

APPENDIX B

TO FACILITY OPERATING LICENSE NO. NPF-27
LIMERICK GENERATING STATION

UNITS 1 AND 2

PHILADELPHIA ELECTRIC COMPANY
DOCKET NOS. 50-352, 50-353

ENVIRONMENTAL PROTECTION PLAN
(NONRADIOLOGICAL)

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LIMERICK GENERATING STATION

UNITS 1 AND 2

ENVIRONMENTAL PROTECTION PLAN

(NONRADIOLOGICAL)

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1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) is to provide for protection of nonradiological environmental values during operation of the nuclear facility. The principal objectives of the EPP are as follows:

- (1) Verify that the facility is operated in an environmentally acceptable manner, as established by the Final Environmental Statement - Operating Licensing Stage (FES-OL) and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and operation and of actions taken to control those effects.

Environmental concerns identified in the FES-OL which relate to water quality matters are regulated by way of the licensee's NPDES permit.

2.0 Environmental Protection Issues

In the FES-OL dated April, 1984, the staff considered the environmental impacts associated with the operation of the two unit Limerick Generating Station. Certain environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment.

2.1 Aquatic Issues

- (1) During operation, the station blowdown temperature will exceed the maximum permissible temperatures set by the applicable water quality standards. However, the affected area of the Schuylkill River is expected to be smaller than the maximum area permitted by the Delaware River Basin Commission. (FES Section 5.3.2.2)

- (2) The water quality of the station discharge, after initial mixing with the Schuylkill River, is predicted to, at times, exceed the applicable quality criteria for some constituents, based on source water maximum constituent concentrations. These exceedances are expected for constituents whose maximum river concentrations also exceed the applicable criteria. (FES Section 5.3.2.3)

- (3) Chlorination of station cooling waters for condenser and cooling tower biofouling control may result in some adverse impacts to Schuylkill River biota in the vicinity of the station discharge (FES Section 5.3.2.3)
- (4) Operation of the Point Pleasant Diversion will alter the hydrology, aquatic habitats, and water quality of the headwater section of the East Branch of Perkiomen Creek but the diversion waters are expected to provide beneficial dilution of waste loads entering the stream in its middle and lower reaches. (FES Sections 5.3.2.3 and 5.2.2)
- (5) The supplemental cooling water withdrawal from Perkiomen Creek using state-of-the-art technology will result in localized effects from entrainment of fish larvae. (FES Section 5.5.2)

2.2 Terrestrial Issues

No specific terrestrial issues were identified by the NRC staff in the FES-OL.

2.3 Noise Issues

- (1) Tones from the Point Pleasant pumphouse transformers are predicted to be audible and may cause annoyance at a nearby residence. Noise monitor-

ing and, if necessary, mitigative measures to make the tones inaudible have been mandated by the ASLB. (FES Sections 5.12.1 and 5.14.4.1)

- (2) Noise from transformers and pumps in the Bradshaw Reservoir pumphouse may be audible at nearby residences. The licensee has committed to ambient and operational noise level monitoring and implementation of identified mitigative measures, if necessary, to reduce noise levels below those likely to cause annoyance and complaints. (FES Sections 5.12.2 and 5.14.4.2)

- (3) Offsite noise levels in the vicinity of the Limerick site during station operation are not expected to be high enough above ambient levels to annoy nearby residents. But because of uncertainties in the assessment, a confirmatory noise monitoring program and implementation of mitigative measures, if necessary, will be undertaken. (FES Sections 5.12.3 and 5.14.4.3)

NRC requirements with regard to noise issues are specified in Section 4.3 of this EPP.

3.0 Consistency Requirements

3.1 Plant Design and Operation

The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question and do not involve a change in the EPP*. Changes in station design or operation or performance of tests or experiments which do not affect the environment are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this Section.

Before engaging in additional construction or operational activities which may significantly affect the environment, the licensee shall prepare and record an environmental evaluation of such activity. Activities are excluded from this requirement if all measurable nonradiological environmental effects are confined to the on-site areas previously disturbed during site preparation and plant construction. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activity and obtain prior NRC approval. When such activity involves a change in the EPP, such activity and change to the EPP may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3 of this EPP.

