lake Lynn
Karen Baldwin - Lake Lynn
Joyce Foster - TRC
Elizabeth Krchnavek - TRC
Drew Trested - Normandeau Associates

Notes

Introduction

Jody Smet (Lake Lynn) opened the call and took attendance. She stated that the purpose of the call was to review the draft Relicensing Study Plan distributed, by email, on April 15, 2020 and gather feedback on the proposed studies. Ms. Smet reminded participants that Lake Lynn, the Licensee for the Lake Lynn Project, is using FERC's Traditional Licensing Process (TLP) to relicense the Project and that there is no requirement to prepare a formal study plan and that there would be no FERC review and prior approval of the plan.

Joyce Foster (TRC) led a discussion of the individual study plans proposed in the draft Study Plan by resource area.

Reservoir Shoreline Erosion Survey

Ms. Foster said that WVDNR requested a reservoir sedimentation study at areas where a build-up of sediment occurs (such as Sunset Beach Marina) and develop a plan to monitor and address any sedimentation issues. Ms. Foster added that Lake Lynn conducted a bathymetric survey in the vicinity of the Sunset Beach Marina public boat launch in 2019 and completed sediment removal in early 2020 to restore the public boat launch to full functionality. She said that a report was filed with FERC documenting the completion of this work. She provided an overview of the shoreline erosion surveys of the Cheat Lake shoreline that Lake Lynn will conduct in 2020 in accordance with the existing FERC license.

Duane Nichols (CLEAR) stated that it is important to have a study to look at mitigation options to address any shoreline erosion areas of concern. Ms. Foster responded that the necessity for mitigation as well as mitigation options would be addressed in the License Application.

Water Quality Monitoring

Ms. Foster reviewed the 2020 water quality monitoring effort which will be conducted in accordance with the existing FERC license. She explained that Lake Lynn will continue to monitor and record hourly water quality data from April 1 through October 31 in 2020, provide a an annual report of the monitoring results to USFWS, WVDNR, PFBC, and Pennsylvania Department of Environmental Protection (PADEP) by February 1, 2021 for review and comment and then submit the final annual report to FERC by April 1, 2021.

Ms. Smet added that Lake Lynn would be monitoring dissolved oxygen, water temperature, conductivity, and pH, as required under the existing FERC license. She added that Lake Lynn is very interested in relief from monitoring conductivity and pH under the new FERC license since those parameters are not related to Project operation.

Brian Bridgewater (WVDEP) asked that WVDEP also be included on the distribution of the draft report. Ms. Smet responded that WVDEP will be included and added that all stakeholders on the Project relicensing distribution list will receive the draft study reports.

Duane Nichols (CLEAR) asked about coliform bacteria monitoring to protect the public while recreating in Cheat Lake and using the Cheat Lake Park beach. Ms. Smet added that Friends of the Cheat conducts bacteria monitoring, and the data is available online.

Owen Mulkeen (FOC) added that FOC does do water quality sampling at the Cheat Lake Park beach. He said that FOC monitors throughout the Cheat River watershed two times a month during the summer and one time a month during the remainder of the year.

Streamflow Data Collaboration

Ms. Foster reviewed the proposed streamflow data collaboration in response to the USFWS comments and additional information request. She noted that the USFWS requested additional information so that it could fully evaluate the seasonality, duration, and magnitude of streamflow into the Project, including the existing Project Instream Flow Study discussed in the PAD, and revised flow duration curves. She said that Lake Lynn will provide the USFWS with the Project Instream Flow Study and collaborate on the presentation of the flow duration curves and revise the curves, as necessary.

Janet Norman (USFWS) stated that the flow duration curves provided in the PAD were insufficient for their review. Ms. Smet acknowledged this comment and suggested scheduling a separate call with USFWS and other interested parties to discuss this further so that Lake Lynn can better understand the USFWS' information needs. She stated that the information developed for this effort would be provided to all stakeholders on the Project relicensing distribution list.

Desktop Fish Entrainment Assessment

Ms. Foster provided an overview of the proposed desktop entrainment study to determine the number of fish that are either entrained or impinged by Project operation and to estimate the injury and mortality of fish that pass through the turbines during Project operation. She explained that Lake Lynn is proposing to contract with Normandeau Associates to conduct a desktop fish entrainment assessment for the Project that includes the elements listed in the study plan.

Ms. Norman (USFWS) noted that the USFWS has expertise in this area and advised Lake Lynn to take advantage of this expertise. She suggested that Lake Lynn and Normandeau Associates involve herself and Jessica Pica, a USFWS fishway engineer, early to avoid concerns over the validity of the study later in the process. She stated that the intake velocity measurements is useful for an impingement analysis if the trash rack spacing is small enough to be an exclusion, but if the rack spacing is wide enough to permit entrainment, then velocity is not as meaningful since fish can swim through the trash racks. Bob Flickner (Lake Lynn) confirmed that the trash rack spacing is 4 inches at Lake Lynn. Ms. Norman added that generally ¾ inch spacing is recommended for eels.

Jacob Harrell (WVDNR) asked if the proposed study includes a field component to verify the results. Ms. Smet responded that Lake Lynn will focus on the desktop analysis in Year 1, but a field verification could be a Phase 2 to this study in 2021, if warranted. Ms. Norman added that

desktop intake velocity generally looks at averages of various projects, so it is likely that field verification is needed.

Ms. Foster stated that it sounded like a separate call with USFWS would be warranted to discuss further the types of resources and expertise available with USFWS.

American Eel Environmental DNA Sampling

Ms. Foster provided an overview of the proposed American Eel environmental DNA (eDNA) sampling. She stated that the USFWS requested that Lake Lynn continue the American eel monitoring that was conducted in 2018 and 2019 under the Project Aquatic Biomonitoring Plan. She added that the USFWS and WVDNR also requested that Lake Lynn assess movement of fish throughout the Project area and assess the feasibility of incorporating alternative routes or additional fish protection measures at the Project.

Ms. Foster explained that Lake Lynn, in accordance with the Project Aquatic Biomonitoring Plan, worked collaboratively with the USFWS to select four sampling locations in the Project tailwater and to collect quarterly samples in 2018 and 2019 to sample the Project tailwater for American eel eDNA. She said that concerns have been raised by the USFWS and WVDNR regarding the sampling locations and whether the locations were representative of the tailwater. She stated that Lake Lynn will initiate the second year of sampling by working collaboratively with the USFWS, WVDNR, and PFBC to determine if there should be any adjustments to the four sampling locations in the Project tailwater or any adjustments to the methodology. She added that Lake Lynn will work with the USFWS to continue to collect the quarterly samples in accordance with the USFWS' Protocol and that Lake Lynn will coordinate with the USFWS to provide the samples to the USFWS Lab in Lamar, PA for analysis. She noted that Lake Lynn anticipates that the quarterly sample periods will be April-June 2020, July-September 2020, October-December 2020, and January-March 2021.

Ms. Foster said that once the second year of sampling results are available, Lake Lynn will consult with the USFWS, WVDNR, and PFBC to determine if any additional fish passage assessment is warranted.

Ms. Norman (USFWS) expressed a concern with the proposed sampling locations and schedule. She said that the sampling locations and schedule will need to be finalized by May to be able to obtain the first sample before the end of June. Ms. Smet acknowledged this concern and said she would schedule a call within the next couple of weeks to discuss the sampling locations. Ms. Norman also asked for an update on the overall schedule in relation to COVID-19. Ms. Smet explained that it is her current understanding that although some regulatory deadlines have been extended due to COVID-19, statutory required dates, such as the Draft License Application, have not been extended.

Tailwater Mussel Survey

Ms. Foster provided an overview of the proposed tailwater mussel survey. She noted that this study was added in response to the USFWS request for a mussel survey in the tailwater area to assess this component of the aquatic community. She stated that Lake Lynn will conduct a

mussel survey to evaluate the likelihood of the presence or absence of mussels within the Project boundary downstream of the Project dam (approximately 200 meters downstream of the dam at the furthest point). She said that Lake Lynn will prepare a survey plan and coordinate with WVDNR and USFWS for approval. The survey plan will outline the methods and approach for conducting the mussel survey. WVDNR and USFWS review of the survey plan will be required prior to initiating fieldwork.

Ms. Norman (USFWS) expressed a concern that the extent of the surveyed area downstream of the dam is not sufficient. Ms. Norman added that she is not the local expert, so she would welcome opinion from state and local experts. Mr. Harrell (WVDNR) commented that that the current proposed study does not meet the West Virginia Mussel Protocol regarding survey extent below the dam. Mr. Harrel stated that they would generally require the mussel survey area to extend one kilometer below the dam.

Ms. Smet explained that the mussel survey as proposed would be conducted within the Project boundary since the Project boundary is drawn to include the entire area impacted by the Project. She added that the study plan includes development of a survey plan. She suggested having a separate call with interested parties, including WVDNR and USFWS, to further discuss the survey plan and the area that would be surveyed.

Aquatic Habitat Enhancement and Monitoring

Ms. Foster provided an overview of the installation and monitoring of fish habitat enhancement structures that is currently underway in accordance with the Project Aquatic Biomonitoring Plan, developed in consultation with USFWS, WVDNR, and PFBC. She stated that Lake Lynn worked with WVDNR and West Virginia University in 2019 to purchase and install artificial fish habitat structures along the Cheat Lake shoreline and to monitor their effectiveness. She explained that Lake Lynn and the resource agencies (USFWS, WVDNR, and PFBC) determined that a second year of monitoring in 2020 was warranted and a scope was developed. She said that during February 2020, artificial spawning structures were placed at two sites on Cheat Lake, which also have benthic artificial habitat reefs that were placed during 2019 aquatic habitat enhancement and monitoring efforts. She said that the structures and reefs were checked daily for the presence of egg masses during the spring spawning period. Ms. Smet added that Stuart Welsh with West Virginia University removed the structures earlier in the week. Ms. Foster stated that a study report will be developed and provided to the USFWS, WVDNR, and PFBC and to all stakeholders on Lake Lynn's relicensing distribution list.

No comments were provided on this study.

Angler Creel Survey

Ms. Foster stated that the most recent Project Aquatic Biomonitoring Plan, developed in consultation with USFWS, WVDNR, and PFBC, includes an angler creel survey to be conducted in 2020 to document baseline recreational fishing effort and success. She added that Lake Lynn consulted with the resource agencies in December 2019 and January 2020 on a workplan and survey instrument for the survey and initiated the angler creel survey in January 2020 utilizing a

standardized questionnaire, which has been administered via survey boxes and in-person interviews at public access points at the Project. She explained that Lake Lynn has decided to postpone the continuation of the angler creel survey until 2021 based on recent communication with the WVDNR and concerns about conducting angler surveys, which involve public interaction, during the COVID-19 outbreak and stay-at-home orders. She noted that this decision was made since the draft Study Plan was distributed.

No comments were provided on this proposal.

Rare Species Survey

Ms. Foster stated that the PAD proposed a study to conduct presence/absence surveys for rare, threatened and endangered (RTE) species that are likely to occur within the Project boundary. She explained that the USFWS provided comments as follow-up to the Joint Meeting and Site Visit stating that the proposed presence/absence surveys for RTE species may not be warranted. Ms. Foster added that Lake Lynn is no longer proposing to conduct these RTE surveys.

No comments were provided on this proposal.

Recreation Site Enhancement Feasibility and Assessment

Ms. Foster provided an overview of a proposed study that was not included in the PAD. She stated that several stakeholders have requested recreation site enhancements or new recreation sites at the Project, including working with stakeholders on planning and building a connection from the Cheat Lake Trail to the Sheepskin Trail, connection to other regional trails, extension of the Cheat Lake Trail toward the south, and extension of the swimming beach area to create a dog beach. She noted that FOC also requested creating public access to the upper reaches of Cheat Lake by improving an existing gated road in the Snake Hill Wildlife Management Area. She added that Lake Lynn will evaluate the feasibility of the recreation site/facility enhancements requested by stakeholders which would include both desktop and in-field assessments.

Mr. Nichols (CLEAR) commented that the previous Project owners committed to making a connection to the Sheepskin Trail once it is developed. He noted that the connection is desirable and beneficial to the region and added that this study really is not necessary. Ms. Smet responded by adding this specific trail connection must consider proximity to the Lake Lynn Powerhouse and Project access and security.

Andrew Gast-Bray (Monongalia County Planning Commission) stated that they support efforts to achieve trail connectivity and offered planning assistance. Ms. Smet thanked Mr. Gast-Bray for the support and stated that Lake Lynn looks forward to working with them.

Ms. Norman (USFWS) stated that connecting people with nature is a USFWS mission. She added that they rely on the National Park Service (NPS), state agencies, and local governments for their expertise in the topic of recreation, and they welcome comments from those entities regarding recreation for USFWS consideration and potential support.

Recreation Use and Recreation Facility Inventory

Ms. Foster noted that Lake Lynn began collecting recreation use data in January 2020 in accordance with FERC's approval of the 2018 Recreation Plan Update, and that Lake Lynn will collect the required recreation use data through December 2020. She explained that instead of conducting an independent study to inventory the existing Project recreation sites, as proposed in the PAD, Lake Lynn will conduct the inventory to update and expand the discussion in the next Recreation Plan Update. She added that the field inventory will be conducted during the summer of 2020 and include: identifying the amenities or facilities at each Project recreation site, photographs of the sites, and an evaluation of the overall condition of each site. She noted that recreation use data and inventory will be summarized in the next Recreation Plan Update that must be filed with FERC by March 31, 2021.

No comments were provided on this proposal.

Shoreline Classification and Aquatic Habitat Mapping

Ms. Foster provided an overview of the proposed follow-up study to the Cheat Lake Dock and property management system. She reminded the group that this system was discussed and shown during the December 2019 Joint Meeting. She explained that Lake Lynn is proposing to classify the Cheat Lake shoreline and develop an aquatic habitat map of Cheat Lake. Ms. Smet noted that Lake Lynn has Mike Strager, with Strager Consulting/West Virginia University under contract for this effort. She added that this information will be used in the development of a Shoreline Management Plan for the Project and will be used to create datasets to assist Lake Lynn in managing shoreline uses, which has been raised as an issue. She stated that the datasets for the shoreline classification and the aquatic habitat mapping will be added to the online map viewer of the Cheat Lake Dock and property management system that Lake Lynn is using.

No comments were provided on this proposal.

Cultural Resources (Section 106) Consultation

Ms. Foster stated that no studies related to cultural resources have been requested at the Project. She explained that Lake Lynn will initiate formal consultation with the West Virginia and Pennsylvania SHPOs to inform the development of the License Application.

Cheryl Nagle (Pennsylvania SHPO) stated that the letter provided from the Pennsylvania SHPO in June 2019 noted that there may be National Register-eligible above ground resources in the Project area. She added that there are structures indirectly related to the construction of the dam outside the Area of Potential Effect (APE). Ms. Nagle also stated that it is likely that an Inadvertent Discovery Plan may be required due to the location of the Project. Ms. Nagle stated that she wanted to confirm that all Tribes with potential interest are consulted. Ms. Foster confirmed that potentially interested Tribes have been included on the Project relicensing distribution list, and will continue to be included.

Erin Paden (Delaware Nation) asked to be kept updated during the study process.

Mr. Nichols (CLEAR) requested that Lake Lynn consider the historic aspects of the Project area, such as the Ices Family First Birth, iron used in Cheat River coal mining, and the millstone industry.

Wrap-Up

Mr. Nichols (CLEAR) asked for an update on the Cheat Lake South Trail repair. Ms. Smet responded that Lake Lynn is pursuing various options for repairing the trail. She stated that various permits and consultation are required, and that Lake Lynn is currently working to obtain the required permits and approvals from the U.S. Army Corps of Engineers (USACE), Pennsylvania Department of Environmental Protection (PADEP), WVDNR, and SHPO for replacing the existing culvert with a larger culvert. Mr. Nichols asked if the work to be done is just in the one area. Mr. Flickner stated that most of the work is the washout, but a few small improvements in other locations will be needed.

Mr. Nichols requested an update on the opening of the boating season in relation to potential impacts from COVID-19. Ms. Smet explained that due to COVID-19, certain facilities such as picnic tables, playgrounds, and restrooms have been temporarily closed. Mr. Flickner confirmed that at this time, the boating season is still planned to begin May 1, and the lake level will be raised accordingly.

Ms. Smet said that Lake Lynn will distribute the meeting notes soon and she will schedule follow-up calls specific to several studies with the appropriate agencies. She added that a revised Study Plan will be distributed. She encouraged the participants to reach out to herself or Ms. Foster with any other comments or questions. She concluded the call at 12:30 p.m.

Lake Lynn Hydroelectric Project (FERC No. P-2459)
Revised Study Plan
May 2020

Background

Lake Lynn Generation LLC (Lake Lynn or Licensee) is relicensing the Lake Lynn Hydroelectric Project (FERC No. P-2459) (Project) with the Federal Energy Regulatory Commission (FERC). The current FERC license for the Project expires on November 30, 2024. The Project is located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania (Attachment 1).

Lake Lynn initiated the relicensing process in August 2019 by filing a Notice of Intent (NOI) and Pre-Application Document (PAD). At the same time, Lake Lynn requested FERC approval to use the Traditional Licensing Process (TLP). FERC approved the use of the TLP in October 2019, and in accordance with FERC regulations, Lake Lynn held a Joint Meeting and Site Visit in December 2019. Following the Joint Meeting and Site Visit, resource agencies and other stakeholders were afforded the opportunity to comment on the PAD and to request resource studies that they deemed were needed to evaluate Project impacts on natural, cultural and recreational resources.

In response to the NOI/PAD filing and the Joint Meeting and Site Visit, Lake Lynn received written comments and study requests from the U.S. Fish and Wildlife Service (USFWS), West Virginia Division of Natural Resources (WVDNR), Cheat Lake Environment and Recreation Association (CLEAR), Friends of the Cheat (FOC), Monongahela River Trails Conservancy (MRTC), and individual residents in the local community. A summary of the study requests and comments is provided in Attachment 2. The complete study requests are provided in Attachment 3.

Based on the comments received, Lake Lynn developed and distributed a draft Study Plan to the resource agencies and stakeholders on April 15, 2020 for review. Lake Lynn held a conference call/meeting on April 24, 2020 to review and discuss the draft Study Plan. The draft Study Plan has been revised based on the discussions and a revised Study Plan is being distributed to resource agencies and stakeholders for additional review and comment.

Lake Lynn is utilizing the TLP. There is no requirement to prepare a formal study plan document as is required in the Integrated Licensing Protocol (ILP), and therefore, there is no subsequent study plan determination by FERC. Nonetheless, Lake Lynn has prepared this Study Plan to document and share with resource agencies and stakeholders its plans for conducting resource studies and ongoing monitoring efforts in 2020 to inform the relicensing process. The individual study plans detailed below are proposed for the Project relicensing.

1.0 Geology and Soils

1.1 Reservoir Shoreline Erosion Survey

Study Request

WVDNR requested the Licensee conduct a reservoir sedimentation study at areas that have demonstrated an affinity for a build-up of sediment (i.e., Sunset Beach Marina) and develop a plan to monitor and address any sedimentation issues. WVDNR suggested that the Licensee examine possible sources of sedimentation within the reservoir and identify potential preventive measures that could be taken to reduce the level of sedimentation in those areas where sediment builds up (i.e., Sunset Beach Marina). In addition, CLEAR requested that the Licensee continue monitoring and remediation of the ongoing shoreline erosion.

Study Goals

Article 402 of the existing FERC License requires the Licensee to: 1) conduct annual shoreline erosion surveys of the Cheat Lake Park shoreline extending from the dam to the Cheat Haven peninsula and 2) conduct triennial shoreline erosion surveys of the entire Cheat Lake shoreline to identify new areas of erosion. Since 1995, the Licensee has been conducting shoreline erosion surveys and documenting areas of shoreline erosion within the Project boundary, which can influence sedimentation in Cheat Lake. In recent years, no new areas of active shoreline erosion have been identified and previously identified areas have exhibited minimal annual changes, therefore, the Licensee believes that an additional study is not warranted at this time. The goals of this study are to: 1) conduct a visual shoreline erosion survey of the Cheat Lake Park shoreline extending from the dam to the Cheat Haven peninsula to evaluate changes in shoreline erosion monitoring stations where historic erosion has been observed and 2) conduct a shoreline erosion survey of the entire Cheat Lake shoreline to identify new areas of erosion.

Study Scope

For the upcoming 2020 annual shoreline erosion survey of the Cheat Lake Park shoreline, the Licensee will conduct a visual survey by boat of the Cheat Lake Park shoreline extending from the dam to the Cheat Haven Peninsula. During the survey, the boat will be kept as close to the shoreline as practical to allow for careful observation. Sixteen (16) shoreline erosion monitoring stations where historic erosion has been observed will be visually inspected and photographed for future reference and comparison. Any evidence of new areas of erosion will be noted and photographed. Additionally, for the 2020 shoreline erosion survey, the same scope will be performed along the entire reservoir shoreline to identify and document any new areas of erosion. The Licensee will prepare a report summarizing the results of the shoreline survey.

Study Schedule

The Licensee anticipates that the shoreline erosion survey will be conducted in November or December 2020, when the reservoir level is lowered and vegetation has died back. This timing is consistent with the timing in previous years. It is anticipated that the annual report will be filed with FERC by February 2021 and a copy of the annual report will be provided to stakeholders included on the Project Relicensing Distribution List.

