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BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Electric Power Company; Wisconsin Energy Corporation; and W.E. Power, LLC; for a Certificate of Public Convenience and Necessity for Construction of Three Large Electric Generation Facilities, the Elm Road Generating Station, and Associated High Voltage Transmission Interconnection Facilities to be Located in Milwaukee and Racine Counties

05-CE-130

Application for Approval of Affiliated Interest Agreements Between Wisconsin Electric Power Company and Elm Road Generating Station

05-AE-118

Introduction

This is the final decision regarding Part II of the proposal filed by Wisconsin Energy Corporation (WEC) and several of its subsidiaries to construct new electric generating plants, which the applicants have named Power the Future (PTF). The Commission received the initial application for the approvals needed to build PTF on January 31, 2002.

In its original form, the PTF application proposed to construct a total of five new generating plants: two natural gas-fired units at Port Washington, to replace the existing coal-fired plants there, and three new coal-fired units added to the existing Oak Creek Power Plant (OCP) site. The application also includes other components, in addition to the proposals to construct new generating stations. It commits WEC to further reduce environmental emissions by upgrading its existing fleet of generating plants, to work in a collaborative group for the purpose of reaching a target of 5 percent of energy derived from renewable resources by

the year 2012, to pursue carbon dioxide mitigation projects that are energy-focused and Wisconsin-focused, and to increase its existing investment in energy conservation.¹

The Commission separated WEC's request for authority to construct new natural gas-fired units at Port Washington, known as the Port Washington Generating Station (PWGS), from its request to construct new coal-fired units at Oak Creek. On December 19, 2002, the Commission issued a Certificate of Public Convenience and Necessity (CPCN), approving Part I of PTF by granting authority to construct PWGS; on February 27, 2003, the Commission issued a subsequent order reopening and amending its initial decision.

WEC is proposing to finance each of these new generating units using leased generation contracts. Leased generation is governed by a law the Wisconsin Legislature enacted as part of 2001 Wis. Act 16, which took effect on September 1, 2001. Leased generation contracts are affiliated interest transactions and are regulated under Wis. Stat. § 196.52(9). WEC offered proposed leases for each generating unit, consisting of a Facility Lease, a Ground Lease and a Ground Sublease, and the Commission approved leased generation contracts to finance Part I of PTF. The leased generation contracts now being offered for Part II are based upon these approved contracts.

On November 15, 2002, the Commission issued a determination that WEC's CPCN application for Part II of the PTF project was complete. This triggered the 180-day period under

¹ Subject to regulatory review and provision for cost recovery, the PTF application commits WEC to spending \$1.3 billion over ten years to reduce emissions from its existing units, \$6 million annually for ten years on the pursuit of additional renewable resources, \$10 million over five years on carbon dioxide mitigation projects, and \$20 million over ten years for additional energy conservation activities. (PTF Application, pp. 4-5, 10-11; Vol. 1 Enclosure 1, pp. 2 and 11.)

which the Commission is required to conduct its review of this CPCN application regarding Part II of PTF. The Commission extended this period to 360 days by petitioning the Dane County Circuit Court for additional review and received the necessary order, pursuant to Wis. Stat. § 196.491(3)(g)1, on April 29, 2003. During this period Commission staff prepared an Environmental Impact Statement (EIS) for this project in collaboration with staff of the Wisconsin Department of Natural Resources (DNR), which was subsequently introduced into the record at hearing.

Part II of PTF is comprised of two Super Critical Pulverized Coal units (SCPC 1 and SCPC 2), each sized at 615 megawatts (MW), which WEC proposes to place in service in the years 2008 and 2009, and an Integrated Gasification Combined Cycle (IGCC) unit, sized at 600 MW and projected to be on-line in the year 2011.² Bituminous coal would be the principal fuel for each of the three units. WEC describes these three units as its Elm Road Generating Station (ERGS). Calpine Corporation and LS Power, Inc., both independent power producers (IPPs), entered the case in opposition to the ERGS project, arguing that independent power sources could meet the current energy and capacity needs of Wisconsin Electric Power Company (WEPCO) more economically than this leased generation project that WEC has proposed. S.C. Johnson & Son, Inc. also entered as a party in opposition; it alleges that ERGS is not the least-cost alternative for reliable electric service and is not in the public interest. All parties to the docket are listed in Appendix A.

² Both Wisconsin Public Power, Incorporated (WPPI) and Madison Gas & Electric Company (MGE) have options to acquire ownership interests of 50 MW in SCPC 1 and in SCPC 2. If these options are exercised, the capacity available to WEPCO from each SCPC unit would be 515 MW.

The Commission held 11 days of hearings before Administrative Law Judge David Whitcomb, commencing August 25, 2003, and continuing through September 12, 2003. At these hearings, witnesses with technical and professional expertise testified on behalf of the parties, Commission staff and DNR staff. In addition, in the cities of Oak Creek and Racine, Wisconsin, the Commission held three more days of hearings for the public on September 17 to 19, 2003. All those who appeared and testified are listed in the Commission's files. The parties then submitted briefs to the Commission. At its open meeting on October 29, 2003, the Commission considered this matter in oral deliberations.

This Final Decision approves the PTF application in part, denies it in part, and modifies it. The Final Decision APPROVES that portion of the PTF application regarding construction of two SCPC units at the North Site—CUP alternative, subject to conditions, but DENIES that portion regarding construction of the IGCC unit. The Commission APPROVES the construction of the first SCPC unit with an in-service date of 2009, and the second SCPC unit with an in-service date of 2010, rather than the dates of 2008 and 2009 that the applicants had proposed. The Commission APPROVES WEC's use of leased generation contracts, as modified by this Final Decision, to procure coal-fired generation through non-utility affiliates for its electric utility, WEPCO.

Findings of Fact

1. Energy conservation, renewable resources, or other energy priorities listed in Wis. Stat. §§ 1.12 and 196.025, or their combination, are not cost-effective or technically feasible alternatives to the projects proposed in this docket.

2. The WEPCO's demand forecast demonstrates a need for new baseload generation within the next decade.
3. Part II of PTF, consisting of the two SCPC units and WEC's other commitments to secure additional energy conservation and renewable resources, satisfies the reasonable needs of the public for an adequate supply of electric energy.
4. The public convenience and necessity require WEC to construct the two SCPC units, subject to the conditions specified in this final decision.
5. The two SCPC units are reasonable and in the public interest after considering alternative sources of supply, individual hardships, engineering, economic, safety, reliability, and environmental factors. The IGCC unit does not meet this standard.
6. The North Site—CUP alternative is in the public interest after considering alternative locations, individual hardships, engineering, economic, safety, reliability, and environmental factors.
7. The two SCPC units will not have undue adverse impact on other environmental values.
8. The two SCPC units will not unreasonably interfere with orderly land use and development plans for the area involved.
9. The two SCPC units will not have a material adverse impact on competition in the Wisconsin Upper Michigan System (WUMS) wholesale electric service market.
10. Leased generation contracts are a reasonable means of financing the two SCPC units.

11. The leases proposed in this docket, as modified by this Final Decision, are reasonable and in the public interest.

12. The conditions attached to the CPCN for the two SCPC units, as described in this Final Decision, are reasonable.

13. Requiring that ERGS-SCPC 1 LLC commence construction of SCPC 1 within 12 months after it receives all necessary government permits and approvals is reasonable, so the generating plant will satisfy the reasonable needs of the public for electric energy in a timely manner. Requiring that the applicants file an updated demand and energy forecast and updated EGEAS modeling³ before commencing construction on SCPC 2 is reasonable.

Conclusions of Law

The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 196.02, 196.025, 196.395, 196.40, 196.49, 196.491, 196.52, and 196.795 to issue certificates authorizing W.E. Power LLC, through its subsidiaries ERGS-SCPC 1 LLC and ERGS-SCPC 2 LLC, to construct and place in operation two 615 MW SCPC electric generating units at the site described below, and to impose the conditions specified in this Final Decision.

Opinion

This proceeding involves the second half of WEC's proposal to meet forecasted electric demand of its electric utility, WEPCO, by constructing large-scale coal-fired generating facilities

³ "EGEAS" is the Electric Generation Expansion Analysis System, a complex interactive computer model developed by the Electric Power Research Institute. Over the past decade, the Commission has consistently used and required utilities to use EGEAS to evaluate electric generation expansion plans for cost-effectiveness and optimality.

through an affiliated entity. The proposed baseload⁴ generation facilities, if the applicants receive all regulatory approvals, would represent the largest energy project ever constructed in Wisconsin. Wisconsin's Leased Generation Law, Wis. Stat. § 196.52(9), permits load-serving entities to lease generating resources from an affiliated entity, subject to the approval of the Commission. As with Part I, the Commission has consolidated WEC's application for construction authority with its application for Commission approval of the proposed leases as affiliated interest transactions. In these consolidated dockets the Commission has balanced its responsibilities under the Leased Generation Law, as well as its other obligations under the power plant siting law and the affiliated interest statute, with its paramount obligation to the consuming public.

Project Description

WEC has created separate limited liability corporations for the purpose of constructing and owning the generating units that comprise ERGS. WEC also created W.E. Power LLC, a non-utility affiliate within the WEC holding company that would have majority ownership of these limited liability corporations.

ERGS-SCPC 1 LLC and ERGS-SCPC 2 LLC would build the two SCPC units, for operation as baseload facilities. The design would also allow for cycling, to accommodate load changes required by the electrical system demand. SCPC technology involves heating water to a temperature and pressure that exceeds its critical point, which is 705 degrees Fahrenheit at a pressure above 3,200 pounds per square inch absolute. The steam then exits the steam generator

⁴ A utility's "baseload" energy demand is driven by high load factor customer needs, i.e., electric uses such as commercial lighting, refrigeration, and industrial loads that run constantly. Generally, electric generating plants that are cost-effective when running at least 70 percent of the time are considered "baseload" units.

and moves to the high-pressure turbine, to which an electric generator is attached. Pulverized coal and combustion air mix together, flowing to the coal nozzles at the various furnace elevations. The hot combustion products heat the water to supercritical conditions in the steam generator, then move through the selective catalytic reduction system, preheater, fabric filter, induced draft fans, flue gas desulfurization system, and stack. The higher temperatures and pressures achieved in a supercritical steam generator increase the energy content of the fluid delivered to the turbines, which improves efficiency, as would the use of cold Lake Michigan water in the condenser. In general, the SCPC units would convert approximately 38 to 39 percent of their fuel's heat content into electricity. Greater plant efficiency means less fuel burned per unit of electrical output. The expected life of the SCPC plants is 40 to 45 years.

The proposed IGCC unit would use a process that breaks down coal into its basic constituents and obtains a synthetic gas (syngas) for use in two combustion turbines. The gas conditioning process enables the separation of any pollutants from the syngas prior to its use as fuel. If the quality of the syngas is not adequate for use in the combustion turbines, it would be ignited in a stack, with a resulting flare approximately 80 feet high. During normal startups, syngas would also be flared for a few hours.

An IGCC facility would employ industrial frame, advanced technology combustion turbines. Hot exhaust gases from the combustion turbines would also be used to produce steam, which would be expanded in a steam turbine to drive an electric generator and produce electricity. An IGCC plant would operate for the majority of the year as a baseload facility, with an expected life span of 40 years.

