

144 FERC ¶ 61,211  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;  
Philip D. Moeller, John R. Norris,  
Cheryl A. LaFleur, and Tony Clark.

Boott Hydropower, Inc., and  
Eldred L. Field Hydroelectric Facility Trust

Project No. 2790-059

ORDER DENYING REHEARING  
AND DENYING STAY PENDING JUDICIAL REVIEW

(Issued September 19, 2013)

1. Pending before us are requests for rehearing filed by the U.S. Department of the Interior (Interior), City of Lowell, and Lowell Flood Owners Group (Flood Owners), of the Commission's April 18, 2013 order amending the license for the 24.8-megawatt Lowell Hydroelectric Project No. 2790, located on the Merrimack River in the City of Lowell in Middlesex County, Massachusetts.<sup>1</sup> Interior also seeks a stay. The order approved a request filed by Boott Hydropower, Inc., and the Eldred L. Field Hydroelectric Trust (Boott or the licensee) to replace the existing Pawtucket Dam's wooden flashboards with an inflatable crest gate system. The project does not occupy any federal land, but Pawtucket Dam is listed on the National Register of Historic Places as part of the Lowell National Historical Park (Lowell Park) and two historic districts, one of which is a National Historic Landmark.

2. On rehearing, the parties argue that the Commission's action adversely affects Pawtucket Dam, in violation of the Lowell Act, the National Historic Preservation Act, and other statutes. They also maintain that the Commission erred in its treatment of issues concerning the risk and impacts of flooding. For the reasons discussed below, we deny rehearing and a stay. We reaffirm that the crest gate system can be installed without unacceptably altering the dam or adversely affecting the park and historic districts, and will help alleviate upstream backwater and flooding effects to the maximum extent possible. It will also provide important benefits to recreation, fish passage, dam and worker safety, and project generation.

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<sup>1</sup> *Boott Hydropower, Inc.*, 143 FERC ¶ 61,048 (2013) (April 18 order).

## **Background**

3. A detailed procedural history appears in our April 18 order and need not be repeated here.<sup>2</sup> Briefly, the Commission licensed the existing Lowell Hydroelectric Project and approved plans for its expansion in 1983.<sup>3</sup> The project has historically operated with wooden flashboards placed on top of the dam. Flashboards are temporary structures that are used to raise the level of the reservoir to allow increased power generation. They are designed to collapse when water levels in the reservoir overtop them. This allows additional water to spill over the dam, reducing pressure on the dam and also reducing upstream flooding.

4. After receiving complaints from nearby homeowners about flooding that occurred upstream of the dam along a tributary to the Merrimack River, particularly in May 2006 and April 2007, Commission staff requested Boott to provide information on project operation, flashboard operation and failure, and upstream flooding. Staff also requested Boott to conduct a backwater analysis.<sup>4</sup> Staff's review of Boott's information revealed that the flashboards as installed were configured differently than as authorized in the license and did not fail as originally designed. In May 2008 staff ordered Boott to remove the flashboards and provide a new design. Boott proposed corrective measures and in June 2008 staff authorized the licensee to reinstall the flashboards with those measures.<sup>5</sup>

5. Staff's review of the backwater analysis found that both 4- and 5-foot-high flashboards can contribute to flooding during high flows if the flashboards do not fail completely. Staff requested the licensee to meet with the National Park Service (Park Service) and other stakeholders to discuss the results of the backwater analysis and determine options for implementing a flashboard system or other means of crest control that could be ensured to be completely down during high flows in the Merrimack River.

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<sup>2</sup> *Id.* PP 3-42.

<sup>3</sup> *Boott Mills and Proprietors of the Locks and Canals on the Merrimack River*, 23 FERC ¶ 62,043 (1983) (*Boott Mills*).

<sup>4</sup> Backwater is defined as the amount the depth of flow has been increased by an obstruction such as a dam. *Public Utility District No. 1 of Pend Oreille County, Washington*, 77 FERC ¶ 61,146, at 61,543 n.11 (1996). A backwater analysis is a standard method of conducting hydrologic and hydraulic analyses. *Turlock and Modesto Irrigation Districts*, 144 FERC ¶ 61,051, at P 72 n.102 (2013).

<sup>5</sup> April 18 order, 143 FERC ¶ 61,048 at PP 3-9.

Boott held a series of meetings with various stakeholders and prepared a report evaluating two flashboard options and an inflatable crest gate system. Boott concluded that the crest gate system would provide significant advantages and proceeded to consult with federal and state resource agencies, Indian tribes, and the Park Service on a proposal to amend its license to install the system. Federal and state fisheries agencies supported the proposal. The Park Service opposed it on historic preservation grounds. Boott filed an application to amend its license to install the crest gate system on July 6, 2010.<sup>6</sup>

6. The Commission issued notice of the application and solicited comments and motions to intervene. In response to concerns about historic preservation, Boott modified its proposal in March 2011. The Commission initiated consultation under section 106 of the National Historic Preservation Act (NHPA) with the Park Service and federal and state historic preservation agencies in April 2011. Staff issued a draft environmental assessment (EA) in June 2011 and a final EA in December 2011.

7. Boott proposed additional measures to mitigate the adverse effects of installing the crest gate system in February 2012, and the consulting parties discussed these measures at a consultation meeting in May 2012. Boott and the Park Service met in July 2012 to discuss design issues and mitigation. In October 2012, Commission staff requested information from the consulting parties on the progress of consultation. Based on the parties' responses, staff determined in January 2013 that further consultation would not be productive and provided notice that it was terminating consultation. After considering the comments of the Advisory Council on Historic Preservation (Advisory Council), as well as those of other parties and interested persons, the Commission issued its April 18 order, responding to the Advisory Council's comments and amending the license to authorize Boott to install the proposed crest gate system.<sup>7</sup> On August 8, 2013, the Advisory Council filed additional comments.

## **Preliminary Matters**

### **A. Interior's Request for a Stay**

8. Interior requests that the Commission issue an order staying its approval of the inflatable crest gate system pending resolution of its rehearing request and any subsequent appeal that may be filed. Interior argues that it will suffer irreparable injury without a stay, because "[o]nce the dam has been altered to place the crest gate on top of

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<sup>6</sup> *Id.* PP 10-16.

<sup>7</sup> *Id.* PP 17-43.

it, it may not be put back into its original configuration.”<sup>8</sup> Interior states that drilling anchors and placing grout and concrete are not reversible. Interior also maintains that Boott will not be seriously harmed by a stay, because the Commission’s economic analysis indicates that every year of delay would save Boott money, as the net cost of the system is expected to be \$646,000 annually. Interior further argues that a stay will be in the public interest, because it will avoid adverse effects to a National Historic Landmark while the Commission and any reviewing court determine whether the Commission has complied with applicable statutes. As a result of our issuance of this decision on rehearing, Interior’s request for a stay pending rehearing is now moot.

9. Interior also requests a stay pending any judicial appeal that may be filed. In acting on stay requests, the Commission applies the standard set forth in section 705 of the Administrative Procedure Act; i.e., the stay will be granted if the Commission finds that “justice so requires.”<sup>9</sup> Under this standard, the Commission considers a number of factors, such as whether the movant will suffer irreparable injury in the absence of a stay, whether the issuance of a stay would substantially harm other parties, and where the public interest lies.<sup>10</sup>

10. In order to meet the requirement of irreparable injury for a stay, the injury must be both certain and great, actual and not theoretical.<sup>11</sup> Although Interior asserts that the proposed changes to the dam are not reversible and that, once altered, the dam may not be returned to its original appearance, Interior does not provide any support for its assertions. In fact, because the crest control structure is not an integral part of the dam, there does not appear to be any reason why the dam could not be returned to its original configuration, should it become necessary to do so. Moreover, as discussed in more detail below, we affirm that the proposed changes to the dam can proceed and are not in violation of applicable statutes. As a result, Interior has not shown that it will suffer irreparable injury in the absence of a stay. In addition, the amendment is in the public interest, because it will help alleviate upstream backwater and flooding effects to the maximum extent possible, and will also provide important benefits to recreation, fish

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<sup>8</sup> Interior’s request for rehearing at 17 (filed May 20, 2013). Interior filed its stay request as part of its request for rehearing.

<sup>9</sup> 5 U.S.C. § 705 (2012).

<sup>10</sup> *Aquenergy Systems, Inc.*, 39 FERC ¶ 61,373, at 62,211 (1987) (citing *Columbia Gulf Transmission Co.*, 37 FERC ¶ 61,003 (1986)).

<sup>11</sup> *Guardian Pipeline, L.L.C.*, 96 FERC ¶ 61,204, at P 26 (2001) (citing *Wisconsin Gas Co. v. FERC*, 758 F.2d 669, 674 (D.C. Cir. 1985)).

passage, dam and worker safety, and project generation. We therefore find that justice does not require a stay, and we deny Interior's request.

**B. Interior's Request for Time to Amend its Rehearing Request**

11. Interior requests that, because Commission staff did not release the results of its review of some preliminary design issues concerning the crest gate system, the Commission should extend the period for requesting rehearing and permit Interior to amend its rehearing request, after release of a complete administrative record. Interior argues that it received one document only two days before the deadline for seeking rehearing, and two other documents were withheld. Interior argues that staff's delay in providing documents and unwillingness to share information have prejudiced Interior's interests in the proceeding. Interior requests that the Commission allow a minimum of 30 days for Interior to file additional argument.

12. We are unable to grant Interior's request. Under section 313 of the Federal Power Act (FPA) and section 385.713 of our regulations, a party who is aggrieved by a Commission order must file a request for rehearing no later than 30 days after issuance of the order.<sup>12</sup> This is a statutory requirement that the Commission cannot waive.<sup>13</sup> Moreover, as discussed in more detail later in this order, staff's analysis was preliminary and is subject to later revision based on a more complete design. As a result, we did not need to rely on it in reaching our decision.<sup>14</sup> In addition, staff's analysis was pre-decisional, and is exempt from public disclosure.<sup>15</sup> We therefore deny Interior's request.

**C. Advisory Council's Additional Comments**

13. As noted, the Advisory Council filed additional comments on August 8, 2013.<sup>16</sup> With one exception, these comments are not new and reiterate comments that the Commission responded to in the April 18 order. The exception is that the Advisory Council now seeks to assert, for the first time, that by responding to the Council's

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<sup>12</sup> 16 U.S.C. § 825l (2012); 18 C.F.R. § 385.713(b) (2013).

<sup>13</sup> See, e.g., *City of Tacoma, Washington*, 105 FERC ¶ 61,333, at P 17 (2003).

<sup>14</sup> See our discussion of this issue at P 49 below.

<sup>15</sup> See 18 C.F.R. § 388.107(e) (2013).

<sup>16</sup> Letter from Milford Wayne Donaldson, Advisory Council Chairman, to FERC Chairman Jon Wellinghoff (filed Aug. 8, 2013).

comments in the April 18 order instead of providing its response in advance of issuing the order, the Commission failed to provide a reasonable opportunity for comment as required by the NHPA.

14. This argument is untimely and we need not consider it. As noted, a party who is aggrieved by a Commission order must file a request for rehearing no later than 30 days after issuance of the order.<sup>17</sup> The Council is not a party to the proceeding. We explained in our April 18 order why our regulations required us to provide our response to the Council's comments through our order rather than in advance of it.<sup>18</sup> The Advisory Council did not intervene and file a timely request for rehearing of this issue, and therefore may not seek to raise it now. In any event, the Advisory Council has had many opportunities to comment throughout this proceeding, and we provided our detailed response to the Council's final comments in our April 18 order. Nothing further is required under the NHPA.

## **Discussion**

### **A. Lowell Act**

15. Interior argues that the Commission's order violates the Lowell Act. This act, which established Lowell Park, provides that a federal agency may not license an activity within Lowell Park or the Preservation District unless it makes two determinations: (1) the activity will be conducted in a manner consistent with standards and criteria established under that act, and (2) the activity will not have an adverse effect on the resources of the Park or Preservation District.<sup>19</sup> Interior argues that, although the Commission "purports to make both findings," it does so by "arbitrarily assigning

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<sup>17</sup> 16 U.S.C. § 825l (2012); 18 C.F.R. § 385.713(b) (2013).

<sup>18</sup> April 18 order, 143 FERC ¶ 61,048 at P 78.

<sup>19</sup> Section 102(b) of the Lowell Act provides:

No Federal entity may issue any license or permit to any person to conduct an activity within the park or preservation district unless such entity determines that the proposed activity will be conducted in a manner consistent with the standards and criteria established pursuant to section 302(e) of this Act [16 U.S. C. § 410cc-32(e) (2006)] and will not have an adverse effect on the resources of the park or preservation district.

16 U.S.C. § 410cc-12 (2012).

different meanings to the same terms in different places, misinterpreting the nature of the Park and Preservation District, and misreading the Park's founding legislation and the ACHP's [Advisory Council's] regulations."<sup>20</sup>

16. Flood Owners make a similar argument. They maintain that removal of the flashboard system is clearly an adverse effect to the dam, Lowell Park, and the historic districts to which the dam contributes, as the Advisory Council and Interior advised numerous times. They therefore maintain that the Commission's decision authorizing removal of the flashboard system violates the Lowell Act.<sup>21</sup>

### 1. **Finding of No Adverse Effect**

17. Interior and Flood Owners argue that the term "adverse effect" has the same meaning in the Lowell Act as it has in the NHPA and that, because the Commission found that the proposed action would have an adverse effect on Pawtucket Dam under the NHPA, it should make the same finding under the Lowell Act. Interior adds that the Commission offers no reason for rejecting the common and well-established meaning of the term as set forth in the Advisory Council's regulations.

