

March 10, 1987

Docket Nos. 50-266  
and 50-301

Mr. C. W. Fay, Vice President  
Nuclear Power Department  
Wisconsin Electric Power Company  
231 W. Michigan Street, Room 308  
Milwaukee, Wisconsin 53201

Dear Mr. Fay:

Enclosed is a copy of an Environmental Assessment relating to your June 28, 1985 application for license amendments for the Point Beach Nuclear Plant Unit Nos. 1 and 2. The proposed amendments would change the expiration dates of Facility Operating License No. DPR-24 (Unit 1) from July 19, 2007 to October 5, 2010 and Facility Operating License No. DPR-27 (Unit 2) from July 25, 2008 to March 8, 2013.

A copy of the Notice of Environmental Assessment and Finding of No Significant Impact, which will be published in the Federal Register is also enclosed.

Sincerely,

*151*

Timothy G. Colburn, Project Manager  
Project Directorate #1  
Division of PWR Licensing-A

Enclosures:  
Environmental Assessment  
Notice

cc's: See Next Page

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PDR ADOCK 05000266  
P PDR

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Surname:	PShuttleworth	TColburn/tg	RBallard	CMcCracken	CBerlinger
Date:	<i>3/3/87</i>	<i>2/11/87</i>	<i>1/187</i>	<i>1/187</i>	<i>1/187</i>

Office:	OGC	PD/PAD#1
Surname:	<i>Johnson</i>	GLear <i>GW</i>
Date:	<i>3/4/87</i>	<i>3/10/87</i>

*\* See attached concurrence page.*

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LFMB (TAC#59174 and 59175)

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Office:	OGC	PD/PAD#1			
Surname:		GLear			
Date:	/ / 87	/ / 87			

*See*  
*Did not confirm accuracy of FES - need to be included.*

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Surname:		GLear
Date:	/ /87	/ /87

PARS *CB*  
CBerlinger  
2/11/87

Mr. C. W. Fay  
Wisconsin Electric Power Company

Point Beach Nuclear Plant  
Units 1 and 2

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ENVIRONMENTAL ASSESSMENT  
BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATING TO THE CHANGE IN EXPIRATION DATES OF  
FACILITY OPERATING LICENSE NOS. DPR-24 AND DPR-27  
WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT, UNITS NO. 1 AND NO. 2  
DOCKET NOS. 50-266 AND 50-301

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## 1.0 INTRODUCTION

The Point Beach Nuclear Plant (PBNP) is currently licensed for plant operation for 40 years commencing with issuance of the construction permits. The Unit 1 license expires on July 19, 2007 (Provisional Construction Permit No. CPPR-32 was issued July 19, 1967) and the Unit 2 license expires on July 25, 2008 (Provisional Construction Permit No. CPPR-47 was issued July 25, 1968).

By letter dated June 28, 1985, Wisconsin Electric Power Company (WEPCO), licensee for Point Beach Nuclear Plant Units 1 and 2, requested that the license expiration dates for Facility Operating License Nos. DPR-24 (Unit 1) and DPR-27 (Unit 2) be extended to October 5, 2010 and March 8, 2013, respectively or 40 years after the issuance date of the licenses.

## 2.0 THE NEED FOR THE PROPOSED ACTION

The granting of the proposed license amendments would allow the licensee to operate the PBNP Unit Nos. 1 and 2 for approximately an additional 3 and 5 years, respectively, beyond the current license expiration dates. This extension would allow the units to operate for the full 40 year design basis lifetime consistent with previously issued Commission policy (Memorandum dated August 16, 1982 from William J. Dircks to the Commissioners).

## 3.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

In May 1972, the Atomic Energy Commission issued the "Final Environmental Statement Related to the Operation of Point Beach Nuclear Plant Units 1 and 2" (FES). This document provides an evaluation of the environmental impact associated with operation of the PBNP Units 1 and 2. The NRC staff has reviewed this document to determine if any significant environmental impacts, other than those previously considered, would be associated with the proposed license extensions.

### 3.1 Radiological Impacts

The NRC staff has considered the radiological impacts as a result of a hypothetical design basis accident at the PBNP, including the impact of revised population estimates.

In the 1972 Final Environmental Statement (FES) related to operation of the PBNP, the staff evaluated the regional demography and found the PBNP to be situated in a large agricultural area comprising the central portion of eastern Wisconsin with essentially all of the surrounding land being farmland. The FES evaluated population distributions within a 40-mile radius of the plant.

