

with ambient, unchlorinated screenwash water during sampling. If a sturgeon is collected, it will be removed from the sampling net and immediately placed in the transport tank and taken to the holding facility in the IP1 screen house, which is located midway between the IP2 and IP3 intake structures. The processing and holding facility in the IP1 screenhouse will consist of a single wet table for sturgeon processing, and three 150-gallon oval holding tanks (Figure 2-6b), used to hold any injured live sturgeon collected for latent observations of survival status. Processing of each sturgeon collected will follow the procedures specified in Section 2.4 below. The transport and holding tank for each unit will be covered with a mesh panel to prevent escapement. Each holding tank will be supplied with a continuous flow of ambient river water from a raw water tap or submersible pump at a flow rate where the volume is replaced at least every 15 minutes (i.e., 10 gpm flow rate). Water temperature (to the nearest 0.1°C), dissolved oxygen concentration (to the nearest mg/l), and salinity (to the nearest 0.1 PSU) will be monitored and recorded in the water of the holding tank(s) during each interval when one or more sturgeon are being held for processing.

To verify that the combination of the paired sluice sampling nets and frequent examination of the sluice systems upstream of the collection locations effectively prevents non-detection of sturgeon, collection efficiency testing will be conducted on the first sampling date of each month. Test fish between 100 mm TL and 600 mm TL will be obtained from prior impingement collections (e.g., White Perch, Striped Bass, or White Catfish), NY-certified commercial hatchery operations, or certified local bait dealers as needed and used to determine the collection efficiency of the sluice samplers. Twenty-five dead test fish will be marked and introduced into each sampled sluice upstream of the sampling nets. On those collection efficiency test dates, the contents of the sluice sampling nets will be examined for marked collection efficiency test fish, which will be removed before releasing the rest of the fish. The number of collection efficiency test fish recovered in the deployed sluice samplers compared to the number released will determine the collection efficiency of the sluice net samplers in each sampled sluice.

Traveling screen sluice sampling will occur on each scheduled sampling date if at least one circulating water pump and one traveling screen are operating at each intake. If operational or maintenance issues (e.g., mechanical failure, preventative maintenance, or outages) interfere with the continuous operation of one or more traveling screens at either unit on the scheduled sampling days, sampling will occur from the remaining operating screens on the sampling date or will be rescheduled to another date, and these deviations from the planned schedule will be noted. The statistical theory and equations supporting this sampling design are described in detail in Attachment 3.

2.3.2 Traveling Screen Monitoring Implementation Schedule, Modifications, and Permitting

Once NMFS has approved the final Monitoring Plan and NYSDEC has approved any modifications to the CWIS within its jurisdiction, reviews required by IPEC and mandated by NRC will be conducted to ensure that continued safe operation of IPEC is not jeopardized by the proposed CWIS sampling activities. Installation of sluice sampling systems at IP1, IP2, or IP3 is not expected to require any major plant modifications, and IPEC has already constructed the sluice sampling nets and net frames for each unit. Our proposed traveling screen monitoring in the fish and debris sluices of IP1, IP2 and IP3 were

selected to avoid major CWIS physical modifications to the CWIS at IPEC, and therefore but will not require the full process of engineering evaluation, reviews, approvals, design, construction, and testing that could take up to ~~270 days~~ 12 months to complete. ~~This approval process has begun, with a goal of being prepared to initiate traveling screen monitoring approximately five months after NMFS and NYSDEC approve this Monitoring Plan Revision 4.~~ A proposed schedule is presented in Attachment 2.

The proposed traveling screen sluice samplers will be inserted into the existing NYSDEC-approved fish return systems without requiring any significant physical modifications to those systems. The operation of the fish return systems, however, will need to be slightly altered by temporarily interrupting the transit of fish through the sluices with the sampling nets, so that any sturgeon can be collected. Thus, NYSDEC Staff's prior approval may be required before making these procedural changes to the operation of IPEC's fish return system. Consultations will be held with NYSDEC Staff to obtain the necessary approval in advance of sampling.

In the second year of traveling screen monitoring, Entergy will examine the results from the first year to consider and discuss with NMFS whether a variable frequency sampling plan can be implemented in which that sampling effort is redistributed among seasonal sampling strata (Mattson *et al.* 1988) to better reflect the observed seasonality of sturgeon encounters with the optimized travelling screen and fish return system. If a variable frequency sampling plan is not approved by NMFS, monitoring will continue at the frequency of three days per week.

