A CMS Energy Company

General Offices:
One Energy Plaza Tel: (517) 788-0550
Jackson, MI 49201 Fax: (517) 768-3644

*Washington Office:
1730 Rhode Island Ave. N.W. Tel: (202) 778-3340
Suite 1007
Washington, DC 20036 Fax: (202) 778-3355

Writer's Direct Dial Number: (517) 788-1661
Writer's E-mail Address: james.roush@cmsenergy.com

LEGAL DEPARTMENT
CATHERINE M REYNOLDS
Senior Vice President
and General Counsel

MELISSA M GLEESPEN
Vice President, Corporate
Secretary and Chief
Compliance Officer

SHAUN M JOHNSON
Vice President and Deputy
General Counsel

H Richard Chambers
Kelly M Hall
Eric V Luoma
Assistant General Counsel

Ashley L Bancroft
Robert W Beach
Don A D'Amato
Robert A. Farr
Gary A Gensch, Jr.
Gary L Kelterborn
Chantez P Knowles
Mary Jo Lawrie
Jason M Milstone
Rhonda M Morris
Deborah A Moss*
Mirče Michael Nestor
James D W Roush
Scott J Sinkwitts
Adam C Smith
Theresa A G Staley
Janae M Thayer
Bret A Totoraitis
Anne M Uitvlugt
Aaron L Vorce
Attorney

November 10, 2017

VIA E-FILING

Honorable Kimberly D. Bose,
Secretary
Federal Energy Regulatory Commission
Dockets Room, Room 1A
888 First Street, N.E.
Washington, DC 20426

RE: Consumers Energy Company And DTE Electric Company - Project No. 2680-113, Michigan Ludington Pumped Storage Project Relicensing Settlement Agreement Regarding Fish Entrainment Request For Fifty-Year License Term

Dear Secretary Bose,

Pursuant to Rule 602 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission's ("FERC" or the "Commission") regulations,[1] 18 C.F.R. § 5.27, and the Commission's Policy Statement On Establishing License Terms For Hydroelectric Projects ("Policy"),[2] Consumers Energy Company and DTE Electric Company (collectively, "Licensees") submit for approval a fully executed Settlement Agreement ("Settlement Agreement") resolving certain issues relating to fish entrainment at the Ludington Pumped Storage Project ("Project") and a Request For Fifty-Year License Term.

The submission of the Settlement Agreement is made on behalf of its parties:

- Consumers Energy Company;
- DTE Electric Company;
- Attorney General for the State of Michigan;
- Michigan Department of Natural Resources;
- United States Department of Interior, on behalf of the Fish and Wildlife Service and as Trustee for Indian tribes, bands, or communities with reserved treaty rights in the Michigan waters of Lake Michigan;
- Grand Traverse Band of Ottawa and Chippewa Indians;
- Little River Band of Ottawa Indians;
- Little Traverse Bay Bands of Odawa Indians;

[1] 18 C.F.R. § 385.602.

[2] *See generally* 161 FERC ¶ 61,078 (2017).

- Michigan United Conservation Clubs; and
- National Wildlife Federation.

The signatories to the Settlement Agreement are collectively referred to as the "Parties," and all Parties excluding Licensees as the "Non-Licensee Parties."

I. Settlement Agreement

The Project is a hydroelectric generating facility initially licensed by the Commission in 1969 under a 50-year license set to expire on June 30, 2019.[3] The Project is co-owned by the Licensees and operated by Consumers Energy Company. It is located along the eastern shore of Lake Michigan, south of the City of Ludington in Mason County, Michigan. The Project uses six pump-turbines to pump water though intakes from Lake Michigan into a manmade storage reservoir that crests approximately 370 feet above the Lake, typically during periods of low electricity demand. During periods of peak electricity demand, the process is reversed and water stored in the reservoir is released through the pump-turbines into the Lake, generating electricity.

During operation of the Project, some fish from Lake Michigan are entrained in the water intakes. Entrained fish are subject to potential injury or death as they pass through the pump-turbines, both during pumping into the upper reservoir and upon exiting the reservoir during power generation.

Fish mortality caused by operation of the Project led to litigation in the 1980s and 1990s among the Parties before FERC, in Michigan state courts[4] and in state administrative proceedings.[5] The Parties resolved those disputes with respect to fish mortality caused during the term of the initial FERC license through two separate, but related, settlements entered in 1995 (collectively known as the "1995 Settlement Agreements"):

1) The "Ludington Pumped Storage Project Settlement Agreement - FERC Offer of Settlement" ("1995 FERC Settlement"), which was filed with the Commission on February 28, 1995, and accepted by the Commission in an Order dated January 23, 1996.[6] It provided for, in part, mitigation of fish mortality at the Project through the seasonal installation of a 2.5-mile-long barrier net around the Project's intakes on Lake Michigan and a monitoring program to track the barrier net effectiveness.

2) A separate "Settlement Agreement - Courts and Non-FERC Agencies" ("1995 State Agreement") covering other matters was executed and filed with FERC for informational purposes along with the 1995 FERC Settlement, and was subsequently approved in Michigan state court proceedings. The 1995 State Agreement provided for, in part, payment of damages for injuries to fishery resources caused by operation of the Project during the term of the initial FERC license. Under this agreement, annual damage payments are made to the Great Lakes Fishery Trust which, in turn,

[3] *Consumers Energy Company and The Detroit Edison Company*, 42 F.P.C. 274 (1969).

[4] *Frank J. Kelley, Attorney General, et al. v Consumers Power Company and the Detroit Edison Company,* Ingham County Circuit Court Nos. 86-57075-CE and 87-60020-CE.

[5] *In re NPDES Permit MI0035912,* Michigan Department of Natural Resources, 1988.

[6] *Consumers Energy Company and The Detroit Edison Company*, 74 FERC ¶ 61,055 (1996).

provides funding for the enhancement, propagation, protection, and replacement of Great Lakes fishery resources with a focus on Lake Michigan.

The 1995 Settlement Agreements provide for the creation of a Scientific Advisory Team ("SAT") composed of representatives of the Parties to oversee and provide scientific support to elements of the 1995 Settlement Agreements. The SAT, which is co-chaired by representatives of the Michigan Department of Natural Resources and Consumers Energy Company, continues today to work cooperatively to implement the 1995 Settlement Agreements.

The Licensees initiated a relicensing proceeding for the Project in January 2014 under the Commission's Integrated License Application Process, in which the Non-Licensee Parties have participated. As part of this proceeding, the Licensees conducted, in consultation with the Non-Licensee Parties, an extensive three-phase Fish and Aquatic Resources Study to identify and evaluate the feasibility, biological effectiveness, and costs of various alternative technologies and engineering measures for abating fish mortality at the Project.

This Settlement Agreement addresses, and is intended to comprehensively resolve without litigation, both: (a) measures to minimize fish mortality caused by operation of the Project during the term of a new FERC license; and (b) compensation for and mitigation of such fish mortality that does occur during the term of a new FERC license. The Parties agree that, for purposes of settlement and based upon currently available information from the Fish and Aquatic Resource Study, continued use of the seasonal barrier net, with some modifications and implementation of an Adaptive Management Process, is the most appropriate path forward to reduce entrainment of fish at the Project.

Unlike the 1995 Settlement Agreements, the Parties have combined both entrainment reduction-related provisions (e.g., those dealing with the barrier net) and compensation-related provisions into one unified agreement. Combining these two topics into one agreement allows for easier administration of the Settlement Agreement, and reduces potential ambiguity and confusion in interpreting two separate, but related, agreements. The Parties address in Section V.H the portions of the Settlement Agreement that they seek FERC to approve and incorporate into the Project's new license.

To avoid overlapping requests, Licensees request that the Settlement Agreement amend and replace the relevant portions of Section 4.3.3.3 of their Final License Application filed on June 28, 2017, as well as any relevant responses to the Commission's Requests for Additional Information dated July 27, 2017.

II. Request For Fifty-Year License Term

Licensees respectfully request under the Policy that the Commission grant the Project a new license term of 50 years. This request is based on two primary reasons: (a) the Settlement Agreement contains an explicitly agreed upon license term of 50 years, and (b) Licensees have implemented multiple "significant measures" during the Project's original license and will be implementing significant measures under its new license. These two reasons are independent of each other, and thus each provides a separate basis to grant a 50-year license term. These significant measures include: (a) a major overhaul and capacity upgrade program implemented during the original license term, and (b) a barrier net program implemented during the original license term and to be implemented under the new license term. Consistent with the Policy,

Licensees request that the Commission defer to the Settlement Agreement's agreed-upon term of fifty years.

III. Documents Enclosed

The documents submitted with this filing include:

- Exhibit 1: Settlement Agreement, including:
  - Appendix A: Compensation Model
  - Appendix B: Adaptive Management Process
- Exhibit 2: Explanatory Statement;
- Exhibit 3: Request For Fifty-Year License Term; and
- Certificate of Service.

IV. Comments

Consistent 18 C.F.R. § 385.602(d)(2) and (f)(2), comments on this Settlement Agreement are due on November 30, 2017 and reply comments are due December 11, 2017, unless otherwise provided by the Commission.

V. Service

Consumers Energy Company has served this filing on all entities listed on the Commission's official service list for the Project, all entities that received a copy of the Final License Application, and all Parties to the Settlement Agreement. In addition, consistent with 18 C.F.R. § 5.2(b), Licensees are providing a copy of the Settlement Agreement in hard copy at:

- Consumers Energy Company, Cadillac Service Center, 330 Chestnut Street, Cadillac, Michigan 49601;
- DTE Electric Company, One Energy Plaza, Detroit, MI 48226; and
- Mason County District Library, 217 East Ludington Ave, Ludington, Michigan 49431.

A copy will also be available on the Consumers Energy Company's relicensing webpage for the Project: https://www.consumersenergy.com/ludingtonrelicensing.

VI. Conclusion

The Parties request that the Commission approve the relevant portions of the Settlement Agreement without condition or modification. Licensees also request that the Commission amend their Final License Application to reflect the relevant terms of the Settlement Agreement. Finally, Licensees request that the Commission grant their request for a fifty-year license term.

Respectfully submitted,

CONSUMERS ENERGY COMPANY

By James D. W. Roush Digitally signed by James D. W. Roush Date: 2017.11.10 09:17:10 -05'00'

James D. W. Roush
Attorney III
Consumers Energy Company
One Energy Plaza
Jackson, Michigan 49201
(517) 788-1661
james.roush@cmsenergy.com

cc: Enclosed Mailing List
All Parties to Settlement Agreement
Shana Wiseman, FERC (email only)
Catherine M. Reynolds, Consumers Energy Company (email only)
Dennis D. Dobbs, Consumers Energy Company (email only)
John P. Broschak, Consumers Energy Company (email only)
Shaun M. Johnson, Consumers Energy Company (email only)
Linda M. Hilbert, Consumers Energy Company (email only)
William A. Schoenlein, Consumers Energy Company (email only)
David C. McIntosh, Consumers Energy Company (email only)
Scott F. DeBoe, Consumers Energy Company (email only)
Gary A. Gensch, Jr., Consumers Energy Company (email only)
Rosemary Smalls-Tilford, DTE Electric Company (email only)
Matthew T. Shackelford, DTE Electric Company (email only)
Jon P. Christinidis, DTE Electric Company (email only)
Gary Dawson, Holland Engineering (email only)
Rita Hayen, TRC Solutions (email only)
Michael Hreben, Kleinschmidt Group (email only)

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Consumers Energy Company	)	Project No. 2680-113 Michigan
DTE Electric Company	)	Ludington Pumped Storage Project
	)	

CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing Settlement Agreement to be served this day upon each person designated on the official service list compiled by the Secretary in this proceeding, as well as to those listed in Attachment 1 to this Certificate of Service.

Dated in Jackson, Michigan on November 10, 2017.

Digitally signed by James D. W. Roush
Date: 2017.11.10 09:17:29 -05'00'

James D. W. Roush

ATTACHMENT 1 To Certificate Of Service- Mailing List

Advisory Council on Historic Preservation
Executive Director
John M. Fowler
1100 Pennsylvania Ave NW Suite 308,
Washington, DC 20001-2637

Federal Emergency Management Agency Director
Alyson Vert
500 C Street SW,
Washington, DC 20472

Federal Emergency Management Agency
Regional Administrator - Region 5
Andrew Velasquez, III
536 South Clark Street 6th Floor,
Chicago, IL 60605

Federal Emergency Management Agency
Regional Administrator - Region 4
Major Phillip May
3003 Chamblee Tucker Road,
Alanta, GA 30341

U.S. House of Representatives - Michigan 2nd District
Representative Bill Huizenga
1217 Longworth HOB
Washington, DC 20515

U.S. Senate
U.S. Senator Gary Peters
731 Hart Senate Office Building, Suite 724
Washington, DC 20510

U.S. Senate
U.S. Senator Debbie Stabenow
731 Hart Senate Office Building
Washington, DC 20510-2204

FERC Chicago Regional Office - Federal Building
Regional Engineer
John A. Zygaj
230 South Dearborn Street, Room 3130
Chicago, IL 60604

National Oceanic and Atmospheric
Administration Chief Administrative Officer
Edward Horton
1305 East-West Hwy.
Silver Spring, MD 20910

Northeast Fisheries Science Center
Director Northeast Region
Dr. William Karp
166 Water Street
Woods Hole, MA 02543-1026

Administration Fisheries Regional Office
Regional Administrator - Northeast Region
John Bullard
55 Great Republic Drive,
Gloucester, MA 01930-2298

Naval Facilities Engineering Command
Naval Seafloor Cable Protection Office –
NAVFAC-OFP/C Ocean/Tidal Hydrokinetics
1322 Patterson Ave SE, Suite 1000
Washington, DC 20374-5065

U.S. Army Corps of Engineers
Division Commander - Great Lakes and Ohio River Division
Brigadier General Margaret W. Burcham
550 Main Street Room 10032
Cincinnati, OH 45202-3222

US Army Corps of Engineering Detroit Commander
Lieutenant Colonel Robert Ells
477 Michigan Ave., Room 700
Detroit, MI 48226-2547

U.S. Army Corps of Engineers
Commander Lieutenant General Thomas P. Bostick
441 G Street NW
Washington, DC 20314

U.S. Army Corps of Engineers
Deputy District Engineer - Louisville District
Stephan Durrett
P.O. Box 59
Louisville, KY 40201-0059

U.S. Coast Guard - MSO Detroit
Sector Commander
Captain Jeff Ogden
110 Mount Elliott St
Detroit, MI 48207-4319

U.S. Coast Guard
Navigation Standards Division Commandant (CG-5533)
2100 2nd St. SW, Stop 7580
Washington, DC 20593-7580

U.S. Coast Guard
Waterways Management Branch - District Nine
1240 E. 9th Street
Cleveland, OH 44199

U.S. Forest Service
Acting Regional Forester - Eastern Region 9
Mary Beth Borst
626 East Wisconsin Avenue
Milwaukee, WI 53202

U.S. Forest Service
Tom Tidwell
1400 Independence Ave SW
Washington, DC 20250-0003

U.S. Department of Commerce
Secretary Penny Pritzker
1401 Constitution Avenue NW
Washington, DC 20230

NPS Hydropower Coordinator Great Lakes Region
Angela Tornes
626 E. Wisconsin Ave., Suite 400
Milwaukee, WI 53202

National Park Service Director
Jonathan B. Jarvis
1849 C Street NW
Washington, DC 20240

National Park Service
Regional Director - Midwest Region
Michael Reynolds
601 Riverfront Drive
Omaha, NE 68102-4226

Bureau of Indian Affairs
Regional Director - Midwest Region
Diane Rosen
Norman Pointe II Building
5600 W. American Blvd., Suite 500
Bloomington, MN 55347

Bureau of Indian Affairs Director
Michael Black
1849 C Street NW MS-4606-MIB
Washington, DC 20240

U.S. Bureau of Land Management
State Director - Eastern States Office
Karen Mouritsen
20 M Street SE., Suite 950
Washington, DC 20003

U.S. Bureau of Land Management
Director Neil Kornze
1849 C Street NW MIB 5655
Washington, DC 20240

U.S. Bureau of Reclamation
Commissioner Michael Connor
1849 C Street NW
Washington, DC 20240

United States Geological Survey Director
Suzette Kimball
12201 Sunrise Valley Dr
Reston, VA 20192

U.S. Fish and Wildlife Service Director
Dan Ashe
1849 C Street NW, Room 3238
Washington, DC 20240-0001

National Park Service
Regional Environmental Coordinator
Nick Chevance
601 Riverfront Drive
Omaha, NE 68128

U.S. Environmental Protection Agency
Regional Administrator - Region V
Susan Hedman
77 W Jackson Blvd
Chicago, IL 60604-3511

U.S. Environmental Protection Agency Administrator
Lisa Jackson
Ariel Rios Building
1200 Pennsylvania Ave NW
Washington, DC 20460

U.S. Environmental Protection Agency
Supervisor Region 5: Chicago- NEPA Implementation
Office of Enforcement & Compliance Assurance
77 West Jackson Boulevard Mailcode: E-197
Chicago, IL 60604-3507

U.S. Fish and Wildlife Service
Regional Director - Region 3 Midwest
5600 American Blvd. West, Suite 990
Bloomington, MN 55437-1458

U.S. Fish and Wildlife Service
Field Supervisor - Region 3 Midwest
Scott Hicks
2651 Coolidge Road Suite 101
East Lansing, MI 48823

US Fish and Wildlife Service
East Lansing Field Office
Burr Fisher
2651 Coolidge Road, Suite 101
East Lansing, MI 48823

US Fish and Wildlife Service
East Lansing Field Office
Jessica Pruden
2651 Coolidge Road, Suite 101
East Lansing, MI 48823

US Fish and Wildlife Service
East Lansing Field Office
Rachael Pierce
2651 Coolidge Road, Suite 101
East Lansing, MI 48823

US Fish and Wildlife Service
Green Bay Fishery Resources
Mark Holey
2661 Scott Tower Drive
New Franken, WI 54229

US Fish and Wildlife Service
Charles Wooley
5600 American Blvd. West, Suite 990
Bloomington, MN 55437-1458

Michigan Department of Environmental Quality
Air Quality Division Chief
G. Vinson Hellwig
PO Box 30260
Lansing, MI 48909-7760

Michigan Department of Environmental Quality
Coastal Management Program
Chris Antieau
PO Box 30458
Lansing, MI 48909-7760

Michigan Department of Environmental Quality
Coastal Management Program Chief
Rhonda Wuycheck
PO Box 30473
Lansing, MI 48909-7973

Michigan Department of Environmental Quality
Office of the Great Lakes Director
Jon Allen
PO Box 30473
Lansing, MI 48909-7973

Michigan Department of Environmental Quality
Air Quality Division - Environmental Quality Analyst
Rob Dickman
120 West Chapin Street
Cadillac, MI 49601

Michigan Department of Environmental Quality
Surface Water Assessment Admin Manager
Diana Klemans
PO Box 30458
Lansing, MI 48909-7958