2.0 Water Resources

2.1 Water Quality Monitoring

Study Request

At this time, no stakeholders have requested new studies related to water quality at the Project. However, the USFWS and WVDNR requested the existing water quality monitoring be continued throughout the term of the new License.

Study Goals

In accordance with the existing FERC License (Article 405) and the Project Water Quality Monitoring Plan (West Penn Power Company, 1995), the Licensee will continue to monitor water quality and report the results to USFWS, WVDNR, Pennsylvania Fish and Boat and Commission (PFBC), Pennsylvania Department of Environmental Protection (PDEP), West Virginia Department of Environmental Protection (WVDEP), and FERC annually during the relicensing process. The water quality data will be used in the development of the License Application.

Study Scope

In accordance with the existing FERC License (Article 405) and the Project Water Quality Monitoring Plan (West Penn Power Company, 1995), the Licensee will continue to monitor and record hourly water quality data from April 1 through October 31 on an annual basis during the relicensing process. For the purposes of this 2020 relicensing study, the Licensee will collect dissolved oxygen and water temperature from April 1, 2020 through October 31, 2020 at the existing three locations in conjunction with U.S. Geological Survey (USGS) gages located in Cheat Lake, the Project tailrace, and downstream of Grassy Run. The Licensee will prepare and provide an annual report of the monitoring results to USFWS, WVDNR, PFBC, and PDEP for review and comment. The Licensee will submit the final annual report to FERC.

Study Schedule

For this 2020 relicensing study, the Licensee will monitor and record hourly water quality data from April 1 through October 31, 2020. The Licensee will provide an annual report of the monitoring results to USFWS, WVDNR, PFBC, PDEP, and WVDEP within 90 days (by February 1, 2021) of the end of the monitoring season. The Licensee will file the final annual report with FERC within 150 days following the end of the monitoring season (by April 1, 2021). The Licensee will provide a copy of the annual report to stakeholders included on the Project Relicensing Distribution List.

2.2 Streamflow Data Collaboration

Additional Information Request

The USFWS requested additional information so that it could fully evaluate the seasonality, duration, and magnitude of streamflow into the Project. The USFWS requested the existing Project Instream Flow Study (EA Engineering, Science, and Technology, Inc. (EA Engineering),

2014) discussed in the PAD and noted that, without this information, the USFWS may have remaining questions and recommend an Instream Flow Study. The USFWS also requested the graphs (Flow Duration Curves) in Appendix E of the PAD be revised so that the maximum flow event(s) and duration for the period of record (2016 to 2019) is displayed separately from the rest of the graphs.

The Licensee will provide additional information to the USFWS, WVDEP, WVDNR, PFBC to assist with evaluating the seasonality, duration, and magnitude of streamflow into the Project. The Licensee will provide the USFWS, WVDEP, WVDNR, and PFBC with the Project Instream Flow Study and supporting information referenced in the PAD. The Licensee will also collaborate with the USFWS , WVDEP, WVDNR, and PFBC on the presentation of the Flow Duration Curves and revise the curves in a manner that will assist the resource agencies with their evaluation. The Licensee plans to provide the USFWS, WVDEP, WVDNR, and PFBC with the Project Instream Flow Study by May 2020. The Licensee also plans to collaborate with the USFWS, WVDEP, WVDNR, and PFBC on the presentation of the Flow Duration Curves and provide revised curves by October 2020. The Licensee will provide a copy of this additional information to stakeholders included on the Project Relicensing Distribution List.

3.0 Fish and Aquatic Resources

3.1 Desktop Fish Entrainment Assessment

Study Request

The USFWS and WVDNR requested the Licensee conduct a desktop entrainment study to determine the number of fish that are either entrained or impinged by Project operation and to estimate the injury and mortality of fish that pass through the turbines during Project operation. WVNDR also recommended a field component to verify results.

Study Goals

The goals of this study are to 1) conduct a desktop assessment of the potential for impingement/entrainment and 2) estimate the numbers of fish entrained at the Project.

Study Scope

The Licensee will conduct a desktop fish entrainment assessment for the Project that includes the following:

- A description of the Project reservoir, intake structure, turbine units, and seasonal operational regime;
- Summary of available fisheries information historically collected in the Cheat River upstream of the Project;
- Life history and habitat requirements for target fish species;
- Assessment of impingement and entrainment potential as a function of (1) the existing rack spacing, (2) calculated approach velocities, (3) the physical dimensions of target fish species, and (4) the swim capabilities (i.e., burst speed) of target fish species;

- Review of information contained in the 1997 Electric Power Research Institute (EPRI) database to provide a summary of (1) the size class composition of target fish species, (2) entrainment densities of target fish species, and (3) calculated survival rates of target species for the subset of hydroelectric projects comparable to the Project;
- Calculation of site-specific turbine passage survival rates for target fish species using the USFWS Turbine Blade Strike Analysis Tool (TBSA); and
- Utilize seasonal species/size class-specific entrainment densities from comparable projects and project-specific discharge volumes to generate estimates of numbers of fish entrained at the Project.

The results of the desktop assessment will be documented in a study report.

Study Schedule

The desktop fish entrainment assessment will be conducted during the period June through December 2020, with a draft report for stakeholder review anticipated in January 2021.

3.2 American Eel Environmental DNA Sampling

Study Request

The USFWS requested the Licensee continue the American eel monitoring that was conducted in 2018 and 2019 under the Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a). For this second year of collecting water samples for American eel environmental DNA (eDNA), USFWS requested that the Licensee improve sampling locations and include areas lower in the Cheat River before the confluence with the Monongahela River. WVDNR supported the USFWS request for additional analysis of Project waters for American eels. The USFWS and WVDNR also requested the Licensee assess movement of fish throughout the Project area and assess the feasibility of incorporating alternative routes or additional fish protection measures at the Project. The USFWS' proposed methodology includes a literature review of available options for upstream passage of eels, downstream passage bypass of the turbines, and other fish protection measures, in addition to discussions with the USFWS fishway engineers.

Study Goals

In accordance with the Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), developed in consultation with the USFWS, WVDNR, and PFBC, the Licensee worked collaboratively with the USFWS to select four sampling locations in the Project tailwater and to collect quarterly samples in 2018 and 2019 to sample the Project tailwater for American eel environmental DNA (eDNA). No American eel eDNA has been detected to date, however, concerns have been raised by the USFWS and WVDNR regarding the sampling locations.

The goals of the second year of American eel eDNA sampling are to: 1) collaborate with the USFWS, WVDNR, and PFBC to determine if the sampling locations used in the first year of the sampling need to be adjusted; and 2) continue the American eel eDNA sampling performed in 2018 and 2019 to determine whether American eels are present in the tailwater.

Study Scope

The Licensee will initiate the second year of sampling by working collaboratively with the USFWS, WVDNR, and PFBC to determine if there should be any adjustments to the four sampling locations in the Project tailwater or any adjustments to the methodology. The Licensee will work with the USFWS to continue to collect quarterly samples at four sampling locations in the Project tailwater in accordance with the USFWS' Protocol, *Field Collection of Environmental DNA (eDNA) Water Samples from Streams* (USFWS, no date) and additional training from the USFWS. The Licensee will coordinate with the USFWS to provide the samples to the USFWS Northeast Fishery Center Conservation Genetics Lab in Lamar, Pennsylvania for analysis. Once the second year of sampling results are available, the Licensee will consult with the USFWS, WVDNR, and PFBC to determine if any additional fish passage assessment is warranted.

Study Schedule

The Licensee will finalize the quarterly sampling schedule with the USFWS, WVDNR, and PFBC by June 2020. The Licensee anticipates that the quarterly sample periods will be April-June 2020, July-September 2020, October-December 2020, and January-March 2021. The sample results will be provided to the Licensee by the USFWS Lamar lab. The Licensee will provide the results upon receipt to the USFWS, WVDNR, and PFBC. The Licensee will also provide copies of these results to stakeholders included on the Project Relicensing Distribution List.

3.3 Tailwater Mussel Survey

Study Request

The USFWS requested that a mussel survey be conducted in the tailwater area and downstream reaches to assess this component of the aquatic community.

Study Goals

The goal of this study is to conduct a mussel survey within the Project boundary downstream of the Project dam to document mussel habitat (location, depth, and substrate) and the occurrence density, distribution, and relative abundance of any mussel species present.

Study Scope

The Licensee will conduct a mussel survey to evaluate the likelihood of the presence or absence of mussels within the Project boundary downstream of the Project dam (approximately 200 meters downstream of the dam at the furthest point). The area inside the Project boundary downstream of the dam is in West Virginia and ends at the Pennsylvania/West Virginia state line (Attachment 1). A malacologist experienced in mussel collection and qualified to work in West Virginia will lead all mussel sampling efforts.

The Licensee will prepare a survey plan and review the survey plan with USFWS and WVDNR. The survey plan will outline the methods and approach for conducting the mussel survey following the West Virginia Mussel Protocol (Protocol) guidelines[1].

The Licensee will evaluate for mussel presence/absence within the Project boundary downstream of the dam. The Licensee will survey approximately 7-8[2] transects spaced 25 meters apart that will span bank to bank and include a downstream buffer of 25 meters. Snorkeling and surface supplied air diving will be used to visually and tactilely search for mussels at the substrate surface and minor excavation will occur where appropriate to ensure recovery of buried mussels. Qualitative timed searches will be employed based on mussel and habitat distribution along transects throughout the survey area. Search effort will meet minimum Protocol requirements (1 min/m^2 in heterogenous substrates).

A report summarizing mussel habitat, survey observations, occurrence, location maps, density, distribution, and relative abundance of any mussel species present within survey area will be prepared. Figures will present mussel distribution and high-quality habitat areas within the survey area.

Study Schedule

The mussel survey will be conducted during the period June through October 2020. It is anticipated that a draft report will be available for stakeholder review in December 2020.

3.4 Aquatic Habitat Enhancement and Monitoring

Study Request

The Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), developed in consultation with USFWS, WVDNR, and PFBC, includes the installation and monitoring of fish habitat enhancement structures. The Licensee worked with WVDNR and West Virginia University in 2019 to purchase and install artificial fish habitat structures along the Cheat Lake shoreline and to monitor their effectiveness. The Licensee reviewed the results of the 2019 activities with the USFWS, WVDNR, and PFBC and determined that a second year of monitoring in 2020 was warranted (Lake Lynn, 2020b). A scope for the second year of monitoring was developed in consultation with the USFWS, WVDNR, and PFBC (Welsh, 2019). No new studies related to fish aquatic habitat enhancement and monitoring at the Project have been requested.

[1] Based on the Licensee's review of the West Virginia Mussel Protocol, the study area would be classified as a Group 3 stream for a non-scoping project since the Licensee is not proposing any changes to the Project.

[2] The exact number will depend on how close the first transect can be safely conducted below the dam.

Study Goals

The goals of the 2020 aquatic habitat enhancement and monitoring are to: 1) document the timing of spawning, as well as examine spawning habitat characteristics, i.e., water depth, distance from shore, and water tubidity; and 2) examine water level fluctuation as a variable of influence on the timing of spawning, as well as its role in the potential for egg dewatering.

Study Scope

During February 2020, forty artificial spawning structures were placed (submerged) at two sites on Cheat Lake (Welsh, 2019). Each site will also have four benthic artificial habitat reefs, which were placed during 2019 aquatic habitat enhancement and monitoring efforts. The forty artificial spawning structures and the eight artificial reef areas will be checked daily for the presence of egg masses during the expected spring spawning period. The artificial spawning structures will be checked by removing them from the water, and the reef structures will be checked with an underwater camera. The presence/absence of egg masses will be recorded and the number of egg masses on each spawning or reef structure will be counted. A subsample of egg masses will be evaluated to estimate the average number of eggs per egg mass.

Additional habitat data will be recorded daily, primarily at the time when spawning structures are checked and will include water depth at the spawning structure, distance of the structure to the nearest shoreline's high water mark (i.e. full pool elevation level), distance of the structure to the nearest shoreline's current water level, surface water temperature, bottom water temperature using data loggers at depth ranges from shallow to deep water consistent with habitat unit placement, and secchi disk depth at each site to provide an index of water turbidity.

A study report will be developed and provided to the USFWS, WVDNR, and PFBC in accordance with the scope for the second year of aquatic habitat enhancement and monitoring (Welsh, 2019).

Study Schedule

Artificial spawning structures were placed (submerged) in February 2020 at two sites on Cheat Lake. The structures will be monitored daily until the end date of the spawning period has been determined. A study report will be developed and provided to the USFWS, WVDNR, and PFBC by August 2020. The Licensee will provide a copy of the report to stakeholders included on the Project Relicensing Distribution List.

3.5 Angler Creel Survey

Study Request

The Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), developed in consultation with USFWS, WVDNR, and PFBC, includes an angler creel survey component (a sampling survey that targets recreational anglers) to be conducted in 2020 to document a baseline of recreational fishing effort and success. At this time, no new studies related to angling or creel surveys at the Project have been requested.

Study Goals

The goal of the angler creel survey is to document a baseline of recreational fishing effort and success.

Study Scope

In accordance with the Project Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018a), the Licensee consulted with the resource agencies in December 2019 and January 2020 on a workplan (Lake Lynn, 2020a) and survey instrument (Lake Lynn, 2020b) for the angler creel survey. The Licensee initiated the angler creel survey in January 2020 and temporarily suspended the survey in April 2020 due to COVID-19, but will initiate the survey again in 2021 in consultation with USFWS, WVDNR, and PFBC.

The Licensee will conduct the survey utilizing a standardized questionnaire (administered via survey boxes and in-person interviews) at the following locations:

- Upper Cheat Lake: Ices Ferry Bridge access, Edgewater Marina, Lakeside Marina;
- Middle Cheat Lake at the Sunset Beach Marina public boat ramp/dock;
- Lower Cheat Lake at Cheat Lake Park (the winter boat ramp, the fishing pier at Morgan Run, and the fishing pier at Rubles Run); and
- Lake Lynn Project Tailwater Fishing Pier.

A report summarizing the results of the survey will be developed in accordance with the Aquatic Biomonitoring Plan (2018-2020) (Lake Lynn, 2018) and the Angler Creel Survey Workplan (Lake Lynn, 2020a). Information collected during the survey will provide useful information on recreational angling.

Study Schedule

The Licensee initiated the angler creel survey in January 2020 and temporarily suspended the survey in April 2020 due to COVID-19, but will initiate the survey again in 2021 in consultation with USFWS, WVDNR, and PFBC. A report summarizing the results of the survey will be provided to USFWS, WVDNR, and PFBC, with a report anticipated in January 2022. The Licensee will provide a copy of the report to stakeholders included on the Project Relicensing Distribution List.

4.0 Rare, Threatened and Endangered Species

4.1 Rare Species Survey

In the PAD, the Licensee proposed to conduct presence/absence surveys for rare, threatened and endangered (RTE) species that are likely to occur within the Project boundary. The USFWS provided comments on the four federally listed species with the potential to occur in the Project area that were discussed in the PAD (Indiana bat, northern long-eared bat, running buffalo clover, and the flat-spired three toothed snail) and noted that except for occasional transient individuals, no other federally proposed or listed threatened or endangered species are known to exist within the Project area. The USFWS noted that the proposed presence/absence surveys for

RTE species may not be warranted; therefore, the Licensee is no longer proposing to conduct these surveys.

5.0 Recreation and Land Use

5.1 Recreation Site Enhancement Feasibility and Assessment

Study Request

Several stakeholders have requested recreation site enhancements or new recreation sites at the Project.

MRTC, CLEAR, FOC, and several individuals requested that the Licensee work with stakeholders on planning and building a connection from the Cheat Lake Trail to the Sheepskin Trail, including opening the gate at the northern end of the trail to create a passageway from the northern end of the Cheat Lake Trail through the dam facility. CLEAR also requested a continued commitment for a connection to other regional trails.

MRTC and FOC have requested the Licensee extend the Cheat Lake Trail toward the south.

FOC requested the Licensee create public access to the upper reaches of Cheat Lake by improving an existing gated road in the Snake Hill Wildlife Management Area (WMA) along Buzzard Run to provide a trailhead for hikers, angler access to upper Cheat Lake, and egress for whitewater paddlers running the Lower Cheat Canyon. WVDNR commented that it is unequivocally opposed to creating public access to the upper reaches of Cheat Lake by opening a gated road that passes through Snake Hill WMA property because continued maintenance of the access road would be problematic and an undue burden for the State of West Virginia and the Licensee with very little benefit to the WVDNR's prime constituents.

CLEAR requested the Licensee extend the swimming beach area toward the day-use boat docks to create a dog beach. CLEAR also requested the Licensee add additional picnic tables in this area.

Study Goals

The goals of this study are to evaluate the feasibility of the recreation site/facility enhancements requested by stakeholders at the Project, as described in the Study Scope.

Study Scope

The Licensee will evaluate the feasibility of making certain recreation site/facility enhancements at the Project. Specific enhancements to be evaluated include:

- Connection from the Cheat Lake Trail to the Sheepskin Trail at the northern end of the Cheat Lake Trail;
- Extension of the Cheat Lake Trail toward the south;
- Public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill WMA along Buzzard Run; and
- Extension of the swimming beach area to create a dog beach.

The feasibility assessment will include both desktop and in-field assessments. The desktop phase will examine existing tax and property records to determine property ownership and access limitations associated with each site or enhancement. The Licensee will also assess safety and security concerns and considerations associated with Project operations, including a review of any history of past safety or security concerns at the Project.

With basic information in hand, the Licensee will conduct an in-field assessment of each of the listed enhancements. The field review may be conducted in coordination with appropriate stakeholders and may include specific site visits with adjacent property owners, as appropriate.

The results of the feasibility assessment and any enhancement alternatives developed will be documented in a study report.

Study Schedule

The recreation site enhancement feasibility and assessment will be conducted during the period May through December 2020, with a draft report for stakeholder review anticipated in December 2020.

5.2 Recreation Use and Recreation Facility Inventory

Study Request

At this time, no stakeholders have specifically requested a study related to recreation use at the Project.

Study Goals

In accordance with FERC's Order dated August 10, 2018 modifying and approving the 2018 Recreation Plan Update (Lake Lynn, 2018b), the Licensee is collecting recreation use data in 2020 and must file the next Recreation Plan Update with FERC by March 31, 2021 that includes this data. As part of the next Recreation Plan Update, the Licensee will also conduct an inventory of the existing Project recreation sites to update and expand the discussion of the existing Project recreation sites and amenities in the next Recreation Plan Update.

Study Scope

In accordance with FERC's Order dated August 10, 2018 modifying and approving the 2018 Recreation Plan Update (Lake Lynn, 2018b), the Licensee initiated the collection of recreation use data in January 2020 and will collect recreation use data through December 2020. This data will be summarized in the next Recreation Plan Update that must be filed with FERC by March 31, 2021.

In the PAD, the Licensee proposed to conduct a field inventory of the existing Project recreation sites that included identifying the amenities or facilities at each site, photographs of the sites, an evaluation of the overall condition of each site, and general observations on site use and accessibility. The Licensee will conduct a field inventory of the existing Project recreation sites in 2020 and include the full recreation site inventory in the next Recreation Plan Update, which is due to be filed with FERC by March 31, 2021.

Study Schedule

The Licensee initiated recreation use data collection in January 2020 and will collect recreation use data through December 2020. The Licensee will conduct a field inventory of the existing Project recreation sites during the summer or fall of 2020 and include the full recreation site inventory in the next Recreation Plan Update. The next Recreation Plan Update must be filed with FERC by March 31, 2021 and the Licensee anticipates a draft will be available for stakeholder review by February 2021.

5.3 Shoreline Classification and Aquatic Habitat Mapping

Study Request

At this time, no stakeholders have specifically requested a study related to shoreline classification at the Project or development of a shoreline management plan.

Study Goals

The goals of classifying the Cheat Lake shoreline and developing an aquatic habitat map of Cheat Lake are to: 1) collect information that will be used in the development of a Shoreline Management Plan for the Project and the License Application and 2) create datasets to assist the Licensee in managing shoreline uses.

Study Scope

The Licensee will classify the Cheat Lake shoreline (the area up to 100 feet inward from the summer pool elevation of the reservoir) into the following classifications: Forest, Industrial, Private, Public Recreation, and All Other Classes. The shoreline classification will utilize 2018 imagery from the National Aerial Image Program at 1-meter resolution and 1:10,000 scale, which is the best available temporal and spatial resolution imagery for the shoreline classification. The entire 31.3 miles of Cheat Lake shoreline will be classified. The shoreline classification will also indicate the natural versus constructed or converted shoreline habitat areas. A spatially referenced shapefile (polyline) with metadata will be prepared.

An aquatic habitat map of Cheat Lake will be developed based on data collected from an Aquatic Water Drone. The aquatic habitat areas will be digitized as polygon areas and include aquatic vegetation, silt substrate, cobble and boulder substrate, historical river channels, and water depth.

The datasets for the shoreline classification and the aquatic habitat mapping will be added to the online map viewer of the Cheat Lake Dock and property management system developed for the Project in 2019.

Study Schedule

The shoreline classification and aquatic habitat mapping will be completed by December 2020. The shoreline classification and aquatic habitat mapping will be used in the development of a Shoreline Management Plan for the Project and the License Application.