18. Interior and Flood Owners misunderstand the Commission's findings. Commission staff found that the proposed action would constitute an adverse effect on Pawtucket Dam because replacing the flashboards with an inflatable crest gate would alter the dam's architecture.<sup>22</sup> Staff then proceeded to consult with the parties and the Advisory Council on ways to avoid, minimize, or mitigate the adverse effect and thus resolve it, as provided in the Advisory Council's regulations.<sup>23</sup> When it became clear that it would not be possible to reach an agreement on how to resolve the adverse effect

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<sup>20</sup> Interior's Request for Rehearing at 3.

<sup>21</sup> Flood Owners' request for rehearing at 4 (dated May 18, 2013). Flood Owners filed three requests for rehearing to address different aspects of their concerns. The first was filed on May 17, 2013. The second and third requests, dated May 18 and May 20, respectively, were both considered filed on May 20, 2013, under our rules. *See* 18 C.F.R. § 385.2001(a)(2) (2013) (documents received after regular business hours are considered filed on the next business day). To distinguish these latter two filings, we identify them by their document dates.

<sup>22</sup> Letter from Robert Fletcher, FERC, to John Eddins, Advisory Council, at 2 (Dec. 8, 2011).

<sup>23</sup> *See* 36 C.F.R. §§ 800.5(d)(2), 800.6(a), and 800.6(b)(2) (2012).

and further consultation would not be productive, staff terminated consultation and requested the Advisory Council's comments, also as provided in the Advisory Council's regulations.<sup>24</sup> At that point, the Commission issued its April 18 order, responding to the Advisory Council's comments and finding that the measures Boott and Commission staff had proposed to resolve the adverse effect were sufficient to permit the crest gate system to be installed without unacceptably altering the dam or adversely affecting the park and historic districts.<sup>25</sup> Thus, the Commission replaced staff's initial finding of an adverse effect on the dam with its own finding of no adverse effect on the dam, park, and historic districts, based on the proposed measures to resolve the adverse effect. The Commission's findings were not inconsistent; rather, they were the same under the NHPA as under the Lowell Act.

19. Interior concedes that under the Lowell Act, it is the Commission that must determine whether the proposed action will have an adverse effect on the resources of the park.<sup>26</sup> However, Interior contends that the Park Service is the entity that manages the park and has the relevant expertise concerning possible adverse effects on the park. Interior maintains that the Commission has only its own opinion, with no expertise and experience, whereas the record is replete with the Park Service's expert opinion on the effects of the proposed action. Although not expressly stated, Interior appears to argue that the Commission must defer to the Park Service's opinion in this matter. Flood Owners make a similar argument, maintaining that the Commission erred by dismissing the guidance of knowledgeable federal agencies and finding that removing the flashboards is not an adverse effect on Lowell Park.<sup>27</sup>

20. We do not agree. Under section 102(b) of the Lowell Act, the Commission is responsible for making the necessary findings and determining whether and how to proceed with the proposed action.<sup>28</sup> There is no requirement that the Commission obtain the Park Service's concurrence before reaching a decision. Commission staff consulted with the Park Service and other federal and state historic preservation agencies and obtained the benefit of their views and expertise. However, the Commission also drew on its own extensive experience with historic preservation matters, developed through

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<sup>24</sup> *Id.* § 800.7(a).

<sup>25</sup> 143 FERC ¶ 61,048 at PP 2, 77-188.

<sup>26</sup> Interior's Request for Rehearing at 3.

<sup>27</sup> Flood Owners' Request for Rehearing at 4 (dated May 18, 2013).

<sup>28</sup> 16 U.S.C. § 410cc-12(b) (2012).

administration of its hydroelectric and natural gas programs. As long as our decision is supported by substantial evidence, we are permitted to reach our own conclusions under the Lowell Act, notwithstanding the fact that the Park Service may have expressed a different view.

21. Interior takes issue with the Commission's statement that it is unclear whether Pawtucket Dam is a resource of both Lowell Park and the Preservation District.<sup>29</sup> Interior points out that the Preservation District is not a separate area outside of Lowell Park, and states that the 385-acre Preservation District includes the entire 141-acre National Park area within its boundary. As a result, Interior argues that the Commission has not made the required finding for the Preservation District.

22. We accept this clarification of the relationship between Lowell Park and the Preservation District. We note, however, that although we questioned whether the dam was a resource of both the Park and the Preservation District, we also expressly found that the proposed action would not adversely affect the dam and the historic districts of which it is a part, including Lowell Park and the Preservation District.<sup>30</sup> To the extent necessary, we affirm our finding that installing an inflatable crest gate with the required mitigation measures will not adversely affect Pawtucket Dam as a resource of Lowell Park and the Preservation District, and will not adversely affect any other resources of the Park or Preservation District.

23. In our April 18 order, we found that, under the NHPA, an action that might have an adverse effect can be avoided, minimized, or mitigated through appropriate treatment measures to the point that the effect is no longer considered adverse. We concluded that, if the term "adverse effect" is to have the same meaning in the Lowell Act as in the NHPA, presumably an initial finding of an adverse effect under the NHPA would not bar a proposed action from going forward under the Lowell Act if it included appropriate treatment measures.<sup>31</sup> Interior takes issue with this conclusion, maintaining that the Commission "misunderstands the NHPA regulations and the Lowell Act."<sup>32</sup>

24. Interior correctly points out that, under the NHPA, efforts to "resolve" adverse effects are of three types: measures to avoid adverse effects, measures to minimize those

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<sup>29</sup> April 18 order, 143 FERC ¶ 61,048 at P 130.

<sup>30</sup> *Id.* PP 2, 148.

<sup>31</sup> *Id.* P 132.

<sup>32</sup> Interior's Request for Rehearing at 5.

effects, and measures to mitigate them.<sup>33</sup> However, Interior argues that while all three types of measures may be used to resolve adverse effects, “only the first two actually serve to eliminate the adverse effect – use of the last means the adverse effects remain, but are ‘made up for’ elsewhere.”<sup>34</sup> Interior goes on to explain that “an action initially found to have an adverse effect may be permitted if it can be altered so as to avoid or minimize those effects, reducing them below the threshold of ‘adverse effect.’”<sup>35</sup> As an example, Interior states that in 1983 the plan for the project’s fishway was altered to move the fishway to avoid impacts to the historic gatehouse. However, Interior contends that under the Lowell Act, an action cannot proceed if its effects have been resolved for purposes of the NHPA by “compensatory mitigation” because the adverse effects remain.<sup>36</sup>

25. Interior acknowledges that the mitigation proposed in this case minimizes the effects of the compressor building by appropriate design to the point where the Park Service no longer objected to it, avoids the effects of the piers in the original design by eliminating them, and minimizes the visual effects of the crest gates by coloring them. Interior nevertheless maintains that adverse effects remain, because the effects of the crest gate system itself are mitigated by installing an interpretive exhibit, and the structural modifications to the dam are not mitigated at all.

26. Contrary to Interior’s assertion, we find that the interpretive exhibit serves to mitigate not only the effects of replacing the flashboards with the crest gate system, but also the effects of structural modifications to the dam. As discussed in the April 18 order, Boott will be required to develop two interpretive exhibits at the project, one with a replica of a portion of the original flashboard system and one with the new crest gate system, to enhance visitors’ understanding of the history of the dam and the Lowell Project.<sup>37</sup> Moreover, Interior provides no support for its argument that, unlike measures that avoid or minimize adverse effects, measures to mitigate those effects cannot be used

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<sup>33</sup> 36 C.F.R. § 800.6(b) (2012).

<sup>34</sup> Interior’s Request for Rehearing at 5.

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> 143 FERC ¶ 61,048 at P 24.

to reduce them to a finding of no adverse effect.<sup>38</sup> In fact, the opposite is true. Under the Advisory Council's regulations, all three methods are an acceptable way of resolving adverse effects.<sup>39</sup> In addition, the Advisory Council expressly recognized in the preamble to its revised regulations, promulgated in 2000, that mitigation can be used to reach a finding of no adverse effect.<sup>40</sup> In response to a comment that state and tribal historic preservation officers making an adverse effect determination should include recommendations and criteria "for mitigation to reduce the effects to No Adverse Effect," the Advisory Council responded: "While this is permissible, the Council believed the rule should not require it as a duty . . . at the determination of adverse effect step."<sup>41</sup> The Advisory Council's acknowledgement that this is permissible contradicts Interior's assertion that mitigation measures cannot be used to reduce adverse effects to the level of no adverse effect.

27. In each case, whether adverse effects are avoided, minimized, or mitigated, it is possible for some effects to remain, although they might no longer be considered adverse. For example, Interior states that moving the fishway that was added to the Lowell Project in 1983 avoided adverse effects to the gatehouse. However, moving the fishway did not avoid the adverse effects of physical and visual changes to the dam. Instead, those effects were adequately mitigated by recording the dam's historic and engineering characteristics, together with other measures that allowed the Commission to conclude that the proposed project would result in no adverse effect on the Lowell Locks and Canals Historic District.<sup>42</sup> The Park Service, Massachusetts SHPO, and the Advisory Council concurred in that determination. Presumably, any remaining effects were sufficiently minor as to not be considered adverse, but they were not completely eliminated.

28. In much the same way, the interpretive exhibit required in this case both minimizes and mitigates the effects of installing the crest gate system. The only

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<sup>38</sup> The Advisory Council's regulations permit an agency official to propose a finding of no adverse effect when an undertaking is modified or conditions are imposed to avoid adverse effects. *See* 36 C.F.R. § 800.5(b) (2012).

<sup>39</sup> *Id.* § 800.6(b).

<sup>40</sup> Advisory Council on Historic Preservation, 36 C.F.R. Part 800, *Protection of Historic Properties*, Final Rule, 65 Fed. Reg. 77,698 (Dec. 12, 2000).

<sup>41</sup> *Id.* at p. 77,708.

<sup>42</sup> *See Boott Mills*, 23 FERC at 63,063-64.

difference is that the Commission and the Park Service did not agree on whether the measure would resolve the adverse effect of modifying the dam's crest control system. As we have seen, the Lowell Act makes the Commission responsible for determining that the proposed action will not adversely affect the resources of Lowell Park and the Preservation District; it does not require the Commission to obtain the concurrence of any other agency. We affirm that the proposed measures are adequate to resolve any adverse effects of installing the inflatable crest gate system. As a result, the action may proceed consistent with the Lowell Act.

## 2. Consistency with Preservation Standards

29. Interior argues that the measures proposed in the April 18 order are inconsistent with the preservation standards for Lowell Park established pursuant to the Lowell Act.<sup>43</sup> In that order, we noted that these standards are specific to the park and preservation district, and apply to the construction, preservation, restoration, alteration, and use of properties within the park and the district. We also noted that the standards do not contain any specific references to dams in general or to Pawtucket Dam in particular.<sup>44</sup> We reviewed the standards and made consistency findings for those we found applicable.<sup>45</sup> Interior argues that we erred in those findings.

30. Interior maintains that the amendment violates Preservation Standard E-2, which concerns historic architectural features. This standard states that historic buildings "owe their character to the particular blend of their architectural features: scale, rhythm, form, massing, and proportion," and provides that "original building features should whenever

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<sup>43</sup> These standards, issued pursuant to section 302(e) of the Lowell Act, 16 U.S.C. § 410cc-32(e) (2012), were published in 1981. See U.S. Department of the Interior, Lowell Historic Preservation Commission, *Notice of Standards for Rehabilitation and Construction*, 46 Fed. Reg. 24,000 (April 29, 1981) (*Lowell Preservation Standards*).

<sup>44</sup> April 18 order, 143 FERC ¶ 61,048 at P 138.

<sup>45</sup> *Id.* PP 139-148. Interior acknowledges that the Commission is not required to analyze consistency with standards that are not applicable. However, Interior asserts that the Commission may not act only in response to Interior's arguments, but must make its own determination of whether its action is consistent with the standards. Interior's request for rehearing at 6. We have reviewed and discussed the standards to the extent that they are applicable. We have also addressed Interior's arguments. Any standards not discussed in this order are inapplicable and cannot be raised in any subsequent petition for review because they were not raised before us on rehearing.

feasible be preserved rather than replaced.”<sup>46</sup> Interior takes issue with our finding that the architecture of the masonry dam would not be altered and that only the flashboards, which are not an integral part of the dam, would be replaced. Interior maintains that “the flashboard system itself is historic and integral to the operation of the dam,” and that there is “no distinction between the flashboards and the masonry as a historic functional assembly.”<sup>47</sup> Interior therefore concludes that the character-defining features of scale, rhythm, form, massing, and proportion apply equally to both. In essence, Interior argues that the dam and flashboards must be considered together as an architectural feature of the dam.

31. We disagree. As we found in our April 18 order, flashboards are not an integral part of a dam, but are a temporary crest control structure placed on top of a dam to increase the reservoir level and thus allow increased generation.<sup>48</sup> Flashboards can be used with dams of different types and styles. Accordingly, they are not part of the dam’s architecture. Throughout its history, Pawtucket Dam has had no flashboards (1826-1838), 2-foot flashboards (1838-1883), 3-foot flashboards (1883-1896), and 5-foot flashboards (1896-present).<sup>49</sup> This demonstrates that, although flashboards were an early crest control feature, they were not an original feature and are not an integral part of the masonry dam.

32. Interior also takes issue with our finding that it is not feasible to preserve the existing flashboards. Interior contends that “[r]epair of the broken masonry capstones, more careful ordering of the engineered flashboard pins, and return to the use of actual boards rather than plywood would assure adequate collapse of the flashboards during flood events of the magnitude that is relevant to the flooding issue.”<sup>50</sup>

33. This is incorrect. Interior provides no support for its assertion. As we found in our April 18 order, by their very nature flashboard systems fail incompletely and unpredictably in response to high flows. Staff’s review of the licensee’s backwater analysis, which we affirm, found that both 4-foot and 5-foot-high flashboards can

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<sup>46</sup> *Lowell Preservation Standards*, 46 Fed. Reg. at 24,001.