* This provision does not relieve the licensee of the requirements of 10 CFR 50.59.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level; or (3) a matter, not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include written evaluations which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question or constitute a decrease in the effectiveness of this EPP to meet the objectives specified in Section 1.0. The licensee shall include as part of the Annual Environmental Operating Report (per Subsection 5.4.1) brief descriptions, analyses, interpretations, and evaluations of such changes, tests and experiments.

3.2 Reporting Related to the NPDES Permit and State Certification

Changes to, or renewals of, the NPDES Permits or the State certification shall be reported to the NRC within 30 days following the date the change or renewal is approved. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

The licensee shall notify the NRC of changes to the effective NPDES Permit proposed by the licensee by providing NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the NPDES Permit at the same time the application is submitted to the permitting agency.

3.3 Changes Required for Compliance with Other Environmental Regulations

Changes in plant design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State, and local environmental regulations are not subject to the requirements of Section 3.1.

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2. The following are examples: excessive bird impaction events, onsite plant or animal disease outbreaks, mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973, fish kills, increase in nuisance organisms or conditions, and unanticipated or emergency discharge of waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring

4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The NRC will rely on the decisions made by the Commonwealth of Pennsylvania, under the authority of the Clean Water Act, for any requirements for aquatic monitoring.

4.2.2 Terrestrial Monitoring

No terrestrial monitoring is required.

4.2.3 Maintenance of Transmission Line Corridors

The use of herbicides within the Limerick Generating Station transmission line corridors (Limerick to Cromby, Cromby to Plymouth Meeting, Cromby to North Wales, and Limerick to Whitpain) shall conform to the approved use of selected herbicides as registered by the Environmental Protection Agency and approved by Commonwealth authorities and applied as directed on the pesticide label.

Records shall be maintained by the licensee's Electric Transmission and Distribution Department concerning herbicide use. Such records shall include the following information: commercial and chemical names of materials used; concentration of active material in formulations for field use; diluting substances other than water; rates of application; method of application; location; and the date of application. Such records shall be maintained for a period of 5 years from the date they are prepared and shall be made readily available to the NRC upon request. There shall be no routine reporting requirement associated with this condition.

4.2.4 Noise Monitoring

4.2.4.1 General Requirements for Sound Level Surveys

Surveys shall be conducted to quantify the ambient (i.e., background) and the operational sound levels that exist at various locations in the vicinity of the LGS site and supplemental cooling water system facilities, as specified below. The ambient sound level surveys shall be conducted during the time period when significant station or supplemental cooling water system outdoor construction activity has ended, and with no operation of the cooling system or other significant noise sources (e.g., transformers) so that measured sound levels are not affected by such activities. The operational sound level surveys shall be conducted as soon as practicable within the first year of the operational phase of the various station associated facilities, when transformers are energized or when the cooling towers are operating with their design water flow rates, as appropriate for the facility under study. For the LGS site, one survey shall be conducted for one unit normal operation and a second survey for two unit normal operation. The conduct of the surveys for both phases shall be such that the results are comparable.

For each of the surveys, except as otherwise specified below or in LBP-83-11, sound level data shall be collected at several sites, the exact number and location to be selected by the licensee after consideration of (1) existing onsite and nearby offsite noise sources and barriers; (2) noise

sensitive land uses in the site vicinity (e.g., residences, schools, churches, cemeteries, hospitals, parks); and (3) previously conducted noise surveys in the site vicinity.

The selection, calibration and use of equipment, conduct of the surveys, and the analysis and reporting of data shall conform to the provisions of the applicable American National Standards Institute Standards.

The results of the surveys conducted under this program shall be summarized, interpreted and reported in accordance with Section 5.4.1 of this EPP.