The low population zone (LPZ) for this site is defined in the emergency plan manual as the area immediately surrounding the exclusion area which

includes a residential population of which the total number and density are such that appropriate protective actions can be readily taken in the event of a serious radiological accident. The LPZ is approximated as the area enclosed by a 2-mile radius circle from the plant and currently contains 265 persons based upon 1980 census data. Population projections for 1965, 1975, and 1985 as contained in the Point Beach Nuclear Plant Units 1 and 2 Final Safety Analysis Report (FSAR) for the area within a 2-mile radius of the plant are 228, 270, and 301, respectively. Actual census data for 1970 and 1980 vary only slightly with these projections and show that the projections are somewhat conservative. The 1985 projections were evaluated in the FES and approved. Based upon the actual 1980 census data and projected population increases, the projected population within 2 miles of the plant would be 386 in 2008 (the current license expiration date for Unit 2) and 405 in 2013 (the requested license extension date. Similar population figures for Unit 1 would be slightly less as it's current license and requested license extension expiration dates are earlier than for Unit 2. The slight projected increase in population within the LPZ for the extension period (approximately 20 persons) is not considered significant by the staff.

The emergency planning zone for the plume exposure pathway is defined as the area within a 10-mile radius of the plant. Population projections for 1965, 1975, and 1985 as found in the FSAR for the 10-mile EPZ were 22,081, 25,887 and 29,681, respectively. Actual population based on the 1980 census was 24,320 which is conservative with respect to the projections. Based upon the above projected population increases and actual population figures, the expected population within the 10-mile EPZ for the year 2008 would be 38,421 and for the year 2013 would be 40,321. The staff does not regard expected population increase within the 10-mile EPZ for the period of the requested extension (approximately 1900 persons) to be significant.

The FES also took into consideration population centers within a 50-mile radius of the site. Table 2 on page 9 of the FES lists the population centers and their distance and direction from Point Beach within a 50-mile radius of the plant. The nearest population center of appreciable size is the town of Two Rivers located approximately 8 miles south of the plant with a population of about 13,500. The next nearest population center of appreciable size is the city of Manitowoc with a population of about 42,000 located about 15 miles south-southwest of the site. No other population centers of appreciable size are located within 25 miles of the plant.

While it is recognized that some population increase could occur during the period of the proposed license extensions, the increase is not expected to be significant based upon population projections derived from trend data studies conducted by the Wisconsin Department of Natural

Resources. Nor is there expected to be a significant shift in population density within the emergency planning zone or 50-mile radius of the plant. Nor are there expected changes in site boundary, low population zone, or population center distances.

The staff finds that based on a comparison of population projections and 1970 and 1980 census data, the population forecasts have remained consistent and generally conservative, and are expected to remain so for the period of the license extension. Further, the small expected increases in population during the period of the license extension for the LPZ and 10-mile EPZ are generally considered insignificant.

Therefore, the staff concludes that the higher projected population for the period of the license extension would not change the overall conclusions of the FES concerning radiological consequences following accidents.

The staff has assessed the public risks from reactor accidents per year of operation at other reactors of comparable design and power level (and larger). In all cases, the estimated reactor accident risks of early and latent cancer fatality per year of operation have been small compared to the background accident and cancer fatality risks to which the public is exposed and did not increase with longer periods of operation. If similar risks were estimated for Point Beach Units 1 and 2, we would expect a similar comparison. Further, as shown in Table 11 of the FES, the integrated exposure to the population within a 50-mile radius of Point Beach Units 1 and 2 from each postulated accident would be orders of magnitude smaller than that from naturally occurring background radiation, estimated at 0.1 Rem/year. When considered with the probability of occurrence, the annual potential radiation exposure from all the postulated accidents is an even smaller fraction of the exposure from natural background radiation and is within naturally occurring variations in the background radiation. Therefore, we conclude that the proposed additional years of operation would not increase the annual public risk from reactor accidents.

The NRC staff has also evaluated the radiological environmental effects associated with normal operation of the facility. This evaluation was conducted to assure that the licensee's "as low as is reasonably achievable" (ALARA) measures and dose projections are applicable for the additional years of plant service and are in accordance with 10 CFR Part 20 and the guidance of Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be as Low as is Reasonably Achievable" (Revision 3).