Trains deliver coal to the existing OCPP units and would also be used to deliver coal to the new units. The existing on-site rail facilities are over 35 years old, and their continued use for both OCPP and ERGS would exacerbate off-site impacts. The rail unloading facilities lack a complete rail loop, which increases the number of movements needed to get a train into and out of the rail yard and increases the time required to unload a train. Existing track allows room for only one coal train to park on-site, so that if one train is present when another arrives, the second must wait off-site. The applicants propose to modernize the rail unloading facilities by adding track to create an on-site rail loop, adding another rail spur, installing a new rail car positioner (indexer) and dumper, moving the location of repair-in-place track, and making other needed changes. The new rail facilities would allow two full and two empty trains to park on WEPCO's property and would shorten the current unloading time of approximately 16 hours to five or six hours. The proposed rail system improvements would also mitigate the off-site effects associated with existing and future coal delivery.

WEC proposes to construct a once-through cooling system for ERGS, with an intake structure resting on the bed of Lake Michigan and a transport system to move the lake water from the intake structure to the generating units on shore. The intake structure would consist of four timber cribs, located about 9,000 feet from shore and 45 feet below the water surface. Water would be drawn into the cribs at a velocity of about one foot per second. Each crib would be connected via a 14-foot diameter pipe to the water transport system, with the water traveling through a 32-foot diameter tunnel located about 200 feet below the bed of Lake Michigan to the shoreline, where it would be pumped upward and through screening facilities before entering the plant. Water use for each SCPC unit would be about 700 million gallons per day. The

cumulative water use for the existing OCPP Units 5-8 and the two new SCPC units would be about 2.56 billion gallons of water per day.

For its water discharge structure, WEC proposes to build a seal well with concrete retaining walls and a rock-lined dredged channel. The channel, which would control erosion and reduce the velocity of the discharged water, would be approximately 200 feet wide and extend approximately 750 feet into the lake. To create the discharge channel, about 10,000 to 15,000 cubic yards of material would need to be dredged from the bed of Lake Michigan. The proposed discharge structure for the North Site-CUP alternative would be located north of the existing coal dock.

The new generating units of ERGS would require step-up unit transformers adjacent to the buildings that house the generators. Electric generators produce power at approximately 20 kV, which is then raised to 345 kV so it can be moved efficiently over the transmission network. The American Transmission Company (ATC) has conducted several studies to determine the cost of interconnecting ERGS to the transmission system and the cost of upgrading the transmission system so it can transmit power from ERGS. It completed a partial transmission restudy of ERGS on July 25, 2003, estimating the transmission costs associated with installing SCPC 1 and SCPC 2 at \$65.5 million and \$100.5 million, respectively. Determining transmission system requirements for ERGS, though, depends upon the amount of forecasted generation in southeast Wisconsin and northern Illinois. Recently, several proposed generating units in the area have dropped from ATC's queue and will not be operating in the same time frame as the ERGS units. This will require ATC to restudy the interconnection needs, to minimize the amount of transmission facilities installed and recalculate the costs involved. This

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analysis is quite complex, depends upon the site chosen, and requires several months of sequential computer model runs.

ATC's preliminary Facility Study Report indicated that the construction of SCPC 1 would require changes in the 345 kV, 230 kV, and 138 kV substations, while the construction of SCPC 2 would require further upgrades to the existing transmission lines and substations in the area. Some of the possible line and associated substation work includes Oak Creek–Brookdale 345 kV, Brookdale–Granville 345 kV, Oak Creek–St. Martins #2 138 kV, Butler–Tamarack 138 kV, and Bluemound–Butler 138 kV; most of this transmission work would be on existing rights-of-way.

The applicants proposed four site alternatives, all located on the OCPP property. The existing north OCPP building, which originally housed OCPP Units 1-4, is now empty and serves only to support the existing coal handling facilities. WEC intends to dismantle and dispose of this building. The remaining OCPP Units 5-8 would continue to operate in the south OCPP building, though Units 5 and 6 may be retired as part of the PTF plans.

Three of the sites were originally proposed in the CPCN application; these have been designated the North Site, the South Site, and the South Site—Exp. The North Site is in the city of Oak Creek in Milwaukee County at the east end of Elm Road, north of the existing OCPP units. The South Site would place the generating units on a portion of the OCPP property south of existing Units 5-8, in the town of Caledonia in Racine County. The South Site—Exp is a variation on the South Site, placing the SCPC units in the same location but with the IGCC facility on a federal/state-owned shooting range (land that WEC would need to purchase).

In May 2003, the applicants and the city of Oak Creek negotiated a Conditional Use Permit (CUP), making some changes to the original North Site. The North Site—CUP alternative would move the coal handling facilities and coal storage piles south about 1,500 feet, to a location inside the existing OCPP rail loop. This would require relocation of the existing 138/345 kV substations, which are currently within that rail loop. These substations could be separated and relocated on site to avoid the new rail and coal facilities, connect the new SCPC units at 345 kV, and facilitate transmission ROW exits to the west.

Delivery of coal to the plant site could block vehicles for significant periods of time at the Seven Mile Road and Six Mile Road crossings of the Union Pacific rail line. To eliminate this impact the applicants would pay for road improvements to separate or eliminate at-grade rail crossings at these roads. In addition, the town of Caledonia is concerned about lengthy blockages of vehicular traffic at Four Mile Road, due to existing train deliveries to OCPP. The applicants maintain that their improvements to on-site rail facilities should eliminate this problem, allowing trains to cross Four Mile Road at speed. It is reasonable to require that the applicants monitor the effect of train deliveries on vehicular traffic at this road, and address valid concerns the town may have about road blockage. Any changes at the rail crossings ultimately require the approval of the Office of the Commissioner of Railroads, which also has the authority to determine the nature of the changes. Local government and the Union Pacific Railroad would own any new roads, tunnels, bridges, or other elements of approved crossing changes.

Reasonable Needs of the Public; Forecasting Capacity and Energy Demand

An important threshold determination the Commission must decide is whether or not there is a need for the generation facilities proposed by WEC and its subsidiaries. Wisconsin's

Power Plant Siting Law requires that a proposed facility satisfy “the reasonable needs of the public for an adequate supply of electric energy” in order to receive a CPCN. Wis. Stat. § 196.491(3)(d)2. To justify the need and timing of the three units that comprise ERGS, WEC submitted WEPCO’s forecast of growth in electric demand and energy over the next ten years and then provided optimal expansion plan results from the EGEAS computer model.

WEPCO forecasts that, between 2003 and 2012, total electric demand (including reserves and new wholesale sales) will grow 1,995 MW or 2.8 percent annually. Excluding new wholesale sales, the rate of retail electric demand growth would be 2.5 percent annually. Total electric energy for the same period is expected to grow 2.5 percent annually. These growth rates also incorporate WEPCO’s existing energy efficiency and demand-side management (DSM) efforts, and assume that similar efforts will continue into the future. When used in the EGEAS model, these forecasts demonstrate a need for new baseload supply resources.

The Commission is not persuaded by the argument raised by certain parties concerning the reasonableness of WEPCO’s capacity and energy needs. S.C. Johnson criticizes the demand and energy forecasts as too high and argues that they improperly include wholesale requirements load for WPPI and Municipal Electric Utilities of Wisconsin (MEUW), which WEPCO is not obligated to supply. The forecast growth rates are consistent with WEPCO’s historical growth patterns and those adopted in the Port Washington order.⁵ WEPCO’s total demand has been growing 2.5 percent per year since 1997. In addition, WEPCO has a long-standing relationship supplying electric energy and power to wholesale municipal customers and this relationship will

⁵ Final Decision, Application of Wisconsin Electric Power Company; Wisconsin Energy Corporation; and W.E. Power, LLC; for a Certificate of Public Convenience and Necessity for Construction of Two Large Electric Generation Facilities the Port Washington Generating Station, and Associated High Voltage Transmission and Natural Gas Interconnection Facilities to be Located in Ozaukee County, PSCW docket 05-CE-117.

continue. Commission staff reviewed WEPCO's forecasts in the EIS and considered them reasonable; the Commission agrees. For these reasons, the Commission concludes that WEPCO's demand forecast is reasonable.

Statutory Energy Priorities

Another important legal and policy issue this Commission must decide is whether or not there is enough energy conservation, renewable resources, or a cleaner burning fuel to cancel or delay the construction approvals sought for the SCPC units in this proceeding. State law provides guidance to the Commission in carrying out the state's energy policy. Our obligations are set forth in Wis. Stat. § 1.12.

Wis. Stat. § 1.12(4) establishes energy priorities for Wisconsin. The statute provides as follows:

1.12(4) PRIORITIES. In meeting energy demands, the policy of the state is that, to the extent cost-effective and technically feasible, options be considered based on the following priorities, in the order listed:

- (a) Energy conservation and efficiency.
- (b) Noncombustible renewable energy resources.
- (c) Combustible renewable energy resources.
- (d) Nonrenewable combustible energy resources, in the order listed.
 - 1. Natural gas.
 - 2. Oil or coal with a sulphur content of less than 1 percent.
 - 3. All other carbon-based fuels.

In addition, Wis. Stat. § 196.025 declares that the Commission must implement these priorities in its energy-related decisions, to the extent "cost-effective, technically feasible and environmentally sound."

Several parties have suggested that the Commission, in construction cases involving a lower priority fuel source like coal, is obligated to select a higher priority fuel source

(e.g. natural gas) in order to fulfill its obligations under the Energy Priorities Law. S.C. Johnson asserts that it is not enough that ERGS be close in price to other higher priority options and that the applicants in the present proceeding must prove a “compelling reason” not to abide by the energy priorities described in Energy Priorities Law. Under this reasoning, the Commission would be obligated to select a higher priority fuel option unless the applicants have demonstrated that the proposed units at ERGS will be provided at a substantially lower cost than available higher energy priorities.

This Energy Priorities Law, however, is not a mandate to state agencies that must be mechanically applied to achieve a specific outcome. In the Prefatory Note to 1993 Wis. Act 414, which enacted this law, the Legislature declares that it “does not want to create inflexible mandates or deprive decision makers of the discretion needed to respond appropriately to the circumstances surrounding energy-related decisions.” The Legislature explains that this law uses “a combination of directives and encouragement, while reserving substantial discretionary authority to the decision maker.” Such discretion must be applied in this case, to harmonize the directives of the Energy Priorities Law with those of the Power Plant Siting Law. The statutory framework for analyzing whether approving a CPCN project would be in the public interest involves a number of factors, beyond those specified in the Energy Priorities Law. The Commission must consider the extent to which a proposal may cause individual hardships, as well as concerns about its engineering, economics, safety, reliability, environmental impacts, interference with local land use plans, and impact upon wholesale competition. The Commission is required to balance all of these competing elements, which frequently lead in different directions; no single primary factor is the measure of a CPCN project. Thus, the Commission is

responsible for harmonizing the Energy Priorities Law and the Power Plant Siting Law, in order to determine what is in the public interest.

WEPCO's forecast of future demand and energy needs already includes some level of energy efficiency, because WEPCO uses an econometric method that relies upon historical electric energy usage data. Incorporated in its historical usage data is the net impact of energy efficiency and the increased use of energy efficiency programs. While it is not possible to quantify how much energy efficiency is included in WEPCO's forecast, it assumes that the future impacts of energy efficiency will be similar to historical impacts. For this reason, in their testimony on energy efficiency potential, both the applicants and Commission staff attempted to estimate the amount of potential energy efficiency savings above that already included in the forecast, i.e., the "achievable potential."

