KEI (USA) Power Management Inc.
423 Brunswick Avenue
Gardiner, ME 04345
Tel.: (207) 203-3025

June 7, 2022

VIA E-FILING

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

Additional Information Request Response
Lowell Tannery Hydroelectric Project (FERC No. 4202-025)

Dear Secretary Bose:

On September 28, 2021, KEI (Maine) Power Management (II) LLC (KEI Power) filed a license application for the relicensing of the Lowell Tannery Hydroelectric Project, Federal Energy Regulatory Commission (FERC) No. 4202 (Project). On February 15, 2022, KEI Power filed a response to FERC's November 17, 2021 Deficiency of License Application and Additional Information Request (AIR) pertaining to the license application. On March 9, 2022, FERC identified additional deficiencies and AIRs.

Attached hereto are KEI Powers response to the March 9, 2022 deficiency and AIRs, including additional information for Exhibit F (Supporting Design Report), Exhibit E (project outflow information), and Exhibit G (project boundary calculations).

If there are any questions or comments related to this filing, please contact me at (207) 203-3027 or by email at Lewis.Loon@kruger.com.

Sincerely,

Lewis C. Loon, General Manager
Operations and Maintenance – USA/QC
Lewis.Loon@kruger.com
Telephone: (207) 203-3025

Attachments (see above list)

cc: Distribution List

ATTACHMENT A

RESPONSES TO DEFICIENCIES AND ADDITIONAL INFORMATION REQUEST

Deficiency – Exhibit F

1. As identified in item 5 of Schedule A of staff's November 17, 2021 letter, section 4.41(g) of the Commission's regulations requires a Supporting Design Report (SDR) that includes information demonstrating that the existing and proposed project structures are safe and adequate to fulfill their stated functions. The SDR filed on February 16, 2022, does not clearly demonstrate that existing and proposed structures are safe and adequate to fulfill their stated functions. The SDR includes scanned information from 1986 and 1987, including handwritten information that is not legible in a number of locations. Due to the poor quality of the scanned text in the SDR, Commission staff cannot review it to evaluate whether it is consistent with section 4.41(g)(3) of the Commission's regulations and Chapter 3 of the Commission's Engineering Guidelines. The SDR also appears to be missing information required by the Commission's regulations, including items required by sections 4.41(g)(3)(iv) and 4.41(g)(3)(v) of the Commission's regulations. In addition, the SDR appears to be lacking justification for the assumed foundation shear strength parameters based on the geologic conditions at the project site. Please file a legible SDR that includes information to demonstrate both existing and proposed structures and operations would be safe and adequate to fulfill their stated functions, including the information required by section 4.41(g)(3) of the Commission's regulations and Chapter 3 of the Commission's Engineering Guidelines.

KEI Power Response:

In response to FERC's information request, KEI developed stability calculations for primary project structures, contained in the Supporting Design document being provided with this filing (Attachment B). The stability analysis determined that the structures evaluated are stable for all load cases.

Additional Information Request - Exhibit E

1. As identified in staff's January 13, 2022 letter, the 2021 upstream fish passage study report filed in Appendix C of Exhibit E of the license application, does not describe flow releases from the spillway sections, log sluice, outlet gate, or powerhouse during the study period. To provide a complete understanding of project operation during the 2021 study period, please provide the quantity and location of all project outflows on each sampling day during the 2021 study, including the Denil fishway, bypass pipe, powerhouse, north spillway section, outlet gate, log sluice, and south spillway section.

KEI Power Response:

The Passadumkeag River is not currently gaged by the USGS so real time river flow data is not available. The project is operated in run of river mode with inflow first passed via the upstream and downstream fish passage facilities during fish passage season, 40 cfs and 20 cfs, respectively. The generating unit is then operated as impoundment level increases above the top of flashboard elevation to maintain impoundment level. Although KEI does not have unit data equating generation to unit flow, the unit is brought online when the impoundment level reaches approximately 0.4 feet of spill, equating to approximately the

minimum unit capacity of 90 cfs. Through monitoring impoundment elevation, KEI takes the unit offline when impoundment level reaches approximately 0.4 feet below the top of the flashboards in order to maintain fish passage flows and remain within the water level fluctuation of one foot or less as defined by Condition #1 of the MDEP's water quality certification for the project.

