1. On February 28, 2012, and supplemented on July 18, 2012, EP Energy Massachusetts, LLC (exemptee) filed a Minimum Flow and Impoundment Fluctuation Monitoring Plan (Plan) pursuant to the terms and conditions of the U.S. Fish and Wildlife Service (FWS), and the Massachusetts Division of Fisheries and Wildlife (MDFW) for the exemptions of the Dwight Station Project No. 10675, Red Bridge Project No. 10676, Putts Bridge Project No. 10677, and Indian Orchard Project No. 10678, collectively known as the Chicopee River projects.\(^1\) The projects are located on the Chicopee River in Hampden and Hampshire counties, Massachusetts.

### Background

2. Article 2 of the exemptions for the Chicopee River projects requires compliance with the terms and conditions prepared by federal and state fish and wildlife agencies. The FWS and MDFW modified the terms and conditions for the projects by letters dated January 27, 2000, and February 15, 2000, respectively as a result of the December 29, 1999 Order Amending Exemptions.\(^2\) Condition 5 of the FWS terms and conditions, and Condition 6 of the MDFW, require the exemptee to submit within six months of the December 29, 1999 Order Amending Exemptions for the Chicopee River projects, a plan for monitoring project impoundment levels and instantaneous bypass flow releases. Following approval of the Plan, the exemptee shall measure and record impoundment

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\(^2\) *Consolidated Edison Energy Inc., 89 FERC ¶ 61,256 (1999).*
levels and flows according to the Plan, and provide records of this data to the FWS within 30 days of a request.

3. In addition, the January 27, 2000, and February 15, 2000 letters require the Plan to: 1) detail the flow release structures and locations; 2) describe the mechanisms used to monitor head pond elevation and minimum flows; 3) specify how often maintenance and calibration of the monitoring and recording equipment will take place; 4) state how bypass flows will be maintained during any periodic maintenance activities that require the impoundment to be drawn down below the level of the flow release structures; and 5) state how frequently and in what form the data are recorded. A calculation sheet that verifies the discharge of each release structure (i.e., slide/canal gate, board notches and dam spill) under all operating ranges should be included.

4. On October 5, 2001, Consolidated Edison Energy Massachusetts, Inc., the exemptee of the Chicopee projects at the time, sent the FWS and MDFW a draft Plan for review and comment. By letter dated November 6, 2001, FWS commented on the draft Plan. FWS requested that the exemptee include additional information with respect to the impoundment fluctuations and release mechanisms in the Plan, as well as requested field calibration to occur as soon as possible to verify that the release structures were passing the required minimum flows. By letter dated November 15, 2001, MDFW commented that the Plan should specify the set points programmed into the Programmable Logic Controlling (PLC) device, specify the frequency of monitoring the pond elevation and changes to gate adjustments, based on the response to the data, and how frequently the pond level will be recorded. MDFW also sought clarification as to how long the data for the pond elevation will be kept, and requested calculations to quantify the flow to be released from the alternative flow devices used during periods of maintenance.

5. On April 18, 2001, Consolidated Edison Energy Massachusetts, Inc, in its letter to the FWS, agreed that the agencies had the authority to modify the terms and conditions of the exemptions, and indicated it would file the revised Plan by May 31, 2001. However, the exemptee never responded to FWS and MDFW’s comments, nor did it file the Plan with the Commission.

6. By the February 28, 2012 filing, EP Energy Massachusetts, LLC attempts to correct the previous exemptee’s noncompliance (EP Energy Massachusetts, LLC purchased the project from Consolidated Edison Energy of Massachusetts, LLC in 2008) with the federal and state terms and conditions of the exemptions for the Chicopee River projects.

**Exemptee’s Plan**

**Dwight Station Project**
7. The Plan details the flow release structures and locations by describing that the exemptee is required to release a minimum flow of 258 cubic feet per second (cfs) (or inflow, if less) at the Dwight Dam. The flashboards have permanently been removed from the facility, thus the minimum flows will be passed over the dam crest. In addition, Condition 3 of the MDFW, and Condition 4 of the FWS, limit impoundment drawdown to a minimum of five inches above the dam crest, except for system emergencies or annual energy audits. During infrequent impoundment drawdown for major dam repairs, minimum flows will be maintained, and the mechanism for releasing the minimum flow will be outlined in a letter sent to the agencies prior to the impoundment drawdown.