Michigan Department of Environmental Quality
Water Resources Division Lake Michigan Unit
Gary Kohlhepp
PO Box 30458
Lansing, MI 48909-7958

Michigan Department of Natural Resources
FERC Program Manager - Fisheries Division
Jessica Mistak
P.O. Box 30446
Lansing, MI 48909

Michigan Department of Natural Resources
Habitat Management Program Manager – Fisheries Division
Gary Whelan
P.O. Box 30028
Lansing, MI 48909-7528

Michigan Department of Natural Resources
Director Keith Creagh
Mason Bldg
PO Box 30028
Lansing, MI 48909

Michigan Department of Natural Resources
Environmental Assessment Sub-Unit
Kyle Kruger
191 S Mt Tom Road
Mio, MI 48647

Michigan Department of Natural Resources
Wildlife Division - State Threatened and Endangered Species Coordinator
Lori Sargent
P.O. Box 30444
Lansing, MI 48909

Michigan Department of Natural Resources
Senior Water Policy Advisor
Tammy Newcomb- SAT Co-Chair
P.O. Box 30028
Lansing, MI 48909

Michigan Department of Natural Resources
William Moritz
P.O. Box 30028
Lansing, MI 48909

Michigan Department of Natural Resources
Fisheries Division Chief
Jim Dexter
P.O. Box 30446
Lansing, MI 48909

Michigan Department of Natural Resources
Forest Resources Division Acting Chief
Bill O'Neil
PO Box 30452
Lansing, MI 48909

Michigan Department of Natural Resources
Parks Division Chief
Ron Olson
P.O. Box 30257
Lansing, MI 48909

Michigan Department of Natural Resources
Wildlife Division Chief
Russ Mason
P.O. Box 30444
Lansing, MI 48909

Michigan Historical Center Director
Sandra Clark
702 West Kalamazoo St.
P.O. Box 30740
Lansing, MI 48909

Michigan State University
Department of Fisheries and Wildlife
Bill Taylor
7 Natural Resources Building
Michigan State University
East Lansing, MI 48224

Governor
Office of the Governor Rick Snyder
P.O. Box 30013
Lansing, MI 48909

Office of the Michigan Attorney General
Attorney General Bill Schuette
P.O. Box 30212
Lansing, MI 48909

Office of the Michigan Attorney General
Assistant Attorney General Pamela Stevenson
P O Box 30755
Lansing, MI 48909

Office of the Michigan Attorney General
ENRA Division Chief Peter Manning
G. Mennen Williams Bldg, 7th floor
525 W. Ottawa St.
P.O. Box 30212
Lansing, MI 48909

Office of the Michigan Attorney General
ENRA- First Assistant Robert Reichel
G. Mennen Williams Bldg, 7th floor
525 W. Ottawa St.
P.O. Box 30212
Lansing, MI 48909

Michigan State Housing Development Authority
Cultural Resource Management Specialist
Brian G. Grennell
735 E Michigan Ave
P.O. Box 30044
Lansing, MI 48909

Michigan Historical Center
Department of History, Arts and Libraries Environmental Review Coordinator
Martha L. MacFarlane-Faes
735 E. Michigan Ave
PO Box 30044
Lansing, MI 48909

89 District State Representative
Jim Lilly
N-1193 House Office Building
P.O. Box 30014
Lansing, MI 48909

101 District State Representative
Curt VanderWall
S-1385 House Office Building
P.O. Box 30014
Lansing, MI 48909

35th District State Senator
Darwin Booher
P.O. Box 30036
Lansing, MI 48909-7536

30th District State Senator
Arlan Meekhof
P.O. Box 30036
Lansing, MI 48909-7536

Bay Mills Indian Community Chairman
Kurt Perron
12140 W. Lakeshore Drive
Brimley, MI 49715

Burt Lake Band of Ottawa and Chippewa Indians
MAGPRA rep Curtis Chambers
6461 Brutus Rd
Brutus, MI 49716

Chippewa-Ottawa Treaty Fishery Management Authority
Tom Gorenflo
179 West Three Mile Road
Sault Ste Marie, MI 49783

Grand River Band of Ottawa Chairman
Ronald F Yob
PO Box 2937
Grand Rapids, MI 49501

Grand Traverse Band of Ottawa and Chippewa Indians
Chairperson Alvin Pedwaydon
2605 N.W. Bayshore Dr.
Suttons Bay, MI 49682

Grand Traverse Band of Ottawa and Chippewa Indians
Fisheries Management Building
JoAnne Cook
2605 NW Bay Shore Drive
Suttons Bay, MI 49682

Grand Traverse Band of Ottawa and Chippewa Indians
Fisheries Management Building
Erik Olsen
2605 NW Bay Shore Drive
Peshawbestown, MI 49682

Hannahville Indian Community Cultural Director
Kenneth Meshigaud
N-14911 Hannahville B1 Rd.
Wilson, MI 49896-9728

Keweenaw Bay Indian Community Tribal Historic Preservation Officer
Gary Loonsfoot Jr.
107 Beartown Road
Baraga, MI 49908

Lac Vieux Desert Band of Lake Superior Chippewa Indians
Tribal Historic Preservation Officer
Giiwegiizhigookway Martin
E23857 Poplar Circle, Choate Road
P.O. Box 249
Watersmeet, MI 49969

Little River Band of Ottawa Indians
Larry Romanelli
375 River Street,
Manistee, MI 49660

Little River Band of Ottawa Indians
Natural Resources Department Director
Barry Weldon
375 River Street
Manistee, MI 49660

Little Traverse Bay Band of Odawa Indians
Natural Resources Director
Doug Craven
7500 Odawa Circle
Harbor Springs, MI 49740

Little Traverse Bay Band of Odawa Indians
Kevin Donner
7500 Odawa Circle
Harbor Springs, MI 49740

Little Traverse Bay Bands of Odawa Indians Chairman
Fred Kiogima
7500 Odawa Circle
Harbor Springs, MI 49740

Match-e-be-nash-she-wish Band of Potawatomi Indians of Michigan Chairperson
David K. Sprague
2872 Mission Drive
Shelbyville, MI 49544

Nottawaseppi Huron Band of Potawatomi
Tribal Environmental Director
John Rodwan
2221 One Half Mile Road
Fulton, MI 49025

Ottawa Tribe of Oklahoma Chief
Ethel Cook
P.O. Box 110
Miami, OK 74355

Pokagon Band of Potawatomi Indians ViceChair
Maxine Margiotta
P.O. Box 180
Dowagiac, MI 49047

Red Lake Band of Chippewa Indians of Minnesota
Chairman
Floyd Jourdain
P.O. Box 550
Red Lake, MN 56671

The Saginaw Chippewa Indian Tribe
Office of the Tribal Clerk
7070 East Broadway Road
Mt. Pleasant, MI 48858

Sault Ste. Marie Tribe of Chippewa Indians of Michigan
Chairperson
Aaron Payment
523 Ashmun Street
Sault Ste. Marie, MI 49783

Wyandotte Tribe of Oklahoma Chief
Billy Friend
64700 E. Highway 60
Wyandotte, OK 74370

Grand Traverse Band of Ottawa and Chippewa Indians
William Rastetter
6724 County Road 645
Cedar, MI 49621

American Canoe Association Executive Director
Wade Blackwood
503 Sophia St., Suite 100
Fredericksburg, VA 22401

American Whitewater Executive Director
Mark Singleton
P.O. Box 1540
Cullowhee, NC 28723

Anglers of Au Sable President
Tom Baird
471 S. Stephan Bridge Road
Grayling, MI 49738

Michigan Hydro Relicensing Coalition P.O. and
Federation of Fly Fishers President, GLC Executive Board
James Schramm
Box 828
Pentwater, MI 49949

Hydropower Reform Coalition National Coordinator
Rupak Thapaliya
1101 14th Street NW., Suite 1400
Washington, DC 20005

Michigan Department of Natural Resources
Kelly Smith
PO Box 30446
Lansing, MI 48909

Michigan United Conservation Clubs
Dan Eichinger
2101 Wood Street
P.O. Box 30235
Lansing, MI 48909

Michigan United Conservation Clubs
Gary Towns
855 Oakhurst Road
Fowlerville, MI 48836

Mountain Beach Association President
Michael O. Lareau
894 Bradford Holw NE
Grand Rapids, MI 49525

National Wildlife Federation - Great Lakes Natural
Resource Center Director
Mike Shriberg
213 W Liberty St Ste 200,
Ann Arbor, MI 48104

National Wildlife Federation
Julie Hinderer
Great Lakes Fishery Commission
2100 Commonwealth Blvd., Suite 100
Ann Arbor, MI 48105

School of Natural Resources and Environment University
of Michigan Professor of Zoology
J David Allen
Dana Building
440 Church Street,
Ann Arbor, MI 48109

National Office Trout Unlimited
1777 N. Kent St., Suite 100
Arlington, VA 22209

Allegan County Clerk-Register
Joyce A. Watts
Allegan County Building
113 Chestnut Street
Allegan, MI 49010

Allendale Township Clerk
Candy Kraker
6676 Lake Michigan Drive
PO Box 539
Allendale, MI 49401

Blendon Township Clerk
Phil DeLange
7161 72nd Avenue,
Hudsonville, MI 49426

Charter Township of Pere Marquette
Zoning Administrator
Terry Wahr
1699 S. Pere Marquette Rd
Ludington, MI 49431

Charter Township of Pere Marquette
Township Supervisor
Paul Keson
1699 S. Pere Marquette Rd
Ludington, MI 49431

Charter Township of Pere Marquette Clerk
Rachelle Enbody
1699 S. Pere Marquette Rd
Ludington, MI 49431

City of Grand Haven Clerk
Linda Schmidt
519 Washington Avenue
Grand Haven, MI 49417

City of Holland Deputy Clerk
Anna Perales
270 South River Avenue
Holland, MI 49423

City of Ludington Clerk
Deborah Luskin
400 S. Harrison
Ludington, MI 49431

City of Zeeland Clerk
Karen Jipping
21 South Elm Street
Zeeland, MI 49464

Grand Haven Township Clerk
Sue Buitenhuis
13300 168th Street
Grand Haven, MI 49417

Holland Township Clerk
Michael Dalman
353 North 120th Avenue
PO Box 8127
Holland, MI 49422

Laketown Township Clerk
Wendy VanHuis
4338 Beeline Road
Holland, MI 49423

Marquette County Board of Commissioners Chairman
Gerald Corkin
County Court House Annex
234 West Baraga
Marquette, MI 49855

Mason County District 2 Commissioner
Bill Carpenter
602 E Ludington Avenue
Ludington, MI 49431

Mason County Drain Commissioner
David Hasenbank
102 East Fifth St.
Scottville, MI 49454

Mason County Parks and Recreation Chairman
David McClean
102 East Fifth St.
Scottville, MI 49454

Mason County Clerk
Jim Riffle
304 E. Ludington Ave.
Ludington, MI 49431

Mason County District Library Directors
Robert Dickson and Susan Carlson
217 E Ludinton Ave.
Ludington, MI 49431

Ottawa County Clerk
Daniel Krueger
12220 Fillmore St., Room 130
West Olive, MI 49460

Park Township Clerk
Skip Keeter
52 152nd Avenue
Holland, MI 49424

Port Sheldon Township Clerk
Kathy Van Voorst
16201 Port Sheldon Road
West Olive, MI 49460

Robinson Township Clerk
Jackie Frye
12010 120th Avenue
Grand Haven, MI 49417

Spring Lake Township Clerk
H. Carolyn Boersma
106 South Buchanan
Spring Lake, MI 49456

Summit Township Clerk
Mary Anthony Samuels
4560 W. Anthony Rd
Ludington, MI 49431

Michigan Public Service Commission
Executive Secretary
PO Box 30221
Lansing, MI 48909-7721

Consumers Energy Company
Regulatory Attorney
James Roush EP11-240
One Energy Plaza,
Jackson, MI 49201

Consumers Energy Company
Manager Hydro & Renewable Generation
William A Schoenlein
330 Chestnut St.
Cadillac, MI 49601

DTE Energy Company
Jon Christinidis
One Energy Plaza #688-WCB,
Detroit, MI 48226

DTE Energy Company
Manager - Federal Regulatory Affairs
Rosemary Smalls-Tilford
One Energy Plaza #688-WCB
Detroit, MI 48226

DTE Energy Company
Jim Musial
One Energy Plaza #688-WCB
Detroit, MI 48226

TRC
Lesley Brotkowski
904 Shenandoah Drive
Papillion, NE 68046

DTE Energy Corporate Services LLC
Matt Shackelford
H-136 Warren Service Center
7940 Livernois
Detroit, MI 48210

Michigan Bureau of History
Michigan State Historic Preservation Officer
Brian Conway and Martha L Mac Farlane-Faes
735 E. Michigan Ave,PO Box 30044
Lansing, MI 48909

U.S. Department of Agriculture
State Conservationist
3001 Coolidge Rd, Ste 250
East Lansing, MI 48823-6362

U.S. Department of Agriculture
PO Box 30017
Lansing, MI 48909-7517

U.S. Coast Guard
C/O Cg Group
MSO Sault Ste. Marie
Sault Ste. Marie, MI 49783-9501

U.S. Bureau of Land Management
Field Manager
626 E Wisconsin Ave., Ste 200
Milwaukee, WI 53202-4618

U.S. Coast Guard - MSO CHICAGO
FERC Contact
555 Plainfield Rd, Ste A,
Willowbrook, IL 60527

Bad River Band of Lake Superior Tribe of Chippewa Indians
Chairman
P.O. Box 39
Odanah, WI 54861-0039

Michigan Departement of Attorney General
Legal Secretary Robin L Novak
525 West Ottawa Street
P.O. Box 30755
Lansing, MI 48933

Exhibit 1

LUDINGTON PUMPED STORAGE PROJECT
RELICENSING SETTLEMENT AGREEMENT

I. INTRODUCTION

This Settlement Agreement ("Settlement Agreement") has been negotiated by and among the Parties listed in Section II, including Consumers Energy Company and DTE Electric Company, who own and operate the Ludington Pumped Storage Project ("Project"); state, federal, and tribal governments and natural resource trustees; and non-governmental conservation organizations. This Settlement Agreement addresses, and is intended to comprehensively resolve without litigation, both: (a) measures to minimize fish mortality caused by operation of the Project during the term of the new license issued by the Federal Energy Regulatory Commission ("FERC"); and (b) compensation for and mitigation of such fish mortality that does occur during the term of the new FERC license.

II. PARTIES

The Parties are the following:

A. Consumers Energy Company ("CE"),

B. DTE Electric Company ("DTE"),

C. The Attorney General for the State of Michigan ("AG"),

D. The Michigan Department of Natural Resources ("MDNR"),

E. The United States Department of Interior ("DOI"), on behalf of the Fish and Wildlife Service ("USFWS") and as Trustee for Indian tribes, bands, or communities with reserved treaty rights in the Michigan waters of Lake Michigan,

F. The Grand Traverse Band of Ottawa and Chippewa Indians ("GTB"),

G. The Little River Band of Ottawa Indians ("LRB"),

H. The Little Traverse Bay Bands of Odawa Indians ("LTBB"),

I. The Michigan United Conservation Clubs ("MUCC"), and

J. The National Wildlife Federation ("NWF").

CE and DTE are collectively referred to as "Licensees" and may be individually referred to as "Licensee." All other Parties are collectively referred to as the "Non-Licensee Parties."

III. BACKGROUND

The Project is a hydroelectric generating facility licensed by FERC in 1969 that began commercial operations in 1973. The Project is owned by the Licensees and operated by CE under a 50-year license issued by FERC in 1969 that is set to expire on June 30, 2019.[1] It is located along the eastern shore of Lake Michigan, south of the City of Ludington in Mason County, Michigan. The Project uses six pump/turbines to pump water though intakes from Lake Michigan into a manmade storage reservoir that crests approximately 370 feet above the Lake, typically during periods of low electricity demand. During periods of peak electricity demand, the process is reversed and water stored in the reservoir is released through the pump/turbines into the Lake, generating electricity.

During operation of the Project, some fish from Lake Michigan are entrained in the water intakes. Entrained fish are subject to potential injury or death as they pass through the pump/turbines, both during pumping into the upper reservoir and upon exiting the reservoir during power generation.

Fish mortality caused by operation of the Project led to litigation in the 1980s and 1990s among the Parties before FERC, in Michigan state courts[2], and in state administrative proceedings[3]. The Parties resolved those disputes with respect to fish mortality caused during the term of the initial FERC license through two related settlements entered in 1995 (collectively known as the "1995 Settlement Agreements"):

1) The "Ludington Pumped Storage Project Settlement Agreement-FERC Offer of Settlement" ("FERC Settlement Agreement"), which was filed with the Commission on February 28, 1995, and accepted by the Commission in an Order dated January 23, 1996.[4] It provided for, in part, mitigation of fish mortality at the Project through the seasonal installation of a 2.5-mile-long barrier net around the Project's intakes on Lake Michigan and a monitoring program to track the barrier net effectiveness.

2) A separate "Settlement Agreement-Courts and Non-FERC Agencies" ("State Agreement") covering other matters was executed and filed with the FERC for informational purposes along with the FERC Settlement Agreement, and was subsequently approved in Michigan state court proceedings. The State Agreement provided for, in part, payment of damages for injuries to fishery resources caused by operation of the Project during the term of the initial FERC license. Under the Agreement, annual damage payments are made to the Great Lakes Fishery Trust ("Trust"), which in turn, provides funding for the

[1] *Consumers Energy Company and The Detroit Edison Company*, 42 F.P.C. 274 (1969).

[2] *Frank J. Kelley, Attorney General, et al. v Consumers Power Company and the Detroit Edison Company*, Ingham County Circuit Court Nos. 86-57075-CE and 87-60020-CE.

[3] *In re NPDES Permit MI0035912*, Michigan Department of Natural Resources, 1988.

[4] *Consumers Energy Company and The Detroit Edison Company*, 74 FERC ¶ 61,055 (1996).

enhancement, propagation, protection and replacement of Great Lakes fishery resources with a focus on Lake Michigan.[5]

The 1995 Settlement Agreements provide for the creation of a Scientific Advisory Team ("SAT") composed of representatives of the Parties to oversee and provide scientific support to elements of the 1995 Settlement Agreements. The SAT, which is co-chaired by representatives of the MDNR and CE, continues today to work cooperatively to implement the 1995 Settlement Agreements.

The Licensees initiated a relicensing proceeding for the Project in January 2014 at FERC under the FERC's Integrated License Application Process ("ILP") pursuant to 18 CFR 5.1, *et seq*. The Parties have participated in the ongoing ILP. As part of the ILP, the Licensees have, in consultation with the other Parties, conducted an extensive three-phase Fish and Aquatic Resources Study that identified and evaluated the feasibility, biological effectiveness, and costs of various alternative technologies and engineering measures for abating fish mortality. The Parties agree that, for purposes of settlement and based upon currently available information, continued use of the seasonal barrier net, with some modifications and the Adaptive Management Process ("AMP") in Appendix B to this Settlement Agreement, is the most appropriate path forward to reduce entrainment of fish. Based upon that process and additional consultation, the Parties have negotiated the terms of this Settlement Agreement to address the minimization of and compensation for fish mortality that may be caused by operation of the Project during the term of the new license issued by FERC after the Project's initial license expires.

