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UNITED STATES OF AMERICA
 FEDERAL ENERGY REGULATORY COMMISSION

Consolidated Edison Energy, Inc.

Project Nos. 10675-010
 10676-011, 10677-011
 10678-014

ORDER AMENDING EXEMPTIONS

(Issued December 29, 1999)

Consolidated Edison Energy, Inc., (CEEI) exemptee for the Chicopee River projects, FERC Nos. 10675 (Dwight), 10676 (Red Bridge), 10677 (Putts Bridge), and 10678 (Indian Orchard), filed a development plan to amend the installed capacity at each project on July 30, 1999 and supplemented the filing on December 6, 1999. The projects are located on the Chicopee River in Hampden and Hampshire Counties, Massachusetts.

Background

On September 11, 1992,¹ the Commission granted Western Massachusetts Electric Company (WMEC) exemptions from licensing for the four Chicopee River projects. The projects qualified for an exemption from licensing under Part I of the Federal Power Act² because WMEC proposed additional capacity by installing a minimum flow turbine unit at each project. Each project was authorized to contain the following existing and new generating units:

FERC PROJECT NO.	NUMBER OF EXISTING UNITS	TOTAL EXISTING CAPACITY (KW)	NEW MIN. FLOW UNIT CAPACITY (KW)	AUTHORIZED CAPACITY (KW)
10675	3	1,440	210	1,650
10676	2	3,600	695	4,295
10677	2	3,200	370	3,570

1/ See, 60 FERC ¶¶62,195, 62,196, 62,197, 62,198, Order Granting Exemption From Licensing (5 MW Or Less).

2/ Under § 4.30(b)(29) of the Commission's regulations, a "small hydroelectric power project" is defined as any project in which capacity will be installed or increased after the date of notice or exemption or application.

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Project No. 10675, et al.

-2-

FERC PROJECT NO.	NUMBER OF EXISTING UNITS	TOTAL EXISTING CAPACITY (KW)	NEW MIN. FLOW UNIT CAPACITY (KW)	AUTHORIZED CAPACITY (KW)
10678	2	3,700	430	4,130
Total	9	11,940	1,705	13,645

The exemptions for the four Chicopee River projects authorized a combined installed capacity of 13,645 kW, which included 1,705 kW of capacity for new minimum flow units. The exemptions indicate the minimum flow units will be installed at such time the units become economically feasible.

WMEC requested two extensions of time to extend the deadline to commence and complete construction of the projects. In an August 30, 1996 order, the Commission extended the deadlines to begin and finish construction until September 10, 1998, and September 10, 2000, respectively. Ordering paragraph (B) of the order stated that in the event WMEC cannot comply with the deadline requirements, then it shall by September 10, 1998, either file license applications to convert its exemption into licenses, or cease operation and file to surrender its exemptions pursuant to the Commission's rules and regulations.

In a February 12, 1998 letter, WMEC informed the Commission the minimum flow units were not economically feasible. WMEC requested the Commission eliminate the requirement to install minimum flow units at all four projects and stated it would complete performance tests of the existing units and, if feasible, upgrade one turbine runner at each project. In a letter dated April 13, 1998, the Commission accepted WMEC's proposal to eliminate the minimum flow units and upgrade the runners.

On July 23, 1999, CEEI purchased the four projects from WMEC. CEEI reviewed all the options for increasing the capacity and again concluded the minimum flow units and most of the runner upgrades are uneconomical. The exemptee filed a revised development plan with the Commission on July 30, 1999. In a letter dated October 27, 1999, the Commission requested CEEI to provide additional information regarding the plan. The exemptee submitted its response in a supplemental filing dated December 6, 1999.

Project No. 10675, et al.

-3-

Development Plan

In the July 30, 1999 filing, CEEI submitted a proposed plan for capacity increases at each project, as follows:

Dwight Project (FERC No. 10675)

The existing powerhouse contains three active units with a total installed capacity of 1,440 kW. The units were rehabilitated between 1984 and 1990. The rehabilitation work consisted of rewinding one of the generators to a higher capacity rating.

CEEI proposes to provide a new generator nameplate and replace the existing metering current transformers to increase the capacity of the project. The exemptee also proposes to install new automated canal headgates to restore the hydraulic capacity of the project. CEEI explains the rehabilitation work would result in increased energy production, less pond fluctuation at the dam, and more controlled operation of the canal.

