

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** Water Resources – Surface Water

Statement of Question:

Provide copies of the following ER references:

- a. Agreement with Illinois Environmental Protection Agency (IEPA) limiting Byron's consumptive use of surface water.

Response:

The agreement between the Illinois Department of Conservation (now Illinois Department of Natural Resources) and Commonwealth Edison limiting Byron Station's consumptive use of surface water was first established in the Illinois Department of Transportation, Division of Water Resources, Permit No. 15001, dated April 7, 1977, which is provided as an attachment to Request for Additional Information Response, Question WR-SW-1e.

List Attachments Provided:

None

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** **Water Resources – Surface Water**

Statement of Question:

Provide copies of the following ER references:

- b. Byron Storm Water Pollution Prevention Plan

Response:

The requested information is attached.

List Attachments Provided:

1. Storm Water Pollution Prevention Plan, Byron Nuclear Power Station, Byron, Illinois, dated January 2013

STORM WATER POLLUTION PREVENTION PLAN



**Byron Nuclear Power Station
Byron, Illinois**

January 2013

TABLE OF CONTENTS

CERTIFICATION.....	iii
MANAGEMENT APPROVAL	iv
RECORD OF REVISIONS.....	v
1.0 INTRODUCTION	1
1.1 Purpose and Scope	1
1.2 Regulatory Background.....	1
1.3 Site Location and Property Description	1
1.4 Description of Facility Operations	1
1.5 Drainage Patterns	2
2.0 STORM WATER POLLUTION PREVENTION TEAM.....	3
3.0 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES.....	4
3.1 Storm Water Outfalls and Drainage Areas.....	4
3.2 Inventory of Exposed Significant Materials.....	5
3.3 Significant Spills, Leaks, and Other Environmental Releases	9
3.4 Non-Storm Water Discharges	9
3.5 Risk Identification and Summary of Potential Pollutant Sources	9
3.6 Requirements for SARA Section 313 Facilities.....	10
4.0 STORM WATER POLLUTION PREVENTION BEST MANAGEMENT PRACTICES AND CONTROLS	11
4.1 Engineering Controls.....	11
4.2 Spill Response and Existing Compliance Plans	12
4.3 Sediment and Erosion Prevention	12
4.4 Good Housekeeping	12
4.5 Visual Inspections and Preventive Maintenance.....	14
4.6 Spill Prevention and Response Procedures	15
4.7 Employee Training and Communication	15
4.8 Record Keeping and Internal Reporting Procedures	16
4.9 Facility Security	17
5.0 STORM WATER POLLUTION PREVENTION PLAN EVALUATION AND MONITORING REQUIREMENTS.....	18
5.1 Storm Water Analytical Testing Requirements.....	18
5.2 Annual Site Inspection and Summary Report	18
5.3 SWPPP Revision and Subsequent Implementation.....	19
5.4 Certification and Signatory Authority	19

TABLE OF CONTENTS-CONTINUED

TABLES

Table 1 – Storm Water Outfall Drainage Areas

FIGURES

Figure 1 – Site Location Map

Figure 2 – Location of Storm Water Outfalls

Figure 3 – Power Station Drainage Map

Figure 4 – River Screen House Drainage Map

APPENDICES

Appendix A: NPDES Permit

Appendix B: Certification of Absence of Non-Storm Water Discharges

Appendix C: Example Storm Water Inspection Checklist

Appendix D: Training Documentation

Appendix E: Spill Reports

CERTIFICATION
STORM WATER POLLUTION PREVENTION PLAN

Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois

I, Benjamin P. Youman, as Plant Manager of the Byron Nuclear Power Station, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information presented herein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information provided herein is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting, providing, presenting, and/or certifying false information, including the possibility of fine and imprisonment for knowing violations.

Benjamin P. Youman
Plant Manager (Type or print)


(815) 406-3700
Area Code and Telephone No.

Benjamin P. Youman
Signature

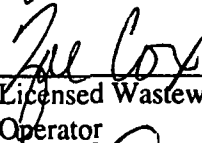
1/25/13
Date Signed

**MANAGEMENT APPROVAL
STORM WATER POLLUTION PREVENTION PLAN**


**Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois**


Environmental Specialist

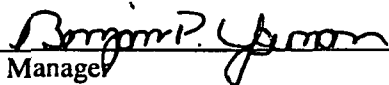
1-14-13
Date


Licensed Wastewater Treatment Plant
Operator

1-14-13
Date


Chemistry Manager

1/22/13
Date


Plant Manager

1/22/13
Date

**RECORD OF REVISIONS
STORM WATER POLLUTION PREVENTION PLAN**

**Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois**

Revision Number	Description	Implementation Date
0	Initial preparation	February 7, 1994
1	Addition of fire training fuel tanks and October 19, 1994 spill summary	March 1, 1995
2	Inclusion of NALCO Chemical Tanks at Circulating Water Pumphouse	April 11, 1997
3	Corrected chemicals stored on site, added mixed waste storage and stores warehouse No .6, Updated drawings and position title changes.	October 2, 1998
4	Adds above ground diesel fuel and gasoline tanks and new chemical tank at Circulating Water Pumphouse.	October 2, 1999
5	Updated and re-formatted plan. Added River Screen House to plan.	December 15, 2001
6	Updated Sodium hypochlorite tank modification to Circ Water. Updated site map showing paved and unpaved areas.	June 1, 2003
7	Remove Kerosene tank, yard maintenance fuel tanks. Add road salt storage shed and salt storage requirements. Remove Sewage Sludge land application since site does not apply Sewage Sludge to land. Update land application permit number for cooling tower sludge. Remove solid waste refuse container special housekeeping requirements as they are redundant to general housekeeping requirements. Update inspection frequency for RSH oil/water separators	December 1, 2006
8	Deleted reference to contracted Security Company. Revised annual inspection checklist to include a statement if additional inspections were performed and to include them in the annual report submitted to IEPA. Revised plan to better address the various aspects of vehicle management practices used on site. Added NPDES permit number to inspection checklist.	January 31, 2013

SECTION 1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this Storm Water Pollution Prevention Plan (SWPPP) is to comply with Special Condition 16 of the Exelon Generation Company, LLC, (Exelon), Byron Nuclear Power Station (Byron Station) NPDES Permit No. IL0048313 regarding storm water discharges associated with industrial activity for outfalls 003 and 004. A Site Location Map is shown in Figure 1. A copy of the NPDES permit is included in Appendix A.

1.2 Regulatory Background

The NPDES permit for Byron Station was reissued to Exelon on January 24, 2012, and expires December 31, 2015. In accordance with Special Condition 16 of the permit, a SWPPP shall be developed for storm water associated with industrial activity discharged from Outfalls 003 and 004. A map showing the location of these two outfalls is included on Figure 2. This SWPPP is applicable to storm water runoff which is not processed by Byron Station's wastewater treatment facilities. In addition, the SWPPP shall describe and ensure the implementation of practices, which are to be used to reduce the pollutants in storm water discharges at the facility and to assure compliance with the terms and conditions of the NPDES permit.

1.3 Site Location and Property Description

Byron Station is located in northern Illinois, 3.7 miles south-southwest of the city of Byron, and 2.2 miles east of the Rock River, in Ogle County. The station is situated in the approximate center of the county in a predominantly agricultural area, and is located entirely within the Rockvale Township (see Figures 1 and 2). The station occupies approximately 1,782 acres of land, 1,398 acres occupied by the main site area and 384 acres occupied by a transmission and pipeline corridor extending to the Rock River.

1.4 Description of Facility Operations

Byron Station is a nuclear powered electrical generating and distribution facility. Electrical generating operations are generally carried out inside three main buildings: 1) Containment Building; 2) Auxiliary Building; and 3) Turbine Building. Additional on site facilities include two natural draft cooling towers, an Essential-Service Cooling Tower Complex, Administration Building, Security Access Buildings, several warehouses and storage buildings, and a training building.

The facility is operated 24 hours per day, 365 days per year. Over 800 people work on site and the facility is always staffed. In addition, a full contingent of security personnel is constantly on patrol at the facility. Station security is maintained on a twenty-four (24) hour basis by Exelon Security personnel. At various intervals during the day and night, patrols of the station property are conducted. The plant site is well lighted and enclosed by perimeter security fencing. Any abnormal conditions observed during a security inspection are reported to the Byron Station Operations Shift Manager.

1.5 Drainage Patterns

Byron Station is located approximately two miles from the Rock River. The general plant surface water drainage system was designed to drain into storm drains, and the storm drains discharge to a large oil separator before discharging into an on-site retention pond termed the Construction Run-off Pond (CROP). The CROP is pumped to the Unit 2 Natural Draft Cooling Tower Cold Water Basin. However, the CROP can overflow to Woodland Creek to the northeast of Byron Station. Woodland Creek, located north and east of the Byron Station, is a tributary to the Rock River.

Portions of the northern part of Byron Station drain to an unnamed tributary to the north then to the Rock River to the west. Both of these outfalls are permitted storm water outfalls and are monitored by the SWPP Plan for Byron Station.

All storm water runoff from plant areas associated with industrial activity flows through a below-grade oil/water separator prior to entering the station's Construction Run-off Pond with the exception of a small area east of the natural draft cooling towers (East Station Area Runoff, Outfall No. 003.) and the west portion of the main site area including the 345 KV switchyard (West Station Area Runoff, Outfall No. 004). Drainage from the west side of the cooling towers flows to the station's Construction Run-off Pond with no treatment. This SWPPP is applicable to these two outfalls. However, in accordance with Special Condition 16 of the station's NPDES permit, the main site area will be inspected annually to verify that previously identified storm water discharges are adequately controlled prior to release.

SECTION 2.0

STORM WATER POLLUTION PREVENTION TEAM

Byron Station staff members shall be identified, to comprise the facility's SWPPP team. The members of the SWPPP team are delegated specific storm water management tasks for the development, implementation, and revision of the SWPPP. The members consist of Byron Station environmental, training, engineering, and management personnel. The following tasks are assigned:

- Plan Development;
- Plan Implementation;
- Best Management Practice (BMP) Selection;
- Communication of Non-compliance and Corrective Measure Implementation;
- Spill Response and Spill List Revisions;
- Inspections and Annual Evaluations;
- Employee Training;
- Recordkeeping and Reporting;
- Plan Revisions; and
- Signatory Authority.

Compliance with NPDES permit terms and conditions, including those associated with storm water runoff, is the responsibility of the Station Manager. Development and implementation of the SWPPP is the responsibility of Environmental personnel. The Environmental personnel function cooperatively to ensure compliance with the conditions and limitations of the Byron Station NPDES permit as it applies to storm water runoff.

The SWPPP Team is responsible for oversight to ensure that all requirements and conditions of the NPDES permit are implemented.

SECTION 3.0 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

3.1 Storm Water Outfalls and Drainage Areas

Two separate storm water outfalls have been identified at Byron Station with respect to the discharge of storm water associated with industrial activity covered by the NPDES permit. The two areas have been designated as the East Station Area Runoff (Outfall 003) and West Station Area Runoff (Outfall 004).

There is also storm water runoff associated with industrial activity at Byron Station that drains off site that does not drain through the two outfalls. One area is located in the northern quadrant of the power station site. Storm water runoff from this area of the power station drains off as sheet flow and eventually flows to Woodland Creek, bypassing Outfall 003. The industrial activity associated with this area includes construction debris (C/D), equipment lay-down yards, a salt storage shed and one eight-acre and two four-acre cooling tower sediment application areas (Permit No. 2009-SC-2169 and supplemental Permit 2009-SC-2169-1).

The second area is at the River Screen House located on the banks of the Rock River. Storm water runoff from this area drains as sheet flow directly to the Rock River. The industrial activity associated with this area includes the river screen pump house and related equipment. A detailed description of each drainage area and its respective outfall location is provided below. Table 1 lists each outfall and provides pertinent information about each respective drainage area. Figure 3 is a storm water drainage map of the power station area that depicts the flow patterns of storm water runoff. Figure 4 is a storm water drainage map of the River Screen House area.

East Station Area Runoff (Outfall 003)

Drainage is limited to the area located east of the natural draft cooling towers, around the east half of the main site, and associated areas. This area is vegetated and is monitored for cleanliness by station personnel. The parking lot for the station and training building drain via culverts to Outfall 003. The parking lots are asphalt and are monitored for cleanliness by station personnel. A Sodium Bisulfite Chemical addition skid is located at the northwest end of the station. Runoff from this skid will drain to Outfall 003. The skid is bermed and contained inside a building. Runoff flows north into Woodland Creek, a tributary to the Rock River.

West Station Area Runoff (Outfall 004)

This runoff point receives storm water discharge from the west portion of the main site area that includes the 345 KV switchyard, warehouses, and the area around the essential service water mechanical draft cooling towers. This outfall also drains an abandoned construction debris landfill that is covered with topsoil and vegetation, a small active construction debris storage area (mainly concrete and gravel), and an area that receives sediment from the cooling towers. This latter area is surrounded by a berm to control the rate of runoff and also serves to facilitate the settling of solids. Much of the drainage area is located off site and drains cultivated agricultural lands.

Runoff from the northwest and southwest portions of the main site area flows west and converges approximately one quarter of a mile west of the 345 KV switchyard to form an un-named tributary to the Rock River.

North Area Sheetflow

Drainage is limited to a small area located in the northern quadrant of the plant. The area is vegetated and is monitored for cleanliness by station personnel. Equipment is stored in laydown areas at several locations shown on Figure 3. Runoff occurs as sheet flow and drains north into Woodland Creek, a tributary to the Rock River.

River Screen House Area

This drainage is limited to a small area located adjacent to the River Screen House. This area is located on the east bank of the Rock River. Runoff occurs as sheet flow from this area and drains directly to the Rock River. There are two transformers and a fuel loading station located at the River Screen House area. Absorbent rock lines the ground beneath the transformers. The absorbent rock beneath the transformers drains to an underground piping system that is connected to an oil/water separator for each transformer. Each oil/water separator has been designed to contain a spill should the transformer fail and release its' entire contents. The oil/water separators are inspected on a routine basis once every quarter, and are kept free of sludge and oil in order to ensure that they are properly functioning should a catastrophic failure of the transformers occur.

In addition a spill kit is available at the River Screen House and the operator is always present during fuel loading to divert any accidental spillage from diesel fuel transfers at the fuel loading station. Instead of providing an interlocking barrier system, or warning lights, Exelon operators manually oversee and perform the fuel unloading.

3.2 Inventory of Exposed Significant Materials

As part of the assessment phase of the SWPPP, the storm water runoff drainage areas described in Section 3.1 were inspected to identify the exposed significant materials that have the potential to contribute pollutants to the storm water runoff. As defined in 40 CFR 122.26(b) (12), the term "significant materials" includes, but is not limited to: raw materials; fuels; solvents; finished products; hazardous substances; any chemical the facility is required to report pursuant to Section 312 of Title III of Superfund Amendments and Reauthorization Act (SARA); and any waste products that have the potential to be released with storm water runoff.

An inventory of exposed significant materials and potential pollutant source(s) at the Byron Station are identified and listed below, as well as the specific pollutant parameter(s) of concern (where applicable) that can reasonably be associated with each source, and existing materials management practices and structural controls designed to prevent or minimize storm water contamination.

Significant Material Storage

The following chemicals are stored outside of the main buildings at Byron Station:

<u>Material</u>	<u>Plant Location</u>	<u>Drawing ID</u>
Optisperse PWR 6600 (PAA)	West of Containment	8
Nalco 94UF193 (MPA)	East of Service Bldg	4
Prelect PT 7000 (ETA)	East of Service Bldg	4
Nalco 19H (Hydrazine)	East of Service Bldg	4
CW Sodium Hypochlorite	West of Flume	1
NALCO 73550 (Surfactant)	West of Flume	1
NALCO 1321 (Inhibitor)	West of Flume	1
CW Sulfuric Acid	West of Flume	5
CWPH Nalco Chemical Bldg – Nalco 7385	West of Flume	9
Nalco 3DT102		
SX Sodium Hypochlorite	West of SX Towers	2
SX Sulfuric Acid	West of SX Towers	10
SX NALCO Chemical Bldg – Nalco 1360	West of SX Towers	6
Nalco 73133		
Fuel Oil	East of Turbine Bldg	3
New/Used Oil Storage	East of Service Bldg.	4
Diesel Fuel Oil	West of Sewage Plant	7
Gasoline	West of Sewage Plant	7
HAZ-MAT Storage Bldg	West of Unit 2 Containment	8
345 KV Oil Circuit Breakers	Switchyard	11
Stores Warehouse #6 (Level B Storage Bldg)	East of Turbine Bldg	14
Deicing chemical (usually Sodium Chloride)	North of Parking Lot	15
Sodium Bisulfite	West of Parking Lot	-

The Fuel Oil and New/Used Oil Storage areas are bermed and are monitored under the Byron Station Spill Prevention Control and Countermeasure Plan. Runoff from these areas is discharged under an existing NPDES permit.