2.4 Fish Handling Procedures

Any Atlantic or Shortnose Sturgeon collected will be processed by Normandeau as required under the federal Endangered Species Act following the stated RPMs and T&Cs of the Opinion. In their letter dated 2 May 2016, NMFS has also requested that we recognize three different classes of sturgeon collected from the IP1, IP2 or IP3 traveling screens and fish return system, depending on the condition of the sturgeon at the time of collection, and process each class differently. These three classes of sturgeon are: alive with no apparent injuries, alive and injured, and dead. Non-sturgeon will be processed on one sampling day per week. Sturgeon handling procedures are summarized for live sturgeon in Section 2.4.1, for alive but injured sturgeon in Section 2.4.2, and for dead sturgeon in Section 2.4.3.

Qualitative handling procedures for non-sturgeon fish samples are presented in Section 2.4.4. Genetic sample collection for sturgeon is summarized in Section 2.4.5. A detailed Standard Operating Procedures (SOP) will be developed for IPEC sturgeon monitoring once the final Monitoring Plan is approved. Attachment 4 provides our preliminary sampling procedures and a detailed description of sturgeon and non-sturgeon handling procedures that will be provided in a complete SOP and submitted for NMFS review prior to the start of sampling. In addition, as noted above, a qualitative examination will be performed on the contents of each one-hour (or less) sluice net sample collected at IP2 and IP3 during one of these three days per week to observe the species composition, relative abundance, and ages structure of non-sturgeon fish taxa present relative to their expected presence, as determined based on predictions from recent, representative HRBMP data and information.

Attachment 2
Schedule for Monitoring Plan Implementation

Attachment 2: Implementation Schedule* for Sturgeon Monitoring Plan Revision 4 at IPEC

- 1) Preliminary Equipment Trials for Trash Bars, Forebay and Velocity Studies
 - a) Start – 2 June 2014
- 2) NMFS/Entergy meeting in Gloucester, MA
 - a) Occurred 1 July 2014
- 3) Addendum to Revision 2 Monitoring Plan to NMFS
 - a) Submitted – 4 August 2014
 - b) Additional comments supplied by NMFS - 22 April 2015
- 4) Revision 3 Monitoring Plan to NMFS
 - a) Submitted – 10 July 2015
 - b) Additional comments supplied by NMFS – 2 May 2016
- 5) Revision 4 Monitoring Plan to NMFS
 - a) Submit – ~~10 March~~ 4 April 2017
 - b) NMFS Approval – within 30 days of submittal
- 6) Revision 4 Monitoring Plan to NYSDEC
 - a) Submit – two weeks after NMFS approval of Monitoring Plan Revision 4
 - b) NYSDEC Approval – one month after submitted (estimate)
- 7) Trash Rack Feasibility Study
 - a) Start Study – In progress
 - b) Final Report to NMFS – ninety (90) days after NMFS approval of Monitoring Plan
- 8) IP3 Forebay Feasibility Study
 - a) Design and install plant modifications at IP3 – in progress
 - b) Report to NMFS – ninety (90) days after NMFS approval of Monitoring Plan
- 9) Ristroph Traveling Screen Approved Monitoring Program
 - a) Design and Install plant modifications
 - i) Completion of modifications – ~~four~~ twelve months after NMFS and NYSDEC approval of Monitoring Plan Revision 4
 - b) Submit full Impingement Sampling SOP – two months after NMFS approval of Monitoring Plan Revision 4
 - c) Start monitoring – four months after plant modifications are completed and the full Impingement Sampling SOP is approved by NMFS
 - d) Review results with NMFS and adjust as necessary

10) Velocity measurements/CFD Report

- a) Submit to NMFS – six months after NMFS approval of Monitoring Plan Revision 4

*Schedule provided is a best effort estimate relative to NMFS approval of Monitoring Plan Revision 4. The scheduled items subject to prior regulatory approval or relying on third-party equipment providers may themselves be delayed or cause follow-on tasks to be delayed. Where delays are expected or materialize, some of which may be weather or seasonally dependent, Entergy will promptly provide NMFS with a revised schedule.