146 FERC ¶ 61,027
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

In re Erie Boulevard Hydropower, L.P. Docket No. IN13-12-000

ORDER APPROVING STIPULATION AND CONSENT AGREEMENT

(Issued January 15, 2014)

1. The Commission approves the attached Stipulation and Consent Agreement (Agreement) between the Office of Enforcement (Enforcement), Erie Boulevard Hydropower, L.P. (Erie), and Brookfield Power US Assets Management, LLC (BPAM). This order is in the public interest and resolves the investigation into violations by Erie of Part 12 of the Commission's regulations.

2. Erie has agreed to pay a civil penalty of $4,000,000. Erie and BPAM agree to budget $1,700,000 for public safety enhancements at their U.S. hydroelectric projects. BPAM also agrees to: (1) purchase and implement a computerized compliance management program in its New York West Region at a projected cost of greater than $500,000; and (2) retain an independent qualified Board of Consultants (BOC) to perform a review of system operator staffing levels at the centralized remote operations currently in place at BPAM's National System Control Center (NSCC) for projects owned by Erie and BPAM in the United States, to make recommendations for any needed changes or improvements, and to submit such recommendations to the Commission's Director, Division of Dam Safety and Investigations (D2SI), for review and approval.

Background

3. Erie holds a hydroelectric power license for and operates the Oswego River Project (P-2474). The project consists, in part, of the Varick development (Varick) located in the City of Oswego, New York. Erie's FERC project license requires Erie to maintain specific minimum pond levels at Varick. Located approximately one-half mile upstream of Varick is the High Dam Project, a hydroelectric facility owned by the City of Oswego. Flow and pond levels at Varick are affected by, among other things, its close proximity to High Dam. Therefore, it is necessary to coordinate operations at Varick and High Dam in order to maintain the Varick pond level within license requirements.

4. Varick and High Dam are operated remotely by a system control operator at the National System Control Center (NSCC) in Marlborough, Massachusetts that is owned by BPAM, an affiliate of Erie. During daytime shifts (6:00 a.m. to 6:00 p.m.), the NSCC control room is manned by two system control operators for Erie's New York projects who oversee approximately 70 hydroelectric developments. During the nighttime shift, there is one control room operator overseeing all these developments.

5. The Oswego River Project is licensed, in part, for recreational uses. The primary recreational activity at Varick is fishing, and Erie's Recreational Plan[1] recognizes that: "angler safety is a critical concern in the lower Oswego River below the Varick dam. Anglers may have only 3 to 10 minutes to retreat if water levels rise in the bypass reach. In addition, many of the non-resident fishermen are unfamiliar with the river and its conditions."

6. In 2003, Erie installed on the exterior of Varick's powerhouse a camera that is capable of viewing the Varick tailrace area. NSCC system operators and traveling operators have used the camera to ascertain whether people are fishing or boating in the tailrace area. The camera provides a video feed to monitors in the NSCC. That camera had an outage in mid-August 2010 and was inoperative on September 28, 2010.

7. In 1988, Erie's predecessor constructed a staggered-height flashboard system that visually alerts fishermen downstream of Varick's dam that spillage over the dam is increasing. On April 28, 2010, following an April 13, 2010 inspection site visit at Varick, D2SI's New York Regional Engineer issued an inspection follow-up letter requesting design information and a history of recent failures of the flashboards at Erie's various sites on the Oswego River or its tributaries. D2SI requested that Erie respond within 30 days of the date of the letter. Erie provided a written response on July 20, 2012.

8. In 2010, Erie made two attempts to repair or replace flashboards at Varick, but additional maintenance obligations, unsafe river conditions or an inability to satisfy all occupational safety requirements for performing the work frustrated those attempts. On September 28, 2010, the flashboards were in a state of partial failure.

9. In 1990-91, the staggered-height flashboard system was supplemented with a fisherman alert system (FAS) that provides both an audible tone and recorded message alerting fishermen in the river to rapidly rising river levels and urging immediate

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[1] In accordance with the Order on Offer of Settlement and Issuing New License for the Oswego River Project (which includes the Varick development) (FERC No. 2474) (Nov. 30, 2004), Erie filed its Final Revised Recreation Plan (Article 409) on January 5, 2006.

evacuation of the river. According to the FAS description, the system was designed to alert fishermen below the Varick dam and in the tailrace that "an appreciable amount of water" was going to spill over the Varick dam. According to FAS procedures, the NSCC system control operator had primary responsibility for remotely operating the FAS, while a traveling operator (*i.e.,* an operator working at the Varick facility) had primary responsibility for on-site FAS activation at Varick.

10. Erie's Recreational Plan, filed on January 5, 2006, also advised the Commission that Erie would install and maintain warning signage associated with the FAS.

11. During the morning hours of September 28, 2010, two of Varick's four generating units (Varick Units 2 and 5) and two of High Dam's four generating units (High Dam Units 2 and 4) were operating. In anticipation of receiving additional inflow into the High Dam impoundment (*i.e.*, reservoir), the NSCC Operator instructed the traveling operator to place High Dam Unit 3 online.