IV. SCOPE AND ORGANIZATION OF AGREEMENT

This Settlement Agreement contains two primary components: (a) measures to minimize fish mortality caused by operation of the Project during the term of the new FERC license that the Parties request FERC to approve and incorporate in the new license; and (b) payments by the Licensees to compensate for fish mortality caused by operation of the Project during the new FERC license term, that would be made to the Trust for the enhancement, propagation, protection and replacement of Great Lakes fishery resources.

V. PROPOSED FERC LICENSE CONDITIONS TO MINIMIZE FISH MORTALITY

A. Seasonal Barrier Net

The Licensees shall install and continuously maintain the seasonal barrier net for the longest practicable period each year during the ice-free season, and, at a minimum, from April 15 to October 15. This obligation shall continue, subject to Force Majeure as defined in Section VII of this Settlement Agreement, until the license expires, is revoked, or the Project is permanently shut down, whichever occurs first. Licensees may also, after consultation with the SAT, temporarily suspend the barrier net program described in

[5] The DOI was not a signatory to the State Agreement but was designated a Trustee of the Trust established under that Agreement.

this Section V.A of this Settlement Agreement if the Project is shutdown on a temporary, but long-term basis, for reasons other than Force Majeure.

1. Net Performance Standards

Over an entire seasonal period and subject to the following evaluation process, the barrier net shall provide an 80% reduction in the entrainment of all fish equal to or over five (5) inches in length. Conformance with the standard will be determined using a three (3) year rolling average of the annual barrier net effectiveness percentage. During the initial three (3) years of the new FERC license, such rolling average shall be calculated using barrier net effectiveness percentages from the relevant years predating the issuance of the new FERC license.

If this rolling average falls below 80% for two (2) consecutive years, the SAT and Licensees shall promptly initiate discussions under the AMP to strive to improve barrier net performance, preferably during the first official SAT meeting after the filing of the annual barrier report required under Section V.A.4 and no later than one year after such filing. The initial two consecutive year period to be considered under this paragraph are the first two full calendar years after issuance of the new FERC license.

2. Maintenance Of Replacement Capacity

The Licensees shall provide that additional net replacement panels, anchors, buoys, lines, and other equipment and materials necessary to maintain the net on a continuous basis are procured, maintained, and made available to the Project. The equipment and material redundancies shall be sufficient to allow for replacement of all elements of the net system in the event of an extraordinary storm or any other impact that may damage the net system.

3. Monitoring Barrier Net Performance

The Licensees shall provide funding for studies to monitor the effectiveness of the barrier net.

4. Reporting Requirements

The Licensees shall submit a written annual report to FERC on an informational basis and the other Parties by December 31 of each year. The annual report shall describe the actions which have been taken to evaluate and improve both the effectiveness of the barrier net and the methodology employed to measure net effectiveness. The report shall also include representative data and reports received by the Licensees or their representatives during the previous year relating to the installation, maintenance, performance, improvement, and removal of the barrier net. The SAT shall have access to all data and reports relative to the installation, maintenance, performance, improvement, and removal of the barrier

net. The annual report shall also describe the measures the Licensees have taken to maintain the proper replacement capacity for the seasonal barrier net.

B. Implementation Of Barrier Net Improvements

As described in the AMP, the Licensees will develop a plan for the installation of additional flotation, additional anchor pilings, and stronger net materials in targeted areas of the barrier net. The Licensees shall submit the plan to FERC for approval, and upon such approval, implement the plan.

C. Adaptive Management Process

Licensees shall implement the AMP with the goal of minimizing fish entrainment mortality on a basis that is reasonable, financially prudent, and maintains effective and acceptable generation operations at the Project.

D. Periodic Studies Of Technologies To Reduce Fish Mortality

At least once every ten (10) years after the execution of this Settlement Agreement, or more frequently if recommended by the SAT and there is a reasonable basis for such recommendation, the Licensees shall conduct a study of other evolving technologies that may be available to reduce fish mortality at the Project. Before conducting each such study, the Licensees shall provide a study plan to SAT for review and comment. After completion of each study, the Licensees shall submit a written report to FERC, the other Parties, and the SAT containing an evaluation of such technologies and conclusions and recommendations concerning the feasibility, biological effectiveness, and costs of utilizing any new technologies at the Project.

E. Scientific Advisory Team

The SAT established under the 1995 Settlement Agreements shall continue to exist under the terms of this Settlement Agreement for the purpose of evaluating the data and information relevant to this Settlement Agreement and the scientific activities established or authorized by this Settlement Agreement.

1. Purposes Of The SAT

The duties and responsibilities of the SAT shall include, but are not necessarily limited to, the following related to technical oversight of fish mortality abatement measures and implementation of its responsibilities under this Settlement Agreement:

a. Technical oversight of the seasonal barrier net monitoring program, including establishment of protocols, and procedures subject to FERC approval as necessary;

b. Technical oversight of improvements and modifications to the seasonal barrier net provided for in a new FERC license;

c. Technical oversight of and participation in the AMP provided for in a new FERC license;

d. Review of the Licensee's periodic (every ten (10) years) studies of evolving methods and technologies to reduce fish mortality and recommendations for more frequent studies if warranted under Section V. D of this Settlement Agreement;

e. Technical oversight of the annual determination of compensation for fish mortality, using the method specified in Appendix A, including any subsequent adjustments to that method agreed to by the Parties; and

f. Review of and recommendations to the Trust regarding funding proposals submitted to the Trust for fishery research, habitat improvement, or other projects to enhance Great Lakes fishery resources and public access to them.

2. Composition Of The SAT

The SAT shall be co-chaired by the MDNR and a representative of the Licensees. Membership of the SAT shall be comprised of one (1) designee of each of the following organizations except for MDNR, which may designate two (2) members of the SAT:

a. Designee of the Secretary of the Interior;

b. MDNR;

c. MUCC;

d. NWF;

e. CE (2 votes - FERC license issues only as discussed below);

f. DTE (2 votes - FERC license issues only as discussed below);

g. Chippewa-Ottawa Resource Authority or its successors or assigns ("CORA");

h. GTB;

i. LRB;

j. LTBB; and

k. One member chosen by mutual agreement of MDNR, MUCC, and NWF.

All decisions of the SAT shall be by simple majority of those present and voting. No vote of the SAT shall proceed unless written or electronic notice of the meeting at which the vote occurs has been provided to every SAT member at least ten (10) business days before the meeting. With regard to the SAT activities identified in subsections V.E.1.a through V.E.1.d, and any other matter covered in the new FERC license upon which the SAT votes, CE and DTE shall each have two votes. With regard to all other matters, CE and DTE shall each have one vote. Each non-Licensee member of the SAT shall have one vote for all matters, regardless of whether such matters relate to Licensees' new FERC license. The SAT shall keep minutes of each meeting, including but not limited to a voting record. The SAT may prescribe other bylaws and procedures at its discretion. All minutes, voting records, bylaws, and procedures of the SAT shall be made available to any SAT member or Party upon request.

3. Funding Of The SAT

The Licensees shall fund the reasonable and prudent administrative costs of operating the SAT, based upon an annual billing from the Trust or its designee, subject to an initial annual limit of $30,000. The annual limit shall thereafter be annually adjusted for inflation, using the Detroit Consumer Price Index made available by the United States Department of Labor, Bureau of Labor Statistics, or it successor.

4. FERC Review And Approval

For any SAT recommendations or decisions which involve structural or operational modifications to the Project, including substantial modifications to the barrier net and the associated monitoring programs, the Parties recognize that FERC review and approval is necessary. Licensees shall be under no obligation to comply with such SAT recommendations or decisions until all necessary FERC approvals are obtained. In the case of any SAT recommendations or decisions presented to FERC for review and approval, all Parties represented on the SAT shall not oppose the same.

F. Dispute Resolution

Any dispute that arises under Section V of this Settlement Agreement, including disputes regarding recommendations and decisions of the SAT, shall be the subject of informal negotiations among the Parties prior to the commencement of litigation in any forum. The Parties shall engage in a period of informal negotiations not to exceed twenty-one (21) days from the date of written notice by any Party or Parties that a dispute has arisen unless extended by agreement. Such written notice shall be served upon all Parties. If the Parties are unable to resolve the dispute within twenty-one (21) days of the close of negotiations, a majority of the Parties shall provide to the disputing Party or Parties a written statement setting forth their proposed resolution of the dispute. Within fourteen (14) days of receiving the proposed resolution of a majority of the Parties, the disputing Party or Parties shall indicate to the majority Parties, in writing, whether the disputing

Party or Parties reject the proposed resolution. During this informal dispute resolution period, any Party may request the FERC Director of the Division of Hydropower Administration and Compliance or the Director's designee to participate in the negotiations to assist in resolving the dispute.

If a disputing Party or Parties reject the proposed resolution of the majority parties, the disputing Party or Parties shall have twenty-eight (28) days after receipt of proposed resolution to refer the dispute to FERC for expedited dispute resolution, if the dispute involves any matter contained in the new FERC license for the Project. All disputes taken to FERC under this Section shall be governed by FERC's Rules of Practice and Procedure, 18 CFR Part 385. The proposed resolution of the majority Parties and produced in the dispute resolution process may be presented to FERC. If a disputing Party or Parties do not refer a dispute to the FERC within the twenty-eight (28) day period, the majority proposed resolution will become binding on all Parties and effective upon receipt of all necessary governmental permits and authorizations.

G. Support By The Parties For A Fifty Year License Term

The Parties shall support the issuance of the new license by FERC consistent with the terms of this Settlement Agreement for a fifty (50) year term, including providing upon request by the Licensees, written comments in support of a 50 year term.

H. Matters For Which The Parties Seek Approval By FERC

The Parties request that FERC approve and incorporate into the new license: (a) all terms of Section V of this Settlement Agreement; and (b) all relevant and appropriate terms of Section VII (General Provisions) of this Settlement Agreement, except subsections VII.E and VII.G.

VI. PAYMENTS TO COMPENSATE FOR AND MITIGATE FISH MORTALITY

A. Natural Resource Damages Calculation And Payments

1. *Full Compensation:* Pursuant to this Settlement Agreement, the citizens of the State of Michigan, including the GTB, LRB, and LTBB, will be fully compensated for fish mortality associated with operating the pumps/turbines at the Project during the term of a new FERC license.

2. *Compensation Calculation Overview:* The annual compensation for future fish mortality shall be calculated based upon the assumptions and methodologies described in Appendix A. Appendix A describes the base case for fish damages per unit of pumping at the Project.

   As a general matter, compensation is computed under Appendix A for each calendar year by adding up the products of the power used to pump water monthly into the Project with the applicable fish mortality damage per unit of pumping for that month. During the months that the barrier net is in place, compensation for a barrier net monitoring category (i.e. game fish, large forage fish, or 4-5" alewife)

is reduced by the annual percent effectiveness for that category (e.g., if the barrier net is 80% effective for game fish, compensation for game fish that month will be reduced by 80%), subject to adjustment by other elements of the compensation model, including, but not limited to, application of scaling data and the Composite Inflation Adjuster. This example is provided solely as an illustration, and actual calculations shall be performed using the compensation model developed under Appendix A. In the event of a dispute between Appendix A and this illustration, Appendix A shall control.

The fish mortality damages per unit of pumping set forth in Appendix A shall apply as of the effective date of this Settlement Agreement until and unless the damages are modified by the SAT to reflect:

a. Changes in estimated fish mortality damages resulting from changes in the fish community or fisheries of Lake Michigan; provided that any such changes must reflect consequent changes in both the estimates of fish mortalities at the Project and the ultimate value assigned to such fish;

b. Potential changes to include whitefish and cisco as a separate compensation category as described in Section VI.A.4.; or

c. Any other significant changes in the base case assumptions underlying Appendix A, which the Parties agree are appropriate for consideration by the SAT. If the SAT determines to recommend a change to the base case assumptions underlying Appendix A, then all Parties must consent to such change before it is implemented.

The ultimate fish mortality damages per unit of pumping set forth in Appendix A or as modified by the SAT are subject to Dispute Resolution as set forth in Section VI.C., except that the base case assumptions underlying Appendix A shall not be modified until and unless substantive additional data are available to the SAT and all Parties consent to a change under Section VI.A.2.c.

3. *Schedule For Calculation And Payment:* On or before February 1, CE shall annually provide records of the power used monthly in pumping by the Project in the previous calendar year, annual barrier net monitoring and percent effectiveness data, parameter values for composite inflation adjustor, and other relevant information to the SAT for its use in calculating the compensation to be paid into the Trust. On or before March 1, the SAT will provide the Licensees with its calculation of compensation due for the previous calendar year. On or before April 1, Licensees shall pay the calculated amount to the Trust.

4. *Potential Modification Of Compensation Model:* The Parties shall consider the potential modification of the compensation model contained in Appendix A to include lake whitefish, round whitefish, and cisco as a separate compensation category. Specifically, the SAT and the Licensees shall develop a draft compensation model that includes a separate compensation category for cisco and

whitefish within one (1) year after issuance of a new FERC license for review and consideration by the Parties. The SAT and Licensees may request assistance from expertise outside of the SAT membership in the development of a revised compensation model. If the SAT and Licensees believe it is desirable, a revised compensation model that includes a specific category for whitefish and cisco could be fully implemented upon approval by the Parties. As with previous model modifications, the compensation category shall preserve the existing base case framework and associated fish unit values in Appendix A.

5. *Compensation Accrual:* Compensation for unavoidable future fish mortality shall accrue from the effective date of the new FERC license for the Project or such other date as the Parties shall determine in writing until the following December 31 (the first partial period) and annually on a calendar-year basis thereafter.

B. Use Of Damage Payments By The Trust

The Trust is a nonprofit corporation that was established in 1996 pursuant to the State Agreement to receive damage payments made for fish mortality associated with the operation of pumps/turbines at the Project through the term of the initial FERC license, and to use those funds for the enhancement, propagation, protection, and replacement of Great Lakes fishery resources. Based upon the Trust's successful and ongoing implementation of the prior State Settlement Agreement, the Parties agree to continue to use the Trust for those purposes as described in this Settlement Agreement.

1. Uses Of Trust Funds

Preferential treatment shall be given to projects which benefit the Lake Michigan fishery. Permissible uses of Trust funds are:

a. Research activities directed at increasing the benefits associated with Great Lakes fishery resources;

b. Rehabilitation of lake trout, lake sturgeon and other fish populations;

c. Protection and enhancement of fisheries habitat including Great Lakes wetlands as fisheries habitat;

d. Public education concerning the Great Lakes fisheries;

e. Acquisition of real property for the above purposes or to provide access to the Great Lakes fisheries; and

f. Any other purpose consistent with the above, duly approved by the Trustees of the Trust.

2. Administration Of The Trust

The Trust shall be administered by a Board of Trustees comprised of eight (8) members designated as the following:

a. The Director of the MDNR or his/her designee, who shall serve as Chair of the Trust Board;

b. The Attorney General of the State of Michigan or his/her designee;

c. A representative of the DOI on behalf of the USFWS and, as Trustee for Indian tribes with reserved treaty rights in the Michigan waters of Lake Michigan, as designated by the Secretary of the Interior;

d. A representative of the GTB as designated by the Tribal Council of the Band;

e. A representative of the LRB as designated by the Tribal Council of the Band;

f. A representative of the LTBB as designated by the Tribal Council of the Bands;

g. A representative of the MUCC as designated by the Executive Director of MUCC; and

h. A representative of the NWF as designated by the President of the Federation.

Any Trustee may propose a project, although the Parties assume that projects funded by the Trust generally will be considered and recommended by the SAT prior to being proposed and considered by the Board of Trustees. The agreement of five (5) Trustees shall be sufficient to take any action or make any decision authorized or required in the administration or execution of the Trust, except that the agreement of six (6) Trustees shall be required: (a) to authorize any expenditure of Trust funds for a project, activity, or acquisition that occurs outside of the Lake Michigan basin or that does not primarily benefit the fishery resources of the Lake Michigan basin, or (b) to authorize the acquisition or sale of real property.

C. Dispute Resolution

All disputes arising under Section VI of this Settlement Agreement will be subject to dispute resolution procedures described in this Section VI.C, except that decisions of the Trust's Board of Trustees shall be final and shall not be subject to dispute resolution under the terms of this Settlement Agreement.

1. Informal Dispute Resolution

Any dispute that arises under Section VI of this Settlement Agreement shall be the subject of informal negotiations among the Parties prior to the commencement

of litigation in any forum. The Parties shall engage in a period of negotiations not to exceed twenty-one (21) days from the date of written notice by any Party or Parties that a dispute has arisen, unless extended by agreement. Such written notice shall be served upon all Parties. If the Parties are unable to resolve the dispute within twenty-one (21) days of the close of negotiations, a majority of the Parties shall provide to the disputing Party or Parties a written statement setting forth their proposed resolution of the dispute.

Within fourteen (14) days of receiving the proposed resolution of a majority of the Parties, the disputing Party or Parties shall indicate to the majority Parties, in writing, whether the disputing Party or Parties reject the proposed resolution.

2. Formal Dispute Resolution

If a disputing Party or Parties reject the proposed resolution of any dispute, any Party may, at its discretion, refer the proposed resolution of the majority Parties to mediation within twenty eight (28) days after receipt of the proposed resolution. If no referral to mediation is made within the twenty eight (28) day period, the majority proposed resolution will become binding on all Parties. If the dispute is timely referred to mediation, the Parties to the dispute shall jointly select a neutral mediator within fourteen (14) days of the referral. If the Parties to the dispute do not jointly agree to the selection of the mediator within that time period, the Parties shall request the designation of a neutral mediator by a professional dispute resolution organization. Once the mediator has been jointly selected or designated, the Parties to the dispute shall participate in good faith in the mediation process established by the mediator until the dispute is resolved or any Party terminates mediation if such efforts do not appear likely to resolve the dispute. The costs of the mediator shall be shared equally by all Parties to the dispute. If mediation is not successful in resolving the dispute, then the disputing Party or Parties may bring suit in a court of competent jurisdiction to resolve the dispute.

VII. GENERAL PROVISIONS

A. Parties Bound

The terms of this Settlement Agreement shall be binding upon each of the Parties and their respective successors and assigns.

B. Enforcement Of Agreement

The terms of this Settlement Agreement may be enforced by any Party in a court of competent jurisdiction, or with respect to matters covered by the new FERC license, in proceedings before FERC.

C. Covenants Not To Sue, Reservation Of Rights, And Covered Matters

1. Definition Of “Covered Matters”

"Covered Matters" includes:

i. Damages resulting from the pump/turbine induced mortality of fish at the Project during the term of the new FERC license for the Project; and

ii. The mitigation and abatement of fish mortality resulting from the operation of the Project during the term of the new FERC license for the Project.