The final report of this program shall present a brief assessment by the licensee of the environmental impact of plant and supplemental cooling water system operation on the various offsite acoustic environments, and shall describe the mitigative measures, if any, that have been, or are to be taken to reduce the impact of plant or supplemental cooling water system noise levels on the offsite environments. This report shall also contain a list of noise-related complaints or inquiries received by Philadelphia Electric Company concerning the Limerick Generating Station or its supplemental cooling water system subsequent to issuance of the operating license along with a description of the action taken by Philadelphia Electric Company to resolve these complaints or inquiries.

This program shall terminate upon completion of the collection of the specified sound level data for each phase and submission of an acceptable final report.

4.2.4.2 Point Pleasant Pumphouse

An ASLB ruling (LBP-83-11; March 8, 1983) requires that the licensee conduct a one-time field study after the transformers are placed in operation at Point Pleasant. The noise from operation of the transformers shall be reduced to a level so that the transformer core tones will be inaudible (i.e., not above the masking level, as defined below) at the site boundary.

The licensee shall determine, based on onsite measurements, the delta L(ex) (i.e., the noise level in excess of the masking level) for each tone. The masking level is defined as "N" dB above the ambient spectrum level, where "N" is defined as follows:

Masking Level "N", dB	Tone Frequency, Hz
17.5	120
17.4	240
17.8	360
18.2	480

The steps to be carried out are:

- (1) Measure the broadband (nontonal) ambient nighttime (midnight to 4 a.m.) levels in all octave bands of frequency when the transformers are not energized (step A in the ASLB ruling). From these, tone-masking sound levels (thresholds of audibility) at each tone frequency shall be calculated.

- (2) Measure the level of the tones that exist when the transformers are energized (step B) in the one-third-octave bands that contain them for comparison with the calculated masking levels from step A to determine audibility. Transformer tones should not be greater than the masking level for specific one-third-octave bands.

If, for any reason, its not practicable to de-energize the transformers at any time during the prescribed measurement time period (midnight to 4 a.m.), alternative measurements shall be made. In that event, only one measurement of the entire spectrum need be made, but it must be done entirely in one-third-octave bands. Any measured octave band sound level that includes a tone or tones cannot be used to determine the true background ambient sound level for that octave band. In such cases, the background ambient level in any one-third-octave band containing a tone shall be approximated by interpolating between those adjacent one-third-octave band levels that do not contain any tones.

If audible tones, defined as any $\Delta L(ex)$ value greater than 0, are found at the site boundary, mitigative measures, such as a three-sided barrier or a full enclosure around the transformers, shall be implemented (and their performance verified by noise measurement) so that tones are not greater than the masking level as previously determined.

4.2.4.3 Bradshaw Reservoir

The noise measurements proposed for the Point Pleasant site shall be made at the Bradshaw pumphouse site boundary while energized, on the line between the transformers and residences B, D, and F, to determine if the tones would be audible at those points (see Figure 5.6, LGS Final Environmental Statement, NUREG-0974, p. 5-140). Measures to render these tones inaudible at these points shall then be applied, as necessary, and their performance verified. The measurement program recommended for Bradshaw to test for audible tones from the transformers shall also be extended to include audible tones in the 1000-Hz octave band at the southeast site boundary in the direction of residence B.

4.2.4.4 Limerick Site

The operational measurement program to be applied to the Point Pleasant area shall be applied to the area immediately beyond the northern boundary of the Limerick site as well. If audible tones are found to be present at the northern site boundary after Unit 1 transformers are energized, mitigative measures shall be taken and their performance verified, as required for the Bradshaw Reservoir, to cause those tones to be inaudible.

For the LGS site only, data shall be collected from each sampling site during the time of year when foliage of deciduous trees is present and also during the time of year when such foliage is largely absent. Data collected from each sampling location shall encompass both the daytime and nighttime periods.

5.0 Administrative Procedures

5.1 Review and Audit

The licensee shall provide for review and audit of compliance with the EPP. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organization structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

5.2 Records Retention

Records and logs relative to the environmental aspects of station operation shall be made and retained in a manner convenient for review and inspection. These records and logs shall be made available to NRC on request.

