P-2485

Study Dispute Resolution Panel
Northfield Mountain Pumped Storage Project (P-2485)
March - May 2014

Expectations of the Panel

1. The panel is expected to make and deliver to the Director of the Office of Energy Projects its findings, with respect to each information and study request in dispute, concerning the extent to which each criteria set forth in 18 CFR § 5.9 is met or not met, and why, and make its recommendations regarding the disputed study request based on its findings.

2. Each panel member is expected to refrain from evaluating any information or study request in dispute against criteria other than that set forth in 18 CFR § 5.9, including but not limited to such other criteria that evaluates the extent to which the information or study request is consistent with other sections of 18 CFR, sections of the Federal Power Act, or other applicable regulations, procedures, or matters of law.

3. Each panel member is expected to rely on their expertise in making their determinations and findings. If a panel member discusses technical matters related to the disputed information or study request with individuals outside of the panel, it is expected that such discussions would be limited to acquiring additional knowledge about general scientific concepts or study methodologies. It is expected that such discussions would be limited to individuals that have not been, are not, and will not be associated with the proceeding.

4. Each panel member is expected to act independently in making their decisions and findings. As such, it is expected that each panel member will not seek the advice of or confirmation from individuals outside of the panel in making their determinations and findings.

5. Each panel member, upon receipt of verbal or written communications associated with the proceeding, including applicable study reports and literature (published or unpublished), is expected to share that information with the other panel members as soon as possible. If the information is not on the record, the panel chair is expected to file such information.

6. During the period leading up to the panel's delivery of its findings and recommendations to the Director, each panel member is expected to refrain from distributing draft documents, meeting notes, or other verbal or written communications that would otherwise disclose the thought processes of the panel or any panel member.

Affirmed by:

William J. Connelly, Panel Chair
Federal Energy Regulatory Commission
Washington , DC

Signature [signature]
Date Apr. 8, 2014

Kevin M. Malone, Independent Third Party, Panelist
Port Orchard, WA

Signature [signature]
Date 4/8/2014

John H. Nagle, Panelist
U.S. Environmental Protection Agency
Boston, MA

Signature [signature]
Date 4/29/14

FEDERAL ENERGY REGULATORY COMMISSION

Northfield Mountain Pumped Storage Project (P-2485)
Study Dispute Panel Technical Conference
Northfield Mountain Visitor Center, April 8, 2014

Print Name	Affiliation	Email Address
Bill Connelly	FERC	william.connelly@ferc.gov
Chris Tomichek	FirstLight — Kleinschmidt	Chris.Tomichek@KleinschmidtGroup.com
Mark Wamser	Gomez and Sullivan Engineers	mwamser@gomezandsullivan.com
Bob Stivers	FirstLight	robert.stivers@gdfsuezna.com
John Howard	FirstLight	john.howard@gdfsuezna.com
John H Nagle	EPA Region 1	nagle.john@epa.gov
KARL MEYER	STAKEHOLDER/COMMENTER	karlM@crocker.com
Dan Ruch		dan.ruch@yahoo.com
Andrea Donlon	CT River Watershed Council	adonlon@ctriver.org
Pennington Geis	photographer	pgeis@comcast.net

Print Name	Affiliation	Email Address
Katie Kennedy	The Nature Conservancy, Connecticut River Program	kkennedy@tnc.org
Ken Hogan	FERC	
Melissa Grader	US FWS	melissa_grader@fws.gov
[illegible]	Natfish	
John Ragonese	TransCanada	john_ragonese@transcanada.com
John Warner	USFWS	john-warner@fws.gov

Memo to Public Files

To: Public Files
From: Bill Connelly, Study Dispute Panel Chair
Date: April 30, 2014
Dockets: P-2485-063
Project: Northfield Mountain Pumped Storage Project

Subject: Materials from the April 8, 2014 Dispute Resolution Panel Technical Conference.

On Tuesday, April 8, 2014, the Northfield Mountain Pumped Storage Project Study Dispute Resolution Panel held a technical conference on the disputed study request. The attached materials, as listed below, were distributed by the Panel at the meeting. Please add this information to the public record for this proceeding.