6.0 Cultural Resources

6.1 Cultural Resources (Section 106) Consultation

Study Request

At this time, no resource agencies or Tribes have requested studies of cultural resources at the Project. The Cherokee Nation commented that Monongalia County and Fayette County are outside the Cherokee Nation's Area of Interest, thus, the Cherokee Nation defers to federally recognized Tribes that have an interest in this landbase. The Delaware Nation commented that the location of the Project does not endanger cultural or religious sites of interest to the Delaware Nation and requested that if any artifacts are discovered that the Licensee halt work and contact state agencies and its office within 24 hours.

Study Goals

The Licensee will initiate formal consultation with the WVSHPO and PHMC to inform the development of the License Application.

Study Scope

The Licensee is aware of two potentially significant cultural resources within the Project boundary – the railroad bed along the Cheat Lake Trail (a linear historic archaeological site) and the Lake Lynn powerhouse and dam (potentially eligible for the National Register of Historic Places [NRHP]). The Licensee will consult with the West Virginia State Historic Preservation Office (WVSHPO) and its Interactive Map Viewer and submit the Project information for a formal review. The Licensee will also consult with the Pennsylvania Historical and Museum Commission (PHMC) and the Cultural Resources Geographic Information System (CRGIS) and submit the Project to the PHMC for review.

Study Schedule

The Licensee plans to initiate formal consultation with the WVSHPO and PHMC by July 2020.

7.0 References

EA Engineering, Science, and Technology, Inc. (EA Engineering). 2014. Instream Flow Study: Lake Lynn Hydroelectric Project. December 2014.

Lake Lynn Generation, LLC (Lake Lynn). 2018a. Lake Lynn Hydroelectric Project (FERC No. 2459) Aquatic Biomonitoring Plan (2018-2020). January 31, 2018.

Lake Lynn Generation, LLC (Lake Lynn). 2018b. Lake Lynn Hydroelectric Project 2018 Recreation Plan Update. April 2018.

Lake Lynn Generation, LLC (Lake Lynn). 2020a. Lake Lynn Hydroelectric Project (FERC No. 2459) Angler Creel Survey Workplan. January 2020.

Lake Lynn Generation, LLC (Lake Lynn). 2020b. Lake Lynn Hydroelectric Project (FERC No. 2459) Aquatic Biomonitoring Plan (2018-2020): 2019 Annual Status Report. 2020.

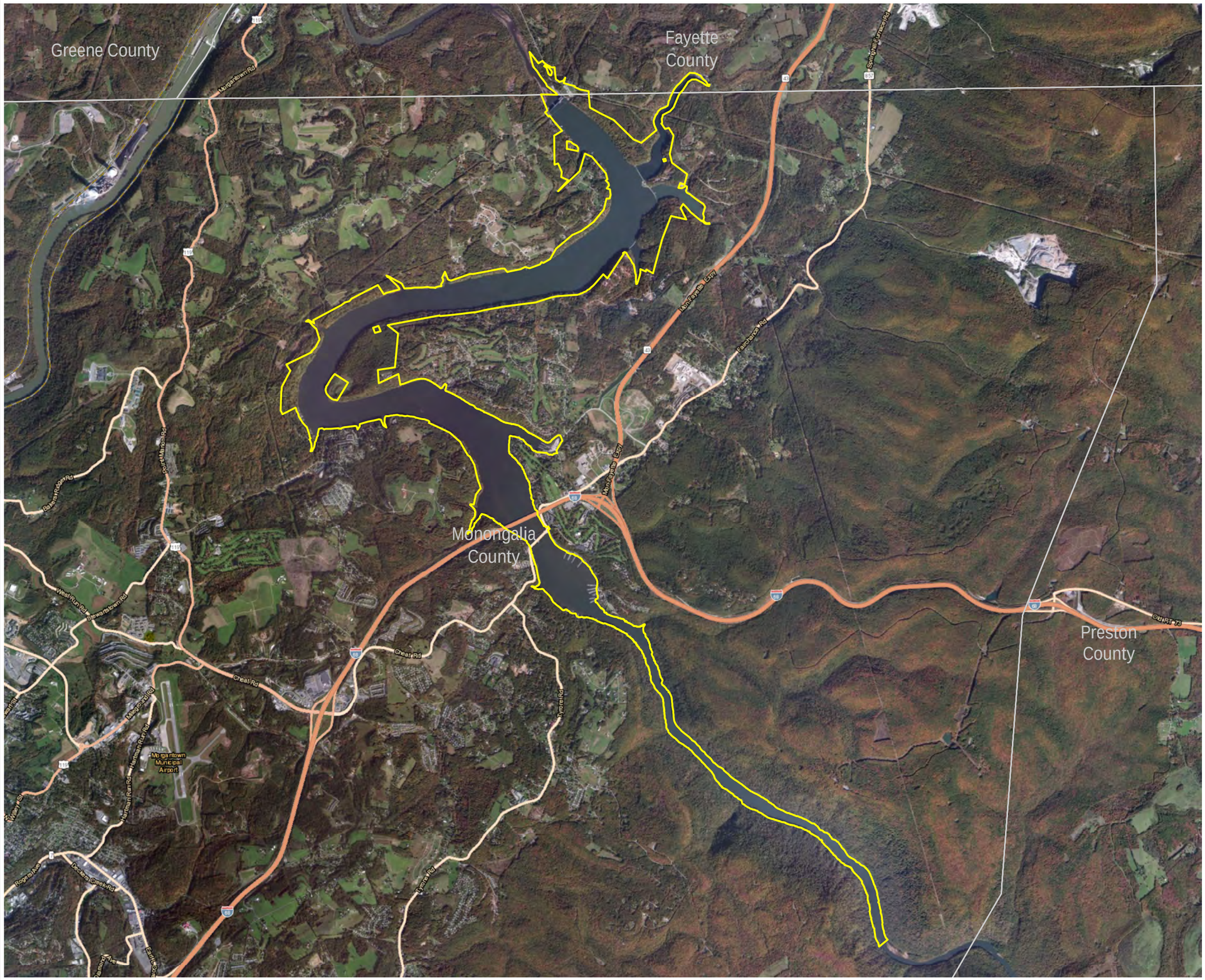
U.S. Fish and Wildlife Service (USFWS) Northeast Fishery Center Conservation Genetics Lab. No date. Field Collection of Environmental DNA (eDNA) Water Samples from Streams. No date.

Welsh, Stuart A. West Virginia Cooperative Fish and Wildlife Research Unit. 2019. Evaluations of Yellow Perch Spawning and Water Level Fluctuations for Cheat Lake, West Virginia: A Research Proposal. November 29, 2019.

West Penn Power Company. 1995. Water Quality Monitoring Plan for Lake Lynn Hydro Station FERC Project No, 2459. October 6, 1995.

Attachment 1

Project Boundary Figure



LEGEND

- FERC Project Boundary
- County Boundary

N

0 0.5 1 2 Miles

PROJECT:

LAKE LYNN GENERATION, LLC

TITLE:

Lake Lynn
Project Boundary

DRAWN BY:	K. BABCOCK	PROJ. NO.:
CHECKED BY:		
APPROVED BY:		
DATE:	AUGUST 2019	

TRC

14 Gabriel Drive
Augusta, ME 04330

FILE NO.: Lake_Lynn_Project_Boundary.mxd

Plot Date: LAYOUT: ANSI B(11"x17") S:\1-PROJECTS\Cube_PE_Hydro
Path: \Lake_Lynn_Project_Boundary.mxd

Coordinate System: NAD 1983 UTM Zone 17N (Foot US)
Map Rotation: 0

TRC - GIS

Attachment 2
Summary of Study Related Comments and Study Requests

Agency/ Stakeholder	Study Related Comment/ Study Request
SEDIMENTATION AND SHORELINE EROSION	
WVDNR	Requests reservoir sedimentation study at problem areas and a sedimentation plan to monitor/address any future sedimentation issues. Proposed methodology includes examining possible sources of sedimentation within the reservoir and identifying potential preventive measures that could be taken to reduce the level of sedimentation in those areas where sediment builds up (i.e., Sunset Beach).
CLEAR	Monitoring and remediation of the on-going shoreline erosion are needed with components of these activities taking place on an annual basis.
WATER QUANTITY AND QUALITY	
USFWS and WVDNR	Requests that water quality monitoring be continued throughout the term of the new License.
USFWS	The Project Instream Flow Study is not contained in the PAD. Without this information, the USFWS has remaining questions and would recommend an Instream Flow Study to help determine appropriate flow releases in license articles.
FISH AND AQUATICS	
USFWS	A mussel survey should be conducted downstream in the tailwater area and downstream reaches to assess this component of the aquatic community and inform the USFWS flow regime recommendations.
USFWS and WVDNR	Requests a desktop entrainment study. WVNDR recommends a field component to verify results and requests the opportunity to review data for use in the desktop analysis. USFWS suggests that the USFWS Turbine Blade Strike Analysis Model could be used as one component of the assessment.
USFWS and WVDNR	Requests American eel monitoring study that improves on sampling conditions and includes areas lower in the Cheat River before the confluence with the Monongahela. WVDNR is not be opposed to any USFWS request regarding additional analysis of Project waters for American eel.
USFWS and WVDNR	Requests upstream/downstream fish passage and feasibility study. Proposed methodology includes a literature review of available options for bypass routes/fish protection measures and an analysis on how such measures could be incorporated into current project design. USFWS mentions the methodology would include a literature review of available options for upstream passage of eels.
WILDLIFE AND RARE, THREATENED AND ENDANGERED (RTE) SPECIES	
USFWS	The proposed survey for RTE species may not be warranted.
RECREATION/AESTHETICS	
MRTC and FOC	Trails - Requests the Licensee extend the Cheat Lake Trail toward the south.
MRTC, CLEAR, FOC Dave Harshbarger ,and Gary Marlin	Trails - Request License work with stakeholders on planning and building a connection from the Cheat Lake Trail to the Sheepskin Trail, including opening the gate at the northern end of the trail to create a passageway from the northern end of the Cheat Lake Trail through the dam facility. CLEAR also requests a continued commitment for a connection to other regional trails.

Agency/ Stakeholder	Study Related Comment/ Study Request
WVDNR	Snake Hill Wildlife Management Area (WMA) - WVDNR is unequivocally opposed to creating public access to the upper reaches of Cheat Lake by opening a gated road that passes through Snake Hill WMA property because continued maintenance of the access road would be problematic and an undue burden for the State of West Virginia and the Licensee with very little benefit to the WVDNR's prime constituents.
FOC	Snake Hill Wildlife WMA - Supports creating a public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill WMA along Buzzard Run to provide trailhead for hikers, angler access to upper Cheat Lake, and egress for whitewater paddlers running the Lower Cheat Canyon.
CLEAR	Dog Beach - The swimming beach area needs to be extended toward the day-use boat docks to include a dog beach and additional picnic tables
WVDNR	Boating - Law enforcement records do not show any significant increase in boating incidents. WVDNR is not opposed to the temporary moratorium on new private piers/boat docks and would not be opposed to the moratorium continuing.
CLEAR	Boating - Requests boating guidelines and limits consistent with the rules and regulations of the WVDNR. Boat guidelines/regulations, public dock maintenance, channel depth (dredging), and parking lot criteria are all in need of explicit definition and guidance.
CLEAR	Recreation Operations and Maintenance (O&M) - Requests clear and complete procedures for trail maintenance and repair.
CLEAR	Recreation O&M - Requests clear and complete goals, guidelines and procedures for Sunset Beach Marina and other marinas, including O&M and future.
CLEAR	Recreation O&M - Periodic lake cleanup activities need to be continued by CLEAR and others with the support of the Licensee.
CLEAR	Recreation O&M - Swimming beach season should match the boating season of May 1-Oct 31.
CLEAR	Recreation O&M - Regular maintenance of the swimming beach is needed to remove large debris and to keep quality sand fresh and deep
CLEAR	Recreation O&M - For the Fishing Pier, there is a need to identify the opportunities, guidelines, operation and maintenance schedules.
CLEAR	Recreation O&M - Hillside slips, ground subsidence, and washouts along the Trails must be prepared for so that temporary work-arounds/repairs can take place in a timely manner.
CLEAR	Recreation O&M - For the Recreation Season protocol, there is a need to reiterate the schedule of May 1 thru October 31, with the Trail being open and accessible year-round.
CLEAR	Recreation O&M - The boat launch in the Park is essential for summer use by kayak & canoe users and for winter use by fishing boat users.
CLEAR	Recreation O&M - There is a need for a description of the functions of (existing & new) recreation personnel, security personnel, park maintenance personnel; and guidelines are needed for the interaction of these people with public.
MRTC	Recreation O&M - Requests the Licensee hire onsite recreation staff.
WVDNR	Boating - Law enforcement records do not show any significant increase in boating incidents. WVDNR is not opposed to the temporary moratorium on new private piers/boat docks and would not be opposed to the moratorium continuing.

Agency/ Stakeholder	Study Related Comment/ Study Request
CLEAR	Boating - Requests boating guidelines and limits consistent with the rules and regulations of the WVDNR. Boat guidelines/regulations, public dock maintenance, channel depth (dredging), and parking lot criteria are all in need of explicit definition and guidance.
ENHANCED COMMUNICATIONS/INFORMATION	
CLEAR	Telephone(s) & email address(es) are needed on signs and on web page(s) for information and for emergencies.
CLEAR	Formal plans and procedures are needed that assigns responsibilities for the various types of emergency at the dam, on the trails, on Cheat Lake, and downstream.
CLEAR	Public brochures are needed that include the history, overview of facilities, rules/regulations, contacts, etc.
CLEAR	The website needs additional pages that includes the brochure information, lake level, operational updates, warnings, etc.
CLEAR	News releases are needed providing general information, trail closings, warnings and other items for current news.
CLEAR	Signage on WV 857 for the Cheat Lake Park and Trail needs to be maintained year-round and the signage on the Trail maintained for public use year-round.
CLEAR	For the lake level protocol, need to reiterate the water level ranges vs. months of the year on the website and in the brochure(s).
MRTC	Requests improved public communication (website, social media, phone), and creating a process for holding events on the Cheat Lake Trail.
GENERAL	
WVDNR	Supports studies proposed in the PAD.
CLEAR	A study of the history of Cheat Lake and the dam is needed to examine the role of the Project affecting WV and PA - whether it is a private “for-profit” entity with public obligations or whether it is “for the public interest” to provide recreation and a public service (electricity).

Attachment 3

Copies of Comments and Study Requests

DIVISION OF NATURAL RESOURCES
Wildlife Resources Section
District 1
P.O. Box 99
1110 Railroad Street
Farmington, West Virginia 26571-0099
Telephone (304) 825-6787
Fax (304) 825-6270

Jim Justice
Governor

Stephen S. McDaniel
Director

February 12, 2020

Electronic file

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: Lake Lynn Hydroelectric Project (FERC no. P-2459); Notice of Intent, Pre-Application Document, and Study Requests

Dear Secretary Bose:

Thank you for allowing the West Virginia Division of Natural Resources, Wildlife Resources Section (WRS) the opportunity to provide comments with regards to the referenced Pre-Application Document (PAD) for the relicensing of the Lake Lynn Hydroelectric Project (Project), FERC No. 2459. Lake Lynn Generation, LLC (Licensee or Applicant) has elected to utilize the Traditional Licensing Process in preparing for a new license. The current Project license was issued on December 27, 1994 and is set to expire on November 30, 2024. The applicant submitted the referenced NOI/PAD in accordance with FERC regulation and consistent with the requirements of 18 CFR § 5.5.

The Project is an established hydroelectric project located on the Cheat River adjacent to the border between Pennsylvania and West Virginia with Project areas located occupying lands in

both states. The Project has an installed project capacity at 51.2 MW using four Francis generating units. The comments below are being provided pursuant to 18 C.F.R §4.38(b)(5).

Section 4.2 Project Facilities

The description of the Project facilities described within this section makes mention of trash racks installed at the intake facility. Beyond that, there is no further information regarding the specifications of the trash racks. Based on a preliminary site visit, it would appear as if the trash racks were of a steel construction and installed with spacing of approximately 5-inches. Such large trash rack spacing allows for the entrainment of larger fish that would be more susceptible to blade strikes and turbine-induced mortality as these fish enter the intake structures and pass through the turbines. In an effort to reduce fish mortality, the WRS would request that the trash rack spacing not exceed 3 inches and have an approach velocity of no more than 2.0 fps. The WRS further recommends angled trash racks be employed as a means to further reduce entrainment.

Section 4.4 Current and Proposed Project Operations

The current FERC license requires an operation schedule whereby the lake elevation is maintained between 868 and 870 feet from May 1 to October 31, between 857 and 870 feet from November 1 through March 31, and between 863 feet and 870 feet from April 1 through April 30. The April 1 to April 30 schedule was initially designed as a provision to reduce the Project's impacts on spawning fish populations within the lake, particularly yellow perch and walleye. The thinking at that time was that these fish species predominantly spawned during the early Spring month of April. Recent data has become available through the triennial biomonitoring studies, in particular a recent analysis of yellow perch habitat, which may indicate that in some years, based on temperature and weather conditions, the spawn may begin in mid-March and extend into Mid-April or later. Similar results were observed in a study on the walleye populations within the lake by a member of the WRS staff whereby the walleye spawn was documented as early as mid-March. Considering, there is concern that the lake elevation schedule during the month of March (between 857 and 870 feet) would not be sufficient in protecting the spawn and would have the potential to dewater a great many eggs thus impacting recruitment. It may be necessary, then, to revisit the current project operations and examine possible avenues to protect these species throughout the spawning season. A new schedule could be based on temperature such that in normal years the schedule can remain as is, but in warm years where the WRS, based on water temperature variables (45°F for a sustained period in March), anticipates that an early spawning period would occur, the April elevation schedule could be moved back to mid-March.

Section 5.2

The continuous monitoring of water quality as required by License Article 405 of the existing Project License is an invaluable tool in the management of the resources. As such, the WRS would request that water quality monitoring within the reservoir and tailwaters be continued throughout the term of the upcoming license.

Section 5.3.2.2 Catadromous and Diadromous Species

This passage asserts that "there is no known occurrence of the American eel in the Cheat River basin, however...eels have been collected in the Ohio River basin from the Kanawha, New, and Greenbrier Rivers." In fact, the American eel has also been collected in the Monongahela River within the past 10 years as far upstream as the Morgantown Lock and Dam. This point is upstream of the confluence of Cheat River with the Monongahela River. It could therefore be assumed that there is a strong likelihood that the American eel may also be located within the Cheat drainage. However, it should be noted that, at least with regards to recent data collection, the American eel has not been observed within the tailwaters of the project. A recent eDNA study of the Project tailwaters resulted in no positive recordings of the American eel. The reasons for the negative results may be because of study design or perhaps because there were no eels in the Cheat River watershed. Nonetheless, it is the WRS' understanding that the US Fish and Wildlife Service (USFWS) will be requesting additional analysis of the Project waters to determine presence or absence of the American eel. The WRS would not be opposed to any USFWS request regarding this particular subject matter.

Section 5.3.2 Fish Resources and Habitats

As per state rule §47-5A-6, reimbursement for the incidental loss of fish due to project operation will be required. Therefore, the WRS would request that a comprehensive desktop entrainment study be utilized to determine the likely number of fish, fish species, and size classes to become entrained and experience mortality as a result of the Project's operation.

Section 5.3.2.3 Fish Passage

The major components of a hydropower facility (i.e. the turbines) pose a particular risk to fish passage and an additional impediment to fish passage. Project operations may attract fish moving downstream to pass through the turbines creating an unnecessary risk for mortality. It is the flowing water through the Project that initially attracts the migrating fish. Additionally, passage over the spillway could also be hazardous for fish. To minimize the potential hazards for the downstream movement of fish, the WRS would request that a feasibility study be conducted to explore potential options for a bypass system or diversionary tactics.

Section 5.8.3.4 Public Boat Launching Facility at Sunset Beach Marina

Sedimentation at the Sunset Beach Marina has become a significant issue over the years and has only worsened to the point by which anglers and boaters are affected. Launching a boat from this area has become more challenging and at some levels, is next to impossible. The Licensee has made great strides in correcting the sedimentation via dredging the embayment. Still, there is concern that this is a temporary fix and without a plan in place to address future sedimentation of the embayment, this is a problem that will likely occur again. Therefore, the WRS would request the licensee draft a sedimentation plan in an effort to minimize future sedimentation and reduce costly dredging activities.

Section 5.8.5 Boating Carrying Capacity Study

The results of the boating carrying capacity study would suggest that the number of boaters using Lake Lynn at any given time has exceeded that of a safe operating amount for the lake. Law enforcement records have yet to show any significant increase of incidents. Nevertheless, the WRS is not opposed to the Licensee's moratorium on new private piers/boat docks within the Project reservoir. According to the scoping meeting, the moratorium was enacted by the Licensee as a temporary measure to reduce the number of boats on the lake with the intention to lift the moratorium, or at least re-examine its effectiveness, following the relicensing process. The WRS views the moratorium as being beneficial in reducing the level of impact to shoreline habitat caused by the continued construction of the lake shoreline. Shoreline habitat is critical for a healthy, sustainable fishery and therefore, the WRS would be not be opposed to continuing the moratorium beyond the FERC relicensing of the Project.