Records of modifications to station structures, systems and components determined to potentially affect the continued protection of the environment shall be retained for the life of the station. All other records, data and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

5.3 Changes in Environmental Protection Plan

Requests for changes in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

5.4 Plant Reporting Requirements

5.4.1 Routine Reports

An Annual Environmental Operating Report describing implementation of this EPP for the previous year shall be submitted to the NRC prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following issuance of the operating license.

The report shall include summaries and analyses of the results of the environmental protection activities required by Subsection 4.2 of this EPP for the report period, including a comparison with related preoperational studies, operational controls (as appropriate), and previous nonradiological environmental monitoring reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence of trends toward irreversible damage to the environment are observed, the licensee shall provide a detailed analysis of the data and a proposed course of mitigating action.

The Annual Environmental Operating Report shall also include:

- (1) A list of EPP noncompliances and the corrective actions taken to remedy them.
- (2) A list of all changes in station design or operation, tests, and experiments made in accordance with Subsection 3.1 which involved a potentially significant unreviewed environmental question.
- (3) A list of nonroutine reports submitted in accordance with Subsection 5.4.2.

In the event that some results are not available by the report due date, the report shall be submitted noting and explaining the missing results. The missing results shall be submitted as soon as possible in a supplementary report.

5.4.2 Nonroutine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of a nonroutine event. The report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact, and plant operating characteristics, (b) describe the probable cause of the event, (c) indicate the action taken to correct the reported event, (d) indicate the corrective

action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection which also require reports to other Federal, State or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided with a copy of such report at the same time it is submitted to the other agency.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT NO. 1

NOTICE OF ISSUANCE OF FACILITY

OPERATING LICENSE

Notice is hereby given that the Nuclear Regulatory Commission (the Commission), has issued Facility Operating License No. NPF-27 to the Philadelphia Electric Company (the licensee), which authorizes operation of the Limerick Generating Station Unit No. 1 (the facility) by Philadelphia Electric Company at reactor core power levels not in excess of 3293 megawatts thermal in accordance with the provisions of the License, the Technical Specifications and the Environmental Protection Plan with a condition currently limiting operation to five percent of rated power (165 megawatts thermal). Authorization to operate beyond five percent of rated power will require specific Commission approval.

The Limerick Generating Station, Unit No. 1, is a boiling water nuclear reactor located on the banks of the Schuylkill River approximately 1.7 miles southeast of the city limits of Pottstown, Pennsylvania and 21 miles northwest of the city limits of Philadelphia, Pennsylvania.

The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the License. Prior public notice of the overall action involving the proposed issuance of an operating license was published in the Federal Register on August 21, 1981 (46 F.R. 42557 - 42558).

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The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.

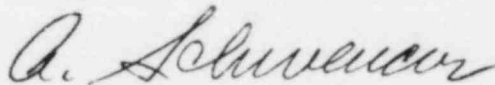
For further details in respect to this action, see (1) Facility Operating License NPF-27 complete with Technical Specifications and the Environmental Protection Plan; (2) the interim report of the Advisory Committee on Reactor Safeguards, dated October 18, 1983; (3) the Commission's Safety Evaluation Report, dated August 1983, Supplement No. 1 dated December 1983, Supplement No. 2 dated October 1984, and Supplement No. 3 dated October 1984; (4) the Final Safety Analysis Report and Amendments thereto; (5) the Environmental Report and supplements thereto; and (6) the Final Environmental Statement dated April 1984.

These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555, and at the Pottstown Public Library, 500 High Street, Pottstown, Pennsylvania 19464. A copy of Facility Operating License NPF-27 may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing. Copies of the Safety Evaluation Report and its Supplements 1, 2, and 3 (NUREG-0991) and the Final Environmental Statement (NUREG-0974) may be purchased at current rates from the National

Technical Information Service, Department of Commerce, 5285 Port Koyal Road, Springfield, Virginia 22161, and through the NRC GPO sales program by writing to the U.S. Nuclear Regulatory Commission, Attention: Sales Manager, Washington, D. C. 20555. GPO deposit account holders may call (301) 492-9530.