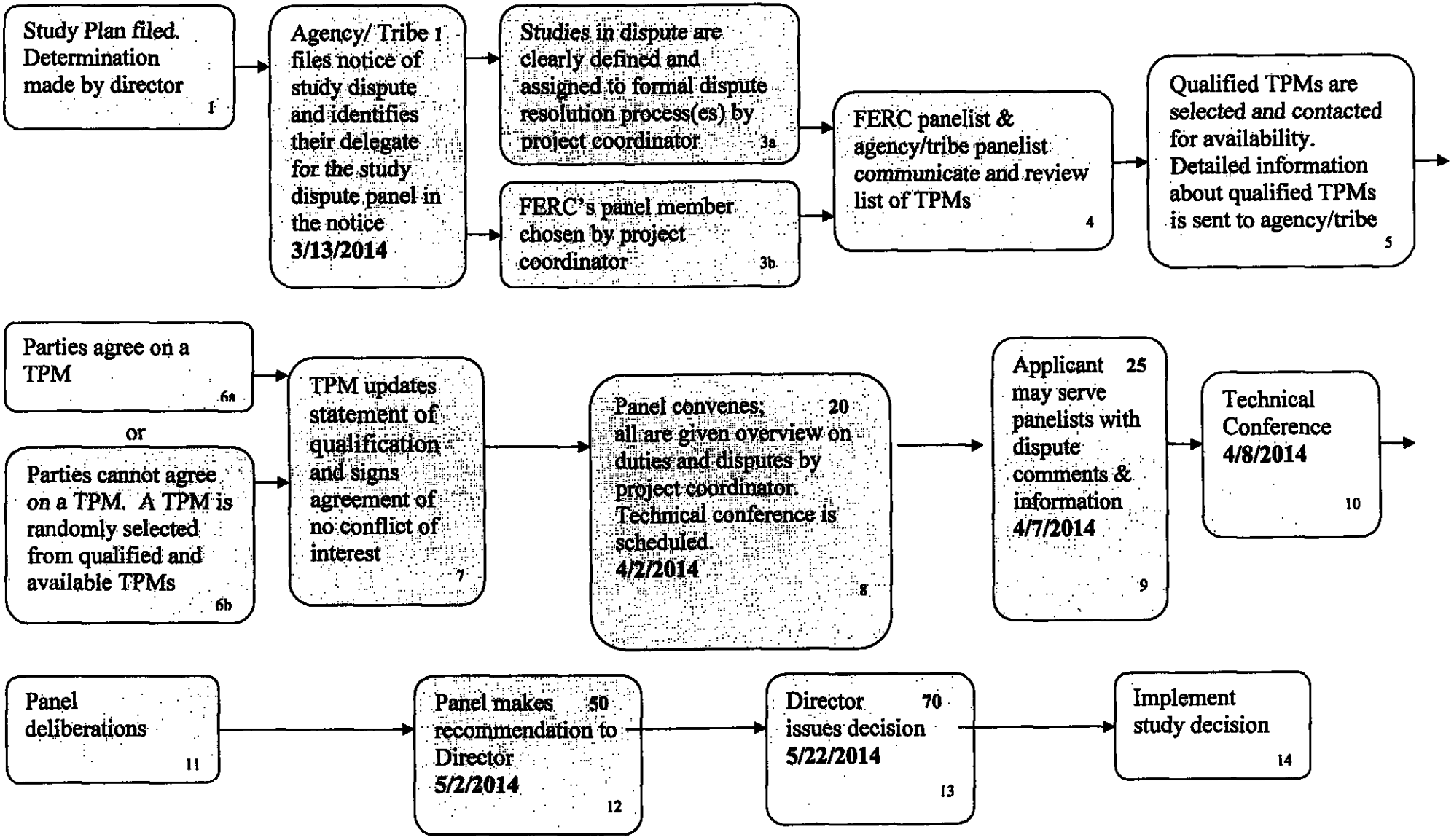
1) Technical Conference Agenda, 1 page
2) Study Dispute Resolution Process Flow Chart, 1 page
3) Technical Conference Meeting Purpose and Ground Rules, 1 page
4) Relevant Regulations, 1 page
5) Expectations of the Panel, 1 page
6) Panel Questions for the Technical Conference, 2 pages
7) Expectations of the Panel, signed by the Panel members, 2 pages
8) Technical Conference Sign-in Sheet, 2 pages

Technical Conference Agenda

Northfield Mountain Pumped Storage Project
Northfield Mountain Visitor Center, Northfield, MA
April 8, 2014

9:00-9:15AM	Panel introduction, meeting purpose, and ground rules
9: 15-9:45	Presentation of project facilities and operation by John Howard
9:45-10:45	Discussion
10:45-10:55	Break
10:55-12:00PM	Continued discussion
12:00-1:00	Lunch
1:00-2:30	Continued discussion
2:30-2:40	Break
2:40-3:50	Continued discussion
3:50-4:00	Closing summary
4:00	Adjourn

Formal Study Dispute Resolution



Numbers in red indicate the number of days permitted for each step from the date of the filing of the notice of the study dispute

Technical Conference

Northfield Mountain Pumped Storage Project
Northfield Mountain Visitor Center, Northfield, MA
April 8, 2014

Statement of Meeting Purpose and Ground Rules

Statement of Meeting Purpose: the purpose of the technical conference is to provide the opportunity for the panel to receive clarifying information with reference to the study criteria (18 CFR § 5.9) that would inform the panel's determinations on the disputed matters.

Ground Rules

1. The panel only will receive information that the panel deems is consistent with the *Statement of the Meeting Purpose* or as the panel otherwise deems necessary to inform its determinations (18 CFR § 5.14(j)). Examples of acceptable information include comments clarifying study goals and objectives, clarification of nexus between project operations and effects, scientific and technical rationale for why the additional studies/information are warranted, or other such information with reference to the study criteria.