2. Covenant Not To Sue And Reservation Of Rights By Non-Licensee Parties

In consideration of Licensees' obligations under this Settlement Agreement, and except as specifically provided in this Section, the Non-Licensee Parties covenant not to sue or take administrative action against either Licensee for Covered Matters.

This covenant not to sue set forth does not pertain to any matters other than those expressly specified in Covered Matters. The Non-Licensee Parties reserve, and this Settlement Agreement is without prejudice to, all rights against Licensees with respect to all other matters, including, but not limited to, the following:

a. Liability for any damages for injury to, destruction of, or loss of natural resources caused by either Licensee except for damages attributable to pump/turbine induced mortality of fish at the Project; and

b. Liability for damages for injury to, destruction of, or loss of natural resources occurring after the expiration of the new FERC license.

3. Covenant Not To Sue And Reservation Of Rights By Licensees

Licensees hereby covenant not to sue and agree not to assert any claim or cause of action against the Non-Licensee Parties for the Covered Matters, including, but not limited to, any direct or indirect claim for reimbursement from the Trust.

The covenant not to sue set forth in this Section does not pertain to any matters other than those expressly specified in Covered Matters. The Licensees reserve, and this Settlement Agreement is without prejudice to, all rights against the Non-Licensee Parties with respect to all other matters.

4. Third Party Litigation – Statements of Support

If any entity not a Party to this Settlement Agreement sues in any court or brings an administrative action against either Licensee regarding a Covered Matter, or a matter substantially similar to a Covered Matter, then the Non-Licensee Parties shall, upon written request by either Licensee, file a publicly-available statement

in the docket of the relevant proceeding(s) stating that they jointly believe that this Settlement Agreement has reasonably and fully resolved the Covered Matters.

5. Disputes Arising Before Effective Date Of This Settlement Agreement

Any dispute regarding an issue addressed in the 1995 Settlement Agreements and arising before the effective date of this Settlement Agreement shall be governed by the relevant 1995 Settlement Agreement.

6. Settlement Agreement Limited To Period Of New FERC License

This Settlement Agreement shall not affect the rights of any Party to take any position in any relicensing proceedings involving the Project after the expiration of the new FERC license. The Parties agree that any compensation or consideration paid under this Settlement Agreement and the terms and conditions of the Settlement Agreement will only apply to the term of the new FERC license.

D. Force Majeure

The Licensees shall perform the requirements of this Settlement Agreement within the time limits established herein, unless performance is prevented or delayed by events which constitute a "Force Majeure." Any delay in or prevention of performance attributable to a Force Majeure shall not be a violation of the Licensees' obligations under this Settlement Agreement. Force Majeure is defined as an occurrence or nonoccurrence arising from causes not reasonably foreseeable, beyond the control of and without the fault of the Licensees, and which could not be avoided or overcome by due diligence. Force Majeure events include, but are not limited to, an inability to perform an obligation of this Settlement Agreement due to governmental action beyond the control of the Licensees (e.g., inability to obtain necessary governmental permits, approvals, or licenses, land use restrictions, etc.), acts of God, or adverse weather conditions. "Adverse weather conditions" are defined as weather related phenomena that prevent the Licensees, or any persons acting for or on their behalf, from performing obligations under this Settlement Agreement and that could not have been overcome by due diligence. Force Majeure does not include unanticipated or increased costs, changed financial circumstances, commencement of a proceeding in bankruptcy, contractual disputes, or failure to obtain a permit, approval, or license as the result of the Licensees' actions or omissions.

When a Force Majeure event occurs that the Licensees believe causes a delay in performing an obligation under this Settlement Agreement, the Licensees shall notify the other Parties telephonically or via electronic communication of the circumstances within 3 business days after it first becomes aware of those circumstances. Failure of the Licensees to provide such notice within 3 business days does not by itself disqualify an event as being a Force Majeure event. Disputes regarding whether a Force Majeure event occurred shall be subject to the dispute resolution procedure set forth in Section V.F if the matter relates to the Licensees' new FERC license. If the matter does not relate to

Licensees' new FERC license, then the dispute resolution procedure set forth in Section VI.C shall be used.

E. Support For Regulatory Filings

Upon the written request of Licensees, the Non-Licensee Parties shall make filings with the relevant regulatory bodies (including, but not limited to, the Michigan Public Service Commission and the FERC) stating their full and unconditional support for Licensees' filings to obtain approval of this Settlement Agreement. To the extent Licensees have consulted with a Non-Licensee Party regarding any plans or programs filed with FERC for approval pursuant to the terms of this Settlement Agreement, then that Non-Licensee Party shall make, upon the written request of Licensees, filings with FERC stating its full support for Licensees' plan or program.

F. Termination Of Settlement Agreement

Either Licensee may terminate this Settlement Agreement before the end of its term if the Michigan Public Service Commission denies recovery of a material amount of expenditures made under this Settlement Agreement so long as: (a) the basis for the denial of recovery is not attributable to negligence by either Licensee, and (b) Licensees are performing in a reasonable manner and are fulfilling all obligations under this Settlement Agreement up to the point in time when the Michigan Public Service Commission denies recovery.

In the event that either Licensee elects to terminate this Settlement Agreement under this Section VII.F, it shall provide a written notice of termination to all Parties documenting that the conditions precedent for the termination described under this Section VII.F have been met. If any Party disputes that the conditions precedent have been met, then it shall provide a notice of dispute to the Parties within thirty (30) days of service of the notice of termination, with such notice invoking the dispute resolution procedures described in Section VI.C of this Settlement Agreement. If no Party provides a notice of dispute within the required thirty (30) days, then all Parties are deemed to agree that the conditions precedent to termination have been met.

If the Parties agree that the conditions precedent have been met, or it is determined through the dispute resolutions procedures in Section VI.C that the conditions precedent have been met, then the Parties shall communicate in good faith regarding any questions about the termination process. In agreeing to communicate in good faith, no Party is committing itself to any substantive position or result at any point in time during or after the termination.

No sooner than 30 days after an agreement by the Parties or determination that the conditions precedent have been met, the Licensee seeking to terminate may file at FERC to amend the license to reflect the termination. During this amendment proceeding at FERC, no party may protest or otherwise assert that the conditions precedent have not been met. Any termination is subject to FERC approval to the extent that the FERC license requires amendment to implement the termination.

Termination of this Settlement Agreement shall not affect any rights, responsibilities, or liabilities of any Party that accrued prior to the effective date of the termination.

G. Non-Opposition To Rate Recovery

At no point during the term of this Settlement Agreement shall any Party oppose rate recovery by either Licensee of any expenditures made pursuant to: (a) this Settlement Agreement; (b) any FERC-approved plans or programs entered into under the terms of this Settlement Agreement; or (c) any future recommendation, decision, or action of the SAT. The Parties recognize that the recovery of such expenditures could occur in a variety of types of filings, including, but not limited to, general rate cases or single issue rate filings.

H. Applicable Law

This Settlement Agreement shall be governed by the applicable laws of the State of Michigan, except to the extent federal law preempts any applicable state law.

I. Notices

All notices required to be provided under this Settlement Agreement shall be provided to the following:

CONSUMERS ENERGY COMPANY:

William A. Schoenlein
Manager Hydro and Renewable Generation
Consumers Energy Company
330 Chestnut Street
Cadillac, Michigan 49601
Phone: (231) 843-5227
Fax: (231) 578-8051
william.schoenlein@cmsenergy.com

James D. W. Roush
Attorney III
Consumers Energy Company
One Energy Plaza
Jackson, Michigan 49201
Phone: (517) 788-1661
Fax: (517) 768-3644
james.roush@cmsenergy.com

DTE ELECTRIC COMPANY:

Matthew T. Paul
Vice President for Plant Operations
DTE Electric Company
One Energy Plaza
Detroit, MI 48226

Jon Christinidis
Expert Attorney
One Energy Plaza
688 WCB
Detroit, MI 48226

ATTORNEY GENERAL OF THE STATE OF MICHIGAN:

S. Peter Manning
Assistant Attorney General in Charge
Environment, Natural Resources and Agriculture Division

525 W. Ottawa St, 6th Floor
Lansing, MI 48909
Phone: (517) 373-7540
Fax: (517) 373-1619
manningp@michigan.gov

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Keith Creagh
Director
Michigan Department of Natural Resources
525 W. Allegan Street, 5th Floor
Lansing, MI 48933
Phone: (517) 284-6367
Fax: (517) 335-4242
creaghk@michigan.gov

U.S. DEPARTMENT OF INTERIOR AND U.S. FISH AND WILDLIFE SERVICE:

Stephen Mahoney
Office of the Field Solicitor
U.S. Department of the Interior
3 Parkway Center
Suite 385
Pittsburgh, PA 15220

Charles Wooley
Deputy Regional Director
U.S. Fish and Wildlife Service, Midwest Region
5600 American Boulevard West
Suite 990
Bloomington, Minnesota 55437-1458

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS:

Thurlow "Sam" McClellan
Tribal Chairman
Grand Traverse Band of Ottawa and Chippewa Indians
2605 N. West Bay Shore Drive
Peshawbestown, MI 49682
Phone: (231) 534-7750

LITTLE RIVER BAND OF OTTAWA INDIANS:

Larry Romanelli
Tribal Ogema
Little River Band of Ottawa Indians
2608 Government Center Drive
Manistee, MI 49660
Phone: (231) 723-8288

LITTLE TRAVERSE BAY BANDS OF ODAWA INDIANS:

Regina Gasco-Bentley
Tribal Chairperson
Little Traverse Bay Bands of Odawa Indians
7500 Odawa Circle
Harbor Springs, MI 49740
Phone: (231) 242-1400
TribalChair@ltbbodawa-nsn.gov

MICHIGAN UNITED CONSERVATION CLUBS:

Daniel Eichinger
Executive Director
Michigan United Conservation Clubs
PO Box 30235
Lansing, MI 48909
Phone: (517) 346-6475
Fax: (517) 371-1505
deichinger@mucc.org

NATIONAL WILDLIFE FEDERATION:

Michael Shriberg
Regional Executive Director, Great Lakes
National Wildlife Federation
113 W. Liberty Street, Suite 200
Ann Arbor, MI 48104

Designees listed above may be changed upon fourteen (14) days written notice.

J. Modifications

This Settlement Agreement may be modified only by the written agreement of all Parties.

K. Authority Of Signatories

Each person executing this Settlement Agreement on behalf of a Party represents and warrants that he or she is duly authorized and empowered to act on behalf of, and to authorize this Settlement Agreement to be executed on behalf of, the Party that he or she represents.

L. Execution Of Counterparts

This Settlement Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original and all of which together shall be deemed to be one and the same agreement. The exchange of copies of this Settlement Agreement and of

signature pages by facsimile or electronic transmission shall constitute effective execution and delivery of this Settlement Agreement by the Parties and may be used in lieu of the original Settlement Agreement for all purposes. Signatures of the Parties transmitted by facsimile or electronic transmission shall be deemed to be their original signatures for any purpose whatsoever.

M. Effective Date

This Settlement Agreement shall be take effect on the effective date of a new FERC license with a term of 30 years or more and remain in effect throughout the term of that new license. If FERC approves the portion of this Settlement Agreement identified in Section V.H without substantive modification or substantive condition, then no Party shall seek rehearing, appeal, or otherwise challenge or contest any FERC orders approving it. In the event that FERC either rejects this Settlement Agreement or approves it with substantive modification or substantive condition, then any Party may provide written notice to the other Parties within ten (10) business days of such order that FERC's rejection, modification or condition is unacceptable, in which case the Parties shall negotiate in good faith to reach a new agreement they believe FERC will accept and is consistent with the spirit and intent of this Settlement Agreement. In the absence of written notice that any substantive modification or substantive condition is unacceptable, all Parties shall be deemed to have accepted this Settlement Agreement as modified and/or conditioned by FERC's order. If, upon written notification by a Party that FERC's modification or condition is unacceptable, and the Parties cannot come to a new agreement, then this Settlement Agreement shall cease to have any force or effect.

N. Headings

The headings of each paragraph in this Settlement Agreement are for convenience of reference only and are not a part of this Settlement Agreement. These headings do not in any way limit or expand the terms and provisions of this Settlement Agreement and shall have no effect on its interpretation.

O. Ambiguities Neutrally Construed

This Settlement Agreement is the result of negotiations among, and has been reviewed by, each Party and its respective counsel. Accordingly, this Settlement Agreement shall be deemed to be the product of each Party, and no ambiguity shall be construed in favor of or against any Party based on authorship of this Settlement Agreement.

P. Waiver

No provision of this Settlement Agreement may be waived except in writing by an authorized representative of the waiving Party. Any such written waiver of any particular provision of this Settlement Agreement shall not be deemed to waive any other provision.

Q. Entire Agreement

This Settlement Agreement constitutes the entire agreement of the Settling Parties with respect to the matters at issue in this proceeding, and supersedes any and all prior or contemporaneous representations, agreements, instruments and understandings between them, whether written or oral regarding such matters. There are no other oral understandings, terms, or conditions with respect to the matters at issue in this proceeding, and no Party has relied upon any representation, express or implied, not contained in this Settlement Agreement. Any statements made during the negotiations of this Settlement Agreement, including, but not limited to, prior drafts of this Settlement Agreement, shall not be used for any purpose or against any Party in the event of a dispute or as evidence in any proceeding.

R. Non-Precedential And Non-Prejudicial Nature Of The Settlement

Until it becomes effective, this Settlement Agreement shall have no prejudicial effect on any Party. Upon its effectiveness, the Settlement Agreement shall not have precedential effect in other cases or proceedings and shall not establish any legally binding principles regarding any issue addressed in this Settlement Agreement, including, but not limited to, fish unit values, overall fish compensation, modification of project operation to protect fish, or the legal jurisdiction of any regulatory agency affected by this Settlement Agreement, the type of proceedings chosen for regulatory approvals, the support or non-objections to regulatory approvals, or the ratemaking treatment approved or utilized for cost recovery.

S. National Pollutant Discharge Elimination System Permit

Non-Licensee Parties shall not, consistent with *National Wildlife Federation v. Consumers Power Co.*, 862 F.2d 580 (1988), assert in any proceeding of any kind that the Project should be subject to a National Pollutant Discharge Elimination System ("NPDES") under the Clean Water Act, 33 U.S.C. § 1342, as amended, for its turbine generating and pumping water. Similarly, no Non-Licensee Party shall propose any conditions for any NPDES permit under consideration for the Project related the Project's turbine generating or pumping water.

CONSUMERS ENERGY COMPANY

Signature: _____ Date: 9/21/2017

Printed Name: Dennis D. Dobbs
Title: VP, Enterprise Project Mgmt + Environmental Services

DTE ELECTRIC COMPANY

Signature: _____ Date: _____

Printed Name: _____
Title: _____

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN
EX REL. THE STATE OF MICHIGAN

Signature: _____ Date: _____

Printed Name: _____
Title: _____

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Signature: _____ Date: _____

Printed Name: _____
Title: _____

UNITED STATES DEPARTMENT OF INTERIOR

Signature: _____ Date: _____

Printed Name: _____
Title: _____

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS

Signature: _____ Date: _____

Printed Name: _____
Title: _____

CONSUMERS ENERGY COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

DTE ELECTRIC COMPANY

Signature: [signature] Date: 10/4/17

Printed Name: MATTHEW T. PAUL
Title: VP, FOSSIL GENERATION OPERATIONS

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN
EX REL. THE STATE OF MICHIGAN

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Signature:_____ Date:_____

Printed Name:_____
Title:_____

UNITED STATES DEPARTMENT OF INTERIOR

Signature:_____ Date:_____

Printed Name:_____
Title:_____

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

CONSUMERS ENERGY COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

DTE ELECTRIC COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN
EX REL. THE STATE OF MICHIGAN

Signature:_____ Date: 10/5/17

Printed Name: S. PETER MANNING
Title: DIVISION CHIEF

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Signature:_____ Date:_____

Printed Name:_____
Title:_____

UNITED STATES DEPARTMENT OF INTERIOR

Signature:_____ Date:_____

Printed Name:_____
Title:_____

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

CONSUMERS ENERGY COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

DTE ELECTRIC COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN
EX REL. THE STATE OF MICHIGAN

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Signature: [signature] Date: 10/5/17

Printed Name: Keith Creagh
Title: Director

UNITED STATES DEPARTMENT OF INTERIOR

Signature:_____ Date:_____

Printed Name:_____
Title:_____

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

CONSUMERS ENERGY COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

DTE ELECTRIC COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN
EX REL. THE STATE OF MICHIGAN

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Signature:_____ Date:_____

Printed Name:_____
Title:_____

UNITED STATES DEPARTMENT OF INTERIOR

Signature: Charles Wooley Date: 9/22/17

Printed Name: Charles M. Wooley
Title: Deputy Regional Director

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

CONSUMERS ENERGY COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

DTE ELECTRIC COMPANY

Signature:_____ Date:_____

Printed Name:_____
Title:_____

ATTORNEY GENERAL FOR THE STATE OF MICHIGAN
EX REL. THE STATE OF MICHIGAN

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Signature:_____ Date:_____

Printed Name:_____
Title:_____

UNITED STATES DEPARTMENT OF INTERIOR

Signature:_____ Date:_____

Printed Name:_____
Title:_____

GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS

Signature: William Rastetter Date: Sept. 27, 2017

Printed Name: William Rastetter
Title: Tribal Attorney (per 9/27/17 Tribal Council motion)

LITTLE RIVER BAND OF OTTAWA INDIANS

Signature: Larry B. Romanelli Date: 10-23-17

Printed Name: Larry B. Romanelli
Title: Ogema

LITTLE TRAVERSE BAY BANDS OF ODAWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN UNITED CONSERVATION CLUBS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

NATIONAL WILDLIFE FEDERATION

Signature:_____ Date:_____

Printed Name:_____
Title:_____

LITTLE RIVER BAND OF OTTAWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

LITTLE TRAVERSE BAY BANDS OF ODAWA INDIANS

Signature: Regina Gasco-Bentley Date: 10/13/2017

Printed Name: Regina Gasco-Bentley
Title: Chairperson

MICHIGAN UNITED CONSERVATION CLUBS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

NATIONAL WILDLIFE FEDERATION

Signature:_____ Date:_____

Printed Name:_____
Title:_____

LITTLE RIVER BAND OF OTTAWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

LITTLE TRAVERSE BAY BANDS OF ODAWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN UNITED CONSERVATION CLUBS

Signature:_____ Date: 10/5/17

Printed Name: Daniel E. Eichinger
Title: Executive Director

NATIONAL WILDLIFE FEDERATION

Signature:_____ Date:_____

Printed Name:_____
Title:_____

LITTLE RIVER BAND OF OTTAWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

LITTLE TRAVERSE BAY BANDS OF ODAWA INDIANS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

MICHIGAN UNITED CONSERVATION CLUBS

Signature:_____ Date:_____

Printed Name:_____
Title:_____

NATIONAL WILDLIFE FEDERATION

Signature:_____ Date: 10/5/17

Printed Name: Michael Shriberg
Title: Great Lakes Regional Executive Director

Appendix A
Annual Fish Mortality Compensation Calculation

This Appendix A summarizes how annual fish mortality compensation will be calculated under Article VI of the Settlement Agreement addressing, among other things, compensation payments for unavoidable fish mortality at the Ludington Pumped Storage Project ("Project"). The foundation for the annual damage calculation is the base case adopted by the Parties in the 1995 State Settlement. The Parties to that agreement determined to use the fish mortality estimates for 1979-1980 provided by Liston *et al.* (1981)[1], under contract to Consumers Power Company, modified by: (a) the assumption that larval fish mortalities are 5% of entrainment, (b) the fish mortality damage estimates claimed by the State of Michigan in its filings concerning the Project, and (c) the barrier net effectiveness estimates for 1992 prepared by Barnes and Williams Environmental Consulting Company under contract to Consumers Power Company.[2]

The base case assumes that fish mortalities at the Project are proportional to the volume of water pumped into the plant, which is proportional to the power used in pumping. Thus a principal objective of the analysis presented in this Appendix A is to represent the damage estimates adopted for purposes of settlement as fish damage per megawatt hour ("$/MWH") used in pumping Lake Michigan water into the Project.