Section 6.2.7.1 Potential Issues and Project Effects

This section lists a proposal to "create public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill Wildlife Management Area along Buzzard Run." The WRS would be unequivocally opposed to this proposal. The WRS is not interested in opening up the gated road that passes through the WMA property. Continued maintenance of the access road would be problematic and an undue burden for the state and the Licensee with very little benefit to the WRS' prime constituents.

State 401 Water Quality Certification

Section 401(a)(1) of the federal Clean Water Act, 33 U.S.C. § 1341(a)(1) provides that any applicant of a federal license or permit must obtain a state certification from the appropriate state certifying agency. This certification is to ensure that any activity conducted under the license are to be in compliance with all applicable provisions of the Clean Water Act. The state of WV will have one year to act on a received 401 application from the date the US Army Corps of Engineers deems the federal 404 application to be complete.

Study Requests

The WRS is in support of the studies proposed by the Licensee for the Lake Lynn Hydroelectric Project as identified within the PAD. Additional studies not previously included within the PAD are being provided by the WRS. The WRS makes these requests in support of currently proposed studies, to correct deficiencies in data and to offer a greater level of detail where needed. The WRS further requests the opportunity to review any study plans associated with this project. The request format is in accordance with that described in 18 CFR § 5.9 (b).

Study Request 1: Entrainment Study

Goals and Objectives:

The goal of the proposed study is to determine the number of fish that are either entrained or impinged and to estimate the injury and mortality of fish that pass through the turbines during

Project operation. The WRS is requesting a desktop entrainment study be conducted on the Lake Lynn Project. The goal of the desktop study will be to estimate mortality for compliance with state code.

As the resource agency, it is the goal of the WRS to manage and protect the resources. To the furtherment of this goal, WV code §47-5A-6 requires that mitigation be completed for any impacts to the resources. In this case, entrainment of fish through the turbines causes undue stress to the fish and can potentially be fatal. Therefore, the WRS would request that any mortality in fish be compensated. In order to properly ascertain the number of fish that succumb to mortality, an entrainment study will need to be performed.

The WRS recommends a desktop entrainment analysis utilizing the EPRI database. Data used for the analysis should be presented by species and by two-inch size classes. The WRS would further recommend that a field component be incorporated to verify results.

Resource Management Goals:

The WRS is charged with the protection and management of all wildlife within West Virginia, including within Cheat river and Lake Lynn. As per state rule §47-5A-6, the State would require the applicant to compensate the state for any loss of fish.

Existing Information:

To the best of its knowledge, the WRS is not aware of any entrainment studies that have been conducted at the Project. The years of biomonitoring data conducted in accordance with the existing license, will help to inform this entrainment analysis.

Nexus Between Project Operation:

During Project operation, fish of a certain size are able to pass through the trash racks and become entrained through the turbines. As the turbines operate, it is likely that some fish will be struck by the turbine blades while others will succumb to changes in barometric pressures as they pass through the intake. The likelihood of a blade strike and turbine-induced mortality increases as the size of the fish increases. Therefore, compensatory mitigation will be required as replacement for the loss of fish.

Study Methodology:

The methodology employed should include a combination of desktop entrainment analysis and field verification. The standard practice has been to utilize the Electric Power Research Institute (EPRI) turbine entrainment and survival database as a model in evaluated the potential of entrainment at a facility. The WRS has had concerns that this particular practice lacks the scientific creditability necessary to make informed decisions about the management of the fishery. Therefore, the WRS requests the opportunity to review any entrainment data considered

for use in the desktop entrainment analysis. Further, the WRS may request that a verification procedure be incorporated as a means to test the veracity and accuracy of the desktop entrainment results. Deploying hydroacoustics sampling techniques may be one way to achieve this goal as a more cost-effective method than deploying nets downstream. Data for any type of analysis should be presented by species and by 2-inch class sizes to remain consistent with general state practices. The WRS is willing to further discuss methodologies with the applicant.

Level of Effort and Cost:

The level of effort required to conduct a desktop entrainment analysis is relatively minor and most consulting firms/universities are well equipped to perform such an analysis. Additionally, the cost of a desktop entrainment analysis is much more attainable when compared to the alternative of an in-field entrainment analysis. Incorporating an in-field verification procedure with the analysis will increase the level of effort and cost and would require certain levels of training, expertise, and equipment. Nonetheless, an in-field verification procedure is still attainable and within reasonable limits of effort and cost.

Study Request 2: Upstream/Downstream Fish Passage and Feasibility Study

Goals and Objectives:

The goals of this study are to assess movement of fish through the project area; identify likely routes fish would take under a variety of conditions; and assess the feasibility of incorporating alternative routes or additional fish protection measures.

Existing Information:

To the best of its knowledge, the WRS is unaware of any study on upstream/downstream passage at the Project. Any study that may have been completed is likely dated material and incompatible in reflecting current conditions and population dynamics.

Nexus Between Project Operation:

Dam features, because of their general nature, impede the upstream and downstream movement of fish. By design, the dam at the Project affords no migration upstream. Downstream migration is offered by one of two routes: through the dam gates; and through the Project's powerhouse. Neither of these two routes provides for a safe migration downstream. The route through the powerhouse would mean risking turbine strikes or dangerous changes in barometric pressure. The route through the dam gates may provide for an equally perilous journey with fish tumbling down rough concrete faces. It is evident, then, that the Project has a direct relationship to fish passage.

Study Methodology:

Methodology would include a literature review of all available options for bypass routes and fish protection measures and an analysis on how such measures could be incorporated into the current project designs. Architectural design and structural engineers would need to be consulted for their expertise in determining feasibility of any new structural component at the project.

Level of Effort and Cost:

A study such as this would most likely take less than a year to complete with minimal effort. Discussions with engineers and reviews of designed structures would be necessary to properly assess the feasibility of any bypass channels or fish protection structures. Additionally, this study could be completed in concert with study request #1 (entrainment study) to reduce costs and effort. The WRS is not aware of the cost associated with this study but would assume it to be at a nominal rate.

Study Request 3: Reservoir Sedimentation Study

The WRS is requesting that a sedimentation study of the Project's reservoir be conducted at the problem areas and a plan to monitor and address any sedimentation issues be developed.

Goals and Objectives:

The goal of this survey is to asses sedimentation within certain problem areas within the Project reservoir and to develop a plan to address any deficiencies as they arise.

Existing Information:

Reports of sedimentation affecting boaters and anglers have risen in recent years, but as of yet no study that the WRS is aware of has been conducted on the sedimentation and no plan has been developed to address it. Steps to remedy sedimentation are typically taken when the issue rises to unsuitable levels. A more preventive strategy here may reduce future costs of sediment removal and keep recreation areas open without issue.

Nexus Between Project Operation:

By their very nature, dams cause sedimentation within the reservoir as the moving water slows down and particles are allowed to settle out. Therefore, the Project operations have a direct influence on the level of sedimentation.

Study Methodology:

The methodology should begin by examining possible sources of sedimentation within the reservoir and then by identifying potential preventive measures that could be taken to reduce the level of sedimentation in those areas that have demonstrated an affinity for a build-up of sediment (i.e. Sunset Beach).

Level of Effort and Cost:

Most consulting firms and universities would be fully capable of conducting a sedimentation study, including interpreting and analyzing the data. The costs of such a study is variable dependent on contractor used to conduct the study and the level of attention to detail.

The WRS appreciates the opportunity to provide comments and to make study requests. If you have any questions regarding this letter, comments made, or these study requests, please contact me by telephone at (304)825-6787, or by email at Jacob.D.Harrell@wv.gov.

Sincerely Yours,

Jacob Harrell
Hydropower Coordination Biologist

Cc: Jody Smet, Lake Lynn Generation, LLC
David Fox, Lake Lynn Generation, LLC
Janet Norman, USFWS
Paul Johanson, WVDNR
Mark Scott, WVDNR
Zack Brown, WVDNR
David Wellman, WVDNR
Danny Bennett, WVDNR

LAKE LYNN HYDRO PROJECT: ISSUES AND COMMENTS FOR RELICENSING

SUBMITTED BY: Duane Nichols, President, Cheat Lake Environment & Recreation Association, 330 Dream Catcher Circle, Morgantown, WV 26508

RE: Project P-2459, Relicense for Lake Lynn Hydroelectric Project. Date: February 10, 2020

1. Clear and complete procedures are needed for Trail maintenance and repair, for both routine and non-routine circumstances.

2. Clear and complete goals, guidelines and procedures are needed for the Sunset Beach marina and other marinas, to cover the operation, maintenance and planning for the future.

3. Boating is a primary recreational activity on the Lake, so there is a need for boating guidelines and limits consistent with the rules and regulations of the WV DNR. Boat guidelines and regulations, public dock maintenance, channel depth (dredging), parking lot criteria, etc., are all in need of explicit definition and guidance.

4. Periodic lake cleanup activities need to be continued by CLEAR and others with the support of Lake Lynn Hydro to remove plastic and structural debris floating in the lake and backwaters. The CLEAR pontoon boat should be useful for these activities.

5. Given that the Lake is limited in boating capacity during busy weekends, the limit has been reached for the number of marinas, boat slips and personal access area sites.

6. Swimming beach season should match the boating season of May 1st to October 31st

7. Regular maintenance of the swimming beach is needed to remove large debris (mainly tree segments) and to keep quality sand fresh and deep, as mostly children use it.

8. The swimming beach area needs to be extended toward the day-use boat docks to permit the designation of a dog beach, given that dogs interfere with the swimming experience of small children; this will also add space for additional picnic tables, that are already needed.

9. Monitoring and remediation of the on-going shoreline erosion are needed with components of these activities taking place on an annual basis.

10. Hillside slips, ground subsidence and washouts along the Trails must be prepared for, as they are not uncommon, so that monitoring, temporary work-arounds and repairs can take place in a timely manner.

11. Signage on WV 857 for the Cheat Lake Park & Trail needs to be maintained year round and the signage on the Trail maintained for public use year round.

12. Telephone(s) & email address(es) are needed on signs and on web page(s) for information and for emergencies.

13. Formal plans and procedures are needed that assigns responsibilities for the various types of emergency at the Dam, on the Trails, on the Lake, downstream in Pennsylvania, etc.

14. Brochures are needed for public distribution to include the history, overview of facilities, rules/regulations, contacts, etc.

15. The Internet Web-Site is needed with multiple pages to include the brochure information, lake level, operational updates, warnings, etc.

16. News Releases (quarterly & timely) are needed providing general information, trail closings, warnings and other items for current news.

17. For the Fishing Pier, there is a need to identify the opportunities, guidelines, operation and maintenance schedules.

18. A continued commitment to regional trail development should include interfacing with the proposed Sheepskin Trail in Pennsylvania, for a connection to other regional trails, to involve the opening of the trail level gate at the Lake Lynn Dam for daylight walking, hiking, jogging and bicycling.

19. For the Lake level protocol, there is a need to reiterate the water level ranges vs. months of the year on the Web-site and in the Brochure(s).

20. For the Recreation Season protocol, there is a need to reiterate the schedule of May 1 thru October 31, with the Trail being open and accessible year round. The “boat launch” in the Park is essential for summer use by kayak & canoe users and for winter use by fishing boat users.

21. There is a need for a description of the functions of (existing & new) recreation personnel, security personnel, park maintenance personnel; and guidelines are needed for the interaction of these people with public.

22. An Advisory Committee is needed with Quarterly meetings and quarterly reports, consisting of members from Monongalia County, WV-DNR, WVU, WV trail group, PA trail group, PA-DNR/DEP, plus 2 or 3 local environmental/conservation groups.

23. A study of the details of the history of Cheat Lake and the Lake Lynn Dam is needed to examine the role of the project there on the Mason-Dixon Line affecting both West Virginia and Pennsylvania, whether it is a private “for-profit” entity with public obligations or whether it is “for the public interest” to provide recreation and a public service (electricity). These considerations take on a greater significance when foreign ownership is under way.

The Cheat Lake Environment & Recreation Association (CLEAR) has been active to promote the public use of Cheat Lake for over 30 years. The officers are Duane Nichols, President, Mike Strager, Vice President, Ann Chester, Secretary, and Donna Weems, Treasurer.

CONTACT INFORMATION: Duane G. Nichols, 330 Dream Catcher Circle, Morgantown, WV 26508. Phone: 304-216-5535, Email Address: Duane330@aol.com

Submitted by Duane Nichols of CLEAR this 10th day of February 2020.

Document Content(s)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

February 13, 2020

Jody Smet
Director, FERC Licensing and Compliance
Lake Lynn Generation, LLC
2 Bethesda Metro Center, Suite 1330
Bethesda, MD 20814

Dear Ms. Smet:

The U.S. Fish and Wildlife Service (Service) has reviewed the October 17, 2019 Notice of Intent (NOI) to File for a License and attached Pre-Application Document (PAD) for the Lake Lynn Hydroelectric Project (FERC #2459), filed by Lake Lynn Generation, LLC (Applicant). The Applicant has elected to use the Traditional Licensing Process (TLP) for this re-licensing application of the Lake Lynn Hydroelectric Project on the Cheat River near Morgantown, West Virginia and in Fayette County, Pennsylvania. The current project license was issued on December, 1994 and will expire on November 30, 2024.

The Service attended the Joint Agency meeting and site visit on December 12, 2020 in Morgantown, WV, with the Applicant, state and local agencies, and interested residents. We offer the following recommendations on the PAD and our Study Requests.

The following comments are provided pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended: 16 U.S.C. 1531 *et seq.*), the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat.755), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

The project is a 51.2 megawatt (MW) single development project operated since 1926. It consists of: 1) a 125-foot high by 1,000-foot long concrete gravity-type dam with a 624-foot long spillway controlled by 26 Tainter gates, each 17 feet high by 21 feet long; 2) a reservoir with a surface area of 1,729 acres and containing about 72,00 acre-feet of water at full pool elevation of 870 feet National Geodetic Vertical Datum; 3) a log boom and track racks at the intake facility; 4) eight 12-foot by 18-foot gated penstocks of reinforced concrete; 5) a 72-foot by 165-foot by 68-foot high brick powerhouse containing four identical Francis generating units with a total rated capacity of 51.2 MW; 6) dual 800-foot long 138-kilovolt transmission lines; and 7) appurtenant facilities. In 2018, the licensee completed a turbine replacement and upgrade of Unit 2.

Pre-Application Document

Section 4.4 Current and Proposed Project Operations.

The Service supports the concerns of the West Virginia Division of Natural Resources (WV DNR) regarding the quality and timing of available yellow perch (*Perca flavenscens*) and walleye (*Sander vitreus*) habitat within the reservoir lake, with proposed drawdown operations. Their assessment is that the lake elevation schedule during the month of March (between 863 and 870 feet) is likely insufficient to protect the spawning period and could dewater many fish eggs which would hamper recruitment to the populations. We would like to better understand how lake levels, downstream flow releases, and draw down schedules impact fish and wildlife resource needs so we can determine whether there are ways to minimize these impacts.

Section 5.2 Water Resources

The current License Article 405 (continuous monitoring of water quality) has proved very beneficial to the Licensee and resource agencies as this monitoring resulted in effective management of a low flow event during the summer/early fall of 2019. The Service believes this monitoring should be continued in any new license condition granted.

Section 5.2.3 Streamflow, Gage Data and Flow Statistics

This section of the PAD does not provide sufficient information for the Service to fully assess the seasonality, duration and magnitude of streamflows inflowing to the reservoir and dam, and the appropriate flow releases for the upcoming license period. The graphs in Appendix E (Flow Duration Curves) are not scaled appropriately to discern the patterns of what occurs in the 5 to 99 percent exceedance flows that we would need to examine. It would be helpful if the maximum flow event(s) and duration for the period record 2016 to 2019 is displayed separately from the rest of the graphs so as not to flatten all other flow interpretation.

The Service does not see the Project Instream Flow Study which is referenced in this section of the PAD, contained in Appendix E, in order to assess its applicability to current and future conditions. Without this information, we have many remaining questions, and would recommend an Instream Flow Study to help us determine appropriate flow releases in the new license articles.

The Service also believes a mussel survey should be conducted downstream in the tailwater area and downstream reaches to assess this valuable component of the aquatic community and potentially help inform our flow regime recommendations for the project.

Section 5.7.2 Rare, Threatened and Endangered Resources and Habitats

Table 5.16 of the PAD identifies four species federally listed under the ESA with the potential to occur in the project area, Indiana bat *(Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), running buffalo clover (*Trifolium stoloniferum*), and the flat-spired three-toothed snail (*Triodopsis platysayoides*).

The federally threatened northern long-eared bat and the federally endangered Indiana bat are temperate, insectivorous migratory bats that hibernate in mines and caves during the winter and spend summers in wooded areas. There are no known northern long-eared bat maternity roosts

or hibernacula within the immediate vicinity of this site. Indiana bats are most likely to be in maternity roosts from May 1 to July 31.

Any project-related tree removal (e.g., for maintenance or recreational improvements) should involve consultation with the Service under Section 7 of the ESA, for the protection of the Indiana bat and northern long-eared bat.

The Service filed an August 27, 2019 Proposed Rule in the Federal Register for the de-listing of running buffalo clover (*Trifolium stoloniferum*) found at this web address: https://www.govinfo.gov/content/pkg/FR-2019-08-27/pdf/2019-18413.pdf#page=1. Its current status is still federally endangered as of this comment date. However, we believe this existing project with minor habitat modification of the project area will not likely adversely affect running buffalo clover, a terrestrial plant. We therefore, are not requesting surveys for the plant.

The flat-spired three-toothed snail is found within Monongalia County, West Virginia in close proximity to the project, but is not found within the project boundary. It is found in Coopers Rock State Forest, primarily on the rock bluffs. The area within the project boundary lacks the habitat requirements for the snail, therefore, this project will have "no effect" on the species.

Except for occasional transient individuals, no other federally proposed or listed threatened or endangered species are known to exist within the project area. Should project plans change or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

Study Requests

The Service has reviewed the evaluation of study proposals in the PAD by the Applicant for the Lake Lynn Hydroelectric project. We feel the proposed presence/absence surveys for rare, threatened, and endangered species may not be warranted, based upon our comments on the PAD. Aside from a field inventory of existing project recreation sites, a creel survey, and a cultural resources examination along the Cheat Lake Trail and Lake Lynn dam and powerhouse, the Applicant is not proposing any other studies. The only protection, mitigation, and environmental (PM&E) measures the Applicant proposes relate to recreation and land use. The Service believes the studies we and other resource agencies have identified are necessary to determine appropriate PM&E measures for the upcoming license period.

The Service requests the opportunity for further review and discussion as the study plans develop from a conceptual phase into more defined proposals.

Study Request 1: American Eel Monitoring Study

Goals and Objectives: To assess if American eel (*Anguilla rostrata*) is currently present below the Lake Lynn dam on the Cheat River and to help inform project operations and fishway prescription needs.

Resource Management Goals: Resource management goals include providing safe, timely, and

effective passage for fish species that migrate. Additional goals include providing passage to fish species which serve as glochidial hosts to freshwater mussels in the Cheat River, in order to prevent negative impacts to fish and mussel populations from the proposed project.

Public Interest: The requestor is a resource agency.

Existing Information: American eels have been documented in the Monongahela River within the past 10 years as far upstream as the Morgantown Lock and Dam, upstream of the confluence of the Cheat River with the Monongahela River. The Lake Lynn Hydropower Project is 3.7 miles upstream on the Cheat River from its confluence with the Monongahela River, therefore there is significant potential for current and future eel habitat usage within the Cheat River below Lake Lynn Hydroelectric project, and within the upstream miles of the Cheat River and tributaries. A preliminary sampling effort was conducted using the technique of environmental DNA (eDNA) detection technology as detailed in the "Project Report: June 2019 qPCR analysis of eDNA filter samples collected at Lake Lynn Dam, Target species: American eel (*Anguilla rostrata*)," dated December 4, 2019 by the Northeast Fishery Center's Conservation Genetics Lab.

Study Methodology: The recommended study uses standardized protocols employed in published literature.

Level of Effort and Cost: The methodology employed by the pilot sampling project described in the December 4, 2019 Project Report has shown that this method is a lower cost technique. This new study would seek to improve on sampling conditions to greatly reduce the influence of above dam released water on the collected samples, and to include areas lower in the Cheat River before its confluence with the Monongahela River.

Study Request 2: Entrainment Study and Mortality Study

Goals and Objectives: The goal of the proposed study is to determine the number of fish that are either entrained or impinged by the project operation, and to examine methods to reduce this injury and mortality to fishes.

Resource Management Goals: The Service's strategic conservation priorities include aquatic connectivity efforts that provide for passage, community protection, and enhanced recreational opportunities using the best available science and decision support tools.

Public Interest: The requestor is a resource agency.

Existing Information: The Service is not aware of previous entrainment studies conducted at the project. The biomonitoring data conducted under prior license conditions and filed in the FERC record can be used to assist in this analysis.

Nexus To Project Operation: Due to the large spacing of the current trash racks, certain sizes of fish are able to pass through the racks and become entrained through the turbines as they operate, causing fish mortality of an unknown quantity.

Study Methodology: The Applicant could use the Service's Turbine Blade Strike Analysis Model as one component of their assessment of current operational impact on entrainment and mortality of fishes. It can be found at https://www.fws.gov/northeast/fisheries/fishpassageengineering.html, along with other Service guidelines such as the Northeast Region Fish Passage Engineering Design Criteria, Fish Passage Design Criteria, and the Federal Interagency Nature-Like Fishway Passage Design Guidelines. Some literature analysis of mortality from Francis units of the diameter that exist at the project could also be utilized.