Potential Pollutant Sources - East Area Runoff

There are no potential pollutant sources located on the east side of the natural draft cooling towers that could combine with storm water runoff and enter Woodland Creek. The area immediately adjacent to the natural draft cooling towers drains into the station's storm water collection system via a culvert located on the southwest side of the Unit 2 cooling tower and is discharged under an existing NPDES permit. An earthen berm directs storm water from the east side of the towers to the west.

The **CW Sodium Hypochlorite** tank is dual-walled and has a fill station that is equipped with a spill collection system. The **CW Sulfuric Acid Tanks** are bermed and have fill stations that are equipped with spill collection systems. The **NALCO 73550 Port-a-Feed** is contained within a building. The fill station for the circ water pump house (CWPH) **NALCO Chemical Building** is situated above a collection system. Station operations personnel monitor the area daily for cleanliness and equipment integrity. The **NALCO 1321** tank is bermed.

MPA, ETA, and Hydrazine port-a-feeds are temporarily stored on the east side of the station next to the Treated Runoff ponds prior to being brought into the Turbine Building. The area is frequently traversed by station personnel and if any leakage were noted it would be brought to the attention of the Operations Shift Manager or Environmental personnel.

The Sodium Bisulfite tank is dual-walled, bermed and has a fill station that is equipped with a spill collection system.

Potential Pollutant Sources - West Area Runoff

The **SX Sodium Hypochlorite** tank is dual-walled and has a fill station that is equipped with a spill collection system. The **SX Sulfuric Acid Tank** is bermed and has a fill station that is equipped with a spill collection system. The fill station for the **SX NALCO Chemical Building** is situated above a collection system. Station Operations personnel monitor the area daily for cleanliness and equipment integrity.

The above-ground **Diesel Fuel Oil Tank and Gasoline Tank** are U.L. listed, dual-walled tanks with leak detection monitoring and sit on a concrete pad. These tanks are monitored under the Byron Station Spill Prevention Control and Countermeasure Plan.

The **Haz-Mat Storage Building** is situated on a concrete pad. Minimal quantities of hazardous material are normally stored on site. Station personnel routinely monitor the area for leaks/spills and leak collection devices are routinely utilized in the building.

The five **345KV Oil Circuit Breakers** each contain 10,230 gallons of oil and are monitored routinely for oil loss. Any crushed stone surrounding the equipment is to be replaced if it becomes significantly contaminated with oil. The Oil Circuit Breakers are monitored under the Byron Station Spill Prevention Control and Countermeasure Plan.

The **Optisperse PWR6600 (PAA) port-a-feed** is stored inside the Haz-Mat Storage Building. The port-a-feed sits on top of a spill collection device.

Potential Pollutant Sources – North Area Sheet Flow

Road surface de-icing material (normally sodium chloride) is stored in this area, two equipment lay-down areas and a cooling tower sludge disposal unit (earthen bermed pit) that are potential pollutant sources. The cooling tower sludge disposal unit is an earthen bermed pit used to de-water river silt removed from the cooling towers. The earthen berm prevents cooling water from running off and contaminating storm water. Used equipment can be a source of petroleum spills and drips and should be removed if it can no longer be used. In addition construction debris consisting of concrete and asphalt rubble and used gravel can be temporarily stored in this area.

In general construction and/or demolition debris (C/D debris) is defined by IEPA regulations, as non-hazardous, uncontaminated materials resulting from the construction, remodeling, repair, and demolition of utilities, structures, and roads, and is generally limited to the following materials:

Soil; wall coverings; reclaimed asphalt pavement; rock; plaster; glass; non-hazardous painted wood; drywall; plastics; non-hazardous treated wood; plumbing fixtures; electrical wiring; non-hazardous coated wood; non-asbestos insulation; bricks; wood products; roofing shingles; concrete; and general roof coverings.

“Clean” C/D debris is defined by IEPA regulations, as uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed asphalt pavement, or dirt or sand generated from construction or demolition activities. The materials observed at the Byron Station during the site visit agree with this definition.

Under IEPA regulations, clean C/D debris can be properly managed as follows:

- Recycled;
- Buried below grade provided it is outside of a groundwater well setback zone; or
- Disposed of in a landfill.

If the material is recycled, the recycler shall be a licensed recycler; otherwise, the generator, hauler and property owner where the material is placed may be subject to substantial penalties. If buried below grade, outside of a groundwater well setback zone, the construction and demolition debris must be covered with sufficient uncontaminated soil to support vegetation within 30 days of the completion of the burial. Broken concrete without protruding metal bars may be used for erosion control.

The salt storage shed contains road surface de-icing material (normally sodium chloride). As per USEPA guide EPA 833-R-92-002, Developing Pollution Prevention Plans & Best Management Practices, the salt storage piles used for deicing will be enclosed or covered to prevent exposure to stormwater (except when salt is being added or removed from the pile).

Potential Pollutant Sources – River Screen House

There are no chemicals stored outside in this area; however there are two transformers and a fuel loading facility. This equipment is covered in the Spill Prevention Control and Countermeasures Plan.

3.3 Significant Spills, Leaks, and Other Environmental Releases

"Significant spills" have been defined by the USEPA as the release within a 24-hour period of toxic or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act and Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). "Significant spills" also include "oil." "Oil" is defined at 40 CFR 109.2 as "oil of any kind or in any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil." Reportable quantities are predefined amounts of substances in pounds, gallons, or other units and are listed in 40 CFR 117 and 40 CFR 302. Releases are defined to include any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

History of Releases

Spills of potential pollutants associated with the East and West Area Runoffs are listed below:

There have been no significant spills in excess of the reportable quantity.

Spill records are maintained by the Byron Station under applicable records management processes. Updates to this list will be generated as necessary to list all spills, leaks, or other releases along with a description of the cause of the spill, the action taken to respond to the spill, and actions taken to prevent similar spills.

3.4 Non-Storm Water Discharges

A dry-weather visual inspection of the Byron Station has been completed in order to evaluate each storm water outfall and/or drainage area for the presence of non-storm water discharges.

It was concluded that no non-storm water discharges are present in Outfalls 003 and 004 at the Byron Station. Appendix B of this SWPPP contains Byron Station's certification that non-storm water discharges, which are not otherwise identified above and/or duly authorized by the NPDES permit are not present in Outfalls 003 and 004.

3.5 Risk Identification and Summary of Potential Pollutant Sources

Based on the information obtained during the field investigation and site assessment phase of the development of Byron Station's SWPPP, the following were identified as potential pollutant sources at the facility that pose a risk of contaminating storm water discharges to an unnamed tributary and Woodland Creek, thence to the Rock River:

- Leaks and/or spills associated with storage tanks and their associated piping;
- Outdoor storage activities; and
- Loading and unloading operations.

The information contained in this SWPPP (specifically Section 3.2) documents Byron Station's assessment of the potential pollutants and pollutant sources within each storm water drainage area of the facility.

3.6 Requirements for SARA Section 312 Facilities

Byron Station is required to report chemical storage pursuant to Section 312 of Title III of SARA. Byron Station minimizes storm water contact with bulk chemicals through the use of loading/unloading procedures, containment, and indoor storage when possible.

SECTION 4.0

STORM WATER POLLUTION PREVENTION BEST MANAGEMENT PRACTICES AND CONTROLS

The focus of the following sections of the SWPPP will be to document the engineering controls and Best Management Practices (BMPs) and other storm water management practices and controls identified to be implemented at Byron Station in order to minimize and/or prevent the discharge of potential pollutants in storm water runoff from the facility. BMPs are measures to prevent or mitigate pollution from any type of activity. Based upon the potential pollutant sources and storm water/non-storm water discharges identified in Sections 3.1 through 3.6, Byron Station has selected the following BMPs for implementation at the site and documentation in the SWPPP.

4.1 Engineering Controls

Engineering controls employed for the prevention of potential spills have been described previously in the 'Potential Pollutant Sources' section of this plan, and are summarized below:

<u>Material</u>	<u>Drawing ID</u>	<u>Engineering Control</u>
CW Sodium Hypochlorite	1	Dual walled tank; Fill station collection system
NALCO 73550 (Surfactant)	1	Bermed
NALCO 1321 (Inhibitor)	1	Bermed
CW Sulfuric Acid	5	Bermed; Fill station collection system
CWPH NALCO Chemical Building	9	Fill station collection system
SX Sodium Hypochlorite	2	Dual walled tank; Fill station collection system
SX Sulfuric Acid	10	Fill station collection system; Bermed
SX NALCO Chemical Bldg	6	Fill station collection
Fuel Oil	3	Bermed
New/Used Oil Storage	4	Bermed
Diesel Fuel Oil	7	Dual-walled tank, leak detection monitoring
Gasoline	7	Dual-walled tank, leak detection monitoring
HAZ-MAT Storage Bldg	8	Concrete Pad
345KV Oil Circuit Breakers	11	Design of equipment, operator rounds
Stores Warehouse #6 (Level B Storage Bldg)	14	Bermed
Sodium Bisulfite	-	Dual-walled tank; Fill station collection system; berm

Additionally, station operations personnel conduct routine inspections of these areas, including inspections for housekeeping and hazards such as leaks. The Station Environmental personnel conduct similar periodic inspections. Corrective maintenance is performed under the station's Work Management Program. Some routine inspections are documented and others are documented by exception (e.g. an Issue Report is written to identify/correct an issue found).

4.2 Spill Response and Existing Compliance Plans

Spill response is in accordance with station procedures BAP 3000-15 Hazardous Material and Chemical Spill Response, BAP 3000-14, Oil and Other Petroleum Products Discharge Response, and the Byron Station Spill Prevention Control and Countermeasure Plan. These plans are controlled and administered by Environmental personnel. The Operations In-plant Shift Supervisors are designated as the spill response team leaders and are trained in this capacity.

The control of chemicals on-site, including storage, handling, disposal, and the introduction of new chemicals to the station, is the responsibility of Environmental personnel. Procedures EN-MW-501, Chemical Management Program, and EN-MW-301, Regulated Waste Management, and their associated documents provide the guidance and instructions for the implementation of these programs.

The Illinois Environmental Protection Agency has issued the station a Land Application Permit (No. 2009-SC-2169 and Supplemental permit No. 2009-SC-2169-1) for the land application of cooling tower sediments. Adherence to the Standard and Special Conditions provides for adequate monitoring and pollution prevention of storm water runoff.

4.3 Sediment and Erosion Prevention

Erosion of soils is a common result of storm water runoff on soil disturbed and destabilized by routine industrial activity. Left unattended, affected areas will contribute to elevated solids in storm water runoff and to the overall degradation of topsoil. Following initial construction, the areas surrounding the station were graded to control runoff and minimize erosion; many areas were re-vegetated to support this effort. For situations such as land application of natural draft cooling tower sludge, earthen berms are constructed to control the rate of runoff and also facilitate the settling of solids. Berms have been employed around the perimeter of the natural draft cooling towers to direct the flow of storm water via culverts to the CROP.

The potential for Byron Station's industrial activity to adversely impact indigenous soils is substantially reduced in those portions of the storm water drainage areas that are paved or concrete. Areas that are not paved or concrete should either be covered by an aggregate material (*e.g.*, gravel or limestone) or be well vegetated.

4.4 Good Housekeeping

Measures designed to maintain a clean, orderly, and safe work environment also contribute to the prevention of potential pollutant sources from coming into contact with and impacting storm water runoff. Good housekeeping also reduces the potential for accidental spills caused by mishandling of significant materials, thereby enhancing the safety of plant personnel. Byron Station is committed to following good housekeeping measures.

General order and cleanliness will be practiced throughout the facility site. Each employee is responsible for keeping work areas clean and orderly. All debris and waste materials must be properly disposed of in designated waste receptacles for subsequent disposal. Equipment failures and required repairs will be addressed promptly.

Loading/Unloading areas

The potential exists that materials can be spilled or released during loading and unloading operations. Aboveground storage tanks are maintained within a secondary containment area. Loading and unloading operations that do not take place within a bermed area or drainage area that is routed to a process outfall will be done using drip pans at the point of connection during loading and unloading operations to prevent the unintentional spill or release of product.

Material Storage and Handling Practices

Improperly stored materials can also result in the exposure of potential pollutants to storm water runoff. Sound storage methods and procedures will ensure that the potential for exposure is minimized. As a result, Byron Station implements the following storage practices:

- All aboveground storage tanks will be within impervious, secondary containment areas adequate enough to contain the volume of the single largest tank with sufficient freeboard to allow for precipitation. In some cases, process sumps will be utilized for spill mitigation. All containment areas are equipped with manually-controlled valves; and
- All materials will be stored and all chemicals clearly identified in secure locations away from direct traffic routes. Adequate aisle space will be maintained near all materials in order to provide easy and safe access for storage handling. When possible, steel drums will be stored on pallets or other elevated surfaces to avoid direct contact with the ground surface, which may cause corrosion. Lids will be kept on all drums and containers during storage or when otherwise not in use. Under no circumstances will drums be utilized as waste receptacles unless they have been thoroughly cleaned of any remaining chemical residues and labeled as waste containers in accordance with applicable federal and state regulatory requirements. Liquid waste, except used oil, will be drummed and stored under roof for reuse or offsite disposal at an approved facility. Drum and other material storage areas will be kept clean at all times. Debris, trash, and other waste materials will be picked up and disposed of on a regular basis.

Storage Tank and Basin Valve Opening/Closing

All valves to and from storage tanks and secondary containment basin drains will be closed when not in use to avoid accidental releases. Basin drain valves will not be opened without visual inspection for a sheen and specific supervisor approval. All drain inlets leading to spill collection sumps will be kept free of debris.

Vehicle Management Practices

Vehicle maintenance will be conducted inside buildings or if this is not practical, appropriate spill prevention techniques will be utilized to ensure leaks/spills do not enter storm water conveyances. Fluids drained from vehicles will be properly disposed of in a timely manner.

Employee Participation

Motivating and training employees to use good housekeeping techniques is essential to the effective implementation of each BMP. Byron Station encourages employee participation in the utilization of good housekeeping measures through periodic training and communication as outlined in this SWPPP.

4.5 Visual Inspections and Preventive Maintenance

Inspections

An annual facility inspection shall be performed to verify that all elements of the SWPPP, including the site map, potential pollutant sources, and storm water management practices are as presented in this plan. The inspection shall include the East and West Station Area Runoffs in addition to the remainder of the main site area, and the River Screen House area. Observations that require a response will be retained as part of this plan along with the appropriate response. An inspection report will be prepared along with documentation of any required response.

Inspections may be required at other times due to incidents such as equipment malfunctions, spills or construction activities. Reports shall be prepared for any additional inspections in the same manner as the annual inspection.

Inspections will be conducted by Environmental personnel or designee and documented on the inspection form contained within this plan.

Preventive Maintenance

Scheduled preventive maintenance activities are necessary to correct problems prior to the exposure of a potential pollutant source(s) to storm water runoff. Upon discovering defects or damage in equipment or storm water management controls, Byron Station personnel must rectify the defect or damage as soon as possible.

Routine visual inspections as required by the NPDES permit ensure that key elements of the SWPPP are in place and working properly. Although the visual inspections are not intended to be exhaustive, they will be used by Byron Station to observe and verify the effectiveness of the selected management practices and controls in preventing contamination of storm water runoff, in conjunction with day-to-day good housekeeping and preventative maintenance practices. Station personnel, on a quarterly basis, in accordance with 0BOSR OD-Q1 shall conduct visual inspections. Records of the quarterly inspections shall be maintained on site and made available for review with the SWPPP, as required.

Surveillance Areas

In addition to quarterly preventive maintenance inspections, annual visual inspections will also be conducted of all storm water drainage areas containing potential pollutant sources.

Follow-up and Repair

For items that are noted on the quarterly inspection, the appropriate plant personnel will take the appropriate actions to correct the item(s) in a timely fashion.

If evidence of leaks or spills is noticed, the source will be identified and immediately rectified.

Follow-up for the item will be provided by noting if the item has been corrected.