<sup>47</sup> Interior’s Request for Rehearing at 7.

<sup>48</sup> April 18 order, 143 FERC ¶ 61,048 at P 86.

<sup>49</sup> *Id.* P 73.

<sup>50</sup> Interior’s Request for Rehearing at 7.

contribute to flooding during high flows if the boards do not fail completely.<sup>51</sup> We therefore found it was not feasible to preserve the flashboards because only an inflatable crest gate system can attenuate the backwater effect of the dam during high flows to the maximum extent practicable.<sup>52</sup>

34. Interior maintains that the masonry structure of the dam will be altered, as well as the granite capstones, because the capstones will be drilled out to insert reinforcing bar into them and reinforced concrete will be fixed on top of the capstones to support the inflatable bladder tubes. Interior adds that the masonry on the sloping top of the dam would be similarly altered to attach the hinged gates on top of the bladders. Interior asserts that the fact that some of these elements will normally be submerged does not alleviate “the damage to the historic masonry initially and progressively over time.”<sup>53</sup>

35. Interior fails to explain how these changes would violate the standard. Maintaining the existing flashboard system requires similar actions of drilling into the granite capstones and installing steel bars to support them. Although concrete will be added to support the inflatable crest gate system, the granite capstones will still be visible from the downstream side of the dam. The crest gates system will use colors, paint, and materials to help ensure that it is similar in appearance to the existing wooden flashboards, and interpretive exhibits will minimize the effects of modifying the dam’s crest control structure. As we have seen, the dam’s architecture will not be altered and maintaining the existing flashboards is not feasible. We affirm that proposed action will be conducted in a manner consistent with Preservation Standard E-2.

36. Interior maintains that the amendment violates Preservation Standard E-3, which concerns historic materials. This standard states that “historic character also comes from the use and design of construction materials.”<sup>54</sup> Interior reiterates that the amendment would completely remove the wooden flashboard system and replace it with a steel and rubber pneumatic crest gate, supported by a steel frame anchored in bedrock through the dam. Interior adds that the capstones would be lost to view and the view would be dominated by the steel crest gates. Interior contends that the materials used would be very different from those used historically, and would “radically change the historic

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<sup>51</sup> April 18 order, 143 FERC ¶ 61,048 at PP 11, 61-63.

<sup>52</sup> *Id.* P 140.

<sup>53</sup> Interior’s Request for Rehearing at 7.

<sup>54</sup> *Lowell Preservation Standards*, 46 Fed. Reg. at 24,001.

character” of the dam.<sup>55</sup> Interior asserts that the Commission should reconsider its finding that the action is consistent with this standard.

37. We disagree. We affirm that the original materials, design, and use of the masonry dam will not be altered. Although the wood and metal flashboard system would be replaced, these materials are not original and have been continually replaced over the years. In light of the need for a crest control system that is completely down during high flows, there is a need for a limited but necessary change in the materials used for crest control at the dam. We affirm that the proposed action can be conducted in a manner that is consistent with this standard.

38. Interior maintains that the amendment violates Preservation Standard E-16, which concerns the industrial hardware of mill buildings. This standard states that “hardware relating to the original industrial power system and manufacturing processes may be historically significant and should be preserved.”<sup>56</sup> It further states: “Determine significance of hardware by its role in original manufacturing, its completeness, and its potential for interpreting the history of Lowell.”<sup>57</sup> Interior reiterates its earlier arguments that the flashboard system has been in use continuously since 1838, and on the dam in its current configuration since 1975.<sup>58</sup> Interior maintains that the flashboard system remains essentially complete and is an essential part of the original industrial power system, providing four feet of the head that powered the entire system. Interior adds that the Park Service uses the flashboard system as part of its interpretation of the history of Lowell.

39. Interior contends that in the context of historic water power systems, movable and collapsible control devices, along with other components, “epitomize historic industrial hardware.”<sup>59</sup> Interior argues that the intent of this standard is to preserve “the actual

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<sup>55</sup> Interior’s Request for Rehearing at 8.

<sup>56</sup> *Lowell Preservation Standards*, 46 Fed. Reg. at 24,006.

<sup>57</sup> *Id.*

<sup>58</sup> Interior’s request for rehearing at 8. Interior states that the flashboard system has been in use since 1834. However, we are unable to confirm this. The Park Service provided information on the history of the dam indicating that flashboards were first installed in 1838. See Letter from Michael Creasy, Lowell Park, to Ian Bowles,

Massachusetts Executive Office of Energy and Environmental Affairs, at 2 (filed June 16, 2010).

<sup>59</sup> Interior’s Request for Rehearing at 8.

artifact in situ, especially if still operating and so large as to be part of an interpreted historic landscape, not a static, out of context and out of scale exhibit.”<sup>60</sup> Interior maintains that the “automatic bending and failure of the flashboards in high flood is inherently different than the performance of the fixed masonry dam,” and that it is “misleading to claim that the function of the flashboard hardware system is no different from the masonry dam itself” in providing the head for the system that powered the mills.<sup>61</sup> Interior concludes that the dam and its flashboards “formed an integrated engineering solution to the problems posed by harnessing waterpower in the 19<sup>th</sup> century.”<sup>62</sup>

40. As we noted in our April 18 order, Preservation Standard E-16 concerns the industrial hardware of mill buildings, and we continue to question whether it is applicable to the dam. We found that, while it is true that the dam is part of the original system of dams, locks, and canals that powered the mills, this historic aspect and association of the dam will not change.<sup>63</sup> We further found that, to the extent that the flashboard system could be considered “hardware” relating to the original industrial power system, its role in original manufacturing would be the same as that of the dam itself, to provide head for the system that powered the mills. Indeed, Interior acknowledges that the flashboard system provides “four feet of the head that powered the entire system,”<sup>64</sup> with the dam providing the remaining head. Interior provides no basis for its assertion that the flashboards must be preserved as an artifact. There is a present-day need for a more effective means of crest control to alleviate backwater effects during high flows. Although the dam’s crest control system will be changed, the Park Service can continue to use the new crest gates, together with the interpretive exhibits of the flashboards and the new crest control system, as part of its interpretation of the history of Lowell. We find no basis for assuming that the interpretive exhibits would be inadequate for that purpose. We therefore affirm our finding that the amendment can be conducted in a manner that is consistent with this standard.

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<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> April 18 order, 143 FERC ¶ 61,048 at P 145.

<sup>64</sup> Interior’s Request for Rehearing at 8.

41. Finally, Interior contends that altering the dam to attach the crest gate system violates “Standard P-7, Canals and River Banks.”<sup>65</sup> According to Interior, that standard requires the “Repair of retaining walls with rough granite to match the existing construction.”<sup>66</sup> Interior maintains that the historic stone dams on the Lowell canal system, including Pawtucket Dam, “are stone retaining walls for the purpose of definition because of similarity of construction techniques and intended function.”<sup>67</sup> Interior adds that maintaining historical integrity requires “repair in kind” and that the actions required to install the crest gate system are inconsistent with this standard.<sup>68</sup>

42. It is unclear to us where “Standard P-7” is located or what authority it carries.<sup>69</sup> In any event, based on the information that Interior provides, it appears that the standard is inapplicable. It is apparently concerned with canals and river banks, and Interior asserts that the dam would be a canal retaining wall for purposes of the standard. In our view, a dam cannot properly be considered a canal retaining wall. A dam spans a river to retain water behind it. Canal retaining walls are used to keep water in the canal from eroding the soil from the embankments on either side of the canal. Furthermore, replacing the dam’s wooden flashboards with an inflatable crest gate system would not be considered a repair. Similarly, the changes to the dam that will be required to install the crest gate system (drilling holes into the masonry, inserting steel rock anchors, placing steel beams between the anchors, and inserting steel pins to attach the steel crest gates) are also not repairs. Thus, the requirement that repairs should match the existing construction would not appear to apply to these changes.

## **B. National Historic Preservation Act**

### **1. National Historic Landmark Protection**

43. Interior and Flood Owners argue that our order violates section 110(f) of the NHPA, which requires federal agencies “to the maximum extent possible” to “undertake

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<sup>65</sup> Interior’s Request for Rehearing at 6.

<sup>66</sup> *Id.*

<sup>67</sup> Interior’s Request for Rehearing at 6.

<sup>68</sup> *Id.*

<sup>69</sup> Interior provided no citation, and it does not appear in either the published preservation standards for the Lowell Park and Preservation District or Interior’s standards for the treatment of historic properties.

such planning and actions as may be necessary to minimize harm” to a National Historic Landmark.<sup>70</sup> As noted in our April 18 order, Pawtucket Dam is listed as a contributing element of the Lowell Locks and Canals Historic District (Historic District). The Historic District was listed in the National Register of Historic Places as a National Historic Landmark in 1977.<sup>71</sup>

44. Interior and Flood Owners argue that section 110(f) complements section 106 of the NHPA “by setting a higher standard for agency planning” for National Historic Landmarks.<sup>72</sup> Interior points out that its guidelines for agency responsibilities under section 110 of the NHPA suggest that “agencies should make every possible effort to consider prudent and feasible alternatives to adversely affecting the NHL [National Historic Landmark].”<sup>73</sup> Interior maintains that the alternative that would minimize harm to the Landmark to the maximum extent possible is the “no action” alternative of denying the amendment application, which Interior contends is “eminently possible” in this case. Interior concludes that the Commission has not made every possible effort to consider reasonable alternatives to adversely affecting the Landmark because it dismissed the only two flashboard options without detailed analysis in its final EA. Flood owners make a similar argument, claiming that the Commission should have conducted studies to analyze an alternative that proposed installing the pins and flashboards as originally designed, and that the Commission’s failure to do so violates section 110(f) of the NHPA.<sup>74</sup>

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<sup>70</sup> 16 U.S.C. § 470h-2(f) (2012).

<sup>71</sup> April 18 order, 143 FERC ¶ 61,048 at P 74.

<sup>72</sup> Interior’s Request for Rehearing at 9; Flood Owners’ Request for Rehearing at 4 (dated May 18, 2013).

<sup>73</sup> Interior’s Request for Rehearing at 9 (citing U.S. Department of the Interior, *Guidelines for Federal Agency Responsibilities Under Section 110 of the National Historic Preservation Act*, 53 Fed. Reg. 4247 (Feb. 17, 1988)). The revised guidelines, which take into account the 1992 amendments to the NHPA, appear at 63 Fed. Reg. 20496 (April 24, 1998).

<sup>74</sup> Flood Owners’ Request for Rehearing at 5 (dated May 18, 2013). Flood Owners also claim, without elaboration or support, that the no-action alternative is not the same as the historic flashboard system because the flashboards and pins are not installed according to the historic design. As discussed later in this order, we are unable to evaluate this claim, because there is insufficient evidence concerning the design and performance of the historic flashboard system.

45. We disagree. Interior's and Flood Owners' arguments assume that the proposed action adversely affects Pawtucket Dam and the Historic District. In our April 18 order, we found that the Commission had complied with section 110(f) of the NHPA by considering the landmark status of the dam and Historic District, consulting for more than two years on ways to avoid, minimize, or mitigate any adverse effects, and requiring measures to resolve adverse effects so that the proposed action would not adversely affect the dam and the Historic District.<sup>75</sup> In these circumstances, we were not required to deny the license amendment in order to minimize harm to the National Historic Landmark. Nor were we required to adopt an alternative that would preserve the flashboard system in order to meet this standard. Interior's and Flood Owners' suggestions to the contrary are not supported by the evidence in this proceeding.

46. Interior also argues that the U.S. Bureau of Reclamation provided its analysis that the use of vertical anchors attached to a horizontal structure holding the crest gates on top of the dam is inconsistent with good structural stability, given the lateral force of the high water behind the dam. Interior notes that, although Commission staff analyzed this design, it did not release the analysis despite requests from Interior's counsel, and the Commission deferred further analysis of "whether the system will be integrated to the existing Dam so as to distribute the load, whether it will impinge and degrade mortar joints, or cause freeze-thaw damage."<sup>76</sup> Interior maintains that this shows that the Commission simply conformed to its ordinary practice, rather than performing the additional planning mandated to minimize harm to the Landmark.

47. In our April 18 order we found that, based on staff's review, further analysis and design refinement would be needed for the anchoring system and the licensee would be required to provide calculations to show that the anchoring system is integrated to the reinforced concrete to distribute the load over the structure. We further found that additional details would be needed to ensure that water overtopping the gate would not impinge and degrade mortar joints or seep into the joint between the concrete infill and the existing dam, causing damage from freezing and thawing. We found no reason why the pneumatic crest gate system could not be designed to adequately address these technical concerns, and noted that our dam safety staff will conduct a detailed pre-construction review of the design calculations, plans, and specifications. Staff will require that the licensee resolve any design concerns that might arise from that review before authorizing the licensee to start construction.<sup>77</sup> We find nothing in section 110(f)

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<sup>75</sup> April 18 order, 143 FERC ¶ 61,048 at PP 104, 122.

<sup>76</sup> Interior's Request for Rehearing at 10.

<sup>77</sup> 143 FERC ¶ 61,048 at P 192-93.

of the NHPA that would require us to perform a detailed pre-construction review of the design of the crest gate system now in order to meet the requirements of section 110(f) of the NHPA.