Level of Effort and Cost: These desktop analyses should be achievable within the one year timeframe.

Study Request 3: Upstream and Downstream Fish Passage Study

Goals and Objectives: The goals of the study are to assess movement of fish through the project area. It would identify likely routes fish would take under a variety of conditions, and assess the feasibility of incorporating alternative routes or additional fish protection measures.

Public Interest: The requestor is a resource agency.

Existing Information: The Service is not aware of previous studies examining passage options for the Lake Lynn Hydroelectric Project.

Nexus To Project Operation: The dam at the project blocks migration of fishes upstream and likely impedes safe, timely, and effective passage downstream. Downstream migration is currently only available through the dam gates, and through the project's powerhouse.

Study Methodology: The methodology would include a literature review of available options for upstream passage of eels, downstream passage bypass of the turbines, and other fish protection measures, in addition to iterative discussions with the Service's fishway engineers and other case studies.

Level of Effort and Cost: We anticipate that evaluating feasibility of passage would be fairly straightforward and not a lengthy process. Discussions with engineers would be necessary to properly assess the feasibility of bypass channels or fish protection structures.

We appreciate the opportunity to provide review and comment on the PAD and draft study proposals developed by the Applicant. We look forward to further discussions with you on how the Applicant can incorporate all the above listed studies. Finally, it would be helpful if the study proposals incorporated into the Draft Study Plan are as detailed as possible so that all parties

know exactly what is being agreed upon when the study plan is approved. If you have any questions regarding this matter, please contact Janet Norman of my staff at 410-573-4533 or Janet_Norman@fws.gov.

Sincerely,

for Genevieve LaRouche
Field Supervisor

cc: Lindy Nelson, Regional Environmental Officer, DOI OPEC

References

U.S. Fish and Wildlife Service. Endangered and Threatened Wildlife and Plants; Removing Trifolium stoloniferum (Running Buffalo Clover) From the Federal List of Endangered and Threatened Plants. 84 FR 44832, August 27, 2019. https://www.govinfo.gov/content/pkg/FR-2019-08-27/pdf/2019-18413.pdf#page=1

U.S. Fish and Wildlife Service. 2019. Fish Passage Engineering Design Criteria. USFWS, Northeast Region R5, Hadley, Massachusetts.

Mon River Trails Conservancy
P.O. Box 282
Morgantown
West Virginia
26507-0282

February 9, 2020

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Mailcode PJ- 12.1
Washington, DC 20426

Re: *Information Request for the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project (FERC No. P-2459-005)*

Dear Ms. Bose,
On behalf of the Monongahela River Trails Conservancy Ltd. (MRTC), I am submitting comments concerning the Relicensing of the Lake Lynn Hydroelectric Project (FERC No. P-2459-005). MRTC is a non-profit 501c3 organization founded in 1991 to develop and manage 40 miles of a 48-mile, tri-county rail-trail network in North Central West Virginia. The remaining 8 miles are managed by the city of Morgantown and Star City, with MRTC as an active partner. The Mon River, Caperton, Deckers Creek Trail network was established as a National Recreation Trail in 1996. MRTC shares with other regional stakeholders the vision of having the Cheat Lake Trail connect with the Sheepskin Trail in Pennsylvania and the Mon River Trail network in West Virginia and ultimately be part of a long-distance trail network that extends from Ohio through West Virginia and Pennsylvania to Washington D.C.

Cube Hydro, in now owning and managing the Cheat Lake Dam aka Lake Lynn Facilities, has continued to provide a wide mix of public recreational options to enjoy the area including hiking, biking, birding, paddling, fishing, swimming, and boating. MRTC supports these recreational activities and would like to see improvements to these recreational opportunities be included in this re-licensing process:

1. To restore the Cheat Lake Trail to its 4.5 mile length by repairing a major wash-out that occurred in the summer of 2019.
2. To plan and build a connection of the Cheat Lake Trail to the Sheepskin Trail at the north end of the 4.5 mile Cheat Lake Trail. This would connect the Cheat Lake Trail into a nearly 60 mile rail-trail network and connect many communities including Point Marion, PA, Morgantown, WV, and Fairmont, WV. This involves opening the gate at the north end of trail and working with other stakeholders to build new trail on Cube Hydro property to link into the Sheepskin Trail corridor. The Sheepskin Trail Corridor is owned by Fayette County, PA and is currently being engineered and built. The Sheepskin Trail is not yet built to Cheat Lake Trail but we anticipate it will be in the next 5 years.
3. To extend the Cheat Lake Trail south on Cube Hydro property and in doing so, open up more area to hiking, biking, birding and fishing.
4. To improve fish, bird, and pollinator habitat along the Cheat Lake Trail.

5. To improve recreational promotion of the Cheat Lake recreation area by hiring on-site recreation staff, by improving public communication (website, social media, phone), and by creating a process for holding events on the Cheat Lake Trail such as walks and runs.

Recreation on the river and neighboring rail-trails ties our communities in West Virginia and Pennsylvania together economically and socially. Bass tournament participants cross city, county and state lines. Both the Monongahela River and Cheat Rivers are regionally promoted water trails, and both paddlers and boaters move up and down the rivers to access different communities. Our rail-trails are used for commuting to work and school, trail tourism, and recreation. Our communities are dependent on each other to provide access, amenities, and tourism services in order to recruit new businesses and people to live in the region and entice visitors into extended stays and return visits.

The Cheat Lake Trail is one of a cluster of rail-trails in the region that provides recreation, a social gathering space, and a chance to connect with nature. It is widely used by local groups such as Hike it Baby, an outdoor meet-up group for families with young children, the Mountaineer Chapter of the National Audubon Society for public birding outings and the Christmas Bird Count, and cycling and running groups for exercise and outdoor recreation. Additionally, the Cheat Lake Trail is a part of a growing 1,500+ mile trail network connecting 50+ counties in four states (WV, OH, PA and NY). The Industrial Heartland Trails Coalition is a group comprised of more than 100 organizations, whose vision and mission it is to advance the trail network by closing gaps and connecting communities to bring health and wealth to communities through trail tourism and safe, equitable trail access by local residents.

Thank you for considering these recommendations from community stakeholders as part of the re-licensing process. Please feel free to contact me at 304-692-6782 or ella@montrails.org with any questions or if you need additional information.

Sincerely,
Monongahela River Trails Conservancy, Ltd.

Ella Belling, Executive Director

Document Content(s)

Owen Mulkeen, Kingwood, WV.
On behalf of Friends of the Cheat, I'd like to start by thanking you for the opportunity to submit comments to be included as part of the Pre-Application Document for Relicensing of the Lake Lynn Hydroelectric Project.
For 25 years, Friends of the Cheat (FOC) and our River of Promise (ROP) partners have worked diligently to restore water quality to the Cheat River and Cheat Lake through reclamation of mine lands and the remediation of acid mine drainage (AMD). Irresponsible mining had left the Cheat and nine of its lower tributaries severely damaged by AMD. Walleye were extirpated by the late 1940s. Historic data collected by WV Division of Natural Resources (DNR) show mean lake pH levels less than 5 between the 1950s and early 1990s. A few pollution tolerant fish species including bullhead catfish and white suckers sought refuge in the lake's sheltered embayments. Massive pollution releases from the T&T mine into Muddy Creek in 1994 and 1995 dropped the pH of the lake to 4. As a result, the Cheat River was named one of America's Most Endangered Rivers in 1995 by the national organization American Rivers. These events catalyzed the formation of Friends of the Cheat and the River of Promise task force.
The efforts of FOC and our ROP partners, most notably the US Office of Surface Mining (OSM) and WV Department of Environmental Protection (DEP), have restored water quality to the Cheat River main stem and Cheat Lake. Over 200 land reclamation and water treatment projects have been implemented with millions of dollars of funds resulting in millions of pounds of AMD pollution removed from the Cheat's tributaries. The river and lake have not seen a pH depression below 6 since 2011 and the main stem has been removed from the state's list of impaired waters for pH impairment. The removal of iron (ferrous hydroxide or "yellow boy") as well as aluminum and manganese is visibly noticeable by reduced staining of rocks near the water's edge as well as armoring of fiberglass boat bottoms, which was a prevalent problem through the '90s.
Improved water quality has fostered the rebound of Cheat Lake's fishery. DNR reports a dramatic recovery of species richness (27-34 species per year) including abundant sportfish such as largemouth and smallmouth bass, yellow perch, and walleye. Fishing tournaments now attract anglers from across the country which benefits the local economy. FOC is particularly excited about the walleye, which research shows are spawning up into the northern reaches of the Cheat Canyon.
With a drainage area of roughly 1400 square miles all flowing down to Cheat Lake, not only does the Cheat River constitute a critical piece of the region's ecosystem, it is also home to a large human population that lives, works and plays within the drainage. Friends of the Cheat recognizes that opportunities to recreate and connect with nature and the outdoors can not only improve the quality of life for a region's citizens, but it also leads to the engagement with and appreciation of our resources that can help prevent them from being squandered and abused. Cheat Lake and the surrounding area already Working to restore, preserve, and promote the outstanding natural qualities
of the Cheat River Watershed since 1994

provides a plethora of outdoor activities; including paddling, boating, fishing, hiking, cycling, birding and more. Cube Hydro has already improved and created recreation
opportunities around Cheat Lake. FOC and key partners have identified several opportunities for additional improvement of recreational opportunities that we believe should be considered as part of this next re-licensing process.

FOC is aware and supportive of the proposal to create a public access to the upper reaches of Cheat Lake by improving an existing gated road in Snake Hill Wildlife Management Area along Buzzard Run. This would provide another trailhead for hikers to enter the WMA, fishermen to access this upper section of the lake usually only reachable by boat, and would provide an egress opportunity for whitewater paddlers running the Lower Cheat Canyon. Despite being located in close proximity to the Cheat Lake and Morgantown metropolitan areas, and providing a wonderfully scenic and exciting float through class 2 rapids in a deep canyon, this section is infrequently paddled. This is mostly due to the 4.5 mile paddle across Cheat Lake to the nearest existing public access at the Ices Ferry bridge, which can be a laborious task in short maneuverable whitewater craft that are well suited for the rapids upstream, not to mention the danger of encounters with fast moving power boats. The creation of a new public access by improving Buzzard Run Road would shorten this flatwater paddle to 1.9 miles and thereby make this whitewater trip much more attractive.

Another opportunity for recreation enhancement in the Cheat Lake area would be to improve access and connectivity of both ends of the existing Cheat Lake Trail. Currently the trail follows the eastern shoreline of Cheat Lake for 4.4 miles and provides opportunities for walking, running, biking and fishing. The north end of the trail can be accessed via a trailhead and steep flight of stairs off of Morgan Run Road. The south end of the trail dead ends abruptly. With the future route of the Sheepskin Trail passing by just to the north, and local businesses, residential neighborhoods, and Coopers Rock State Forest to the south, there lies an opportunity to work towards increased connectivity of these trail system. By doing so, we can enhance the value of these isolated trail sections in such a way that their value becomes greater than the sum of their parts. We recommend that possibilities to extend the southern end of the Cheat Lake Trail, around the peninsula where it currently terminates, to a newly developed trailhead be thoroughly investigated, as well as the streamlining of the northern terminus to avoid the steep stairs and improve the connectivity to the future route of the Sheepskin Trail.

Thank you for this opportunity to comment on the upcoming relicensing of the Lake Lynn Hydroelectric Project.

Sincerely,

Owen Mulkeen
Associate Director
Friends of the Cheat

Document Content(s)

Dave Harshbarger, Morgantown, WV.
Pleas see the Cheat Lake Trail restored at the wash-out and re-opened to the public ASAP from the storm damage in summer of 2019.
A commitment to connecting to the Sheepskin Trail once the Sheepskin Trail is developed to this area.
And an entrance for cyclists and walkers on the northern end with a replacement of the gate and fence to a gate with a bike/ped pass-thru on the Cheat Lake Trail.

Document Content(s)

GARY V MARLIN, WESTOVER, WV.
January 9, 2020

I am a member of the Morgantown community and would like to submit some suggestions to be considered for Project # P-2459. I would like to see the slip on the Cheat Lake Trail repaired and to see a passage way from the Trail through the dam facility so that there will be a connection to the Sheepskin Trail when it comes by the dam.
Respectfully,
Gary Marlin

Document Content(s)

TRC

50101 Governors Dr.
Suite 250
Chapel Hill, NC 27517

T 919.475.5507
TRCcompanies.com

26 October 2020

Ms. Susan Pierce (via email)
Deputy State Historic Preservation Officer
West Virginia Division of Culture and History
The Culture Center, Capitol Complex
1900 Kanawha Boulevard East
Charleston, West Virginia 25305-0300

Re: Lake Lynn Hydroelectric Relicensing Project, Monongalia County, West Virginia
Section 106 Review for Compliance

Dear Ms. Pierce:

The Lake Lynn Hydroelectric Project (Project) is an existing hydroelectric facility located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania, approximately 10 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence with the Monongahela River (Figure 1). The operator, Lake Lynn Generation, LLC (Lake Lynn) intends to file an application with the Federal Energy Regulatory Commission (FERC) for a new license for the Project (FERC No. 2459) using the Traditional Licensing Process (TLP). Following TLP requirements, Lake Lynn filed a Notice of Intent (NOI) and Pre-Application Document (PAD) with FERC on 29 August 2019, and the Director of the Division of Hydropower Licensing approved Lake Lynn's request to use the TLP on 17 October 2019. The current Project license was issued on December 27, 1994 and expires on November 30, 2024. Lake Lynn intends to complete and distribute the Draft License Application for the Project by 30 November 2021, and a final License Application is scheduled to be filed with FERC no later than 30 November 2022.

The Project consists of a concrete gravity-type dam and spillway controlled by 26 Tainter gates; a reservoir with a surface area of 1,700 acres; a log boom and trash racks at the intake facility; eight gated penstocks of reinforced concrete; a brick powerhouse containing four identical Francis generating units with a total rated capacity of 51.2 MW; dual 138-kV transmission lines; and appurtenant facilities (Figures 2–8). A turbine replacement and upgrade of Unit 2 was completed in 2018. The Project operates as a dispatchable peaking hydroelectric facility with storage capability, and no changes to Project facilities or operations are proposed. The proposed FERC Project Area of Potential Effects (APE) includes approximately 2,269.5 acres within West Virginia.

The NOI and PAD documents were sent to a distribution list comprised of federal and state agencies, tribes, local government representatives, non-governmental organizations (NGOs), and interested parties. Lake Lynn also published a newspaper announcement with information about the Project in *The Herald-Standard* and *The Dominion Post*. FERC provided Project details to the Delaware Nation, Oklahoma, the Delaware Tribe of Indians, and the Osage Nation on 27 June 2019 requesting a response by 2 August 2019 regarding their interest in the Project. As of 28 September 2020, FERC has not received any responses from that request. In addition, Lake Lynn sent Project details on 20 May 2019 to these and 16 additional Native American tribes (the Absentee-Shawnee Tribe of Oklahoma, the Seneca Nation of Indians, the Cayuga Nation, the Shawnee Tribe, the Cherokee Nation, the Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, the Eastern Band of Cherokee Indians, the St. Regis Mohawk Tribe, the Eastern Shawnee Tribe of Oklahoma, the Tonawanda Band of Seneca, the Oneida Indian Nation, the Tuscarora Nation, the Oneida Indian Nation of Wisconsin, the United Keetoowah Band of Cherokee

Indians in Oklahoma, the Onondaga Nation, and the Seneca-Cayuga Tribe of Oklahoma) inviting participation in the relicensing process, Lake Lynn has received a response from one Native American tribe. The Cherokee Nation indicated that the Project was outside of its area of interest. Although no specific tribal interests have been identified, Lake Lynn and FERC will continue to communicate with the Native American tribes throughout the relicensing process. Lake Lynn also contacted the Bureau of Indian Affairs (BIA) and requested any information on tribal resources or tribal interests in the vicinity of the Project but has not received a response from the BIA regarding the Project. Lake Lynn is not aware that the Project affects any Native American tribal lands, tribal cultural sites, or tribal interests.

There is not a comprehensive Cultural Resources Management Plan (CRMP) for the Project, however, individual plans for cultural resources studies have been developed for SHPO review prior to any modifications involving ground disturbance following the stipulations in License Article 414. A Phase I archaeological survey was conducted for the proposed development of Cheat Lake Park and the Cheat Lake Trail and reported on 26 April 1996 and additional survey was conducted for that project and reported on 13 April 1998; both studies were conducted by Christine Davis Consultants, Inc. (90-148-MG). A letter dated 26 May 1998 from your office stated that the proposed Cheat Lake Trail would have no effect on any historic properties at the Project and that no further archaeological investigation was required for that project. Additional review was requested from your office by letter on 28 April 2020 regarding proposed repair for a small section of the Cheat Lake South Trail that was washed out during heavy rains in 2019. A response from your office issued on 8 May 2020 indicated that the proposed project would have no effect on NRHP eligible or potentially eligible resources and that no further cultural resources studies would be necessary for that project.

Several cultural resources are documented within the APE and several are located just outside the APE. The Phase I survey for the Cheat Lake Park and the Cheat Lake Trail identified nineteenth and twentieth century foundations (46MG214), six millstones (46MG212), a coal tipple (46MG211), and the Cheat Haven & Bruceton Railroad bed (46MG213), all within the APE. Also within the APE, the early twentieth century Ices Ferry Bridge (MG-0052) spans Cheat Lake southwest of Lake Lynn. The early twentieth century Lake Lynn powerhouse and dam have not been formally documented but are located within the APE in West Virginia. A survey conducted for the proposed Falling Water Development Project to the east of the APE identified two prehistoric isolated finds (46MG253 and 46MG254). Two other archaeological sites are recorded outside but in some proximity to the APE—46MG83 and 46MG84, both prehistoric rockshelter sites recorded in 1985.

Lake Lynn Hydro LLC respectively requests your participation in this process as we collaborate with the FERC and other state, federal, and tribal agencies to identify and resolve any cultural resources issues related to this Project. We look forward to hearing from you at your earliest convenience. Please do not hesitate to contact me at (919) 475-5507 or hmillis@trccompanies.com should you have any questions concerning this letter or the project.

Sincerely,

Heather Millis

Heather Millis
Office Practice Leader, Cultural Resources

cc: Jody Smet, Lake Lynn Generation
Joyce Foster, TRC Environmental Corporation

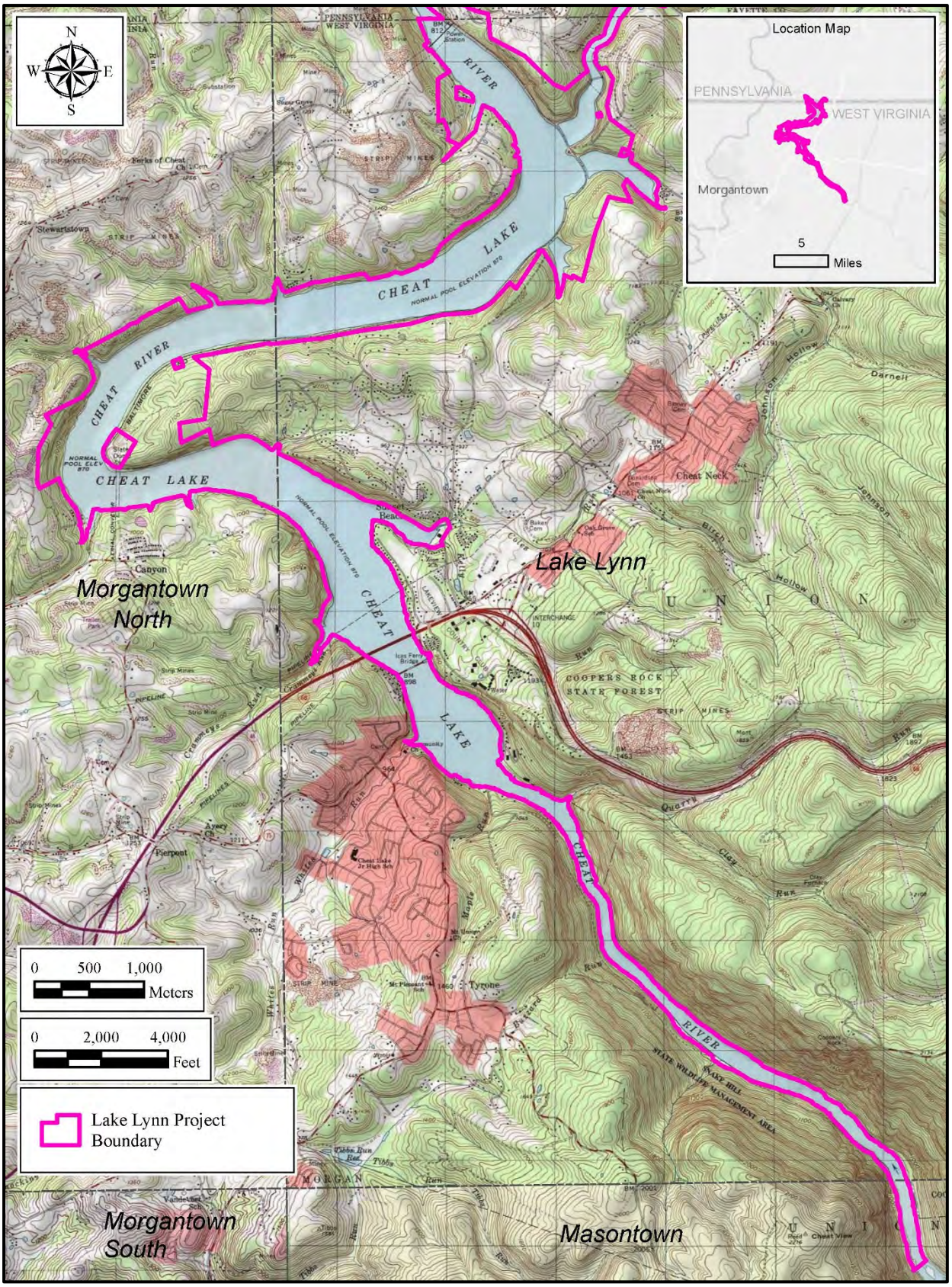


Figure 1. Location of Lake Lynn Hydroelectric Project.