4.6 Spill Prevention and Response Procedures

Byron Station's policy is that all spills/releases of significant materials with potential to impact storm water runoff from the site will be properly managed. Any materials spilled/released will be contained, recovered, and properly disposed off-site, as applicable, so as to prevent contamination of storm water. All significant spill incidents requiring notification to regulatory agencies must be reported in accordance with state and federal regulations. Byron Station maintains a Spill Prevention Control and Countermeasure (SPCC) Plan for oil, which details the procedures for making regulatory notifications in connection with spills and other chemical releases.

Immediate response to spills or leaks when they occur minimizes the likelihood of contact with storm water runoff from the facility. The identified drainage areas are unlikely to experience any significant spills or leaks, but are nevertheless covered under Byron Station's SPCC Plan.

4.7 Employee Training and Communication

Station employees regularly receive training on good housekeeping practices in an industrial environment; and training is supplemented by the Station Housekeeping/Material Condition Program MA-AA-716-026. Members of the Operating Department receive specialized training in hazardous material spill response, which includes measures to prevent the spread of hazardous materials into storm water runoff. The Environmental Specialist receives similar training.

Individuals responsible for wastewater management and chemical control, specifically the Environmental Specialists, will be trained on the contents of this plan. The In Plant Shift Supervisors (Haz-Mat On-Scene Incident Commanders) will also be trained on the contents of this plan. Other individuals may also receive Storm Water Pollution Prevention Plan training as deemed appropriate by the Environmental Specialist. Training will be conducted by the Environmental Specialist or qualified designee.

Storm Water Pollution Prevention Plan training will be conducted initially as part of implementation of this plan and periodically as deemed necessary. Training should be conducted annually, or as soon as possible if conditions change which may result in new potential pollution sources. Training records will be kept in accordance with site record retention policy. Copies of training records may be kept with this SWPP in Appendix D.

Employee training is an integral element in the implementation of Byron Station's SWPPP. Well-informed and adequately trained employees at all levels of responsibility will ensure that the objectives of each component of the plan are effective in maintaining the integrity and effluent quality of storm water runoff from the station. SWPP training should include the following:

- General spill prevention and response, spill notification procedures, and materials management practices;

- All applicable new employees shall receive spill management training as soon as possible.
- All employees to whom pollution prevention training is applicable will receive "refresher" training at least annually.

4.8 Record Keeping and Internal Reporting Procedures

Record keeping

The Environmental Specialist is responsible for all record keeping requirements associated with this plan.

Reporting

In accordance with Special Condition 16 of the Byron Station NPDES permit, an annual report will be submitted to the IEPA that shall include the results of the annual inspection. The report shall also include documentation of any event that would have required an inspection, the results of the inspection, and any subsequent corrective actions.

If inspections are performed more frequently than required by Special Condition 16 the results shall be included as additional information in the annual report.

The Environmental Specialist will ensure that required documentation is properly completed and retained for at least three years after the record was generated. The team will conduct an annual Comprehensive Site Compliance Evaluation to ensure the effectiveness and accuracy of the BMPs and site information contained herein. Revisions to this plan and subsequent implementations will also be documented and directed by the team.

As explained above, significant spills, significant leaks, and other significant discharges of substances must be properly documented, maintained on site and made available for review with the SWPPP, as required. Records of visual inspections; Comprehensive Site Compliance Evaluations; plan revisions; and related implementations will be retained for at least three years after the record was generated and made available for review with the SWPPP, as required.

The NPDES permit does not relieve the permittee (Byron Station) of the reporting requirements of 40 CFR 110 and 117, 40 CFR 302, from a release in excess of a Reportable Quantity.

- In accordance with 40 CFR 110.6 and 117.21, the permittee is required to notify the National Response Center (NRC) (1-800-424-8802) as soon as the company has knowledge of the discharge.
- Hazardous waste releases that could threaten human health or the environment must be reported immediately to the Illinois Emergency Management Agency (IEMA) at (217) 782-7860.
- Release of hazardous substances or extremely hazardous substances at or above the reportable quantity and releases of hazardous materials must be reported immediately to IEMA, as well as the applicable local emergency planning committee (LEPC).
- Byron Station must modify the SWPPP to include the following: a description of the release (including, but not limited to, the type and estimate of the amount of material released); an

account of the circumstances leading to the release; and date of the release. Appendix F of the SWPPP contains an example form that may be used. Spill reports containing the specified information should be retained in Appendix F or otherwise incorporated into the SWPPP.

- Following a reportable release, the SWPPP must be reviewed to identify measures to prevent recurrence of the release and to determine if there are ways to improve response to a similar release. If appropriate, the SWPPP should be updated with any findings or improvements from the review.

4.9 Facility Security

Station security is maintained on a 24-hour basis by Exelon Security personnel. At various intervals during the day and night, patrols of the station property are conducted.

The Byron Station is staffed 24 hours per day, seven days per week. The station is lighted commensurate with a nuclear power generating station and enclosed by double perimeter security fencing. Gates are continuously monitored by security and all personnel entering the facility are thoroughly screened. All spill-prevention devices are located in areas that are accessible only to authorized personnel.

Pipeline loading and unloading connections are securely capped when not in service or standby service for an extended period of time.

Abnormal conditions observed during security inspections are reported to the Shift Manager or Security Shift Supervisor.

SECTION 5.0

STORM WATER POLLUTION PREVENTION PLAN EVALUATION AND MONITORING REQUIREMENTS

5.1 Storm Water Analytical Testing Requirements

In accordance with the Byron Station NPDES permit, no monitoring is required for the storm water outfalls at Byron Station.

5.2 Annual Site Inspection and Summary Report

One or more members of the SWPPP team will conduct a thorough site inspection once each calendar year to evaluate and verify full compliance with the NPDES permit, and more often as necessary to achieve compliance.

Based upon observations made during the site compliance inspection, an evaluation of the effectiveness of controls, measures, and management practices will be made to determine whether modified, additional, or different controls, measures, or management practices are needed.

Upon completion of the annual site compliance inspection and review, a report must be prepared that summarizes the following:

- Scope of the inspection/evaluation;
- Personnel conducting and date(s) of the inspection/evaluation;
- Major observations relating to implementation of Byron Station's SWPPP;
- Actions taken or to be taken to revise Byron Station's SWPPP and to implement the associated changes;
- List of incidents of non-compliance; and
- In accordance with signatory requirements, certification of the verity of the comprehensive site compliance evaluation and summary report; and if incidents of non-compliance are not found, certification that Byron Station is in compliance with the SWPPP and the NPDES permit.

Annual site compliance evaluation reports should be maintained on site, and mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

5.3 SWPPP Revision and Subsequent Implementation

As a result of each annual site compliance evaluation for which incidents or situations of non-compliance or potential non-compliance are determined, the following points should be considered for review, inclusion in the SWPPP, and corrective action, as needed:

- The description in the plan of additional or new potential pollution sources not previously addressed and pollution prevention measures and controls necessary must be revised within two weeks of the comprehensive site evaluation;
- Changes in procedural operations must be implemented at the site in a timely manner for nonstructural measures and controls and not to exceed more than 12 weeks after completion of the comprehensive site evaluation; and
- Pollution prevention measures that require construction of structural controls are allowed up to three years to implement.

In accordance with the NPDES permit, Byron Station must notify IEPA at any time the SWPPP does not meet the requirements of the permit conditions. After such notification, Byron Station shall make changes to the SWPPP and shall submit a written certification that the requested changes have been made. Unless otherwise provided, Byron Station shall have 30 days after notification to make changes to the SWPPP.

Byron Station shall amend the SWPPP whenever there is a change in construction, operation, or maintenance, which may affect the discharge of significant quantities of pollutants to the waters of the State, or if a facility inspection required by the NPDES permit indicates an amendment is needed.

5.4 Certification and Signatory Authority

As required by the NPDES permit, Byron Station must certify that the SWPPP is accurate and complete to the best of their knowledge. An example SWPPP certification is located at the beginning of this plan.

Signature requirements apply to the certification of the SWPPP, the certification on non-storm water discharges, and for each Annual Site Inspection. A duly authorized representative, as described in accordance with 40 CFR 122.22, must make certification of these documents with the signature of a responsible corporate official.

TABLE 1

Storm Water Outfall Drainage Areas

TABLE 1
STORM WATER OUTFALL DRAINAGE AREAS^[1]

Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois

(Page 1 of 1)

Outfall No	Drainage Area (Acres)			Estimated Average Runoff Coefficient	Estimated Peak Discharge Rate (Cubic Feet per Second) ^[2]
	Impervious Surface (Estimated)	Non-impervious Surface (Estimated)	Total Surface Area		
003	35%	65%	94.35	0.65	134
004	35%	65%	89.80	0.65	127

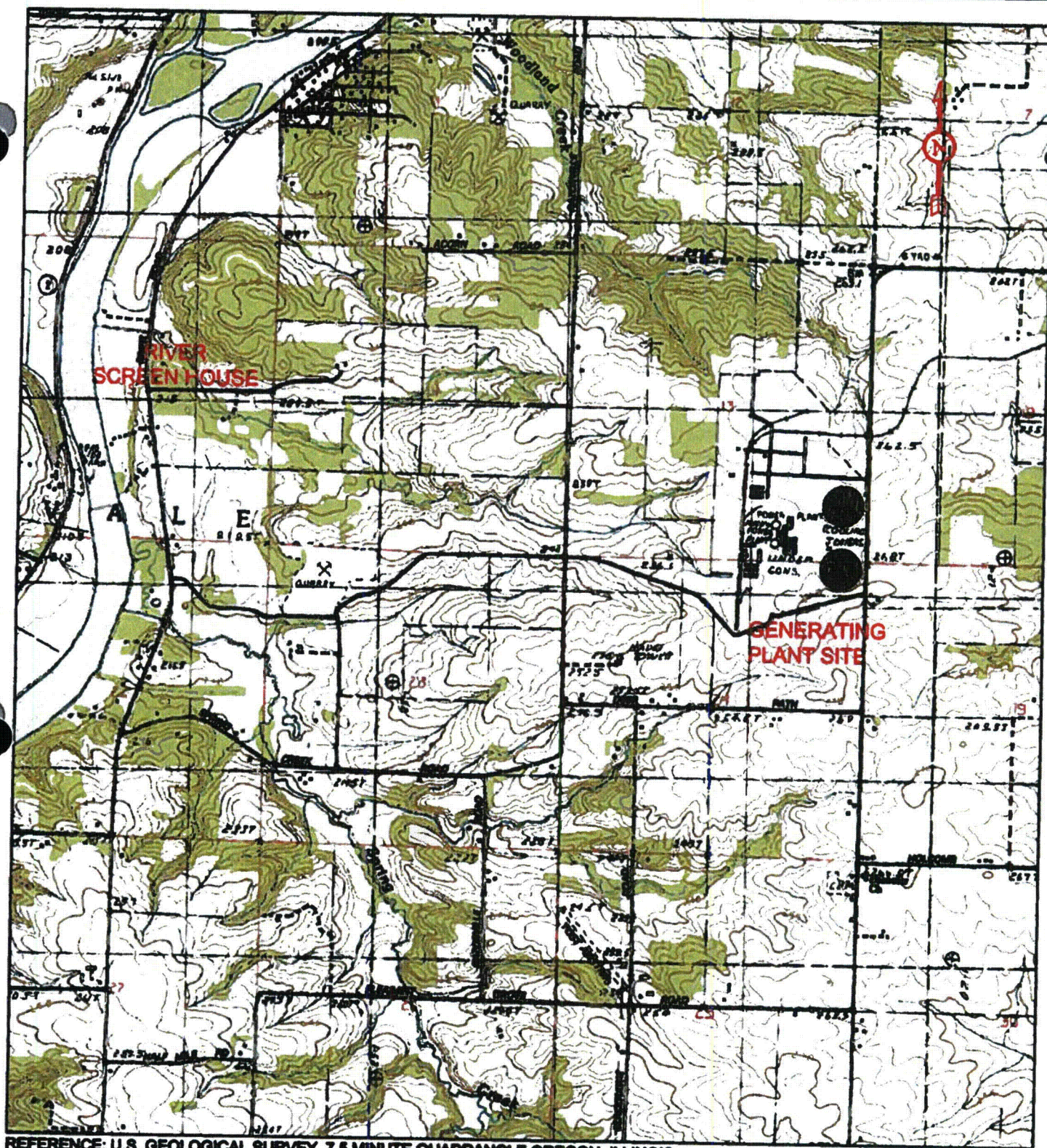
^[1] Drainage areas only for the power station on-site areas. Intervening drainage areas from off-site sources not included in tabulation.

^[2] Based on runoff equation of the rational formula $Q=cia$ and 25-year, 1 hour storm of 2.6 inches.

Ref: Huff, Floyd A. and Angel, James R., Frequency Distributions of Heavy Rainstorms in Illinois, Illinois State Water Survey, Champaign, Illinois, Circular 172, 1989.

FIGURE 1

Site Location Map



APPROXIMATE SCALE

0

1 MILE

NAME
SITE LOC
01-181-38
PLOT DATE
19 DEC 01
SCALE
As Shown

FIGURE 1 SITE LOCATION MAP

EXELON GENERATION COMPANY, LLC
BYRON NUCLEAR POWER STATION
BYRON, ILLINOIS

DESIGNED BY
PBC
DRAWN BY
JT
CHECKED BY
PC
APPROVED BY
PC



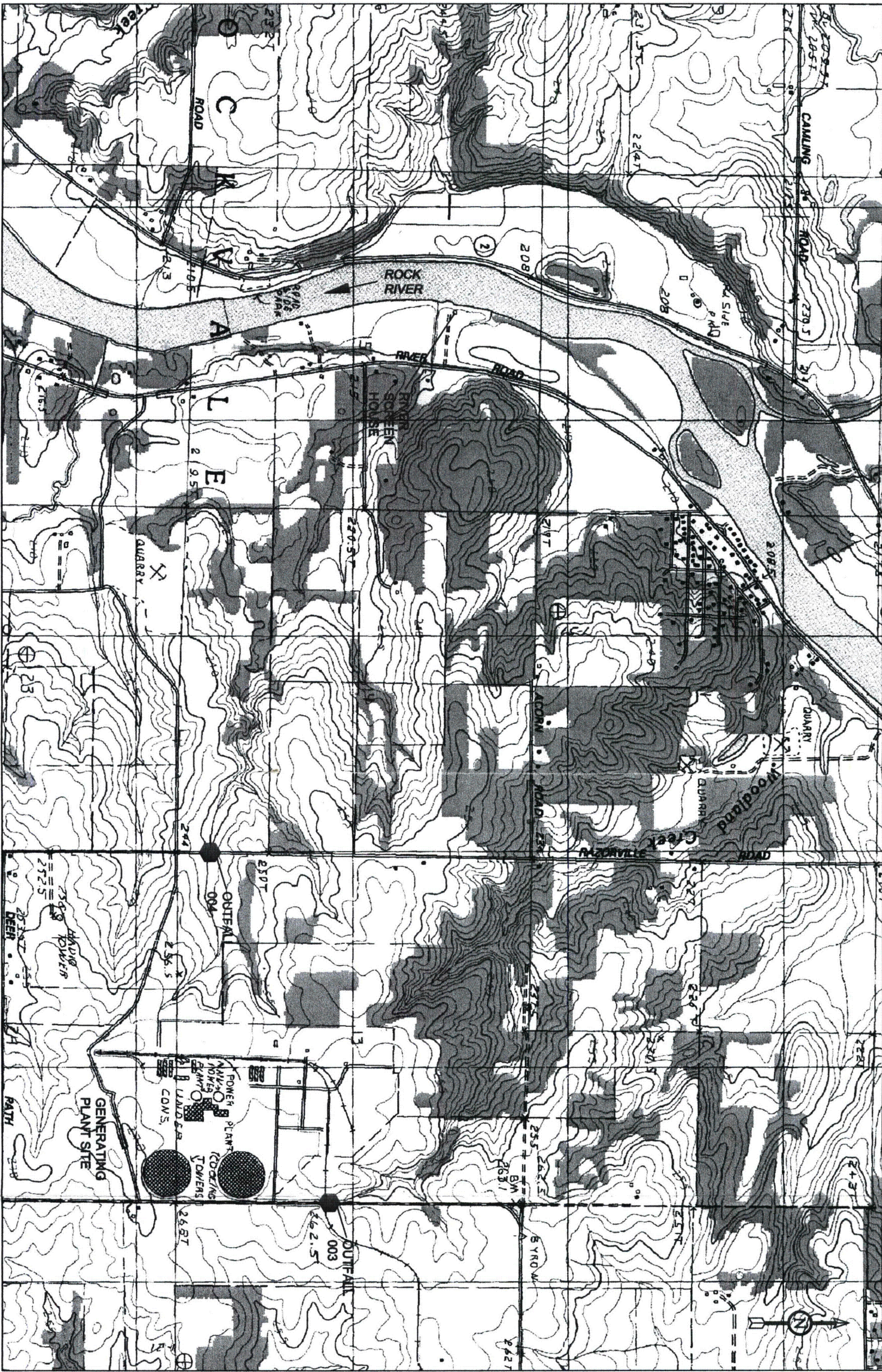
14861 South Harrell's Ferry Road
Baton Rouge, Louisiana 70816

(225) 755-2244 (Office)
(225) 755-7942 (Fax)

FIGURE 2

LOCATION OF STORM WATER OUTFALLS

REFERENCE: U.S. GEOLOGICAL SURVEY, 7.5 MINUTE QUADRANGLE OREGON, ILLINOIS.