48. Interior argues that agencies should make decisions in the open based on public administrative records, and that its interests were prejudiced by staff's delay in providing documents and unwillingness to share information.<sup>78</sup> Interior maintains that it received one document (which it did not identify) on May 16, 2013, two working days before the deadline for filing a request for rehearing, and that two others were never released. Although it is unclear to which documents Interior is referring, it appears that the records at issue are identified in the Commission's electronic docket system (eLibrary) as follows: a memo dated April 3, 2013, summarizing staff's review of the July 18, 2012 drawings of the pneumatic crest gate system, and a memo dated March 21, 2013, regarding staff's review of Reclamation's technical comments on the proposed pneumatic crest gates.<sup>79</sup>

49. As noted earlier, staff's analysis of the licensee's preliminary designs is pre-decisional, and we do not generally release these documents. In addition, the designs that the licensee submitted are preliminary and conceptual, and staff has not approved them for construction purposes. As a result, there was no need for us to rely on staff's review of these preliminary designs in reaching our decision. As noted, we found no reason why an inflatable crest gate system cannot be adequately designed to address the technical concerns that Reclamation raised.<sup>80</sup> Inflatable crest gates are used safely and effectively at many projects, including the nearby Lawrence Dam on the Merrimack River.

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<sup>78</sup> Interior's Request for Rehearing at 17.

<sup>79</sup> Both documents are identified as privileged and are not publicly available. This is typical for staff's preliminary review of dam safety and structural issues. As previously noted, such information is pre-decisional and is exempt from public disclosure under the Freedom of Information Act and the Commission's regulations. *See* 5 U.S.C. § 552(b)(5) (2012) and 18 C.F.R. § 388.107(e) (2013). However, because we did not rely on staff's review of the preliminary design in reaching our decision, Interior was not prejudiced by staff's decision to withhold these documents.

<sup>80</sup> April 18 order, 143 FERC ¶ 61,048 at P 192.

## 2. Section 106 Procedures

50. Interior and Flood Owners argue that the Commission violated section 106 of the NHPA by failing to comply with the necessary procedures set forth in the Advisory Council's implementing regulations. They maintain that the section 106 consultation did not resolve concerns about the delineation of the area of potential effect, the identification and significance of historic properties that might be affected, the nature and scope of effects on historic properties, and the lack of consideration of alternatives.<sup>81</sup>

51. In support, Interior argues that Boott's use of a consultant to conduct a study of the effects of the proposed action on cultural resources and prepare a draft report for review by the Massachusetts State Historic Preservation Officer (SHPO) "caused concerns among stakeholders because they were unclear about the status" of the section 106 review.<sup>82</sup> Interior acknowledges that the Advisory Council's regulations allow a federal agency to delegate the initiation of section 106 consultation to an applicant, but require that the agency notify the SHPO as specified in 36 C.F.R. § 800.2(c)(4).<sup>83</sup> Interior argues that the Commission did not notify the SHPO as required, and did not consult the SHPO in determining the area of potential effect for the proposed action, as required by 36 C.F.R. § 800.4(a)(1).

52. Section 800.2(c)(4) of the Advisory Council's regulations provides that an agency "may authorize an applicant . . . to initiate consultation with the SHPO," and states that the agency official "shall notify the SHPO when an applicant . . . is so authorized."<sup>84</sup> The Commission did not violate this provision. As we explained in our April 18 order, applicants are required under our regulations to consult with federal and state resource agencies on a wide range of resource concerns, including historic preservation, before

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<sup>81</sup> Interior's Request for Rehearing at 10; Flood Owners' Request for Rehearing at 5 (dated May 18, 2013). Flood Owners assert, without elaboration, that the Commission misinterpreted and failed to comply with "numerous provisions of Section 106 and its implementing regulations." *Id.*

<sup>82</sup> Interior's Request for Rehearing at 10.

<sup>83</sup> *Id.* (citing 36 C.F.R. § 800.2(c)(5) (2012)). Interior's reference to section 800.2(c)(5) is apparently an error; the provision requiring an agency to notify the SHPO when an applicant is authorized to initiate consultation appears in section 800.2(c)(4) (2012).

<sup>84</sup> 36 C.F.R. § 800.2(c)(4) (2012).

filing an application with the Commission.<sup>85</sup> Many federal and state resource agencies, including Interior, the Advisory Council, and SHPOs, are familiar with this aspect of our regulations and it does not typically cause uncertainty or concern.

53. In this case, Commission staff did not issue a letter designating the applicant to act as the Commission's representative to initiate the section 106 consultation process. Therefore, Boott was not responsible for initiating consultation under that section of the NHPA, but rather was conducting the required pre-filing consultation on its proposed amendment application in accordance with our regulations. Commission staff explained Boott's role in the section 106 process in its letter of April 26, 2011, stating that Boott did not represent the Commission but could assist Commission staff in complying with section 106 by gathering information.<sup>86</sup> Staff explained that the purpose of its letter was to continue the consultation that Boott had undertaken and to initiate the Commission's involvement in the section 106 process. There was no need to notify the SHPO because Commission staff had not authorized the applicant to initiate the section 106 consultation process, as provided in the Advisory Council's regulations.

54. Interior argues that the Commission violated section 800.4(a)(1) of the Advisory Council's regulations because it did not consult the SHPO in determining the area of potential effect for the proposed action before identifying historic properties.<sup>87</sup> We disagree with this narrow interpretation of the regulations. Under section 800.4(b) of the Council's regulations, the agency official is required to identify historic properties in consultation with the SHPO "based on the information gathered under paragraph (a) of this section."<sup>88</sup> The information gathered under paragraph (a) of that section includes not only a determination of the area of potential effect but also a review of existing information about historic properties within that area. Therefore, we find no basis in the regulations for requiring that the area of potential effect must be defined before any identification of historic properties can occur. Commission staff provided its description of the area of potential effect in its April 26, 2011 letter initiating consultation under

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<sup>85</sup> April 18 order, 143 FERC ¶ 61,048 at P 107. *See* 18 C.F.R. § 4.201(c) (2013) (requiring exhibits for a non-capacity amendment that require revision in light of the nature of the proposed changes). *See also* 18 C.F.R. §§ 4.41(f) and 4.38 (2013) (environmental report and consultation requirements). Boott provided the results of its pre-filing consultation in attachment H to its July 6, 2010 amendment application.

<sup>86</sup> Letter from Robert Fletcher, FERC, to Brona Simon, SHPO (April 6, 2011).

<sup>87</sup> 36 C.F.R. § 800.4(a)(1) (2012).

<sup>88</sup> *Id.* at § 800.4(b).

section 106 of the NHPA.<sup>89</sup> As we explained in the April 18 order, after the SHPO objected to that description, staff used the expanded area of potential effect during the subsequent consultation.<sup>90</sup>

55. Interior maintains that, by addressing multiple steps in the section 106 process without obtaining the SHPO's agreement, the Commission impermissibly "attempted to expedite" the process without obtaining the SHPO's agreement.<sup>91</sup> Commission staff's April 26, 2011 letter initiated consultation, described the area of potential effect, identified historic properties, and evaluated effects on those properties, as contemplated by the Advisory Council's regulations.<sup>92</sup> The Advisory Council's regulations expressly permit this, as long as the agency official and the SHPO agree that it is appropriate and the consulting parties and the public have an adequate opportunity to express their views.<sup>93</sup> There is nothing in the regulation that would require the agency official to obtain the SHPO's agreement in advance of sending a letter addressing multiple steps in the consultation. As we explained in our April 18 order, Commission staff uses this approach without objection in nearly all of its consultations under section 106 of the NHPA. In any event, the subsequent consultation took more than two years and thus was not expedited. When the SHPO objected to staff's findings, staff continued the consultation and attempted to resolve the disagreement.<sup>94</sup> As a result, staff's April 26, 2011 letter was not in violation of the Advisory Council's regulations.

56. Interior asserts that the Commission's subsequent consultation "was characterized by limited interaction with consulting parties and the public," and that the failure to invite

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<sup>89</sup> See Letter from Robert Fletcher, FERC, to Brona Simon, SHPO (April 26, 2011).

<sup>90</sup> April 18 order, 143 FERC ¶ 61,048 at P 108. Flood Owners argue, without elaboration, that the Commission misinterpreted the Advisory Council's regulations by limiting the area of potential effects to the Pawtucket Dam itself, when it should have included the historic districts that encompass the dam. Flood Owners' request for rehearing at 5 (dated May 18, 2013). As noted above, staff used the expanded area of potential effect in the subsequent consultation.

<sup>91</sup> Interior's Request for Rehearing at 11.

<sup>92</sup> See 36 C.F.R. §§ 800.3 through 800.5 (2012).

<sup>93</sup> *Id.* at § 800.3(g).

<sup>94</sup> April 18 order, 143 FERC ¶ 61,048 at P 108.

others to participate as consulting parties “undermined the effectiveness of the consultation.”<sup>95</sup> Interior maintains that, under section 800.3(f) of the Advisory Council’s regulations, the Commission should consult with the SHPO to identify parties entitled to be consulting parties and invite them to participate.<sup>96</sup> Interior adds that, under section 800.2(c)(5) of the Advisory Council’s regulations, such parties may include “individuals and organizations with a demonstrated interest in the undertaking due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking’s effect on historic properties.”<sup>97</sup>

57. Interior provides no support for its assertion. As we explained in the April 18 order, the Advisory Council’s regulations allow a federal agency to determine which entities and individuals should participate as consulting parties.<sup>98</sup> The Commission allowed many opportunities for public participation in its review process, and received and considered comments on multiple occasions from numerous local residents, associations, and representatives of historic preservation organizations and local governments. As a result, including these individuals and entities as consulting parties would not have materially affected the consultation. Moreover, the Commission and its staff act in a quasi-judicial capacity in reviewing hydroelectric license and amendment applications, and thus may not engage in informal, off-the-record interactions with anyone outside the Commission who has an interest in the issues and outcome of a contested proceeding.<sup>99</sup> This requirement is necessary to protect the integrity and fairness of the Commission’s decisional process.

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<sup>95</sup> Interior’s Request for Rehearing at 11.

<sup>96</sup> 36 C.F.R. § 800.3(f) (2012).

<sup>97</sup> *Id.* at § 800.2(c)(5).

<sup>98</sup> *Boott Hydropower, Inc.*, 143 FERC ¶ 61,048 at P 110. In particular, we note that section 800.2(c)(5) uses permissive language, stating that certain individuals and organizations “may” participate as consulting parties. *See* 36 C.F.R. § 800.2(c)(5) (2012). Section 800.2(c)(3) provides that a representative of a local government with jurisdiction over the area in which the effects may occur “is entitled to participate as a consulting party.” *Id.* at § 800.2(c)(3). The City of Lowell participated as a consulting party. *See* Notice of Consulting Parties and Agenda for Section 106 Consultation Meeting (issued May 18, 2012).

<sup>99</sup> *See* our rules governing off-the-record communications, 18 C.F.R. § 385.2201 (2013).

58. Interior contends that the Commission's delineation of the area of potential effect for the undertaking did not follow the definition in the Advisory Council's regulations. In support, Interior cites staff's April 26, 2011 letter in which it determined that the area of potential effect was restricted to the Pawtucket Dam itself and areas where construction activities would take place. Interior maintains that staff's failure to include the Historic District, Lowell Park, and the Preservation District violated the Council's regulations.<sup>100</sup>

59. This is incorrect. As we have seen, after the SHPO objected to the April 26, 2011 letter, staff sought a determination of eligibility for Pawtucket Dam from the Keeper of the National Register. The Keeper provided guidance that, under federal law and regulations, "no distinction is made between properties determined individually eligible for the National Register and those determined eligible as contributing to a historic district."<sup>101</sup> Thereafter, Commission staff found that the proposed amendment would adversely affect the dam, and proposed measures to resolve the adverse effect that recognized the dam as a contributing element of Lowell Park and the historic districts.<sup>102</sup> Thus, the subsequent consultation recognized that the area of potential effect included not only the dam and areas where construction would take place, but also Lowell Park and the historic districts.

60. Interior argues that the Commission's assessment of effects was compromised by its failure to recognize that "contributing elements in eligible or listed historic districts are treated the same as individual properties."<sup>103</sup> In support, Interior cites our conclusion in the April 18 order that adding the pneumatic crest gates would not affect the dam's engineering and would not affect the dam's association with the power system and canals that drove the waterwheels of the mill buildings.<sup>104</sup> Interior maintains that this conclusion "ignores the fact that the flashboards have been an integral part of the function of the Dam for more than a century" and have been "an essential element of the engineering of the dam and the preservation district, providing five additional feet of

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<sup>100</sup> Interior's request for rehearing at 11.

<sup>101</sup> U.S. Dept. of the Interior, National Park Service, Determination of Eligibility Notification at 2 (filed Oct. 26, 2011).

<sup>102</sup> See letter from Robert Fletcher, FERC, to John Eddins, Advisory Council, and proposed Memorandum of Agreement (Dec. 8, 2011).

<sup>103</sup> Interior's Request for Rehearing at 12.

<sup>104</sup> April 18 order, 143 FERC ¶ 61,048 at P 96.

head in a manner that could be reduced automatically under flood conditions.”<sup>105</sup> Interior concludes that the flashboards represent “a particular engineering solution to the problem of maintaining a water power system.”<sup>106</sup>

61. We disagree. As we found in the April 18 order, flashboards are not an integral part of the dam and are not part of the dam’s engineering; rather, they are a temporary and removable structure that is placed on top of the dam for crest control.<sup>107</sup> Any adverse effects of replacing the flashboards with inflatable crest gates can and will be adequately resolved with the proposed mitigation measures, resulting in no adverse effect to the dam, Lowell Park, and the historic districts.

62. Finally, Interior argues that the Commission “violated the express command of Congress by delegating the Order to the Deputy Secretary of the Commission.”<sup>108</sup> Interior maintains that, because the order is the Commission’s documentation of its decision, the NHPA requires that it must be made by the head of the agency and may not be delegated.<sup>109</sup> Interior adds that the Commission’s practice or regulations cannot change this requirement.