The applicants' energy efficiency analysis consists of three scenarios, which reflect differing assumptions about the rate at which consumers will adopt energy efficiency measures based on the level of program intervention. The applicants' analysis suggests an achievable potential in 2008 for the Minimally Aggressive, Moderately Aggressive, and Highly Aggressive Scenarios of 23, 55, and 79 MW, respectively. The corresponding achievable potentials identified in 2016, the final year of the applicants' analysis, are 119, 172, and 186 MW. The applicants' energy efficiency witnesses testified that they are confident that, by 2008, over 50 MW of cost-effective energy efficiency will be achievable in WEPCO's service territory.

Commission staff also conducted an energy efficiency analysis. Commission staff calculated achievable energy efficiency potential in 2007, 2009, and 2011 of about 200, 400, and 600 MW, respectively. These are the upper bound of the range of estimates provided. The

estimates of energy efficiency potential provided by both the applicants and Commission staff have shortcomings related to the unknown amount of energy efficiency already included in WEPCO's forecast, restrictions on the measures included in the analysis, and the limited availability of current data on energy efficiency measures.

In the Commission's Port Washington order, the Commission highlighted the difficulty in attempting to substitute energy efficiency for needed intermediate load facilities. The Commission stated:

The Commission lacks sufficient evidence on energy in this case on energy efficiency to make the judgment that energy efficiency gains—which will ultimately be in the hands of consumers and businesses—are either of a sufficient quantity or are demonstrably achievable such that they may serve as a substitute for traditional generation in a cost-effective way. The Commission's concern is that there is no way to dictate this type of behavior to consumers that it is both technically feasible and practically feasible to alleviate the need demonstrated in this proceeding. The testimony of the various parties indicates that it is not possible to evaluate all possible technologies and programs in order to ascertain their realizable potential as well as their accuracy.

The same reasoning is equally applicable in the present proceeding. The applicants' and Commission staff's estimates of achievable energy efficiency do not demonstrate that energy efficiency could reliably or cost-effectively serve to substitute, or postpone, the SCPC units. On the other hand, the record demonstrates that a moderate level of intervention in the energy efficiency market would produce at least 55 MW of cost-effective and technically feasible energy efficiency in WEPCO's service territory by 2008. As part of the PTF proposal, WEPCO has committed to spending \$20 million over the next ten years to support energy efficiency activities. A key component to WEPCO's efforts is to work with other parties to support building code reforms that increase the energy efficiency of buildings. It is appropriate for WEPCO to implement energy efficiency programs to capture, at a minimum, this additional

55 MW of cost-effective energy efficiency by 2008 as identified by its consultants. Based on the consultants' estimate of a cost of about \$60 million to capture this 55 MW, an additional commitment of dollars may be needed to capture this savings. Although WEPCO is now in a rate freeze, it can commence these energy efficiency programs without delay by using its conservation escrow. The associated expenditures will then be held for recovery in the utility's next rate proceeding. It is therefore reasonable for WEPCO to submit a plan to the Commission, by March 1, 2004, for capturing at least 55 MW of additional energy efficiency.

(Chairperson Bridge dissents and would capture at least 100 MW of additional energy efficiency.)

After energy conservation, the state Energy Priorities Law favors renewable resources. The two forms of renewable generation most likely to be cost-effective during the forecast period are wind and biomass combustion, both of which were reviewed in the record.

As part of the PTF proposal, WEPCO has committed to a goal of obtaining 5 percent of its energy from renewable resources by 2011. This is more than twice the renewable portfolio standard set forth under Wis. Stat. § 196.378, which requires that at least 2.2 percent of each electric provider's retail energy must be from renewable resources by this date. WEC has also declared its intent to spend up to \$6 million per year for ten years on emerging technologies and activities, to encourage the development of renewable resources.

WEPCO has taken steps to meet its 5 percent goal by issuing two requests for proposals (RFPs). The first RFP was issued on December 18, 2002, for up to 200 MW of wind power capacity. In July 2003, the utility selected and signed power purchase agreements with three wind power projects having a total capacity of 214 MW. WEPCO issued the second RFP on

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August 14, 2003, for 25 MW of biomass. The biomass proposals must be submitted to the utility by November 26, 2003.

The Commission does not believe that renewable resources are either cost-effective or technically feasible to meet WEPCO's baseload needs. The EGEAS model runs in the record select large quantities of wind during the forecast period, but these runs rely upon an assumption that much of these wind resources can be sited in Lake Michigan, a new location for wind turbines that has never previously been used. Furthermore, these runs assume that the existing federal production tax credit for wind energy will remain in effect indefinitely. This federal production tax credit allows a wind facility owner to take a 1.8 cent/kWh tax credit for a period of ten years, but is now available only to projects that go online by December 31, 2003.

Whether Congress will extend this credit again, and for how long, are unknown. It would not be prudent to rely upon a wind production tax credit, which may or may not continue to exist, to meet WEPCO's major baseload needs. Furthermore, the EGEAS runs do not show that significant quantities of biomass would be cost-effective during the forecast period. For these reasons, the Commission finds that renewable resources are not cost-effective, technically feasible alternatives.

(Chairperson Bridge dissents, and would direct WEPCO to implement its plan to install 200 MW of new wind resources by 2005 and 50 MW by 2011.)

The Commission also considered whether gas-fired generation is a cost-effective or technically feasible alternative that could replace the need for new baseload generating facilities. No gas-fired, baseload facilities were presented as either a cost-effective or technically feasible alternative in this record.

A critical part of the Commission's ultimate preference for coal-fired generation over gas-fired generation rests heavily on the discretion accorded to the Commission under the Energy Priorities Law and the Power Plant Siting Law. More significantly, the crux of this case is really about the appropriate timing to construct new baseload generation. A fundamental policy choice presented in this case is whether the Commission believes that WEPCO needs to take steps now to address needs for new baseload facilities over the next decade. The Commission believes that the applicants should take those steps now to ensure these facilities are in service in 2009 and 2010.

The quantitative evidence presented in this proceeding supports the construction of new baseload generation to address WEPCO's needs. Almost every EGEAS run shows the need for new baseload generation over the next decade.⁶ Commission staff did conduct an "integrated alternative" EGEAS analysis that examines the feasibility of combining renewable resources with natural gas, while also reflecting a more aggressive energy efficiency approach. This modeling run includes all of the energy priority generation alternatives, while also reducing WEPCO's base demand forecast in 2011 by 600 MW in order to incorporate Commission staff's energy efficiency potential estimate. Even this integrated alternative run shows that an SCPC unit is needed during the forecasting period.

These EGEAS runs demonstrate that the energy priority resources, alone or in combination, cannot replace the need for new baseload, coal-fired units to serve WEPCO. EGEAS also shows the extent to which these resources can delay the need for additional

⁶ The only EGEAS model runs that do not confirm a need for additional baseload capacity by 2012 or sooner are conditioned upon either a permanent federal tax credit for wind or upon the taxation of carbon dioxide emissions. The former is unlikely, given the amount of wind that would be produced as a result of an unlimited tax credit, and the record is too speculative to reach conclusions regarding the latter.

baseload units, and the Commission has considered this evidence in order to reach its conclusion that the first SCPC unit should be placed in service in 2009, rather than 2008 as proposed by WEC.

(Chairperson Bridge dissents and would authorize in service dates of 2010 and 2012 for SCPC 1 and 2.)

There are qualitative factors set forth in Wis. Stat. § 196.491(3)(d) that also support the Commission's conclusion that new coal-fired generation is in the public interest and that ERGS is the most cost-effective and technically feasible way to address WEPCO's baseload needs. The Commission's decision to approve SCPC 1 and 2 balances its obligations under the Energy Priorities Law and the Power Plant Siting Law. It also reflects the Commission's policy judgment that while natural gas-fired generating facilities may be better suited for peak and intermediate load generation, coal-fired generation provides the most practical means to serve WEPCO's needs for baseload capacity. The evidence in this proceeding demonstrates the advantages of using cleaner burning coal technologies like SCPC as a baseload resource over gas-fired generation.

The need for new baseload generation is the critical factor that distinguishes this decision from the Port Washington order. The Port Washington order addressed WEPCO's need for new intermediate capacity. The Commission has not approved construction of any new baseload, coal-fired generation in Wisconsin since 1980. The evidence presented reflects the fact that WEPCO's existing fleet of baseload plants is aging. WEPCO's aging baseload resources may be asked to maintain or even increase their historical production as older facilities are retired over the next decade and transmission constraints within WUMS continue to limit the ability of

Wisconsin load-serving entities to import electricity. In fact, in Phase I of PTF the Commission approved the retirement of 320 MW of existing baseload, coal-fired generation at Port Washington. The record in this docket demonstrates that WEPCO needs more baseload capacity.

The Commission believes it is in the public interest to have more reliable baseload generation in place sooner rather than later as a matter of public policy. Concerns over electric reliability are paramount today and the Commission concurs with the policy arguments raised by the applicants, transmission-dependent utilities and consumer groups that it is better to err on the side of planning for more baseload needs sooner rather than later. Based on a number of qualitative and quantitative factors, the Commission believes that coal-fired generation provides the most cost-effective, prudent and practical means of meeting WEPCO's baseload capacity needs over the next decade.

The Commission also considered qualitative environmental factors in concluding that the construction of SCPC 1 and 2 is in the public interest under the Energy Priorities Law and the Power Plant Siting Law. The applicants' proposed units utilize the best available control technology (BACT) that are designed to substantially reduce the amount of emissions from WEPCO's existing fleet of baseload, intermediate and peaking units. The applicants will install BACT for several emissions, including SO₂, NO_x and PM₁₀. Taken together with the applicants' other regulatory consent decrees and voluntary emissions reductions agreements that were presented in this record, the evidence also demonstrates that total air emissions will decrease substantially from current levels after the completion of all PTF projects.

Finally, the Legislature stated that compliance with its Energy Priorities Law is based upon “the overall pattern of decisions made by each agency.” Since the enactment of that law in 1994, the Commission has authorized the construction of over 6,900 MW of natural gas-fired generation and 20 MW of wind-fired generation that have addressed peaking and intermediate capacity needs. The total mix of energy sources that the Commission has approved over this time period shows a pattern of decisions for baseload, intermediate and peaking generating facilities that complies with the state’s energy policy.

Reasonable Needs of the Public; EGEAS Modeling Results

As in other Commission decisions over the past decade, including Part I of PTF, this docket relies extensively upon computer expansion plan modeling of the electric system to identify cost-effective means of meeting a utility’s future electric demand. Both Commission staff and the applicants relied on the EGEAS model in this proceeding as the primary tool to consider optimal resource options on a quantitative basis for WEPCO’s future electric demand. The EGEAS model is a quantitative tool requiring three forms of inputs: data about the utility’s existing generating system; economic and engineering data for proposed new generating units; and a variety of base forecasts for demand and fuel prices. The existing unit data reflect the operational characteristics of the utility’s current generating fleet. New unit data, in this docket, concern the ERGS facilities, Calpine’s projects, wind and biomass renewable resources, and generic gas-fired combustion turbines and combined-cycle units. The EGEAS model then uses these data to calculate the overall system cost of adding different new units to the electric system, ultimately producing an optimal expansion plan for a minimum period of 30 years.

WEC submitted the results of its EGEAS runs and introduced them into the record. Commission staff then conducted its own independent review of this submission, examining the reasonableness of the company's data inputs and preparing its own EGEAS model runs. The results of this work appear in the EIS and in other evidence that Commission staff introduced in the record. Commission staff concluded that the forecasts WEC submitted with respect to base demand, energy, and fuel were not unreasonable. Commission staff also built into its EGEAS model the Commission's approval of the 545 MW, natural gas-fired Port Washington facilities in 2005 and 2008, as well as WEPCO's commitment to procure up to 250 MW of wind resources by 2012.

