

**YORK ENERGY STORAGE LLC**  
**4824 Briarwood Circle**  
**Reading, Pa. 19606**

To: FEDERAL ENERGY REGULATORY COMMISSION

888 First Street

NE Washington, DC 20426

Re: Application for a Preliminary Permit

January 15, 2024

Gentlemen and Ladies:

Attached is our resubmittal of an application for a Preliminary Permit for a new pumped storage project in Pennsylvania. The most recent York Energy Storage (YES) application for a Preliminary Permit was filed with FERC on November 14, 2023 and was assigned docket P-15332. This application was considered deficient as explained in FERC's letter to YES dated January 5, 2024 and additional information was requested. The two deficiencies cited, additional County addresses (**Attachment E**) and Site Plan Title Block improvements (**Attachment C**), are addressed herein.

If there are any questions on this re-application, please let me know.

Respectfully Submitted:



William M. McMahon Jr., Member

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

**Application for Preliminary Permit**

(a) Initial Statement:

- (1) York Energy Storage LLC applies to the Federal Energy Regulatory Commission for a Preliminary Permit for the proposed York Energy Storage water power project, as described in the Exhibits. This application is made in order that applicant may secure and maintain priority of application for a license for the project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the proposed project and to support an application for a license.

\*The YES first Preliminary Permit application was filed with FERC on February 10, 2023, under docket P-15303. The YES application under Docket P-15303 was rejected by FERC for reasons explained in FERC's letter to YES dated September 6, 2023.

(2) The location of the project is:

State or Territory: The State of Pennsylvania

County: York County

Township or nearby town: Chanceford Township

Stream or other body of water: Adjacent to Lake Clarke which is formed by the Safe Harbor Dam on the Susquehanna River

(3) The exact name, business address, and telephone number of the applicant are:

York Energy Storage LLC

68 Oregon Road

Mohnton, PA 19540

Phone (717) 503-6229

Persons responsible for this organization are:

Mr. Jan P. Sockel P.E.

68 Oregon Road

Mohnton, PA 19540

Phone (717) 503-6229

[jsocket@comcast.net](mailto:jsocket@comcast.net)

And

Mr. William M. McMahon Jr

4824 Briarwood Circle

Reading, PA 19606

Phone (610) 823-2762 (cell)

[william.mcmahon.econ@earthlink.net](mailto:william.mcmahon.econ@earthlink.net)

- (4) York Energy Storage LLC is a Limited Liability Company and is claiming preference under Section 7 (a) of the Federal Power Act.
- (5) The proposed term of the requested permit is not to exceed four (4) years.
- (6) The lower reservoir considered for this project, but not the project itself, is Lake Clark which was formed for the Safe Harbor Dam Corporation. The address of this corporation is:  
The Safe Harbor Water Power Corporation  
1 Powerhouse Road  
Conestoga, PA 17516-9651

Owned by:

Brookfield Renewable Energy Group  
181 Bay Street  
Toronto, Ontario  
Canada

**EXHIBIT 1**

(b) **Exhibit 1** contains the description of the proposed project as follows:

- (1) The proposed pumped storage project would consist of:
  - (A) An upper reservoir having a 580-acre surface area and a 26,000-acre-foot storage capacity at water surface elevation 680 feet, created by a maximum 225 foot high - 9,800 foot long dam, a 95 foot high – 700 foot long dike, and a 35 foot high – 1,300 foot long dike
  - (B) An emergency spillway at the east end of the upper reservoir – concrete-lined, approximately 50 feet wide by 150 feet long – directed to cliffs below – no threat to structures or people.
  - (C) A 44-foot diameter shaft and tunnel trifurcating into three (3) 20-foot diameter steel lined tunnels.
  - (D) An underground powerhouse containing three (3) reversible pump turbine units rated at 286 MW each operated at a 450-foot head. The powerhouse has not yet been designed but is expected to be approximately 1,000 feet long, including power tunnels with a 250 feet wide by 50 feet high power house.
  - (E) A 1,500-foot-long powerhouse access tunnel and an 18-foot diameter vent and cable shaft.
  - (F) Three concrete lined tunnels leading to an outlet structure in Lake Clarke.
  - (G) A porous dike, part of the intake structure for fish protection, is approximately 2,000 feet long and 100 feet wide – set in Lake Clarke at the edge of the lake.
  - (H) An above-ground switchyard – approximately 250 feet wide by 250 feet long.
  - (I) A three mile long 500 kv transmission line, and
  - (J) Appurtenant facilities.
- (2) There will be two surface water reservoirs. Lake Clarke, an existing reservoir formed by the Safe Harbor Dam (FERC Project No. 1025) would likely be used as the lower reservoir and is at high water level of 227.2. Currently Lake Clarke is approximately one mile wide and ten miles long with varying depths. The upper reservoir having a 580-acre surface area and a 26,000-acre-foot storage capacity at water surface elevation 680 feet, created by a 225 foot high - 9,800 foot long dam, a 95 foot high – 700 foot long dike, and a 35 foot high – 1,300 foot long dike.