During implementation of the fish damage calculations described in the 1995 State Settlement, the SAT identified errors, and corrected them to the satisfaction of the SAT and the Parties[3], in selected parameters of the base case. For this Appendix A those errors have been corrected and tables updated accordingly. In 1998, the barrier net was shown to be effective for reducing entrainment for 4-5" alewife and thus that SAT approved the creation of a fish category for 4-5" alewife[4].

I. Fish Compensation Model

The formula to calculate monthly fish damage is described by the following:

$$\text{Monthly Base Case Damage (\$)} = \sum SCV_y \, DBC_m \times (P_m/PBC_m) \times (1\text{-}BE_y) \times CIA$$

Where:
m = month
y = Fish Category (shown in Table 1 below)

[1] Liston *et al.* (1981) - Assessment of Larval, Juvenile, and Adult Fish Entrainment Losses at the Ludington Pump Storage Power Plant on Lake Michigan. 1980 Annual Report, Ludington Project, Volume 1. Dept. of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan, 48824.

[2] Report of the Ludington Barrier Net Effectiveness Monitoring Program 1992, Barnes-Williams Environmental Consultants, Inc. 132 Washington St. Binghamton, New York, 13901, 607/723-3113.

[3] SAT review and editing of Liston et al. forage entrainment data. See SAT Document – Base Case Forage Biomass Data Corrections, September 11, 2017.

[4] See SAT Document – Addition of 4 to 5 inch alewife forage fish category to compensation model, September 11, 2017.

SCV_y = Settlement Compensation Value ($) of Liston *et al*. (1981) base case entrainment for fish group y (1994 $)
DBC_m = % Fish Distribution from Base Case Liston *et al*. (1981) Study for month m
P_m = Pumping MW from current year for month m
PBC_m = Pumping MW from Base Case Liston *et al*. (1981) Study month m
BE_y = Current year annual barrier net effectiveness in reducing for entrainment of fish group y
CIA = Current year Composite Inflation Adjuster

If the fish catch in monitoring gill nets set outside the barrier net decreases or increases from the agreed upon baseline catch (the estimated barrier net monitoring catch during the Liston *et al*. (1981) base case entrainment study), then scalars for fish abundance and value (described below in Section VIII) will further modify the compensation payment per fish category.

II. Base Case Fish Distribution (DBC)

Table 1 provides estimates of total base case annual fish mortality based on the Liston *et al.* (1981) study updated to account for errors in the 1995 State Agreement's base case data and the addition of a 4-5" alewife fish category. These numbers reflect total annual fish mortality as determined by Liston *et al.* (1981) entrainment study.

Table 1. Corrected annual base case fish mortality data by fish category[5,6] based on Liston *et al.* (1981).

GAMEFISH (NUMBER)	67,376
LARGE FORAGE (KG)	679,110
UNKNOWN LARVAL FORAGE (KG)	30,000
SMALL SMELT FORAGE (KG)	107,817
4-5" ALEWIFE FORAGE (KG)	332,346
LESS THAN 4" ALEWIFE FORAGE (KG)	335,637

III. Settlement Compensation Value (SCV_y)

The total compensation values for specific fish species within each fish category is provided in Table 2, based on the estimated total fish mortality in Table 1 and the State's valuation methodology adopted in the 1995 State settlement.[7] The table originated in Appendix A of the 1995 State settlement.

[5] For source data see SAT Document – Base Case Forage Biomass Data Corrections, September 11, 2017.

[6] For source data see SAT Document – Addition of 4 to5 inch alewife forage fish category to compensation model, September 11, 2017.

[7] It was the State of Michigan's position during the negotiations of the 1995 State Settlement that, using the Liston mortality estimates and applying appropriate values based upon mortality of specific species and life stages, the value of the fish mortality is estimated at approximately $5.9 million per year in 1988 dollars. Modification of the larval mortality estimate for purposes of the 1995 State Settlement reduced this amount to just over $5.8 million. This is composed of $145,083 replacement costs for lake sturgeon based on the assumption that replacement costs are less than the existence values for this threatened species, $5,307 in lost profits for commercial harvest of lake whitefish, round whitefish, and bloaters; $127,713 in stocking costs for the small game fish killed at the Project;

Table 2. Estimated damages for components of each fish category in 1994 adjusted for inflation from 1988 damages based on Liston *et al.* (1981) mortality estimates (Table 1) and the State's valuation methodology adopted in the 1995 State settlement. The components of each fish category are shown. The 1994 values for the Large Forage Fish category and Larval/Small Forage category were adjusted for errors corrected in original base case mortality estimates.[8]

Fish Category	Damages in 1988 $	Damages in 1994 $
Game Fish	$2,485,931	$2,900,000
– Sturgeon	$ 145,083	$ 169,249
– Commercial fishing	$ 5,307	$ 6,191
– Recreational value of game fish killed	$2,335,540	$2,724,560
Large Forage Fish	$ 966,084	$1,365,283
– Recreational fishing value of game fish supported by large forage fish killed	$ 895,374	$1,265,354
– Stocking costs for juvenile game fish killed	$ 127,713	$ 180,486
– Stocking costs for game fish supported by large forage fish	$ -57,003	$ -80,557
Larval/Small forage fish	$1,567,850	$1,619,881
– Recreational fishing value of game fish supported by larval/small forage fish	$1,612,265	$1,665,769
– Stocking costs for game fish supported by larval/small forage fish killed	$ -44,415	$ -45,888
TOTAL	$5,019,866	$5,885,164

Table 3 shows the base case damages from Table 2 distributed across the revised fish categories of Table 1. This results from the partitioning of the Larval/Small forage fish category into the 4-5" Alewife Forage category, the Unknown Larval Forage category, the Small Smelt Forage category, and the Less Than 4" Alewife category, based upon their respective base case biomasses.[9]

$4,843,179 in recreational fishing value for large game fish killed at the Project and for the large game fish which could have been produced through use of the forage fish killed at the Project; less additional stocking costs of $101,418 which the State would have incurred in utilizing the forage fish killed by the plant. Although the State estimated the combined recreational fishing value of game fish killed and game fish which would be supported by the forage killed, approximately 40% of the recreational fishing value estimated by the State is attributable to the direct mortalities of large game fish. The State's valuation methodology was not accepted by the Licensees but the amounts were agreed to through negotiation.

[8] For source data see Table 4 in SAT Document - Base Case Forage Biomass Data Corrections, September 11, 2017.

[9] Values for Larvae/Small Forage in Table 2 are partitioned. For source data see Table A in SAT Document – Addition of 4 to 5 inch alewife forage fish category to compensation model, September 11, 2017.

Table 3. Corrected base case fish damage (1994 dollars) by revised fish category

GAMEFISH	$2,900,000
LARGE FORAGE	$1,365,283
UNKNOWN LARVAL FORAGE	$60,308
SMALL SMELT FORAGE	$216,742
4-5" ALEWIFE FORAGE	$668,107
LESS THAN 4" ALEWIFE FORAGE	$674,723
TOTAL	$5,885,164

IV. Monthly Base Case Fish Distribution (DBC_{my})

The monthly distribution of total base case fish mortality for each fish category is provided in Table 4. It shows the proportion of annual fish mortality each month by fish category. This data was based on empirical observations of entrainment from the Liston *et al.* (1981) study.

Table 4. Monthly proportion of fish mortality by fish category[10]

MONTH	GAMEFISH	LARGE FORAGE	4-5" ALEWIFE FORAGE	LESS THAN 4" ALEWIFE FORAGE	Small SMELT FORAGE	UNKNOWN LARVAL FORAGE
JAN	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%
FEB	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%
MAR	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%
APR	2.0%	0.5%	0.0%	0.1%	3.4%	0.8%
MAY	6.5%	0.5%	0.0%	0.1%	1.6%	8.0%
JUN	1.4%	24.9%	20.7%	39.4%	31.0%	16.8%
JUL	12.0%	57.0%	55.9%	51.9%	28.2%	25.1%
AUG	9.5%	17.0%	23.4%	8.5%	35.8%	41.2%
SEP	26.8%	0.0%	0.0%	0.0%	0.0%	8.1%
OCT	21.4%	0.0%	0.0%	0.0%	0.0%	0.0%
NOV	7.2%	0.0%	0.0%	0.0%	0.0%	0.0%
DEC	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%

V. Base Case Pumping (PBC_m)

The base case assumes the monthly megawatt hours used for pumping at the Project during the period of the Liston *et al.* (1981) study was directly related to the fish mortality (Table 1) estimated by Liston *et al.* (1981).

[10] For source data see SAT Document –Base case monthly distributions, September 12, 2017.

Table 5. Monthly pumping (Megawatt hours) at the Project from April 1979-March 1980.

Month	Pumping (MWH) April 1979 -- March 1980
January	256,496
February	194,335
March	271,895
April	207,892
May	276,554
June	303,603
July	330,853
August	313,404
September	282,365
October	279,749
November	183,531
December	233,216

VI. Monthly Settlement Compensation Value (SCV_{my})

Based on the annual fish damages in 1994 dollars (Table 3), the seasonal distribution of fish mortalities (Table 4), and the pumping data presented in Table 5, the base case estimates of fish damages per megawatt hour used in pumping at the Project in the absence of the barrier net or other fish protection measures are presented in Table 6.

Table 6. Monthly base case fish damages per megawatt hour pumped for each fish category in 1994 dollars. The zero's reflect that fish were not found during that month in the base case study in Liston *et al.* (1981).

	GAMEFISH	LARGE FORAGE	4-5" ALEWIFE FORAGE	LESS THAN 4" ALEWIFE FORAGE	UNKNOWN SMALL FORAGE	UNKNOWN LARVAL FORAGE
JAN	$0.628	0	0	0	0	0
FEB	$0.316	0	0	0	0	0
MAR	$0.361	0	0	0	0	0
APR	$0.284	$0.035	$0.001	$0.002	$0.036	$0.002
MAY	$0.685	$0.026	$0.001	$0.002	$0.013	$0.017
JUN	$0.131	$1.122	$0.456	$0.877	$0.221	$0.033
JUL	$1.051	$2.351	$1.128	$1.058	$0.184	$0.046
AUG	$0.876	$0.741	$0.498	$0.183	$0.248	$0.079
SEP	$2.754	0	0	0	0	$0.017
OCT	$2.217	0	0	0	0	0
NOV	$1.131	0	0	0	0	0
DEC	$0.272	0	0	0	0	0

VII. Adjusting Fish Damages Based on Effectiveness of the Barrier Net to Reduce Entrainment (BE)

The effectiveness of the barrier net to exclude fish from possible entrainment during pumping is evaluated by gill net monitoring (weather permitting) at set stations inside and outside the barrier net when the barrier net is fully deployed. The net effectiveness is calculated annually by the ratio of collections inside and outside the net. The annual net effectiveness determined from the gill net monitoring program for game fish, large forage, and 4-5" alewife forage is applied in the model to reduce the total damage estimates for these fish categories.

Table 7 illustrates how barrier net effectiveness values of 80% for game fish (adjustment factor = 1-0.80), 85% for large forage fish (adjustment factor = 1-0.85), and 75% for 4-5 inch alewife (adjustment factor = 1-0.75), reduces the damage per megawatt hour when the net is deployed.

Table 7. Illustration of how fish damages per megawatt hour for game fish, large forage, and 4-5" alewife forage as shown in Table 5 can be reduced by barrier net effectiveness based on net deployment from April 15th (factor = (30-15)/30 applied to effectiveness values for April) and withdrawal on October 17th (factor = 17/31 applied to effectiveness values for October). Only values in grey are affected

			EMPIRICAL NET EFFECTIVENESS (PERCENT)			DOLLARS/MW					
	TOTAL DAYS NET WAS IN EFFECT	TOTAL DAYS IN MONTH	GAMEFISH	LARGE FORAGE	4-5" ALEWIFE FORAGE	GAMEFISH	LARGE FORAGE	4-5" ALEWIFE FORAGE	UNKNOWN LARVAL FORAGE	SMALL SMELT FORAGE	LESS THAN 4" ALEWIFE FORAGE
JAN	0	31	0	0	0	$0.628	0	0	0	0	0
FEB	0	28	0	0	0	$0.316	0	0	0	0	0
MAR	0	31	0	0	0	$0.361	0	0	0	0	0
APR	15	30	80%	85%	75%	$0.171	$0.020	$0.001	$0.002	$0.036	$0.002
MAY	31	31	80%	85%	75%	$0.137	$0.004	$0.000	$0.017	$0.013	$0.002
JUN	30	30	80%	85%	75%	$0.026	$0.168	$0.114	$0.033	$0.221	$0.877
JUL	31	31	80%	85%	75%	$0.210	$0.353	$0.282	$0.046	$0.184	$1.058
AUG	31	31	80%	85%	75%	$0.175	$0.111	$0.124	$0.079	$0.248	$0.183
SEP	20	20	80%	85%	75%	$0.551	0	0	$0.017	0	0
OCT	17	31	80%	85%	75%	$1.244	0	0	0	0	0
NOV	0	30	0	0	0	$1.131	0	0	0	0	0
DEC	0	31	0	0	0	$0.272	0	0	0	0	0

As an example of the calculation:

April Game Fish calculation = [1-{((30-15)/30) × 0.80}] × $0.2843 = $0.171

VIII. Scaling Fish Damage to Account for Changes in Fish Abundance and Value

Since the execution of the 1995 Settlement Agreement, abundance of both game fish and large forage in Lake Michigan has not remained constant near the Project. In 2004, the SAT approved a methodology to scale damage payments based on comparison between net monitoring catches outside the net for the current year compared to projected catches for the base case year. The

SAT reviewed an analysis of historical monitoring data and agreed to a base case catch of 4,096 for game fish and 490.016 kg for large forage[11]. Current year catches of game fish and large forage in monitoring nets outside the barrier net are divided by the agreed upon base case catch value and multiplied by the calculated damage payments for that year to adjust the final damages to account for changes in fish abundance.

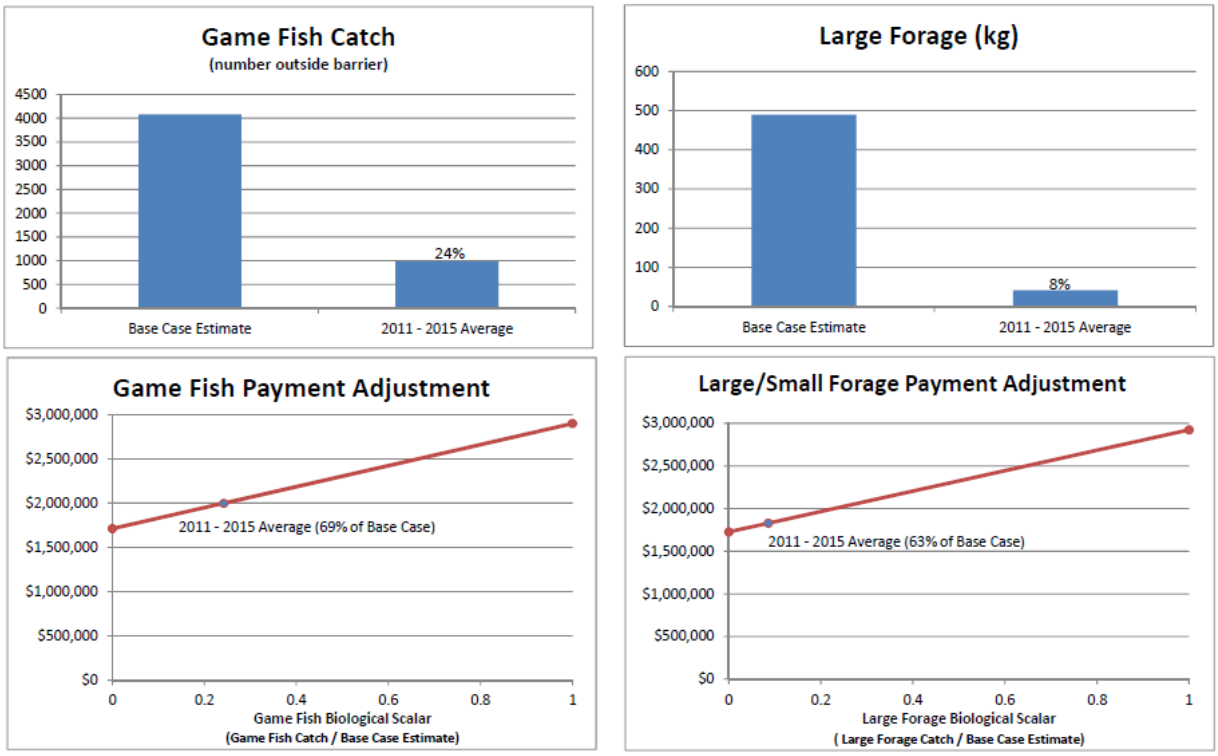
In addition to agreeing to a method to scale fish abundance, the SAT also agreed to a methodology to scale fish value for game fish, large forage and small forage. This methodology enables fish value to increase as fish populations decrease and to decrease as fish populations increase. The formulae to scale fish values are[12]:

- Annual scaled gamefish value ($) = scaled gamefish fish mortality x 17.446135 + $1,713,852.46
- Annual scaled large forage value ($) = scaled large forage fish mortality (kg) x 0.8148713 + $806,859.87
- Annual Scaled Small forage values ($) = the original base case value scaled (prorated) by the ratio of scaled large forage value to base case large forage value.

The below figure illustrates the effect of the scalars on the compensation payment. The upper panels show the average annual 2011-2015 catch relative to the estimated values representing the base case, and the biological scalars (0.24 for Game Fish, and 0.08 for Large Forage). The lower panels show the corresponding economic scaling where the payment relative to the base case is disproportionate (0.68 for Game Fish and 0.63 for Large and Small Forage groups combined). The payment illustrated below is for the base case prior to pro-ration by pumping MW and adjusting by net effectiveness and Composite Inflation Adjuster:

[11] For source data see SAT Document - Documentation of 2004 scalers to adjust base case fish abundance and value as fish abundance changes.