The staff had previously issued Technical Specifications to the licenses for Point Beach Units 1 and 2 on October 3, 1985 which address control of radiological effluents. These Technical Specifications define limiting conditions for operation and surveillance requirements for radioactive liquid and gaseous effluent monitoring and provide for increased

managerial review and reporting responsibilities. These Technical Specifications ensure continued compliance with the requirements of 10 CFR 50.34a, 10 CFR 50.36a and Appendix I to 10 CFR Part 50.

### 3.1.1 Radiological Impacts - General Public

The FES for Point Beach Units 1 and 2 provided NRC estimates for annual releases and yearly doses resulting from normal operation of the station in Table 3 of the FES. The actual releases are expected to remain unchanged or below those estimated for the period of the requested license extension. This conclusion is based upon a confirmatory review of the last several years of semiannual radiological environmental monitoring reports. Liquid waste effluents were conservatively assumed to be mixed with the condenser coolant water at its minimum flow rate of 214,000 gallons per minute. Actual annual average flow rates are considerably higher. Gaseous radwaste effluent releases were also considered. Radiation dose estimates were based upon the postulated release of radioactive material, the population distribution and various dispersion modes applicable for the area near the site, and the normal activities which determine the degree of intake or exposure by the individuals. (Specific data on meteorology, hydrology and population distribution are contained in sections II.D-3, II.D-2 and II.B of the FES, respectively). External exposure modes considered were the direct exposure from passing effluent clouds and from submersion in water (swimming). Internal exposure modes considered were those from ingesting food and water affected by the effluents and from breathing air containing effluents. Table 7 of the FES presents the results of radiation dose estimates as annual averages to individuals at various locations near the plant. Table 8 of the FES presents the cumulative population, cumulative population dose, and average dose from gaseous effluents for various radial distances from the plant. The average annual dose to visitors at the site Visitor-Training Center was also considered as were the doses from sports fishing (and fish ingestion) and swimming in the vicinity of the site. The average annual dose to persons within a 50-mile radius of the plant was .0031 mrem/year. The total cumulative dose was estimated to be 4 person-rems. This is compared to the estimated annual cumulative background radiation of 80,000 person-rems.

The dose estimates are for annual doses and annual doses are only slightly affected by a change in the operating life of the plant. This is true because the doses are almost entirely produced by short lived nuclides such as iodine-131 and by nuclides which are rapidly dispersed in the environment such as cesium-137 in water. The only pathways where buildup of long lived nuclides is significant are

external radiation from shoreline contamination and internal radiation from foodstuff grown on land irrigated with plant effluent water. For these pathways the assumed buildup period is 15 years, corresponding to the nominal midlife of a plant. Cesium-137 is the only significant nuclide that does not reach secular equilibrium in 15 years. Therefore, an increase in operating life and the buildup period would only increase the doses from cesium-137 by the shoreline and the irrigated foodstuff pathways. Neither of these pathways is an important contributor to the doses from Point Beach 1 and 2. Furthermore, cesium-137 is not the dominant nuclide in either pathway. Therefore, increasing the operating life to 40 years increases the calculated doses no more than a few percent. (Actual doses are expected to continue to be too small to measure.) This theoretical increase is considered minor because (1) all doses will continue to be well below the guidelines of 10 CFR Part 50, Appendix I, and (2) the guidelines are a small fraction of the doses from natural background radiation.

There are no significant land use changes within a 50-mile radius of Point Beach Nuclear Plant that have affected offsite dose calculations. One onsite land use change which did not significantly affect offsite dose calculations was the establishment of the steam generator lower assembly storage facility at the Point Beach site in 1983. The radiological and environmental impacts of this facility were reviewed and found to be acceptable by the NRC in the Final Environmental Statement related to steam generator repair at Point Beach Nuclear Plant Unit No. 1 dated September 1983. Based upon continued operation of the Point Beach Nuclear Plant using existing liquid and gaseous radwaste treatment systems coupled with the current radiological monitoring program and Technical Specifications, the staff anticipates that liquid and gaseous effluent doses during the requested license extension period will remain a fraction of the 10 CFR Part 50, Appendix I limits and will not adversely impact the environment.