The vertical datums described in this Exhibit 1 are the same as the USGS map supplied in USGS quadrangle map in this application. It is assumed that the USGS maps are in accordance with the North American Datum of 1988.

- (3) The proposed project is expected to connect to the Pennsylvania, New Jersey, Maryland Interconnection (PJM Grid) by a new three (3) mile 500 kw transmission line. This will be part of the project. **See Attachment D**
- (4) The total capacity of the project is 858 Megawatts (MW) of both input and output. At full capacity the project can store full power energy for 12 hours (consuming 10,296

MWhrs). The overall efficiency of the project is expected to be 80 %. At full output, the project is expected to generate 8,580 MWhrs over a 10-hour period per operating cycle. The annual total power production of the project is estimated at 1,500,000 MWhrs at a 20% load factor. The operating head of the project is 450 feet. All proposed turbine-generators for the project will be new and expected to last for 50 years or more.

- (5) The overall area of land required by the project is approximately 1,000 acres. An outline of the areas involved are shown in Attachments A and C. A public land survey of the affected lands is not available at this time.
- (6) The project will develop the water and other resources in the region as follows in no special order:
- Will not affect the water resources in the area. It will not consume more water than it creates. It will not affect the quality of the water after it is pumped or after it is used for power generation. It will not affect the water quality in Lake Clarke or the Susquehanna River.
  - The project has the potential of affecting the fish populations in the lower reservoir (Lake Clarke) – both migratory and resident. This will be studied under the Preliminary Permit with the intent of minimizing any conflicts.
  - Create 300 jobs during a 5-year construction period.
  - Create 25 permanent jobs after construction for the life of the project (50 years)
  - Generate significant annual property and business taxes for the local, York County and State of Pennsylvania governments.
  - Potentially utilize the turbine manufacturing capabilities of the York-based Voith Corporation.
  - Utilize the resources of local businesses.
  - Create a “Green” footprint in the area with no emissions, noise, visual impact, traffic concerns, crime or emergencies.
  - Will create recreational opportunities in the area for residents and visitors – picnicking, hiking and fishing.

**EXHIBIT 2**

(c) **Exhibit 2.** This section contains the studies that are being considered.

(1) **General.** It should be noted that the proposed project was previously studied under a FERC Preliminary Permit (Project No. 10868-000) filed on January 17, 1990, by Mid-Atlantic Energy Engineers, Ltd under the name Cuff's Run Pumped Storage. Many of the studies performed at that time are available and will be considered for applicability and need for updating. These are discussed below:

(i) Proposed and previous studies include:

- Vegetation Assessment
- Animal Populations, Endangered Species, Nests, Etc.
- Historic Markers, Burial Sites, Indian Remains.
- Fish Populations and Migrations
- River Flow Histories
- Geological Testing
- Preliminary Engineering of Facilities
- PJM Impacts and Feasibility
- Transmission Requirements
- Feasibility of Rate Base Application
- Impact on Local and State Taxes
- Impact on Local and State Suppliers and Manpower
- Recreational Opportunities
- Financial Options and Offerings
- Land Surveys and Parcel Identifications
- Federal, State and Local Government Interests
- Updated Capital Cost Estimate
- Economic and Financial Projections
- Analysis of and Consent Agreement with Safe Harbor Water Power Corporation regarding the effect of YES project on Safe Harbor Operations
- Analysis of the project benefits to the PJM Interconnection grid
- Others As Needed.

(ii) Proposed roads during studies. There is an existing access road to the lakeside that must be studied and probably will need to be upgraded.

(2) **Work Plan for New Dams.** There are several new dams proposed for the project: a maximum 225 foot high - 9,800-foot-long dam, a 95-foot high – 700-foot-long dike, and a 35 foot high – 1,300 foot long dike.

(i) Description of Work Plans. Work plans for each of the proposed dams will be prepared including:

- Proposed dam height, width and type of construction.
  - Ground conditions below each dam or dike including rock support, removal of trees, earth cover, spoil locations, etc.
  - Materials for construction, quantities, regional sources, methods of placement, durations, record keeping, inspection methods and testing.
  - Facing methods of both water side and open face sides for protection, safety, and maintenance.
  - Monitoring methods for movement after the start of operations.
- (ii) Proposed schedule: The work plan for (i) above will be completed during the Preliminary Permit phase.
- (iii) Need for Explorations. At this time, due to prior studies and geological testing, the need for new borings, test pits, and foundation explorations may not be needed. However, if conditions warrant, such testing will be undertaken.
- (3) **Waiver.** As indicated above, it is likely that the project will request a waiver from the requirements of 18 CFR 4.81 (c)(2) when the studies show that the project will not adversely affect the cultural resources and endangered species and would cause only minor alterations or disturbances of lands and waters and that any land altered or disturbed would be restored.