Dated at Bethesda, Maryland, this 26th day of October 1984.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

APPENDIX B

TO FACILITY OPERATING LICENSE NO. NPF-27
LIMERICK GENERATING STATION

UNITS 1 AND 2

PHILADELPHIA ELECTRIC COMPANY
DOCKET NOS. 50-352, 50-353

ENVIRONMENTAL PROTECTION PLAN
(NONRADIOLOGICAL)

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LIMERICK GENERATING STATION

UNITS 1 AND 2

ENVIRONMENTAL PROTECTION PLAN

(NONRADIOLOGICAL)

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1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) is to provide for protection of nonradiological environmental values during operation of the nuclear facility. The principal objectives of the EPP are as follows:

- (1) Verify that the facility is operated in an environmentally acceptable manner, as established by the Final Environmental Statement - Operating Licensing Stage (FES-OL) and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and operation and of actions taken to control those effects.

Environmental concerns identified in the FES-OL which relate to water quality matters are regulated by way of the licensee's NPDES permit.

2.0 Environmental Protection Issues

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2.1 Aquatic Issues

- (1) During operation, the station blowdown temperature will exceed the maximum permissible temperatures set by the applicable water quality standards. However, the affected area of the Schuylkill River is expected to be smaller than the maximum area permitted by the Delaware River Basin Commission. (FES Section 5.3.2.2)

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- (5) The supplemental cooling water withdrawal from Perkiomen Creek using state-of-the-art technology will result in localized effects from entrainment of fish larvae. (FES Section 5.5.2)

2.2 Terrestrial Issues

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2.3 Noise Issues

- (1) Tones from the Point Pleasant pumphouse transformers are predicted to be audible and may cause annoyance at a nearby residence. Noise monitor-

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- (2) Noise from transformers and pumps in the Bradshaw Reservoir pumphouse may be audible at nearby residences. The licensee has committed to ambient and operational noise level monitoring and implementation of identified mitigative measures, if necessary, to reduce noise levels below those likely to cause annoyance and complaints. (FES Sections 5.12.2 and 5.14.4.2)

- (3) Offsite noise levels in the vicinity of the Limerick site during station operation are not expected to be high enough above ambient levels to annoy nearby residents. But because of uncertainties in the assessment, a confirmatory noise monitoring program and implementation of mitigative measures, if necessary, will be undertaken. (FES Sections 5.12.3 and 5.14.4.3)

NRC requirements with regard to noise issues are specified in Section 4.3 of this EPP.

- 3.0 Consistency Requirements
- 3.1 Plant Design and Operation

The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question and do not involve a change in the EPP*. Changes in station design or operation or performance of tests or experiments which do not affect the environment are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this Section.

Before engaging in additional construction or operational activities which may significantly affect the environment, the licensee shall prepare and record an environmental evaluation of such activity. Activities are excluded from this requirement if all measurable nonradiological environmental effects are confined to the on-site areas previously disturbed during site preparation and plant construction. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activity and obtain prior NRC approval. When such activity involves a change in the EPP, such activity and change to the EPP may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3 of this EPP.

* This provision does not relieve the licensee of the requirements of 10 CFR 50.59.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level; or (3) a matter, not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include written evaluations which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question or constitute a decrease in the effectiveness of this EPP to meet the objectives specified in Section 1.C. The licensee shall include as part of the Annual Environmental Operating Report (per Subsection 5.4.1) brief descriptions, analyses, interpretations, and evaluations of such changes, tests and experiments.

3.2 Reporting Related to the NPDES Permit and State Certification

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3.3 Changes Required for Compliance with Other Environmental Regulations

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4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2. The following are examples: excessive bird impaction events, onsite plant or animal disease outbreaks, mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973, fish kills, increase in nuisance organisms or conditions, and unanticipated or emergency discharge of waste water or chemical substances.

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4.2.2 Terrestrial Monitoring

No terrestrial monitoring is required.