63. This is incorrect and reflects a misunderstanding of the significance of the Deputy Secretary’s action. We acknowledge that, under section 110(l) of the NHPA, the Commission is required to document its decision under section 106 if an undertaking will have an adverse effect on historic properties and the Commission has not entered into an agreement pursuant to the Advisory Council’s regulations.<sup>110</sup> Although we did not enter into an agreement in this case, we found no adverse effect as a result of the proposed mitigation measures. Moreover, we did not delegate our decision to anyone in the Commission. The April 18 order documents our decision. We voted to approve its issuance at our public agenda meeting of that same date. The Deputy Secretary’s role

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<sup>105</sup> Interior’s Request for Rehearing at 12.

<sup>106</sup> *Id.*

<sup>107</sup> April 18 order, 143 FERC ¶ 61,048 at P 100. *See also* P 31, *supra*.

<sup>108</sup> Interior’s Request for Rehearing at 12.

<sup>109</sup> In support, Interior cites 16 U.S.C. § 470j-(2)(1) (2012). This is apparently an error. The correct citation is to section 110(l) of the NHPA, 16 U.S.C. § 470h-2(l) (2012).

<sup>110</sup> *Id.* § 470h-2(l).

was simply to perform the administrative tasks of certifying that the order is, in fact, our order and publishing it on behalf of the Commission. In no way could this practice be considered a violation of section 110(l) of the NHPA.<sup>111</sup>

### C. National Environmental Policy Act

#### 1. CEQ Regulations for Assessing Significance

64. Interior argues that the Commission violated the National Environmental Policy Act (NEPA) by issuing a finding of no significant impact for an action that has significant impacts to historic resources. In support, Interior cites the factors that the Council on Environmental Quality (CEQ) has provided in section 1508.27 of its regulations for considering whether an effect is significant.<sup>112</sup> Interior maintains that several of these factors preclude the Commission from making a finding of no significant impact.

65. Interior points out that, in evaluating the intensity or severity of an effect, CEQ regulations require an agency to consider: (1) unique characteristics of the geographic area such as proximity to historical or cultural resources,<sup>113</sup> and (2) the degree to which the action may adversely affect districts, sites, or structures listed in the National Register.<sup>114</sup> Interior maintains that the Commission must prepare an environmental impact statement (EIS) in this case because the nationally significant historic resources of the area are unique, there are unresolved adverse effects on a National Historic Landmark

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<sup>111</sup> See 18 C.F.R. § 375.302 (2013), which sets forth the Commission's delegations of authority to the Secretary. None of these delegations could be construed as including the Commission's authority to decide the matters that the Commission considers and resolves in its published orders.

<sup>112</sup> 40 C.F.R. § 1508.27 (2012). As an example, Interior cites *Sierra Club v. Van Antwerp*, 661 F.3d 1147, 1154 (D.C. Cir. 2011) (*Sierra Club*). In that case, the wetlands at issue were not unique under subsection (b)(3), and the court found no threat of a future violation of law under subsection (b)(10). The court reversed in part and remanded the case because the agency had failed to consider under subsection (b)(9) whether the project would adversely affect an endangered snake species through fragmentation of its habitat.

<sup>113</sup> *Id.* § 1508.27(b)(3).

<sup>114</sup> *Id.* § 1508.27(b)(8).

and sites and structures listed on the National Register, and the action may cause loss or destruction of significant cultural or historic resources.

66. While these are factors to be considered in determining whether an action will have significant impacts, they do not dictate that an EIS is required in this case. Commission staff initially found that the proposed action would adversely affect Pawtucket Dam, which is a contributing structure to the Landmark Historic District, Lowell Park, and the Preservation District. However, the applicant proposed changes to the project to resolve the adverse effect, and we found those measures adequate. A project with a potentially significant impact does not require an EIS if mitigation measures are required that will sufficiently reduce the impact, as is the case here.<sup>115</sup>

67. Interior contends that an EIS is required because the effects in this case are likely to be highly controversial.<sup>116</sup> Interior argues that in this context, controversy “is a substantial dispute about the size, nature, or effect of the major Federal action rather than the existence of opposition to a use.”<sup>117</sup> In support, Interior cites Reclamation’s analysis of the effects of the crest gate system on the structural stability of the dam and the Commission’s acknowledgement that the licensee will be required to provide calculations before construction may begin, to show that the anchoring system will be integrated to distribute the load on the dam and to show that water overtopping the dam will not degrade mortar joints or cause freeze-thaw damage. Interior adds that the design is novel and that in light of uncertainty about the outcome, the Commission should direct the preparation of an EIS.

68. We disagree. The Commission routinely requires additional information and design calculations before authorizing a licensee to start construction. This is not the type of controversy about environmental effects that would require the Commission to prepare an EIS. Staff disclosed and discussed the environmental effects of installing the inflatable crest gates in the EA and found that they were not significant. The need for

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<sup>115</sup> See *Sierra Club*, 661 F.3d at 1156.

<sup>116</sup> Interior’s Request for Rehearing at 13, citing 40 C.F.R. § 1508.27(b)(4) (2012).

<sup>117</sup> Interior’s Request for Rehearing at 13. In support, Interior cites *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9<sup>th</sup> Cir. 1998). That case involved a series of contracts for timber salvage sales in a national forest without evaluating the cumulative effects of multiple sales in an area burned by a large wildfire. There were multiple actions and effects that the Forest Service had failed to address. In contrast, the proposed action in this case, altering the dam’s crest control structure, is limited in scope and does not present the possibility of unexamined cumulative effects.

more detailed information and calculations to demonstrate the adequacy of the proposed design is a structural issue and it does not constitute a significant environmental effect.

69. Finally, Interior argues that an EIS is required because the proposed action threatens a violation of federal law.<sup>118</sup> Interior maintains that, under this factor, an action need not actually violate the law to be considered potentially significant; it is sufficient if the action threatens to do so. Interior contends that, because the proposed action “at least threatens to violate the Lowell Act,” the Commission should produce an EIS before undertaking that risk.<sup>119</sup>

70. We disagree. As we have seen, we do not believe that the proposed action threatens to violate the Lowell Act. Rather, we find that the action is consistent with that act and may proceed. In any event, under CEQ regulations this is a factor to consider in determining the intensity of environmental impacts; it is not a factor that dictates that an agency must prepare an EIS. Staff’s EA found, and we agree, that the effects of the proposed action are not significant in this case.

## **2. Purpose and Need and Alternatives Considered**

71. Interior argues that the Commission narrowly constrained the purpose and need for the project, and artificially constrained the range of alternatives considered, frustrating the intent of NEPA. Interior maintains that the “EA contains a ‘statement of purpose and need’ which is notable for defining neither” and that “the needs the Commission seeks to address must be divined from its statements elsewhere.”<sup>120</sup>

72. This is incorrect. Section 1.2 of the EA provides several pages of discussion of the purpose of the action, the history of flashboards at the project, flooding concerns raised by area residents, Commission-required changes to the flashboards, Boott’s backwater study, and Boott’s application for a license amendment to authorize it to install the proposed crest control system. From this discussion, it is clear that the purpose of the action is to analyze Boott’s request for a license amendment to install the inflatable crest

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<sup>118</sup> Interior’s Request for Rehearing at 13, citing 40 C.F.R. § 1508.27(b)(10) (2012).

<sup>119</sup> Interior’s Request for Rehearing at 14.

<sup>120</sup> *Id.*

gates as a possible means of addressing concerns expressed by area residents about backwater effects and flooding related to operation of Pawtucket Dam.<sup>121</sup>

73. Interior takes issue with our statement that, in Commission practice, a proposed action results from a specific license or amendment application, which requires the Commission to determine whether to approve the request and, if so, under what conditions.<sup>122</sup> Interior contends that this misstates the Commission's role in this proceeding, because staff directed the licensee to submit an application and identify a preferred alternative, suggested that flaws existed in the flashboard design, and suggested a pneumatic crest gate. From this, Interior concludes that the Commission "solicited the application and wanted, from the beginning, a crest gate to be built."<sup>123</sup>

74. This is also incorrect. As discussed in the EA and our April 18 order, staff responded to flooding concerns of area residents by requiring the licensee to conduct a backwater study, examine options for crest control systems, identify a preferred alternative, and file an amendment application.<sup>124</sup> In a 2008 letter, staff mentioned several possible advantages of an inflatable crest gate system but did not suggest that the licensee adopt it. Rather, staff specifically requested the licensee to discuss the results of its backwater analysis with the Park Service and other stakeholders to "determine options for implementing a flashboard system that can be ensured to be completely down during high flows in the Merrimack River."<sup>125</sup> This shows that staff wanted the licensee to explore and discuss options. It does not indicate that staff wanted the licensee to build a crest gate system.

75. Interior also takes issue with our statement in the April 18 order that the crest gate system affects multiple resources and can serve a number of different purposes, including increased generation, attenuation of upstream flooding, improved dam and worker safety, and benefits to recreation, fish and wildlife resources, and fish passage.<sup>126</sup> Interior

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<sup>121</sup> See Final EA at 1-8 (Dec. 19, 2011).

<sup>122</sup> April 18 order, 143 FERC ¶ 61,048 at P 196.

<sup>123</sup> Interior's Request for Rehearing at 14.

<sup>124</sup> See Final EA at 6-8; April 18 order, 143 FERC ¶ 61,048 at PP 5-16.

<sup>125</sup> See letter from Joseph Morgan, FERC, to Kevin Webb, Boott at 6 (Sept. 25, 2008).

<sup>126</sup> April 18 order, 143 FERC ¶ 61,048 at P 195.

contends that this is belied by statements elsewhere in the order, where we note that there is a “need for a crest control system that is completely down during high flows,”<sup>127</sup> and that “[o]nly an inflatable crest gate system can attenuate the backwater effect of the dam during high flows to the maximum extent practicable.”<sup>128</sup> Interior claims that these statements show that the purpose and need are not multiple or even to improve flood attenuation, but to maximize flood attenuation with a system that is completely down at high flows. Interior argues that “the stated goal of a project necessarily dictates the range of ‘reasonable’ alternatives,” and an agency cannot define its objectives “in terms so unreasonably narrow as to foreclose all but one alternative,”<sup>129</sup> which Interior maintains the Commission has done here.

76. Interior confuses the purpose and need as expressed in the EA with our explanation of why staff recommended the crest gate system and we approved it as the preferred alternative. The EA examined three alternatives: (1) Boott’s proposed inflatable crest gate system, (2) Boott’s proposal with additional staff-recommended measures, and (3) retaining the existing flashboards (the no-action alternative). As we noted in our April 18 order, this is a reasonable range of alternatives for an EA.<sup>130</sup> The EA did not require that any alternative must attenuate flooding to the maximum extent practicable, or examine only those alternatives could meet that requirement. Instead, it examined the impacts of the alternatives on a range of resources, both developmental (related to power generation) and environmental. As a result of that analysis, staff concluded, and we affirmed, that Boott’s proposal represented the best balance of those resources. The intent of NEPA is to disclose and examine the environmental effects of the proposed action and any reasonable alternatives before an agency reaches its decision. That intent was fully met in this case. There is nothing in NEPA that would prevent the

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<sup>127</sup> *Id.* P 143.

<sup>128</sup> *Id.* P 140.

<sup>129</sup> Interior’s request for rehearing at 15. In support, Interior cites *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991). In that case, the court held that the Federal Aviation Administration acted reasonably in deciding to evaluate only the applicant’s proposal and the no-action alternative, eliminating other alternatives from detailed discussion. *Id.* at 197-98. Thus, the case supports staff’s consideration of alternatives in this case (examining in detail two versions of the proposed crest gate system and the no-action alternative of keeping the existing flashboards, and eliminating from further study two other flashboard options). See final EA at 19-23.

<sup>130</sup> 143 FERC ¶ 61,048 at P 197 and n 70.

Commission from concluding that an alternative that maximizes attenuation of flooding, with minor effects on historic properties and benefits to other resources, such as power generation, dam and worker safety, recreation, fish and wildlife protection, and fish passage, represents the best balance among competing resources.<sup>131</sup>

#### **D. Federal Power Act**

77. Interior argues that the Commission erred in prioritizing flood control over all other considerations. Interior acknowledges that, under the FPA, the Commission is “generally required to weigh the public interest and balance public factors.”<sup>132</sup> However, Interior contends that the Commission “has not weighed all factors equally, instead prioritizing flood control over other concerns.”<sup>133</sup> Interior takes issue with our statement that only an inflatable crest gate system can attenuate the backwater effect of the dam during high flows to the maximum extent practicable.<sup>134</sup> Interior claims that by requiring any solution to meet this condition, the Commission violates the FPA “by prioritizing one public interest over all others, preventing a public interest balancing of factors.”<sup>135</sup> Interior further maintains that, by failing to minimize harm to a National Historic Landmark to the maximum extent practicable, instead choosing to give priority to attenuating flows, the Commission has substituted its own priorities for those of Congress as expressed in section 110(f) of the NHPA.

78. We disagree. When balancing public interest factors under the FPA, the Commission must give equal consideration to environmental and developmental resources. However, equal consideration does not require equal treatment, and does not give environmental factors preemptive force.<sup>136</sup> Depending on the facts of each case,

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<sup>131</sup> NEPA does not require an agency to select the environmentally preferred alternative, or to weigh environmental considerations more heavily than other factors. The Supreme Court has stated: “If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by [NEPA] from deciding that other values outweigh the environmental costs.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

<sup>132</sup> Interior’s Request for Rehearing at 15.