(4) **Statement of Costs and Financing.**

- (i) Preliminary estimates of the costs to implement each of the studies shown in paragraph (c)(1)(i) are shown below.
- Vegetation Assessment - \$100,000
  - Animal Populations, Endangered Species, Nests, Etc. - \$100,000
  - Historic Markers, Burial Sites, Indian Remains. - \$50,000
  - Fish Populations and Migrations – \$100,000
  - River Flow Histories - \$50,000
  - Geological Testing - \$200,000
  - Preliminary Engineering of Facilities - \$5,000,000
  - PJM Impacts and Feasibility - \$500,000
  - Transmission Requirements - \$300,000
  - Feasibility of Rate Base Application - \$400,000
  - Impact on Local and State Taxes - \$50,000
  - Impact on Local and State Suppliers and Manpower - \$100,000
  - Recreational Opportunities - \$50,000
  - Financial Options and Offerings - \$100,000
  - Land Surveys and Parcel Identifications - \$200,000

- Federal, State and Local Government Interests - \$100,000
  - Updated Capital Cost Estimate - \$200,000
  - Economic and Financial Projections - \$200,000
  - Others As Needed - \$1,000,000
  - Work plans for new dams – with Preliminary Engineering, \$1,000,000
  - Analysis of and Consent Agreement with Safe Harbor Water Power Corporation regarding the effect of YES project on Safe Harbor Operations ---\$500,000
  - Analysis of the project benefits to the PJM Interconnection grid ---\$500,000
- (ii) Financing Sources Available. York Energy Sources LLC has begun to search for investors for the Preliminary Permit phase and Construction and Long-term Operations. It is expected that all costs prior to obtaining a Construction Permit will be from Investors Only. Additional equity and debt financing will be required for the Construction Phase.
- (iii) A conceptual capital cost estimate for the project has been prepared for overall economic feasibility. using Bureau of Reclamation factors pertinent to hydroelectric construction projects.

The scope of the cost estimate is all inclusive of the FERC Code of Account structure as follows:

- 330 Land and Land Rights
- 331 Powerplant Structures and Improvements
- 332 Reservoirs, Dams & Waterways
- 333 Waterwheels, Turbines & Generators
- 334 Accessory Electrical Equipment
- 335 Miscellaneous Powerplant Equipment
- 336 Road, Railroad and Bridges
- 352 Transmissions Structures and Improvements
- 353 Transmission Station Equipment

The cost estimate also includes reasonable provisions for Indirect Costs such as Owner's Cost & Engineering Services, an appropriate Contingency (based on the level of design), escalation at a 3% rate per year compounded to the times of expected expenditures, and finally AFUDC (Allowance for Funds Used During Construction) from times of expenditure to Commercial Operation. The total cost estimate is \$2.33 Billion or \$2,700 per KW.

- (iv) The project has prepared Pro-Forma Income and Balance Sheets for the first 20 years of expected operations.



- (v) A preliminary economic comparison of the proposed pumped storage project with alternate energy storage technologies has been prepared. The alternates considered are Advanced Batteries and Natural Gas Turbines. In each case the York Energy Storage project is superior to the alternates from a life cycle perspective – levelized mills per kilowatt-hour.
- (vi) The factors which make the proposed project more economical than the alternatives are:
- Economy of Scale
  - Longer Operating Life
  - High Efficiency
  - No Carbon Emissions
  - No Waste Products
  - Low O&M Costs
  - Existing Lower Reservoir
  - Precise Load Pumping & Generation Control
  - Proven Technology
- (vii) The proposed project has other factors associated with its location that make it advantageous over other alternatives including:
- A central location within PJM for ease of access and benefits to all nearby utilities. Three miles to connection.
  - A short horizontal distance between the lower and upper reservoirs (cost savings)
  - A high head of 450 vertical feet.
  - Located in a rural area and least disruptive to communities. The land is mostly wooded, few residences, away from major highways, businesses, schools, etc.
  - Consultants have termed the location as “the best pumped storage site in the Mid-Atlantic region”.
- (viii) The development timing of the proposed project is consistent with the announced and expected growth of renewable generation projects in the region. It is anticipated that the project coincides with the long-term interest of PJM, and provides benefits to its member utilities and the customers they serve.

**EXHIBIT 3**

(d) **Exhibit 3.** The following maps are supplied with this Application:

- **Attachment A - Location of Project**
- **Attachment B - Principal Project Features- Profile**
- **Attachment C - Proposed Project Boundaries – Main Plant**
- **Attachment D - Proposed Project Boundaries – Transmission Lines**
- **Attachment E - Political Subdivisions Within 15 Miles and Over 5,000 People**
- **Attachment F - Indian Tribes That May Be Affected By The Project**

(1) **Location of Project.** A USGS quadrangle map entitled “Safe Harbor PA”, #39076-H4-TF-024, dated 1995, Scale 1:24,000 is enclosed as **Attachment A**. This map shows the general area of the project in Eastern York County, the Susquehanna River (Lake Clarke), the proximity to Lancaster County, and the local Chanceford Township roadways and topography.

(2) **Principal Project Features.** A profile drawing, **Attachment B**, of the proposed project’s principal features is enclosed. It shows the lower and upper reservoirs, elevations, powerhouse, tunnels, access shafts, intake and discharge structure. A detailed arrangement of the powerhouse is not available at this time.

**Proposed Project Boundaries – Main Plant.** A site plan of the project’s principal features is enclosed as **Attachment C**.