FILE NAME
FIG.2 OUTFALLS
PROJECT NO.
01-181-38
PLOT DATE
19 DEC 01
SCALE
N/A

FIGURE 2
LOCATION OF STORMWATER OUTFALLS

EXELON GENERATION COMPANY, LLC
BYRON NUCLEAR POWER STATION, BYRON, ILLINOIS

DESIGNED BY:
N/A
DRAWN BY:
JT
CHECKED BY:
PC
APPROVED BY:
PC



Parker & Associates
14661 South Harrell's Ferry Road
Baton Rouge, Louisiana 70816
(225) 755-2244 (Office)
(225) 755-7942 (Fax)

FIGURE 3

POWER STATION DRAINAGE MAP

**The following drawing
specifically reference**

Figure 3 Rev. 01

**POWER STATION
DRAINAGE MAP**

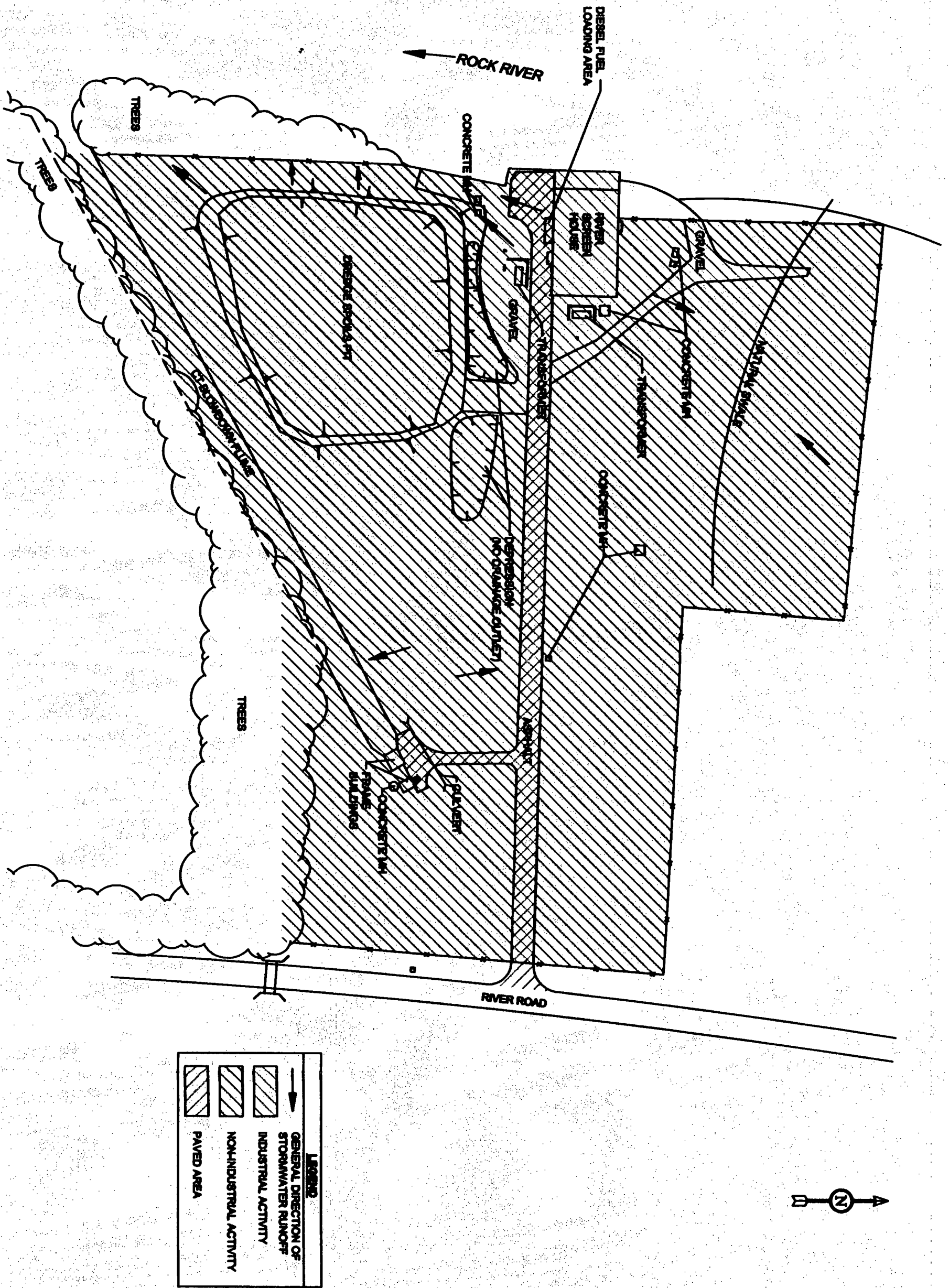
**Exelon Generation Company, LLC
Byron Nuclear Power Station,
Byron, Illinois**

D01 X

FIGURE 4

RIVER SCREEN HOUSE DRAINAGE MAP

REFERENCE: COMED DRAWING NO. 99-79, TITLED: (TOPOGRAPHIC SURVEY) RIVER SCREEN HOUSE; NOT DATED.



FILE NAME
FIG.4 RSH REV01
PROJECT NO.
01-181-09
PLOT DATE
20 MAY 03
SCALE
N/A

FIGURE 4
RIVER SCREEN HOUSE DRAINAGE MAP
EXELON GENERATION COMPANY, LLC
BYRON NUCLEAR POWER STATION, BYRON, ILLINOIS

DESIGNED BY
N/A
DRAWN BY
JT
CHECKED BY
PU
APPROVED BY
PC



14661 South Harrell's Ferry Road
Baton Rouge, Louisiana 70816
(225) 755-2244 (Office)
(225) 755-7942 (Fax)

APPENDIX A

NPDES PERMIT



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/782-0610

July 15, 2011

Exelon Generation Company, LLC
Byron Station
445- North German Church Road
Byron, IL 61010-9794

Re: Exelon Generation Company, LLC - Byron Station
NPDES Permit No. IL0048313
Modification of NPDES Permit (Without Public Notice)

Mr. Adams:

The Illinois Environmental Protection Agency received your letters dated January 24, 2011 and February 22, 2011 concerning the use of OPTISPERSE PWR6600 and the permit corrections. Our final determination is to modify the Permit as follows:

The use of OPTISPERSE PWR6600 would not be expected to cause any significant changes in effluent quality, therefore this product has been approved for use as requested.


The page numbers have been corrected.

Special Condition 21 has been corrected.

Enclosed is a copy of the modified Permit. Because the changes made in the Permit were minor, no formal Public Notice of the modification will be issued.

Should you have any questions or comments, please contact Leslie Lowry of my staff at the phone number and address above.

Sincerely,


Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:LRL:48313mod.wpd

Enclosure: Modified Permit

cc: Rockford Region
Records

RECEIVED
JUL 20 2011
BY: DTS.....

NPDES Permit No. IL0048313

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: December 31, 2015

Issue Date: January 24, 2011

Effective Date: January 24, 2011

Modification Date: July 15, 2011

Name and Address of Permittee:

Exelon Generation Company, LLC
Environmental Department
4300 Winfield Road
Warrenville, Illinois 60555-5701

Facility Name and Address:

Exelon Generation Company, LLC
Byron Nuclear Power Station
4450 North German Church Road
Byron, Illinois 61010
Ogle County

Discharge Number and Name:

001 Cooling System Blowdown
A01 Demineralizer Regenerant Waste
B01 Sewage Treatment Plant Effluent
C01 Wastewater Treatment Plant Effluent
D01 Radwaste Treatment System Effluent
E01 Stormwater Runoff Basin
F01 Intake Screen Backwash
002 Stormwater Runoff Basin Overflow
003 East Station Area Runoff
004 West Station Area Runoff

Receiving Waters:

Rock River

Woodland Creek

Woodland Creek

Unnamed Tributary to Rock River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:LRL:07052102.bah

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>DAF (DMF)</u> <u>LIMITS mg/l</u>						
Outfall 001 – Cooling System Blowdown* (Average Flow = 20.3 MGD)						
The discharge consist of:						
1. Cooling Tower Blowdown						
2. Non-Essential Service Water Blowdown & Strainer Backwash						
3. Essential Service Water Blowdown & Strainer Backwash						
4. Demineralizer Regenerant Waste (A01)						
5. Sewage Treatment Plant Effluent (B01)						
6. Wastewater Treatment Plant Effluent (C01)						
7. Radwaste Treatment Plant Effluent (D01)						
8. Stormwater Runoff Basin (E01)						
9. Intake Screen Backwash						
10. Secondary Steam System (Non-Radioactive) Process Water						
11. Condenser Drain Discharge						
12. Circulating Water Make-Up						
13. Miscellaneous Drain Water						
- Chiller Condensate						
- Fire Protection System Drain Water						
- Service Water Drains						
- Closed Cooling System Drain Water						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				1/Week	Grab
Temperature	See Special Condition 3 & 12.				Daily	Continuous*****
Total Residual Chlorine/ Total Residual Oxidant**					0.05 1/Week	Grab
Zinc (Total)	0.213				0.433 1/Week	Grab
Hydrazine***	0.011				0.027 Daily When Discharging	Grab
Copper (Total)****					0.071 1/Week	Grab
Chromium (Total)					0.2 1/Week	Grab
Oil/Grease	15				20 1/Week	Grab
126 Priority Pollutants	See Special Condition 8 & 15.					
Total Suspended Solids	See Special Condition 24.				Monitor Only	1/Month
						Grab

* - See Special Condition 17.

** - See Special Condition 22.

*** - See Special Condition 13.

**** - See Special Condition 14.

***** - During periods of inoperability of the inline temperature instrument temperature can be measured once per day.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall A01 – Demineralizer Regenerant Waste*
(Average Flow = 0.019 MGD)

The discharge consist of:

1. Make-Up Demineralizer Regenerant Waste
2. Condensate Polisher Sump Discharge
3. Make-Up Demineralizer Area Drains
4. Well Water Sand Filter Backwash (Alternative Route)
5. Steam Generators Cleaning Process Waste (Once Every 5 – 10 Years)
6. Temporary Demineralizer Regenerant Waste
7. Secondary Steam System (Non-Radioactive) Discharge (Alternative Route)
8. Reverse Osmosis Waste

Flow (MGD)	See Special Condition 1.				Daily	Continuous
Total Suspended Solids			15	30	1/Month	8-hour Composite**

The following metal parameter limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.1	0.2	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.5	1	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.2	0.4	Daily	Grab
Nickel	1	2	Daily	Grab
Zinc (Total)	1	2	Daily	Grab

* - See Special Condition 9.

** - Permittee may follow the sampling procedure identified as Byron Station procedure BCP-300-40 or equivalent for determination of total suspended solids by calculation from individual composites.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall B01 – Sewage Treatment Plant Effluent*</u> (DAF = 0.008 MGD)						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				2/Month	Grab
Total Suspended Solids	5.3	10.5	30	60	2/Month	24-hour Composite
BOD ₅	5.3	10.5	30	60	2/Month	24-hour Composite

* - See Special Condition 6.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall C01 – Wastewater Treatment Plant Effluent *
(Average Flow = 0.028 MGD)

The discharge consist of:

1. Turbine Building Floor Drain Sumps**
2. Turbine Building Fire & Oil Sump**
3. Turbine Building Equipment Drains**
4. Essential Service Water Drain Sumps**
5. Units 1 & 2 Tendon Tunnel Sumps
6. Reactor Building Roof Drains
7. Auxiliary Boiler Blowdown
8. Units 1 & 2 Diesel Fuel Storage Tank Sumps
9. Wastewater Treatment System Sand Filter Backwash
10. Well Water Sand filter Backwash
11. Steam Generator Cleaning Process Waste (Once Every 5 – 10 Years)
12. Condenser Drain Discharge (Alternative Route)
13. Secondary Steam System (Non-Radioactive) Discharge (Alternative Route)
14. Generic Metal Cleaning Activities
15. Waste Treatment Plant Oil Separator
16. Miscellaneous Non-Contaminated Drain Water
 - Chiller Condensate
 - Fire Protection System Drain Water
 - Service Water Drains
 - Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1.				Daily	Continuous
Total Suspended Solids			15	30	2/Month	24-hour Composite

The following metal parameter limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.1	0.2	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.5	1	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.2	0.4	Daily	Grab
Nickel	1	2	Daily	Grab
Zinc (Total)	1	2	Daily	Grab

* - See Special Condition 6 and Special Condition 9.

** - These waste streams may be directed to the radwaste treatment system depending on the results of the process radiation monitors.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall D01 – Radwaste Treatment System Effluent
(Average Flow = 0.022 MGD)

The discharge consist of:

1. Steam Generator Condensate Blowdown
2. Cooling Jacket Blowdown
3. Auxiliary Building Floor Drains
4. Laundry Waste Treatment System Drains
5. Auxiliary Building Equipment Drains
6. Radwaste Demineralizer Filter Backwash
7. Evaporator Wastewater
8. Turbine Building Floor Drain Sumps (Alternative Route)
9. Turbine Building Fire & Oil Sump (Alternative Route)
10. Turbine Building Equipment Drains (Alternative Route)
11. Essential Service Water Drain Sumps (Alternative Route)
12. Boron Recycle System Blowdown
13. Condensate Polisher Sump Discharge (Alternative Route)
14. Generic Non-Chemical Metal Cleaning Activities
15. Portable Demineralizer Discharge
16. Reactor Coolant Letdown
17. Laboratory Drains, Decon Showers, & Sample Sinks
18. Miscellaneous Drain Water
 - Chiller Condensate
 - Fire Protection System Drain Water
 - Service Water Drains
 - Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1				Daily	Continuous
Total Suspended Solids			15	30	2/Month	Discharge Tank Composite

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall E01 – Stormwater Runoff Basin*
(Average Flow = 0.119 MGD)

The discharge consist of:

1. Parking Lot Runoff
2. Transformer Area Runoff
3. Station Area Runoff
4. Turbine Building Fire & Oil Sump
5. Steam Generators Cleaning Process Waste (Once Every 5 – 10 Years)
6. Generic Non-Chemical Metal Cleaning Activities
7. Chiller Condensate
8. Fire Protection System Drains
9. Service Water Drains
10. Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1.	2/Month	Continuous
------------	--------------------------	---------	------------

The following metal parameters limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.1	0.2	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.5	1	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.2	0.4	Daily	Grab
Nickel	1	2	Daily	Grab
Zinc (Total)	1	2	Daily	Grab

For each week in which a discharge occurs from numbers 4 – 6 listed above to the stormwater runoff basin, outfall E01 shall be monitored and limited for the following additional parameters:

Total Suspended Solids	15	30	1/Week	Grab
------------------------	----	----	--------	------

For each week in which a discharge occurs from numbers 8 – 10 listed above to the stormwater runoff basin, outfall E01 shall be monitored and limited for the following additional parameters:

Total Suspended Solids	30	100	1/Week	Grab
------------------------	----	-----	--------	------

* - See Special Condition 9 and 17.