### 3.1.2 Environmental Impacts of the Uranium Fuel Cycle Transportation of Fuel

The impacts of the uranium fuel cycle as considered for Point Beach were originally based on 30 years of operation of a model light water reactor (LWR). The fuel requirements for the model LWR were assumed to be one initial core load and 29 annual refuelings (approximately 1/3 core per refueling). In considering the annual fuel requirement for 40 years for the model LWR, fuel use is averaged out over a 40-year operating life (1 initial core and 39 refuelings of approximately 1/3 core) and results in a slight reduction compared to the annual fuel requirement averaged for a 30-year operating life. The net result is an approximately 1.5% reduction in the annual fuel requirements for the model LWR, due to averaging out of the initial core load over 40 years, instead of

30 years. Total fuel use for Point Beach (880 metric tons) would be expected to increase about 10% over the amount originally considered in the FES. This entails a longer production run for the fuel cycle and, consequently, increased environmental costs related to mining, enrichment, and other fuel cycle impacts. The net annualized effects remain essentially unchanged from those considered in the FES. This small reduction in fuel requirements would not lead to significant changes in the annual impacts of the uranium fuel cycle. The licensee expects no more than 8 additional refuelings over the period of the license extensions for both units (approximately 3 years 3 months for Unit 1 and 4 years 8 months for Unit 2) based on the current annual refueling frequency.

The environmental impacts (both radiological and non-radiological) attributable to transportation of fuel and waste to and from the Point Beach site, with respect to normal conditions of transport and possible accidents in transport, would be in accordance with the impacts evaluated in the Point Beach FES. The FES represents the contribution of such transportation to annual environmental costs including dose per reactor year to exposed transportation workers and to the general public (both onlookers and individuals located along the route), and the estimated numbers of such persons exposed each year. These annual environmental costs would not be changed by the extended period of operation. Although some incremental risk with respect to normal conditions of transportation and possible accidents in transport would be attributed to the additional years of operation, the incremental risk would not be significant because the annual risk for such transport is small.

Therefore, the staff judges that no changes to the environmental conclusions in the FES relating to fuel transportation impacts are necessary as a result of the proposed extension to authorize 40 years of power operations.

### 3.1.3 Environmental Impacts - Occupational Exposures

The staff has evaluated the licensee's dose assessment for the period of the requested license extension and compared it with current Point Beach Nuclear Plant and overall industry occupational dose experience.

The average dose as reported in the Annual Results and Data Report for the years since 1971 for the Point Beach site, exclusive of steam generator replacement and sleeving projects, is approximately 484 person-rems per year or 242 person-rems per reactor. The licensee expects this average to remain consistent with perhaps slight increases due to plant age and increased staff size during the period of the license extension. By comparison, the average annual dose per reactor for other U. S. pressurized water reactors during the last five years has been 569 person-rems per reactor year.

The licensee has instituted a strong radiological controls program at Point Beach as evidenced by a generally improving trend in recent SALP (Systematic Assessment of Licensee Performance) evaluations for this functional area. The professional qualifications and selection criteria of radiation health technician positions has been upgraded recently. Positive evidence of the licensee's commitment to maintaining doses ALARA (as low as reasonably achievable) also exists in that they were able to complete recent steam generator replacement projects well below projected dose levels. Most major plant modifications required by TMI and fire protection requirements have been completed as have extensive primary system modifications conducted to reduce the likelihood of loose parts in the reactor internals. The major expected maintenance involving considerable person-rem expenditure would be steam generator tube sleeving; however, recent improved techniques and increased use of robotics by industry have greatly reduced the dose per sleeved tube ratio over that experienced in past sleeving projects and it is expected that this trend would continue. The licensee is also planning replacement of some hydraulic snubbers with energy absorber devices which would reduce overall maintenance requirements over the plant lifetime resulting in further reduced person-rem exposure. Radioactive waste shipments are expected to remain at about the present level for the life of the plant, and no problems or programmatic weaknesses have been evidenced with respect to the licensee's transportation of radioactive material. In addition, license amendments were issued on October 5, 1985 which ensure compliance with various regulatory requirements concerning processing and shipment of radioactive waste.

Spent fuel will be stored in the reracked spent fuel pool (previously evaluated and approved by the staff for radiological environmental consequences on April 4, 1979). Any further expansion of on-site spent fuel storage capacity (such as rod consolidation or dry storage) will be further evaluated for radiological environmental effects by the NRC staff. Although the licensee has provided for on-site storage capability for two additional steam generator lower assemblies (two lower assemblies from Unit 1 have been stored on-site since 1983), any future steam generator replacement activities would first be evaluated and approved for their radiological environmental effects by the staff.

Based on the above, the staff concludes that the licensee's projected dose assessment for the period of the requested license extension is reasonable and acceptable and that the licensee has an effective and adequate radiological protection program in effect to ensure that occupational radiation exposures will be maintained ALARA and in continued compliance with the provisions of 10 CFR Part 20.