(i) The site plan shows the project boundaries, dam locations, upper reservoir shorelines, intake and discharge locations, switchyard, and on-site transmission routing. Individual land parcels are not shown at this time but will be provided during the Preliminary permit phase. There are no Federal dams involved in this project.

(ii) There are no Federal, Public or reservations lands involved in this project.

(iii) Per Section 4.32(a)(2)(ii) of the Commission’s regulations, the applicant is identifying in **Attachment E** - every city, town, or similar local political subdivision in which any part of the project that would be used by the project, would be located, or that has a population of 5,000 or more people and is located within 15 miles of the project.

(iv) Per Section 4.32(a)(2)(v) of the Commission’s regulations, the applicant is identifying in **Attachment F** - all Indian tribes that may be affected by the proposed project.

(3) **Proposed Boundaries – Offsite Transmission Right-of-Way.** A site plan of the project’s expected transmission routing and Right-of-Way is enclosed as **Attachment D**

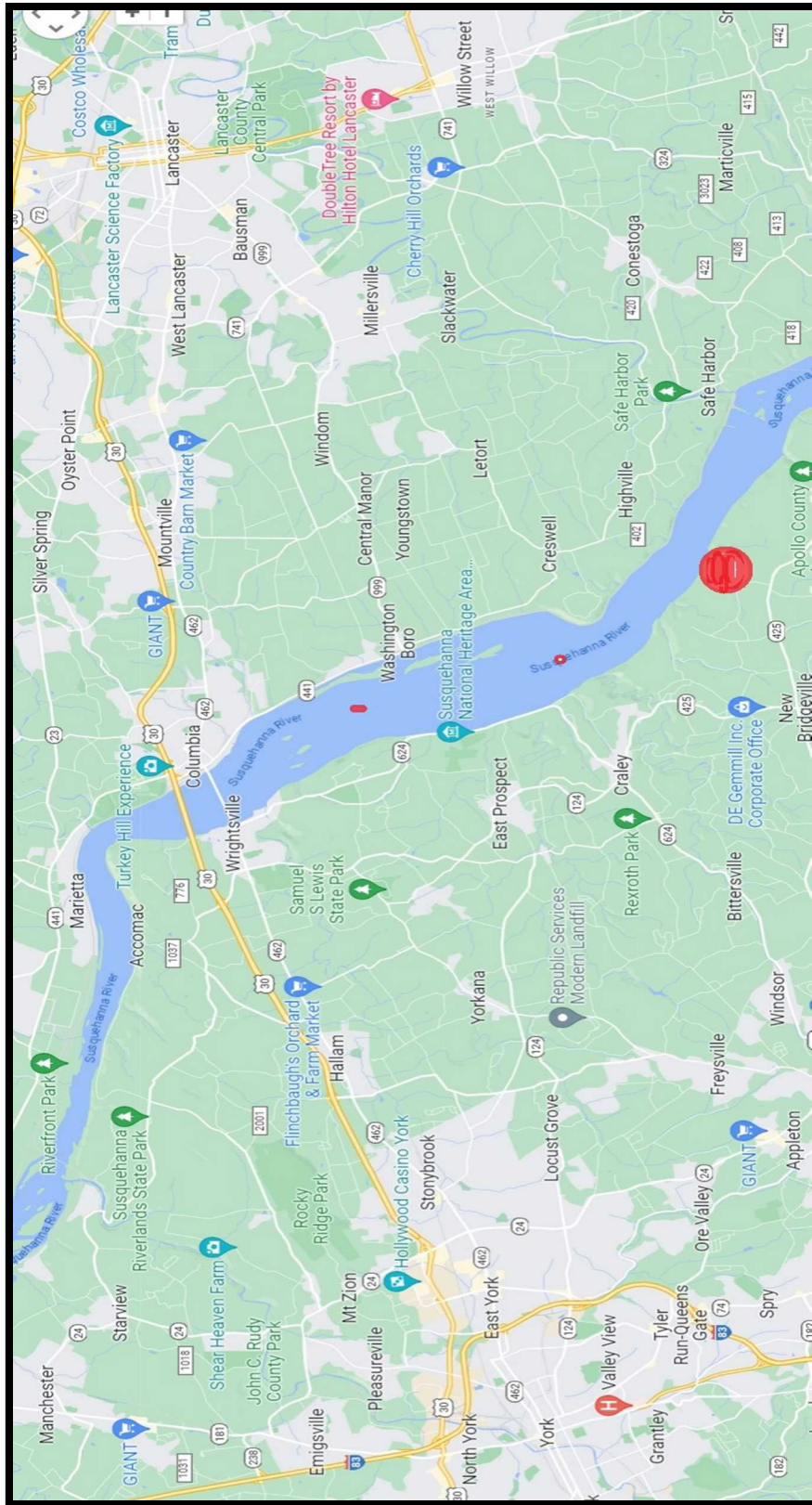
- (i) The site plan shows the routing of the transmission lines from the project site to the nearby Safe Harbor Substation. The distance is about three (3) miles, and is approximately 100 feet in width. Exact location of new transmission towers, coordination the existing transmission lines and towers across the Susquehanna River and connection at the Safe Harbor Substation are not known at this time.