After considering the quantifiable evidence presented in the EGEAS runs, the key question in this docket is not whether additional coal-fired baseload generation should be approved, but when it should be installed. The principal difference among the various EGEAS runs concerns the proper timing of such an addition. Almost every sensitivity run of the EGEAS model, including runs that integrate more energy conservation and lower demand and energy growth, demonstrate a need for additional baseload capacity by 2012. Even those runs that support the use of additional gas-fired generation in the next few years also point to a baseload coal capacity need for WEPCO.

Commission staff performed one EGEAS model run using inputs it considered reasonable within a central range of estimates, which it described as its "base case," and modeled ten other EGEAS scenarios. These ten additional runs used different data inputs regarding factors such as WEPCO's demand forecast or the cost of fuel, in order to demonstrate the sensitivity of the model to changes in input assumptions and to depict the results when different

forecasting assumptions are used. Under Commission staff's modeling approach, the base EGEAS runs pick the SCPC units in 2011 and 2013. WEC argues, based upon both its EGEAS runs and its qualitative concerns, that the proper timing should be 2008 and 2009 for these units.

The EGEAS model is an engineering tool that depends upon a great deal of numerical data inputs, assumptions, and forecast uncertainty. Although its results are complex estimates, EGEAS is a useful tool—albeit one important quantitative tool—for the Commission to use in deciding the timing of the proposed generating facilities. Power supply planning is not a science. Determining what resource options will ensure low cost, reliability and environmental sensitivity for the consuming public requires the exercise of judgment and consideration of a wide variety of qualitative factors. The complexity of the assumptions built into this docket's EGEAS runs make it reasonable to select an outcome that is within the range of years proposed by Commission staff's and WEC's results. Given the requirement that it must maintain a reliable electric system, the Commission finds it prudent to construct these units slightly sooner, rather than later. For these reasons the Commission approves a timeline that places SCPC 1 in service in 2009 and places SCPC 2 in service in 2010.

Some parties suggest that the Commission should focus its attention in this docket solely upon the utility's near-term needs, arguing that looking more than five years into the future is too speculative. Baseload projects, however, can take five years to construct after all permits are received, and the process of preparing the project applications and receiving the required state and federal permits may add years to this timeline, especially if litigation follows. For this reason alone, when a utility's baseload needs are under consideration a more appropriate

forecasting period would be approximately ten years. The EGEAS runs show that new baseload SCPC units are cost-effective within this time period.

With respect to the proposed IGCC unit, EGEAS demonstrates that the proposed IGCC unit is never cost-effective and must be denied. The EGEAS model does not select an IGCC unit in any of its optimal runs. When the EGEAS model is forced to take an IGCC unit in 2011, the expansion plan becomes \$349 million more expensive in present value terms. The EGEAS model strongly dismisses the IGCC unit as non-economic because of its higher construction cost. An IGCC would cost \$1,579/kW to build, as compared to the lower construction cost of an SCPC unit (\$1,400 to \$1,440/kW). The guaranteed heat rate for the IGCC units, 9,500 Btu/kWh, is also inferior to the guaranteed 8,850 Btu/kWh heat rate for the SCPC units. IGCC technology, while promising, is still expensive and requires more maturation. For these reasons, the application to construct the IGCC unit is denied.

S.C. Johnson criticizes a number of modeling inputs, alleging that WEC is using improper engineering and fuel data for existing WEPCO units, an improper common systems cost allocation to the OCPP units, a demand and energy forecast that is too high, an improper addition of 200 MW of demand obligations for WPPI and MEUW, overly favorable engineering assumptions for the proposed SCPC units, and an improper early retirement of certain OCPP and Presque Isle units, while it is also ignoring the likely availability of additional energy efficiency efforts that would reduce the growth in electric demand. Commission staff evaluated these concerns, revised some of its assumptions, and prepared an EGEAS run to demonstrate how these changes would affect the optimal expansion plan. Because it includes additional energy efficiency to control electric demand, in addition to generation options, Commission staff

described this run as an “integrated alternative” that integrates the energy priorities described in Wis. Stat. §§ 1.12(4) and 196.025. For example, this EGEAS run includes lower forecast demand and energy growth rates of 1.8 to 2.1 percent per year, instead of the 2.5 to 2.9 percent per year growth rates in the base forecast. In addition, a total of 600 MW of demand is stripped away from the WEPCO base electric demand forecast, in 200 MW increments every two years through 2011, to reflect a more aggressive approach to energy conservation. This integrated alternative also includes a less favorable 4 percent forced outage rate for the SCPC units.

Even with the revised input assumptions of this integrated alternative, the EGEAS model results are not significantly different. EGEAS still selects an SCPC unit, by the year 2012. In addition, the record would not support such an aggressive estimate of cost-effective energy conservation, nor does the Commission agree that the 200 MW of demand for the WPPI and MEUW should be excluded. These are continuing power sales arrangements; for WPPI, the relationship with WEPCO has spanned decades. S.C. Johnson’s concern that WEC has improperly allocated common system costs to OCPP Units 5 and 6 (which WEC is proposing to retire early) does have merit, but Commission staff also identified that such an allocation would underestimate the actual costs of the SCPC units and modified its EGEAS cost figures accordingly.

Effect on Wholesale Competition

Under Wis. Stat. § 196.491(3)(d)7., the Commission may issue a CPCN for a proposed facility only if it “will not have a material adverse impact on competition in the relevant wholesale electric service market.” Such a determination requires an analysis of market power, which is the ability of a firm to charge prices for its product above what a competitive market

would allow. Since WEPCO has turned over operational control of its transmission system to ATC, the analysis need only focus on horizontal market power issues associated with the construction and operation of ERGS. Vertical market power issues associated with the combined operation of proposed facilities and the transmission system do not need review, given the existence of the Midwest Independent System Operator and its control over the ATC transmission system. The relevant wholesale electric service market is the area designated by the WUMS because this region is an electric “island system,” a limited market due to transmission constraints in which a large electric generating firm can obtain leverage over the prices paid for electricity.

Capacity and energy from ERGS will be provided to WEPCO via the Facility Lease, at rates this Commission regulates through its review of the lease’s economic terms and conditions. This regulation prevents any material adverse impact on competition in WUMS. As the market power study conducted for the Commission in 2000 by Tabors, Caramanis and Associates found, fixed price contracts (such as the proposed Facility Lease) mitigate market power. In addition, the Federal Energy Regulatory Commission only allows WEPCO to sell in WUMS at cost-based rates. For these reasons, the Commission finds that approval of ERGS will not create material adverse impacts on competition.

Calpine and LS Power, however, express concern that approval of ERGS would have a material adverse impact on competition by preventing the development of a competitive wholesale generation sector and hindering further electric industry restructuring in Wisconsin. However, WEPCO plans to continue contracting for power with independent power producers. Furthermore, a stand-alone generation company such as W.E. Power LLC could more easily be

divested by WEC than generating assets that are held within WEPCO, should a future legislature split generating plant assets away from utilities. For these reasons, the Commission does not concur that ERGS would materially harm competition.

Competing IPP Proposals

LS Power argues that WEC should have conducted an RFP for the capacity represented by ERGS. The Commission does not agree. In an earlier ruling on the applicants' request for a declaratory ruling on Part I of PTF, the Commission expressly declined the opportunity to mandate a formal RFP process.⁷ No statute, rule or order of this Commission requires such a process, even when purchasing from an affiliate. WEC has already used competition in its selection of an engineering vendor for this project, Bechtel Corporation.

The company also indicates that it will continue to use competitively bid contracts and subcontracts for various aspects of ERGS. Such competition will directly benefit ratepayers. At hearing, Commission staff indicated that the major component of ERGS not facing a market test per se was with respect to project financing. However, the Commission's selection of competitive financing terms can substitute for such a test. The Commission has broad experience in setting such financing terms in rate proceedings and other recent construction cases. The record, particularly as established in the affiliated interest docket, contains ample evidence on what the appropriate financing terms and conditions should be.

In Part I of PTF, the Commission compared WEC's PWGS project against several bids filed by IPPs. In this proceeding, one IPP filed a competing bid for Commission consideration.

⁷ *In the Matter of Wisconsin Electric Power Company's Request for Declaratory Ruling Approving a Proposed Plan to Increase Generation in Wisconsin*, Docket 6630-DR-104 (October 17, 2001).

On its own volition and as an alternative to the ERGS project, Calpine submitted a proposal to the Commission on February 19, 2003, offering to develop a 523 MW combined-cycle natural-gas-fired power plant in the town of Fond du Lac, Fond du Lac County, with similar additional 500 MW units located elsewhere in the state.⁸ In addition, on June 20, 2003, Calpine updated its February 2003 proposal by including 260 MW of combined-cycle, natural gas-fired capacity from Calpine's recent purchase of the Fox Energy Center located in the town of Kaukauna. Construction on that project commenced in October 2003.⁹ The Fox Energy Center is rated at 510 MW, with 250 MW of that capacity already under contract to Wisconsin Public Service Corporation. Calpine also submitted to the Commission a sample power purchase agreement, identifying and bidding relevant economic and engineering terms and conditions.¹⁰

Calpine's projects are natural gas-fired, combined-cycle units. Ordinarily, such units are considered intermediate load generating stations, with capacity factors up to 50 percent. Almost without exception, though, the EGEAS model runs in this record show that WEPCO needs additional baseload capacity within the next decade, in which generating stations must operate between 70 and 90 percent capacity factors. This is also the need for which the applicants have proposed the construction of ERGS.

Over a shorter forecasting period, WEPCO may need additional gas-fired, intermediate or peaking units. For example, some EGEAS runs identify a \$57 million cost reduction if a 523 MW, combined-cycle Calpine plant is included in 2006 or 2007. Yet the EGEAS models demonstrate that approving such units would not replace the need for additional coal-fired,

⁸ In docket 9343-CE-100, the Commission issued a CPCN for Calpine's Fond du Lac Energy project on May 5, 2003.

⁹ In docket 05-CE-115, the Commission issued a CPCN for the Fox Energy Center on November 7, 2002.

baseload generation. In addition, relying upon natural gas to meet WEPCO's baseload needs as well as its intermediate and peaking requirements would raise the risk of not properly diversifying the utility's fuel mix. Calpine may be an appropriate, cost-effective resource to meet intermediate load needs of WEPCO. However, this docket is focused upon the utility's baseload requirements and it is not necessary simultaneously to determine what intermediate facilities may be appropriate for WEPCO in the interim.

WPPI and MGE Ownership Options

Both WPPI and MGE have options to obtain 50 MW of ownership interests in each of the SCPC units. Historically, WPPI has met some of its baseload requirements through system power purchases from WEPCO, and MGE has acquired baseload capacity through joint ownership of power plants. As a result, the EGEAS model assumes that WEPCO only takes 515 MW from each of these 615 MW units. A decision by WPPI and MGE not to exercise their options would have significant financial consequences to WEPCO's ratepayers. For example, if the WPPI and MGE options are not exercised, WEC's modeling runs show total system costs increasing by approximately \$80 million. The record indicates that WPPI and MGE do intend to acquire ownership, so the Commission finds it reasonable to authorize construction of the SCPC units at 615 MW. If WPPI or MGE fails to do so within nine months after the date when the Facility Lease becomes final, however, WEC must return to the Commission and provide a plan that eliminates the risk of WEPCO ratepayers acquiring and paying for too much capacity. One

¹⁰ Calpine filed its power purchase agreement as a confidential document, due to the trade secret nature of its terms and conditions.

means of protecting ratepayers that WEC can consider is the sale of these ownership shares to another entity.