<sup>133</sup> *Id.*

<sup>134</sup> April 18, 143 FERC ¶ 61,048 at P 140.

<sup>135</sup> Interior’s Request for Rehearing at 15.

<sup>136</sup> See *U.S. Dept. of the Interior v. FERC*, 952 F.2d 538, 545 (D.C. Cir. 1992).

different resources can receive greater or less weight relative to other resources. This is permissible under the FPA as long as the Commission provides a reasoned explanation for its balancing of these factors. Moreover, section 110(f) of the NHPA requires the Commission to minimize harm to a Landmark property to the maximum extent practicable; it does not require that historic preservation be given greater weight than all other public interest concerns, regardless of their significance.

79. Interior further argues that, as a result of the Lowell Act and section 110(f) of the NHPA, the Commission erred in treating historic preservation as merely one consideration among many. Interior maintains that in designating Lowell Park and the Preservation District, coupled with the Historic District's status as a National Historic Landmark, Congress has directed that, at this site, historic preservation must be given added weight in the balance. Interior adds that in passing the FPA, Congress did not establish that the Commission would be immune from further Congressional direction.

80. We agree that the Commission must comply with both the FPA and any later-enacted statutes that are applicable. We have done so in this case. From the outset, historic preservation has been a major issue and has received a great deal of attention in the proceeding. Commission staff consulted for nearly two years with the Park Service, the SHPO, the Advisory Council, the City of Lowell, and the applicant on ways to avoid, minimize, or mitigate adverse effects on historic properties. As we found in our April 18 order, the measures proposed to resolve adverse effects are sufficient to allow the proposed action to proceed without adversely affecting Lowell Park and the Preservation District, as well as to minimize harm to the Landmark Historic District to the maximum extent practicable.

81. Interior suggests that giving "added weight" to historic preservation should cause the Commission to deny the proposed amendment. In our view, this is not the case. Multiple factors weigh in favor of the inflatable crest gate system: increased generation, maximum attenuation of backwater effects and flooding, increased dam and worker safety, increased generation, more reliable fish passage, and more stable reservoir levels that will benefit recreation and fish and wildlife resources. A single factor weighs against the inflatable crest gate system: removal of the dam's historic flashboard system, coupled with measures to resolve the adverse effect of altering the dam's crest control structure. In these circumstances, it is unclear how giving added weight to historic preservation could tip the balance in favor of denying the amendment application.

#### **E. Reservoir Levels and Flooding**

82. As discussed in our April 18 order, the purpose of flashboards is to increase the height of the dam, thus increasing head to allow more generation than would be possible without flashboards. However, if flashboards are too rigid they can aggravate flooding during high river flows. Therefore, they are designed to fail when overtopped by a sufficient amount of water. Although they can be designed to fail at a specific elevation,

their actual performance during high flows is uncertain. An inflatable crest gate system is mechanically controlled and can be quickly raised or lowered as conditions dictate. For this reason, an inflatable crest gate system provides the most reliable and complete attenuation of the backwater effect that results from high flows.<sup>137</sup>

83. On rehearing, Flood Owners take issue with several aspects of our order concerning reservoir levels, backwater effects, and flooding. The City of Lowell raises a single issue concerning reservoir levels.

**1. Effects of Installing the Crest Gate System**

84. Flood Owners argue that the Commission did not properly analyze the impacts of flooding that they assert will be caused by installing an inflatable crest gate system. They contend that with a crest gate system, Flood Owners and the surrounding communities will face a greater threat from flooding because the river basin will already be full in the spring, when the Merrimack River will continue to receive water from melting snow upstream and along its banks, further raising water levels. They maintain that in contrast, a “compliant set of flashboards will typically bend over from high river flows in the late winter or early spring, to begin the long drain down of the Merrimack River basin, well ahead of flooding.”<sup>138</sup> They contend that when the flashboards remain down for weeks or months at a time before they can be reinstalled, this allows excess water to flow over the dam and drain the basin so that there is more room in the river to accept spring rains and snowmelt.

85. The record does not support Flood Owners’ arguments. Boott’s revised backwater analysis, which Commission staff reviewed and accepted, compared the observed elevation of the existing flashboard system to the proposed crest gate system and concludes that this is not the case.<sup>139</sup> While it is true that the flashboards have failed more frequently since Commission staff ordered the licensee to install the current system, the failure was never a complete collapse of the boards. With the crest gate system the licensee can begin to deflate the crest gates in response to increasing flow, thus lessening the backwater effect. The revised backwater analysis shows that a crest gate system would be capable of achieving the greatest and quickest level of relief from floodwaters as levels rise, in that the gate sections would be automatically controlled to maintain a

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<sup>137</sup> See April 18 order, 143 FERC ¶ 61,048 at P 50.

<sup>138</sup> Flood Owners’ Request for Rehearing at 2 (dated May 18, 2013).

<sup>139</sup> See letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary (filed Oct. 12, 2010), attaching Boott’s revised backwater analysis.

consistent water level over a wide range of flows and could be lowered in advance of an anticipated extreme flood.<sup>140</sup> At flows greater than 65,000 cubic feet per second (cfs), the spillway would be submerged and upstream water levels would be equivalent for all three crest control options (the inflatable crest gate system, the existing flashboards, and the historic flashboard configuration).<sup>141</sup> Thus, there is no support for Flood Owners' assertion that the inflatable crest gates will increase the risk of flooding.

86. Flood Owners argue that another way the crest gate system increases the risk of flooding results from the fact that it will add 6 inches of height to the dam when the gates are fully down. They maintain that when the flashboards are fully down they can release five feet of river height, while the crest gate system will release only four and one-half feet of river height, resulting in ten percent less area to provide flood protection.<sup>142</sup>

87. This is incorrect. The licensee's backwater analysis took into consideration the additional 6 inches of height that would be added to the dam when the crest gate system is fully deflated. In response to Commission staff's request for additional information, Boott provided further analysis showing that for all but one flood event since 2006, the proposed crest gate system would have provided lower upstream water levels, and a greater degree of relief from upstream backwatering, than the existing flashboard system.<sup>143</sup> This is true with the crest gate in an intermediate position and maintaining elevation 93.2 feet and with it fully lowered and the upstream water level rising according to the spillway rule curve. The analysis indicates that the projected water elevations during the 2006 and 2007 flood events would have been slightly lower if the crest gate system had been in place at that time. However, Boott concluded that because the spillway would be submerged with these flows, there likely would be no substantial difference in upstream water levels under such extreme conditions.<sup>144</sup> Thus, the evidence does not support Flood Owners' contention.

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<sup>140</sup> *Id.* at 12.

<sup>141</sup> *Id.*

<sup>142</sup> Flood Owners' Request for Rehearing at 2 (dated May 18).

<sup>143</sup> See letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary, at 3 and Table 1 (filed Oct. 13, 2010).

<sup>144</sup> *Id.*

## 2. Focus of the Proceeding

88. Flood Owners contend that the Commission focused on a false problem of maintaining a specific river height instead of the real problem of maintaining the historic integrity of the dam and the historic performance of the flashboards. This is not the case. As the procedural history of this proceeding demonstrates, Commission staff acted in response to complaints and concerns about flooding and backwater effects, and requested information and analysis necessary to understand what options might be considered for a crest control system at the dam. Throughout the proceeding, staff considered not only the effect of the various crest control systems on river height but also the possible effects of altering the historic dam, as well as effects on other public interest factors.

## 3. Trial-Type Hearing

89. Flood Owners argue that the Commission did not conduct an appropriate evidentiary hearing in this case. They maintain that the Commission should have convened a hearing to hear testimony from witnesses who were directly involved in the flooding and noticed a change in flooding only after Boott took ownership of the project.<sup>145</sup>

90. We disagree. The Commission generally uses notice and comment procedures to conduct hearings in hydroelectric proceedings.<sup>146</sup> Although the Commission may order a trial-type evidentiary hearing, this is in the Commission's discretion and is not required if there are no material facts in dispute.<sup>147</sup> In this case, the matters in dispute do not rest on particular questions of fact. Rather, they concern different assessments of how to balance various public interest factors and differing legal interpretations of applicable historic preservation statutes and regulations. Trial-type hearings are not helpful in resolving these types of issues.

## 4. Substantial Evidence

91. Flood Owners further maintain that the April 18 order is not supported by substantial evidence in that the Commission's explanations were not supported by documentation, footnotes, or information in the record. They contend that the

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<sup>145</sup> Flood Owners Request for Rehearing at 3 (dated May 17, 2013).

<sup>146</sup> See 18 C.F.R. § 4.34(b) (2013).

<sup>147</sup> See, e.g., *Woolen Mills Associates v. FERC*, 917 F.2d 589, 592 (D.C. Cir. 1990); *Sierra Ass'n for Environment v. FERC*, 744 F.2d 661, 662-64 (9<sup>th</sup> Cir. 1984).

Commission relied solely on its staff opinions and the licensee rather than independent expert testimony. They add that the Commission failed to rely on data from other government agencies regarding information on such things as precipitation, river heights, and discharge, and that the Commission failed to engage an independent engineering firm to validate the licensee's backwater analysis and other information.<sup>148</sup>

92. This argument is without merit. The April 18 order is supported by substantial evidence and includes citations to relevant information in the record, including Commission staff's EA, Boott's information and analyses, and numerous comments and filings of the parties and other participants. To the extent relevant, this includes data collected and reported by other federal agencies, such as stream flow data, weather information, and flood zone maps. The Commission requires its applicants and licensees to provide the information needed to evaluate their license and amendment applications, and relies on Commission staff's independent review and analysis of the information provided. There is nothing improper in this practice. There is no requirement that the Commission hire an outside expert to advise it in these matters.<sup>149</sup>

93. Flood Owners argue without elaboration that no data were presented to suggest that fish passage concerns, worker safety issues, recreation effects, and project electrical generation should outweigh "the catastrophic impact to the neighbors and the historic community."<sup>150</sup> They add that the Occupational Safety and Health Administration (OSHA) did not contribute its expertise to the case and the site "has endured 150 years of maintenance without reported injuries."<sup>151</sup>

94. As explained in the April 18 order, we found that the inflatable crest gate system would help alleviate upstream backwater and flooding effects to the maximum extent possible, while also providing important benefits to recreation, fish passage, dam and worker safety, and project generation. We further found that the crest gate system can be installed without unacceptably altering the dam or adversely affecting the park and historic districts.<sup>152</sup> The evidence does not support Flood Owners' assertion of

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<sup>148</sup> Flood Owners' Request for Rehearing at 8-9 (dated May 20, 2013).

<sup>149</sup> See, e.g., *Bear Lake Watch v. FERC*, 324 F.3d 1071 (9<sup>th</sup> Cir. 2003) (Commission is entitled to rely on opinions of its own experts).

<sup>150</sup> Flood Owners' Request for Rehearing at 6-7 (dated May 17, 2013).

<sup>151</sup> *Id.*

<sup>152</sup> April 18 order, 143 FERC ¶ 61,048 at PP 2, 212.

catastrophic impacts to area residents or historic resources. The benefits of the crest gate system to fish passage, worker safety, recreation, and electrical generation are discussed in our order and are further examined in the EA.<sup>153</sup> There was no need for OSHA expertise concerning a general matter of worker safety at a hydroelectric project.

## 5. Magnitude of the 2006 and 2007 Floods

95. Flood Owners argue that the Commission erred in stating that the floods that occurred in 2006 and 2007 were 100-year magnitude floods. They maintain that “the National Weather Service (NWS), in conjunction with the USGS [U.S. Geological Survey] and NOAA [the National Oceanic and Atmospheric Administration], filed reports (public record) indicating that the May 15, 2006 flood was categorized as a ‘moderate flood’ and the flood of April 17, 2007 was recorded simply as ‘flood’.”<sup>154</sup> As a result, Flood Owners contend that Boott cannot use the 100-year designation as a means to explain why its operation of the Lowell Project did not contribute to the 2006 and 2007 floods.

96. These agencies did not file reports in the proceeding. Nor were they required to do so. However, information available on the National Weather Service website characterizes both events as major floods, with an elevation of 58 feet or higher.<sup>155</sup> A

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<sup>153</sup> See April 18 order, 143 FERC ¶ 61,048 at P 48 (electrical generation); PP 51, 64, 83 (worker safety); P 83 (recreation); PP 83, 201-205 (fish passage). Federal and state agencies responsible for fish protection expressed concern that migrating fish were being falsely attracted to water leaking through gaps in the flashboards. The crest gate system will reduce this effect. See EA at 15, 50-52, 75 (fish passage); EA at 59, 77 (recreation resources), P 75 (project generation). The EA (at 15) identified worker safety as an issue but did not otherwise address it.

<sup>154</sup> Flood Owners’ request for rehearing at 8 (dated May 20, 2012). In support, they cite the National Weather Service website as follows: “water.weather.gov/ahps.” This link yields a map of the United States showing the locations of over 6,000 gauges with information about current flood stages. It does not provide information about past flood events. Note 157 below provides a link to the website’s more specific information on the Merrimack River at Lowell.