(4) **Nearby Areas in National Wild and Scenic Rivers.** There are no known interests by the National Wild and Scenic Rivers System in the boundaries of the proposed project.

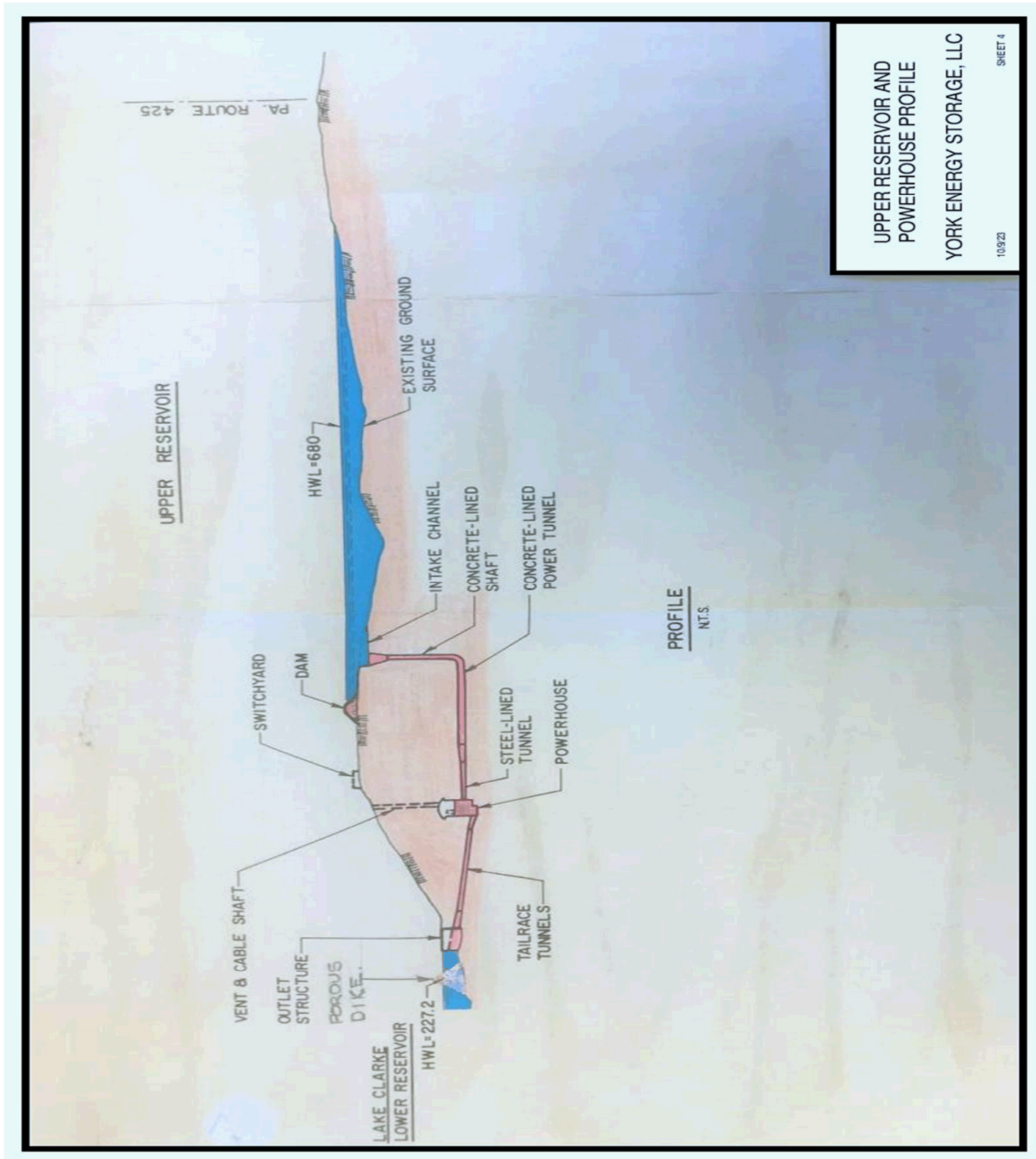
(5) **Provisions of the Wilderness Act.**

- (i) There are no known areas in the project boundary designated as a wilderness area.
- (ii) There are no known areas in the project boundary recommended for designation as a wilderness area.
- (iii) There are no known areas in the project boundary designated for a wilderness study.