As discussed in the Appendix C study report of Exhibit E, fish sampling for tagging began on May 13, 2021 and the radio telemetry array was dismantled on July 24, therefore KEI reviewed operations data for that period. Impoundment elevation data is unavailable for May 13 – May 24 of that period due to monitoring equipment failure, which was repaired and functional on May 13. Based upon impoundment level data as compared to the top of flashboard elevation, KEI determined that no spill over the north and south spillway sections occurred for the period May 24 – June 12, when the unit was taken off line and from July 12 – July 24 when the unit was also operated. Spill occurred from June 13 – July 12, 2022 when the unit was offline which is estimated to have ranged from 3 to 106 cfs during that period. KEI also notes that additional unknow quantity of spill was occurring throughout the study because portions of flashboards had partially detached from the pins and upper sections were partially leaning in a downstream direction. No flow was passed through the outlet (Tainter) gate or log sluice during the study period.

				Estimated Spill (cfs)							
Date	Average Daily Impoundment Elevation	Spill (feet)	Spillage Occuring (Y/N)	North Spillway	Outlet (Tainter) Gate	Log Sluice	South Spillway	Total	Upstream Fish Passage (Denil) Flow (cfs)	Downstream Fish Passage Flow (cfs)	Unit Generation (kW - Avg. Hourly)
5/13/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	656
5/14/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	668
5/15/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	594
5/16/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	623
5/17/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	577
5/18/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	536
5/19/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	473
5/20/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	416
5/21/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	381
5/22/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	343
5/23/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	334
5/24/2021	Not Available	-	Not Available	-	-	-	-	-	40	20	303
5/25/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	266
5/26/2021	187.31	(0.19)	No	0	0	0	0	0	40	20	242
5/27/2021	187.29	(0.21)	No	0	0	0	0	0	40	20	186
5/28/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	165
5/29/2021	187.28	(0.22)	No	0	0	0	0	0	40	20	114
5/30/2021	187.26	(0.24)	No	0	0	0	0	0	40	20	97
5/31/2021	187.28	(0.22)	No	0	0	0	0	0	40	20	137
6/1/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	258
6/2/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	394
6/3/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	486
6/4/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	512
6/5/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	481
6/6/2021	187.29	(0.21)	No	0	0	0	0	0	40	20	470
6/7/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	378
6/8/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	340
6/9/2021	187.31	(0.19)	No	0	0	0	0	0	40	20	262
6/10/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	210
6/11/2021	187.28	(0.22)	No	0	0	0	0	0	40	20	138
6/12/2021	187.31	(0.19)	No	0	0	0	0	0	40	20	52
6/13/2021	187.57	0.07	Yes	2	0	0	5	7	40	20	0
6/14/2021	187.63	0.13	Yes	4	0	0	14	18	40	20	0
6/15/2021	187.62	0.12	Yes	4	0	0	12	16	40	20	0
6/16/2021	187.61	0.11	Yes	3	0	0	11	14	40	20	0
6/17/2021	187.59	0.09	Yes	2	0	0	8	10	40	20	0
6/18/2021	187.58	0.08	Yes	2	0	0	7	9	40	20	5
6/19/2021	187.57	0.07	Yes	2	0	0	5	7	40	20	0
6/20/2021	187.56	0.06	Yes	1	0	0	4	6	40	20	0
6/21/2021	187.55	0.05	Yes	1	0	0	3	4	40	20	0
6/22/2021	187.55	0.05	Yes	1	0	0	3	4	40	20	0
6/23/2021	187.57	0.07	Yes	2	0	0	5	7	40	20	0
6/24/2021	187.58	0.08	Yes	2	0	0	7	9	40	20	0
6/25/2021	187.60	0.10	Yes	3	0	0	9	12	40	20	0
6/26/2021	187.61	0.11	Yes	3	0	0	11	14	40	20	0
6/27/2021	187.60	0.10	Yes	3	0	0	9	12	40	20	0
6/28/2021	187.59	0.09	Yes	2	0	0	8	10	40	20	0
6/29/2021	187.59	0.09	Yes	2	0	0	8	10	40	20	0
6/30/2021	187.57	0.07	Yes	2	0	0	5	7	40	20	0
7/1/2021	187.56	0.06	Yes	1	0	0	5	6	40	20	0
7/2/2021	187.56	0.06	Yes	1	0	0	4	5	40	20	0
7/3/2021	187.54	0.04	Yes	1	0	0	2	3	40	20	0
7/4/2021	187.57	0.07	Yes	2	0	0	6	8	40	20	0
7/5/2021	187.62	0.12	Yes	4	0	0	12	15	40	20	0
7/6/2021	187.66	0.16	Yes	6	0	0	18	24	40	20	0
7/7/2021	187.68	0.18	Yes	7	0	0	22	28	40	20	0
7/8/2021	187.67	0.17	Yes	7	0	0	21	28	40	20	0
7/9/2021	187.69	0.19	Yes	7	0	0	24	31	40	20	0
7/10/2021	187.82	0.32	Yes	17	0	0	54	71	40	20	0
7/11/2021	187.92	0.42	Yes	25	0	0	81	106	40	20	0
7/12/2021	187.66	0.16	Yes	6	0	0	19	24	40	20	528
7/13/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	507
7/14/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	451
7/15/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	357
7/16/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	317
7/17/2021	187.29	(0.21)	No	0	0	0	0	0	40	20	248
7/18/2021	187.31	(0.19)	No	0	0	0	0	0	40	20	236
7/19/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	163
7/20/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	203
7/21/2021	187.31	(0.19)	No	0	0	0	0	0	40	20	214
7/22/2021	187.29	(0.21)	No	0	0	0	0	0	40	20	208
7/23/2021	187.30	(0.20)	No	0	0	0	0	0	40	20	200
7/24/2021	187.28	(0.22)	No	0	0	0	0	0	40	20	128