[12] For source data see SAT Document - Documentation of 2004 scalers to adjust base case fish abundance and value as fish abundance changes, September 12, 2017.



Does not include $60,308 for unavoidable icthyoplankton entrainment mortality (not subject to scaling).

IX. Current Year Composite Inflation Adjuster (CIA)

Unless otherwise agreed upon by the Parties, fish values shall be adjusted annually to reflect inflation, as measured with twenty-five percent (25%) weight by the ratio of Consumers Energy Company's average electric rates under MPSC jurisdiction in the year preceding adjustment to the comparable rates in 1994; with twenty five percent (25%) weight by the ratio of DTE Electric Company's average electric rates under MPSC jurisdiction in the year preceding adjustment to the comparable rates in 1994; and with fifty percent (50%) weight on the cumulative implicit GNP deflator from 1994 through the year preceding adjustment.

CIA formula example:

= 0.25 x [(CE_rates previous year-$0.0653)/$0.0653]
+ 0.25 x [(DTE_rates previous year-$0.0787)/$0.0787]
+ 0.5 x [GNP Deflator previous year – GNP Deflator 1994)/ GNP Deflator 1994]

GNP Deflator using January Publication Date.

Appendix B
Adaptive Management Process For Fish Entrainment Abatement Technologies

I. Introduction And Background

The seasonal barrier net system at the Ludington Pumped Storage Plant (LPSP) is a proven fish entrainment abatement technology that, as a general matter, has consistently met the effectiveness criteria of 80 percent for game fish[1] and 85 percent for large forage fish[2] over the past two decades. Despite this high level of demonstrated barrier net effectiveness, ongoing updates to the LPSP facility, increases in pumping, changes in the fish community, and changes in the lake and climatological conditions suggest that opportunities may exist to increase the barrier net's effectiveness, or otherwise reduce fish entrainment, on a basis that is reasonable, financially prudent, and maintains effective and acceptable generation operations at LPSP. This basis is known as the "Standard" for purposes of this document. As such, the Settlement Agreement includes a requirement to implement an Adaptive Management Process (AMP) during the life of the new FERC license as described herein.

"Adaptive management" is a scientifically structured decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood.[3] The AMP will be used as a tool to address uncertainties in methodologies that have the potential to reduce fish mortality. While adaptive management has been implemented throughout the history of the barrier net, this AMP is intended to provide structure and guidance in addressing uncertainty and implementing future management efforts with commitments by the Licensees to continue cost-effective optimization efforts with input from the Scientific Advisory Team (SAT). The process will ensure strategic investment for actions and information leading to meaningful outcomes for minimizing fish entrainment mortality at the LPSP. For example, if a new technology were to become available that would augment or replace the barrier net and thereby result in the measurable removal of all or a substantial portion of fish entrainment mortality and associated fish compensation, the SAT could review the new technology under the AMP and may make a recommendation to the Licensees, subject to the dispute resolution provisions of the Settlement Agreement, to implement the technology if it meets the Standard. Ultimately, FERC must approve any change to the fish entrainment abatement technologies (currently the barrier net), its operations, or its monitoring.

II. Historical Optimization Of The Barrier Net

Since the barrier net's implementation in 1989, Licensees have worked diligently through monitoring, design, and operational improvements to adaptively manage the barrier net system to

[1] I.e., lake trout, brown trout, Chinook salmon, coho salmon, steelhead, yellow perch, and walleye greater than five inches.

[2] I.e., alewife and rainbow smelt greater than five inches.

[3] National Research Council, 2011. Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay. An Evaluation of Program Strategies and Implementation.

improve net effectiveness as experience has been acquired and the technology has evolved. These efforts have included actions such as:

- The removal of rocks from the net area to reduce abrasion of the net and avoid entanglement;
- Incorporation of stronger net materials and seam and anchoring materials as they have become commercially available, which has in large part been responsible for the long history of barrier net effectiveness;
- The use of a biologically-informed method of net hanging that increases net effectiveness by assuring that the net mesh cells are longer vertically than laterally, resulting in a vertically elongated but narrow mesh opening that more effectively deters fish using the same net mesh size. This improvement is realized without adding drag on the net;
- Implementing an intensified cleaning schedule with high pressure water wands;
- The addition of 108 fixed bottom anchors to improve the bottom seal;
- Flotation adjustments at the top of the net to improve the top seal while minimizing net stress;
- The addition of skirting both top and bottom, with more (wider) skirting in the offshore areas, to improve the net seal (five nearshore net panels on either shore have 10-ft wide skirting while all of the other 52 net panels have 20-ft wide skirting);
- Riser line spacing adjustment to minimize panel separations;
- Reinforcement of lead line/border rope connections to minimize separations;
- The use of a drop lead line design known as "yorking" to reduce lead line and riser line wear or breakage;
- Weekly monitoring to measure fish passage into the net exclusion area; and
- Monthly reporting to the SAT and an annual report to the SAT and FERC of fish entrainment abatement technologies (currently barrier net) performance with data, metrics, and issues identified for operations and maintenance.

III. Adaptive Management Process For LPSP

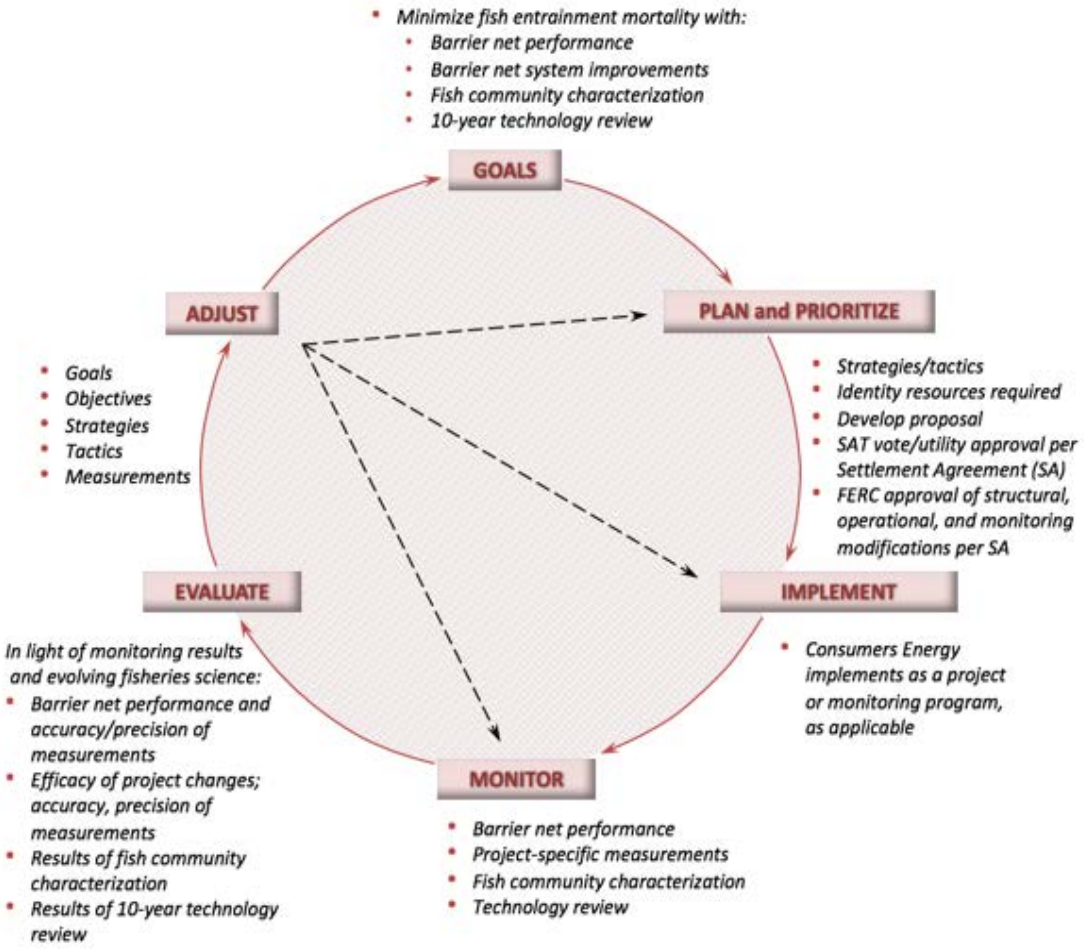
Adaptive management is a recognized, structured approach to resource management that involves comprehensive system monitoring and data analysis to support decision making in the face of uncertainty. The first critical step in the AMP process is to engage the SAT and the Licensees to identify the elements included in the framework (see Figure 1). As part of the framework, the Licensees, with concurrence of the SAT, will identify clear, measurable management goals and objectives, uncertainties, information gaps, and barriers to achieving these goals and objectives. "Concurrence" in this AMP means a vote in favor of a proposed decision of the SAT by a simple majority of the SAT's members under the voting procedure identified in the Settlement Agreement, Section V.E.2. Identification of these elements will guide the development and implementation of potential management strategies and tactics for

removing uncertainty, filling information gaps, removing barriers, and providing a clear pathway toward achieving goals and objectives.

Rigorous monitoring plans and protocols will provide data to evaluate progress toward achieving goals and objectives such as those relating to, for example, (a) barrier net performance, (b) the appropriateness and accuracy of the barrier net effectiveness metric and alternatives, (c) the reduction of entrainment mortality due to barrier net or ancillary enhancement projects, (d) the characterization of the fish community, and (e) technology reviews. Results will be evaluated by the Licensees and the SAT on the effectiveness of management alternatives to inform management decisions in accordance with regularly scheduled SAT meetings.

The Licensees, with concurrence of the SAT, may make adjustments in the evaluation phase to substantially change goals, objectives, strategies, tactics, and means of measurement and essentially "restart" the monitoring, evaluation, and decision making for the adaptive management process. This type of iterative process will continue for the life of the license until management goals and objectives are achieved or until there is no reasonable basis for believing that the status quo of the biological or operational platform would appreciably change enough to influence the performance of the barrier net system. Proposals for changes to the barrier net, barrier net monitoring, barrier net operations, or any new abatement technology require implementation of the SAT/Licensee approval process and FERC approval described in Section V.E of the Settlement Agreement and this AMP.

FIGURE 1 – Adaptive Management Process for the Ludington Pumped Storage Plant Barrier Net System[4]



The following section identifies potential goals and management objectives of the AMP.

Goal:
The overarching goal of the AMP is to minimize fish entrainment mortality in a manner consistent with the Standard. The management objectives itemized below are the chief mechanisms currently identified by the Parties that will be employed to reach this goal.

Management Objectives:

- Optimize barrier net operations and maintenance functions to reduce fish entrainment mortality during pumping and generation at LPSP, consistent with safety considerations;
- Optimize barrier net design and placement to improve barrier net performance at the LPSP;

[4] Adapted from National Research Council, 2011, Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay, An Evaluation of Program Strategies and Implementation.

- Utilize data from fish community characterization studies at LPSP to help inform and optimize barrier net design and operations; and
- Utilize the results of technology reviews to improve barrier net performance through potential changes in design or deployment and the implementation of fish entrainment prevention technologies, consistent with the Standard.

IV. Implementing The Adaptive Management Process

While past efforts noted above have resulted in significant improvements to the barrier net, recent Alden studies[5] suggest that further optimization of the barrier net may provide the best opportunity to further reduce fish entrainment while still meeting the Standard. Given the barrier net's history of high effectiveness, Licensees cannot guarantee that improvements to be made under this AMP will definitively result in further reduced entrainment mortality. That said, the AMP is a scientifically-based and reasoned approach to endeavor to further reduce fish entrainment at LPSP.

After FERC approves the AMP, the Licensees and SAT will implement it as discussed herein. Determining whether net performance can be further optimized to reduce fish entrainment mortality during pumping and generation should consider the following within the adaptive management framework:

1. Installation of certain specific improvements to the barrier net as agreed to with the SAT (i.e., increased flotation and anchors in targeted areas, as discussed below);

2. Studies as needed to determine if further optimization of the barrier net is possible while still meeting the Standard based upon the assumptions that fish may be present in the fish exclusion area if they:
    - were located within the net area during net installation in the spring;
    - pass through the LPSP's penstocks from the upper reservoir;
    - exploit damaged net panels;
    - are small enough to pass through the barrier net; or
    - exploit openings created by net submergence and/or lifting of the net bottom; and

3. If these studies support further improvements meeting the Standard, then implementation of those improvements within a budget established during the project proposal phase subject to this AMP and with FERC approval.

[5] Alden, 2016, Ludington Pumped Storage Project Fish and Aquatic Resources Study – Final Phase 3 Report, Evaluation of Engineering Alternatives for Entrainment Reduction, August 2016.

Alden, 2015, Ludington Pumped Storage Project Fish and Aquatic Resources Study – Final Phase 2 Report, Evaluation of Entrainment Abatement Technologies, November 2015.

V. Initial Five-Year Management Actions Beginning In 2019

Even though net submergence and potential net lifting have not been evaluated as a contributor to fish entrainment, the Alden studies, in conjunction with staff observations, have concluded that they are the most likely source of fish entering the exclusion area. Net submergence and lifting, as well as net strength and durability, are likely feasible to address in a timely manner. As a result:

1. **The AMP will initially consider the installation of additional flotation, additional anchor pilings, and stronger net materials in targeted areas of the net.** The additional flotation could help address documented submergence of the barrier net especially in high flow areas during power generation, which intuitively provides an opportunity for entry by fish. The additional anchor pilings could help address the potential for the lifting of the bottom of the net in similar high flow areas during power generation, a phenomenon which has been difficult to monitor or quantify due to the extreme flow conditions. Stronger net materials are required due to additional stress on the net from increased flotation.

   The Licensees will consult with the SAT in the planning and design of the additional flotation and anchor pilings. The Licensees will, with the SAT's concurrence, design the monitoring required to determine the effect of the implemented management action. After finalizing the design, the Licensees will file the plan with FERC for approval.

2. **After FERC approves the plan and installation is complete, the SAT and Licensees will monitor the results through an SAT-approved monitoring plan.** Monitoring results will be used to evaluate the effectiveness of these management actions in enhancing the physical performance of the net. That said, given the lack of biological data supporting these changes, Licensees cannot guarantee that the proposed changes will result in an increase in barrier net effectiveness.

3. **In addition to installing more flotation, anchor pilings, and stronger net materials in targeted areas, the AMP should involve conducting additional studies to support decision making for any additional potential optimizations of the barrier net or any ancillary fixtures of the entrainment abatement system.** Challenges to data collection posed by the LPSP's magnitude and its exposed location on Lake Michigan (e.g., weather and natural water currents) may limit Licensees' ability to gather data as part of the AMP. That said, the SAT and Licensees would collaboratively identify feasible study needs and methodologies.

   For example, potential studies for consideration might include:

   - Determining if flow magnitude and direction during generation influence concentrations of small fish proximal to the barrier net (e.g., potential influence of any gyres); or
   - Determining if there are populations of resident fish in the upper reservoir that could affect the results of barrier net effectiveness monitoring.

The SAT and Licensees would collaboratively oversee whether any study should go forward using the SAT's existing decision-making process (i.e., simple majority vote). As part of this oversight, the SAT could, with the Licensee's permission, and at the Licensees' expense, engage outside expertise on an as-needed basis (e.g., net material contractors, net installation/maintenance contractors, or a "panel of experts" with expertise in the needed subject area). A rigorous evaluation will be collaboratively developed by the SAT and the Licensees to determine the potential benefit of any recommended management actions resulting from a study.

4. **The Licensees, in consultation with the SAT, will update the characterization of the current fish community near the LPSP throughout the year to ensure barrier net effectiveness is biologically relevant.**

   Given the documented historical change in the fish community in Lake Michigan, Licensees will, in consultation with the SAT, conduct studies to characterize the current fish community in the LPSP area during the course of the AMP. These studies may also address and inform future potential abatement technologies. The studies will supplement the current gill net monitoring program (QA/QC, fish disposition, ancillary data reporting, etc.) with methods such as beach seine, trawl collections, and larger mesh gill nets and extend throughout the year, weather permitting. These characterization studies may be further refined through SAT and Licensee discussions and may be divided into several studies to address specific areas of uncertainty regarding individual or multiple species from either a temporal or spatial perspective.

VI. Implementation Of New Management Actions To Optimize The Barrier Net

The data collected and analyzed during the studies selected by the SAT will be used to provide science-based information for initiatives meeting the Standard that may further reduce fish entrainment at the LPSP. Based on study results, the SAT may recommend to Licensees to implement an improvement or optimization only if it is: (a) shown in the applicable study to be likely to further reduce entrainment beyond the then-existing barrier net (i.e. biologically effective), and (b) meets the Standard. The Licensees would consider this recommendation, and determine whether they agree with the recommendation. If the SAT and the Licensees agree to a particular management action, the Licensees would file a request with the FERC for approval to implement the recommended management action. If the SAT and Licensees disagree, the dispute resolution provision in Section V.F of the Settlement Agreement could be triggered by either the SAT or the Licensees. Ultimately, FERC would approve or disapprove any recommended implementation of a management action.

After the implementation of any project to enhance the barrier net, the implementation of any new method to monitor or evaluate such a project, or any change in a monitoring program, the SAT and Licensees will collaboratively evaluate the results, and subsequently consider whether any further barrier net-related actions should be developed and implemented.

VII. Schedule Of Activities And Expenditures For Management Actions Outlined In The AMP

The Licensees propose the following schedule of activities and approximated expenditures for the first five years of the AMP (costs in 2016 dollars):

License Year 1	Installation of approximately 40 additional pile anchors for the 23 barrier net panels in the areas of highest flow (i.e., panels 10 to 18 and 35 to 48) to address potential lifting of the barrier net lead line - $350,000
	Purchase of enhanced replacement barrier net panels for the above-listed 23 panels that incorporate increased net flotation and stronger net components (e.g., border lines, riser lines, lead line chain and yorking). These enhanced net panels are intended to optimize flotation by decreasing (or eliminating) submergence while maintaining or improving durability to address net stress - $1,100,000
	Implementation of a monitoring plan, with technology to determine physical effectiveness of the net prior to the barrier net upgrade and to define the effectiveness monitoring protocol that will be used to monitor the effectiveness of improvements upon their implementation in 2020 - $250,000
	Fish Community Characterization studies near the barrier net as indicated by the SAT - $250,000
License Year 2	Installation of the above-listed 23 enhanced barrier net panels. Installation in License Year 2 is contingent on FERC issuing the new license early enough in License Year 1 to allow Consumers Energy to order the new panels and to allow for their fabrication; the lead time for new panels is considerable.
	Continued physical performance monitoring of the barrier net system improvements - $250,000
	Fish Community Characterization studies as indicated by SAT - $250,000
License Year 3	Continued physical performance monitoring of the barrier net system improvements - $250,000
	Additional Fish Community Characterization studies and/or incremental net improvements if indicated by AMP studies - $250,000
License Year 4	Other AMP-directed studies, Fish Community Characterization studies and/or incremental barrier net improvements indicated by AMP studies - $250,000
License Year 5	Other AMP-directed studies, Fish Community Characterization studies, and/or incremental barrier net improvements indicated by AMP studies - $250,000

In total, the AMP would fund at a minimum $3,450,000 of net improvements and studies over the first five-year period. Of that amount, $1,450,000 would be dedicated to installation of increased net flotation and additional permanent pile net anchors in the high flow areas identified above. If the SAT and Licensees determine that no additional optimizations provide beneficial outcomes for the management objectives to minimize fish mortality while meeting the Standard,

then any funds remaining from the $1,450,000 could, at the SAT's discretion, be deposited into the Great Lakes Fishery Trust's corpus.

