

SERVICE DATE
Oct 15, 2014

PSC REF#: 222412

Public Service Commission of Wisconsin
RECEIVED: 10/15/14, 1:38:01 PM

PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Public Service Corporation for Fox Energy
Center Units 1 and 2 Combustion Turbine Technology Conversion

6690-CE-201

FINAL DECISION

On May 30, 2014, pursuant to Wis. Stat. § 196.49 and Wis. Admin. Code ch. PSC 112, Wisconsin Public Service Corporation (WPSC) filed an application with the Commission for a Certificate of Authority (CA) to convert the combustion technology used at its existing Fox Energy Center Units 1 and 2, located in the city of Kaukauna, Outagamie County, Wisconsin. As part of the proposed project, WPSC would enter into an amended and restated contractual service agreement with General Electric International, Inc. (GE). WPSC estimates the cost of the project to be \$68,076,000, excluding Allowance for Funds Used During Construction (AFUDC).

The application is GRANTED subject to conditions.

Introduction

The Commission issued a Notice of Investigation on July 18, 2014. There were no requests from individuals or organizations to intervene in this proceeding, nor were any requests for hearing received. No public hearing is required for the proposed project under Wis. Admin. Code § 112.07(1).

Findings of Fact

1. WPSC is an electric public utility engaged in the generation and distribution of electricity in the state of Wisconsin. WPSC proposes to convert the combustion technology used

at its existing Fox Energy Center Units 1 and 2, and enter into an amended and restated contractual service agreement with GE.

2. The estimated gross cost of this project exceeds the minimum threshold of utility projects requiring Commission review and approval under Wis. Admin. Code § PSC 112.05.

3. The proposed facilities are necessary for WPSC to provide adequate and reliable present and future service.

4. Completion of the proposed project will not substantially impair the efficiency of the service that WPSC provides.

5. Completion of the proposed project will not provide facilities unreasonably in excess of WPSC's probable future requirements.

6. When the proposed project is placed in operation, the addition to the WPSC cost of service associated with this project will be proportionate to the increase in value or available quantity of the WPSC's service.

7. Neither energy conservation, renewable resources, nor other energy priorities under Wis. Stat. §§ 1.12 and 196.025 or their combinations would be a cost-effective or technically feasible alternative to the proposed project.

8. No significant environmental consequences are associated with the project.

9. The construction of the proposed project is not expected to affect any historic properties under Wis. Stat. § 44.40, nor any threatened or endangered species under Wis. Stat. § 29.604.

10. The general public interest and public convenience and necessity require the completion of the proposed project.

Conclusions of Law

1. WPSC is an investor-owned electric public utility engaged in rendering electric utility service in the state of Wisconsin, pursuant to Wis. Stat. § 196.01(5)(a).

2. The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 196.02, 196.025, 196.395, and 196.49, and Wis. Admin. Code §§ PSC 4 and 112, to issue a Certificate and Order authorizing WPSC, as an electric public utility, to convert the combustion technology used at its existing Fox Energy Center Units 1 and 2, at an estimated cost of \$68,076,000.

3. The Commission has jurisdiction to act upon WEPCO's application under Wis. Stat. §§ 1.11, 1.12, 196.02, 196.025, 196.395, and 196.49, and Wis. Admin. Code chs. PSC 4 and 112. The Commission has authority under Wis. Stat. § 15.02(4) to delegate to the Administrator of the Division of Gas and Energy those functions vested by law as enumerated above. It has delegated the authority to the administrator of the Gas and Energy Division to issue a Final Decision in this matter.

4. The estimated gross cost of this project exceeds the threshold of utility projects requiring Commission review and approval under Wis. Admin. Code § PSC 112.05.

5. Pursuant to Wis. Admin. Code § 112.07(1), the Commission concludes, based on the information in this record, that a public hearing in this docket is not necessary.