Cost of Construction; Approved Amounts

In approving construction of the SCPC units for 2009 and 2010, the Commission must ascertain the appropriate costs to be placed into each Facility Lease as the “Approved Amount.” ERGS includes common facilities that would serve 1,800 MW of new coal-fired capacity as well as 1,200 MW of existing coal-fired capacity from OCPP, i.e., a 3,000 MW “campus” at this site. Although the Commission has rejected the IGCC unit, it finds that a 3,000 MW coal campus remains an appropriate size, because it affords future planning flexibility to WEC. The additional cost of sizing common systems at 3,000 MW, instead of 2,400 MW, is approximately \$20 million, which is a modest amount to pay in order to provide additional planning flexibility.

(Chairperson Bridge dissents, and would size the common systems at 2,400 MW.)

The record does not describe the cost of constructing these units, with common facilities to serve 3,000 MW, in 2009 and 2010. It does, however, show the following cost structure under assumed construction dates of 2008 and 2009:

	Generating Unit and SCPC Common Systems	Site Common Costs Shared with OCPP	Inflation	Approved Amount
SCPC Unit 1	\$922,140,000	\$375,190,000	\$129,344,000	\$1,426,674,000
SCPC Unit 2	\$623,470,000	\$ 22,730,000	\$ 77,932,000	\$ 724,132,000
			Total:	\$2,150,806,000

The right-hand column reflects values in year-of-occurrence dollars, meaning that a level of expected inflation is included. Since the Commission has moved the dates of construction back one year, the values in this table must be adjusted by one more year of inflation. Within 45 days after the date this Final Decision is signed, the applicants are instructed to submit to the Commission, for its approval, corrections to the above table to incorporate this adjustment. The EGEAS model uses a 1.87 percent general annual inflation rate during the 2008-2010 timeframe. The applicants shall use no more than 1.87 percent as the annual inflation rate when making this adjustment.

If the Commission approves this submitted correction, the amounts shown therein shall become the Approved Amounts to be used in each Facility Lease. Because these figures are in year-of-occurrence dollars, W.E. Power LLC assumes the risk that inflation will cause actual construction costs to exceed the Approved Amounts by more than the cost overrun collar that is discussed below.

In their Facility Leases the applicants propose that actual construction costs be allowed to exceed the Approved Amounts by up to 10 percent, if the Commission determines that the excess cost is prudent. The applicants describe this as a 10 percent cost “collar” and indicate that W.E. Power LLC incurs the risk of larger cost overruns. The cost estimates in this record, however, are based upon engineering estimates at a point in time when only 5 percent of the actual engineering has been completed. To protect ratepayers from the risk that these estimates are too high, the Commission finds it reasonable to reduce the allowable margin of prudently incurred cost overruns by imposing a smaller, 5 percent cost collar. Parties representing certain customer groups also recommended that the Commission only allow costs meeting the definition

of “Force Majeure,” “Excused Event,” or “Event of Loss” under a Facility Lease be billed to WEPCO if the Commission determines that such costs are prudently incurred. The Commission agrees that this revision to the Facility Lease is necessary to protect ratepayers. Finally, the Commission agrees with the recommendation of these parties that the Approved Amount recoverable through the Facility Lease may not exceed the unit’s actual construction cost. The applicants concurred with this latter recommendation.

Financing Mechanism

Background

In its resource planning, WEC considered both utility-owned, rate-based generation, procurement from wholesale merchant plant suppliers, and leased generation financing. After reviewing these alternatives, WEC decided to pursue leased generation financing to fulfill WEPCO’s supply needs.

One of the reasons a lease option needs to be pursued, according to WEC, is that WEPCO will not be allowed sufficient return on a traditional rate base investment to compensate investors for the risks associated with the plant. Although the rate-based option is clearly one feasible alternative based on the evidence presented in this case, the Commission concludes that leased generation financing is in the public interest and is a reasonable method to finance SCPC 1 and 2.

The lease approach presents an innovative opportunity for procuring capacity and, as modified by this Final Decision, the terms of the leases WEC has offered are reasonable. The plant owner acts as a passive investor and the utility, which will operate and maintain the plant, remains a regulated entity under the Commission’s jurisdiction. This can provide ratepayers

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with protections similar to those afforded under a rate-based paradigm. Moreover, the changes the Commission has made to the lease arrangement, as discussed in this Final Decision, provide further protection to ratepayers.

In addition, recent legislative changes in Wisconsin have fundamentally altered the regulatory landscape for utilities, their customers and regulators. Public utilities have an obligation to serve their customers and in this proceeding, the Commission needs to give WEPCO some flexibility in transacting for energy to meet those needs in a manner that results in low and stable rates for consumers. One of the means to fulfill the Commission's mandate to ensure just and reasonable rates and reliable service includes leased generation financing. The Commission finds that the inter-affiliate leased generation proposal is the most reasonable choice for this ERGS facility and provides certainty that consumers will have these needed baseload facilities in 2009 and 2010.

Review of the proposed leases

The PTF leases are affiliated interest agreements under Wis. Stat. § 196.52(9). WEC proposes financing and operating each ERGS unit with a Facility Lease, a Ground Lease, and a Ground Sublease. Taken together, these leases constitute a leased generation contract. The ERGS leases filed in this case are based upon the final leases approved in docket 05-AE-118 for PWGS.

In general, the Commission finds that the Ground Lease, Ground Sublease, and Facility Lease are reasonable, but some changes to the Facility Lease are needed to balance risk and responsibility properly between the parties to this contract. These modifications are discussed in this Final Decision.

Because a leased generation contract is an affiliated interest transaction, under Wis. Stat. § 196.52(3)(a) the Commission may approve such a contract “only if it shall clearly appear and be established upon investigation that it is reasonable and consistent with the public interest.”

This law grants the Commission continuing supervisory control over the terms and conditions of most affiliated interest contracts or arrangements, which means it can modify such agreements as needed to protect the public interest. Wis. Stat. § 196.52(9)(e), however, limits the Commission of this control over a leased generation contract unless the contract itself grants the Commission this authority, or unless the Commission specifically reserves continuing supervisory control in its order approving the contract. Therefore, the Commission’s jurisdiction over these PTF leases will be limited by the terms of the leases themselves and by this Final Decision.

Financial terms

The Commission finds it reasonable to set the following financial terms of the Facility Lease:

1. Return on equity

To attract investment capital of the size and scope needed to construct the SCPC units, the Commission must include a return in the lease payments at a level that compensates investors for the risks they take by providing that capital. The record in this proceeding contains a wide range of estimates of what that return level should be. It is very difficult to determine precisely what return investors require, especially when the estimates of that return as developed by well-respected finance experts vary by hundreds of basis points. Given this difficulty, selecting the final return on equity figure involves as much art as science.

The applicants initially requested a return on equity of 12.9 percent. After a series of negotiations with representatives of customer groups took place, the applicants agreed to lower the requested return on equity to 12.7 percent.¹¹ This is the same return on equity the Commission authorized for PWGS. Others suggested that the compromise return was too high and that the SCPC units could be financed at a lower return on equity. While it is conceivable that the projects could be financed at a return on equity that is slightly lower than the negotiated figure, given the critical need for the SCPC capacity it is prudent to set the return on equity at a level sufficient to ensure that those units will be constructed rather than selecting a level that contains some risk that units could not be financed at reasonable terms for the applicants. The applicants were able to secure financing for the PWGS units at a 12.7 percent return on equity. The Commission therefore finds it reasonable to set this the return on equity at 12.7 percent in this proceeding as well.

(Chairperson Bridge dissents, as shown in the attached opinion.)

The dissent proposes to include in this order a condition requiring the Commission to revisit this provision of the lease, and others, after the conclusion of the first five years of the Facility Lease. The inclusion of this provision would introduce an unacceptable level of financial uncertainty into the lease. One of the principal advantages of affiliated lease generation financing terms is the certainty they provide ratepayers and the applicants over the next three decades to ensure that low-cost, reliable baseload generation is constructed in Wisconsin.

¹¹ The customer groups that negotiated and supported these lease provisions were the Wisconsin Industrial Energy Group, the Citizens' Utility Board, and the Customers First! Coalition (AARP-Wisconsin, Dairyland Power Cooperative, IBEW Locals 2150 and 2304, League of Wisconsin Municipalities, MGE, MEUW, National Federation of Independent Business-Wisconsin, RENEW Wisconsin, Wisconsin Alliance of Cities, Wisconsin Community Action Program Association, Wisconsin Electric Cooperative Association, Wisconsin Federation of Cooperatives, Wisconsin Merchants Federation, WPPI, Wisconsin Retired Educators' Association, and Wisconsin Towns Association).

2. Cost of long-term debt

The cost of long-term debt was an uncontested issue in this docket. As part of the Facility Lease rent calculation, a long-term debt cost is required. The Commission finds it reasonable to use the same computation method that it approved for the PWGS leases. That method requires that the long-term debt cost be determined within 180 days prior to the Facility Lease effective date and that the interest rate reflect an appropriate cost of long-term debt index from Moody's Investors Services for WEC's senior unsecured debt securities. The method also includes an appropriate refinancing or call option.

3. Capital structure

In its decision approving PWGS, the Commission found that a reasonable capital structure to be used in estimating the lease payments was 53 percent common equity and 47 percent long-term debt. In this proceeding the applicants initially requested a capital structure with 58 percent common equity and 42 percent long-term debt. The applicants maintain that, because ERGS would be coal-fired, the project needs a higher common equity ratio than the natural-gas-fired PWGS units. They contend that coal-fired units are inherently more risky than are natural-gas-fired units. A higher common equity ratio reduces the volatility associated with the earnings stream and thus mitigates the higher risk of the project to some extent. After negotiations with representatives of certain customer groups, the applicants agreed to reduce the common equity portion of the capital structure to 55 percent and to increase the long-term debt component to 45 percent.

The Commission finds that a 55 percent common equity, 45 percent long-term debt mix is a reasonable capital structure for the coal-fired SCPC units. This reflects three major risk

factors that cause coal-fired units to be more risky than natural-gas-fired units: (1) coal-fired units are more expensive to construct; (2) coal-fired units take longer to construct; and (3) coal-fired units need larger amounts of ongoing capital investment to maintain the facilities. These risk factors are large enough to require some additional equity in the capital structure, beyond the level that would be appropriate for natural-gas-fired units.

(Chairperson Bridge dissents, as shown in the attached opinion.)

4. Initial lease term

The initial term of the Facility Lease is 30 years. No party disagreed with this length of term, and the Commission finds it reasonable.

5. Rent reduction in first five years

At hearing, the applicants and parties representing certain customer groups supported a 5 percent rent reduction during the first five years of the respective Facility Leases, accompanied by an undefined present value true-up mechanism. The 5 percent rent reduction would be applied to the base rent calculation using the annuity approach, as found in the Facility Lease. After the five-year rent reduction period ends, some type of rent adder to that base annuity rent calculation would be required to maintain the original present value.

The Commission finds that this rent reduction approach is reasonable and will assist in reducing rate shock, but the record does not contain any potential present value true-up mechanism. WEPCO is therefore required to work with Commission staff to prepare, for Commission approval, an appropriate present value true-up mechanism.

(Commissioner Garvin dissents, concerning this rent reduction during the first five years.)