12. In anticipation of the impending increase in water levels downstream of the Varick dam, the NSCC Operator remotely activated the FAS at 11:06 a.m. and sounded it for approximately 3 minutes. The traveling operator at High Dam placed Unit 3 in manual mode and attempted to start the unit. Unit 3 tripped shortly afterwards.

13. The NSCC Operator remotely activated the FAS alarm at Varick again at 11:33 a.m. and sounded it for approximately 3 minutes. After the traveling operator made several adjustments to High Dam Unit 3, the traveling operator made another start-up attempt that was also ultimately unsuccessful.

14. At 11:43 a.m., High Dam Unit 2 tripped offline, followed at 12:06 p.m. by High Dam Unit 4 tripping offline. Water levels in the High Dam impoundment and spillage over High Dam's dam increased following these unit trips. At Varick water levels decreased, while water levels in the High Dam impoundment increased. The NSCC Operator decreased generation from a unit at Varick (Varick Unit 5) in order to maintain water levels in the Varick impoundment in accordance with the license requirements.

15. Between 12:15 p.m. and approximately 12:35 p.m., the traveling operator at High Dam succeeded in bringing online High Dam Units 2, 3, and 4, resulting in an increase in water flow from High Dam and a rise in water elevation and flow velocity downstream towards the Varick dam and powerhouse. At 12:40 p.m., the NSCC Operator increased generation for Varick Unit 5, which caused the flow coming out of Varick Unit 5 to increase 1426 cubic feet per second (cfs), resulting in water coming downstream from High Dam going through the Varick powerhouse instead of spilling over the Varick dam. There was no additional FAS alarm activation during this period.

16. At approximately 12:45 p.m., at least four fishermen were still standing near warning signs near the edge of the Varick tailrace. Two of these fishermen were swept downstream into the deeper water in the tailrace by rising waters. One of the fishermen swept downstream drowned and the other survived for several days before passing. The City of Oswego Fire Department rescued the two other fishermen who were clinging to the warning sign poles. None of the four fishermen was wearing a personal flotation device (PFD).

17. Since September 28, 2010, as set forth in the Stipulation, Erie and BPAM have implemented numerous changes to its public safety plans and procedures. To date, Erie has spent or committed more than $1.2 million for public safety initiatives related to the Oswego River Project.

18. BPAM revised the NSCC's FAS procedures by enacting strict protocols for manual FAS activation and alarm duration. Erie and BPAM commissioned a new FAS system on February 28, 2013. Erie installed four additional cameras at the Varick dam, bypass reach, tailrace, and power canal intake in order to monitor the Varick spillway, and one additional camera outside the Varick powerhouse for use by off-site operators and emergency personnel. Erie also installed "911 River Rescue Markers" along the river banks downstream of Varick to help with location assistance for 911 callers, as well as rescue rafts in the bypass reach and rescue ladders on the tailrace wall.

19. Erie enhanced a pre-existing "Wear It New York!" public safety outreach program which emphasizes the proper use of PFDs, added warning signage and barriers to entry for these designated high hazard zones, and implemented a requirement that all persons fishing or otherwise entering the designated Varick high hazard zones wear PFDs.

20. BPAM removed from the control room and any public safety position the NSCC Operator who monitored Varick on September 28, 2010.

Violations

21. Enforcement Staff concluded that Erie violated Part 12 of the Commission's regulations at 18 C.F.R. Part 12 (2013), pertaining to the safety of the water power projects and power works, as follows.

22. Enforcement Staff concluded that between August 15, 2010 and September 29, 2010, Erie failed to timely repair a safety camera at the Varick powerhouse monitoring fishing activity in the Varick bypass reach and tailrace areas. As a result, the safety of the fishermen in the Varick tailrace could not be verified on September 28, 2010, because Erie failed to timely repair a camera that, over time, had become part of Varick's safety protocol.

23. Enforcement Staff concluded that between August 15, 2010 and September 30, 2010, Erie failed to report to FERC's D2SI New York Regional Engineer that the safety camera at the Varick powerhouse was inoperable. By not timely filing the required report, Erie endangered the public and the fishermen who drowned were deprived of whatever protections a working camera might have provided.

24. Enforcement Staff concluded that between June 1, 2010 and June 22, 2011, Erie failed to timely repair or replace staggered-height flashboards at Varick used to visually alert fishermen of an appreciable increase in flow over the Varick dam. Erie made two attempts in 2010 to restore the flashboards at Varick.

25. Enforcement Staff concluded that NSCC staffing levels prior to and following the incident may have been insufficient for the safe operation of Varick and other developments. On September 28, 2010, the NSCC operator overseeing Varick oversaw 42 developments. Staffing levels at NSCC system control should be sufficient to cover all operations. NSCC staffing levels also should be sufficient to meet the recommendations of Varick's revised maintenance procedures dated June 20, 2011. NSCC staffing levels will be addressed by an independent Board of Consultants (BOC) as discussed in paragraph 32.