Outfall F01 – Intake Screen Backwash
(Intermittent Discharge)

There shall be no intentional discharge of collected debris.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	<u>DAF (DMF)</u>		<u>LIMITS mg/l</u>			
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall 002 – Stormwater Runoff Basin Overflow*
(Intermittent Discharge)

The discharge consist of:

1. Parking Lot Runoff
2. Transformer Area Runoff
3. Station Area Runoff
4. Turbine Building Fire & Oil Sump
5. Steam Generator Cleaning Process Waste (Once Every 5 – 10 Years)
6. Generic Non-Chemical Metal Cleaning Activities
7. Chiller Condensate
8. Fire Protection System Drain Water
9. Service Water Drains
10. Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1.			Measure When Discharging 1/Day When Discharging	Estimate
Oil/Grease	15	20			Grab

The following metal parameters limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.011	0.016	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.025	0.041	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.063	0.298	Daily	Grab
Nickel	0.011	0.176	Daily	Grab
Zinc (Total)	0.047	0.26	Daily	Grab

For each week in which a discharge occurs from numbers 4 – 6 listed above to the stormwater runoff basin, outfall 002 shall be monitored and limited for the following parameters:

Total Suspended Solids	15	30	1/Week	Grab
------------------------	----	----	--------	------

For each week in which a discharge occurs from numbers 8 – 10 listed above to the stormwater runoff basin, outfall 002 shall be monitored and limited for the following parameters:

Total Suspended Solids	30	100	1/Week	Grab
------------------------	----	-----	--------	------

* - See Special Condition 9 and 17.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the modification date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	<u>DAF (DMF)</u>		<u>LIMITS mg/l</u>			
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall 003 – East Station Area Runoff*
(Intermittent Discharge)

* - See Special Condition 16.

Outfall 004 – West Station Area Runoff*
(Intermittent Discharge)

* - See Special Condition 16.

NPDES Permit No. IL0048313

Special Conditions

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the monthly Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. This facility meets the allowed mixing criteria for thermal discharges pursuant to 35 IAC 302.102. No reasonable potential exists for the discharge to exceed thermal water quality standards. This determination is based on a maximum temperature of 120°F. The permittee shall monitor the flow and temperature of the discharge prior to entry into the receiving water body. Monitoring results shall be reported on the monthly Discharge Monitoring Report. This permit may be modified to include formal temperature limitations should the results of the monitoring show that there is reasonable potential to exceed a thermal water quality standard. Modification of this permit shall follow public notice and opportunity for comment.

There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions. The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.

The monthly maximum value shall be reported on the DMR form

SPECIAL CONDITION 4. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 28th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attention: Compliance Assurance Section, Mail Code #19
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 5. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 6. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 7. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(c) and (d), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 8. This permit authorizes the use of water treatment additives that were requested as part of this renewal. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions – Attachment H. In connection with any such modification, the permittee must also submit a new letter to the Agency certifying that the facility is not using any additives containing any of the 126 priority pollutants.

The permittee shall submit to the Agency on a yearly basis a report summarizing their efforts with water treatment suppliers to find a suitable alternative to phosphorus based additives.

SPECIAL CONDITION 9. The samples taken in compliance with the steam generator(s) cleaning process monitoring requirements shall be taken at a point representative of the discharge, but prior to mixing with any other wastewater and stormwater runoff. If the permittee requires further treatment within the station's wastewater treatment system in order to comply with limits, the steam

NPDES Permit No. IL0048313

Special Conditions

generator(s) cleaning wastes shall not be co-treated with other wastewater (except for incidental amounts) unless this permit has been modified to allow for such co-treatment.

SPECIAL CONDITION 10. There shall be no discharge of polychlorinated biphenyl compounds.

SPECIAL CONDITION 11. The "Upset" defense provisions listed under 40 CFR 122.41(n) are hereby incorporated by reference.

SPECIAL CONDITION 12. In the event that the Rock River is less than 2,400 cfs and/or the temperature differential between the main river temperatures and the water quality standard is less than 3°F, daily calculations will be undertaken to demonstrate compliance with the water quality standard. Calculations shall be based upon hourly measurements, averaged over a 24-hour calendar day for river flow, main river temperature (measured as Circ Water Makeup Temperature), blowdown flow, and blowdown temperature values. In the event that a data or points are unavailable due to technical issues, the missing value shall be estimated. Results of the calculations shall be reported with the DMR on a monthly basis.

SPECIAL CONDITION 13. Outfall 001 shall be monitored for hydrazine when there is a discharge of the steam generator chemical cleaning solution and associated rinses containing hydrazine into the cooling water system. On those occasions monitoring shall be performed at outfall 001 on a daily basis using a minimum of three grab samples taken at periodic intervals during the discharge of steam generator chemical cleaning solution and associated rinses containing hydrazine. Sample collection and analysis procedures shall be in accordance with station practice for measuring hydrazine and standard methods. The quantity of hydrazine discharged in steam generator chemical cleaning solution and associated rinses to the cooling water system, the duration of this discharge to the cooling water system, and the analytical results shall be submitted with the monthly Discharge Monitoring Report. The permittee shall submit a letter to the Agency requesting a modification to this permit, if the use of hydrazine during normal steam generator lay-up is at a higher feed rate or quantity than what has been previously approved by the Agency.

SPECIAL CONDITION 14. Copper monitoring of outfall 001 shall be performed during periods when the station's copper ion system is being utilized for Zebra Mussel infestation control. In addition to monitoring the discharge from outfall 001 for copper (Total) the permittee shall measure the total mass of copper used during Zebra Mussel dosing and include that value with the Discharge Monitoring Report filed the month following the cessation of copper ion system discharge. This permit must be modified to accommodate use of the copper ion system for purposes other than Zebra Mussel control.

SPECIAL CONDITION 15. The discharge of 126 priority pollutants except for chromium and zinc (40 CFR 423, Appendix A) is prohibited in detectable amounts from cooling tower discharges if the pollutants come from cooling tower maintenance chemicals.

SPECIAL CONDITION 16.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) – for outfalls 003 & 004

- A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.
- C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.
- D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph G of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within the shortest reasonable period of time, and shall be provided to the Agency for review upon request.
- E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:

NPDES Permit No. IL0048313

Special Conditions

1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.
2. A site map showing:
 - i. The storm water conveyance and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
 - v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
 - vi. Surface water locations and/or municipal storm drain locations
 - vii. Areas of existing and potential soil erosion;
 - viii. Vehicle service areas;
 - ix. Material loading, unloading, and access areas.
3. A narrative description of the following:
 - i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
 - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;
 - iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;
 - iv. Industrial storm water discharge treatment facilities;
 - v. Methods of onsite storage and disposal of significant materials;
4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.
5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
6. A summary of existing sampling data describing pollutants in storm water discharges.

- F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:
1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
 2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
 3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.

NPDES Permit No. IL0048313

Special Conditions

4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill clean up equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.
5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
 - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff;
 - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges;
 - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges;
 - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination;
 - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.
6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion and describe measures to limit erosion.
7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.
8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.
- H. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated thereunder, and Best Management Programs under 40 CFR 125.100.
- I. The plan is considered a report that shall be available to the public under Section 308(b) of the CWA. The permittee may claim portions of the plan as confidential business information, including any portion describing facility security measures.
- J. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

Construction Authorization

- K. Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

NPDES Permit No. IL0048313

Special Conditions

This Authorization is issued subject to the following condition(s).

1. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights thereunder.
2. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.
3. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
4. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- L. The facility shall submit an annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part G of the Storm Water Pollution Prevention Plan of this permit. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s).
- M. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.
- N. Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
- O. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

SPECIAL CONDITION 17. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit reissuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 18. Discharge of chemical metal cleaning agents EDTA, Elimin-Ox and/or hydrazine, and associated rinses are allowed once every 5 - 10 years per unit at outfalls A01, C01, and E01.

SPECIAL CONDITION 19. Except as allowed in Special Condition No. 18 of this permit, there shall be no discharge of complexed metal bearing waste streams or associated rinses from chemical metal cleaning unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 20. Exelon Generation Company's demonstration for the Byron Nuclear Power Station in accordance with Section 316(b) of the Clean Water Act was approved by IEPA by a letter dated May 15, 1989. It is determined that no additional intake monitoring or modification is being required for reissuance of this NPDES Permit.

NPDES Permit No. IL0048313

Special Conditions

SPECIAL CONDITION 21. Exelon Generation Company's Byron Nuclear Power Station has been deemed to have met the applicable national performance standards and will not be required to demonstrate further that the Rock River Intake Structure meets the specified impingement mortality and entrainment performance standards pursuant to 40 CFR 125.94(a)(1)(i). This determination was made because of the use and operation of the cooling towers. The Permittee shall request and receive a modification to this permit prior to changing the use or operation of the cooling towers. This determination does not relieve the Permittee of submitting pertinent information regarding the Rock River intake structure and cooling towers operation with the renewal application for this permit as required under 40 CFR 122.21(r)(2), (3), and (5).

SPECIAL CONDITION 22. All samples for Total Residual Chlorine/Total Residual Oxidant shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

Discharge Monitoring Reports shall indicate whether chlorine or bromine compounds were used during the month.

SPECIAL CONDITION 23. For copper, zinc, and hydrazine a zone of initial dilution (ZID) is recognized with dimensions of 15.6 feet across the width of the river from the end-of-pipe and 15.5 feet downstream from this point. Within the ZID, 1.42:1 dilution is afforded. A mixing zone is recognized with dimensions extending 148 feet across the width of the river and 229 feet downstream. Within the mixing zone 6.1:1 dilution is afforded.

SPECIAL CONDITION 24. The influent from the Rock River and effluent from Outfall 001 shall be monitored for Total Suspended Solids on a monthly basis for two years from the effective date of this permit. After collection of all required samples, and upon written notification to the Agency the sampling may cease, unless the Agency modifies the permit to require continued sampling at some frequency.

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

30-Day Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Allquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8-Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.
- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.

Page 17
(9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

(10) **Monitoring and records.**

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.
- (c) Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
- (d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

(11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.

(a) **Application.** All permit applications shall be signed as follows:

- (1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
- (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

(b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described in paragraph (a); and
 - (2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
 - (3) The written authorization is submitted to the Agency.
- (c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(12) **Reporting requirements.**

(a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility.

Notice is required when:

- (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or
- (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).
- (3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

(b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) **Transfers.** This permit is not transferable to any person except after notice to the Agency.

(d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(e) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.

- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

- (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
 - (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - (2) Any upset which exceeds any effluent limitation in the permit.
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.
- The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.
- (g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).
- (h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) **Bypass.**
- (a) **Definitions.**
 - (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - (b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).
 - (c) **Notice.**
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).
- (d) **Prohibition of bypass.**
- (1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:
 - (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (iii) The permittee submitted notices as required under paragraph (13)(c).
 - (2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).
- (14) **Upset.**
- (a) **Definition.** Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
 - (b) **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - (c) **Conditions necessary for a demonstration of upset.** A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated; and
 - (3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).
 - (4) The permittee complied with any remedial measures required under paragraph (4).
 - (d) **Burden of proof.** In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.
- (15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:
- (a) **Transfers by modification.** Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
 - (b) **Automatic transfers.** As an alternative to transfers under paragraph (a), any NPDES permit may be automatically transferred to a new permittee if:

- (1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
 - (2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and
 - (3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.
- (16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
 - (4) The level established by the Agency in this permit.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
 - (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
 - (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
- (20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).
- (23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.
- (24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
- (27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.
- (28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

APPENDIX B

CERTIFICATION OF ABSENCE OF NON-STORM WATER DISCHARGES

**CERTIFICATION OF ABSENCE OF NON-STORM WATER DISCHARGES
STORM WATER POLLUTION PREVENTION PLAN**

**Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois**

I, Benjamin P. Youman, as Plant Manger of the Byron Nuclear Power Station, certify under penalty of law that: (1) the outfalls and drainage areas covered by the NPDES permit and identified in this SWPPP have been evaluated for the presence of non-storm water discharges; (2) that any and all non-storm water discharges which are discharged from the outfalls and drainage areas are identified in the SWPPP; and (3) that no non-storm water discharges are made via the storm water outfalls covered by the NPDES permit, other than those non-storm water discharges duly authorized by the NPDES permit and identified in the SWPPP.

Benjamin P. Youman

Plant Manager (Type or print)

(815)-406-3700

Area Code and Telephone No.



Signature

1/25/13

Date Signed

APPENDIX C

EXAMPLE STORM WATER INSPECTION CHECKLIST

STORM WATER INSPECTION CHECKLIST

Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois

Inspection Area	Is runoff from this area treated?	Are pollution prevention methods effective?
EAST AREA		
CW Sodium Hypochlorite		
NALCO 73550 (Surfactant)		
NALCO 1321 (inhibitor)		
CW Sulfuric Acid		
CWPH NALCO Chemical Building Nalco 7385 Nalco 3DT102		
Nalco 94UF193 (MPA) Port-a-feed		
Protect PT7000 (ETA) Port-a-feed		
Nalco 19H (Hydrazine) Port-a-feed		
Nalco ControlBrom CB70		
WEST AREA		
SX Sodium Hypochlorite		
SX Sulfuric Acid		
SX Nalco Chemical Building Nalco 3DT177 Nalco 3DT190		
Diesel Fuel Oil		
Gasoline		
HAZ-MAT Storage Building		
345KV OCB's		
Sodium Bisulfite Nalco 7408		
MAIN SITE AREA		
Fuel Oil		
New/Used Oil Storage		
Stores Warehouse No.6 (Level B Storage Bldg.)		

STORM WATER INSPECTION CHECKLIST
(continued)

Exelon Generation Company, LLC
Byron Nuclear Power Station, Byron, Illinois

Inspection Area	Is runoff from this area treated?	Are pollution prevention methods effective?
NORTH AREA		
Salt Storage Shed		
General North Area		
RIVER SCREEN HOUSE (RSH)		
General RSH Area		

Are there new potential pollutant sources present? _____

List action taken/initiated _____

Do conditions exist which require further action? _____

Does the Storm Water Pollution Prevention Plan accurately describe existing plant condition? _____

Comments: _____

Name of Inspector(s): _____

Date(s) of Inspection: _____

If additional inspections were performed since the last annual inspection report include them with the submitted annual report.

APPENDIX D

TRAINING DOCUMENTATION

APPENDIX E

SPILL REPORTS

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** **Water Resources – Surface Water**

Statement of Question:

Provide copies of the following ER references:

- c. A large scale map or maps depicting NPDES outfall locations

Response:

The requested information is attached.

List Attachments Provided:

1. Large scale (11" X 17") map depicting NPDES outfall locations

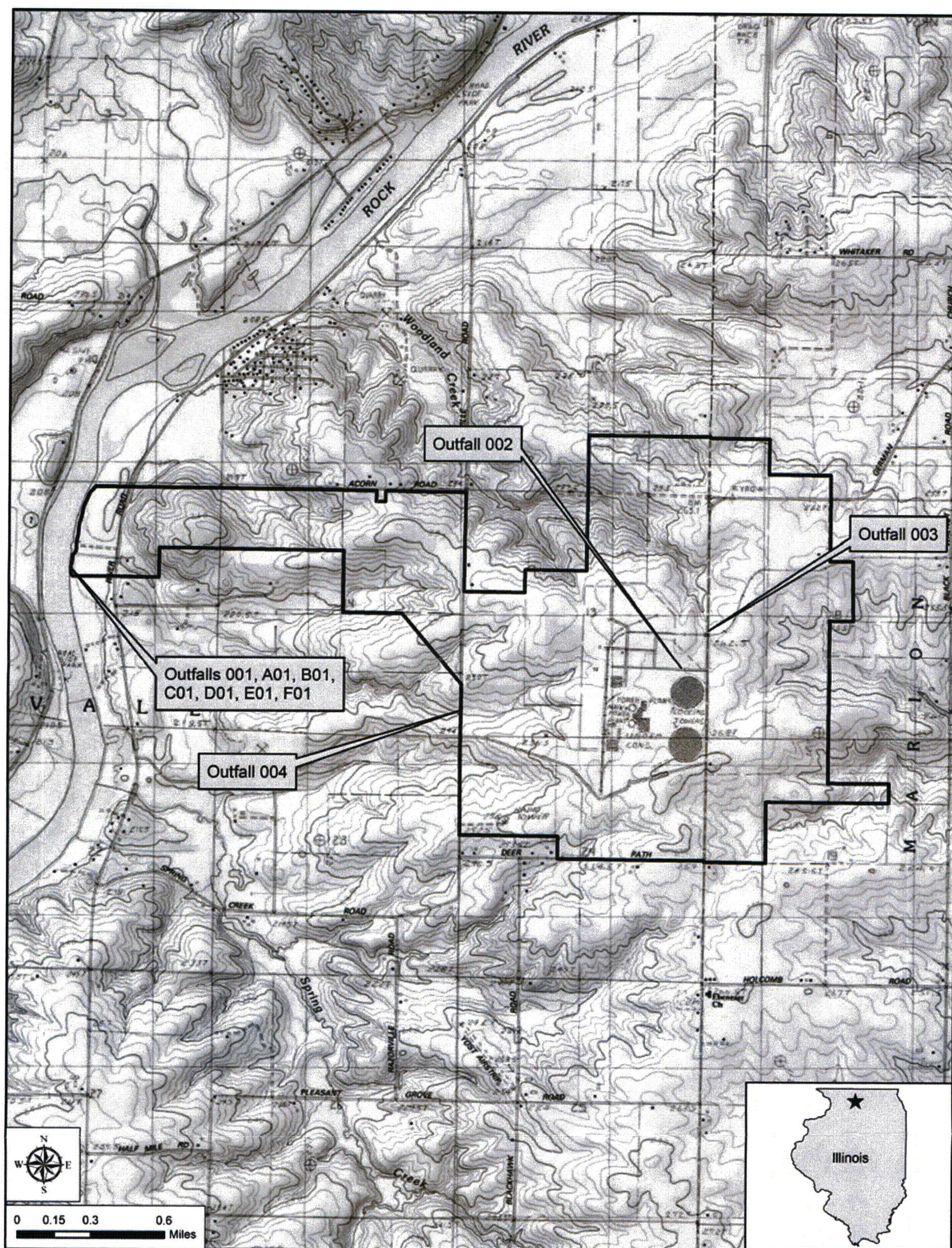


Figure 6-1. Byron Site

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** **Water Resources – Surface Water**

Statement of Question:

Provide copies of the following ER references:

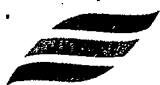
- d. Application for Clean Water Act Section 401 Certification referenced in Exelon's July 2, 2012 letter to the IEPA

Response:

The requested information is attached.