6. Renewal rent terms

The Facility Lease, as proposed, grants WEPCO the right to renew the lease upon its expiration at lower rates. For the first renewal period, the lease payments are reduced to 50 percent of the original payments. For subsequent lease extensions, assuming such extensions can be made,¹² the lease payments drop to 15 percent of the original rent. Parties representing certain customer groups recommended that a more appropriate allocation of risk would decrease the lease payments for the first renewal period to 25 percent of the original payments. The Commission agrees. Such a reduction would provide additional ratepayer protection in terms of overall cost-effectiveness and is therefore reasonable.

7. Damages amount

The Facility Lease, as proposed, provides that if the Lease Effective Date is not achieved due to a failure of WEPCO, the Lessor can terminate the lease and sell the generating plant to WEPCO. As part of the purchase price, the utility would be required to pay a “Damages Amount” that constitutes 60 months of lost return on capital. In order to protect ratepayers, this provision must be eliminated.

(Commissioner Garvin dissents, concerning the elimination of “Damages Amount” from the Facility Lease.)

8. Securitization of lease payments

The stream of rent payments that WEPCO will be making to W.E. Power LLC and its subsidiaries could be “securitized” by the Lessor, i.e., sold for a lump sum that could either be

used as a financing vehicle for other generation improvements or be passed up to the holding company as a special dividend. As the Commission determined in its PWGS order, any such securitization may only occur with the Commission's prior review and approval in order to ensure that securitization will not harm the utility or its ratepayers.

9. WEPCO credit quality degradation

In the PWGS Facility Lease, the Commission mandated certain restrictions regarding the transfer or assignment of the PWGS plant or Facility Lease and, to protect WEPCO's credit quality from degradation, required the inclusion of a "hold harmless" lease provision. This hold harmless provision would apply if a national rating agency downgrades the utility's debt as a result of the transfer or assignment, or if the utility is required to issue equity to avoid such a downgrading of debt. A copy of this "hold harmless" provision, approved for the PWGS leases, was introduced into this docket as part of Ex. 22. As with the PWGS Facility Leases, the Commission finds these terms reasonable and requires that they be included in the ERGS Facility Leases.

Other terms and conditions

1. General changes

The applicants agreed to make the following changes to the Facility Lease:

- a. Modify the definition of "Loss Proceeds" in Schedule 1.1 to delete the phrase "pursuant to any insurance policies maintained pursuant to the Facility Lease."
- b. Add the phrase "The Project's cost shall not exceed the Approved Amount" to the Development Protocol in Schedule 3.1(a), to conform the ERGS lease to the approved PWGS lease.

¹² In order to be considered a "true" lease for tax purposes, ERGS cannot be leased to WEPCO for more than 80 percent of its useful life. The Facility Lease provides that the length of any renewal period will be 80 percent of the then-estimated useful life of ERGS, as determined by an independent evaluator.

- c. Delete Section 9.4 dealing with the Delegation of Operation and Maintenance to one or more agents.
- d. Change subsection (a) of the definition of Approved Amount in Schedule 1.1 to read “(a) the specific amount determined to be reasonable in the CPCN Approval, plus.”

2. Force Majeure, excused events and events of loss

As discussed above, all construction costs defined as Force Majeure, an Excused Event, or an Event of Loss must have prior Commission approval before being recovered from WEPCO.

3. Guaranteed heat rate; cooling towers

As part of its application, W.E. Power LLC is guaranteeing a heat rate of 8,850 Btu/kWh for the SCPC units. This heat rate assumes once-through cooling; a design that the applicants contend will be approved and successfully installed. This is an important fixed term in the Facility Lease because if the applicants are unable to install once-through cooling, the heat rate may degrade significantly. As a result, W.E. Power LLC and WEPCO may only propose to change this guaranteed heat rate in the Facility Lease if they offer equivalent, offsetting ratepayer benefits and savings.

4. Engineering, Procurement and Construction contract

To ensure that WEPCO ratepayers secure the benefits of all the protections that W.E. Power LLC gains through its Engineering, Procurement and Construction (EPC) contract with Bechtel Corporation, the following Facility Lease terms shall be modified to incorporate any terms found in the EPC contract that are more beneficial to ratepayers than those currently included in the Facility Lease:

- a. Commercial Operation Test and Scheduled Commercial Operation Date Damages.
- b. Guaranteed Performance Level tests (including heat rate and net electrical output).
- c. Duration of construction, in months from the Decommissioning Completion Date to the Scheduled Commercial Operation Date and the Required Commercial Operation Date.
- d. Dates on which the Construction Milestones are scheduled to occur.
- e. Test Fuel and Test Power Procedures to the extent such procedures are addressed in the EPC contract.

5. Conforming leases

This Final Decision makes modifications to the PTF leases proposed by WEC. It is reasonable to require that WEC rewrite these leases for SCPC 1 and SCPC 2, making the changes specified herein. It is also reasonable to require that WEC return these final documents to the Commission for review and approval, with the revisions highlighted, no later than 45 days after the date this Final Decision is signed.

6. Statutory compliance

A leased generation contract must meet eleven separate conditions under Wis. Stat. § 196.52(9)(b), as well as requirements for land and property transfers under Wis. Stat. § 196.795(5)(k)3. The proposed leases for SCPC 1, as modified by this Final Decision, comply with these statutory requirements. The Commission also approves the modifications WEC proposes to convert these documents into a leased generation contract for SCPC 2. Pursuant to Wis. Stat. § 196.52(9)(f), the Commission shall maintain jurisdiction to ensure that the construction of ERGS is completed as provided in the leased generation contracts.

The Commission retains continuing supervisory control only over the terms and conditions specified in this Order and in each Facility Lease, Ground Lease, and Ground Sublease. This is reasonable and in the public interest, to balance properly the parties' risks and responsibilities, and to protect WEPCO's ratepayers. In addition, any future changes to these leases, whether mutually agreed upon or otherwise, and any transfer or assignment of a lease or of the ERGS facility, must first receive Commission approval.

Site Location

Wis. Stat. § 196.491(3)(d)3. requires that the Commission consider "alternate locations" before determining whether the location of a new project is in the public interest. In addition, Wis. Admin. Code § PSC 111.53(1)(e) requires that a CPCN application for a new generating plant contain "[a]t least two proposed sites for the proposed facility, including a description of the siting process and a list of the factors considered in choosing the alternatives." The Commission's rules further specify certain site-related information that must be provided for each proposed power plant site. Wis. Admin. Code § PSC 111.53(1)(f).

S.C. Johnson alleges that the four ERGS site alternatives, all located at OCPP, are simply different plant configurations on the same parcel of land and therefore do not satisfy the Commission's statutory and rule requirements. On January 14, 2003, S.C. Johnson and Wisconsin's Environmental Decade (now known as Clean Wisconsin) originally raised this issue by filing a petition with the Commission requesting that it reconsider a determination that WEC's CPCN application was complete. The petitioners alleged that the application failed to include information on at least two proposed sites. On April 17, 2003, the Commission issued an order denying this petition. The petitioners appealed, but Dane County Circuit Judge Moria

Krueger ruled that this order is a “preliminary, interlocutory decision that is not immediately reviewable under Wis. Stat. ch. 227, but is reviewable in an action for judicial review of the final decision.” *Clean Wisconsin, Inc. and S.C. Johnson & Son, Inc. v. Wisconsin Public Service Commission*, Case No. 03-CV-1480 (Dane County Circuit Court: Final Order, July 8, 2003).

The completion of hearings and development of a record in this docket provide no new information that would be sufficient to cause the Commission to change its conclusions regarding the four site alternatives for ERGS. S.C. Johnson and Clean Wisconsin, among others, continue to maintain that site alternatives must be geographically distinct and that these site alternatives do not demonstrate real differences. As the Commission declared in its April 17, 2003, order, though, the fact that alternate sites may be geographically close together does not automatically render them unreasonable alternatives. The Commission has accepted CPCN applications for numerous other projects where the alternate sites have been close together, or even adjacent to each other. The Commission determines whether proposed site alternatives are reasonable by applying two standards: the site alternatives must each be feasible locations and they must be sufficiently distinct to offer different packages of costs and benefits. With the benefit of a fully developed record on these site alternatives, the Commission reaffirms its April 17, 2003, decision.

S.C. Johnson and Clean Wisconsin now raise a slightly different argument about the sufficiency of the site alternatives, involving their interpretation of Commission rules. They contend that these rules only allow the use of site alternatives that are all located at a single facility in two specific situations. S.C. Johnson and Clean Wisconsin refer to Wis. Admin. Code § PSC 111.53(2)(b), which states:

PSC 111.53(2)(b)1. An application for a cogeneration facility may meet the requirement under sub. (1)(e) by filing information on 2 sites that are both located at the steam host's existing industrial plant, if the cogeneration facility will be a qualifying facility under 18 CFR 292.205 and none of the needed infrastructure improvements would constitute a major action significantly affecting the quality of the human environment under s. 1.11(2)(c), Stats.

2. An application for repowering an existing generating facility may meet the requirement under sub. (1)(e) by filing information on 2 sites that are both located at the existing generating facility site, if none of the needed infrastructure improvements would constitute a major action significantly affecting the quality of the human environment under s. 1.11(2)(c), Stats.

These parties conclude that these must be the only conditions where alternate sites at the same general location are permissible, since they are the only exceptions to the “alternative sites” requirements specified in the Commission’s rules.

This interpretation, however, mischaracterizes the exceptions. A “cogeneration” project is designed to use waste heat from an electric generating plant, heat that would otherwise be lost up the smokestack, in an industrial process such as paper making or food processing. Wis. Admin. Code § PSC 111.53(2)(b)1. recognizes that in order to achieve this increase in energy efficiency the electric generating unit must be combined with an existing industrial plant, which can only occur by locating the generating unit at the industrial plant site. The same is true when a utility proposes to “repower” a generating plant by removing and replacing the existing units. Wis. Admin. Code § PSC 111.53(2)(b)2. recognizes that the only location for such a project is at the existing electric site. These two exceptions therefore are driven by the first standard of the Commission’s requirements for proposed site alternatives—that every alternative must be a feasible location. There are no other feasible locations for cogeneration and repowering projects, and these two exceptions codify that finding.

S.C. Johnson and Clean Wisconsin have improperly interpreted Wis. Admin. Code § PSC 111.53(2)(b). These two exceptions are not the entire universe of situations where the Commission will accept site alternatives that are located in close proximity. In other situations the Commission applies its general rule, examining proposed alternatives to ensure that they are each feasible sites and each provide different packages of costs and benefits, so that the Commission is presented with a real choice. The site alternatives for ERGS do provide such a choice.

The record demonstrates that any of the four sites proposed would meet the standards established under Wis. Stat. § 196.491 and could be selected for construction of ERGS. The North Sites, however, are principally located within the city of Oak Creek and that city, unlike the neighboring town of Caledonia where the South Sites are found, has clearly expressed its willingness to accept this project. Furthermore, the North Site—CUP alternative involves substantial compromise and agreement between the city and the applicants regarding the proper means of mitigating municipal concerns, such as noise, traffic and air emissions. The city of Oak Creek, which has already hosted a power plant for 50 years, favors use of the North Site—CUP alternative and locating ERGS within its municipal boundaries will ensure that the city is in a stronger position to enforce mitigation measures that protect its citizens from undue impact. The city has rezoned this site as being suitable for manufacturing and is both willing and able to provide potable water and sewage service to the site. The Commission finds these to be determining factors in choosing among the four alternatives, and selects the North Site—CUP alternative as the proper location for ERGS.