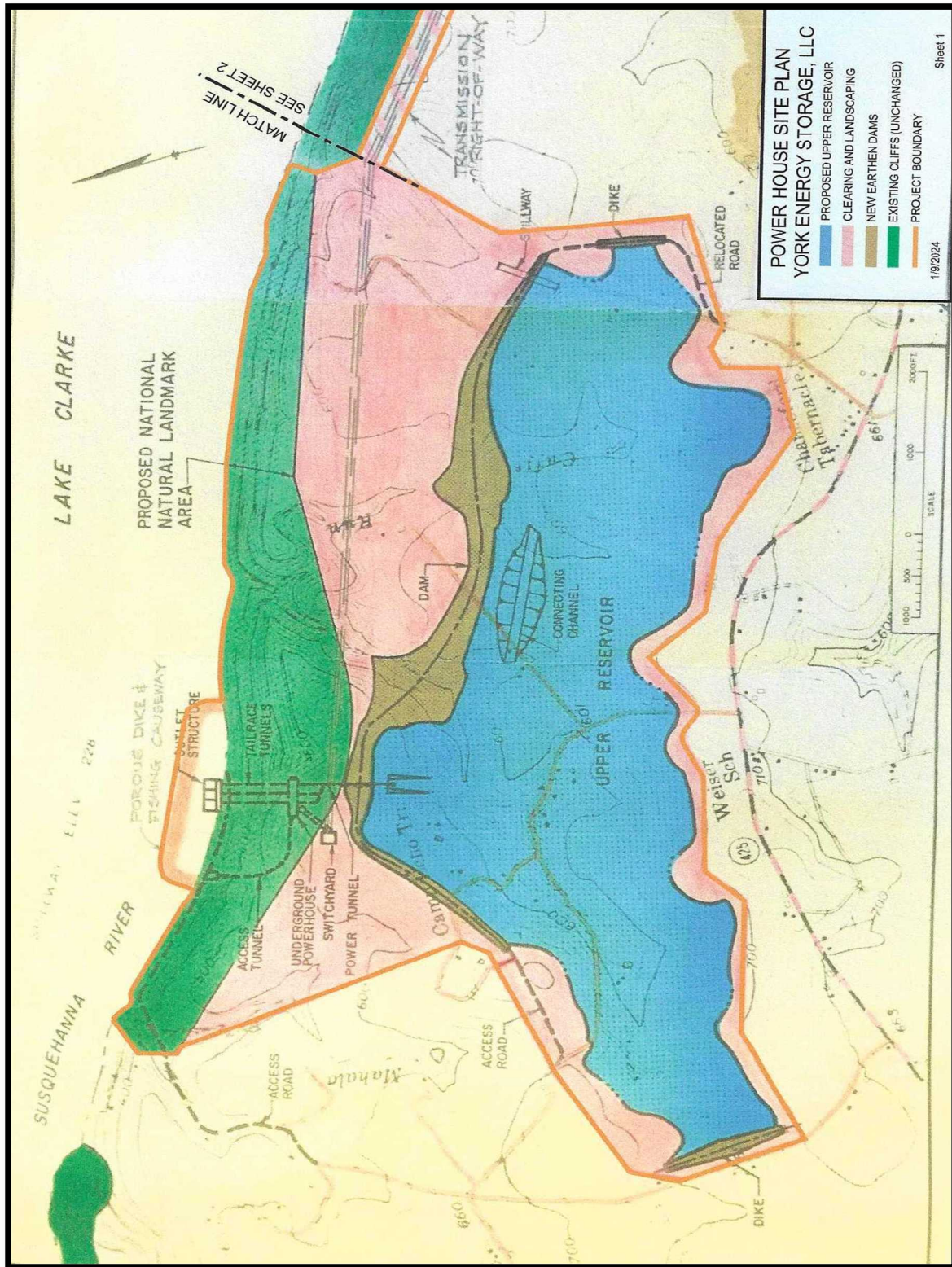
**Attachment A - Location of Project. Relative to York, Pennsylvania; Columbia, Pennsylvania; and Safe Harbor Dam: SEE RED DOT**