26. Enforcement Staff concluded that between May 30, 2010 and July 20, 2012, Erie failed to file information on the design and history of recent failures of the staggered-height flashboards at various sites, including Varick, as requested by FERC's D2SI New York Regional Engineer. Thus, the performance of the staggered-height flashboard system installed as a safety enhancement at the Varick development could not be verified, because Erie failed to follow up on the FERC inspector's request. By not timely filing the required reports, Erie may have endangered the public. Moreover, the fishermen who were involved in the September 28, 2010 incident were deprived of whatever protections an intact staggered-height flashboard system might have provided.

27. Enforcement Staff concluded that on September 28, 2010, the NSCC Operator who monitored Varick failed to timely sound the Varick FAS siren within a reasonable time period after the traveling operator was finally able to bring three generating units at High Dam online between 12:15 p.m. and 12:40 p.m. Bringing on these units resulted in: (a) a rise in water elevation in the Varick pond and increased flow velocity downstream towards the Varick Dam; and (b) increased spillage over the Varick dam and a sudden rise in water levels downstream of the Varick dam. Accordingly, while the NSCC operator sounded the FAS siren at 11:06 a.m. for three minutes and again at 11:33 a.m. for three minutes, the siren was not sounded again before the increased spillage over the Varick Dam began at 12:40 p.m.

28. Enforcement Staff concluded that between June 1, 2010 and August 23, 2011, the NSCC Operator consistently failed, as part of his routine duties, to utilize his on-site monitor to view fishermen activity at Varick streaming from a safety camera installed on the side of the Varick powerhouse over the tailrace.

29. Enforcement Staff concluded that between November 30, 2009 and August 23, 2011, Erie failed to provide adequate training to the NSCC operator on the FAS procedures or public safety. The NSCC operator initiated the FAS approximately 50 minutes before the actual spillage occurred, but failed to reinitiate the FAS anytime closer to the event.

Stipulation and Consent Agreement

30. Enforcement Staff, Erie, and BPAM have resolved Enforcement's investigation of violations of Part 12 of the Commission's regulations by means of the attached Agreement. Erie neither admits nor denies that the described activity violated the Commission's rules, regulations, or policies. Erie, however, agrees to take the following actions.

31. The Agreement requires Erie to pay a $4,000,000 civil penalty and for Erie and BPAM to budget $1,700,000 for public safety enhancements at their U.S. hydroelectric projects.

32. The Agreement requires BPAM to retain an independent qualified BOC composed of three members that shall be approved by FERC's Director, D2SI. The BOC shall perform a review of system operator staffing levels at the centralized remote operations currently in place at the NSCC for projects owned by Erie and BPAM in the United States, and make recommendations for any needed changes or improvements. The BOC will recommend the basis for evaluating acceptable system operator staffing levels and present them to FERC's Director, D2SI for approval. Once the basis is approved, the BOC shall evaluate the staffing levels and shall submit a report on the recommendation to the Director of D2SI for review and approval. The final report is due within 12 months of the date of this Agreement. Within 30 days of approval of the final BOC report, a plan and schedule from Erie and BPAM to implement the recommendations is due to FERC's Director of D2SI.

33. The Commission's D2SI New York Regional Engineer shall monitor Erie's operations as provided for in Part 12 of the Commission's regulations.

Determination of the Appropriate Civil Penalty

34. Pursuant to section 31 of the Federal Power Act (FPA), the Commission may assess a civil penalty not to exceed $11,000 for each day that such violation or failure or refusal continues.[2] In approving the Agreement and the $4,000,000 civil penalty, we considered the factors set forth in section 31(c) of the FPA and Section 385.1505(a) of the Commission's regulations, 18 C.F.R. 385.1505(a) (2013). We conclude that the penalty determination is a fair and equitable resolution of this matter and is in the public interest.

35. The civil penalty assessment reflects the fact that: (a) Erie had actual or constructive knowledge of the violations; (b) Erie had no prior history of previous violations; (c) Erie may have derived economic benefits from the violations by continuing to generate power rather than shutting down production while making necessary repairs to the camera and flashboards, and providing the necessary operator training on the FAS and public safety; and (d) Erie sought to remedy the violations.

36. The Commission concludes that the civil penalty and the compliance monitoring specified in the Agreement are fair and equitable, and in the public interest.

The Commission orders:

The attached Stipulation and Consent Agreement is hereby approved without modification.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.

[2] 16 U.S.C. § 31(c) (authorizing the Commission to impose civil penalties "not to exceed $11,000 for each day that such violation or failure or refusal continues").