Red Bridge Project (FERC No. 10676)

The existing powerhouse contains two active units with a total installed capacity of 3,600 kW. The powerhouse also has two inactive units which were retired in 1938. The active units were rewound between 1981 and 1987. -

CEEI proposes to replace the existing current limiting reactor, and install cooling fans for the station transformers to increase the capacity of the project. In addition, CEEI proposes to install new generator nameplates reflecting the rewinding of the units. In the Plan, CEEI explains the proposed work will not affect impoundment water levels or required minimum flow. CEEI intends to begin operation of the project for its exemption condition of a one-foot drawdown during fish spawning season, and a two-foot drawdown for the remainder of the year.

Putts Bridge Project (FERC No. 10677)

The existing powerhouse contains two active units, two retired units, and an empty bay for a fifth unit which was never installed. The two active units have a total -

Project No. 10675, et al.

-4-

capacity of 3,200 kW. In 1987, WMEC rewound one of the generators, performed testing on the unit, and found the unit is capable of generating at a higher capacity.

CEEI proposes to replace the existing cable, and install cooling fans for the station transformer to increase capacity. In addition, a new generator nameplate would be installed to reflect the rewinding of the unit. The anticipated new station rating would result in an increase in rated capacity. CEEI states the proposed work is not anticipated to affect impoundment water levels or required minimum flows.

Indian Orchard (FERC No. 10678)

The existing powerhouse contains two active and two inactive units of differing sizes. The two active units have a total capacity of 3,700 kW. The existing generators are significantly oversized for these turbines. A review of the turbines indicates that the existing runners are in poor condition, and should be replaced.

CEEI proposes to replace the runner in unit three to maximize the unit's capacity, which would result in an increased rated capacity. CEEI does not propose any changes to unit four, the pond level fluctuations, or the required minimum flow.

In its December 6, 1999 supplemental filing, CEEI explains that the proposed capacity increase percentage presented in the Plan are based on adjusted nameplate ratings. Based on the upgrades, the proposed unit capacities for the four projects are indicated in the table below.

FERC PROJECT No.	UNIT No.	GENERATOR (KW)	TURBINE RATING (HP)	TOTAL PROPOSED CAPACITY RATING (KW)
10675	2, 3, & 4	3@ 633	3@ 650	1,899
10676	3 & 4	2@ 2,315	2@ 3,000	4,630
10677	2 & 3	2@ 2,050	2@ 2,600	4,100
10678	3	1,500	2,080	1,500
10678	4	2,200	3,000	2,200
TOTAL	9	14,329	18,230	14,329

Review

A. Consultation

On June 22, 1999, CEEI met with federal, state, and local agencies to review and obtain comments on the development plan. The plan includes summaries of the meeting. All the agencies concurred with CEEI's proposed measures at all four of its Chicopee River projects. Further, the Commission issued a public notice of the proposed Plan on October 7, 1999. No protests, interventions, or comments on CEEI's proposed measures were received.

B. Environmental Review

Staff review of the environmental impacts of the proposed measures on each of the four projects finds that an Environmental Assessment (EA) is not required. There are sufficient environmental safeguards included in the existing exemption orders, as fully described below.

Dwight Project.

The Dwight Project includes a dam, a canal headgate house (with six gates), a power canal, an intake structure, three buried steel penstocks, and a single powerhouse. The dam consists of a masonry spillway about 306 feet long by 15 feet high with masonry abutments and 2.3 feet high flashboards.

The exemption authorizes a continuous minimum flow release of 258 cfs, or inflow into the bypass reach. The exemption also limits the pond draw down to one foot below the dam crest. In April 1997, the Massachusetts Division of Fish and Wildlife Service (MDFWS) agreed, as an interim measure, that a range between 140 cfs and 305 cfs could be used by maintaining constant spillage through flashboards slots and canal drain gates. In a November 16, 1998 letter, the U.S. Fish and Wildlife Service (FWS) indicated the present release method is inadequate for a permanent measure due to large fluctuations in actual release amounts.