Figure 2. View of Powerhouse and Dam at Lake Lynn Hydroelectric Project.

Figure 3. View of Powerhouse and Dam at Lake Lynn Hydroelectric Project.

Figure 4. View of Dam at Lake Lynn Hydroelectric Project.

Figure 5. View of Powerhouse at Lake Lynn Hydroelectric Project.

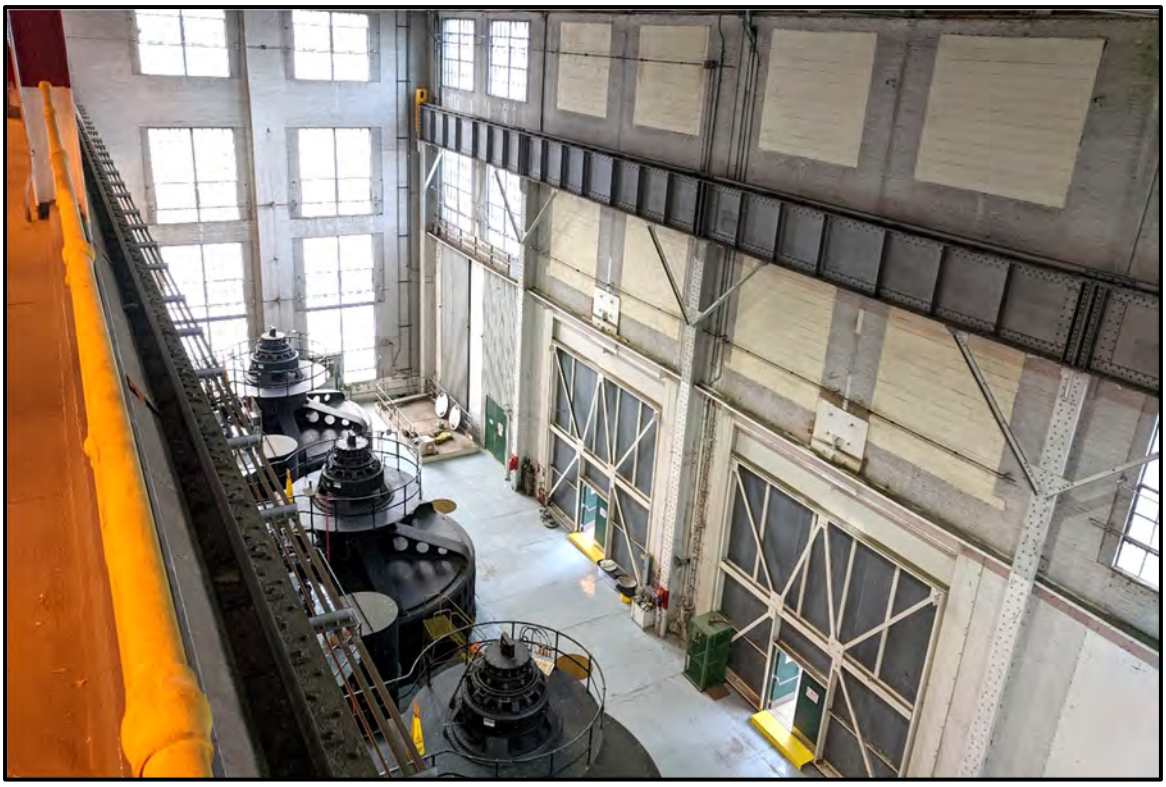


Figure 6. View of Interior of Powerhouse at Lake Lynn Hydroelectric Project.

Figure 7. View of Tailrace Fishing Pier at Lake Lynn Hydroelectric Project.

Figure 8. View of Sluice at Lake Lynn Hydroelectric Project.

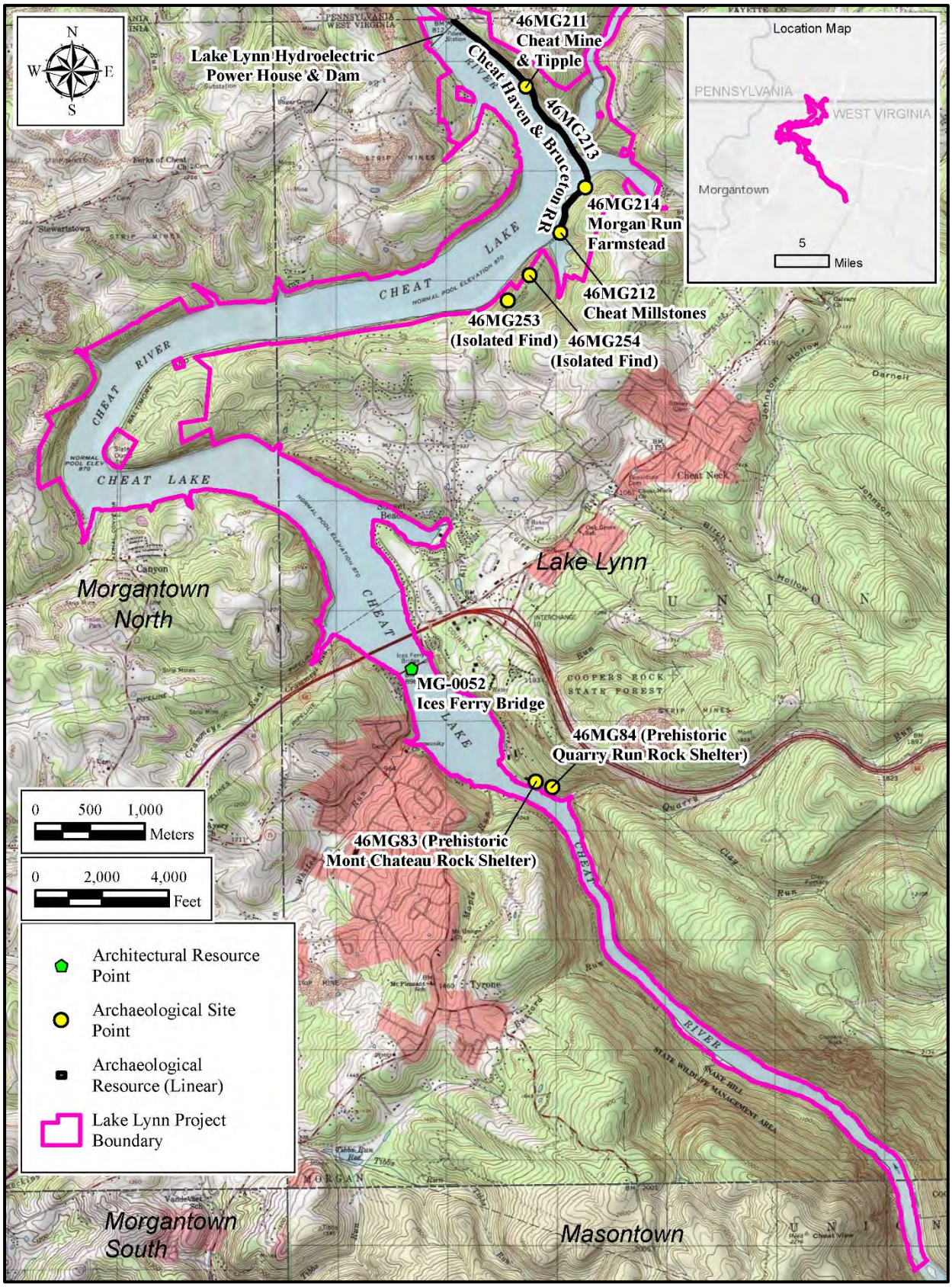


Figure 9. Location of Lake Lynn Hydroelectric Project Showing Nearby Cultural Resources.

Lake Lynn Hydroelectric Relicensing Project, Fayette County, Pennsylvania
Section 106 Review for Compliance

The Lake Lynn Hydroelectric Project (Project) is an existing hydroelectric facility located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania, approximately 10 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence with the Monongahela River (Figure 1). The operator, Lake Lynn Generation, LLC (Lake Lynn) intends to file an application with the Federal Energy Regulatory Commission (FERC) for a new license for the Project (FERC No. 2459) using the Traditional Licensing Process (TLP). Following TLP requirements, Lake Lynn filed a Notice of Intent (NOI) and Pre-Application Document (PAD) with FERC on 29 August 2019, and the Director of the Division of Hydropower Licensing approved Lake Lynn's request to use the TLP on 17 October 2019. The current Project license was issued on December 27, 1994 and expires on November 30, 2024. Lake Lynn intends to complete and distribute the Draft License Application for the Project by 30 November 2021, and a final License Application is scheduled to be filed with FERC no later than 30 November 2022.

The Project consists of a concrete gravity-type dam and spillway controlled by 26 Tainter gates; a reservoir with a surface area of 1,700 acres; a log boom and trash racks at the intake facility; eight gated penstocks of reinforced concrete; a brick powerhouse containing four identical Francis generating units with a total rated capacity of 51.2 MW; dual 138-kV transmission lines; and appurtenant facilities (Figures 2–8). A turbine replacement and upgrade of Unit 2 was completed in 2018. The Project operates as a dispatchable peaking hydroelectric facility with storage capability, and no changes to Project facilities or operations are proposed. The proposed FERC Project Area of Potential Effects (APE) includes approximately 39.7 acres within Pennsylvania.

The NOI and PAD documents were sent to a distribution list comprised of federal and state agencies, tribes, local government representatives, non-governmental organizations (NGOs), and interested parties. Lake Lynn also published a newspaper announcement with information about the Project in *The Herald-Standard* and *The Dominion Post*. FERC provided Project details to the Delaware Nation, Oklahoma, the Delaware Tribe of Indians, and the Osage Nation on 27 June 2019 requesting a response by 2 August 2019 regarding their interest in the Project. As of 28 September 2020, FERC has not received any responses from that request. In addition, Lake Lynn sent Project details on 20 May 2019 to these and 16 additional Native American tribes (the Absentee-Shawnee Tribe of Oklahoma, the Seneca Nation of Indians, the Cayuga Nation, the Shawnee Tribe, the Cherokee Nation, the Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, the Eastern Band of Cherokee Indians, the St. Regis Mohawk Tribe, the Eastern Shawnee Tribe of Oklahoma, the Tonawanda Band of Seneca, the Oneida Indian Nation, the Tuscarora Nation, the Oneida Indian Nation of Wisconsin, the United Keetoowah Band of Cherokee Indians in Oklahoma, the Onondaga Nation, and the Seneca-Cayuga Tribe of Oklahoma) inviting participation in the relicensing process, Lake Lynn has received a response from one Native American tribe. The Cherokee Nation indicated that the Project was outside of its area of interest. Although no specific tribal interests have been identified, Lake Lynn and FERC will continue to communicate with the Native American tribes throughout the relicensing process. Lake Lynn also contacted the Bureau of Indian Affairs (BIA) and requested any information on tribal resources or tribal interests in the vicinity of

the Project but has not received a response from the BIA regarding the Project. Lake Lynn is not aware that the Project affects any Native American tribal lands, tribal cultural sites, or tribal interests.

There is not a comprehensive Cultural Resources Management Plan (CRMP) for the Project, however, individual plans for cultural resources studies have been developed for SHPO review prior to any modifications involving ground disturbance following the stipulations in License Article 414.

Several cultural resources are documented within the APE and several are located just outside the APE (Figure 2). Resources within or partially within the APE include the Fairmont, Morgantown & Pittsburgh Railroad (097804), the Catawba Path (210394), Bridge No. 1 (133794), and archaeological site 36FA0073. The mapped boundary of the Lake Lynn Dam Penn Hill Housing property (101383) extends into the APE, although all of the resources appear to be located outside the APE to the north. A portion of the Lake Lynn Historic District (105909) is located outside the APE to the northeast. The Fairmont, Morgantown & Pittsburg Railroad, constructed in the late nineteenth century, has been determined eligible for the National Register of Historic Places (NRHP) by the PHMC. Bridge No. 1 was constructed in 1949 and has been determined not eligible for the NRHP. The Catawba Path is part of a Native American footpath system that ran from New York to the Carolinas that was documented by Paul Wallace in his 1965 publication Indian Paths of Pennsylvania. This resource is unevaluated for NRHP eligibility. Site 36FA0073 is a prehistoric site dating to an unknown time period that was recorded in 1964 and is unevaluated for NRHP eligibility.

Lake Lynn Hydro LLC respectively requests your participation in this process as we collaborate with the FERC and other state, federal, and tribal agencies to identify and resolve any cultural resources issues related to this Project. We look forward to hearing from you at your earliest convenience. Please do not hesitate to contact me at (919) 475-5507 or hmillis@trccompanies.com should you have any questions concerning this letter or the project.

Sincerely,

Heather Millis

Heather Millis
Office Practice Leader, Cultural Resources

cc: Jody Smet, Lake Lynn Generation
Joyce Foster, TRC Environmental Corporation

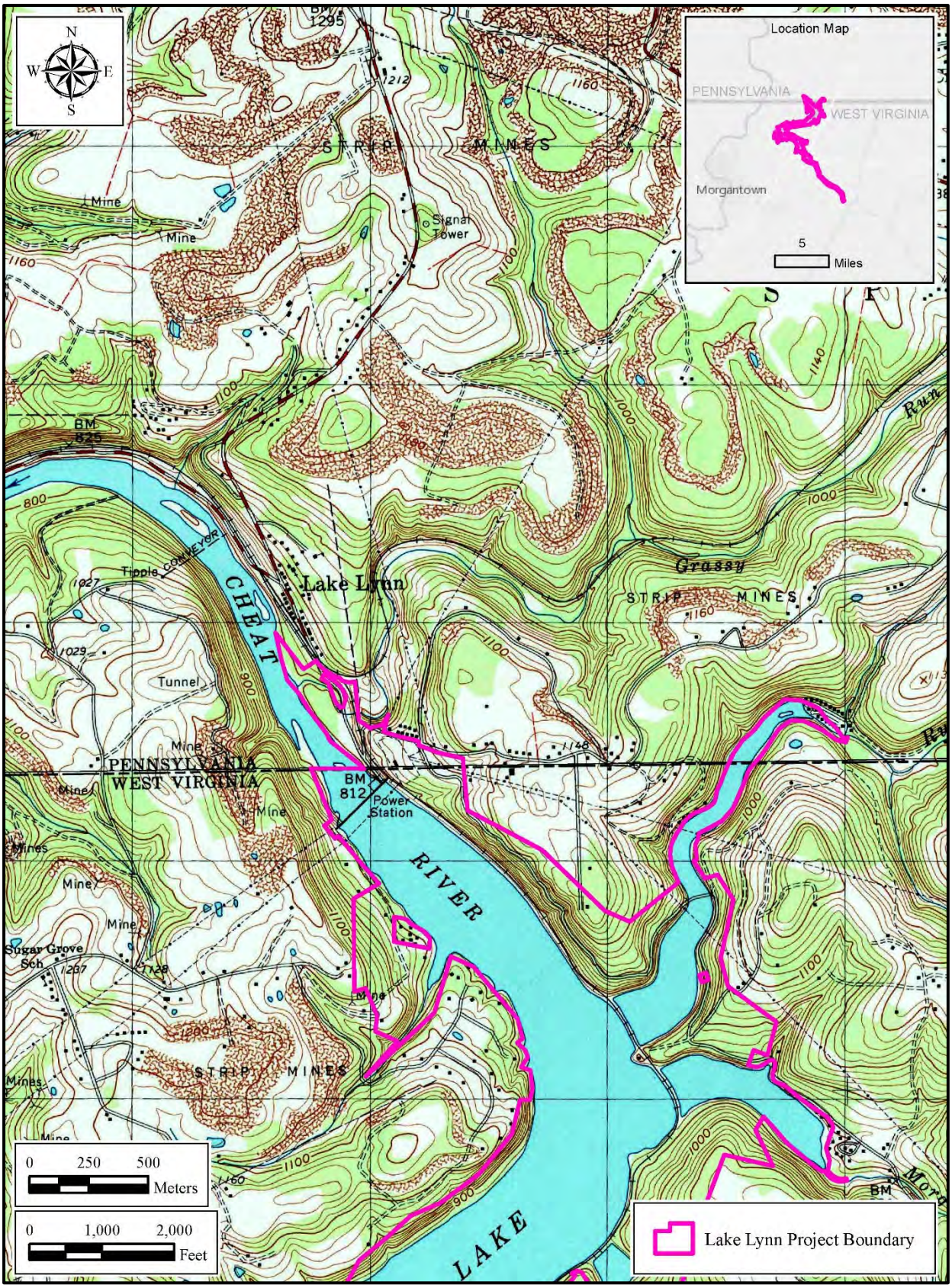


Figure 1. Location of Lake Lynn Hydroelectric Project in Pennsylvania.

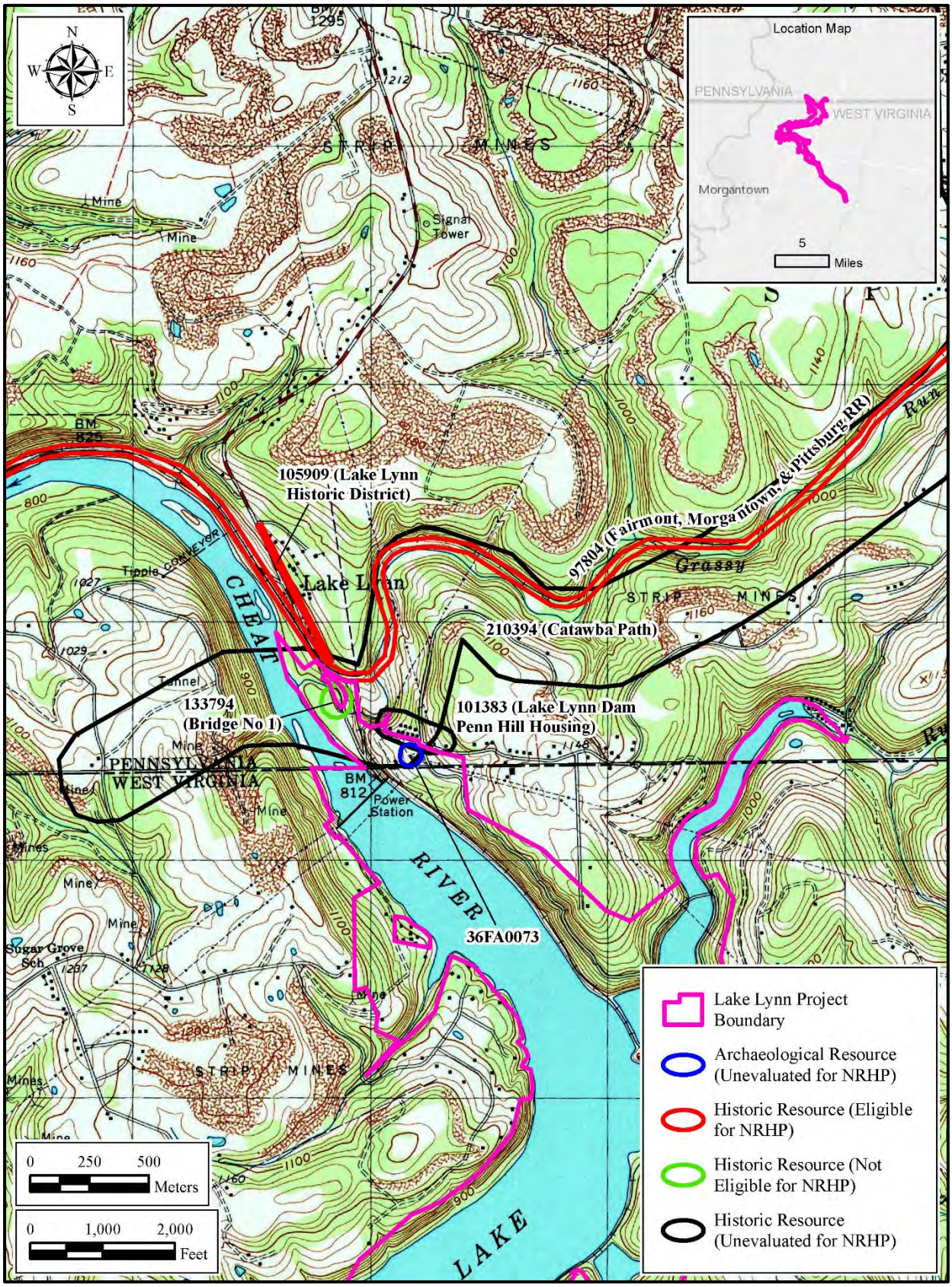


Figure 2. Location of Lake Lynn Hydroelectric Project in Pennsylvania Showing Nearby Cultural Resources.