### 3.2 Non-Radiological Impacts

The environmental impacts of operation of the Point Beach Nuclear Plant are fully discussed in the FES. The non-radiological impacts evaluated were centered on land use, water use, biological impact (both terrestrial and aquatic); a discussion of probable adverse effects, short term use versus long term productivity, and the irreversible and irretrievable commitment of resources.

### 3.2.1 Land and Water Use

The Point Beach FES concluded that the operation of the plant would have no detrimental effects, such as fogging, icing, etc., on the use of the land. Some hunting restrictions were placed on the 104 acres of land near the plant to prevent damage to the plant. This 104 acres (52 of which had been allowed to revert to normal vegetation cover) has also been diverted from agricultural use. Both of these impacts were considered negligible. One other restriction was that residence within the other 1,861 acres near the plant (comprising the exclusion area) is limited to plant employees. This is also of minor impact. These impacts will be extended for the additional 5 years resulting from the license extension. No additional land use restrictions have been identified as a result of the proposed license extension.

The Point Beach FES concluded that with the exception of thermal energy released from the condenser circulating water system, the operational features of the waste water treatment systems at Point Beach minimized the impact of the facility on the natural environment. Various design features such as batch segregation and sampling of effluents, partition recycling capability for further treatment and stabilization pond design (minimal overflow probability) enable the licensee to maintain adequate control over non-radioactive effluents.

The thermal effects of operating Point Beach Nuclear Plant including the above ambient temperature, area affected and maximum distance from the discharge flume were evaluated in the FES. Temperature rises of 1°F to 15°F were considered. Synergistic thermal effects with the Kewaunee Nuclear Plant were also evaluated and found to be negligible. The biological impact of thermal and chemical effluent releases (both terrestrial and aquatic) was evaluated in the FES as summarized below. Other water use impacts included a small permanent reduction in the amount of available shoreline (approximately 100 feet) due to construction of the recirculating water system, the cumulative effects of the discharge of sodium sulfites into Lake Michigan (negligible effect greater than 1 mile from the discharge point), and the potential hazard associated with chlorine releases if the use of chlorine as an antifouling agent became necessary.

### 3.2.2 Biological Impact

The biological impact on terrestrial species from operation of the Point Beach Nuclear Power Plant was evaluated and found to be minor. There were no apparent ways in which airborne solid or liquid wastes could interact with terrestrial plants and animals. It was concluded, that the migratory fowl habitat could be enhanced to the degree that heated effluent maintains an ice-free channel in Lake Michigan during the winter.

With respect to aquatic biological impact, it was concluded that there were no significant impacts on phytoplankton or zooplankton as a result of plant operation. Nor were there any adverse impacts predicted with respect to thermal discharges accompanying plant operation.

Initially, the use of chlorine and chlorine discharges were controlled by non-radiological water quality Technical Specifications. Subsequent to initial licensing, the licensee underwent an extensive 5-year environmental monitoring program at the site. The results of this program were submitted to the staff and on November 4, 1977 the Commission authorized a temporary suspension of this program pending review of the summary report which was submitted on July 3, 1978. Subsequently, the State of Wisconsin issued on September 28, 1979 a Wisconsin Pollutant Discharge Elimination System (WPDES) permit to the licensee for the Point Beach Nuclear Plant site.

Based on the staff's review of the 5-year environmental monitoring program summary report and the WPDES permit in effect for Point Beach, and in accordance with the licensee's application dated September 21, 1978 as modified October 1, 1981, the staff issued license amendments on March 11, 1983 which deleted certain non-radiological water quality requirements from the Point Beach Unit 1 and 2 Technical Specifications (Appendix B of the operating licenses). Instead, the provisions of the current WPDES permit were incorporated by reference. These changes were determined to be a ministerial action required as a matter of law (pursuant to Federal Water Pollution Control Act Amendments of 1972) which would not result in any significant environmental impact. However, the licensee agreed to furnish copies of any WPDES permit changes or violation notices to the NRC for information.

The staff has consulted with the Wisconsin Department of Natural Resources concerning the proposed license extension request. No comments were received or adverse impacts perceived as a result of this action with respect to the WPDES permit provisions in effect for the Point Beach Nuclear Plant for the period of the requested extension.