List Attachments Provided:

1. Application for Clean Water Act Section 401 Certification Associated with Renewal of Byron Generating Station Units 1 & 2 Operating Licenses, dated July 2, 2012



Exelon Generation®

Michael P. Gallagher
Vice President, License Renewal
Exelon Nuclear

200 Exelon Way
Kennett Square, PA 19348

610 765 5958 Office
610 765 5956 Fax
www.exeloncorp.com

michaelp.gallagher@exeloncorp.com

July 2, 2012
Byron Ltr 2012-0071

Mr. Dan Heacock, Facility Evaluation Unit Manager
Illinois Environmental Protection Agency, Bureau of Water
Post Office Box 19276
Springfield, IL 62794-9276

Subject: Application for Clean Water Act Section 401 Certification associated with
Renewal of Byron Generating Station Units 1 & 2 Operating Licenses

Dear Mr. Heacock:

In 2013, Exelon Generation Company (Exelon) plans to file an application with the U.S. Nuclear Regulatory Commission (NRC) for renewal of the Byron Generating Station, Units 1 and 2 operating licenses for 20 additional years beyond the currently licensed terms. No operational changes that would alter discharges or discharge pollutant loads from the Byron units during the extended operating terms would result from license renewal. Also, no construction is being proposed in connection with the license renewals.

In accordance with Section 401 of the federal Clean Water Act, the applicant for a federal license, such as renewed licenses for the Byron units, must provide the licensing agency with a certification by the state where the discharge would originate, indicating that applicable state water quality standards would not be violated as a result of discharges from the licensed facility. Thus, Exelon is filing the enclosed application requesting certification from the Illinois Environmental Protection Agency that renewal of the Byron operating licenses would not violate state water quality standards.

On March 14, 2012, Exelon attended a pre-submittal meeting with you and other IEPA staff. The enclosed application was prepared consistent with input received at the meeting, IEPA regulations in 35 Ill. Adm. Code Part 302, and corresponding IEPA guidance. As instructed, copies of the application are being submitted in parallel to the Illinois Department of Natural Resources (IDNR) and the U.S. Army Corps of Engineers.

If there are questions, please feel free to contact either John Petro at (630) 657-3209 or Nancy Ranek at (610) 765-5369.

Respectfully,

Michael P. Gallagher
Vice President, License Renewal Projects
Exelon Generation Company, LLC

Illinois Environmental Protection Agency, Bureau of Water

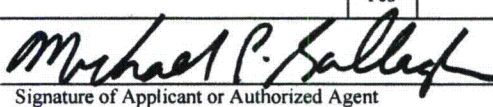
July 2, 2012

Page 2

Enclosure

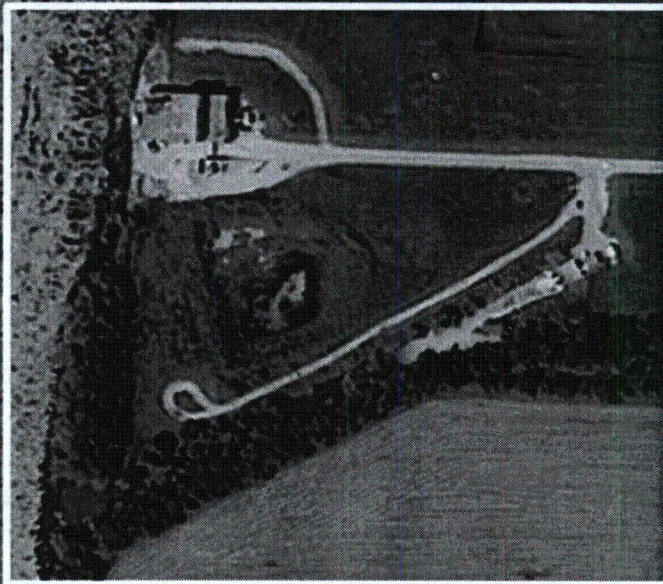
cc: Illinois Department of Natural Resources (IDNR) (enclosure w/ attachments)
U.S. Army Corps of Engineers (enclosure w/ attachments)
Illinois Emergency Management Agency - Division of Nuclear Safety (enclosure *wol* attachments)
Illinois Emergency Management Agency (Byron Representative) (enclosure *wol* attachments)

JOINT APPLICATION FORM

1. Application Number (to be assigned by Agency)		2. Date 02 July 2012 Day Month Year		3. For agency use only (Date Received)											
4. Name and address of applicant Exelon Corporation Byron Generating Station 4450 N. German Church Road Byron, IL 61010 (815) 234-5441 ()		5. Name, address, and title of authorized agent John R. Petro Principal Environmental Specialist Exelon Generation Co., LLC 4300 Winfield Rd Warrenville, IL 60555 Telephone no. during business hours (630) 657-3209 include area code (312) 813-5916													
		6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Also indicate the drainage area at the watershed to the downstream limit. Use attachments if needed. See attached "6.0 Byron Project Description" (pages 5-17)													
7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of the subject property if different from applicant. See attached "7.0 Exelon Byron Nuclear Generating Station License Renewal Adjacent Property Owners" (pages 18-22)															
8. Location of activity <div style="display: flex; justify-content: space-between;"><div style="width: 45%;">Legal Description: Rock River / Woodland Creek / Unnamed Tributary to Rock River Name of waterway at location of the activity 4450 N. German Church Road Street, road, or other descriptive location Byron In or near city or town Ogle County</div><div style="width: 50%; border-left: 1px solid black; padding-left: 10px;"><div style="display: flex; justify-content: space-between;"><div>UTM (Universal Transverse Mercator): If available</div><div>1/4 Sec Twp. Rge P.M. Zone North East</div></div><div>Rockvale Township Name of Local Governing Community IL 61010 State Zip Code</div></div></div>															
9. Date activity is proposed to commence Ongoing Estimated Time of Construction Not applicable															
10. Is any portion of the activity for which authorization is sought now complete? Yes No <input checked="" type="checkbox"/> If answer is "Yes" give reasons in item 6. Month and Year the activity was completed Not applicable Indicate the existing work on drawings.															
11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Natural Resources, and Illinois Environmental Protection Agency, these agencies need not be listed. <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Issuing Agency</th><th>Type of Approval</th><th>Identification No.</th><th>Date of Application</th><th>Date of Approval</th></tr></thead><tbody><tr><td>U. S. Nuclear Regulatory Commission</td><td>Operating License Renewal</td><td>NPF-37 and NPF-66</td><td>May 2013</td><td>March 2015</td></tr></tbody></table>						Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	U. S. Nuclear Regulatory Commission	Operating License Renewal	NPF-37 and NPF-66	May 2013	March 2015
Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval											
U. S. Nuclear Regulatory Commission	Operating License Renewal	NPF-37 and NPF-66	May 2013	March 2015											
12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? Yes No <input checked="" type="checkbox"/> (If "Yes", explain in item 6.)															
13. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. <div style="display: flex; justify-content: space-between; align-items: center;"><div style="width: 60%;">Signature of Applicant or Authorized Agent  Michael P. Gallagher – Vice President, License Renewal Typed or Printed Name of Applicant or Authorized Agent</div><div style="width: 35%; text-align: center;">7-2-2012</div></div>															



River Intake and Discharge Locations



Rock River

Byron Nuclear →

PROJECT DESCRIPTION

Bryon Generating Station
Operating License Renewal

LOCATION:

Byron Station
Byron, IL



0 0.025 0.05 0.1
Miles

FORM 426

08 AUG 02

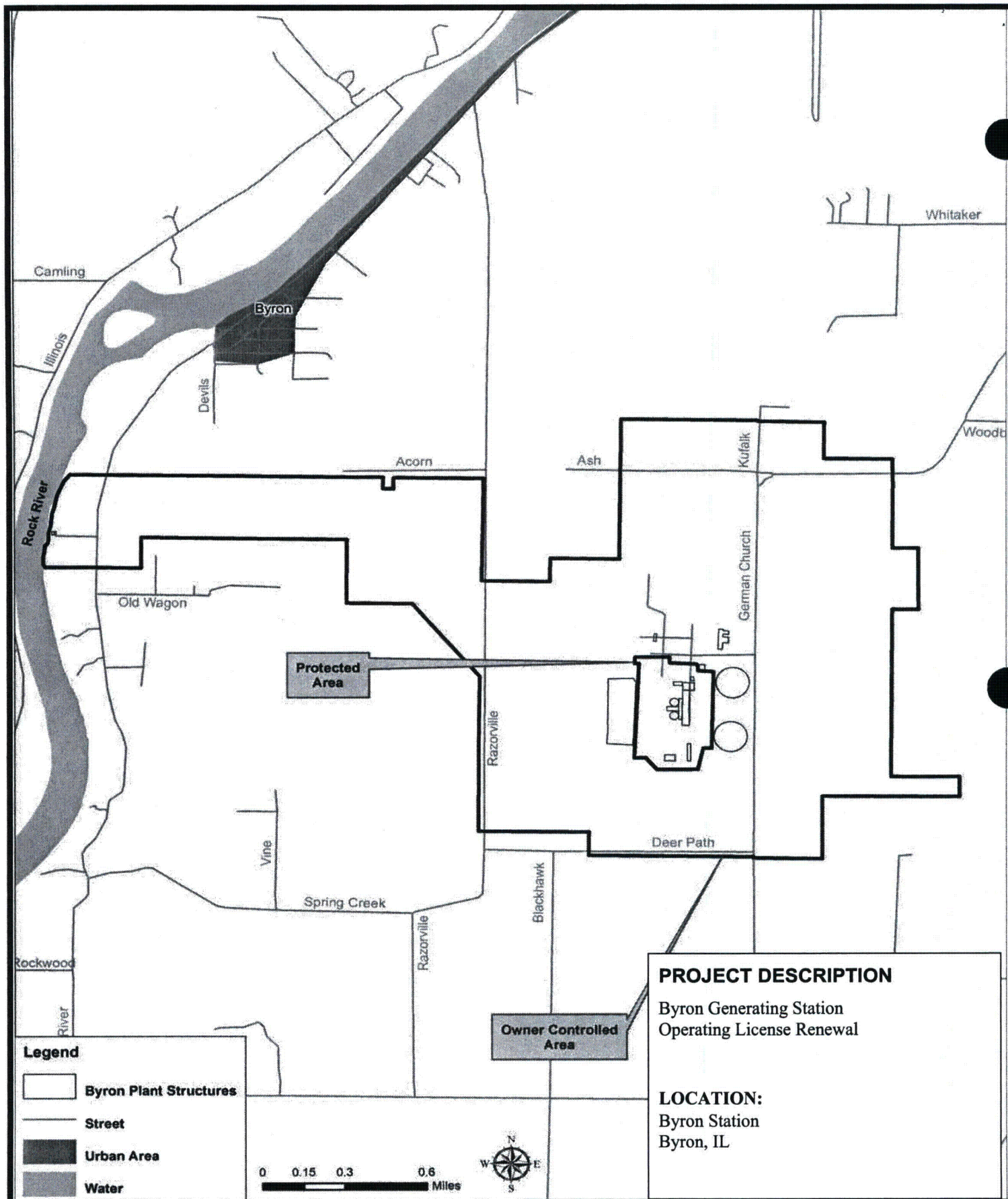
☐ CORPS OF ENGINEERS COPY

☐ IDNR/OWR COPY

☐ IEPA COPY

☐ APPLICANT'S COPY

SHEET 3 OF 4



6.0 Byron Project Description

6.1 Proposed Project

The project is the proposed renewal by the U.S. Nuclear Regulatory Commission (NRC) of the Byron Generating Station (Byron) Units 1 and 2 operating licenses for 20 additional years beyond the currently licensed terms. No operational changes that would alter discharges or discharge pollutant loads from the Byron units during the extended operating terms would result from license renewal. Also, no construction is being proposed in connection with the license renewals.

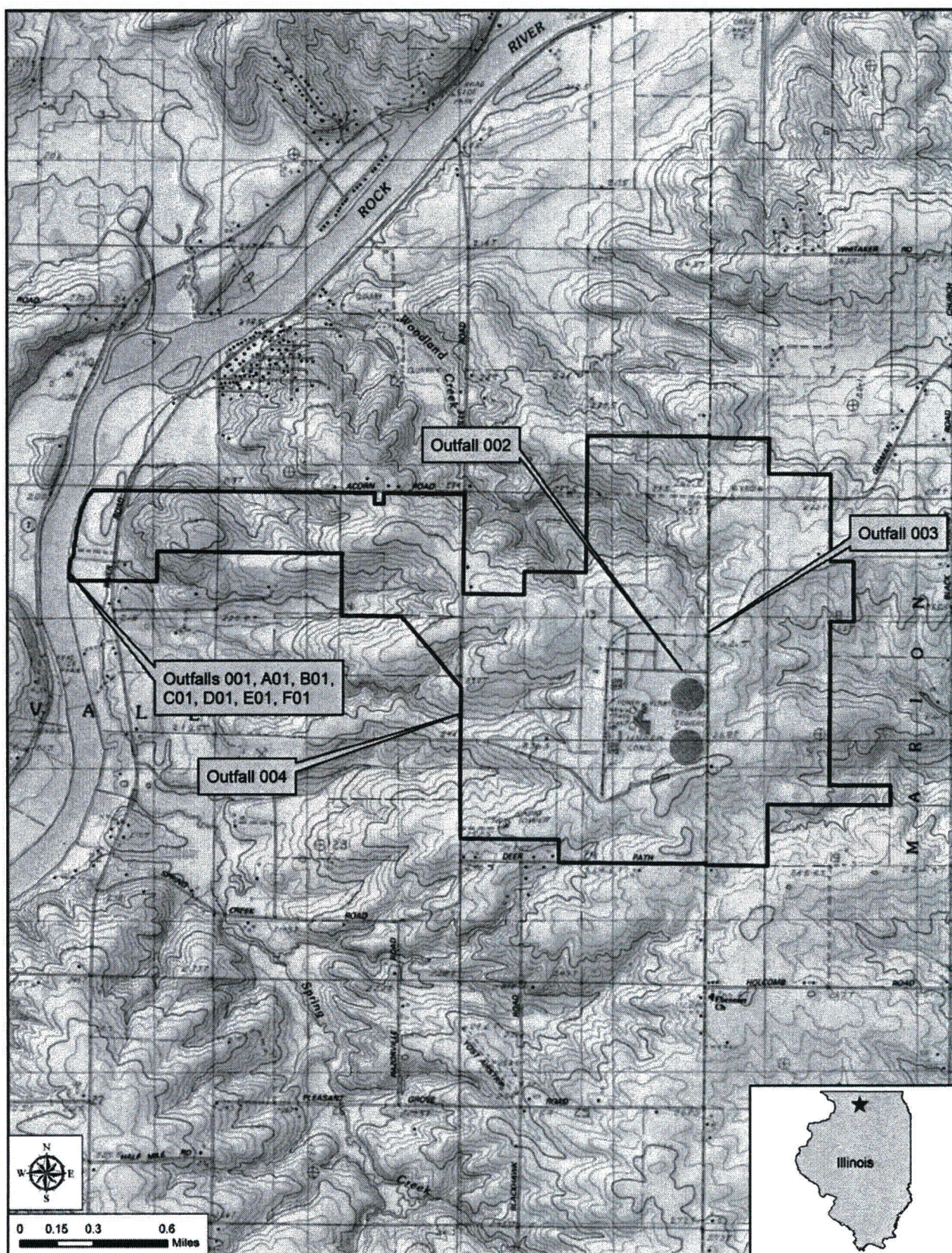
The NRC authorizes operation of domestic nuclear power plants in accordance with the Atomic Energy Act of 1954, as amended, and NRC implementing regulations. Nuclear power plants are initially licensed by the NRC to operate up to 40 years, but these licenses may be renewed in accordance with NRC's regulation 10 CFR 50.51 for periods of up to 20 additional years, as indicated in 10 CFR 54.31. Exelon Generation, LLC (Exelon) operates Byron pursuant to NRC Operating Licenses NPF-37 (Unit 1) and NPF-66 (Unit 2). The existing license for Byron Unit 1 will expire on October 31, 2024, and the existing license for Unit 2 will expire on November 6, 2026. Exelon is seeking to renew the Byron operating licenses until 2044 and 2046, respectively.