4.2.3 Maintenance of Transmission Line Corridors

The use of herbicides within the Limerick Generating Station transmission line corridors (Limerick to Cromby, Cromby to Plymouth Meeting, Cromby to North Wales, and Limerick to Whitpain) shall conform to the approved use of selected herbicides as registered by the Environmental Protection Agency and approved by Commonwealth authorities and applied as directed on the pesticide label.

Records shall be maintained by the licensee's Electric Transmission and Distribution Department concerning herbicide use. Such records shall include the following information: commercial and chemical names of materials used; concentration of active material in formulations for field use; diluting substances other than water; rates of application; method of application; location; and the date of application. Such records shall be maintained for a period of 5 years from the date they are prepared and shall be made readily available to the NRC upon request. There shall be no routine reporting requirement associated with this condition.

4.2.4 Noise Monitoring

4.2.4.1 General Requirements for Sound Level Surveys

Surveys shall be conducted to quantify the ambient (i.e., background) and the operational sound levels that exist at various locations in the vicinity of the LGS site and supplemental cooling water system facilities, as specified below. The ambient sound level surveys shall be conducted during the time period when significant station or supplemental cooling water system outdoor construction activity has ended, and with no operation of the cooling system or other significant noise sources (e.g., transformers) so that measured sound levels are not affected by such activities. The operational sound level surveys shall be conducted as soon as practicable within the first year of the operational phase of the various station associated facilities, when transformers are energized or when the cooling towers are operating with their design water flow rates, as appropriate for the facility under study. For the LGS site, one survey shall be conducted for one unit normal operation and a second survey for two unit normal operation. The conduct of the surveys for both phases shall be such that the results are comparable.

For each of the surveys, except as otherwise specified below or in LBP-83-11, sound level data shall be collected at several sites, the exact number and location to be selected by the licensee after consideration of (1) existing onsite and nearby offsite noise sources and barriers; (2) noise

sensitive land uses in the site vicinity (e.g., residences, schools, churches, cemeteries, hospitals, parks); and (3) previously conducted noise surveys in the site vicinity.

The selection, calibration and use of equipment, conduct of the surveys, and the analysis and reporting of data shall conform to the provisions of the applicable American National Standards Institute Standards.

The results of the surveys conducted under this program shall be summarized, interpreted and reported in accordance with Section 5.4.1 of this EPP.

The final report of this program shall present a brief assessment by the licensee of the environmental impact of plant and supplemental cooling water system operation on the various offsite acoustic environments, and shall describe the mitigative measures, if any, that have been, or are to be taken to reduce the impact of plant or supplemental cooling water system noise levels on the offsite environments. This report shall also contain a list of noise-related complaints or inquiries received by Philadelphia Electric Company concerning the Limerick Generating Station or its supplemental cooling water system subsequent to issuance of the operating license along with a description of the action taken by Philadelphia Electric Company to resolve these complaints or inquiries.

This program shall terminate upon completion of the collection of the specified sound level data for each phase and submission of an acceptable final report.

4.2.4.2 Point Pleasant Pumphouse

An ASLB ruling (LBP-83-11; March 8, 1983) requires that the licensee conduct a one-time field study after the transformers are placed in operation at Point Pleasant. The noise from operation of the transformers shall be reduced to a level so that the transformer core tones will be inaudible (i.e., not above the masking level, as defined below) at the site boundary.

The licensee shall determine, based on onsite measurements, the delta L(ex) (i.e., the noise level in excess of the masking level) for each tone. The masking level is defined as "N" dB above the ambient spectrum level, where "N" is defined as follows:

Masking Level "N", dB	Tone Frequency, Hz
17.5	120
17.4	240
17.8	360
18.2	480

The steps to be carried out are:

- (1) Measure the broadband (nontonal) ambient nighttime (midnight to 4 a.m.) levels in all octave bands of frequency when the transformers are not energized (step A in the ASLB ruling). From these, tone-masking sound levels (thresholds of audibility) at each tone frequency shall be calculated.