Discharge Coeffi	3.3			3.3
Spillway Length	27.2			89

Exhibit G

2. In response to item 15 of staff's November 17, 2021 letter, KEI Power explained that it is proposing changes to the current project boundary. KEI Power's February 16, 2022 letter, states that the revised project boundary extends approximately four miles upstream of the dam to reflect the backwater effects of the impoundment. Please provide the following information in tabular format: (1) the total surface area of the impoundment (in acres) in the proposed project boundary at the normal maximum surface elevation of the impoundment; (2) the total surface area of the impoundment (in acres) in the current project boundary at the normal maximum surface elevation of the impoundment; (3) the total area of land and water (in acres, for each) in the proposed project boundary above the normal maximum surface elevation of the impoundment; and (4) the total area of land and water (in acres, for each) in the current project boundary above the normal maximum surface elevation of the impoundment. For any land and water in the proposed project boundary upstream of the project dam that is above the normal maximum surface elevation of the impoundment, please identify why the land is needed for project purposes, including for the operation and maintenance of the project or for other project purposes, such as recreation, shoreline control, or protection of environmental resources.

KEI Power Response:

Because the proposed change in project boundary is strictly due to encompassing the extent of hydraulic/backwater effects of the Project, no additional lands are deemed necessary for project purposes or proposed within the boundary. Land and water acreages for the existing and proposed boundary are:

	Area (Acres)
Proposed Project Boundary	
Total Surface Area of Impoundment	341.01
Total Land Within Boundary	1.06
Total Water Within Boundary	341.61
Current Project Boundary	
Total Surface Area of Impoundment	81.00
Total Land Within Boundary	1.06
Total Water Within Boundary	81.60

ATTACHMENT B

SUPPORTING DESIGN REPORT

(Filed separately with FERC as CEII)

Document Content(s)