Joyce Foster

From: Joyce Foster
Sent: Friday, August 5, 2022 7:32 PM
To: gkratina@pa.gov; richard_mccorkle@fws.gov; Megan.K.Gottlieb@usace.army.mil; sean.mcdermott@noaa.gov; Kevin_Mendik@nps.gov; clschref@usgs.gov; smwickle@usgs.gov; Jacob.D.Harrell@wv.gov; Danny.A.Bennett@wv.gov; David.I.Wellman@wv.gov; coopersrocksf@wv.gov; Brian.L.Bridgewater@wv.gov; susan.m.pierce@wv.gov; dadrake@pa.gov; peiswerth@pa.gov; hsmiles@pa.gov; olbraun@pa.gov; gkratina@pa.gov; chnagle@pa.gov; agastbray@moncommission.com; dr.hawk@comcast.net; rmcclure@moncommission.com; vvicites@fayettepa.org; harold.peterson@bia.gov; clint.halftown@gmail.com; ec@delawarenation.com; cbrooks@delawaretribe.org; info@oneida-nation.org; admin@onondaganation.org; wfisher@sctribe.com; cassie@shawnee-tribe.com; tonseneca@aol.com; 106NAGPRA@astribe.com; ethompson@delawarenation-nsn.gov; dkelly@delawarenation.com; sbachor@delawaretribe.org; bbarnes@estoo.net; jbergevin@oneida-nation.org; lmisita@oneida-nation.org; jay.toth@sni.org; wtarrant@sctribe.com; tonya@shawnee-tribe.com; darren.bonaparte@srmt-nsn.gov; bprintup@hetf.org; duane330@aol.com; mstrager@gmail.com; ella@montrails.org; amanda@cheat.org; owen@cheat.org; betty.w304@gmail.com; fjernejcic@comcast.net; greystone.poa@hotmail.com; dgriff66@aol.com; seangoodwin@yahoo.com; graceandparke@yahoo.com; kevin@americanwhitewater.org; birvin@americanrivers.org; smoyer@tu.org; colleen@hydroreform.org; grichardson@cheat.org; DMiller@potesta.com; info@sunsetbeach-marina.com; swelsh@wvu.edu; edgewater@cheatlakedocks.com; stratdouglas@gmail.com; KCampitell@oxforddevelopment.com; shall@jccpgh.org; awagner1595@gmail.com; chestermcgraw@gmail.com; donnaweems@rocketmail.com; davecyndy@frontier.com; szybarnes@yahoo.com; mlutman@comcast.net; Reecejames98@gmail.com; qtrking86@yahoo.com; rogerdalephillips@gmail.com; scalvert@greenrivergroupllc.com; whm0005@mix.wvu.edu; jkotcon@gmail.com; john.spain@ferc.gov; andrew.bernick@ferc.gov
Cc: Joyce Foster
Subject: Lake Lynn Hydro Project (FERC No. 2459) - Draft License Application for review
Attachments: Lake Lynn_P-2459_Cover Letter DLA.pdf

Dear Stakeholder:

Lake Lynn Generation, LLC (Lake Lynn), a subsidiary of Eagle Creek Renewable Energy, is the owner and operator of the Lake Lynn Hydroelectric Project (FERC No. 2459) located on the Cheat River in Monongalia County , WV and Fayette County, PA. The existing Federal Energy Regulatory Commission (FERC) license for the Project expires November 30, 2024. Lake Lynn is providing the Draft License Application (DLA) for the Project to FERC and the relevant resource agencies, tribes, non-governmental organizations, and other interested parties included on the relicensing distribution list (see attached letter). The attached transmittal letter and the DLA was filed with FERC today.

An electronic copy of the DLA can be downloaded at: https://www.dropbox.com/s/w8k76py7drpeluh/Lake%20Lynn_P-2459_Draft%20License%20Application.pdf?dl=0 An electronic copy of the DLA can also be downloaded from FERC's elibrary system at https://elibrary.ferc.gov/eLibrary/search by searching under the FERC Project number (P-2459).

Attached to this e-mail you will find a transmittal letter for the DLA providing additional information. Please provide any written comments on the DLA to my attention by **November 3, 2022** to me at Joyce.Foster@eaglecreekre.com. If you have any questions or have any issues downloading the DLA, please contact me at 804-338-5110 or Joyce.Foster@eaglecreekre.com.

Joyce A. Foster | Director, Licensing and Compliance
Eagle Creek Renewable Energy
Mobile: 804 338 5110
Email: joyce.foster@eaglecreekre.com

Joyce Foster

From: Kathy Kitchin <Kathy.Kitchin@Kleinschmidtgroup.com>
Sent: Thursday, December 1, 2022 1:33 PM
Cc: Angela Whelpley; Joyce Foster
Subject: Lake Lynn Hydroelectric Project FERC Filing

Good afternoon,

On behalf Lake Lynn Generation, LLC (Lake Lynn) this email is to inform you that Lake Lynn has submitted to the Federal Energy Regulatory Commission (FERC) the Final License Application (FLA) for the Lake Lynn Hydroelectric Project Hydroelectric Project; and a follow up filing that consisted of lake level elevations and generation data not filed with the FLA.

The electronic files can be downloaded through FERC's eLibrary at https://elibrary.ferc.gov/eLibrary/docinfo?accession_num=20221130-5341, and https://elibrary.ferc.gov/eLibrary/docinfo?accession_num=20221130-5422 respectively, or by searching under the Projects' docket: P-2459.

If you would like to be removed from this distribution list or have updated contact information, please contact Kathy Kitchin at kathy.kitchin@kleinschmidtgroup.com.

Thanks,

Kathy Kitchin
Project Coordinator

Kleinschmidt
O: 207.416.1201 C: 207.416.5200
Follow us on LinkedIn
We provide practical **solutions** *for renewable energy, water and environmental projects!*

Joyce Foster

From: Joyce Foster
Sent: Tuesday, August 1, 2023 3:18 PM
To: Susan.M.Pierce@wv.gov
Cc: Joyce Foster
Subject: Lake Lynn Hydro Project Relicensing Project - Section 106 Review
Attachments: LakeLynnHydro_FERC Relicensing.pdf

Good afternoon,

The Lake Lynn Hydroelectric Project (Project) is an existing hydroelectric facility located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania, approximately 10 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence with the Monongahela River. Lake Lynn Generation has been working to relicense the Project through the Federal Energy Regulatory Commission (FERC). Lake Lynn Generation submitted the attached project review letter with your office in October 2020 and has since then provided links to your office for the draft and final license applications field with FERC for a new license for the Project (FERC No. 2459). FERC has requested concurrence from your office on the proposed FERC Area of Potential Effects. Please let me know if you have any questions. I would also be happy to discuss the project.

Thank you,

Joyce A. Foster | Director, Licensing and Compliance
Eagle Creek Renewable Energy
Mobile: 804 338 5110
Email: joyce.foster@eaglecreekre.com

50101 Governors Dr.
Suite 250
Chapel Hill, NC 27517

T 919.475.5507
TRCcompanies.com

26 October 2020

Ms. Susan Pierce (via email)
Deputy State Historic Preservation Officer
West Virginia Division of Culture and History
The Culture Center, Capitol Complex
1900 Kanawha Boulevard East
Charleston, West Virginia 25305-0300

Re: Lake Lynn Hydroelectric Relicensing Project, Monongalia County, West Virginia
Section 106 Review for Compliance

Dear Ms. Pierce:

The Lake Lynn Hydroelectric Project (Project) is an existing hydroelectric facility located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania, approximately 10 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence with the Monongahela River (Figure 1). The operator, Lake Lynn Generation, LLC (Lake Lynn) intends to file an application with the Federal Energy Regulatory Commission (FERC) for a new license for the Project (FERC No. 2459) using the Traditional Licensing Process (TLP). Following TLP requirements, Lake Lynn filed a Notice of Intent (NOI) and Pre-Application Document (PAD) with FERC on 29 August 2019, and the Director of the Division of Hydropower Licensing approved Lake Lynn's request to use the TLP on 17 October 2019. The current Project license was issued on December 27, 1994 and expires on November 30, 2024. Lake Lynn intends to complete and distribute the Draft License Application for the Project by 30 November 2021, and a final License Application is scheduled to be filed with FERC no later than 30 November 2022.

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Indians in Oklahoma, the Onondaga Nation, and the Seneca-Cayuga Tribe of Oklahoma) inviting participation in the relicensing process, Lake Lynn has received a response from one Native American tribe. The Cherokee Nation indicated that the Project was outside of its area of interest. Although no specific tribal interests have been identified, Lake Lynn and FERC will continue to communicate with the Native American tribes throughout the relicensing process. Lake Lynn also contacted the Bureau of Indian Affairs (BIA) and requested any information on tribal resources or tribal interests in the vicinity of the Project but has not received a response from the BIA regarding the Project. Lake Lynn is not aware that the Project affects any Native American tribal lands, tribal cultural sites, or tribal interests.

There is not a comprehensive Cultural Resources Management Plan (CRMP) for the Project, however, individual plans for cultural resources studies have been developed for SHPO review prior to any modifications involving ground disturbance following the stipulations in License Article 414. A Phase I archaeological survey was conducted for the proposed development of Cheat Lake Park and the Cheat Lake Trail and reported on 26 April 1996 and additional survey was conducted for that project and reported on 13 April 1998; both studies were conducted by Christine Davis Consultants, Inc. (90-148-MG). A letter dated 26 May 1998 from your office stated that the proposed Cheat Lake Trail would have no effect on any historic properties at the Project and that no further archaeological investigation was required for that project. Additional review was requested from your office by letter on 28 April 2020 regarding proposed repair for a small section of the Cheat Lake South Trail that was washed out during heavy rains in 2019. A response from your office issued on 8 May 2020 indicated that the proposed project would have no effect on NRHP eligible or potentially eligible resources and that no further cultural resources studies would be necessary for that project.

Several cultural resources are documented within the APE and several are located just outside the APE. The Phase I survey for the Cheat Lake Park and the Cheat Lake Trail identified nineteenth and twentieth century foundations (46MG214), six millstones (46MG212), a coal tipple (46MG211), and the Cheat Haven & Bruceton Railroad bed (46MG213), all within the APE. Also within the APE, the early twentieth century Ices Ferry Bridge (MG-0052) spans Cheat Lake southwest of Lake Lynn. The early twentieth century Lake Lynn powerhouse and dam have not been formally documented but are located within the APE in West Virginia. A survey conducted for the proposed Falling Water Development Project to the east of the APE identified two prehistoric isolated finds (46MG253 and 46MG254). Two other archaeological sites are recorded outside but in some proximity to the APE—46MG83 and 46MG84, both prehistoric rockshelter sites recorded in 1985.

Lake Lynn Hydro LLC respectively requests your participation in this process as we collaborate with the FERC and other state, federal, and tribal agencies to identify and resolve any cultural resources issues related to this Project. We look forward to hearing from you at your earliest convenience. Please do not hesitate to contact me at (919) 475-5507 or hmillis@trccompanies.com should you have any questions concerning this letter or the project.

Sincerely,

Heather Millis

Heather Millis
Office Practice Leader, Cultural Resources

cc: Jody Smet, Lake Lynn Generation
Joyce Foster, TRC Environmental Corporation

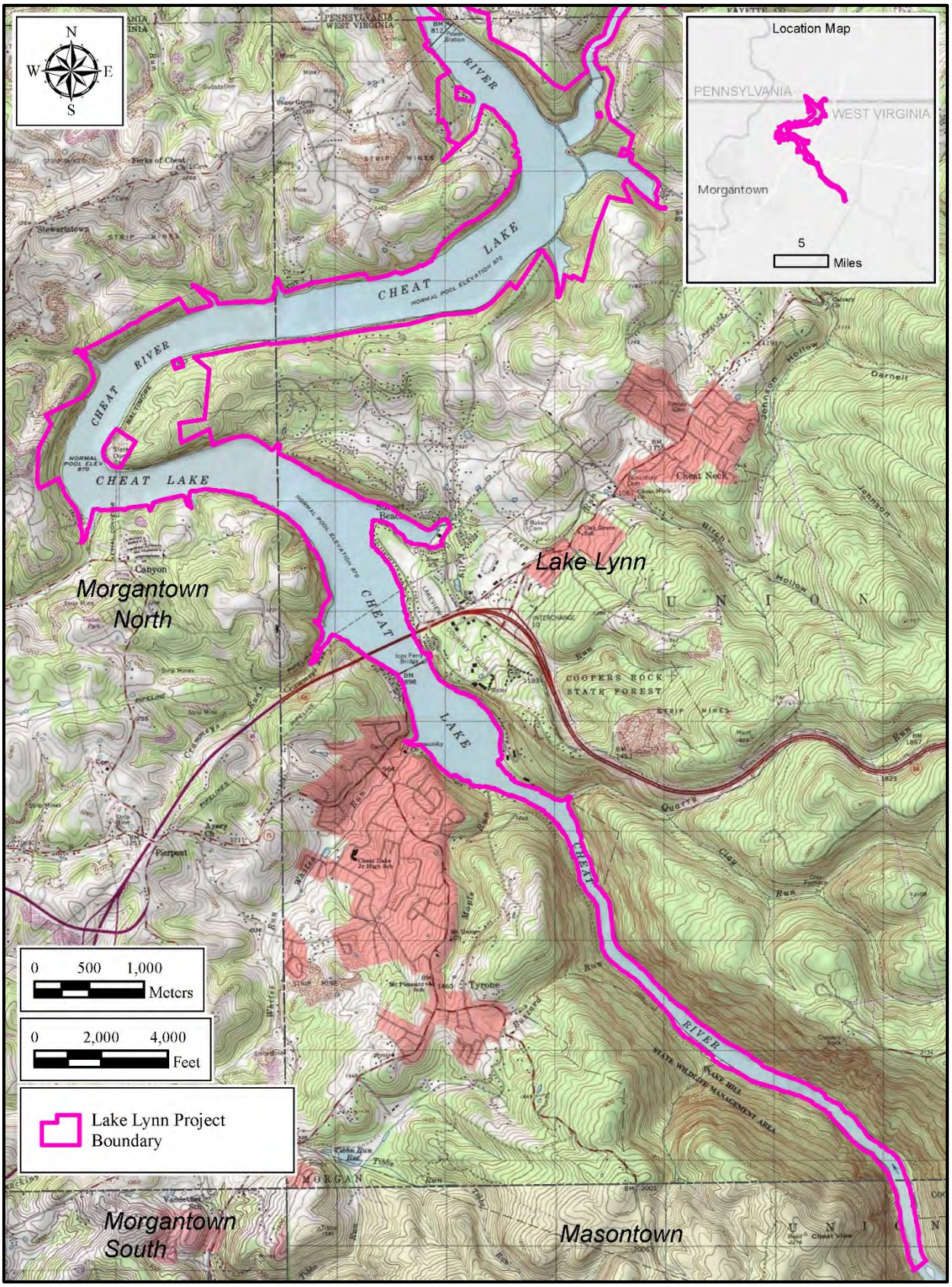


Figure 1. Location of Lake Lynn Hydroelectric Project.

Figure 2. View of Powerhouse and Dam at Lake Lynn Hydroelectric Project.

Figure 3. View of Powerhouse and Dam at Lake Lynn Hydroelectric Project.

Figure 4. View of Dam at Lake Lynn Hydroelectric Project.

Figure 5. View of Powerhouse at Lake Lynn Hydroelectric Project.

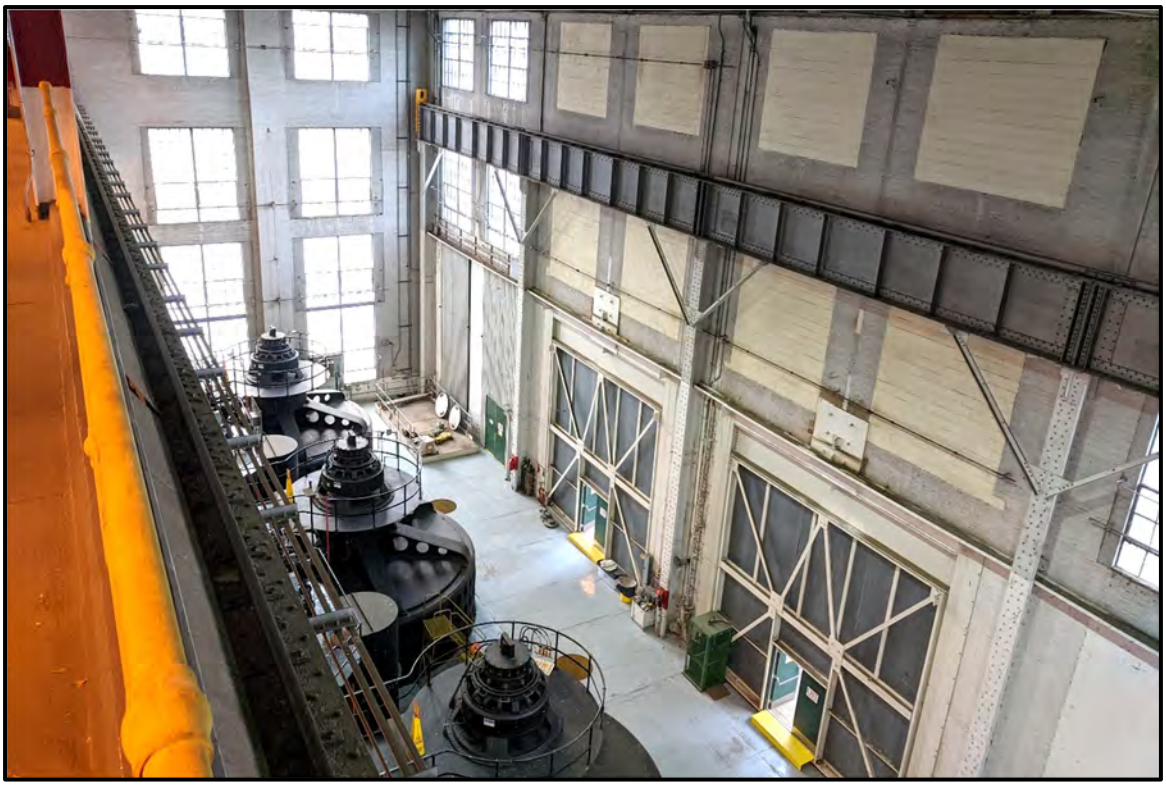


Figure 6. View of Interior of Powerhouse at Lake Lynn Hydroelectric Project.

Figure 7. View of Tailrace Fishing Pier at Lake Lynn Hydroelectric Project.

Figure 8. View of Sluice at Lake Lynn Hydroelectric Project.

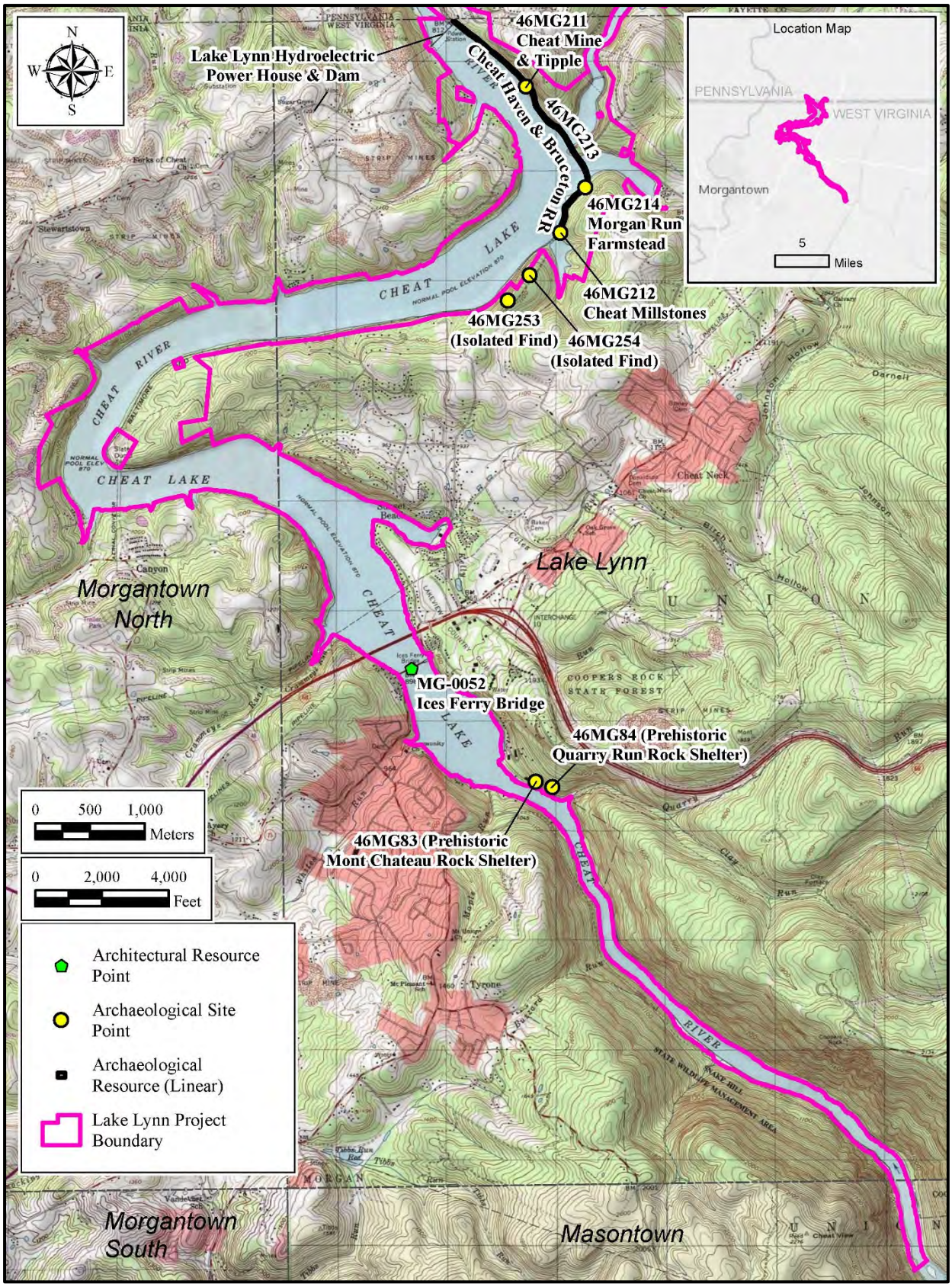


Figure 9. Location of Lake Lynn Hydroelectric Project Showing Nearby Cultural Resources.