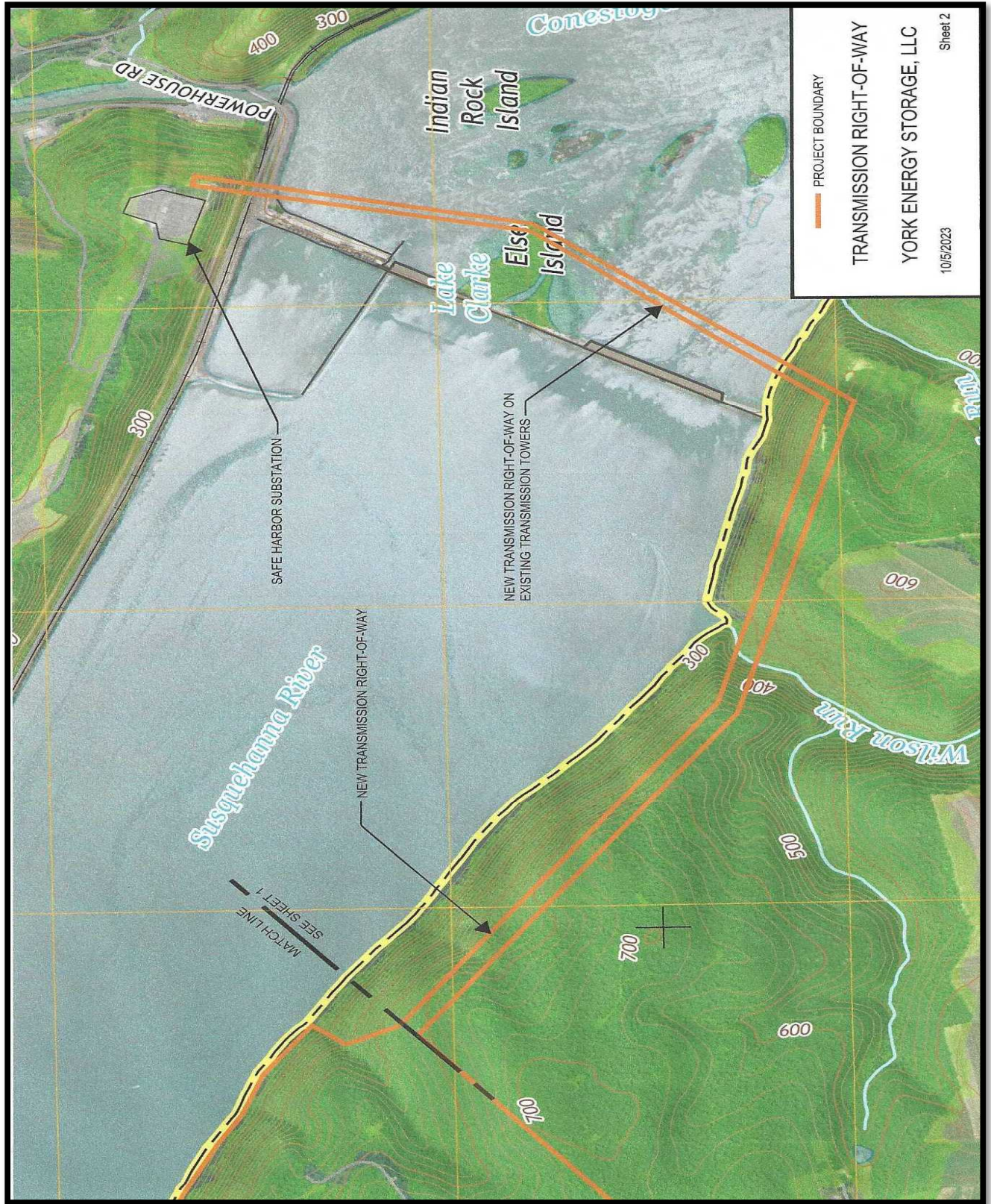
Attachment B - Principal Project Features- Profile.



Attachment C - Proposed Project Boundaries – Main Plant.



Attachment D - Proposed Project Boundaries – Transmission Lines.



**Attachment E – Political Subdivisions Within 15 Miles and Over 5,000 People.**

No.	Name	Address		Zip Code	People
1	York City	101 S. Geoge Street	York, PA	17401	46,827
2	York Township	190 Oak Road	Dallastown, PA	17313	27,971
3	Shrewsbury Township	21 Susquehanna Trail	S. Glen Rock, PA	17323	6,608
4	Red Lion Borough	11 East Broadway	Red Lion, PA	17356	6,335
5	Chanceford Township	33 Muddy Creek Forks Road	Brougue, PA	17309	6,121
6	Lancaster City	120 N. Duke Street	Lancaster, PA	17608	59,698
7	Lancaster Township	1240 Maple Avenue	Lancaster, PA	17603	16,863
8	Mount Joy Borough	929 Square Street	Mount Joy, PA	17552	7,848
9	Martic Township	370 Steinman Farm Road	Pequea, PA	17565	5,210
10	Columbia Borough	308 Locust Street	Columbia, PA	17512	10,222
11	Millersville Borough	100 Municipal Drive	Millersville, PA	17551	7,953
12	Pequea Township	1028 Millwood Road	Willow Street, PA	17584	5,493
<b>13</b>	<b>County of York</b>	<b>28 East Market Street</b>	<b>York, PA</b>	<b>17401</b>	<b>456,438</b>
<b>14</b>	<b>County of Lancaster</b>	<b>150 North Queen Street</b>	<b>Lancaster, PA</b>	<b>17603</b>	<b>556,629</b>