Operation of the Point Beach Nuclear Plant for the additional five years of the requested license extension would have a slight additional cumulative effect relative to the discharge of sodium sulfites; however, as this effect on the environment was viewed in the FES as negligible for the period of the current license expiration; the effects from an additional five years of operation are not considered significant. Use of chlorine as an antifouling agent and resultant discharges will continue to be controlled by the WPDES permit in effect. No other land or water use and resultant biological impact as a result of the proposed license extension has been identified by the staff that was not considered in the FES.

### 3.2.3 Discussion of Probable Adverse Effects

A summary discussion of probable adverse effects associated with operation of the Point Beach Nuclear Plant was provided on page 67 of the FES. No major adverse effects were identified. Minor adverse effects included, a removal of 104 acres of land from agricultural production, small aesthetic impact as a result of transmission lines, minor thermal discharge effects, potential adverse impact if chlorine antifouling agents were necessary and small radiation dose to nearby population as compared to normal background. The staff has reviewed the discussion in the FES and has not identified any additional adverse effects associated with the proposed license extension.

### 3.2.4 Short-Term Uses Versus Long-Term Productivity

The staff has reviewed the discussion on page 68 of the FES relating to short-term use versus long-term productivity. The Point Beach Nuclear Plant converted 104 acres or .05% of the agricultural land in Manitowoc County from agricultural use. The Point Beach Nuclear Plant throughout its operational history has consistently maintained high availabilities and capacity factors for both units. The two units have recently surpassed 100 billion kilowatt-hours of electrical generation. The two units have also exhibited a satisfactory record of safe operation during this period. The staff has no indication that these trends would not continue during the period of the requested license extension.

### 3.2.5 Irreversible and Irretrievable Commitment of Resources

Permanent resource commitments identified in the FES were reviewed by the staff with respect to the proposed license extension. Although significant modifications have been made to the plant since the initial licensing, these are generally considered within the scope of normal operational repairs/improvements or those as determined and reviewed by the staff to be important to safety. These have generally involved normal construction materials such as wood, steel, concrete, etc., and those additional consumable items common to site construction activities (additional water for processing of laundry/sanitary wastes, additional gasoline for construction vehicles etc.). The staff has not determined any significant resource commitments necessary as a result of the proposed license extension other than those already experienced as part of routine operation/maintenance or improvements. The increased commitment of resources is expected to be no more than a pro-rated share of those routinely expended as part of normal operation and are not anticipated to involve additional land or water resources outside of those already considered in the FES.

### 3.2.6 Historic Preservation

The Advisory Council on Historic Preservation published in the Federal Register on September 2, 1986 (51 FR 31115) revisions to the regulations that implement Section 106 of the National Historic Preservation Act as set forth in 36 CFR Part 800. These revisions became effective October 1, 1986.

As required by the Section 106 review process, the staff reviewed the FES to determine what, if any, impact on historic or archaeological sites resulted from the initial licensing of the Point Beach Nuclear Plant. As described on page 10 of the FES, there was no known historic significance with Point Beach nor were there any nearby national historic sites. The closest site in the National Register of Historic Places was listed as approximately 27 miles away. The Wisconsin Historic Preservation Officer had been contacted and had determined that the operation of the Point Beach plant would not interact with any known historic site.

Some archeological sites were identified including part of a buried forest under the Point Beach site, an indian burial site to the north, and numerous other sites of unknown importance 8 to 25 miles from the site. None of these were disturbed during plant construction nor have they been impacted by subsequent plant operation.

The staff has consulted with the Wisconsin State Historic Preservation Officer (SHPO) to determine if additional properties had been added to the National Register of Historic Places in the vicinity of the Point Beach Nuclear Plant since the initial licensing. The SHPO indicated that three additional properties had been added to the National Register since the plant's initial licensing. However, the SHPO indicated that he did not believe the proposed license extension, if approved, would have any effect on these three new historic properties.

Based on the above, the staff has determined that the proposed license extension would have no adverse effect on any existing historic properties.