Byron's discharges to the Rock River are currently regulated by National Pollutant Discharge Elimination System (NPDES) permit IL0048313, issued by the Illinois Environmental Protection Agency (IEPA) on January 24, 2011 and modified July 15, 2011, with an expiration date of December 31, 2015. The permit is provided in Attachment 1 to this application. Discharges from Byron Units 1 and 2 are subject to the effluent limits and conditions specified in this permit, which may be renewed or modified from time to time.

6.2 Plant Description

Figure 6-1 shows the Byron site. Major structures and facilities located on the Byron site and at the Rock River are identified in Figures 6-2 and 6-3, respectively. Major features include:

- Unit 1 and Unit 2 containment buildings, which house the nuclear steam supply systems including the reactors, reactor coolant pumps, steam generators, and related equipment that delivers steam to the turbine generators
- turbine building, where the turbine generators, main condensers, turbine plant heat exchangers, and related equipment are housed
- auxiliary building, which houses major components of the primary component cooling water system, boric acid storage tanks and pumps, and other safety-related equipment
- radioactive waste storage building
- fuel handling building
- two natural-draft cooling towers for circulating water cooling
- two mechanical-draft cooling towers for essential service water cooling
- other structures and facilities of interest such as the Construction (Storm Water) Runoff Pond, Independent Spent Fuel Storage Installation, switchyard, intake and discharge structures on the Rock River, and various support facilities.



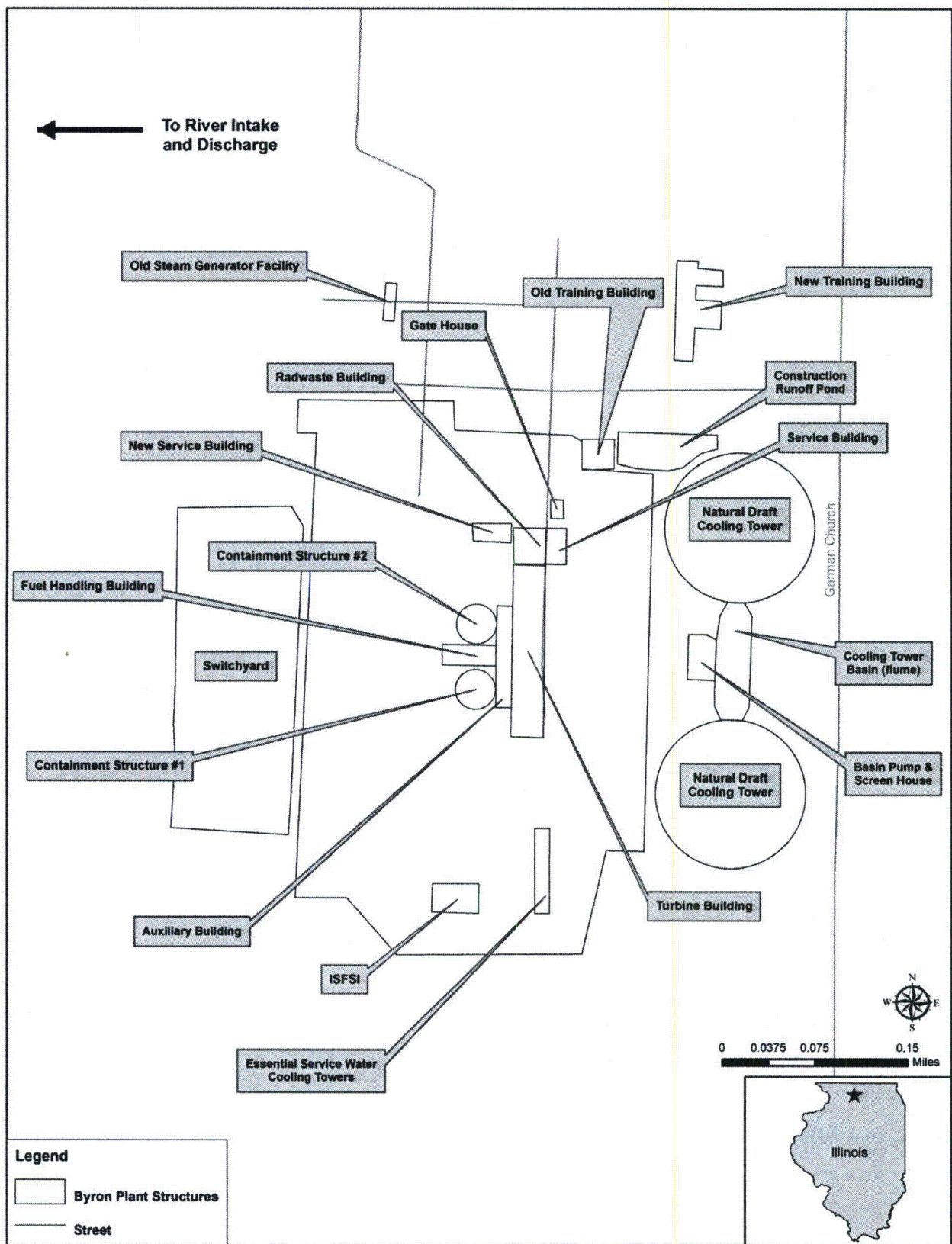


Figure 6-2. Byron Site Layout

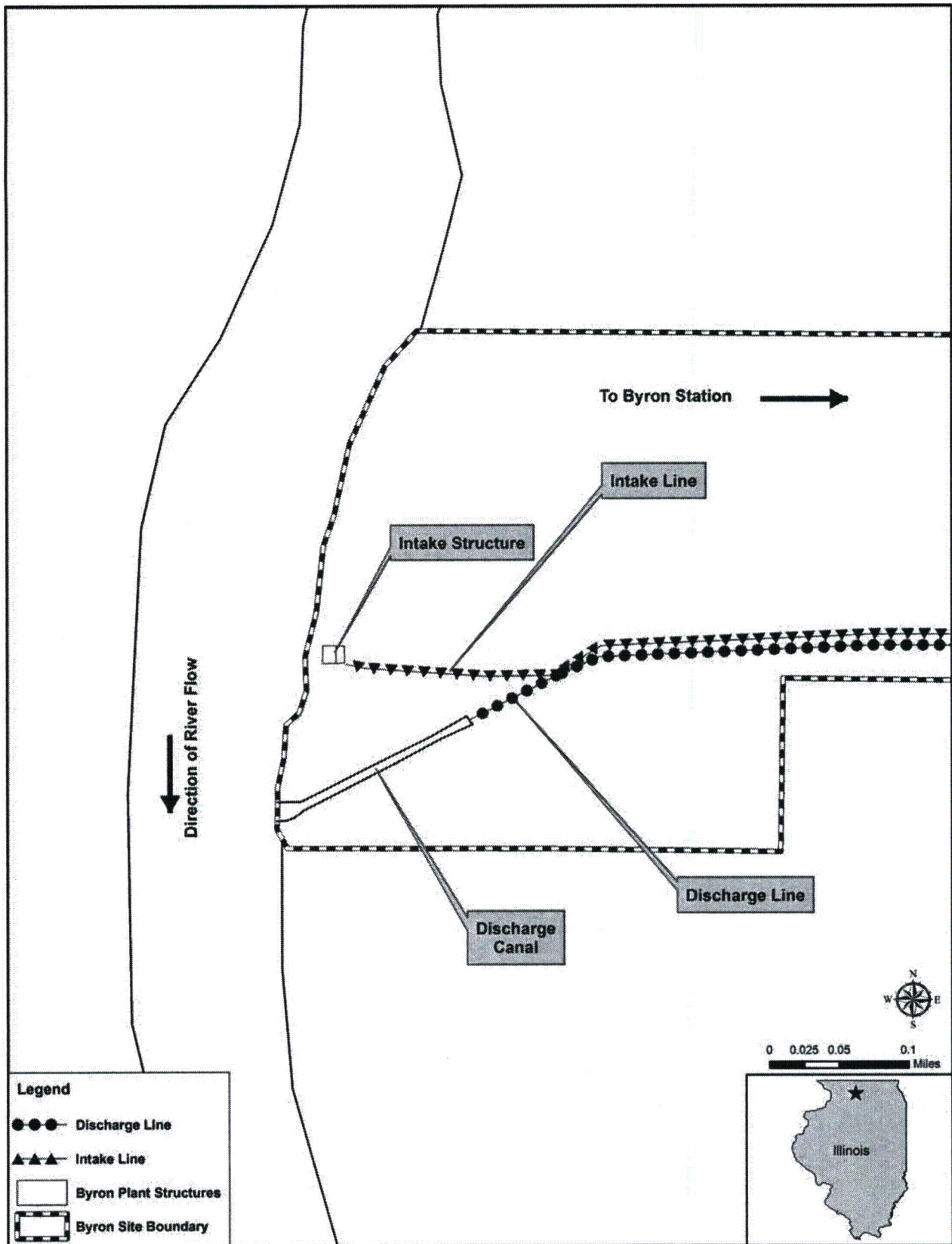


Figure 6-3. Byron Rock River Structures Layout

6.2.1 Water Systems

The Byron closed-cycle circulating water system uses two natural-draft cooling towers (see Figure 6-2), one tower per unit, to dissipate waste heat to the atmosphere. Makeup water from the Rock River replaces water lost to evaporation, drift, and blowdown from the cooling towers. The blowdown line returns water to the Rock River (via Outfall 001) for the purpose of reducing the dissolved solids content in the recirculated cooling water. This blowdown line also serves as a permitted discharge point for the Station's sewage treatment plant (Outfall B01) and the liquid radwaste system (Outfall D01). Blowdown is released via an outfall structure to a 275-ft-long riprapped channel discharging to the east side of the river at UTM coordinates 4,662,852 meters north and 306,997 meters east, approximately 200 feet downstream of the intake structure. Figure 6-3 shows the intake and outfall locations.

The essential service water system serves as Byron's ultimate heat sink. As such, the essential service water system must provide a makeup water supply that is capable of supporting 30 days of continuous operation for the cooling towers. Makeup water for the essential service water system comes from the Rock River and is normally supplied from the circulating water system. However, there are also emergency pumps located in the river screen house at the Rock River intake structure, and onsite deep wells, which provide alternative makeup water supplies for the essential service water system.

Figure 6-4 depicts water use within the plant and identifies permitted outfalls named in NPDES permit IL0048313. The following sections describe the water systems that contribute to these outfalls at Byron.

6.2.1.1 Circulating Water System (CWS)

The makeup water supplied to the Byron CWS cooling towers is withdrawn from the Rock River at the river screen house by three cooling tower makeup pumps, two for normal operations and one for backup. Each pump's rated capacity is 24,000 gallons per minute (gpm). The bays housing the pumps are protected from ice and debris by bar grills equipped with trash rakes and traveling screens. Debris removed from the traveling screens and bar grills at the river screen house is collected and disposed off site by an independent contractor.

Byron conducted impingement monitoring studies at the river screen house after the Station commenced operation. Those studies are documented in the reports *Impingement Monitoring at Byron Generating Station 1985-1986* and *Impingement Monitoring at Byron Generating Station 1987-1988* (EA 1986 and 1988) submitted to the IEPA. Based on a review of the impingement studies, the IEPA stated by letter dated May 15, 1989, that "the location, design, construction and capacity of the Byron Station intake structure reflects the best available technology for minimizing adverse environmental impact." NPDES permit IL0048313 notes this determination of compliance with Section 316(b) of the Clean Water Act (CWA) in Special Condition 20.

**Exelon Nuclear
Byron Generating Station
Water Flow Schematic
01/16/2005**

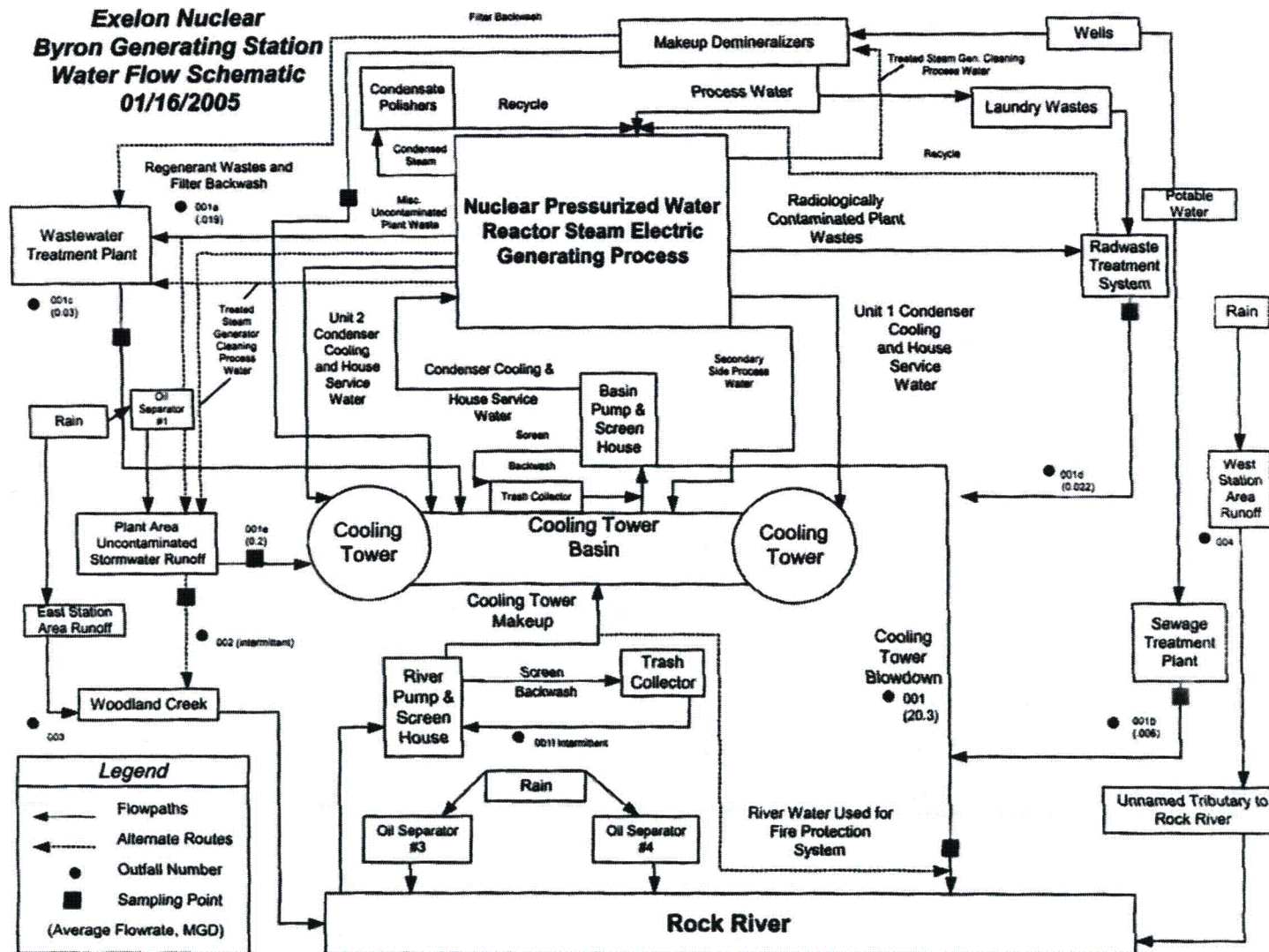


Figure 6-4. Flow Diagram for Byron Station

Six 214,500 gpm circulating water pumps (three per unit) pump water from an open cooling water basin, located between the cooling towers, to the main condensers. The main condenser of each unit requires 693,000 gpm of circulating water flow to remove waste heat at 100 percent load. One cooling tower per unit is used to dissipate waste heat to the environment. Following cooling in the tower, water is directed through an open flume to the basin pump and screen house, which services both units. The concentration of dissolved solids in the CWS is controlled by continuous blowdown from the cooling tower basin to the Rock River and simultaneous makeup from the Rock River.