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

In re Erie Boulevard Hydropower, L.P. Docket No. IN13-12-000

STIPULATION AND CONSENT AGREEMENT

I. INTRODUCTION

Staff of the Office of Enforcement (Enforcement) of the Federal Energy Regulatory Commission (Commission or FERC) and Erie Boulevard Hydropower, L.P. (Licensee) and other Settling Parties as defined herein, enter into this Stipulation and Consent Agreement (Agreement) to resolve an informal, non-public investigation under Part 1b of the Commission's regulations, 18 C.F.R. Part 1b (2013). The investigation examined whether Licensee violated Part 12 of the Commission's regulations and the terms and conditions of its hydroelectric power license for the Oswego River Project (P-2474) with regard to the use and maintenance of certain safety equipment and facilities.

II. STIPULATED FACTS

Enforcement and Licensee hereby stipulate and agree to the following:

1. Licensee holds a hydroelectric power license for and operates the Oswego River Project (P-2474). The project consists, in part, of the Varick development (Varick) located in the City of Oswego, New York. Licensee's FERC project license requires Licensee to maintain specific minimum pond levels at Varick. Located approximately one-half mile upstream of Varick is the High Dam Project, a hydroelectric facility owned by the City of Oswego. Flow and pond levels at Varick are affected by, among other things, its close proximity to High Dam. Therefore, it is necessary to coordinate operations at Varick and High Dam in order to maintain the Varick pond level within license requirements. The Oswego River Project is a modified run-of-river project, so all water that arrives at a development must either pass over the dam or go through the powerhouse.

2. The hydroelectric generating units at Varick are started by a traveling operator, and prior to start up the traveling operator visually inspects the tailrace. However, Varick and High Dam are operated remotely by a system control operator at the National System Control Center (NSCC) in Marlborough, Massachusetts, that is owned by Brookfield Power US Asset Management, LLC

(BPAM, Settling Party), an affiliate of Licensee. On a typical daytime shift, there are two traveling operators on duty for the Licensee's six developments on the Oswego River in addition to High Dam. These traveling operators are dispatched on an as-needed basis to perform maintenance and operations for these Oswego River developments. During daytime shifts (6:00 a.m. to 6:00 p.m.), the NSCC control room is manned by a shift supervisor, and two system control operators for the Licensee's New York projects. The two operators oversee approximately 70 hydroelectric developments. During the nighttime shift, there is one control room operator overseeing all these developments. On September 28, 2010, the system control operator overseeing Varick oversaw 42 developments.

3. The Oswego River Project is licensed, in part, for recreational uses. The primary recreational activity at Varick is fishing. Licensee's predecessor implemented a safety protocol that addresses recreational uses of the project, including fishing. Since 2006, Licensee's Recreational Plan has recognized that: "angler safety is a critical concern in the lower Oswego River below the Varick dam. Anglers may have only 3 to 10 minutes to retreat if water levels rise in the bypass reach. In addition, many of the non-resident fishermen are unfamiliar with the river and its conditions."

4. In 2003, Licensee installed on the exterior of Varick's powerhouse a camera that is capable of viewing the Varick tailrace area. NSCC system operators and traveling operators have used the camera to ascertain whether people are fishing or boating in the tailrace area. The camera provides a video feed to monitors in the Varick powerhouse and in the NSCC. That camera had an outage in mid-August 2010 and was inoperative on September 28, 2010.

5. In 1988, Licensee's predecessor constructed a staggered-height flashboard system that visually alerts fishermen downstream of Varick's dam that spillage over the dam is increasing. On April 28, 2010, following an April 13, 2010 inspection site visit at Varick, FERC's Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer issued an inspection follow-up letter requesting design information and a history of recent failures of the flashboards at Licensee's various sites on the Oswego River or its tributaries. D2SI requested that Licensee respond within 30 days of the date of the letter. Licensee provided a written response on July 20, 2012.

6. Flashboards fail from time to time, in whole or in part, due to high river flows or large debris impacting the boards. Flashboard repairs and/or replacements occur usually during summer months when river conditions allow for safe flashboard maintenance or replacement operations. Flashboard repairs are also contingent on operating circumstances (including occupational safety), maintenance personnel availability, and the schedule of additional maintenance work in coordination with the New York State Canal Corporation.

7. In 2010, Licensee made two attempts to repair or replace flashboards at Varick, but additional maintenance obligations, unsafe river conditions or an inability to satisfy all occupational safety requirements for performing the work frustrated those attempts. On September 28, 2010, the flashboards were in a state of partial failure. The flashboards were not replaced until June 22, 2011. In 2012, FERC staff reviewed the 2010 Oswego River flow data and concluded that there were days in the summer of 2010 with average river flows that were equal to or less than the river flow on the day Licensee made the flashboard repair (*i.e.*, 2,200 cubic feet per second).