### 3.2.7 Design Change Review

Many modifications and design changes have taken place at Point Beach since the FES was issued. Those that are safety related or important to safety or require a change to the Facility Operating Licenses or Technical Specifications are submitted to the NRC for review and approval prior to implementation in accordance with 10 CFR Part 50. This review and approval process includes a determination of the environmental effects both radiological and non-radiological of the proposed change. Those changes that are determined to be outside the scope of those listed above may be implemented by the licensee without prior NRC approval; however, the licensee must have first completed a safety analysis with respect to the proposed change and retain a copy of this analysis on site for NRC inspection and audit. (Any major changes are also generally subject to local jurisdiction approval; i.e., Public Service Commission prior to implementation.) A description of the changes including a summary of the associated safety analysis is then submitted to the NRC as part of the Annual Results and Data Report. A complete detailed description of the changes and their impact on plant operations and procedures is also included where applicable in required annual updates of the Final Safety Analysis Report (FSAR). Both the Annual Results and Data Report and FSAR updates are reviewed by the staff to verify that the licensee has correctly determined that these changes did not require prior NRC review and approval. In general, these changes improve plant reliability and do not adversely impact the environment. All changes are conducted in accordance with approved procedures, current license requirements and Technical Specifications and the current WPDES permit. While it is recognized that the requested license extension will require further routine design changes and modifications similar in nature to those already conducted, it is not anticipated that these would have any adverse effect on the environment.

Based on the above considerations, the staff concludes that the proposed license extension would not have any non-radiological impacts on the environment.

#### 4.0 ALTERNATIVES TO THE PROPOSED ACTION

The principal alternative to issuance of the proposed license extension would be to deny the application. This would require Point Beach Units 1 and 2 to shut down upon expiration of their current operating licenses. In Chapter X of the FES, a cost benefit analysis is presented for the Point Beach Nuclear Plant. The analysis is based upon 30 years of operation and includes a comparison with various other options for producing an equivalent electric power generation capacity. Even considering significant changes in the economics of the alternatives, operation of the Point Beach Nuclear Plant Units 1 and 2 for another 3 and 5 years, respectively, remains the most economical and environmentally attractive alternative.

Nuclear electrical generation is the lowest cost reliable power source available in the Wisconsin Electric service area. Historically, the annual operating costs of nuclear plants are far more inflation resistant than for fossil fuel plants due to the stability of nuclear fuel costs as opposed to fossil fuel costs and associated transportation costs. Also, extension of the operating licenses would involve little or no additional capital costs for the period of the extension whereas capital costs associated with new fossil fuel replacement generating stations would be significant. Additionally, even though the size and salaries of the operating staff's of nuclear units are generally higher than for fossil fuel plants of comparable size, the higher availability and capacity factor of nuclear plants with respect to fossil fuel plants more than offsets this additional annual cost. Environmental impacts related to extending the operating life of the Point Beach units, including the fuel cycle and transportation impacts, remain small when compared to impacts related to alternative sources of power described in the FES on Tables 13 and 14.

In summary, the initial cost/benefit arguments and conclusions presented in the FES for Point Beach Units 1 and 2 are strengthened by extension of the operating licenses.

#### 5.0 ALTERNATIVE USE OF RESOURCES

This action does not involve the use of resources not previously considered in the FES related to the operation of the Point Beach Nuclear Plant Unit 1 and 2.

#### 6.0 AGENCIES AND PERSONS CONSULTED

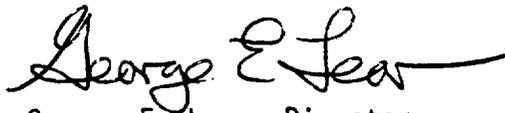
The NRC staff reviewed the licensee's request and consulted with the State of Wisconsin Department of Natural Resources concerning WPDES permit impact, the State Historic Preservation Officer regarding historic properties and state technical representatives regarding proposed no significant hazards consideration determinations made with respect to the requested license extensions.

7.0 BASIS AND CONCLUSION FOR NOT PREPARING AN ENVIRONMENTAL IMPACT STATEMENT

The staff has reviewed the proposed license amendments relative to the requirements set forth in 10 CFR Part 51. Based on this assessment, the staff concludes that there are no significant radiological or non-radiological impacts associated with the proposed action and that the issuance of the proposed license amendments will have no significant impact on the quality of the human environment. Therefore, pursuant to 10 CFR 51.31, an environmental impact statement need not be prepared for this action.

Dated at Bethesda, Maryland, this 10th day of March, 1987.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "George E. Lear". The signature is written in black ink and is positioned above the typed name and title.

George E. Lear, Director  
PWR Project Directorate #1  
Division of PWR Licensing-A

UNITED STATES NUCLEAR REGULATORY COMMISSION  
WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT  
DOCKET NOS. 50-266 AND 50-301  
NOTICE OF ISSUANCE OF ENVIRONMENTAL ASSESSMENT  
AND FINDING OF NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. DPR-24 and DPR-27, issued to Wisconsin Electric Power Company (the licensee), for operation of the Point Beach Nuclear Plant Unit Nos. 1 and 2 located in Manitowoc County, Wisconsin.