8. The Plan also outlines that the impoundment levels would be continuously monitored through the use of an electronic pressure transducer located on the south shoreline, slightly upstream of the canal gatehouse. An electronic recording of the impoundment level, in addition to instantaneous visual displays in the gate house, will ensure compliance with the required impoundment limits. The canal headgates will be controlled by a PLC device located within the canal gate house that adjust the headgate opening based upon impoundment level, canal level, and unit operational status. The impoundment level control is proportional-integral-derivative based, and will be programmed to maintain an impoundment elevation of 77 feet, five inches above the permanent spillway crest level. The PLC will continually monitor impoundment level, and will record the level using a strip chart as the primary recording mechanism. A data logger will record the impoundment elevations every 15 minutes as a secondary recording mechanism.

9. The exemptee states in the Plan that maintenance to the monitoring systems would be performed on an as-needed basis with calibration of the instruments occurring every two years. At a minimum, operators would visit the project approximately twice per week to confirm proper station operation. The station is also equipped with unit alarms to notify operational personnel of equipment malfunctions.

Red Bridge Project

10. The Plan states that the required minimum flow of 237 cfs (or inflow, if less) would be released from a 7-foot-wide, 8.5-foot-high bottom discharge gate at the southern end of the spillway. The gate is equipped with an electric screw stem actuator capable of manual operation in the event of a power outage. Absent a power loss, the gate will be electronically controlled by a PLC device, which will continuously monitor impoundment elevations. Therefore, the gate positions will adjust automatically over the range of the impoundment fluctuations to consistently release the minimum flow of 237 cfs.

11. The exemptee is required to limit the impoundment drawdown to one foot below the crest of the dam, or an elevation of 272.24 feet from April 1 to June 30, and 2 feet
below the crest of the dam from July 1 to March 30, except for system emergencies or annual energy audits. The impoundment fluctuations will be measured through the use of an electronic pressure transducer located upstream of the canal headgates. Documentation of compliance with the impoundment limits will be by electronic recording of the level, and instantaneous visual displays in the powerhouse. The impoundment level and minimum flow gate will be continuously recorded using strip charts, and a secondary data logger will record the impoundment level every fifteen minutes as a backup.

12. During periods of gate maintenance or malfunctions, minimum flows will be maintained by spilling flows over the dam spillway and maintaining an impoundment level five inches above the crest level when the units are generating. During times of infrequent drawdown for major repairs, minimum flows will also be maintained, and the mechanism will be outlined in a letter sent to the resource agencies prior to the impoundment drawdown.

13. The Plan states that maintenance to the monitoring system will occur on an as-needed basis, with calibration of the instruments occurring approximately every two years. At a minimum, operators will visit the project twice per week to confirm proper station operation. The station is also equipped with alarms to notify operations personnel of equipment malfunctions.

Putts Bridge Project

14. The exemptee is required to release a minimum flow of 25 cfs (or inflow, if less) into the Putts Bridge bypassed reach. The Plan states that the minimum flow will be released through a single, six-foot-wide, eight-foot-high top discharge gate located on the dam’s north abutment. The gate is electronically operated, and controlled by a PLC, which automatically adjusts the gate opening with fluctuating impoundment elevations to maintain a constant discharge over the top of the gate. The PLC will continuously monitor and record the gate position in addition to the impoundment elevation using strip charts.

15. Additionally, the exemptee is required to limit drawdown to one foot below the top of the flashboards, elevation 205.25 feet, from April to June 30, and 2 feet below the top of the flashboards for the remainder of the year, except for system emergencies or annual energy audits.

16. The Plan states that impoundment fluctuations will be measured through the use of electronic pressure transducers. Documentation of compliance with the impoundment limits will be supplied by hourly strip charts recording impoundment levels, in addition to instantaneous visual displays in the powerhouse.
17. During periodic maintenance activities to the minimum flow gate, flows will be discharged over the dam crest. In addition, during infrequent drawdown for major dam repairs, minimum flows will be maintained, and the mechanism for the flow releases will be outlined in a letter to the agencies prior to the impoundment drawdown. The Plan also states that maintenance to the monitoring and control systems will be performed on an as-needed basis, with calibration occurring approximately every two years. At a minimum, the operators will visit the project approximately twice per week to confirm proper station operation. The station is also equipped with alarms to notify operations personnel of equipment malfunctions.