The remaining $2,000,000 would be dedicated to studies and/or incremental net improvements as described above, and subject to the limitations described below.

FERC case law and guidance documents indicate that FERC disfavors strict cost caps as part of a license. Rather, FERC has stated that, if it finds that a particular measure is required as part of a license, then that measure should be implemented regardless of cost. Given this fact, while the Parties will not seek at FERC or elsewhere expenditures higher than the amounts identified in the above chart during the first five years of the AMP, the Parties recognize FERC may *sua sponte* require expenditures higher than the above amounts.

VIII. Ongoing Implementation Of The AMP After Initial Five-Year Phase Outlined Above

1) Initial Five Year Report To FERC

At the conclusion of the initial five years of the AMP, Licensees will file with FERC a report summarizing the efforts undertaken during those five years under the AMP.

2) Study Fund Beginning In Year Six Of New FERC License

The Licensees and SAT will consider as part of the AMP additional biologically effective measures that meet the Standard should they become available during the remaining life of the new FERC license. To facilitate this activity, the Licensees shall create a "Study Fund" by providing $500,000 to the SAT in year six (6) of the new FERC license to fund studies under the AMP, subject to the limitations below. Every ten (10) years thereafter for the life of the new FERC license, Licensees shall provide funds sufficient to increase the Study Fund's then existing balance to $500,000 as adjusted for inflation using the Detroit Consumer Price Index made available by the United States Department of Labor, Bureau of Labor Statistics, or its successor except that the last payment into the Study Fund shall increase the Study Fund's balance only to $250,000. If the Study Fund's balance at the time when a payment would be made is already at $500,000, as adjusted for inflation, then Licensees shall have no obligation to provide additional funds at that time. Any funds in the Study Fund at the expiration of the new FERC license shall go back to the Licensees.

To the extent that the $2,000,000 dedicated to studies and/or incremental net improvements provided by Licensees in Section VII of this AMP has a remaining balance of undedicated funds, such remaining balance shall be used to reduce Licensee's obligation to fund the Study Fund. For example, if there is $200,000 of undedicated funds left of the $2,000,000, then Licensees shall only be required to provide $300,000 to the Study Fund in year six (6) of the new FERC license. If the SAT determines and Licensees agree to spend more than $2,000,000 to conduct studies and/or make incremental net improvements during the initial five (5) years of the new FERC license, then such expenditures above $2,000,000 shall be used to reduce Licensees' obligation to fund the Study Fund. For example, if $2,200,000 million is spent during the first

five (5) years of the new FERC license for studies and/or incremental net improvements, then Licensees shall only be required to provide $300,000 in year six (6) of the FERC license to the Study Fund.

If the Study Fund is fully depleted at any point during the life of the new FERC license, then the SAT may recommend that the Licensees provide additional funding. Such recommendation does not, on its own, bind the Licensees to provide such additional funding, and Licensees may either agree or disagree with the recommendation. If the Licensees agree to provide funding, then the SAT and Licensees will work in good faith to agree upon the appropriate amount and timing of such funding. If the Licensees do not agree to provide funding, then such dispute shall, at either Licensee's or the SAT's request, be addressed through the dispute resolution provision in Section V.F of the Settlement Agreement. In the event of such a dispute and if the three (3) year rolling average of annual barrier net effectiveness, as set forth in Section V.A.1 of the Settlement Agreement, has been met in the prior calendar year, then there shall be a rebuttable presumption that the Licensees are not obligated to provide any such additional funding. Such presumption may be rebutted upon a showing that: (a) provision of the funding by the Licensees is financially prudent, (b) the Study Fund has been prudently managed by the SAT prior to its recommendation for additional funding, and (c) good cause exists for why the additional funding is needed when the barrier net performance standard set forth in Section V.A.1 has been met.

Exhibit 2

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Consumers Energy Company	)	Project No. 2680-113 Michigan
DTE Electric Company	)	Ludington Pumped Storage Project
	)	

EXPLANATORY STATEMENT IN SUPPORT OF SETTLEMENT AGREEMENT

Consumers Energy Company and DTE Electric Company (collectively, "Licensees") submit this Explanatory Statement in support of the enclosed Settlement Agreement ("Settlement Agreement") pursuant to Rule 602 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or the "Commission").[1] The Settlement Agreement comprehensively resolves issues relating to fish entrainment at the Ludington Pumped Storage Project ("Project"). The signatories to the Settlement Agreement are collectively referred to as the "Parties," and all Parties excluding Licensees are referred to as the "Non-Licensee Parties."

This submission is made on behalf of the parties to the Settlement Agreement:

- Consumers Energy Company;
- DTE Electric Company;
- Attorney General for the State of Michigan;
- Michigan Department of Natural Resources;
- United States Department of Interior, on behalf of the Fish and Wildlife Service and as Trustee for Indian tribes, bands, or communities with reserved treaty rights in the Michigan waters of Lake Michigan;
- Grand Traverse Band of Ottawa and Chippewa Indians;
- Little River Band of Ottawa Indians;
- Little Traverse Bay Bands of Odawa Indians;
- Michigan United Conservation Clubs; and
- National Wildlife Federation.

[1] 18 CFR 385.602 (2017).

I. Background

The Project is a hydroelectric generating facility initially licensed by the Commission in 1969 under a 50-year license set to expire on June 30, 2019.[2] The Project is co-owned by the Licensees and operated by Consumers Energy Company. It is located along the eastern shore of Lake Michigan, south of the City of Ludington in Mason County, Michigan. The Project uses six pump/turbines to pump water though intakes from Lake Michigan into a manmade storage reservoir that crests approximately 370 feet above the Lake, typically during periods of low electricity demand. During periods of peak electricity demand, the process is reversed and water stored in the reservoir is released through the pump/turbines into the Lake, generating electricity.

During operation of the Project, some fish from Lake Michigan are entrained in the water intakes. Entrained fish are subject to potential injury or death as they pass through the pump/turbines, both during pumping into the upper reservoir and upon exiting the reservoir during power generation.

Fish mortality caused by operation of the Project led to litigation in the 1980s and 1990s among the Parties before FERC, in Michigan state courts,[3] and in state administrative proceedings.[4] The Parties resolved those disputes with respect to fish mortality caused during the term of the initial FERC license through two separate, but related, settlements entered in 1995 (collectively known as the "1995 Settlement Agreements"):

1) The "Ludington Pumped Storage Project Settlement Agreement - FERC Offer of Settlement" ("1995 FERC Settlement"), which was filed with the Commission on February 28, 1995, and accepted by the Commission in an Order dated January 23, 1996.[5] It provided for, in part, mitigation of fish mortality at the Project

[2] *Consumers Energy Company and The Detroit Edison Company*, 42 F.P.C. 274 (1969).

[3] *Frank J. Kelley, Attorney General, et al. v Consumers Power Company and the Detroit Edison Company*, Ingham County Circuit Court Nos. 86-57075-CE and 87-60020-CE.

[4] *In re NPDES Permit MI0035912*, Michigan Department of Natural Resources, 1988.

[5] *Consumers Energy Company and The Detroit Edison Company*, 74 FERC ¶ 61,055 (1996).

through the seasonal installation of a 2.5-mile-long barrier net around the Project's intakes on Lake Michigan and a monitoring program to track the barrier net effectiveness.

2) A separate "Settlement Agreement - Courts and Non-FERC Agencies" ("1995 State Agreement") covering other matters was executed and filed with FERC for informational purposes along with the 1995 FERC Settlement, and was subsequently approved in Michigan state court proceedings. The 1995 State Agreement provided for, in part, payment of damages for injuries to fishery resources caused by operation of the Project during the term of the initial FERC license. Under the 1995 State Agreement, annual damage payments are made to the Great Lakes Fishery Trust which, in turn, provides funding for the enhancement, propagation, protection and replacement of Great Lakes fishery resources with a focus on Lake Michigan.

The 1995 Settlement Agreements provide for the creation of a Scientific Advisory Team ("SAT"), which is composed of representatives of the Parties to oversee and provide scientific support to elements of the 1995 Settlement Agreements. The SAT, which is co-chaired by representatives of the Michigan Department of Natural Resources and Consumers Energy Company, continues today to work cooperatively to implement the 1995 Settlement Agreements.

The Licensees initiated a relicensing proceeding for the Project in January 2014 under the Commission's Integrated License Application Process, in which the Non-Licensee Parties have participated. As part of this proceeding, the Licensees conducted, in consultation with the Non-Licensee Parties, an extensive three-phase Fish and Aquatic Resources Study to identify and evaluate the feasibility, biological effectiveness, and costs of various alternative technologies and engineering measures for abating fish mortality at the Project.[6]

This Settlement Agreement addresses, and is intended to comprehensively resolve without litigation, both: (a) measures to minimize fish mortality caused by operation of the Project during the term of a new FERC license; and (b) compensation for and mitigation of such fish mortality that does occur during the term of a new FERC license. The Parties agree that, for

[6] This study, including all three phases, has already been filed with the Commission on December 2, 2015 (Phases I and II) and December 1, 2016 (Phase III).

purposes of settlement and based upon currently available information from the Fish and Aquatic Resource Study, continued use of the seasonal barrier net, with some modifications and implementation of an Adaptive Management Process, is the most appropriate path forward to reduce entrainment of fish due to Project operations.

II. Summary Of Material Terms

This Section of the Explanatory Statement summarizes the material terms of the Settlement Agreement. It is only a summary, and not intended to describe every aspect of the Settlement Agreement. If there is any conflict between this Explanatory Statement and the Settlement Agreement, then the Settlement Agreement controls.

In summary, the Settlement Agreement largely continues the same barrier net and compensation programs created in the 1995 Settlement Agreements – but provides for further actions by the Parties that will seek to further reduce fish entrainment during the course of the new FERC license. The Settlement Agreement has seven articles:

I. Introduction;
II. Parties;
III. Background;
IV. Scope and Organization;
V. Proposed FERC License Conditions To Minimize Fish Mortality;
VI. Payments To Compensate For And Mitigate Fish Mortality; and
VII. General Provisions.

Articles I, II, and III identify the high-level purpose, parties, and background of the Settlement Agreement. Article IV provides a brief statement of the Settlement Agreement's scope and organization, identifying two core elements: (a) measures to minimize fish mortality (which is addressed in Article V), and (b) payments by the Licensees to compensate for unavoidable mortality (which is addressed in Article VI). Article VII contains other terms of the Settlement Agreement, many of which are common in settlements.

Article V, *Proposed FERC License Conditions To Minimize Fish Mortality*, addresses the first of the two core elements – proposed FERC license conditions to minimize fish mortality. This article addresses the following topics:

A. Installation of a seasonal barrier net under terms similar to the existing barrier net program under the 1995 FERC Settlement, including a requirement that the net provide an 80% reduction in the entrainment of all fish equal or over five inches in length;

B. Implementation of certain specified net improvements during the initial years of the new FERC license;

C. Implementation of an Adaptive Management Process over the course of the new FERC license term to further reduce fish entrainment;

D. Periodic studies regarding evolving technologies that may be available to further reduce fish mortality at the Project, with such studies occurring at least once every ten years;

E. Continuation of the SAT established in the 1995 Settlement Agreements, which builds upon the cooperative relationship among the Parties;

F. Dispute resolution for matters within FERC's jurisdiction;

G. An agreement by the Non-Licensee Parties to support issuance of a 50-year license for the Project; and

H. An identification of the Settlement Agreement's provisions recommended for inclusion in the new FERC license.

Sections A, C, D, E, and F of Article V are conceptually similar to terms of the 1995 FERC Settlement. Sections B, G, and H are novel.

Article VI, *Payments To Compensate For And Mitigate Fish Mortality*, provides for payments by Licensees to compensate for and mitigate unavoidable fish mortality due to the Project's operation. While this Article is not being submitted to the Commission for approval, it is summarized below to allow the Commission to better understand the comprehensive settlement package. This article addresses the following topics:

A. The methodology to calculate compensation to the citizens of the State of Michigan and the tribal Parties for unavoidable fish mortality resulting from the Project's operation, as described in Appendix A of the Settlement Agreement;

B. Permissible uses of these compensation payments by the Great Lakes Fishery Trust, which was created pursuant to the 1995 State Settlement and still exists today for the primary purpose of enhancing the Lake Michigan fishery; and

C. Dispute resolution for matters that would not likely be addressed by the Commission.

Article VII, *General Provisions*, contains a variety of common provisions in settlements and contracts:

A. Parties who are bound by the Settlement Agreement;

B. Who may enforce the Settlement Agreement;

C. Covenants not to sue and reservation of rights relate to certain "Covered Matters";

D. Force majeure;

E. Non-Licensee Parties filing of statements of support for certain regulatory filings related to the Settlement Agreement;

F. Termination of the Settlement Agreement;

G. Non-Licensee Parties not opposing rate recovery by the Licensees for certain expenditures related to the Settlement Agreement;

H. Governing law;

I. Contact information for notices required under the Settlement Agreement;

J. When the Settlement Agreement may be modified;

K. A representation that those executing the Settlement Agreement have authority to do so;

L. The permissibility of execution of the agreement in counterparts;

M. The effective date of the Settlement Agreement;

N. The lack of effect of each provision's heading or title;

O. That ambiguities in the Settlement Agreement shall be construed neutrally, and not against any one Party;

P. That no provision of the Settlement Agreement may be waived, except in writing;

Q. That the Settlement Agreement represents the entire agreement of the Parties;

R. The non-precedential nature of the Settlement Agreement; and

S. That no Non-Licensee Party shall advocate that the a permit is required for turbine generating or pumping water under the National Pollutant Discharge Elimination System under the Clean Water Act, 33 U.S.C. § 1342, consistent with existing case law on this point regarding the Project, *National Wildlife Federation v Consumers Power Co*, 862 F.2d 580 (1988).

III. Policy Considerations Of The Offer Of Settlement

In an Amended Notice to the Public dated December 15, 2016, the Commission's Chief Administrative Law Judge required that four questions be answered as part of every Explanatory Statement submitted in support of a proposed settlement agreement. The following responds to each of those questions.

1. *Does the settlement affect other pending cases?*

The Settlement Agreement, by its terms, does not have any effect on other cases currently pending before the Commission. In addition, the Settlement Agreement provides in Section VI.R. that it shall not constitute precedent.

2. *Does the settlement involve issues of first impression?*

The Settlement Agreement does not involve issues of first impression.

3. *Does the settlement depart from Commission precedent? If so, identify by case name(s) and docket numbers (s).*

The Settlement Agreement does not depart from Commission precedent.

4. *Does the settlement seek to impose a standard of review other than the ordinary just and reasonable standard with respect to any changes to the settlement that might be sought by either a third party or the Commission acting* sua sponte?

Because Licensees are not filing for a new or modified rate under Section 205 of the Federal Power Act, 16 U.S.C. § 824d, this question does not apply.

IV. Conclusion

For the foregoing reasons, the Parties respectfully request that the Commission approve the relevant sections of the Settlement Agreement as in the public interest. The Settlement Agreement will dramatically reduce fish entrainment and mortality associated with the Project over the course of the new FERC license. It is also consistent with the Commission's prior approval of the 1995 Settlement Agreements, the historical practice among the Parties, and the productive, cooperative relationship of the Parties.

Respectfully submitted,

CONSUMERS ENERGY COMPANY

November 10, 2017

By: James D. W. Roush
Digitally signed by James D. W. Roush
Date: 2017.11.10 09:18:44 -05'00'

James D. W. Roush
Attorney III
Consumers Energy Company
One Energy Plaza
Jackson, Michigan 49201
(517) 788-1661
james.roush@cmsenergy.com

Exhibit 3

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Consumers Energy Company	)	Project No. 2680-113 Michigan
DTE Electric Company	)	Ludington Pumped Storage Project

CONSUMERS ENERGY COMPANY AND DTE ELECTRIC COMPANY'S REQUEST FOR FIFTY-YEAR LICENSE TERM

The Federal Energy Regulatory Commission ("FERC" or the "Commission") issued on October 19, 2017 a "Policy Statement On Establishing License Terms For Hydroelectric Projects" ("Policy").[1] The Policy states that "[l]icense applicants with pending license applications may file a comprehensive settlement agreement... that includes an explicitly agreed upon license term or may make a filing demonstrating why the Commission should award them a longer license term than 40 years."[2] Under this Policy, Consumers Energy Company ("Consumers Energy") and DTE Electric Company ("DTE") (collectively, "Licensees") respectfully request a 50-year license term for their Ludington Pumped Storage Project ("Project"), which is currently in a relicensing proceeding. Two independent reasons support this request: (a) Licensees are filing concurrently with this request a Settlement Agreement containing an explicitly agreed upon license term of 50 years, and (b) Licensees have implemented significant measures during the Project's original license and will also implement significant measures under the anticipated new license.

[1] *See generally* 161 FERC ¶ 61,078 (2017). The Policy states that it will become effective on the date of its publication in the Federal Register. This publication occurred on October 26, 2017. *See* 82 F.R. 49,501 (2017).

[2] Policy at P 20.

I. Background On The Policy

The Policy "sets forth a new policy on establishing license terms for original and new licenses for hydropower projects located at non-federal dams."[3] The Policy establishes a 40-year default license term, with three circumstances where the Commission will consider (or defer to) a shorter or longer license term: (1) coordination with other hydro projects in the same river basin,[4] (2) when parties agree to an explicit license term in a generally-supported comprehensive settlement agreement, and (3) when a licensee has implemented certain "significant measures" under the prior license or will do so during the new license term.[5]

Regarding the second circumstance, the Commission will "defer to a shorter or longer term explicitly agreed upon in a generally-supported comprehensive settlement agreement…"[6] The Commission reasoned that "[b]ecause a generally-supported comprehensive settlement agreement represents stakeholder values, terms negotiated as part of those agreements are in the public interest, provided they do not conflict with coordination."[7] The Policy also clarifies that settlement agreements providing for non-opposition to a certain term or supporting a range of license terms will not qualify.[8]

Regarding the third circumstance, the Commission may extend a license term when a "license applicant specifically requests a longer license term based on significant measures expected to be required under the new license or significant measures implemented during the

[3] Policy at P 1. The Policy defines "new license" as "a license issued to replace a project's expiring license." *Id.* at P 2, n. 3. The license sought by Licensees for the Project is a "new license." The Project's current, expiring license is its original license.

[4] This basis is not applicable to the Project, as it is not located on a river.