IDENTIFICATION OF PROPOSED ACTION:

The amendments would consist of changes to the operating licenses authorizing extensions to the expiration dates for the Unit 1 Facility Operating License No. DPR-24 from July 19, 2007 to October 5, 2010 and for the Unit 2 Facility Operating License No. DPR-27 from July 25, 2008 to March 8, 2013.

The amendments to the licenses are responsive to the licensee's application dated June 28, 1985. The NRC staff has prepared an Environmental Assessment of the Proposed Action, "Environmental Assessment by the Office of Nuclear Reactor Regulation Relating to the Change in Expiration Dates of Facility Operating License Nos. DPR-24 and DPR-27, Wisconsin Electric Power Company, Point Beach Nuclear Plant Unit Nos. 1 and 2, Docket Nos. 50-266 and 50-301", dated March 10, 1987.

SUMMARY OF ENVIRONMENTAL ASSESSMENT:

The NRC staff has reviewed the potential environmental impact of the proposed change in the expiration dates of the Operating Licenses for Point Beach Unit Nos. 1 and 2. This evaluation considered the previous environmental studies, including the "Final Environmental Statement Relating to Operation of Point Beach Nuclear Plant Units 1 and 2" dated May 1972, and more recent NRC policy.

Radiological Impacts

Although the population in the vicinity of Point Beach Unit Nos. 1 and 2 has increased slightly, and also would be likely to increase slightly for the period of the extension, the site requirements of 10 CFR Part 100 are now and would still be met with regard to Exclusion Area Boundary, Low Population Zone, and nearest population center distances. The net annualized environmental impacts attributable to the uranium fuel cycle, which form the basis for Table S3 of 10 CFR Part 51, remain essentially unchanged from those considered upon initial licensing. The environmental impacts attributable to transportation of fuel and waste to and from the Point Beach Nuclear Plant, with respect to normal conditions of transport and possible accidents in transport would continue to be as described in the FES. In addition, the proposed additional years of reactor operation would not increase the annual public risk from reactor operation.

With regard to normal plant operation, the licensee complies with the NRC guidance and requirements for keeping radiation exposures "as low as is reasonably achievable" (ALARA) for occupational exposures and for radioactivity in effluents. Technical Specifications are in place to ensure continued compliance with these requirements during any additional years of facility operation.

Non-Radiological Impacts

The NRC review identified no anticipated additional degradation of the habitat surrounding the Point Beach Nuclear Plant with regard to indigenous plant and animal species for the additional years of facility operation. In addition, the Wisconsin Pollutant Discharge Elimination System permit provides additional environmental protection from non-radiological effluent discharges for the period of the license extensions. The staff also performed an assessment of impact on historic properties in accordance with revisions to 36 CFR Part 800 (Historic Preservation Act) effective October 1, 1986. No significant impact on any historic properties was identified with the license extension.

The staff also verified that the original cost/benefit analysis provided in the Final Environmental Statement and discussions with respect to commitment of resources and alternatives are still valid.

FINDING OF NO SIGNIFICANT IMPACT:

The staff has reviewed the proposed change to the expiration dates of the Point Beach Units 1 and 2 Facility Operating Licenses relative to the requirements set forth in 10 CFR Part 51. Based upon the environmental assessment, the staff concluded that there are no significant radiological or non-radiological impacts associated with the proposed action and that the proposed license amendments will not have a significant effect on the quality of the human environment. Therefore, the Commission has determined, pursuant to 10 CFR 51.31, not to prepare an environmental impact statement for the proposed amendments.

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For further details with respect to this action, see (1) the application for amendments dated June 28, 1985, (2) the Final Environmental Statement Relating to Operation of Point Beach Nuclear Plant Units 1 and 2, issued May 1972, and (3) the Environmental Assessment dated March 10, 1987 . These documents are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W. Washington, D. C. 20555 and at the Joseph P. Mann Public Library 1516 Sixteenth Street, Two Rivers, Wisconsin.

Dated at Bethesda, Maryland, this 10th day of March, 1987.

FOR THE NUCLEAR REGULATORY COMMISSION



George E. Lear, Director  
PWR Project Directorate #1  
Division of PWR Licensing-A