Indian Orchard Project

18. The exemptee is required to release a minimum flow of 247 cfs (or inflow, if less) at the Indian Orchard Dam. The Plan indicates that the minimum flows will be released through the use of two canal drainpipes, located immediately downstream of the canal headgates, on the north side of the canal. Each drainpipe is 36-inch in diameter, corrugated metal, and has an invert of elevation 151.7 feet. Each pipe is equipped with a 2.5 foot square entrance control gate that is automatically operated based on impoundment level. The control gates are fully opened for impoundment levels at or above elevation 160.8 feet, while the units are generating. If the impoundment levels begin or continue to drop below an elevation of 160.5 feet, the gate closes in approximately five percent increments to restrict impoundment levels from dropping further. This control feature allows the passage of inflows to the project until inflows exceed the 247 cfs. Documentation of compliance with the minimum flow requirement is supplied by strip charts that continuously monitor the impoundment level in addition to instantaneous visual displays in the powerhouse.

19. The exemptee must also limit drawdown of the impoundment to 0.5 foot below the top of the flashboards, or dam crest if the boards are out, from April 1 to June 30, and 1 foot below the top of the flashboards, or dam crest if boards are out, for the remainder of the year, except for system emergencies or annual energy audits. The impoundment levels are controlled through the use of the project’s turbines, which operate in automatic mode using impoundment level controls. The Plan states that the impoundment fluctuations will be measured through the use of electronic pressure transducers located upstream of the gatehouse. The levels will be continuously monitored and recorded on strip charts. As a secondary method, a data logger will also record the impoundment level every fifteen minutes.

20. During any periodic maintenance activities that require the canal to be dewatered, project generation is discontinued, and river flows are passed over the dam spillway. Any periodic maintenance to the flashboards requires the impoundment level to be lowered to approximately one foot below the crest of the dam, during which flows will be released via the canal drain gates. The Plan further states that the flows will be
subsidized with a pump to ensure minimum flows are maintained. During infrequent
impoundment drawdown for major dam repairs, the minimum flow will be maintained,
and the release mechanism will be outlined in a letter to the agencies prior to the
drawdown. Maintenance to the impoundment level and drainpipe control gate systems
will be performed on an as-needed basis, with calibration of the instruments being
performed approximately every two years. At a minimum, operators will visit the project
approximately twice a week to confirm proper station operation. The station is also
equipped with alarms to notify operations personnel of equipment malfunctions.

Agency Consultation

21. On June 8, 2012, the exemptee re-submitted the Plan to the FWS, MDFW, and the
Massachusetts Department of Environmental Protection (MDEP), requesting that the
agencies confirm that the outstanding comments from 2000 were adequately addressed in
the Plan, and requesting concurrence with the Plan. The MDFW and MDEP provided
concurrence on the Plan on June 12, 2012 via email. No other comments were received.

Discussion and Conclusion

22. We reviewed the exemptee’s Plan filed on February 28, 2012, and supplemented
July 18, 2012, and it satisfies the requirements of Condition 5 of the FWS, and Condition
6 of the MDFW of the exemptions for the Chicopee River projects. The Plan adequately
provides the details of the flow release structures and locations for the Dwight Station,
Red Bridge, Putts Bridge, and Indian Orchard projects. The Plan also describes the
mechanisms used to monitor head pond elevations and minimum flows, specifications of
how often maintenance and calibration of the monitoring and recording equipment will
occur, how bypass flows will be maintained during any periodic maintenance activities
that require the impoundment to be drawn down below the level of the release structures,
and how frequently and in what form the data will be recorded. The Minimum Flow and
Impoundment Fluctuation Monitoring Plan should therefore be approved.

23. However, this Plan was required by the FWS and MDFW, and Article 2 of the
exemption order over a decade ago. While the current exemptee is trying to fulfill the
outstanding requirement, the fact that the Plan was required so long ago cannot be
ignored. Nonetheless, we recognize that the current exemptee only recently realized that
the requirement was outstanding. We note that in the future, the exemptee should comply
with the requirements and timeframes set forth in the exemptions for the Chicopee River
projects.

The Director orders:

(A) EP Energy Massachusetts, LLC’s Minimum Flow and Impoundment
Fluctuation Monitoring Plan, filed February 28, 2012, and supplemented July 18, 2012,
pursuant to Article 2, and the terms and conditions of the U.S. Fish and Wildlife Service
and the Massachusetts Department of Fisheries and Wildlife for the exemptions for the Dwight Station, Red Bridge, Putts Bridge, and Indian Orchard projects, is approved.

(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825j (2006), and the Commission’s regulations at 18 C.F.R. § 385.713 (2012). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The exemptee’s failure to file a request for rehearing shall constitute acceptance of this order.

William Guey-Lee
Chief, Engineering Resources Branch
Division of Hydropower Administration
and Compliance