8. In 1990-91, the staggered-height flashboard visual alert system was supplemented with a fisherman alert system (FAS) that provides both an audible tone and recorded message alerting fishermen in the river to rapidly rising river levels and urging immediate evacuation of the river. According to the FAS description, the system was designed to alert fishermen below the Varick dam and in the tailrace that "an appreciable amount of water" was going to spill over the Varick dam. The Licensee's Recreational Plan advised the Commission that the Licensee would operate the FAS. According to FAS procedures in effect on September 28, 2010, the FAS alarm would automatically activate itself if a unit tripped at Varick, and it also could be activated manually, either remotely or on-site at Varick. For manual operation, the NSCC system control operator had primary responsibility for remotely operating the FAS, while the traveling operator had primary responsibility for on-site FAS activation at Varick.

9. The Licensee's Recreational Plan also advised the Commission that the Licensee would install and maintain warning signage associated with the FAS. Such signage has been in place since the early 1990s and includes: (1) signs placed in the river downstream of the dam that read: "Danger – If Siren Sounds Exit River Immediately," and (2) additional warning signage advising the public of a sharp drop-off of the tailrace channel between the channel wall and the powerhouse. The Licensee stated in an October 6, 2010 letter to the New York Regional engineer that the FAS and other warning devices are only as effective as the willingness of the fishermen to heed the warnings, and fisherman obedience to the FAS's direction to immediately exit the river is at best sporadic. Prior to September 28, 2010, Licensee also implemented the Wear It New York! public safety outreach program, which emphasizes the proper use of personal flotation devices (PFDs) at multiple dam-related recreational areas along the Oswego River, including Varick. None of the individuals involved in the September 28, 2010 incident was wearing a PFD.

10. The NSCC system control operators receive 8 to 10 months of instruction and on-the-job training prior to certification as an operator by BPAM. This training program is divided into three "Phases," in which each trainee system

control operator receives instruction and is certified in the duties of a NSCC system control operator. In order to advance from one phase to the next, the trainee system control operator must demonstrate his understanding of the requirements of that phase. This is known as a Checkout. In Phase A, the trainee system control operator conducts 50 percent of his "river visits" and reviews operating procedures to learn about the specific operating conditions of the river systems (*i.e.,* the facilities on each river) that he visits and will be operating. A shift supervisor and training coordinator are responsible for determining whether a trainee system control operator has completed Phase A.

11. In Phase B, the trainee system control operator completes his remaining river visits and Checkouts and begins sitting as an operator, with a fully-certified NSCC system control operator supervising him at all times. The trainee must complete 20 daytime shifts and 20 nighttime shifts under the supervision of a fully-certified NSCC system control operator, as well as additional Checkouts and a final oral examination before a supervisory board in order to progress to Phase C.

12. In Phase C, the trainee sits as a system control operator and, during daytime shifts, is allowed to independently operate river systems with a fully-qualified NSCC system control operator sitting at the other desk, who has the ability to take over control of those facilities at any time. On nighttime shifts, the trainee must be supervised at his desk by a fully-certified NSCC system control operator. This process continues for approximately two months, at the conclusion of which a minimum of two qualified NSCC system control operators evaluate the trainee operator's performance. If those evaluations and the evaluation of the training coordinator and NSCC supervisory staff are satisfactory, then the trainee becomes a certified NSCC system control operator. As part of their training, NSCC system control operators receive training and Checkout on operating procedures relating to recreational use of facilities.

13. The NSCC system control operator monitoring Varick on September 28, 2010 (NSCC Operator) met the requirements of the NSCC training program. The NSCC Operator visited Varick as part of his river visits. The NSCC Operator's notes on his qualification card for Varick state: "sound siren when ↑ flow." A certified NSCC system control operator signed off on the NSCC Operator's qualification on the FAS. Additionally, NSCC operations logs establish that, prior to remotely activating the FAS manually twice on the morning of September 28, 2010, the NSCC Operator had previously remotely activated the FAS manually on July 24, 2010 and September 27, 2010.

14. During the morning hours of September 28, 2010, two of Varick's four generating units (Varick Units 2 and 5) and two of High Dam's four generating units (High Dam Units 2 and 4) were operating. In anticipation of receiving

additional inflow into the High Dam impoundment (*i.e.*, reservoir), the NSCC Operator instructed the traveling operator to place High Dam Unit 3 online.

15. In anticipation of the impending increase in water levels downstream of the Varick dam, the NSCC Operator remotely activated the FAS at 11:06 a.m. and sounded it for approximately 3 minutes. The traveling operator at High Dam placed Unit 3 in manual mode and attempted to start the unit. Unit 3 tripped shortly afterwards.

16. The NSCC Operator remotely activated the FAS alarm at Varick again at 11:33 a.m. and sounded it for approximately 3 minutes. After the traveling operator made several adjustments to High Dam Unit 3, the traveling operator made another start-up attempt that was also ultimately unsuccessful.

17. At 11:43 a.m., High Dam Unit 2 tripped offline, followed at 12:06 p.m. by High Dam Unit 4 tripping offline. Water levels in the High Dam impoundment and spillage over the High Dam dam increased following these unit trips. At Varick, water levels decreased while water levels in the High Dam impoundment increased. The NSCC Operator decreased generation from a unit at Varick (Varick Unit 5) in order to maintain water levels within license requirements in the Varick impoundment.