Joyce Foster

From: Joyce Foster
Sent: Tuesday, August 1, 2023 3:25 PM
To: bafrederic@pa.gov; emdiehl@pa.gov
Cc: Joyce Foster
Subject: Lake Lynn Hydro Project Relicensing Project - Section 106 Review
Attachments: LakeLynnHydro_FERC Relicensing PA.pdf

Good afternoon,

The Lake Lynn Hydroelectric Project (Project) is an existing hydroelectric facility located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania, approximately 10 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence with the Monongahela River. Lake Lynn Generation has been working to relicense the Project through the Federal Energy Regulatory Commission (FERC). Lake Lynn Generation submitted the attached project review with your office in October 2020 and has since then provided links to your office for the draft and final license applications field with FERC for a new license for the Project (FERC No. 2459). FERC has requested concurrence from your office on the proposed FERC Area of Potential Effects. Please let me know if you have any questions. I would also be happy to discuss the project.

Thank you,

Joyce A. Foster | Director, Licensing and Compliance
Eagle Creek Renewable Energy
Mobile: 804 338 5110
Email: joyce.foster@eaglecreekre.com

Lake Lynn Hydroelectric Relicensing Project, Fayette County, Pennsylvania
Section 106 Review for Compliance

The Lake Lynn Hydroelectric Project (Project) is an existing hydroelectric facility located on the Cheat River in Monongalia County, West Virginia and Fayette County, Pennsylvania, approximately 10 miles northeast of Morgantown, West Virginia and about 3.7 miles upstream of the confluence with the Monongahela River (Figure 1). The operator, Lake Lynn Generation, LLC (Lake Lynn) intends to file an application with the Federal Energy Regulatory Commission (FERC) for a new license for the Project (FERC No. 2459) using the Traditional Licensing Process (TLP). Following TLP requirements, Lake Lynn filed a Notice of Intent (NOI) and Pre-Application Document (PAD) with FERC on 29 August 2019, and the Director of the Division of Hydropower Licensing approved Lake Lynn's request to use the TLP on 17 October 2019. The current Project license was issued on December 27, 1994 and expires on November 30, 2024. Lake Lynn intends to complete and distribute the Draft License Application for the Project by 30 November 2021, and a final License Application is scheduled to be filed with FERC no later than 30 November 2022.

The Project consists of a concrete gravity-type dam and spillway controlled by 26 Tainter gates; a reservoir with a surface area of 1,700 acres; a log boom and trash racks at the intake facility; eight gated penstocks of reinforced concrete; a brick powerhouse containing four identical Francis generating units with a total rated capacity of 51.2 MW; dual 138-kV transmission lines; and appurtenant facilities (Figures 2–8). A turbine replacement and upgrade of Unit 2 was completed in 2018. The Project operates as a dispatchable peaking hydroelectric facility with storage capability, and no changes to Project facilities or operations are proposed. The proposed FERC Project Area of Potential Effects (APE) includes approximately 39.7 acres within Pennsylvania.

The NOI and PAD documents were sent to a distribution list comprised of federal and state agencies, tribes, local government representatives, non-governmental organizations (NGOs), and interested parties. Lake Lynn also published a newspaper announcement with information about the Project in *The Herald-Standard* and *The Dominion Post*. FERC provided Project details to the Delaware Nation, Oklahoma, the Delaware Tribe of Indians, and the Osage Nation on 27 June 2019 requesting a response by 2 August 2019 regarding their interest in the Project. As of 28 September 2020, FERC has not received any responses from that request. In addition, Lake Lynn sent Project details on 20 May 2019 to these and 16 additional Native American tribes (the Absentee-Shawnee Tribe of Oklahoma, the Seneca Nation of Indians, the Cayuga Nation, the Shawnee Tribe, the Cherokee Nation, the Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, the Eastern Band of Cherokee Indians, the St. Regis Mohawk Tribe, the Eastern Shawnee Tribe of Oklahoma, the Tonawanda Band of Seneca, the Oneida Indian Nation, the Tuscarora Nation, the Oneida Indian Nation of Wisconsin, the United Keetoowah Band of Cherokee Indians in Oklahoma, the Onondaga Nation, and the Seneca-Cayuga Tribe of Oklahoma) inviting participation in the relicensing process, Lake Lynn has received a response from one Native American tribe. The Cherokee Nation indicated that the Project was outside of its area of interest. Although no specific tribal interests have been identified, Lake Lynn and FERC will continue to communicate with the Native American tribes throughout the relicensing process. Lake Lynn also contacted the Bureau of Indian Affairs (BIA) and requested any information on tribal resources or tribal interests in the vicinity of

the Project but has not received a response from the BIA regarding the Project. Lake Lynn is not aware that the Project affects any Native American tribal lands, tribal cultural sites, or tribal interests.

There is not a comprehensive Cultural Resources Management Plan (CRMP) for the Project, however, individual plans for cultural resources studies have been developed for SHPO review prior to any modifications involving ground disturbance following the stipulations in License Article 414.

Several cultural resources are documented within the APE and several are located just outside the APE (Figure 2). Resources within or partially within the APE include the Fairmont, Morgantown & Pittsburgh Railroad (097804), the Catawba Path (210394), Bridge No. 1 (133794), and archaeological site 36FA0073. The mapped boundary of the Lake Lynn Dam Penn Hill Housing property (101383) extends into the APE, although all of the resources appear to be located outside the APE to the north. A portion of the Lake Lynn Historic District (105909) is located outside the APE to the northeast. The Fairmont, Morgantown & Pittsburg Railroad, constructed in the late nineteenth century, has been determined eligible for the National Register of Historic Places (NRHP) by the PHMC. Bridge No. 1 was constructed in 1949 and has been determined not eligible for the NRHP. The Catawba Path is part of a Native American footpath system that ran from New York to the Carolinas that was documented by Paul Wallace in his 1965 publication Indian Paths of Pennsylvania. This resource is unevaluated for NRHP eligibility. Site 36FA0073 is a prehistoric site dating to an unknown time period that was recorded in 1964 and is unevaluated for NRHP eligibility.

Lake Lynn Hydro LLC respectively requests your participation in this process as we collaborate with the FERC and other state, federal, and tribal agencies to identify and resolve any cultural resources issues related to this Project. We look forward to hearing from you at your earliest convenience. Please do not hesitate to contact me at (919) 475-5507 or hmillis@trccompanies.com should you have any questions concerning this letter or the project.

Sincerely,

Heather Millis

Heather Millis
Office Practice Leader, Cultural Resources

cc: Jody Smet, Lake Lynn Generation
Joyce Foster, TRC Environmental Corporation

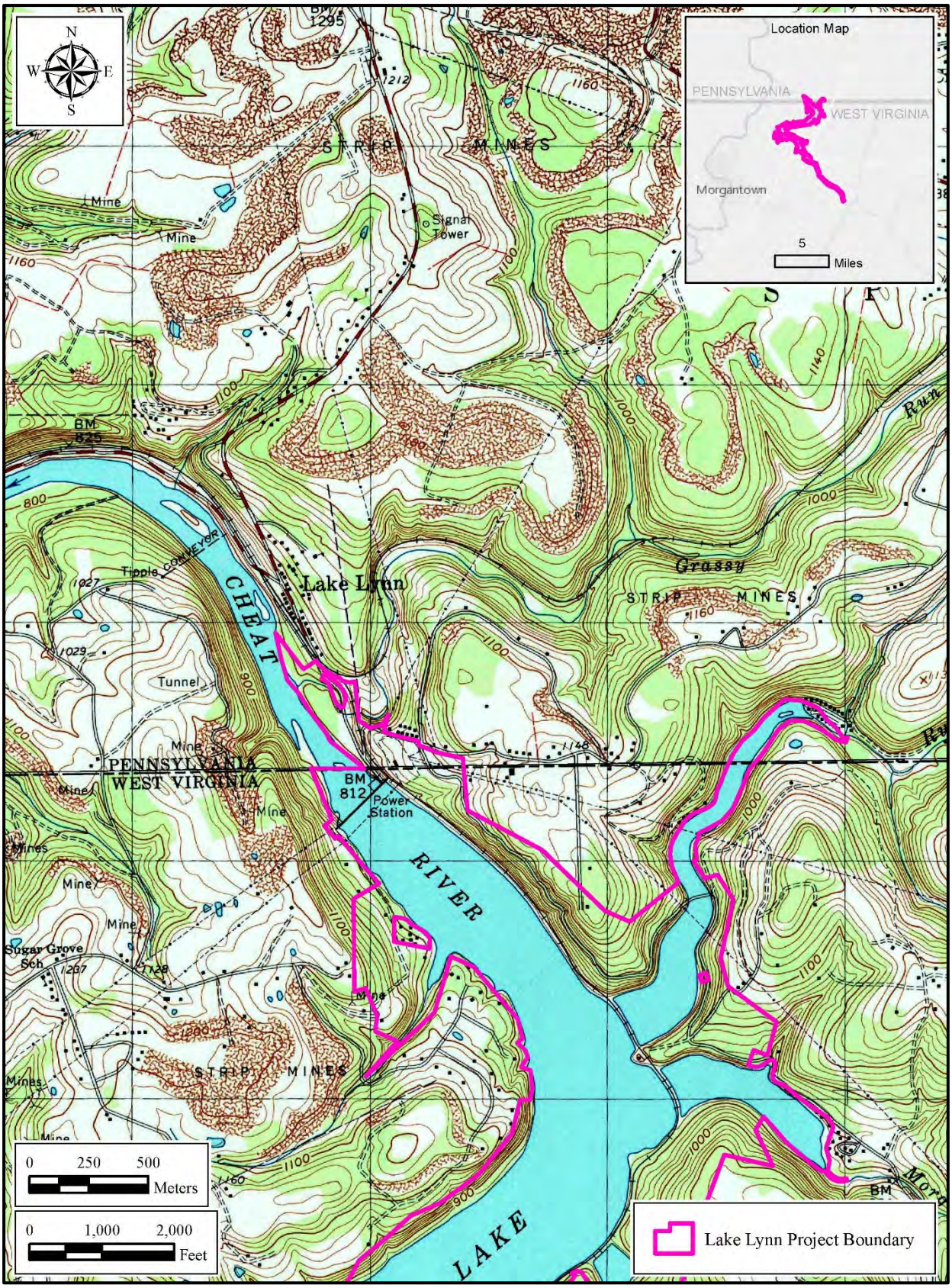


Figure 1. Location of Lake Lynn Hydroelectric Project in Pennsylvania.

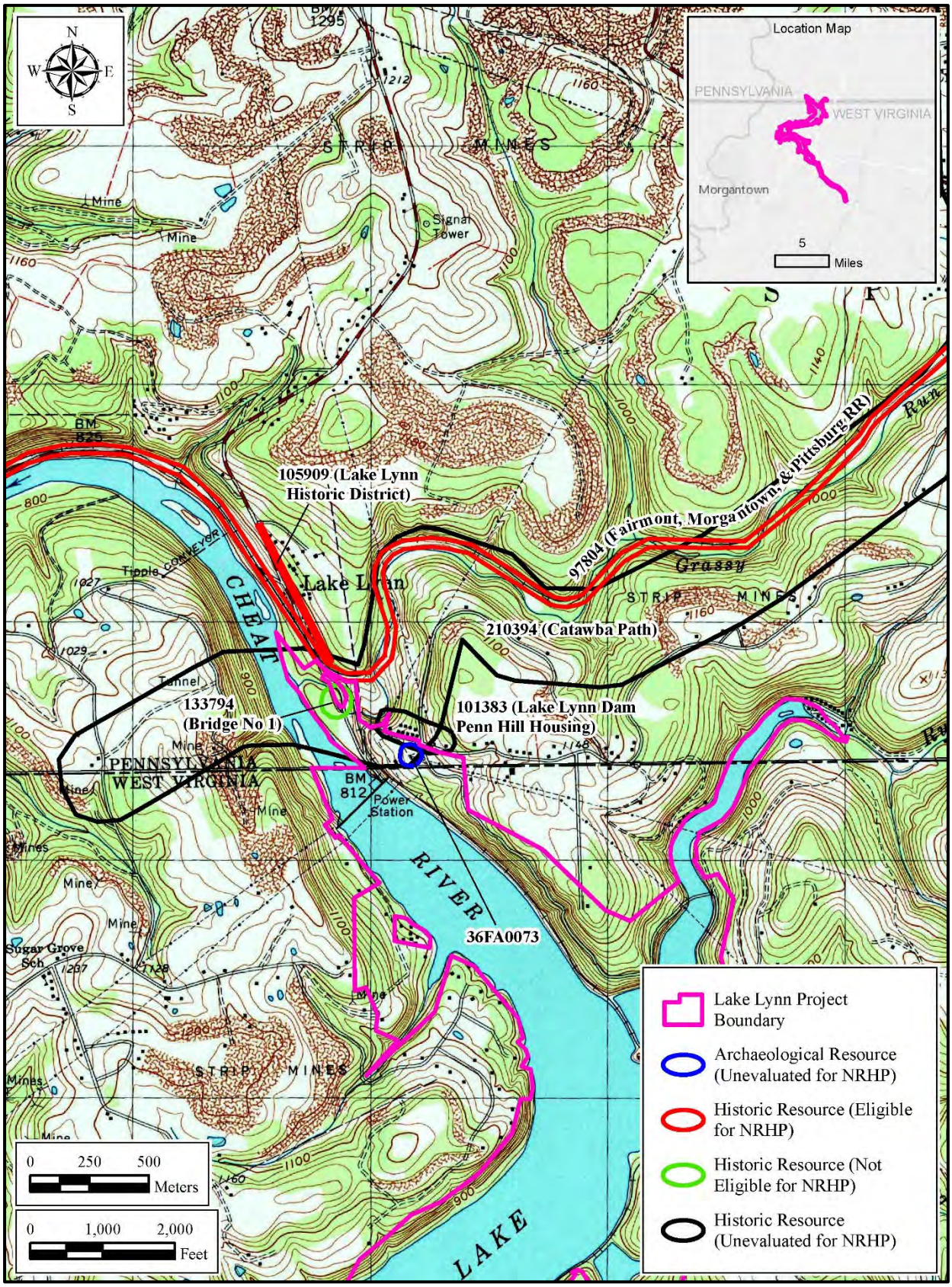
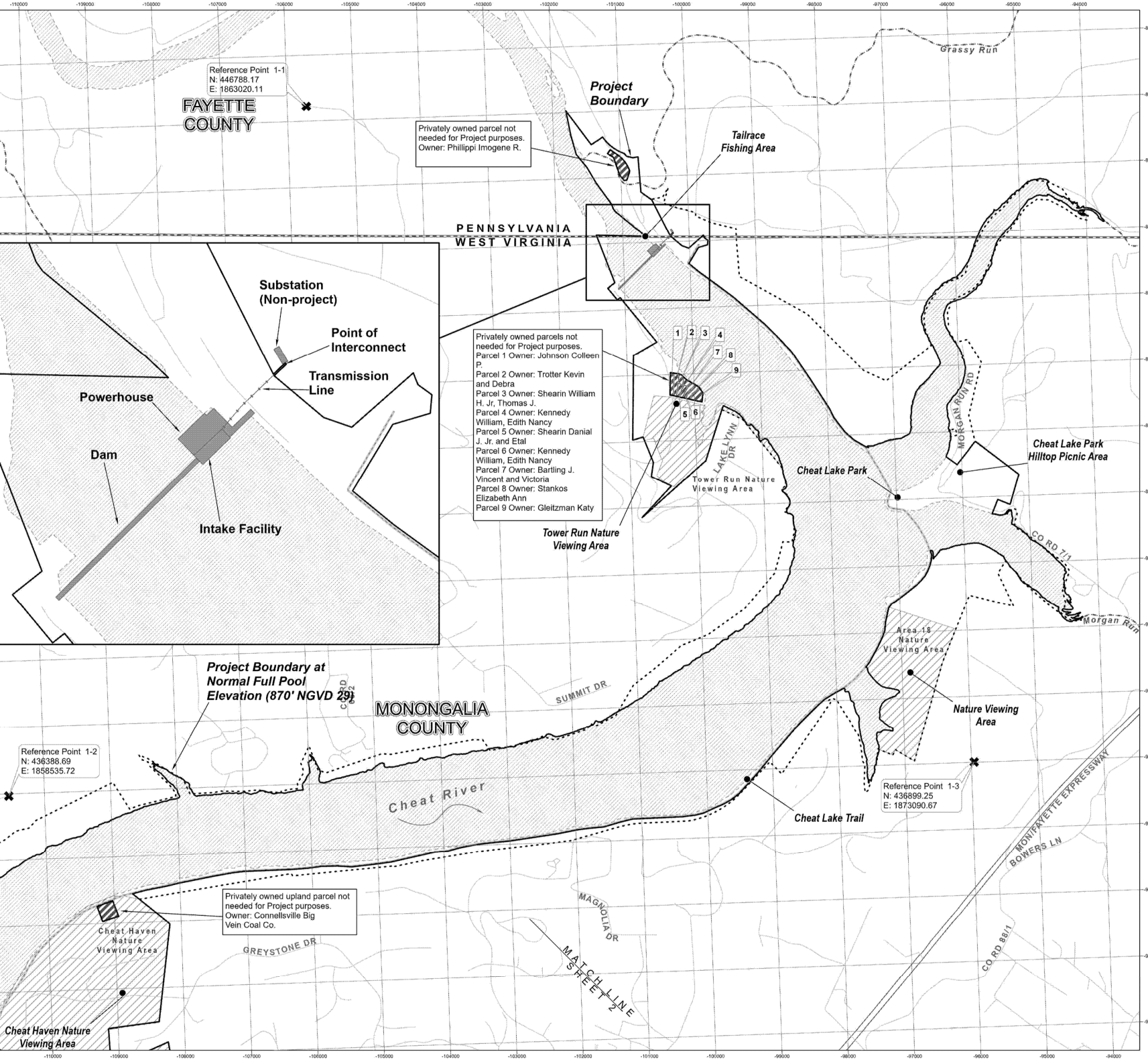
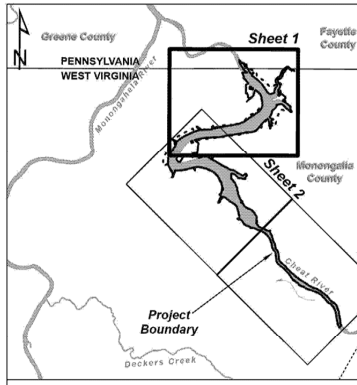


Figure 2. Location of Lake Lynn Hydroelectric Project in Pennsylvania Showing Nearby Cultural Resources.





9.19°W
4/9/2021

- Project Boundary (Proposed)
- Project Boundary (Existing)
- Reference Point
- Recreation Site
- Nature Viewing Recreation Area
- Features
- Hydrography
- Waterbody
- Interstate
- Road

Map notes:

1. The Lake Lynn Project is located in the States of W Pennsylvania in Monongalia and Fayette Counties, re
2. Reference Point coordinates are shown in NAD 198 Virginia North FIPS 4701 Ft US.
3. Elevations shown are referenced to NGVD 29, whe 0.378 ft. Conversion factor was determined from The Conversion and Transformation Tool (NCAT).
4. Licensee has acquired all flowage rights and title in perpetuity all lands necessary or appropriate for the c and operation of the Project. All property records are licensee.
5. There are no federal lands within the Project bound
6. The Project boundary description, as required by 18 represented here by a grid of Northings and Eastings within, the map frame. Any position in Northings and E boundary can be determined using these references.
7. The Project boundary, in part, was digitized from co from USGS WV Southcentral LiDAR data (USGS 201

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE O THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION O THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED O THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFEREN SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYS (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOS OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

LAKE LYNN GENERATION, L

LAKE LYNN HYDROELECTRI
FERC NO. 2459

PROJECT BOUNDARY M

EXHIBIT G SCALE: 1" = 750'

0 500 1,000 2,000 3,00