Opinion

Project Scope and Need

The Fox Energy Center is a dual-fuel, combined-cycle electric generation facility consisting of two GE combustion turbine (CT) generators, arranged in a two-by-two-by-one configuration with two Nooter/Eriksen heat recovery steam generators (HRSG), one Toshiba

Docket 6690-CE-201

condensing steam turbine generator, and associated plant equipment. Each CT-generator set includes a GE model 7FB.014 CT, a GE model 7FH2(B)5 hydrogen-cooled generator, and various subsystems. Each CT is capable of operating using either natural gas or No. 2 distillate fuel oil. Because of fuel cost, natural gas is currently used as the primary fuel, with fuel oil used as a backup fuel. Each HRSG is equipped with supplementary natural gas-fired duct burners manufactured by the Coen Company.

The nameplate capacity of the Fox Energy Center is 593 megawatts (MW), with a summer rating of approximately 550 MW. During summer conditions and when operating at its design point, the net capacity of the combined-cycle facility is approximately 500 MW, with an additional 50 MW of peaking capacity available from operation of duct-firing facilities. The facility is capable of being dispatched from a load level of approximately 150 MW up to its rated capacity.

The proposed project consists of the conversion, modification, and upgrade of the “hot section” of each CT from its current configuration, referred to as GE model number 7FB.01, to an advanced technology having a design common to GE 7FA.04 and 7FA.OS models. GE 7FA series turbine models are much more common than those currently in use at the Fox Energy Center, and are better supported by GE. The proposed project should reduce: turbine firing temperature, pressure ratio, plant heat rate, and air emissions of several pollutants including nitrogen oxide (NO_x) and carbon monoxide (CO), when the plant is operated above the minimum emissions compliance load. Electrical output will also increase under certain operating conditions. The enhanced design will also improve the durability of hot section components, which will reduce costs related to component repair and replacement.

WPSC proposes to construct the proposed project during the next hot gas path inspection outage, currently scheduled during 2016 for Unit 1 and during 2017 for Unit 2. Once the proposed project is constructed, the amended service agreement with GE will become effective and will provide for additional reduced maintenance cost savings for the turbine-generator units.

The primary benefits of the project should include: major maintenance cost savings associated with reduced future outage durations, savings associated with reduction of maintenance costs resulting from the installation of advanced technology components, and savings associated with the more economical long-term maintenance agreement. Additional benefits also include an increase in electric generating capacity, facility heat rate improvements, and mitigation of risk associated with future maintenance costs that would likely occur if the proposed project is not pursued.

The proposed project is consistent with that contemplated in WPSC's October 12, 2012, application for a certificate of authority to purchase the Fox Energy Center, docket 6690-EB-105. The Commission issued its Final Decision in that docket on February 22, 2013. WPSC identified the potential benefits of the proposed project during due diligence performed in connection with its acquisition of the Fox Energy Center.

Energy Priorities Statute

Various alternatives to the purchase of Fox Energy Center were analyzed in docket 6690-EB-105. None of the higher-ranked priorities identified in Wis. Stat. §§ 1.12(4) and 196.025 provide a cost-effective and technically feasible alternative to the purchase of the Fox Energy Center as modified by the proposed project. As such, the Commission concludes that the proposed project meets the requirements of Wis. Stat. §§ 1.12(4) and 196.025.

Project Alternatives

WPSC considered continued operation of the Fox Energy Center with the current 7FB.01 technology as an alternative to the proposed project. WPSC rejected this alternative because it would not allow for the economic savings that will be realized from the proposed project.

Compliance with the Wisconsin Environmental Policy Act

The Commission determines that this is a Type III action and has performed its environmental review as required by Wis. Admin. Code § PSC 4.10(3). No unusual circumstances suggesting the likelihood of significant environmental effects on the human environment have come to the Commission's attention. Neither an environmental impact statement under Wis. Stat. §1.11 nor an environmental assessment is required.

Because air emissions for several pollutants including NO_x, and CO will be significantly reduced as a result of the proposed project, no air permit is required from the Wisconsin Department of Natural Resources.

Certificate

WPSC is granted a CA to convert the combustion technology used at its existing Fox Energy Center Units 1 and 2, and enter into an amended and restated contractual service agreement with GE, as described in its application and modified by this Final Decision, at an estimated cost of \$68,076,000, excluding AFUDC, subject to conditions stated in this Final Decision.