18. Between 12:15 p.m. and approximately 12:35 p.m., the traveling operator at High Dam succeeded in bringing online High Dam Units 2, 3, and 4, resulting in an increase in water flow from High Dam and a rise in water elevation and flow velocity downstream towards the Varick dam and powerhouse. At 12:40 p.m., the NSCC Operator increased generation for Varick Unit 5, which caused the flow coming out of Varick Unit 5 to increase 1426 cfs, resulting in water coming downstream from High Dam going through the Varick powerhouse instead of spilling over the Varick dam. There was no additional FAS alarm activation during this period.

19. At approximately 12:45 p.m., at least four fishermen were still standing near warning signs near the edge of the Varick tailrace. Two of these fishermen were swept downstream into the deeper water in the tailrace by rising waters. One of the fishermen swept downstream drowned and the other survived for several days before passing. The City of Oswego Fire Department rescued two other fishermen who were clinging to the warning sign poles. None of the four fishermen was wearing a personal flotation device (PFD).

20. While the NSCC Operator had been employed with BPAM maintaining the NSCC since November 2009, he was in training to be a NSCC system control operator until he completed his training program on July 14, 2010. Between then and September 28, 2010, the NSCC Operator had worked on the NSCC New York

West desk for 11 days and had previously activated the FAS at Varick on July 24, 2010 and September 27, 2010.

III. VIOLATIONS AND ENFORCEMENT CONCLUSIONS

21. Enforcement Staff concludes that Erie violated Part 12 of the Commission's regulations, at 18 C.F.R. Part 12 (2013), as follows.

22. Enforcement Staff concludes that between August 15, 2010 and September 29, 2010, Erie failed to timely repair a safety camera at the Varick powerhouse monitoring fishing activity in the Varick bypass reach and tailrace areas. Erie does not dispute that the cameras at Varick may have been inoperable during some period between August 15, 2010 and September 29, 2010, and until September 29, 2010, there is no record of the cameras being repaired. Therefore, safety of the fishermen in the Varick tailrace could not be verified on September 28, 2010, because Erie failed to timely repair a camera that over time had become part of Varick's enhanced safety protocol.

23. Enforcement Staff concludes that between August 15, 2010 and September 30, 2010, Erie failed to report to FERC's D2SI - New York Regional Engineer that the safety camera at the Varick powerhouse was inoperable. By not timely filing the required report, Erie endangered the public and, the fishermen who drowned were deprived of whatever protections a working camera might have provided.

24. Enforcement Staff concludes that between June 1, 2010 and June 22, 2011, Erie failed to timely repair or replace staggered-height flashboards at Varick used to visually alert fishermen of an appreciable increase in flow over the Varick dam. Erie made two attempts in 2010 to restore the flashboards at Varick. However, the repairs were not made until June 22, 2011, after the enforcement proceeding began.

25. Enforcement Staff concludes that there were a number of multiple-day periods of river flow in 2010 below the river flow on the day of the June 22, 2011 restoration in which Erie could have, but did not, make repairs to the Varick flashboards.[4] FERC staff reviewed the condition of the Oswego River on the date the flashboards were repaired in 2011 using the local USGS stream gage, No. 04249000, Oswego River at Lock 7, Oswego, NY (*i.e.*, located immediately below the development) and found that flows were an average of 1970 cfs on the two days leading up to the restoration date and averaged 2,510 cfs on the date of the repairs. In addition, FERC staff concludes that estimating future flow conditions,

[4] For example, river flows were below 2,000 cfs in April, July, and August 2010, making it feasible for Erie to have repaired the flashboards.

scheduling with the other owner and/or operators, prioritizing and coordinating maintenance obligations and staffing, and following occupational safety requirements are standard common responsibilities required by all Licensees and should be accounted for in Erie's maintenance plan.

26. Enforcement Staff concludes that between May 30, 2010 and July 20, 2012, Erie failed to file information on the design and history of recent failures of the staggered-height flashboards at various sites, including Varick, as requested by FERC's D2SI – New York Regional Engineer. Staff finds that the performance of the staggered-height flashboard system installed as a safety enhancement at the Varick development could not be verified, because Erie failed to follow up on the FERC inspector's request. Thus, by not timely filing the required reports, Erie may have endangered the public; moreover, the fishermen who were involved in the September 28, 2010 incident were deprived of whatever protections an intact staggered-height flashboard system might have provided.

27. Enforcement Staff concludes that NSCC staffing levels prior to and following the incident may have been insufficient for the safe operation of Varick and other developments. On September 28, 2010, the NSCC operator overseeing Varick oversaw 42 developments. Licensee asserts that a limited number of these developments require attention from a system control operator at any given time. Staffing levels at NSCC system control should be sufficient to cover all operations. In addition, NSCC staffing levels should be sufficient to meet the recommendations of Varick's revised maintenance procedures dated June 20, 2011. NSCC staffing levels will be addressed by an independent Board of Consultants (BOC) as discussed in Paragraph 43.