2. During the conference, the panel intends to ask meeting attendees any questions the panel may have with regards to the matters in dispute. The panel insists that during this period, it only receives information from those whom the panel directly solicits information. Upon receiving answers to questions, the panel may immediately solicit responses from others in attendance; however, the panel reserves the right, in the interests of maintaining order and focus, to decide whether and when to solicit such responses.

3. The panel will focus all discussion toward the applicability of disputed studies or information to the study criteria and the scientific and technical merits of the disputed studies.

Study Disputes (18 CFR § 5.14)

(a) Within 20 days of the Study Plan Determination, any Federal agency with authority to provide mandatory conditions on a license pursuant to FPA Section 4(e), 16 U.S.C. 797(e), or to prescribe fishways pursuant to FPA Section 18, 16 U.S.C. 811, or any agency or Indian tribe with authority to issue a water quality certification for the project license under section 401 of the Clean Water Act, 42 U.S.C. 1341, may file a notice of study dispute with respect to studies pertaining directly to the exercise of their authorities under sections 4(e) and 18 of the Federal Power Act or section 401 of the Clean Water Act.

(b) The notice of study dispute must explain how the disputing agency's or Indian tribe's study request satisfies the criteria set forth in § 5.9(b), and shall identify and provide contact information for the panel member designated by the disputing agency or Indian tribe, as discussed in paragraph (d) of this section.

Study Criteria (18 CFR § 5.9(b))

(1) Describe the goals and objectives of each study proposal and the information to be obtained;

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;

(3) If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;

(4) Describe existing information concerning the subject of the study proposal, and the need for additional information;

(5) Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and

(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

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Panel Questions for NMPS Project Study Dispute Technical Conference
Northfield Mountain Visitor Center
April 8, 2014

1. What was FERC's basis for rejecting the larval entrainment study request? How will FERC evaluate project impacts on American shad without this study?

2. How would the entrainment data be used, i.e., how would the study results inform the development of license requirements (section 5.9(b)(5))? Please give specific examples of potential recommendations or thresholds if possible. For example, what proportion of the total egg/larvae production of the population can be entrained at NMPS without negatively impacting shad (i.e., a measurable decrease of > 10 percent)?

3. What proportion of American shad spawning habitat is upstream and downstream of the Northfield Mountain Pumped Storage Project intake, and where is the center of spawning activity relative to the intake? If not known specifically, is there anecdotal or historical information available?

4. Do river-wide or location-specific estimates of larval or juvenile American shad production exist for American shad in the Connecticut River? If yes, what proportion of each life stage is entrained?

5. Do the parties agree that all eggs and larvae entrained at Northfield are considered lost to the population?

6. How far upstream, downstream, and offshore does the intake affect flow in the lower impoundment when pumping during the period when American shad eggs and larvae are present? The LMS (1993) study assumed that all eggs in larvae in the sample area were entrained. Is this an accurate assumption?

7. Is there agreement that the LMS (1993) entrainment study accurately measured Project impacts to shad eggs, yolk-sac larvae and post yolk-sac larvae?

8. Approximately how many adult female shad are required to produce the number of eggs, yolk-sac larvae and post yolk-sac larvae estimated to have been entrained in 1993 (see Table 7a, 7b and 7c of LMS (1993)).

9. Appendix A of the LMS (1993) study describes the analysis methods that would be used to estimate short-term and long-term impacts to shad from Project operation. Was

this analysis completed? What were the results? And if not completed, would this type of study provide the data necessary to determine Project effects to shad?

10. Is it possible to sample near the intake or the outflow in the upper reservoir safely while the project is pumping?

11. Could pump samples be safely collected from the intake tunnel service port, which was mentioned by LMS (1993), during sampling?

12. FERC staff recommended that if "first year studies indicated high rates of juvenile shad entrainment, and/or low abundance of juveniles in relation to the adult return rate that year", then further investigation of earlier life stages of shad should be considered. In your opinion, what rate of entrainment or juvenile production would have to be observed to study entrainment of earlier life stages?

13. The PAD stated that the Crecco and Savoy (1984) had been successful at predicting the abundance of adult shad based on juvenile indices, but the model did not predict the observed decline in the 1990s. Has the model been updated, and if so, does it capture the 1990s decline and recent patterns? What percentage of the variance does the model explain?

Literature Cited

Crecco, V., & T. Savoy. (1984). Effects of fluctuations in hydrographic conditions on year-class strength of American shad, Alosa sapidissima, in the Connecticut River. Canadian Journal of Fisheries and Aquatic Sciences. 41:1216-1223.

Lawler, Matusky and Skelly Engineers (LMS). 1993. Northfield Mountain Pumped-Storage Facility –1992 American Shad Studies. February 1993. Northeast Utilities Service Company, Berlin, CT.