<sup>155</sup> See National Weather Service, Advanced Hydrograph Prediction Service, Merrimack River at Lowell, *available at*: <http://water.weather.gov/ahps2/hydrograph.php?wfo=box&gage=lowm3&view=1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6&type=0>. Flood categories and historical crests appear below the current hydrograph information. The listing of historical crests shows that several past floods were even greater than the 2006 and 2007 floods; the Merrimack

(continued...)

listing of historical crests for the Merrimack River at Lowell shows that the river elevation was 58.84 feet on May 15, 2006, and was 58.09 feet on April 17, 2007.<sup>156</sup> Although our April 18 order described these two floods as 100-year magnitude floods, which would have a one percent chance of occurring each year, it would be more accurate to say that the magnitude of these floods was close to that of the 100-year flood. River flows for the 100-year flood are 111,000 cfs.<sup>157</sup> In contrast, river flows for the 2006 and 2007 floods were in the range of about 86,000 to 93,000 cfs.<sup>158</sup>

97. Thus, although the 2006 and 2007 floods were not 100-year magnitude floods, they were clearly major floods. In any event, the flows that occurred during these floods were sufficiently high that no matter what crest control system had been in place at the time, it could not have influenced flooding or erosion because the spillway would have been completely submerged. As a result, this refinement in our characterization of these floods does not change our conclusion in the April 18 order that any erosion that occurred was not attributable to Boott's operation of Pawtucket Dam with flashboards, but rather was a result of the magnitude of the flows.<sup>159</sup>

## 6. Cause of Erosion and Flooding

98. Flood Owners take issue with our finding that Boott's operation of the dam with flashboards did not cause erosion in 2006 and 2007. They argue that the Commission admitted in the order that it did not know the failure frequency of the pre-2008 flashboards,<sup>160</sup> and that it is therefore not in a position to determine what impact the flashboards had on erosion during this period.<sup>161</sup> They add that after the Commission

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River at Lowell exceeded 60 feet in September 1938 and April 1852, and reached 68.4 feet in March 1936.

<sup>156</sup> *Id.*

<sup>157</sup> See Boott's backwater analysis at 7, Table 3, attached to letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary (filed Aug. 13, 2008).

<sup>158</sup> See Attachment A, Table 1, of Boott's response to staff's additional information request, attached to letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary (filed Oct. 13, 2010).

<sup>159</sup> April 18 order, 143 FERC ¶ 61,048 at P 66.

<sup>160</sup> *Id.* P 20.

<sup>161</sup> Flood Owners' Request for Rehearing at 9 (dated May 20, 2013).

ordered Boott to change its flashboard design in 2008, the flashboards failed more frequently and “this area has not flooded since.”<sup>162</sup> They maintain that this is significant because in March 2010 the eastern part of Massachusetts received record rainfall during peak time for snow runoff from New Hampshire, and many surrounding towns and cities experienced flooding. However, they assert that the Merrimack River stayed within its banks and the river bank at the location of Williamsburg Condominium “did not incur any type of severe erosion during this time period.”<sup>163</sup> They attribute this to the redesigned flashboard system, and conclude that “it is obvious that the manipulation of the flashboard design during the 2006 and 2007 floods was the cause of the river bank erosion damage that the [Williamsburg Condominium] Association is not responsible to pay to correct.”<sup>164</sup>

99. Although Flood Owners suggest that the March 2010 event surpassed the 2006 flood in some areas, this was not the case in Lowell. The National Weather Service website provides a link to an expanded list of historical crests for the Merrimack River at Lowell.<sup>165</sup> This list shows only two historical crests that occurred in 2010. On March 16, 2010, the height of the river was 53.63 feet, and on April 1, 2010, it was 54.64 feet. These river elevations are more than four feet lower than the river levels that occurred in the 2006 and 2007 floods. Thus, at just below 54 feet, the river in March 2010 was at a moderate flood stage rather than a major flood stage. The events are not comparable and do not support Flood Owners’ theory. There is no evidence to suggest that the flashboards either caused or contributed to the flooding and erosion that occurred in 2006 and 2007. As we have seen, at flows greater than 65,000 cfs, the spillway would be submerged and upstream water levels would be the same regardless of whether the dam used flashboards or a crest gate system.<sup>166</sup>

## 7. Compliance with the License

100. Flood Owners argue that the licensee illegally modified the flashboards to increase their strength, and that this modification was the cause of the flooding and erosion that

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<sup>162</sup> *Id.* at 10.

<sup>163</sup> *Id.*

<sup>164</sup> *Id.* at 11.

<sup>165</sup> See note 157, *supra*. The list can be accessed by clicking on the link “Show More Historical Crests.”

<sup>166</sup> See our discussion at P 85 above.

occurred in 2006 and 2007. They maintain that Boott increased the strength of the flashboards by using double interlaced marine plywood, increasing the strength of the supporting rods from  $\frac{3}{4}$  inch mild steel to  $1\frac{3}{4}$  inch structural steel, increasing the height of the flashboards, and drilling additional holes in the dam capstones to accommodate more supporting rods.<sup>167</sup> They contend that it is the licensee's failure to comply with the terms of its license that is responsible for any problems with the operation of the flashboards. They point out that in our April 18 order, we acknowledged that "if flashboards are too rigid they can aggravate flooding during high river flows,"<sup>168</sup> but contend that we failed to analyze the current state of the flashboard system and whether the licensee is using too many pins that are too strong and spaced too closely together.<sup>169</sup> In support, they attach what they describe as a recent picture showing the pin placement on the dam as being "much closer than the twenty (20) inches on the center pin spacing."<sup>170</sup> They also attach a photograph of the dam and flashboards that appears to have been taken in 1923, which they state "shows how the flashboards bend completely when the spacing and strength of the pins are appropriate."<sup>171</sup>

101. Flood Owners' arguments are not supported in the record. There is no detailed information about previous flashboard systems. According to information that the Park Service provided, the height of the flashboards was increased to 5 feet in 1896. As Flood Owners point out, the men in the 1924 photograph appear much taller than the pins, suggesting that a different system was in use at that time than what was required in the 1984 license for the Lowell Project. While the pins in part of the photograph appear to be bent over horizontally, we have no information about the conditions that caused the pins to bend. Thus, this photograph is of limited usefulness, and provides no basis for predicting what might occur at the dam under current conditions.

102. Similarly, there is no detailed information in the record to suggest that the licensee might have made changes to the flashboard system before staff required that Boott modify the system in 2008. Boott stated that, according to its records, it had not changed the size and bending strength of the pins since acquiring the project, other than to

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<sup>167</sup> Flood Owners' Request for Rehearing at 6 (dated May 17, 2013).

<sup>168</sup> April 18 order, 143 FERC ¶ 61,048 at P 50.

<sup>169</sup> Flood Owners' Request for Rehearing at 3 (dated May 18, 2013).

<sup>170</sup> *Id.* Although it is not labeled, Flood Owners identify this photograph as Exhibit B.

<sup>171</sup> *Id.* at 3 n.2. Flood Owners identify this photograph as Exhibit A.

increase the pin length in 2008 as staff directed.<sup>172</sup> In reviewing the flooding complaints and information Boott provided in 2008,<sup>173</sup> Commission staff found that the flashboards did not fail when Merrimack River flows were in the range of 20,000 to 37,000 cfs during the months of March and April 2008, so that the flashboards did not meet their design specifications. Staff therefore ordered Boott to remove the flashboards and provide a new design for supporting pins that would fail as originally designed.<sup>174</sup> Boott redesigned the flashboard system and staff authorized the licensee to reinstall the flashboards in June 2008.<sup>175</sup> Thereafter, the flashboards failed more frequently and in accordance with their design specifications.<sup>176</sup> Thus, it is incorrect to assert that the Commission has not examined the current state of the flashboard system. Moreover, there is no evidence to suggest that the flashboards that were in place before June 2008 were responsible for the flooding and erosion that occurred in 2006 and 2007. As noted above, those were major floods with flows greater than 65,000 cfs. Therefore, as Boott's backwater analysis demonstrates, neither a crest gate system nor either of the two flashboard options examined could have had any significant influence on river levels at flows of that magnitude.

103. Finally, there is no evidence to suggest that the present flashboard system does not comply with the license. Although Flood Owners assert that their recent photograph shows that the pins are spaced too closely, we lack sufficient information to determine the spacing of the pins from this photograph. As noted, however, the current system has failed more frequently and in accordance with its design specifications. Therefore, to the extent that some pins might be spaced more closely than 20 inches on center, this has not affected the flashboard system's performance. In addition, Commission staff conducts periodic inspections of licensed hydroelectric projects and can require the licensee to

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<sup>172</sup> See letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary, at 4 (filed March 25, 2008). In support of this statement, Boott provided the Commission with copies of the mill certifications for pins used before 2007 and for the longer pins in use since May 2008.

<sup>173</sup> See Letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary (filed Feb. 26, 2008).

<sup>174</sup> April 18 order, 143 FERC ¶ 61,048 at P 7; see letter from William Guey-Lee, FERC, to Kevin Webb, Boott (dated May 28, 2008).

<sup>175</sup> April 18 order, 143 FERC ¶ 61,048 at P 8, see letter from William Guey-Lee, FERC, to Kevin Webb, Boott (dated June 4, 2008).

<sup>176</sup> April 18 order, 143 FERC ¶ 61,048 at P 72.

address any potential issues that may be found as a result of those inspections. In short, Flood Owners' assertions of noncompliance are without basis.

104. Flood Owners also argue that, because the licensee has not complied with its license, the Commission should not authorize it to install and operate a crest gate system. They also maintain that the Commission has not specified who would have control of the system, and that "complete control" of the system should not be "in the hands of the power company."<sup>177</sup>

105. As we have seen, the record does not support Flood Owners' allegations of noncompliance with the license. In our April 18 order, we discussed how the proposed crest gate system might be operated, and noted that the licensee would be required to file a detailed plan for the operation of the crest gate system with varying river flows.<sup>178</sup> The Commission will review the plan and require changes, if necessary. Once the Commission approves the plan, the licensee will be required to operate the crest gates in accordance with the plan. Thus, although the licensee will be responsible for operating the crest gates, it must do so in accordance with the rules established in the plan.

## **8. Flood Zones and Financial Impacts**

106. Flood Owners argue that the Commission misrepresented the reason why the Federal Emergency Management Agency (FEMA) revised the Lowell area flood zones in 2010. They maintain that it was not "based on the 2006 and 2007 floods," as stated in our April 18 order,<sup>179</sup> but rather was "based on a multiyear project to digitize [FEMA's] Flood Insurance Rate Maps throughout the country."<sup>180</sup> A few pages later, however, they claim that FEMA expanded the flood zone in Lowell "[d]ue to Boott Hydropower's manipulation of the Merrimack River."<sup>181</sup> They add that FEMA placed 87 units of the Williamsburg Condominium Association into the flood zone, costing the Association a combined \$207,000 for flood insurance after 2013.

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<sup>177</sup> Flood Owners' Request for Rehearing at 5 (dated May 17, 2013).

<sup>178</sup> April 18 order, 143 FERC ¶ 61,048 at PP 56-57. Boott filed its proposed plan for operating the crest gates on July 16, 2013. Commission staff's review of that plan is currently pending.

<sup>179</sup> *Id.* P 68.

<sup>180</sup> Flood Owners' Request for Rehearing at 3 (dated May 20, 2013).

<sup>181</sup> *Id.* at 5.

107. As we stated in the April 18 order, FEMA periodically reviews flood zones, especially after large floods, and revises them as needed. Flood Owners seem to be arguing two inconsistent positions: that the revised maps were unrelated to the 2006 and 2007 floods because they were part of a multi-year plan to digitize the maps throughout the United States; and that they were related to the 2006 and 2007 floods, which they assert were caused by Boott's manipulation of the flashboards on Pawtucket Dam. It is unclear to us how both could be true. In any event, however, we did not intend to misrepresent the reason why FEMA revised its flood zone maps for the Lowell area. Nor do we need to establish why FEMA took this action. Presumably, the revised maps represent FEMA's current assessment of the risk of flooding in the area. As a result of the revised maps, Flood Owners must now pay increased premiums for flood insurance.

108. Flood Owners take issue with our statement in the April 18 order that any increases in flood insurance premiums were caused by the magnitude of the 2006 and 2007 floods, and are not attributable to the Lowell Hydroelectric Project or the licensee's operation of the dam.<sup>182</sup> Instead, they maintain that "the expanded flood zone was directly related to the operation of the Pawtucket Dam."<sup>183</sup> In support, they argue that FEMA's decision to place an area in a flood zone is simply a relationship between building elevation and river height, using the Base Flood Elevation. This is the height of the base flood, which has a one percent annual chance of occurring, and is also referred to as the 100-year flood. Flood Owners state that in 2006, FEMA issued a letter of map amendment to the Association that placed 51 units in the flood zone. They add that in 2010, as part of its multi-year map digitization, FEMA revised the flood maps "based on the current water height compared to the building elevation,"<sup>184</sup> and placed an additional 87 units in the flood zone. They maintain that the elevation of the buildings had not changed, but the water height had changed. From this, they conclude that the expanded flood zone was the result of operation of the dam.

109. This conclusion does not follow from the information presented. In the 2006 letter, FEMA's determination provides that the base flood elevation (for the one percent annual chance flood) is 103.3 feet (using the National Geodetic Vertical Datum 1929, or NGVD 29).<sup>185</sup> In the 2010 letter, FEMA's determination provides that the base

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<sup>182</sup> April 18 order, 143 FERC ¶ 61,048 at P 68.

<sup>183</sup> Flood Owners' Request for Rehearing at 18 (dated May 20, 2013).

<sup>184</sup> *Id.*

<sup>185</sup> *Id.* at Attachment B. A geodetic datum is a set of constants specifying a coordinate system used to calculate the coordinates of points on the Earth. NGVD 29 is the current name given to the Sea Level Datum of 1929. *See* National Geodetic Survey,

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flood elevation (for the one percent annual chance flood) is 103.5 feet (using the North American Vertical Datum 1988, or NAVD 88).<sup>186</sup> The different datums are not directly comparable, a matter that we address below. It is clear, however, that FEMA's revised flood determinations are based on its determinations regarding the elevation of the base flood, and not the "current water height" as Flood Owners suggest. As explained earlier, the flows that occurred during the 2006 and 2007 floods were sufficiently high that neither the flashboards nor the inflatable crest gates could have had any influence on them. Therefore, we find no basis for Flood Owners' assertion the expanded flood zone was related to Boott's operation of the dam.