28. Enforcement Staff concludes that on September 28, 2010, the NSCC Operator who monitored Varick failed to timely sound the Varick FAS siren within a reasonable time period after the traveling operator was finally able, after repeated attempts, to bring three generating units at High Dam online between 12:15 p.m. and 12:40 p.m. Bringing on these units resulted in: (a) a rise in water elevation in the Varick pond and increased flow velocity downstream towards the Varick Dam and (b) increased spillage over the Varick dam and a sudden rise in water levels downstream of the Varick dam. While the NSCC operator sounded the FAS siren at 11:06 a.m. for three minutes and again at 11:33 a.m. for three minutes, the siren was not sounded within a reasonable time more proximately related to the events resulting in the increased spillage over the Varick Dam.

29. Enforcement Staff concludes that between June 1, 2010, and August 23, 2011, the NSCC Operator consistently failed, as part of his routine duties, to utilize his on-site monitor to view fishermen activity at Varick streaming from a safety camera installed on the side of the Varick powerhouse over the tailrace.

30. Enforcement Staff concludes that between November 30, 2009, and August 23, 2011, Erie failed to provide adequate training to the NSCC operator on the FAS procedures or public safety. The NSCC operator initiated the FAS approximately 50 minutes before the actual spillage occurred, but failed to reinitiate the FAS anytime closer to the event.

IV. COMPLIANCE AND MITIGATION EFFORTS

31. Since September 28, 2010, Licensee has implemented numerous changes to its public safety plans. To date, Licensee has spent or committed more than $1.2 million for public safety initiatives related to the Oswego River Project. In 2010 and 2011 alone, Licensee spent $845,000 on public safety initiatives.

32. BPAM revised the NSCC's FAS procedures by enacting strict protocols for manual FAS activation and alarm duration. Licensee submitted to FERC proposed revised FAS procedures on June 29, 2011, and January 6, 2012.

33. Licensee and BPAM commissioned a new FAS system on February 28, 2013. The new FAS system has several enhanced features. For example, it allows for area-specific messaging in the area surrounding Varick. In addition, NSCC system control operators now receive warnings about changes in flow and pond levels that may merit manual remote FAS operation. Moreover, while the previous iteration required a traveling operator to manually reset the FAS for automatic activations, the new FAS automatically re-arms the FAS on a unit-specific basis for an automatic activation. Additionally, Licensee installed fisherman alert beacons, which add a visual component to the FAS, including an indication when the flow change event that triggered the initial alert has ceased. Licensee also modified the public announcement (PA) system to allow remote public address capabilities from the NSCC.

34. Licensee installed four additional cameras at the Varick dam, bypass reach, tailrace, and power canal intake in order to monitor the Varick spillway, and one additional camera outside the Varick powerhouse for use by off-site operators and emergency personnel. Licensee also installed highly visible "911 River Rescue Markers" along the river banks downstream of Varick to help with location assistance for 911 callers, as well as rescue rafts in the bypass reach and rescue ladders on the tailrace wall. Licensee has conducted functional rescue exercises with first responders, and has included BPAM in such exercises.

35. Licensee enhanced and localized to the Oswego River area a pre-existing Wear It New York! public safety outreach program. Prior to September 28, 2010, Licensee implemented the Wear It New York! public safety outreach program, which emphasizes the proper use of PFDs. After September 28, 2010, to educate the public on responsible recreational use of the Oswego River, the program was

specifically localized by a Wear It! Oswego component that included a media campaign consisting of billboards, posters and rack cards highlighting safe practices on the Oswego River, a dedicated social media page, targeted advertisements in local media, approximately 300 radio public service announcements (PSAs), a PFD give-away program, a water safety presentation to local Oswego-area school students in grades K-8, and the development of PSAs in cooperation with the local Oswego high school.

36. Licensee has provided monetary contributions to the Oswego Fire Department for the purchase of new river rescue equipment and a new rescue boat, and additional PFDs in support of the City of Oswego's PFD loaner program. Licensee also participated in the City of Oswego mayor's working group to improve public safety on the Oswego River.

37. Licensee implemented a public safety initiative that designates the most dangerous zones at Varick as high hazard zones. Licensee has added warning signage and barriers to entry for these designated high hazard zones. Working with the City of Oswego and agencies of the State of New York, Licensee has implemented a requirement that all persons fishing or otherwise entering the designated Varick high hazard zones wear PFDs. Licensee secured an agreement with New York State and City of Oswego officials that persons entering the designated Varick high hazard zones without the required PFDs be subject to citations, arrest, and/or prosecution by public authorities for trespass. Licensee provided on-site security personnel at Varick during both the 2011 and 2012 salmon fishing seasons.