- (2) Measure the level of the tones that exist when the transformers are energized (step B) in the one-third-octave bands that contain them for comparison with the calculated masking levels from step A to determine audibility. Transformer tones should not be greater than the masking level for specific one-third-octave bands.

If, for any reason, its not practicable to de-energize the transformers at any time during the prescribed measurement time period (midnight to 4 a.m.), alternative measurements shall be made. In that event, only one measurement of the entire spectrum need be made, but it must be done entirely in one-third-octave bands. Any measured octave band sound level that includes a tone or tones cannot be used to determine the true background ambient sound level for that octave band. In such cases, the background ambient level in any one-third-octave band containing a tone shall be approximated by interpolating between those adjacent one-third-octave band levels that do not contain any tones.

If audible tones, defined as any $\Delta L_{(ex)}$ value greater than 0, are found at the site boundary, mitigative measures, such as a three-sided barrier or a full enclosure around the transformers, shall be implemented (and their performance verified by noise measurement) so that tones are not greater than the masking level as previously determined.

4.2.4.3 Bradshaw Reservoir

The noise measurements proposed for the Point Pleasant site shall be made at the Bradshaw pumphouse site boundary while energized, on the line between the transformers and residences B, D, and F, to determine if the tones would be audible at those points (see Figure 5.6, LGS Final Environmental Statement, NUREG-0974, p. 5-140). Measures to render these tones inaudible at these points shall then be applied, as necessary, and their performance verified. The measurement program recommended for Bradshaw to test for audible tones from the transformers shall also be extended to include audible tones in the 1000-Hz octave band at the southeast site boundary in the direction of residence B.

4.2.4.4 Limerick Site

The operational measurement program to be applied to the Point Pleasant area shall be applied to the area immediately beyond the northern boundary of the Limerick site as well. If audible tones are found to be present at the northern site boundary after Unit 1 transformers are energized, mitigative measures shall be taken and their performance verified, as required for the Bradshaw Reservoir, to cause those tones to be inaudible.

For the LGS site only, data shall be collected from each sampling site during the time of year when foliage of deciduous trees is present and also during the time of year when such foliage is largely absent. Data collected from each sampling location shall encompass both the daytime and nighttime periods.

5.0 Administrative Procedures

5.1 Review and Audit

The licensee shall provide for review and audit of compliance with the EPP. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organization structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

5.2 Records Retention

Records and logs relative to the environmental aspects of station operation shall be made and retained in a manner convenient for review and inspection. These records and logs shall be made available to NRC on request.

Records of modifications to station structures, systems and components determined to potentially affect the continued protection of the environment shall be retained for the life of the station. All other records, data and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

5.3 Changes in Environmental Protection Plan

Requests for changes in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

5.4 Plant Reporting Requirements

5.4.1 Routine Reports

An Annual Environmental Operating Report describing implementation of this EPP for the previous year shall be submitted to the NRC prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following issuance of the operating license.

The report shall include summaries and analyses of the results of the environmental protection activities required by Subsection 4.2 of this EPP for the report period, including a comparison with related preoperational studies, operational controls (as appropriate), and previous nonradiological environmental monitoring reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence of trends toward irreversible damage to the environment are observed, the licensee shall provide a detailed analysis of the data and a proposed course of mitigating action.

The Annual Environmental Operating Report shall also include:

- (1) A list of EPP noncompliances and the corrective actions taken to remedy them.
- (2) A list of all changes in station design or operation, tests, and experiments made in accordance with Subsection 3.1 which involved a potentially significant unreviewed environmental question.
- (3) A list of nonroutine reports submitted in accordance with Subsection 5.4.2.

In the event that some results are not available by the report due date, the report shall be submitted noting and explaining the missing results. The missing results shall be submitted as soon as possible in a supplementary report.

5.4.2 Nonroutine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of a nonroutine event. The report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact, and plant operating characteristics, (b) describe the probable cause of the event, (c) indicate the action taken to correct the reported event, (d) indicate the corrective

action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection which also require reports to other Federal, State or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided with a copy of such report at the same time it is submitted to the other agency.

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