To address FWS's concern, CEEI proposes to install new automated headgates at the entrance to the project's canal, which would restore the canal's hydraulic capacity, increase project generation, and better regulate the pond level. CEEI indicated in the December 6, 1999 filing, that the new headgates are acceptable to both the FWS and MDFWS. CEEI also proposes to maintain the existing

mechanism for releasing minimum flows to the bypass reach, which consists of a series of notches in the flashboards. While the boards are installed, CEEI will limit the pond draw down to three inches below the top of the boards. During periods when the flashboard system is damaged or lost, CEEI will maintain the pond level a minimum five inches above the crest to maintain the required minimum flow during generation.

Articles 12 and 13 of the exemption will ensure the proposed action does not produce adverse impacts to the site's historic resources. The long-term benefits to the environment from implementing the proposal would be offset by some minor adverse impacts to area soils, water quality, and fisheries. During installation, the 3,000-foot-long canal would be dewatered temporarily, which would result in some impacts on the fish population. Impacts to water quality, however, would be minimized by measures to be included in CEEI's erosion control plan, which is required by article 14 of the exemption.

Red Bridge Project.

The Red Bridge Project includes a dam, a canal headgate house (with 10 intake gates), a power canal, two operating penstocks, and a powerhouse. CEEI proposes to increase the generating capacity at the Red Bridge Project by upgrading the existing transformer through the installation of new cooling fans. The proposed measure would not have any land-disturbing impacts.

The exemption requires a continuous minimum flow release of 237 cfs, or inflow, at the base of the spillway. The exemption also limits pond drawdowns to one foot below the crest from April to June and two feet for the remainder of the year. During the June 22, 1999 meeting, the resource agencies indicated the drawdowns would not likely have an adverse impact on fish habitat, but could adversely impact the existing boat launch. Also, FWS indicated the present flow release mechanism is inadequate for a permanent measure due to large fluctuations in actual release amounts.

The exemptee intends to implement limitations for the pond level and proposes to review whether a one or two foot drawdown would affect the existing boat launch ramp. CEEI also proposes to install an automated slide gate at the spillway. The new slide gate would be capable of releasing the required minimum flow from a single point on the spillway during full and low pond conditions. The CEEI indicated in the December 6, 1999 letter that the use of a new slide gate at the spillway is also acceptable to both the FWS and the MADFW.

Articles 12 and 13 of the exemption will preclude adverse impacts to historic resources. Article 12 requires CEEI to: (1) consult with the State Historic Preservation Officer (SHPO) before undertaking any construction activity that would result in any modification of the project's existing historic facilities; and (2) file, for Commission approval, its final design drawings, including SHPO's comments on these drawings. Article 13 requires that CEEI consult with the SHPO and, if necessary, develop and implement a cultural resource management plan before undertaking any project-related construction activity that is not specifically authorized by the 1992 exemption order. Since the proposed automatic slide gate was not authorized by the subject order, CEEI must fulfill the measures delineated by Articles 12 and 13 before proceeding with its proposed installation.

Also, Article 14 of the exemption requires the exemptee to file, for Commission approval, an erosion control plan before the start of any land-disturbing, land-clearing or spoil-producing activities at the project. Development and implementation of the erosion control plan will minimize any adverse impacts of slide gate installation on water quality and fishery resources.

Putts Bridge Station

The Putts Bridge Project includes a dam, headworks structure, twin barreled concrete penstocks, forebay, intake structure, powerhouse and mechanical equipment. The exemption requires a minimum flow of 25 cfs into the bypass reach. The exemption also limits pond draw downs to one foot below the top of the flashboards from April to June and two feet for the remainder of the year. During the June 22, 1999 meeting, FWS requested evidence that operation of the Putts Bridge Project does not impact the minimum flow release at the downstream Indian Orchard Project.

In response to FWS concerns, CEEI filed on December 6, 1999, calculation tables on pond fluctuations permitted by the exemptions. Based on the results, it appears that the pond level control at the Indian Orchard Project should be set at 6 inches during the spring period. This measure would provide sufficient storage to permit the continuous discharge of the minimum flow at the Indian Orchard Project. Therefore, CEEI indicated in the December 6, 1999 letter, that it plans to operate the upgraded units within the head pond restrictions such that the total outflow from the Putts Bridge Project (i.e., the turbine discharge plus the 25 cfs minimum flow) is adequate to maintain the 247 cfs minimum flow requirement at the Indian Orchard Project.