38. BPAM removed the NSCC Operator who monitored Varick on September 28, 2010, from the control room and any public safety position.

V. REMEDIES AND SANCTIONS

39. Licensee stipulates to the facts regarding Licensee's conduct as described in Section II of this Agreement. Licensee neither admits nor denies Enforcement's conclusions that the conduct violated Licensee's project license or Part 12 of the Commission's regulations. To resolve the conclusions contained in this Agreement, Licensee agrees to the remedies set forth in the following paragraphs.

A. Civil Penalty

40. Licensee shall pay a civil penalty of $4,000,000 to the United States Treasury, by wire transfer, within ten days after the Effective Date of the Agreement, as defined below.

B. Additional Remedies

41. Licensee and BPAM shall budget $1.7 million for public safety enhancements at U.S. hydroelectric projects.

42. BPAM shall purchase and implement a computerized compliance management program in its New York West Region at a projected cost of greater than $500,000.

43. BPAM shall retain an independent qualified Board of Consultants (BOC) composed of three members which shall be approved by FERC's Director, D2SI. The BOC shall perform a review of system operator staffing levels at the centralized remote operations currently in place at the NSCC for projects owned by Erie and BPAM in the United States, and make recommendations for any needed changes or improvements. The proposed BOC members should consist of a representative of a sister hydroelectric utility of equal size, a civil engineer with plant management and operational experience at hydroelectric facilities, and a mechanical engineer qualified in programmable controls and operational characteristics for low head hydroelectric facilities. The BOC will recommend the basis for evaluating acceptable system operator staffing levels and present them to FERC's Director, D2SI for approval. Once the basis is approved, the BOC shall evaluate the staffing levels, and shall submit a report on the recommendation to the Director of D2SI for review and approval. The final report is due within 12 months of the date of this Agreement. Within 30 days of approval of the final BOC report, a plan and schedule from the Licensee and BPAM to implement the recommendations is due to the Director of D2SI.

44. The FERC's D2SI – New York Regional Engineer shall monitor Licensee's operations as provided for in Part 12 of the Commission's regulations.

VI. TERMS

45. The "Effective Date" of this Agreement shall be the date on which the Commission issues an order approving this Agreement without material modification. When effective, this Agreement shall resolve the matters specifically addressed herein as to Erie and any affiliated entity, their agents, officers, directors, and employees, both past and present, and any successor in interest to Erie.

46. Commission approval of this Agreement in its entirety and without material modification shall release Erie and forever bar the Commission from holding Erie, its affiliates, agents, officers, directors and employees, both past and present, liable for any and all administrative or civil claims arising out of, related to, or connected with the investigation addressed in this Agreement.

47. Failure to make a timely civil penalty payment or to comply with any provision of this Agreement shall be deemed a violation of a final order of the Commission issued pursuant to the Federal Power Act (FPA) and may subject Erie to additional action under the enforcement and penalty provisions of the FPA.

48. If Erie does not make the civil penalty payment above at the time agreed by the parties, interest payable to the United States Treasury will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 154.501(d) (2013) from the date that payment is due, in addition to the penalty specified above.

49. This Agreement binds Erie and its agents, successors, and assigns. The Agreement does not create any additional or independent obligations on Erie, or any affiliated entity, its agents, officers, directors, or employees, other than the obligations identified in Section V of this Agreement.

50. The signatories to this Agreement agree that they enter into this Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of Enforcement or Erie has been made to induce the signatories or any other party to enter into the Agreement.

51. Unless the Commission issues an order approving this Agreement in its entirety and without material modification, this Agreement shall be null and void and of no effect whatsoever, and neither Enforcement nor Erie and its affiliates shall be bound by any provision or term of the Agreement, unless otherwise agreed to in writing by Enforcement and Erie.

52. In connection with the payment of the civil penalty provided for herein, Erie agrees that the Commission's order approving this Agreement without material modification shall be a final and unappealable order assessing a civil penalty under FPA, 16 U.S.C. § 792, *et seq*. Erie waives findings of fact and conclusions of law, rehearing of any Commission order approving this Agreement without material modification, and judicial review by any court of any Commission order approving this Agreement without material modification.

53. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity and accepts this Agreement on the entity's behalf.

54. The undersigned representative of Erie and its affiliates affirms that he or she has read the Agreement, that all of the matters set forth in this Agreement are true and correct to the best of his or her knowledge, information and belief, and that he or she understands that this Agreement is entered into by Enforcement in express reliance on those representations.

55. This Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

Agreed to and accepted:

Norman C. Bay — Date: 12.5.13
Director
Office of Enforcement
Federal Energy Regulatory Commission

On behalf of Erie Boulevard Hydropower, L.P. and
Brookfield Power US Asset Management LLC

Tom Deedy — Date: 12.5.13
Regional Chief Operating Officer, Eastern Region
North American Operations
Brookfield Renewable Energy Group

Document Content(s)

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