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Engineering Guidelines for the Evaluation of Hydropower Projects: Chapter 18 – Level 2 Risk Analysis

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Commissioners of the Federal Energy Regulatory Commission,

The National Hydropower Association (NHA) appreciates the opportunity to respond to the Federal Energy Regulatory Commission's (FERC) Chapter 18 – Level 2 Risk of its Engineering Guidelines for the Evaluation of Hydropower Projects draft for public comment. The association commends the Commission for its dedication to dam and public safety. These comments, which are organized by section within the guideline, provide suggested changes, request additional clarity and outline concerns from the industry. NHA requests that FERC take into consideration each comment before moving forward with finalizing the guideline.

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I. Introduction and General NHA Comments

The National Hydropower Association (NHA) is a national non-profit trade association dedicated exclusively to advancing the interests of the U.S. hydropower industry, including conventional, pumped storage, and new marine and hydrokinetic technologies. NHA's membership consists of over 240 organizations, including consumer-owned utilities, investor-owned utilities, independent power producers, equipment manufacturers, environmental and engineering firms, and attorneys.

NHA commends FERC for exploring ways the D2SI program can be changed to further enhance the safety and stability of the nation's non-federal hydropower dams. NHA recognizes the challenge FERC has been tasked with as well as the complexity involved in creating a process that better identifies ongoing issues across an industry of highly individualized projects. The Hydropower industry recognizes that certain infrastructure within the hydro fleet is aging and may warrant additional investment. NHA believes FERC's goal of the Notice of Proposed Rulemaking (NOPR) and the guidelines are to help industry to identify where appropriate investments are needed. These comments include areas of needed clarity and suggestions for improvement to Chapter 18 – Level 2 Risk Analysis of the Engineering Guidelines for the Evaluation of Hydropower Projects to ensure that timely submittal of documentation risk, and financial burden are considered when making changes to the D2SI program.

II. NHA Comments to Guideline Sections

a. 18-1 Introduction

With regard to the Risk Informed Decision Making (RIDM) (FERC 2016) Guidelines, NHA inquires as to when the guidelines will be updated and if there will be a review process.

b. 18-4 Overview of the Level 2 Risk Estimating Process

With regard to the development, review and update of the consequence estimates, NHA requests further clarity within the process in determining the most critical Potential Failure Mode (PFM) scenarios and locations.

Additionally, with regard to the Level 2 RA session, NHA requests further clarity on the Interim Risk Reduction Measures (IRRM), a method of screening IRRMs and if RRMs are necessary in order to prioritize risk reduction. Section 10 of Chapter 18 does not specifically address IRRMs.

c. 18-5 Level 2 Risk Analysis Team

With regard to section 18-5.1 a licensee is to discuss specific questions with the FERC dam safety professional during the initial planning phase of the Potential Failure Mode Analysis (PFMA), NHA requests further clarity as to what point this conversation is to take place within the analysis. Is this discussion to take place before or after the licensee submits their plan?

Section 18-5.2 states the Part 12D Independent (IC) and the Level 2 facilitator should not be from the same organization. Currently, the pool of available consultants is very limited, NHA believes this will further limit a licensee's ability to hire consultants to complete Periodic Assessment (PI), Comprehensive Assessment (CA) and Level 2 RA work.

With regard to qualifications within section 18-5.3, NHA requests clarity on how projects will be prioritized to space them out over a ten-year cycle. NHA believes the listed qualifications are

reasonable, but there are limited resources available to fill these roles and to evaluate projects consistently. Training will be essential for licensees, consultants, and FERC staff.

Additionally, NHA requests further clarity into the process of determining if the goals of the Level 2 RA have not been accomplished by a risk analysis facilitator. For instance, who makes the determination, how is it decided and at what point? Additionally, NHA inquires as to the process in which an owner may challenge this determination and the need for the analysis to be supplemented or redone. NHA inquires as to whether FERC has considered an Appeals Board or Board of Consultants that may offer guidance in all aspects of the Part 12 process in cases where technical expertise is lacking.

d. 18-6 Loading

NHA requests further clarity with regard to extended duration maintenance activities, as well as requests examples of special circumstances with regard to other loading conditions in section 18-6.4.

e. 18-7 Potential Failure Modes

With regard to missing or unclear PFMs within section 18-7.1, NHA requests further clarity into the process of determining the results of the risk analysis are nullified. Additionally, NHA requests FERC expand on the mapping of the Insufficient Information PFMs within Figure 4: Potential Failure Mode Screening Process. NHA is concerned there will be not be sufficient time to collect further information between a PFMA and an RA. Within the initial round RA, PFMs may be identified that require further data collection or studies that could potentially jeopardize the RA schedule.

With regard to screening of PFMs for risk analysis within section 18-7.2, NHA requests clarity regarding the differentiators for minor and insignificant in the refined screening, without more definitive guidance, these will likely be interpreted variably. NHA also requests clarity regarding the implications if neither are carried forward into the semi-quantitative risk analysis (SQRA).

Additionally, NHA is concerned that risk estimates are not yet determined within the refined screening phase of the RA process and inquires as to how FERC will use this information to judge adequacy of the RA.

f. 18-8 Failure Likelihood

With regard to the inclusion of partial or operational failures within failure likelihood that may not lead to uncontrolled release of the reservoir, NHA believes this is a significant change from current practice and will diminish the importance of dam and public safety related PFMs.

With regard to Table 2: Team vs. Individual Failure Likelihood Development Process, NHA suggests that individual based estimates be considered.

g. 18-10 Other Considerations

Although NHA agrees that the “low” confidence rating would most likely require additional studies before taking risk reduction action, we believe in practice this could become problematic. The goal should be to not lose focus on risk driving PFMs.

NHA agrees with FERC’s intent with regard to discussion of potential dam safety management activities once confidence and uncertainty have been assessed. However, we believe there should be a means to screen these activities to focus on those that can reduce risk at reasonable complexities and costs.

h. 18-12 Documentation

With regard to other key information to present and discuss in the Level 2 RA report, NHA requests additional clarity in the required description of impacts of planned spillway releases on the primary consequence center(s). Is FERC's intent within the requirement to limit the description to releases up to the non-breach, zero-freeboard discharge capacity, or to the PMF discharge capacity? NHA inquires as to the range of discharges in the RA space?

III. Conclusion

Once again, NHA appreciates the opportunity to comment on Chapter 18 – Level 2 Risk Analysis of the Engineering Guidelines for the Evaluation of Projects. NHA commends FERC for exploring ways the D2SI program can be changed to further enhance the safety and stability of the nation's non-federal hydropower dams. We hope FERC considers the areas of agreement, identified challenges and alternatives presented within our response to the guideline.

NHA appreciates the opportunity to provide these comments and discuss this important public safety topic.