CEEI proposes to replace an existing underground cable and install cooling fans for the project's transformer. Articles 12 and 13 of the exemption will ensure the protection of the site's historic resources. Also, article 14 of the exemption requires CEEI to develop a plan to control erosion before implementing any land-disturbing activities resulting from these activities. Staff concludes that the proposed measures would not produce adverse impacts to environmental resources.

Indian Orchard Project

The Indian Orchard Project includes a dam, headworks, power canal, penstocks, powerhouse and mechanical equipment. The CEEI proposes to increase the generating capacity of the Indian Orchard Project by replacing the runners on one of the project's two turbines. This measure would not affect the project's existing 247 cfs minimum flow, nor the operation of the project's head pond. Articles 12, 13, and 14 included in the exemption for the Indian Orchard Project will ensure any resultant land-disturbing activities related to this measure will not produce significant impacts to environmental or historical resources.

CEEI also proposes to investigate the installation of a bar rack or trash boom to prevent large debris from plugging the project's minimum flow drain gates and inspect the project's three penstocks which are in poor condition. These measures are considered maintenance activities.

C. Exhibits and Projects Revisions

During the review of the development plan, staff found the Commission has never approved as-built exhibits B (a general location map showing physical features, project boundary, and land ownership) and G (drawings showing the structures and equipment necessary to show the proposed features). The latest exhibits we have are those that were filed on December 6, 1989, as part of the application for exemption. This order requires the exemptee to file as-built exhibit B and G drawings for all four projects for the Commission's approval.

Summary of Findings

Staff finds the impacts from the proposed development plan are less than the anticipated impacts resulting from installation of the minimum flow units, since less ground disturbance is required. Staff concludes approving CEEI's proposed plan and

Project No. 10675, et al.

-9-

amending the exemptions would not constitute a major federal action significantly affecting the quality of the human environment.

The Director orders:

(A) The exemption for the Chicopee River projects, FERC Nos. 10675, 10676, 10677, and 10678, is amended as provided by this order, effective the first day of the month in which this order is issued.

(B) The development plan for the Chicopee River projects filed on July 30, 1999, and supplemented on December 6, 1999, is approved by this order.

(C) The project description for each of the four exemptions is revised, in part, to read:

Dwight Project (FERC No. 10675)

Description of Project: ". . . ; (5) a powerhouse containing three generating units, with a rated capacity of 633 kW each, for a total installed capacity of 1,899.0 (KW) . . . "

Red Bridge Project (FERC No. 10676)

Description of Project: ". . . ; (5) a powerhouse containing two generating units, with a rated capacity of 2,315 kW each, for a total installed capacity of 4,630 (KW) . . . "

Putts Bridge Project (FERC No. 10677)

Description of Project: ". . . ; (4) a powerhouse containing two generating units, with a rated capacity of 2,050 kW each, for a total installed capacity of 4,100 (KW).. . . "

Indian Orchard Project (FERC No. 10678)

Description of Project ". . . ; (5) a powerhouse containing two generating units of 1,500 KW, and 2,200 kW, for a total installed capacity of 3,700 (KW) . . . "

(D) Within 60 days of issuance of this order, the exemptee shall install new generator nameplates on the units at all four projects to indicate their new capacities.

Project No. 10675, et al.


-10-

Within 30 days of installation of the nameplates, the exemptee shall provide photographs of nameplates to the Commission with a copy to the Commission's New York Regional Office, for verification.

(E) Within 60 days of the date of issuance of this order, the exemptee shall file for approval an original and eight copies of a complete set of as-built Exhibits B and G drawings showing the project boundary and physical structures of each of the four Chicopee River projects. In addition, within 90 days of installing any new features authorized by this order, the exemptee should file, for the Commission's approval, revised drawings of the appropriate exhibits.

(F) The exemptee shall perform all project modifications in accordance with the terms and conditions set by the resource agencies and the requirements indicated in articles 12, 13 and 14 of each exemption. The exemptee shall report to the Commission any future proposed changes to the project prior to implementing them.

(G) This order constitutes final agency action. Requests for a rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. §385.713.

for 
Hossein Ildari
Chief
Engineering Compliance Branch