This site alternative moves the coal pile and coal handling facilities inside the existing OCPP rail loop, which means that a 138/345 kV substation already found in that area must be relocated. At the time of the technical hearing, the possible sites for this substation and the cost of relocation were not clearly defined, though one alternative would split this facility into two substations and place the 345 kV substation southeast of the rail loop, in a wooded wetland designated by the Southeast Wisconsin Regional Planning Commission as an Isolated Natural Resource Area. This location would have unnecessary environmental impacts and would require relocation of the federal/state shooting range, but the applicants have indicated that other locations for the substation are available and are willing to investigate better sites. It is reasonable to require that the applicants work with ATC, DNR, and the neighboring communities to find a suitable location for these substations, minimizing both the adverse environmental effects and the cost of relocation.

Although the two SCPC units would be placed within the city of Oak Creek, even with the selection of the North Site—CUP alternative some of the plant-related facilities will be constructed in the town of Caledonia: new access roads; railroad improvements; possibly the 345 kV substation. The record demonstrates that the town of Caledonia will also experience a variety of environmental and socioeconomic effects because of the construction of ERGS. These effects may include changes in local air quality, noise levels, traffic patterns, and traffic volume, among others. The applicants have committed to working with all neighboring communities to mitigate valid concerns, including the town of Caledonia, and it is reasonable to require that they do so.

Mitigation Payments

In a Development Agreement reached with the city of Oak Creek, WEC agreed to make annual mitigation payments to the city of \$1.5 million for SCPC 1 and \$750,000 for SCPC 2. In Part I of PTF, the Commission granted an annual mitigation payment of \$500,000 to the city of Port Washington, though it reserved the right to review this approval if the state of Wisconsin's shared revenue program was revised and payments to municipalities increased.

The enactment of 2003 Wis. Act 31 on July 15, 2003, has significantly altered the state's shared revenue program. Prior to Act 31, compensation dollars to municipalities and counties were based on a power plant's net book value and declined over time, as the plant depreciated. The maximum payment to a municipality or county under this prior formula is \$750,000 per year. This is the amount the city of Oak Creek currently receives for the existing OCPP. In contrast, payments under the new shared revenue program are based on a plant's megawatt capacity multiplied by \$2,000 and do not decline over time. The new shared revenue program will pay municipalities double and triple what they would have received under the former program. Cities or villages with power plants that begin operation after December 31, 2003, will annually receive two-thirds of the plant's MW capacity multiplied by \$2,000, while the host county will annually receive one-third of the MW capacity multiplied by \$2,000.¹³ Additional incentive shared revenue payments are also distributed to both the municipality and the county if the unit is non-nuclear and built on or adjacent to an existing or former plant site or on a brownfield site, if the unit is a baseload plant, if the unit derives energy from an alternative energy source, or if the unit is a cogeneration plant. A municipality can receive multiple incentive payments. Under this new law, the city of Oak Creek will also receive annual incentive payments in the amount of \$1,200 multiplied by the plant's megawatt capacity.

This new shared revenue program commences the annual payments when a generating unit becomes operational. Shared revenue payments to the city of Oak Creek will be \$1.6 million for the first SCPC unit and increase to \$3.2 million for the second unit. These payments will be added to the shared revenue payments that the city is currently receiving for the existing OCPP.

Under Act 31, the annual state shared revenue payments to the city of Oak Creek when ERGS is completed will exceed the amount the city is requesting in the form of mitigation payments from WEPCO ratepayers. Thus, mitigation payments are not required while compensating shared revenue dollars for ERGS are forthcoming. The shared revenue payments, however, will not begin until 2009 when SCPC 1 is first scheduled to be in service, and the city has introduced evidence that it will begin incurring costs as soon as construction commences. For this reason, the Commission finds it appropriate to authorize annual mitigation payments, as described in the Development Agreement, for the period from the commencement of construction of SCPC 1 until the year when SCPC 2 enters service, which is scheduled for 2010. The shared revenue payments for ERGS that commence in 2009, however, will partially offset the city's costs and it is appropriate to reduce the annual mitigation payment by the amount of shared revenue that the city receives for ERGS. When ERGS is fully in service, the shared revenue payments will fully replace any mitigation payment under the Development Agreement, so any further mitigation payment cannot be billed to WEPCO. If, however, state shared revenue payments decrease during the course of the 30-year Facility Lease and are no longer sufficient to offset fully the mitigation payment that would have been paid under the Development

¹³ The two-third/one-third relationship is reversed if the power plant is built in a town rather than a city or village.

Agreement, the Commission finds it reasonable for W.E. Power LLC to make a partial mitigation payment to the city that equals the remaining portion.

(Commissioner Garvin dissents, concerning the decision to award mitigation payments.)

DNR Permits

Before construction may proceed, a project site selected by the Commission must receive a corresponding air pollution control construction permit from DNR. WEC submitted four permit applications to DNR, one for each site alternative. Before it can issue a CPCN for a project, the Commission must make a number of determinations, including a finding that the project is in the public interest when considering environmental factors. However, if DNR declares that a project will meet the agency's air pollution requirements under Wis. Stat. ch. 285, the Commission loses its authority under Wis. Stat. §§ 196.491(3)(d)3. and 4. to determine that a project would have undue adverse air pollution impacts. DNR issued preliminary determinations that both the North Site and the North Site—CUP alternative should meet applicable criteria for permit approval under Wis. Stat. § 285.63 on October 6 and 9, 2003, and scheduled public hearings on these permit applications on October 28, 2003. DNR also declared that WEC's permit applications for the South Site and South Site—Exp are complete, but it has not yet issued preliminary determinations regarding whether they meet the criteria for permit approval.

The combustion of coal involves the release of numerous air pollutants. During the Commission hearings, health concerns relating to these pollutants were expressed both by expert witnesses testifying on behalf of the parties and by members of the public, particularly regarding the potential health impacts of mercury and particulate matter less than 2.5 microns in diameter

(PM_{2.5}). Some parties urge the Commission to quantify the monetary cost of these adverse health effects as an additional cost of ERGS that was not included in the EGEAS model inputs.

Mercury emissions are regulated under DNR air pollution control construction permits. DNR considers mercury to be a hazardous pollutant, requiring the use of maximum achievable control technology to meet the emission limits set by permit. DNR's air pollution permits, though, do not yet address PM_{2.5}. This is because the U.S. Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards for PM_{2.5} emissions over a 24-hour episode and annually, but has not yet instituted a program for determining non-attainment areas and thus has not taken steps yet to reduce emissions. DNR currently intends to submit a State Implementation Plan to the EPA regarding PM_{2.5} in 2005. S.C. Johnson and other parties requested that the Commission consider the health impacts caused by PM_{2.5} emissions from ERGS and offered evidence regarding the monetary cost of these impacts. WEC introduced contrary evidence on these subjects.

The evidence in the record regarding the externalized health costs associated with air emissions will be valuable to DNR as it examines its air permit applications for ERGS, but the Commission does not have special expertise to render an independent judgment on this topic. To do so would require the Commission to pick appropriate methods for modeling emission dispersion, determine if a causal relationship exists between emissions and adverse health impacts, decide whether a threshold level exists below which no impacts occur, and establish how to translate any identified impacts into dollars. These are primarily the functions of the EPA and DNR, and these agencies have not yet spoken. Any conclusions the Commission might

reach would likely be rendered a nullity by the ultimate decisions of the EPA and DNR. In this docket, the Commission is willing to defer to these decisions of the EPA and DNR.

DNR must also issue a number of water-related permits and approvals before construction may commence. These include: permits for grading work for the generating facilities and for the railroad improvements; the approvals for dredging and for use of lakebed and shoreline structures to construct breakwater and harbor facilities; the approval for use of lakebed to install the cooling water intake and discharge structures; and the water quality certification needed for wetland fill. As of the date the record closed, DNR has deemed the joint state/federal application for water regulatory permits and approvals for ERGS to be incomplete. Five parties to this docket jointly filed with DNR a request for a contested case hearing on WEC's application for water regulatory permits and approvals, which DNR granted on October 6, 2003. A hearing date will not be set until DNR determines that the application is complete.

Section 316(b) of the federal Clean Water Act and Wis. Stat. § 283.31(6) require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts. In December 2001, the EPA published final regulations defining the federal requirements that apply to the construction of "new" facilities and, in April 2002, proposed regulations regarding "existing" facilities. On January 28, 2003, DNR determined that ERGS could be treated as an existing facility. Under this designation ERGS could utilize once-through cooling, as OCPP does now, if the applicants can demonstrate that the intake structure represents Best Technology Available for controlling impingement and entrainment of aquatic organisms.

If the EPA overrules DNR's preliminary decision about whether ERGS is a modification to an existing facility under Section 316(b) of the Clean Water Act, the applicants may not be able to build their proposed once-through cooling system for ERGS. Instead, ERGS would need to be redesigned to utilize cooling towers. The cooling towers would be new features in the plant layout, costing approximately \$100 million per SCPC unit. Changes in the cooling efficiency could also change emissions and the environmental impact of the SCPC units, requiring alterations in air pollution control equipment. Because of these substantial effects that would result, if cooling towers are required the applicants must submit a redesigned or relocated plant to the Commission for approval.

DNR has not yet granted its approval for water withdrawal and water loss under Wis. Stat. §§ 281.35 and 281.41. The applicants must provide an accurate water balance for the ERGS facilities in order for DNR to complete its review. A Wisconsin Pollutant Discharge Elimination System (WPDES) permit for discharges related to stormwater during construction and an amendment of the existing OCPP stormwater pollution prevention plan are needed prior to beginning construction. These have not been issued, due to an incomplete application. Finally, DNR has not yet authorized modifications to the existing WPDES permit related to the new cooling water intake structure. The documentation submitted by the applicants, demonstrating that the new intake will meet Best Technology Available standards, is currently being reviewed by the DNR and EPA.

DNR's Bureau of Endangered Resources has indicated that incidental take permits for threatened or endangered species will not be required for the ERGS project. Based on completed surveys, it is unlikely that any rare animal species would be adversely affected by construction of

ERGS. Although it is anticipated that numerous state-endangered blue-stemmed goldenrod plants (*Solidago caesia*) and some yellow gentian (*Gentiana alba*), a state-threatened species, will be destroyed during construction, these plants are not protected on private property and a DNR permit is not required.

Adequacy of EIS

Wis. Stat. § 1.11(2) requires the Commission to prepare a detailed EIS for any “major action” it is considering that would significantly affect the quality of the human environment. The Commission has adopted rules that categorize the types of actions it undertakes, for purposes of complying with this statute. Wis. Admin. Code § PSC 4.10(1) and Table 1, item f., provide that a proposal to construct “an electric generation facility fueled by coal” is a major action, and an EIS is required. As a result, Commission staff collaborated with DNR staff to prepare an extensive EIS about ERGS, including holding scoping sessions in the Oak Creek community at which members of the public could learn about the project and could relate particular concerns about its environmental impacts to Commission and DNR staff. The Commission and DNR released a draft EIS dated April 21, 2003, 450 pages long, plus a second volume of 34 figures, which it distributed broadly to interested persons. The agencies encouraged people to respond with concerns and criticisms during a 45-day comment period, and held meetings with the public in the project area to receive these comments.

Following the comment period, Commission and DNR staff prepared a final EIS that took into consideration the comments received as well as new information collected. The final EIS substantially expanded the draft EIS, adding more figures to Volume 2 as well as a 300-page

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Volume 3, which identifies and responds to the comments received. In all, the EIS now totals approximately 900 pages.