Order

1. WPSC is granted authority to convert the combustion technology used at its existing Fox Energy Center Units 1 and 2, and enter into an amended and restated contractual service agreement with GE, subject to the conditions stated in this Final Decision.

2. The estimated cost of the proposed project is \$68,076,000, excluding AFUDC.

3. This authorization is for the specific project as described in the application, at the stated cost. Should the scope, design, or location of the project change significantly, or if it is discovered or identified that the project cost, including *force majeure* costs, may exceed the estimated cost by more than 10 percent, WPSC shall promptly notify the Commission as soon as it becomes aware of the possible change or cost increase.

4. All required permits shall be secured prior to construction.

5. Beginning with the quarter ending December 31, 2014, and within 30 days of the end of each quarter thereafter and continuing until the facilities are fully operational, WPSC shall submit quarterly progress reports to the Commission that include all of the following:

- a. The date that construction commences.
- b. Summaries of the status of construction, the anticipated in-service date, and the overall percent of physical completion.
- c. Actual project costs to-date.
- d. The date that the facilities are placed in service.

6. WPSC shall submit to the Commission the final actual costs, segregated by major accounts, within one year after the in-service date. For those accounts or categories where actual

Docket 6690-CE-201

costs deviate significantly from those authorized, WPSC shall itemize and explain the reasons for such deviations in the final cost report.

7. This Certificate of Authority shall expire if WPSC does not begin physical construction within two years of the effective date of this Order. WPSC may file a written request to extend the Certificate of Authority prior to its expiration. The Certificate of Authority does not expire if the Commission grants an extension. If this Certificate of Authority expires before construction begins, WPSC shall provide a written explanation within 20 days of the date of expiration.

8. This Final Decision is effective one day after the date of service.

9. Jurisdiction is retained.

Dated at Madison, Wisconsin, October 14, 2014

By the Commission:

A handwritten signature in black ink that reads "Robert Norcross". The signature is written in a cursive, flowing style.

Robert D. Norcross
Administrator
Gas and Energy Division

RDN:KJD:cmk DL: 00945248

See attached Notice of Rights

PUBLIC SERVICE COMMISSION OF WISCONSIN
610 North Whitney Way
P.O. Box 7854
Madison, Wisconsin 53707-7854

**NOTICE OF RIGHTS FOR REHEARING OR JUDICIAL REVIEW, THE
TIMES ALLOWED FOR EACH, AND THE IDENTIFICATION OF THE
PARTY TO BE NAMED AS RESPONDENT**

The following notice is served on you as part of the Commission's written decision. This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

PETITION FOR REHEARING

If this decision is an order following a contested case proceeding as defined in Wis. Stat. § 227.01(3), a person aggrieved by the decision has a right to petition the Commission for rehearing within 20 days of the date of service of this decision, as provided in Wis. Stat. § 227.49. The date of service is shown on the first page. If there is no date on the first page, the date of service is shown immediately above the signature line. The petition for rehearing must be filed with the Public Service Commission of Wisconsin and served on the parties. An appeal of this decision may also be taken directly to circuit court through the filing of a petition for judicial review. It is not necessary to first petition for rehearing.

PETITION FOR JUDICIAL REVIEW

A person aggrieved by this decision has a right to petition for judicial review as provided in Wis. Stat. § 227.53. In a contested case, the petition must be filed in circuit court and served upon the Public Service Commission of Wisconsin within 30 days of the date of service of this decision if there has been no petition for rehearing. If a timely petition for rehearing has been filed, the petition for judicial review must be filed within 30 days of the date of service of the order finally disposing of the petition for rehearing, or within 30 days after the final disposition of the petition for rehearing by operation of law pursuant to Wis. Stat. § 227.49(5), whichever is sooner. If an *untimely* petition for rehearing is filed, the 30-day period to petition for judicial review commences the date the Commission serves its original decision.¹ The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

If this decision is an order denying rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not permitted.

Revised: March 27, 2013

¹ See *State v. Currier*, 2006 WI App 12, 288 Wis. 2d 693, 709 N.W.2d 520.