[5] *Id.* at PP 14-16.

[6] *Id.* at P 15.

[7] *Id.* at P 18.

[8] *Id.* at P 15.

prior license term that were not required by that license or other legal authority and for which the Commission has not already given credit through an extension of the prior license term."[9] The Commission went on to state that it:

> "will consider, on a case-by-case basis, measures and actions that enhance non-developmental project purposes (i.e., environmental, project recreation, water supply), and those that enhance power and developmental purposes, together with the cost of those measures and actions to determine whether they are significant and warrant the granting of a longer license term. Maintenance measures and measures taken to support the licensing process will not be considered. As guidance, we note that the Commission has found that measures including the construction of pumped storage facilities, fish passage facilities, fish hatcheries, substantial recreation facilities, dams, and powerhouses warranted longer license terms."[10]

The Policy also states that it "may also encourage licensees to voluntarily make capacity upgrades and enhance recreational and environmental resources during the prior license term."[11]

II. Background On The Project

A. Original License And Relicensing Proceeding

The Project is a pumped storage hydroelectric facility originally licensed by the Commission in 1969 under a 50-year license set to expire on June 30, 2019.[12] The Project is co-owned by Licensees and operated by Consumers Energy. It is located along the eastern shore of Lake Michigan, south of the City of Ludington in Mason County, Michigan.

The Project is one of the largest pumped storage facilities in the world. It consists of: (1) a manmade upper reservoir with a storage capacity of approximately of 28,300 acre-feet; (2) a lower reservoir of Lake Michigan; (3) six penstocks approximately 1,300 feet long with a

[9] *Id.* at P 16.

[10] *Id.*

[11] *Id.* at P 18.

[12] *Consumers Power Company and The Detroit Edison Company*, 42 F.P.C. 274 (1969).

28-foot to 24-foot tapered diameter; and (4) six reversible pump-turbine / motor generator units with a combined authorized installed capacity of 1,785 MW.[13] The Project uses its six pump-turbines to pump water though intakes from Lake Michigan into a manmade storage reservoir whose embankment crests approximately 370 feet above the Lake, typically during periods of low electricity demand. During periods of peak electricity demand, the process is reversed and water stored in the reservoir is released through the pump-turbines into the Lake, generating electricity.

As a very large pumped storage facility, Ludington provides tremendous benefits to the day ahead and real time markets of the Midcontinent Independent System Operator, Inc. ("MISO"). It can respond within a few minutes to the daily highs and lows of Michigan's energy demand, thus providing a large amount of supply-demand balancing capability on a moment's notice. Its quick ramping times provide many benefits to MISO, including fast-moving emergency energy and grid support (ancillary) services like energy storage, ramping assistance, minimum load management, black start capability, and frequency regulation. Not surprisingly, MISO has consistently noted before the Commission that "Ludington's operational flexibility allows for rapid schedule adjustments in real-time in response to quickly changing system conditions, and provides both reliability and market efficiency benefits."[14]

Ludington also plays an increasingly important role storing renewable energy produced during off-peak periods, thus making renewable energy more affordable and reliable. Michigan

[13] As discussed below in more detail, FERC in 2012 authorized Licensees to complete a major overhaul program that increased the Project's authorized installed capacity from 1,657.5 MW to 1,785 MW. *See generally Consumers Energy Company et al.*, 139 FERC ¶ 62,101 (2012).

[14] *See, e.g., Informational Compliance Filing of the Midcontinent Independent System Operator, Inc. Regarding Grandfathered Agreements*, Docket No. ER04-691 (October 27, 2016). MISO has made similar statements in numerous other similar filings at the Commission.

has added over 1,760 MW of wind capacity since 1999.[15] Ludington can be used at night and during other periods when demand for electricity is low to "store" the clean energy until needed by customers. Similarly, it can increase or decrease large amounts of production when wind or solar production changes. This capability addresses a key challenge of intermittent wind and solar energy, which otherwise cannot be stored easily or economically. It is, in short, one of the world's largest batteries to integrate variable renewable generation and provide dynamic grid stability services.

Further, Ludington reduces the need to build or purchase from expensive peaking plants. This capability saves Licensees' customers significant costs by avoiding expensive energy prices on the MISO spot market when demand exceeds baseload capacity.

The Licensees initiated a relicensing proceeding for the Project in January 2014 under the Commission's Integrated License Application Process. After conducting various studies, Licensees filed their Final License Application ("FLA") on June 28, 2017.[16] Licensees also recently filed responses to an Additional Information Request by FERC Staff on October 24, 2017.[17] The Commission is currently reviewing the FLA.

B. Significant Measures – Seasonal Barrier Net Program

Licensees implemented a seasonal barrier net program in 1989 to reduce fish entrainment and mortality associated with the Project's operations. Under the Settlement Agreement filed concurrently with this request, Licensees propose to continue and enhance this barrier net program over the new license's term.

[15] *See* http://apps2.eere.energy.gov/wind/windexchange/wind_installed_capacity.asp.

[16] *See generally* Accession Nos. 20170628-5216, 20170628-5217, and 20170628-5218.

[17] *See generally* Accession No. 20171024-5104.

a. Barrier Net Program – Historical Efforts

During operation of the Project, some fish from Lake Michigan are entrained in the water pumped to the upper reservoir. Entrained fish are subject to potential injury or death as they pass through the pump-turbine runners, both during pumping into the upper reservoir and upon exiting the reservoir during power generation. Licensees and other entities entered into two separate, but related, settlements in 1995 to address this fact. First, the parties executed the "Ludington Pumped Storage Project Settlement Agreement - FERC Offer of Settlement." The Commission accepted this agreement in 1996.[18] It provides for, in part, mitigation of fish mortality at the Project through the seasonal installation of a 2.5-mile-long barrier net around the Project's intakes on Lake Michigan and a monitoring program to track the barrier net effectiveness. This agreement expires in 2019 when the Project's original license expires.

Second, the parties entered into a separate "Settlement Agreement - Courts and Non-FERC Agencies" covering other matters, which Consumers Energy filed with FERC for informational purposes and a Michigan state court approved. This agreement provided for, in part, annual payments for injuries to fishery resources caused by operation of the Project during the term of the original FERC license. These annual payments are made to the Great Lakes Fishery Trust, which in turn provides funding for the enhancement, propagation, protection, and replacement of Great Lakes fishery resources with a focus on Lake Michigan.

Licensees have spent an annual average of $2.72 million on the barrier net program over the past eight years (from 2009 to 2016), and Licensees expect similar amounts were spent prior

[18] *Consumers Energy Company and The Detroit Edison Company*, 74 FERC ¶ 61,055 (1996).

to 2009.[19] Based on this average, Licensees estimate that, since its initial installation in 1989, Licensees have expended in excess of $70 million on the barrier net program.[20] None of these costs would have been incurred but for the implementation of the barrier net program.

b. Barrier Net Program – Expected Efforts Under New License

As part of the Project's relicensing, Licensees conducted an extensive three-phase Fish and Aquatic Resources Study to identify and evaluate the feasibility, biological effectiveness, and costs of various alternative technologies and engineering measures for abating fish mortality at the Project.[21] After receiving the results of this study, Licensees and a broad set of stakeholders entered into a new Settlement Agreement, which is being filed concurrently with this request for a 50-year license term. In addition to Licensees, the parties to the Settlement Agreement include three state and federal agencies, three tribal authorities, and two non-governmental organizations:

- Consumers Energy;
- DTE;
- Attorney General for the State of Michigan;
- Michigan Department of Natural Resources;
- United States Department of Interior, on behalf of the Fish and Wildlife Service and as Trustee for Indian tribes, bands, or communities with reserved treaty rights in the Michigan waters of Lake Michigan;
- Grand Traverse Band of Ottawa and Chippewa Indians;

[19] *See* Accession No. 20170925-5089 at B-7, Table AIR #7-1. This table contains the historical operations and maintenance ("O&M") costs for the barrier net program from 2009 to 2016, but does not contain the capital investment costs over the same period. The capital investment costs from 2009 to 2016 averaged $388,344 per year. The combined O&M and capital costs were $2.72 million. Licensees expect that the actual historical costs associated with the barrier net program are actually higher, but due to a change in its corporate accounting software in 2009, Licensees cannot easily retrieve the necessary data to determine the precise actual costs. For example, Licensees made many changes to the barrier net program in its initial several years based on performance reviews, costs which are not accounted for in this average. Many of these changes are reflected in Article II of the Adaptive Management Program attached to the Settlement Agreement as Appendix B.

[20] That is, 27 years of barrier net implementation multiplied by the average cost of $2.72 million is approximately $73 million in total costs. Barrier net costs included are the installation, removal, inspection, cleaning, maintenance, over-winter repairs, effectiveness monitoring, and purchasing of replacement net panels.

[21] This study, including all three phases, was filed with the Commission on December 2, 2015 (Phases I and II) and December 1, 2016 (Phase III). *See* Accession Nos. 20151202-5217 and 20161201-5301.

- Little River Band of Ottawa Indians;
- Little Traverse Bay Bands of Odawa Indians;
- Michigan United Conservation Clubs; and
- National Wildlife Federation.

This new Settlement Agreement addresses, and is intended to "comprehensively" resolve, both during the new license: (a) measures to minimize fish mortality caused by the Project's operation; and (b) compensation for and mitigation of unavoidable fish mortality.[22] Among other things, the Settlement Agreement provides for the continuation of the barrier net program, strengthening of the net materials in certain areas, and further future refinement of the net program through an Adaptive Management Program.[23] The Settlement Agreement also provides for periodic studies of entrainment abatement technologies.[24] Licensees expect the average annual cost for the barrier net program to be approximately $3.285 million per year throughout the life of the new license.[25]

Importantly, the parties to the Settlement Agreement explicitly agreed upon a license term of 50 years:

> "The Parties shall support the issuance of the new license by FERC consistent with the terms of this Settlement Agreement for a fifty (50) year term, including providing upon request by the Licensees, written comments in support of a 50 year term."[26]

[22] Settlement Agreement at 1.

[23] *See generally* Settlement Agreement at Article V.

[24] *Id.* at Section V.D.

[25] Accession No. 20170925-5089 at B-8, which states that the annual cost of the barrier net program in 2016 was $3.285 million. This figure is used because Licensees expect to have increased annual costs associated with the barrier net due to more expensive net materials to be implemented under the Settlement Agreement, Section V.B. This figure is not adjusted for inflation, which would need to be done to calculate the expected total costs across the term of the new license. In addition, this figure does not take into account certain one-time and periodic costs expected under the Adaptive Management Program in Appendix B of the Settlement Agreement.

[26] Settlement Agreement at Section V.G.

This provision neither provides for mere non-opposition to a particular term nor provides a range of acceptable terms. Rather, the parties expressly agreed to a 50-year term, and agreed to provide written comments supporting such a term.

C. Significant Measures – Major Overhaul And Capacity Upgrade

In addition to the barrier net program, Licensees are currently engaging in, with FERC approval, a major overhaul and capacity upgrade of the Project ("Overhaul Program").[27] The expected total cost of the Overhaul Program is approximately $800 million, of which Licensees have already spent approximately $549 million.[28]

The Overhaul Program involves both: (1) upgrading the authorized installed capacity from 1,657.5 MW to 1,785 MW (and the manufacturer's maximum nameplate capacity from 1,872 MW to 2,292 MW, an increase of 420 MW); and (2) overhauling all six pump-turbine / motor generator units to "like new" condition through replacement or refurbishment of major components.[29] The Overhaul Program includes replacing the pump-turbine runner and motor/generator stator frame and windings for all six units, which in the process markedly increases the Project's generating and pumping capacity. In addition, it includes building

[27] *See generally Consumers Energy Company et al.*, 139 FERC ¶ 62,101 (2012).

[28] *Application For Non-Capacity Amendment of License*, Docket No. P-2680-105, at 8 (December 16, 2011) and Accession No. 20170925-5089 at B-3, B-4, Table AIR # 6-2 (showing that the remaining amount to be spent of the $800 million budget is $251 million). The Overhaul Program is currently on track to meet its $800 million budget.

[29] Licensees note that the calculations for authorized installed capacity and the manufacturer's maximum nameplate capacity rely on different inputs. Under 18 C.F.R. § 11.1(i) and Licensees' *Application For Non-Capacity Amendment of License*, Docket No. P-2680-105, at xi and 3 (December 16, 2011), the "authorized installed capacity" for Ludington is calculated at the best gate opening and average head or "mid pond." The manufacturer's maximum nameplate capacity, by contrast, is calculated a 100% gate opening and full pond. In addition, under 18 C.F.R. § 4.201(b), this Application was considered a "non-capacity amendment" because it did not increase the Project's maximum hydraulic capacity by more than 15%.

two new powerhouse gantry cranes, a barge landing facility, and numerous "shop" facilities.[30] The expected useful life of the equipment replaced or refurbished is 30 years, decades into the new license term. Approximately one pump-turbine / generator unit is upgraded per year. Licensees have overhauled and increased the capacity of three units, and are currently working on the fourth unit.[31]

III. Request For Fifty-Year License Term

Licensees respectfully request under the Policy that the Commission grant the Project a new license term of 50 years. This request is based on two primary reasons: (a) the new Settlement Agreement contains an explicitly agreed upon license term of 50 years, and (b) Licensees have implemented multiple "significant measures" during the Project's original license and will be implementing significant measures under its new license. These two reasons are independent of each other, and thus each provides a separate basis to grant a 50-year license term.

A. Generally-Supported Comprehensive Settlement Agreement

The Settlement Agreement filed concurrently with this request meets the standard of containing an "explicitly agreed upon" license term of 50 years and is a "generally-supported comprehensive settlement agreement." First, the Parties to the Settlement Agreement expressly agreed upon supporting a 50-year term in Section V.G. Thus, no question exists that the

[30] Beyond the new gantry crane and barge landing facility, the new facilities include a plant entrance area with new security building, north fabrication shop, south fabrication shop, sheet pile walls, erection and assembly building, and hydroacoustic flow meters installed on each unit's penstock. The Overhaul Program also includes replacing the main transformer banks as the second of two units on each bank is upgraded; the original transformers had insufficient capacity for both of the upgraded pump-turbine units on each bank. The steel components needed for the Overhaul Program are so large that no foundry in the Unites States is capable of providing them, and so the components are manufactured in China and sent via boat to Ludington.

[31] Licensees notified the Commission of the completion of the third unit via letter dated June 7, 2017. *See* Accession No. 20170607-5075. Licensees also notified the Commission that the overhaul and capacity upgrade for the fourth unit via letter dated April 24, 2017. *See* Accession No. 20170427-5166.

Settlement Agreement contains an "explicitly agreed upon" license term of 50 years. Second, the Settlement Agreement is a generally-supported comprehensive settlement. It is supported by numerous entities representing a diverse range of interests, including multiple state and federal agencies, Indian tribes, and non-governmental conservation organizations. In addition, the Settlement Agreement expressly states that it is intended to "comprehensively" resolve fish mortality issues caused by Project operations.[32] As such, the Commission should, consistent with the Policy, defer to the license term supported in the Settlement Agreement because it represents "stakeholder values" and is "in the public interest…"[33]

B. Significant Measures Under Original And New Licenses

In addition to the Settlement Agreement's terms, the Commission should grant a 50-year license term because of the significant measures implemented during the Project's original license and those expected under the new license. After issuance of the original license, Licensees have implemented numerous "significant measures" including the Overhaul Program and the barrier net program.

First, the Overhaul Program is a significant measure justifying a 50-year license. This program is clearly significant, as Licensees have already spent approximately $549 million and expect to spend a total of $800 million upon completion. Further, one of the primary goals of the Overhaul Program is to extend the Project's useful life by at least 30 years – which is the majority of a 50-year license term. In addition, the Overhaul Program markedly increases the Project's maximum nameplate capacity by 420 MW, which the Commission expressly

[32] Settlement Agreement at 1 ("This Settlement Agreement addresses, and is intended to comprehensively resolve without litigation, both: (a) measures to minimize fish mortality caused by operation of the Project during the term of the new license issued by the Federal Energy Regulatory Commission ('FERC'); and (b) compensation for and mitigation of such fish mortality that does occur during the term of the new FERC license.").

[33] Policy at P 18.

recognizes as one of its goals of the Policy.[34] Finally, the Overhaul Program was not required by the Project's original license or other legal authority and the Commission has not already given credit for it through a prior license term extension. Licensees voluntarily pursued the Overhaul Program. Thus, the Commission should grant a 50-year license term based on the Overhaul Program as a significant measure implemented during the Project's original license.

Second, the barrier net program implemented during the original license, and to be continued under the new license, is a significant measure. Licensees estimate that they have expended at least $2.72 million on average per year to install, monitor, improve, and maintain the barrier net since its initial installation in 1989. Based on this average, Licensees estimate that they have invested at least $70 million in the barrier net program since its initial installation. As noted above, Licensees expect to spend approximately $3.285 million each year during the new license on the barrier net program, which results in a total expected spend of over $160 million over fifty years.[35] In addition, the barrier net's primary purpose is to reduce the Project's impact on an important resource, the Lake Michigan fishery. The Commission expressly recognized enhancement of environmental resources as a core goal of the Policy – a goal well served by the barrier net program, which has reduced fish entrainment on average by 89% for all target species and 85% for all species.[36]

In addition, the barrier net program was not authorized by the Project's original license. Article 38 of the original license requires Licensees to study "various types of fish barriers" and

[34] *Id.* ("The policy may also encourage licensees to voluntarily make capacity upgrades and enhance recreational and environmental resources during the prior license term.").

[35] That is, 50 years of barrier net implementation multiplied by the expected average cost of $3.285 million is $164.25 million in total costs.

[36] *Id.* at PP 16, 18; *see also* 2016 Annual Report of Barrier Net Operation, Accession No. 20161220-5278 (December 20, 2016) at 2, 31.

to implement "fish barrier facilities… to protect the fishery resources of the project area…"[37] The same article also requires Licensees to "file for Commission approval prior to commencement of construction thereof plans for any fish protection facilities…"[38] Thus, the original license did not require the barrier net program, and instead required Licensees to study fish barrier technologies and file for authorization after selecting a particular fish protection facility. As such, the barrier net program should not be considered required by the original license, as the Licensees could not have implemented the barrier net without seeking further Commission approval beyond the original license. The Commission should grant a 50-year license term based on the barrier net program as a significant measure implemented during the original license and to be implemented during the new license.

IV. Conclusion

For these reasons, Licensees respectfully request that the Commission issue a new license for the Project with a 50-year term.

Respectfully submitted on behalf of Licensees,

CONSUMERS ENERGY COMPANY

November 10, 2017

By: James D. W. Roush
Digitally signed by James D. W. Roush
Date: 2017.11.10 09:19:47 -05'00'

James D. W. Roush
Attorney III
Consumers Energy Company
One Energy Plaza
Jackson, Michigan 49201
(517) 788-1661
james.roush@cmsenergy.com

[37] *Consumers Energy Company and The Detroit Edison Company*, 42 F.P.C. 274, 279 (1969).

[38] *Id.*