110. Flood Owners state that they are puzzled by the Commission's use of NGVD 29 instead of NAVD 88. They cite FEMA's explanation that the mean Sea Level Datum of 1929 was changed to the NGVD 29 because the sea is actually not level, and that FEMA now uses the NAVD 88 because it is more accurate.<sup>187</sup> They maintain that the Commission should require that Boott recalculate the 92.2 and 93.2 foot elevations using NAVD 88 datum because, without this information, no one can compare other agencies' data with the river heights that Boott and the Commission have used.

111. There is no need to change the information in this case from NGVD 29 to NAVD 88. All of the studies and comparisons in the record, as well as the license for the project, use the same elevation system. The backwater analysis and surveys of the Clay Pit Brook area were based on NGVD 29. Also, the FEMA flood insurance maps that were available at the time, and that Boott included in its February 26, 2008 response to staff's information request, were last revised in 1992 and were based on NGVD 29. The only information in the record that references NAVD 88 is the 2010 FEMA determination that Flood Owners included as an attachment to their rehearing request. As long as all studies and comparisons use the same elevation system, the choice of datum

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Frequently Asked Questions, *available at*:  
<http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>.

<sup>186</sup> See Flood Owners' request for rehearing at Attachment C. NAVD 88 is the vertical control datum established in 1991 by Canadian, U.S., and Mexican leveling observations. See National Geodetic Survey, Frequently Asked Questions, *available at*: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>.

<sup>187</sup> Flood Owners' Request for Rehearing at 13-15 (citing FEMA's explanation *available at*: <http://training.fema.gov/EMIWeb/CRS/440%20BMM%20NGVD-NAVD.pdf>).

does not affect our findings and conclusions. We therefore find no basis for requiring that all information in the record be converted to a different datum.<sup>188</sup>

112. Flood Owners also argue that the 2006 and 2007 floods caused severe river bank erosion, which they maintain was caused by Boott's manipulation of the flashboards.<sup>189</sup> They state that the Williamsburg Condominium Association's sewer line is buried parallel to the river bank and, because of flood damage, is now about eight feet from the river in some locations. They add that the Association has applied for FEMA assistance to help stabilize the river bank, which they anticipate will cost approximately \$4 million. If the Association's grant application is accepted, FEMA's hazard mitigation grant can pay up to 75 percent of the project costs, but the Association's residents must still pay the remaining \$1 million.

113. We appreciate that these costs are significant. As explained above, however, we find no basis in the record to support Flood Owners' assertion that Boott's operation of the flashboard system caused the erosion that occurred during the 2006 and 2007 floods. Rather, the flows that occurred in those floods were too high for the flashboards to have had any effect on erosion or flooding.

## **9. The Wang Agreement and Deed Restrictions**

114. Flood Owners argue that the licensee should be required to reinstall the flashboard system as it has operated historically, to allow the licensee to comply with the terms of the Wang Agreement.<sup>190</sup> The City of Lowell seeks rehearing of a single issue; the Commission's failure to consider restrictions in the January 16, 1984 deed conveying the project property from Proprietors of the Locks and Canals on Merrimack River

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<sup>188</sup> The National Geodetic Survey offers various conversion tools on its website, including the VERTCON program, which uses the latitude and longitude of a particular site. See [http://www.ngs.noaa.gov/cgi-bin/VERTCON/vert\\_con.pr1](http://www.ngs.noaa.gov/cgi-bin/VERTCON/vert_con.pr1). The Massachusetts Highway Survey Manual includes information for the City of Lowell indicating that elevation 16.825 meters NGVD 29 is equivalent to elevation 16.759 meters NAVD 88. See <http://www.mhd.state.ma.us/downloads/manuals/survey/appendixA2.pdf>. A comparison of the two elevations for the City of Lowell shows that NAVD 88 elevation is lower by 0.066 meters (which is about 2.6 inches).

<sup>189</sup> Flood Owners' Request for Rehearing at 3, 6 (dated May 20, 2013).

<sup>190</sup> Flood Owners' Request for Rehearing at 5-6 (dated May 17, 2013).

(Proprietors) and Boott Mills, Inc., to Boott Hydropower, Inc.<sup>191</sup> These issues are related, as they both involve provisions seeking to limit the height of flashboards or the maximum reservoir elevation during the spring.

115. As explained in the April 18 order, the Wang Agreement is a 1980 agreement between Proprietors, the original owner of Pawtucket Dam, and Wang Laboratories, a company that formerly owned land and facilities upstream of the dam. The agreement provides that Proprietors agree not to maintain any structure at their Pawtucket Dam over 92.2 feet above mean sea level, or 5 feet above the capstones of the dam, during the months of July through February, and not to maintain any structure at an elevation over 91.2 feet mean sea level, or 4 feet above the capstones, during the months of March through June.<sup>192</sup>

116. Flood Owners argue that the Commission should require the licensees to return to the historically-used variable height (4+1) flashboard system. They maintain that both Boott and the Commission have accepted the constraints of the Wang Agreement, and that Boott has asserted that the historically-used flashboard system “materially complies” with the intent of the Wang Agreement. They contend that the licensee should be required to comply with its existing license so that they and other surrounding communities “will be provided with the flood protection that they previously enjoyed for over a hundred years.”<sup>193</sup>

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<sup>191</sup> A copy of the deed is attached as Exhibit A to the City of Lowell’s request for rehearing (filed May 17, 2013).

<sup>192</sup> See Wang Agreement at 3, attached to Flood Owners’ request for rehearing (dated May 18, 2013). The agreement provides that “structure is defined as flashboards or other means of a similar nature which will fail to hold back water if the river rises one (1) foot above the level of the structure.” *Id.* Boott asserts that Proprietors still exist as a legal entity and never transferred or assigned the Wang agreement to it. See Letter from Kevin Webb, Boott, to Kimberly Bose, Commission Secretary at 1 (filed March 25, 2009). The City of Lowell contends that Boott is bound by the agreement as a successor or assign of Proprietors. See Opposition of the City of Lowell at 2 (filed Sept. 10, 2010). We need not decide this issue. As discussed below, the Wang Agreement is not part of the license. However, the licensee may choose to follow it as long as it does not conflict with the license.

<sup>193</sup> Flood Owners’ Request for Rehearing at 3 (dated May 18, 2013); see also Flood Owners’ Request for Rehearing at 6 (dated May 17, 2013).

117. The Wang Agreement is not a part of the license that the Commission issued for the Lowell Hydroelectric Project in 1983.<sup>194</sup> As explained in the April 18 order, Commission staff required the licensee to remove the historically-used variable height flashboard system because it did not operate as designed during high flows. Staff found in 2008 that the historically used variable height (4+1) flashboard system with 4.5-foot high pins did not fail as designed during March and April with river flows in the range of 20,000 cfs to 30,000 cfs.<sup>195</sup> Staff therefore required Boott to remove and redesign the flashboards before reinstalling them. Staff found that, although the 1-foot-high top boards tripped as flows reached the range of 10,000 cfs to 20,000 cfs, the remaining 4-foot flashboards did not fail as designed during high flows. Staff concluded that regardless of whether the flashboards are four or five feet high, having a system to ensure that the flashboards are completely down during high flows is necessary to reduce backwater impacts. Staff also observed that an inflatable flashboard system would allow the licensee to “meet any agreements with upstream property owners on flashboard levels.”<sup>196</sup>

118. We find no basis for requiring a return to the historically-used flashboard system as a means of providing flood protection for area residents. As we have seen, the record shows that the historic system did not operate properly during high flows. Similarly, we find no basis for Flood Owners’ statement that the Commission has agreed to the constraints of the Wang Agreement. The agreement is not part of the license. However, the licensee can choose to follow it as long as it does not conflict with the license. As staff recognized, there is nothing in the license that would prevent the licensee from proposing an operating plan for the inflatable crest gate system that would allow it to comply with the terms of the Wang Agreement.<sup>197</sup>

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<sup>194</sup> April 18 order, 143 FERC ¶ 61,048 at P 70 and P 3 n.1. As noted in our April 18 order, the City of Lowell’s attempt to enforce the Wang Agreement against Boott was unsuccessful because the court found that the agreement is preempted by the FERC license and the FPA. *Id.* P 70 n.17.

<sup>195</sup> *Id.* PP 7-8, 72.

<sup>196</sup> See letter from Joseph Morgan, FERC, to Kevin Webb, Boott (Sept. 25, 2008).

<sup>197</sup> Boott states that, before staff required removal of the flashboards in 2008, the 4+1 top board configuration had been in use since the early 1900s. See letter from Kevin Webb, Boott, to Eric Slagle, City of Lowell, at 1 (filed Sept. 2, 2008). As noted, staff required the licensee to remove the historically-used top board design because, once the top boards failed, the remaining 4-foot boards did not fail properly during high flows. Thus, the system was not consistent with the design specifications for the flashboard

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119. The City of Lowell argues that the Commission failed to consider the restrictions in the January 16, 1984 deed conveying the project property from Proprietors and Boott Mills, Inc., to Boott Hydropower, Inc. The City maintains that those restrictions include, among other things, “prohibiting five-foot flashboards or a five-foot high crest gate on the Dam from March through June each year.”<sup>198</sup> The City asserts that, by receiving the conveyance specified under the deed, Boott agreed to abide by these restrictions and the world was put on notice that the licensee cannot operate the project in a manner that is inconsistent with them. The City adds that the Commission does not appear to have considered the deed, and requests that the Commission should vacate its order and remand the matter to incorporate the deed’s restrictions into the license amendment. The City argues that this action is required by section 27 of the FPA, which provides that nothing in the FPA shall be construed as affecting or interfering with state laws “relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses.”<sup>199</sup> In the alternative, the City requests that we vacate and remand the decision for further fact finding and analysis regarding the deed.

120. We deny the City’s request. Section 27 of the FPA does not require us to include the restrictions of the deed in the license. Moreover, there is no need to do so. Section 27 of the FPA is intended to preserve state laws regarding water rights. Our licensees are required to comply with those laws by obtaining the water rights they need to operate their projects. If necessary, they can use the federal power of eminent domain to do so, as provided in Section 21 of the FPA.<sup>200</sup> However, the deed restrictions at issue are not a state law regarding water rights within the meaning of section 27 of the FPA.

121. The City’s argument regarding the use of flashboards is incorrect. The deed does not mention flashboards or other crest control structures. Rather, it grants to the licensee certain water and flowage rights, including the right “to overflow, flood, and cover to a height of 92.2 feet above Mean Sea Level (National Geodetic Vertical Datum) from July through February, and to a height of 91.2 feet above Mean Sea Level from March through June, real property in Middlesex County, New Hampshire, adjacent to the

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system as licensed. This would not be an issue with the inflatable crest gate system. The licensee could maintain the crest gates at a height of four feet above the crest of the dam during March through June and then lower the gates completely if necessary during high flows.

<sup>198</sup> City of Lowell’s Request for Rehearing at 1 (filed May 17, 2013).

<sup>199</sup> 16 U.S.C. § 821 (2012).

<sup>200</sup> *Id.* at § 814.

Merrimack River upstream from the current site of the Pawtucket Dam with flood water, slack space water or back water created by the operation of [the] dam.”<sup>201</sup> Thus, if the licensee does not currently have the right to maintain the reservoir level at or below elevation 92.2 feet mean sea level (msl) from March through June and wishes to do so, it must obtain the necessary water rights. If, on the other hand, the licensee intends to maintain the reservoir elevation at or below 91.2 feet msl during those months, there is nothing in the license, as amended to authorize the crest gate system, that would prevent it from doing so.<sup>202</sup> Either way, there is no need to amend the license to include the deed restriction.

### **Conclusion**

122. For all the reasons discussed above, we affirm that the inflatable crest gate system will provide substantial benefits in the form of improved flood control, recreation, fish passage, dam and worker safety, and renewable generation, without adversely affecting Pawtucket Dam or the historic districts of which it is a part. We further affirm that installing the crest gate system with the proposed mitigation measures will not have an adverse effect on Lowell Park and the Preservation District, and will be conducted in a manner consistent with the preservation standards for the Park and Preservation District. We therefore deny rehearing.

### **The Commission orders:**

(A) The request for a stay pending rehearing, filed in this proceeding by the U.S. Department of the Interior on May 20, 2013, is dismissed as moot. Interior’s request filed in this proceeding on that date for a stay pending judicial review is denied.

(B) The request for an extension of time to file additional arguments, filed in this proceeding by the U.S. Department of the Interior on May 20, 2013, is denied.

(C) The additional comments filed in this proceeding on August 8, 2013, by the Advisory Council on Historic Preservation are rejected as untimely.

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<sup>201</sup> See Exhibit A at 6 (attached to the City of Lowell’s request for rehearing (filed May 17, 2013)).

<sup>202</sup> As noted earlier, the 4-foot flashboards that remained after failure of the 1-foot top boards were inconsistent with the license because they did not fail properly during high flows. Maintaining the crest gate system at a 4-foot elevation during March through June and fully deflating the gates during high flows would not conflict with the amended license authorizing a 5-foot inflatable crest gate system.

(D) The request for a rehearing of the Commission's April 18, 2013 order amending the license for the Lowell Hydroelectric Project No. 2790, filed in this proceeding by the U.S. Department of the Interior on May 20, 2013, is denied.

(E) The three requests for rehearing filed in this proceeding on May 17, 2013, and May 20, 2013, by the Lowell Flood Owners Group (dated May 17, May 18, and May 20, 2013) are denied.

(F) The request for rehearing filed in this proceeding on May 17, 2013, by the City of Lowell is denied.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.