Several parties argue that the EIS's discussion of the environmental impacts of ERGS is inadequate. After hearing these concerns and reviewing the detailed record prepared in this case, much of which concerns environmental impacts, the Commission finds that this EIS properly discusses the significant aspects of probable environmental consequences. In those areas where the likely environmental consequences associated with ERGS are unknown, the EIS identifies these uncertainties. ERGS also remains under continuing regulatory review by DNR, the state's primary regulator for most purposes of environmental protection. During its review of numerous permit applications, DNR can respond to remaining areas of uncertainty. The Commission recognizes DNR's continuing regulatory oversight of this project and, by the conditions imposed in this order, defers to DNR's permitting decisions that will mitigate environmental impacts.

For these reasons, the Commission finds that the draft and final EIS comply with the requirements of Wis. Stat. § 1.11 and Wis. Admin. Code ch. PSC 4.

Certificate of Public Convenience and Necessity

W.E. Power LLC, through its subsidiaries ERGS-SCPC 1 LLC and ERGS-SCPC 2 LLC, may commence construction of two 615 MW SCPC electric generating units, as described in WEC's project application and modified by this Final Decision, at an estimated cost of \$1,426,674,000 for SCPC 1 and \$724,132,000 for SCPC 2 (year-of-occurrence dollars), plus any adjustment that is approved by this Commission for one year of additional inflation.

Order

ERGS Generating Plants

1. W.E. Power LLC and its subsidiaries may construct SCPC 1 and SCPC 2 at the North Site—CUP alternative. The in-service date for SCPC 1 shall be May 1, 2009; the in-service date for SCPC 2 shall be May 1, 2010. W.E. Power LLC and its subsidiaries shall construct these units in conformance with the design specified in the ERGS application, in conformance with the construction schedule specified in the application (as delayed one year by this Final Decision), and subject to the conditions specified in this Final Decision. Although the application to construct an IGCC unit is denied, W.E. Power LLC and its subsidiaries may construct common facilities with the SCPC units to accommodate up to 3,000 MW of generation at this site.

2. W.E. Power LLC and its subsidiaries shall commence construction of SCPC 1 within 12 months after receiving all necessary federal, state, and local permits and approvals. Before commencing construction of SCPC 2, the applicants shall file an updated demand and energy forecast and updated EGEAS computer modeling with the Commission.

3. Within three months of the date when SCPC 2 is fully operational, W.E. Power LLC shall repeat the noise measurements that were taken before project approval, shall measure the maximum noise generated at the site with all units on, and shall measure the noise at the site with all units off. W.E. Power LLC shall report its findings to the Commission, using the same format as its pre-approval noise studies.

4. W.E. Power LLC shall provide documentation to the Commission of all work with individuals who raise concerns about noise or interference with radio or television reception, and of the resolution of those concerns.

5. The applicants shall work with neighboring communities to mitigate valid concerns and impacts.

6. The applicants shall seek the approval of the Office of the Commissioner of Railroads to separate or eliminate the existing at-grade Union Pacific rail crossings at Seven Mile Road and Six Mile Road. The applicants shall also monitor the effect of train deliveries on road blockages at Four Mile Road crossing, following their construction of the new on-site rail facilities, and shall work with the town of Caledonia to address legitimate concerns it may have at this location.

7. The applicants shall work with ATC, DNR, and neighboring communities to minimize the cost and the environmental impact of moving and reconfiguring the 138 kV and 345 kV substations. The applicants shall inform the Commission of the results of this work, documenting the estimated cost involved, the new proposed layout of the substations, and the associated transmission line interconnection routes and routes for exiting from the plant site.

8. If the EPA or DNR determine that once-through cooling is not permissible, WEC shall submit a revised project application for the Commission's approval that redesigns or relocates ERGS, as needed.

Leased Generation Contracts

9. The Facility Lease for SCPC 1 shall use a construction cost of \$1,426,674,000 as the Approved Amount and the Facility Lease for SCPC 2 shall use a construction cost of

\$724,132,000 as the Approved Amount, but the applicants can alter these amounts by submitting to the Commission for its review and approval revised construction costs that include one year of additional inflation at an annual inflation rate of no more than 1.87 percent. Any such submission shall be provided to the Commission no later than 45 days after the date this Final Decision is signed.

10. W.E. Power LLC and its subsidiaries may only recover construction costs from WEPCO that exceed the amounts approved in this Final Decision if the Commission makes a prior determination, before billing, that the excess cost is prudently incurred. W.E. Power LLC and its subsidiaries may not recover from WEPCO more than 105 percent of the construction costs approved in this Final Decision, except that costs qualifying as Force Majeure, an Excused Event, or an Event of Loss under the definitions of the Facility Lease are not included in this calculation. W.E. Power LLC and its subsidiaries may only recover from WEPCO a cost that qualifies as Force Majeure, an Excused Event, or an Event of Loss if the Commission makes a prior determination, before the cost is billed, that it is prudently incurred. If the actual cost of constructing an ERGS unit is less than the Approved Amount defined in the Facility Lease, the Approved Amount shall be reduced to equal the actual cost.

11. Neither WEC nor any of its affiliates may securitize the lease payment stream under the Facility Lease without the Commission's prior review and approval.

12. WEPCO shall treat each Facility Lease, Ground Lease, and Ground Sublease approved in this docket as operating leases for ratemaking purposes. In future rate cases, WEPCO may not seek a higher authorized return on equity for its rate-based assets, or any other

capital structure adjustments, related to credit quality degradation resulting from a lease's classification as a capital, operating, or true tax lease.

13. WEPCO shall work with Commission staff to develop a tracking mechanism, and appropriate accounting practices, that prevent a double collection of costs from ratepayers through utility rates and lease payments.

14. WEPCO shall work with Commission staff to develop an appropriate present value true-up mechanism for Commission approval, to balance the 5 percent rent reduction in the first five years of each Facility Lease.

15. WEC shall revise the Facility Lease, Ground Lease, and Ground Sublease for SCPC 1 and SCPC 2, reflecting each of the lease modifications approved in this Final Decision. Within 45 days after the date this Final Decision is signed, WEC shall submit these revised leases to the Commission for its review and approval, with the revisions highlighted.

16. No future changes may be made to a Facility Lease, Ground Lease, or Ground Sublease, approved in this docket, whether mutually agreed upon or otherwise, without first receiving the Commission's review and approval. No interest in any of these leases or agreements or in the ERGS facility may be transferred or assigned, without first receiving the Commission's review and approval.

17. All books and records underlying any transaction made pursuant to a Facility Lease, Ground Lease, or Ground Sublease shall be provided to the Commission upon request.

18. The Commission retains limited continuing jurisdiction over those terms and conditions expressly set forth in each lease approved by the Commission and set forth in this Final Decision.

General Requirements

19. WEPCO shall submit a plan to the Commission by March 1, 2004, for capturing a minimum of 55 MW of additional cost-effective energy conservation by 2008.

20. W.E. Power LLC and its subsidiaries shall notify the Commission within five working days of the date when construction commences on each unit. W.E. Power LLC and its subsidiaries shall notify the Commission, in writing, within 24 hours of any decision not to proceed with any of the approved projects or to enter into any partnership or other arrangement with another entity with respect to the project.

21. W.E. Power LLC and its subsidiaries shall submit quarterly progress reports to the Commission that summarize the status of construction, the status of land acquisition, the status of environmental control activities, and the overall percent of physical completion for each unit. Each report shall include a summary of consultations with DNR and other agencies concerning the issuance of permits. The reports shall list dates, names, and the results of each contact and the company's progress in implementing prescribed environmental protection or control standards. The first report for SCPC 1 is due for the quarter ending December 2003; the first report for SCPC 2 is due for the quarter ending December 2004. The reports shall be filed within 31 days after the end of each quarter and shall continue until the certificate holder's project is fully operational.

22. W.E. Power LLC and its subsidiaries shall each provide the Commission with copies of all final executed agreements related to the construction, operation, or ownership of the project when they are obtained, including the final EPC contract with Bechtel Corporation.

23. W.E. Power LLC and its subsidiaries shall promptly inform the Commission of any substantial scope or design modifications in the approved facilities.

24. If WPPI or MGE fails to exercise its purchase option within nine months after the date when a Facility Lease becomes final, within the next 45 days WEC shall provide the Commission with a plan that eliminates the risk of WEPCO ratepayers acquiring and paying for too much capacity. One means of protecting ratepayers that WEC can consider is the sale of these ownership shares to another entity.

25. For each SCPC unit, upon completion of construction W.E. Power LLC and its subsidiaries shall file with the Commission a complete report of the final costs segregated by plant account and shall explain any variances between the authorized and actual costs.

26. This Final Decision takes effect on the day after it is mailed. The CPCN for the ERGS facility only takes effect when the DNR issues all permits and approvals that it identified, pursuant to Wis. Stat. § 196.491(3)(a)3.a., as being required prior to construction of the facility.

(A separate dissent from Chairperson Bridge follows.)

Dated at Madison, Wisconsin, _____

By the Commission:

Lynda L. Dorr
Secretary to the Commission

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See attached Notice of Appeal Rights

Attachment

Notice of Appeal Rights

Notice is hereby given that a person aggrieved by the foregoing decision has the right to file a petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed within 30 days after the date of mailing of this decision. That date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

Notice is further given that, if the foregoing decision is an order following a proceeding which is a contested case as defined in Wis. Stat. § 227.01(3), a person aggrieved by the order has the further right to file one petition for rehearing as provided in Wis. Stat. § 227.49. The petition must be filed within 20 days of the date of mailing of this decision.

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

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.

Revised 9/28/98

**CHAIRPERSON BURNEATTA BRIDGE
DISSENTING OPINION**

In this decision the Commission has authorized construction of the largest electric generation project in Wisconsin history. The \$2.15 billion price tag used today will undoubtedly grow substantially by the time all related costs are included and construction is completed. This cost will be borne by families and businesses in southeastern Wisconsin. The promised benefit to them should be the assurance of reliable base load generation for the next 35 or 40 years.

The Commission has determined that W.E. Power, LLC is entitled to a return on equity of 12.7 percent, based on a capital structure of 55 percent common equity and 45 percent long-term debt. I believe that this return on equity is extraordinarily high when compared to historic rates and is not in step with current capital markets. Because I believe that the return the Commission has authorized is more generous than necessary to attract investors and will unduly burden future ratepayers, I respectfully dissent.

These lease provisions extend for 30 years. Factoring in the lease terms the Commission has already approved for the Port Washington plant, the result is that a major component of residential, commercial, and industrial customer rates will be locked in for almost two-thirds of W.E. Power, LLC's net investment in electric and gas facilities through the year 2040. Under the financing package approved by the Commission, W.E. Power, LLC's customers will be obligated to pay at least \$233 million annually over that period of time.

I proposed that the return on equity be set at 12.1 percent, based on a capital structure of 53 percent common equity. I consider this rate of return and equity structure to be much more in line with current financial markets and with recent actions taken by other state commissions.

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Under my proposal, ratepayers would pay approximately \$100 million less over the term of the lease on a present value basis.

I also proposed that the Commission reserve the right to review these terms at the end of five years, when the total costs of the project are more certain. At that time, the Commission would have available much more accurate information about actual costs and would be in a much better position to evaluate an appropriate financial structure. In view of the size of the project, the enormous cost, and the attendant uncertainties of a venture of this magnitude, I believe that this approach would be a sound exercise of our responsibility to protect the people who will pay the bills.

Burneatta Bridge
Chairperson

APPENDIX A
(CONTESTED)

In order to comply with Wis. Stat. § 227.47, the following parties who appeared before the agency are considered parties for purposes of review under Wis. Stat. § 227.53.

Public Service Commission of Wisconsin
(Not a party but must be served)
610 N. Whitney Way
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