**Attachment F. Indian Tribes That May Be Affected By The Project.**

No.	Tribe	Contact Name	Title	Mailing Address	Work Phone	Fax Number	Email Address	URL
1	Catawba Indian Nation (aka Catawba Indian Tribe of South Carolina)	Bill Harris	Chief	966 Avenue of the Nations, Rock Hill, SC - 29730	(803) 366-4792	(803) 327-4853	bill.harris@catawbaindian.net	<a href="http://www.catawbaindian.net/">http://www.catawbaindian.net/</a>
2	Cayuga Nation	Dr. Weronah G. Haire	THPO and Catawba Cultural Center Executive Director	1536 Tom Steven Road, Rock Hill, SC - 29730	(803) 328-2427 ext. 224	(803) 328-5791	wenonah.haire@catawba.com	<a href="http://www.catawbaindian.net">http://www.catawbaindian.net</a>
3	Delaware Nation, Oklahoma	Clinton Halftown	Nation Representative	266 Cayuga Street, Union Springs, NY - 13160	315-568-0750	315-252-1092	sharon.levoy@cayuganation-nsn.gov	<a href="http://www.delawarenation.com">www.delawarenation.com</a>
4	Delaware Tribe of Indians	Deborah Dotson	President	31064 State Highway 281, Building 100, Anadarko, OK - 73005	(405) 247-2448	(405) 247-9393	ddotson@delawarenation-nsn.gov	<a href="http://www.delawarenation.com">www.delawarenation.com</a>
5	Eastern Shawnee Tribe of Oklahoma	Katelyn Lucas	THPO	P.O. Box 825, Anadarko, OK - 73005	405-544-8115		klucas@delawarenation-nsn.gov	<a href="http://www.delawarenation.com">www.delawarenation.com</a>
6	Onondaga Nation	Larry Heady	THPO	125 Dorry Lane, Grants Pass Oregon, OR - 97527	262-825-7586		lheady@delawaretribe.org	<a href="http://www.delawaretribe.org">www.delawaretribe.org</a>
7	Osege Nation	Brad Killscrow	Chief	5100 Luxedo Blvd., Bartlesville, OK - 74006-2838	(918) 337-6590	(918) 337-6591	bkills@delawaretribe.org	<a href="http://www.delawaretribe.org">www.delawaretribe.org</a>
8	Seneca Nation of Indians	Susan Bachor	Preservation Representative (East Coast)	125 Dorry Lane, Ogden, OR - 97527	539.529.1671	(435) 734-0424	sbachor@delawaretribe.org	<a href="http://www.delawaretribe.org">www.delawaretribe.org</a>
9	Tonawanda Band of Seneca	Glenna Wallace	Chief	127 West Oneida, Seneca, MO - 64865	(918) 666-2435	(918) 666-2186	glwallace@estoo.net	<a href="http://www.estoo-nsn.gov">www.estoo-nsn.gov</a>
10	Tuscarora Nation	Paul Barton	THPO/Director of Culture Preservation Programs/NA/GPRA	70500 E 128 Rd., Wyandotte, OK - 74370	(918) 238-5151 Ext. 1833	888-971-3905	pbarton@estoo.net	<a href="http://www.estoo-nsn.gov">www.estoo-nsn.gov</a>
11		Anthony Conyee	THPO	4040 Route 11, Nedrow, NY - 13120	(315) 952-3109	(315) 469-4717	tony61conyee@gmail.com	<a href="http://www.onondaganation.org/">www.onondaganation.org/</a>
12		Sidney Hill	Chief	4040 Route 11, Nedrow, NY - 13120	(315) 469-0302	(315) 469-4717	admin@onondaganation.org	<a href="http://www.onondaganation.org/">www.onondaganation.org/</a>
13		Andrea A. Hunter	Director and THPO	627 Grandview Avenue, Pawhuska, OK - 74056	(918) 287-5328	(918) 287-5376	sid6@osagenation-nsn.gov	<a href="https://www.osagenation-nsn.gov/">https://www.osagenation-nsn.gov/</a>
14		Rickey Armstrong, Sr.	President	90 Oni'Yo' Way, Salamanca, NY - 14779	(716) 532-4900	(716) 945-0150	charisse.ground@sni.org	<a href="http://www.sni.org/">http://www.sni.org/</a>
15		Joe Starlman	Seneca-Iroquois National Museum/THPO Director	Onajuhagwāk, Deaġm Cultural Center, 82 W. Hetzel St., Salamanca, NY - 14779	(716) 945-1760	(716) 945-8133	joestarlman@sni.org	<a href="http://www.sni.org/">http://www.sni.org/</a>
16		Charles Diebold	Chief	23701 South 655 Road, Grove, OK - 74344	(918) 787-5452	(918) 787-5521	cdiebold@sctribe.com	<a href="http://www.sctribe.com/">http://www.sctribe.com/</a>
17		William Tarrant	THPO	P.O. Box 453220, Grove, OK - 74345	(918)-791-6061		warrant@sctribe.com	<a href="http://www.sctribe.com/">http://www.sctribe.com/</a>
18		Wally Miller	Chairman	N. 8476 Mo He Con Nuck Road, Bowler, WI - 54416	(715) 793-4387	(715) 793-1307	wally.miller@mohican-nsn.gov	<a href="http://www.mohican-nsn.gov">http://www.mohican-nsn.gov</a>
19		Jeffrey C. Bendremer	THPO	86 Spring Street, Williamstown, MA - 01267	413-884-6029		tbpo@mohican-nsn.gov	<a href="http://www.mohican-nsn.gov">http://www.mohican-nsn.gov</a>
20		Shannon Holsey	President	N8476 Mo He Con Nuck Road, Bowler, WI - 54416	(715) 793-4111	(715) 793-1307	shannon.holsey@mohican-nsn.gov	<a href="http://www.mohican-nsn.gov">http://www.mohican-nsn.gov</a>
21		Roger Hill	Chief	7027 Meadville Road, Basom, NY - 14013	(716) 542-4244	(716) 542-4008		
22		Roger Hill	Chief	7027 Meadville Road, Basom, NY - 14013	(716) 542-4244	(716) 542-4008		

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