

Pre-Licensing Impoundment Sediment Sampling Plan Menominee/Park Mill Hydroelectric Project FERC # 2744 Article 401 Certification

As part of the re-licensing process, North East Wisconsin Hydro, Inc. (NEW) Licensee of the Menominee (a.k.a. Upper Scott)/Park Mill (a.k.a. Lower Scott) Hydroelectric Project FERC # 2744 proposes to conduct impoundment sediment sampling at the project in the Fall of 2011. The field sample collection will be accomplished by company personnel and Northern Lake Service, Inc. (NLS) of Crandon, WI, a Wisconsin DNR approved lab, will be utilized to perform the actual testing of the samples. Requirements for sediment testing parameters and detection limits were determined during consultation with resource agencies and are attached at the end of this plan.

Training

During the summer of 2011, the Licensee implemented a Water Quality Monitoring Plan for the Menominee/Park Mill Hydroelectric Project. Prior to the start of the monitoring, company personnel were instructed in the proper collection and handling of water quality samples during a training session at the Menominee Hydroelectric facility in May of 2011. Lead personnel selected for the sediment sampling will be from the group that attended this session. A sign up list of personnel that received the training in 2011 is being kept on file at the main office of the Licensee.

Sampling Method

The Licensee will collect composite sediment samples for chemical analysis in the Park Mill impoundment at three locations and in the Menominee impoundment at three locations. On May 24, 2011, company personnel searched impoundment waters for sampling locations with adequate depths of silt. A map showing these locations and their GPS coordinates is included at the end of this plan.

An AMS 25-pound Bottom Dredge will be used to collect three (3) grab samples within a 10-foot radius at each of the mapped locations. The three grab samples will be combined in a stainless steel container and blended together by stirring with a stainless steel utensil for two (2) minutes. Blended sediment samples will then be transferred to lab sample containers supplied by NLS using a stainless steel utensil. Samples will be allowed to settle for two (2) minutes and then surface water will be decanted from the lab sample container prior to sealing. The lab sample container will be sealed with an appropriate lid, labeled with a unique identification number, and put on ice and allowed to cool to 4 degrees Celsius or cooler. When each composite sample is completed, GPS coordinates will be recorded to confirm the final location before moving to the next mapped location. A tally sheet will be used to record each sample's unique identification number, final

location GPS coordinates, and basic visual description of each combined sample (color, wood chips, sand, gravel, plant matter, oily smell, etc.) for use in a final report.

All sampling utensils and blending containers will be thoroughly rinsed and excess sediment will be immediately returned to the impoundment between mapped sampling locations.

Sealed sample containers will be stored at 4 degrees Celsius or cooler and shipped on ice to NLS for analysis as soon as practical.

All chemical analysis data will be transmitted to the resource agencies in electronic format (typically a .pdf file) by December 31st of the year in which the study period ends and will serve as a report.



Menominee/Parkmill Sediment Sampling Locations 2011
Datum: WGS84

Park Mill
Sample Point PKML SD002
N45 06.759 W87 40.001

Park Mill
Sample Point PKML SD001
N45 06.779 W87 39.764

Menominee
Sample Point MNME SD003
N45 06.492 W87 38.337

Menominee
Sample Point MNME SD001
N45 06.457 W87 38.297

Park Mill
Sample Point PKML SD003
N45 06.672 W87 39.830

Park Mill Dam

Menominee
Sample Point MNME SD002
N45 06.407 W87 38.369

Menominee Dam

Menominee/Park Mill Sediment Sampling Parameter List 2011

Parameter	Suggested Analytical Method (Suggested Detection Level) (mg/kg, dry weight unless noted)
Inorganics - Metals	
Arsenic	SW-846 3050B/6010B EPA 6010 or 7060 (0.5)
Cadmium	SW-846 3050B/6010B EPA 7131 (0.6)
Chromium (total)	SW-846 3050B/6010B EPA 6010 or 7191 (0.6)
Copper	SW-846 3050B/6010B EPA 6010 or 7211 (0.5)
Lead	SW-846 3050B/6010B EPA 6010 or 7421 (3)
Mercury	SW-846 7471A EPA 7471 (0.01)
Nickel	SW-846 3050B/6010B EPA 6010 (2)
Silver	NONE DEFINED (0.25)
Zinc	SW-846 3050B/6010B EPA 6010 or 7951 (2)
Organics	
DDT	SW-846 8081 EPA 8081, 354440B, 3541 (0.01)
DDD & DDE	SW-846 8081 EPA 8081, 354440B, 3541 (0.01)
PCB (Total)	SW-846 8081 EPA 8081, 3540B, 3541 (0.04)
Total Organic Carbon	SW 846 8081 SW846-EPA 9060 (0.2%)
Polycyclic Aromatic Hydrocarbons (PAHs)	EPA 8310
Napthalene	(0.019)
Phenanthrene	(0.017)
Pyrene	(0.012)
Fluorene	(0.058)
2-Methylnaphthelene	
Acenaphthene	(0.017)
Acenaphthylene	(0.021)
Anthracene	(0.0071)
Benzo (a) anthracene	(0.019)
Benzo (a) pyrene	(0.023)
Benzo (e) pyrene	
Benzo (b) fluoranthene	(0.032)
Benzo (g,h,i) perylene	(0.022)
Benzo (k) fluoranthene	(0.021)
Chrysene	(0.0074)
Dibenzo(a,h)anthracene	(0.008)
Fluoranthene	(0.029)
Indeno (1,2,3-cd) pyrene	(0.034)
Physical Tests	
Particle Size Analysis - Sieve and Hydrometer Analysis	ASTM D-422 (%)
Moisture Content	ASTM D-2216 (%)

AMS 25-pound Bottom Dredge