The CWS and service water systems (essential and nonessential; described in Section 6.2.1.2) are treated for scaling and corrosion control. Sodium hypochlorite and sodium bromide are added for biofouling control; sulfuric acid, polyphosphate, potassium phosphonate, acrylic polymer, and triazole for scaling control; zinc for corrosion control; and polyacrylate for silt dispersal. Makeup water is treated with a low concentration of copper ions to prevent zebra mussel infestation. Copper monitoring is performed at Outfall 001 during periods when the Station's copper ion system is in use. In addition, the total mass of copper used during zebra mussel dosing is reported in the month following cessation of copper ion system discharge.

6.2.1.2 Service Water System

Two service water systems are provided for the Station: the nonessential service water system supplies non-safety related systems and the essential service water system supplies cooling water for safety-related equipment necessary for safe shutdown of the reactors.

The nonessential service water system has three dedicated 35,000 gpm pumps in the CWS basin pump and screen house. Normally two pumps are operated, one for each unit, with the third pump available to provide full capacity backup for either unit.

For each Byron unit, the essential service water system consists of two 100-percent capacity, redundant mechanical-draft cooling towers and associated water storage basins. Each of the full-capacity essential service water loops in both units (total of four) is supplied by a single pump rated at 24,000 gpm. The four pumps are located in the auxiliary building.

During normal operation of an essential service water cooling tower, makeup water from the Rock River is sent to the tower makeup line via the CWS. As an alternative, makeup water is also available directly from the Rock River through one or both of two essential service water makeup pumps located in the river screen house. If neither method for obtaining makeup water from the river is available, onsite deep wells are capable of satisfying the requirement for essential service water makeup.

Blowdown from the essential service water system is directed to the CWS cooling water basin and the combined basin blowdown is discharged to the Rock River.

6.2.1.3 Ground-Water Supplied Systems

Two deep wells are used for the Station's water supply. Both wells were installed during the construction of the Station and draw water from depths greater than 500 feet below grade at an average flow rate of 800 gpm per well. Water is pumped from each well at different times, and the piping from the wells combines into a common manifold to furnish the Station's water supply. Ground water is used for sanitary, potable, demineralizer, and other non-safety-related plant systems. The deep wells also serve as emergency makeup water supply to the essential service water mechanical-draft cooling towers.

6.2.2 Waste Systems

6.2.2.1 Liquid Radioactive Waste System

The Liquid Radioactive Waste System, which is shared by both Byron units, collects, monitors, and recycles or releases, with or without treatment as appropriate, all potentially radioactive liquid wastes produced by plant operations, except effluents from the condensate polisher sump and the turbine building fire and oil sump. These effluents are monitored and processed individually because they typically contain minimal radioactivity. The Liquid Radioactive Waste System is designed to minimize exposure of Station personnel and the general public, in accord with NRC regulations. Most radioactive fluids are collected in tanks, sampled, and analyzed to determine the quantity of radioactivity with an isotopic breakdown, if necessary, prior to treatment and release or disposal. Discharge streams are monitored, and safety features are incorporated to ensure that radionuclide releases through the CWS blowdown system comply with the requirements of 10 CFR 20 and 10 CFR 50, Appendix I.

Effluents from the condensate polisher sump and the turbine building fire and oil sump are monitored by radiation monitors that automatically halt sump pump operations if an unacceptable activity level is detected in the sump effluent.

6.2.2.2 Sewage Treatment System

Byron operates an onsite sewage treatment package plant. Treatment plant effluent (Outfall B01) combines with the CWS cooling tower blowdown (Outfall 001) for discharge to the Rock River under NPDES permit IL0048313. The sewage treatment plant uses sodium bicarbonate for pH adjustment and a microbiological additive to ensure proper aerobic digestion. Byron periodically disposes of the sludge as low-level radioactive waste at a licensed offsite facility. Byron is authorized to transfer up to 18,000 gallons per day of raw sewage to the City of Oregon wastewater collection system for treatment in the city's sanitary wastewater treatment plant, which discharges to the Rock River under the town's NPDES permit (IL0020184), in circumstances where the Station's sewage treatment plant is out of service for maintenance or is temporarily experiencing heavier than normal load due to the on-site presence of supplemental work force (e.g., refueling outages).

6.2.3 Storm Water

The Byron site is approximately 2 miles east of the Rock River. The site has natural drainage either to the river or to small creeks that then flow to the river.

Most storm water runoff from the plant drains into storm drains that discharge to a large oil/water separator, which discharges to an on-site retention pond called the Construction (Storm Water) Run-off Pond. All run-off from the industrial part of the facility, with the exception of a small area east of the natural-draft cooling towers and the western portion of the site, including the 345 kV switchyard, flows into the oil/water separator and then to the Construction (Storm Water) Run-off Pond. The Construction (Storm Water) Run-off Pond is pumped to the Unit 2 cooling tower basin (Outfall E01); however, the Pond can also overflow to Woodland Creek via Outfall 002.

A storm water pollution prevention (SWPP) plan for storm water not captured in the Construction (Storm Water) Run-off Pond is maintained at Byron in accordance with NPDES permit IL0048313 Special Condition 16. The SWPP Plan identifies potential sources of pollutants that may be expected to affect storm water discharges associated with the industrial activity in the areas drained to permitted outfalls 003 and 004. The plan also describes practices that are used to reduce pollutants in storm water discharges and assure compliance with applicable conditions of the permit. This information is summarized below. Areas having

potential for spills of a regulated substance, such as oil, are further monitored under the Byron Spill Prevention Control and Countermeasure Plan.

The East Station area run-off discharges through Outfall 003 to Woodland Creek. This drainage is limited to the vegetated area east of both sets of cooling towers and includes several small facilities. The Sodium Hypochlorite Tank is dual walled and has a fill station with a spill collection system. The Sulfuric Acid Tanks are bermed and have fill stations equipped with spill collection systems. The NALCO water chemistry system is inside the NALCO Chemical Building which is above a collection system. The NALCO Tank is bermed.

The West Station Area runoff discharges through Outfall 004 to an unnamed tributary to the Rock River. This drainage area includes not only the switchyard but also warehouses that store inert, non-hazardous materials, the area around the mechanical-draft cooling towers, an abandoned construction landfill and an active construction storage area, and the area that receives the sediments periodically removed from the cooling tower basins. The Sodium Hypochlorite Tank is dual walled and has a fill station with a spill collection system. The Sulfuric Acid Tanks are bermed and have fill stations equipped with spill collection systems. The NALCO Chemical Building is above a collection system. The above ground Diesel Fuel Oil Tank and Gasoline Tank are dual walled with leak detection monitoring and sit on a concrete pad. The Haz-Mat Storage Building is also on a concrete pad. Minimal quantities of hazardous materials are normally stored on site. Five 345kV Oil Circuit Breakers each contain 10,230 gallons of oil and are monitored routinely for leaks.

6.3 Water Quality Standards and the Conditions of Water Resources in the Project Area

The IEPA implements Illinois water quality standards, which have their basis in the U.S. CWA, and include general water quality standards (that apply regardless of water classification) and standards applicable to General Use waters. General water quality standards are described in Illinois Administrative Code (IAC) Title 35, Part 302, Subpart A, and include requirements for mixing zones, flows, temperature, and antidegradation.

Standards applicable to General Use waters are described in IAC Title 35, Part 302, Subpart B, and include those for radioactivity, dissolved oxygen, nutrients, toxic substances, and a range of chemical constituents. General Use standards protect water for aquatic life, wildlife, agricultural use, secondary contact use, and most industrial uses.

Through Section 303(d) of the CWA, the U.S. EPA requires states to identify impaired waters of the state, that is, those waters where the required pollution control measures are not sufficient to maintain applicable water quality standards. Water bodies on the Clean Water Act (CWA) Section 303(d) impaired waters list are subject to a more proactive approach to pollution prevention and water quality management.

Finally, the Illinois Department of Natural Resources (IDNR) is responsible for the protection of fish and aquatic life (515 ILC S5 Fish and Aquatic Life Code), including protecting aquatic life from "waste, sewage, thermal effluent or any other pollutant [that] allows pollution of waters of the state..."

The Byron NPDES permit covers discharges from plant operations to the Rock River. Outfall 001 directs effluent from six industrial sources within the plant to the Rock River (Outfalls A01 – F01). The Rock River also receives storm water runoff through Outfalls 002, 003, and 004.

The following subsections in this section describe applicable standards and water quality requirements for the Rock River. Section 6.4 discusses the effect of permitted discharges.

6.3.1 Rock River

The Rock River is classified as General Use water by the IEPA Bureau of Water (IAC Title 35, Section 303.201). The NPDES permit imposes load and/or concentration limits on Byron effluents that must be maintained to meet all applicable standards. Parameters regulated by the Byron NPDES permit include total suspended solids, temperature, oil and grease, pH, biochemical oxygen demand, total residual chlorine/total residual oxidants, metals, and hydrazine. The permit specifically prohibits discharges of certain contaminants, such as PCBs and priority pollutants, except chromium and zinc. Byron monitors the discharges and parameters and provides results to IEPA in monthly reports.

Under IAC Title 35, Section 302.102, "a [temperature] mixing zone must not contain more than 25 percent of the cross-sectional area or volume of flow of a stream." In Special Condition 3 of NPDES permit IL0048313, IEPA has determined that Byron meets this criteria as well as the thermal water quality standard in Title 35, Section 302.211. However, Byron is required to monitor and report the flow and temperature of its blowdown discharge.

As specified in Special Condition 12 of NPDES permit IL0048313, Byron must also explicitly demonstrate compliance with the thermal water quality standard on a daily basis during times when the Rock River flow is less than 2,400 cfs, or the temperature difference between the main river temperature and the water quality standard is less than 3°F.

The stream segment (IL_P-20) of the Rock River receiving the discharge from Byron Outfall 001 is identified in the approved 2006 *Illinois Integrated Water Quality Report and Section 303(d) List* as impaired for aquatic life, fish consumption, and primary contact due to the potential causes listed in the table below. The pollutants are attributed to natural sources, dams or impoundments, impacts from hydrostructure flow regulation/modifications, urban runoff/storm sewers, and unknown sources.

Potential causes	Uses impaired
Fish Kills, Unknown Impairment, Dissolved Oxygen, pH, Silver, Mercury, Polychlorinated biphenyls (PCBs), Fecal Coliform, Other Flow Regime Alterations, Aquatic Algae	Aquatic Life, Fish Consumption, Primary Contact

The March 2012 (draft) *Illinois Integrated Water Quality Report and Section 303(d) List* identifies the stream segment receiving the discharge from Byron Outfall 001 as impaired only for fish consumption. The potential causes of the impairment are listed in the table below.

Potential causes	Uses impaired
Mercury, PCBs	Fish Consumption

Based on the IDNR's Biological Stream Rating Mapping Tool, the Rock River is not a biologically significant stream at the Byron outfall location. The Rock River is not assigned a biological diversity rating or an integrity rating at this location. The river at this location is designated for enhanced dissolved oxygen (DO) protection pursuant to IAC Title 35, Appendix D. DO concentrations in these streams/stream segments must be not less than 5.0 mg/L at any time during the period of March through July and not less than 4.0 mg/L at any time during the period of August through February. NPDES permit IL0048313 specifies limits on biochemical oxygen demand in the Byron sewage treatment plant effluent (Outfall B01). Special Condition 3 of the permit states that Byron meets the mixing criteria for thermal

discharges pursuant to 35 IAC 302.102, however, the station must monitor and report discharge flow and temperature.

6.3.2 Woodland Creek and an unnamed tributary to the Rock River

Woodland Creek, a tributary of the Rock River, and an unnamed tributary of the Rock River both receive storm water runoff from permitted outfalls (Outfalls 002 through 004). Woodland Creek flows to the northwest from Byron, and the unnamed tributary flows west. These stream segments, which receive discharges from Outfalls 002, 003, and 004 are classified as General Use waters by the IEPA Bureau of Water (IAC Title 35, Section 303.201), but neither is on the 303 (d) list of impaired waters, and neither has a biological stream characterization.

6.4 Byron Surface Water Use

As described in Section 6.2.1, above, Byron withdraws makeup water from the Rock River to replace evaporation losses from the cooling towers. Therefore, the operation of Byron affects this water source, the use of which is regulated by the State of Illinois.

Byron has an agreement with the Illinois Department of Natural Resources (IDNR) to limit consumption of water from the Rock River for makeup to the Byron cooling systems to no more than 9 percent of total river flow during times when the river flow rate drops below 679 cfs. To maintain compliance, Byron adjusts the CWS makeup and blowdown flows, and if necessary, would reduce the power output from the units.

The makeup water required by the condenser cooling system varies seasonally. The anticipated maximum gross withdrawal rate from the Rock River is 45,200 gpm (101 cfs). The average makeup withdrawal rate at 100 percent load is 36,750 gpm (81.9 cfs), of which 13,000 to 17,000 gpm (29.0 to 37.9 cfs) is returned to the river as blowdown.

In conjunction with the 2005 NPDES renewal application, Byron submitted the source water physical data, cooling water intake structure data, and cooling system data required under 40 CFR 122.21(r)(2), (3) and (5). In NPDES permit IL0048313, Special Conditions 20 and 21, the IEPA indicates that Exelon has demonstrated compliance for Byron with Section 316(b) of the CWA.

The expected chemical composition of the Byron discharge is described in the application for renewal of NPDES permit IL0048313. A list of water treatment additives used at the Station was included in the 2005 renewal application. Permit Special Condition 8 authorizes use of those additives. The use of new additives, changes in the additives previously approved and increases in the feed rate or quantity of the additives used at Byron require IEPA approval. Requests for modification must include certification that the Station is not using additives containing any of the 126 priority pollutants (except for zinc and chromium which are addressed in Special Condition 15). The pH of the discharge to the river is monitored and treated as necessary to meet the limitations specified in NPDES permit IL0048313, Special Condition 2.

Suspended solids are present in the CWS makeup water withdrawn from the Rock River. The water circulates in the Station's cooling systems during which evaporation occurs, and the remaining water recirculates in the system with a continuous blowdown stream being discharged back to the Rock River. Byron does not add any suspended solids through its use of the water for non-contact cooling, but concentrations of solids in the cooling water can increase up to three-fold depending on the cycles of concentration. River sediment that settles and collects in the cooling tower basins is periodically removed and disposed of by land application in accordance with IEPA permit 2009-SC-2169-1. Approximately 36 percent of the incoming mass of solids in the CWS makeup water settles out in the cooling tower.

For copper, zinc, and hydrazine, the NPDES permit IL0048313, Special Condition 23 recognizes a zone of initial dilution (ZID) and mixing zone in accordance with IAC Title 35, Sections 302(d) and (e).

Renewal by the NRC of the Byron Operating Licenses would not change plant discharges or pollutant loads to the Rock River.

6.5 Monitoring Programs

6.5.1 Environmental Protection Plan

Exelon carries out the environmental monitoring programs described in the Environmental Protection Plan that is incorporated into the NRC operating licenses for Byron Units 1 and 2. The Environmental Protection Plan incorporates the NPDES permit by reference. Therefore, monitoring of the aquatic environment consists of the monitoring specified in the NPDES permit.

6.5.2 Radioactive Monitoring in Surface and Ground Water

Byron has a radiological monitoring program that includes routine sampling and analysis of surface and ground water for gross alpha and beta emissions, gamma emitters, strontium, tritium, and selected transuranic isotopes. The program is designed to identify adverse trends that suggest occurrence of a spill or leak, which would allow Exelon to take corrective actions to prevent or minimize potential impacts to ground water.

Tritium is produced in the reactor coolant system and is released to the Rock River via the CWS blowdown pipeline. As section 6.2.2.1, above, explains, the Byron radioactive liquid waste handling system also generates radioactive effluents that are sampled and analyzed to ensure compliance with NRC regulations in 10 CFR Part 20 prior to batch discharges via the CWS blowdown pipeline.

In early 2006 Exelon initiated an investigation of the integrity of the Byron blowdown line and of radionuclide releases to groundwater from the Byron blowdown line. Four of 39 groundwater samples collected in monitoring wells near the blowdown line had tritium concentrations that exceeded 200 picoCuries per liter (the lower limit of detection), but none exceeded the U.S. Environmental Protection Agency's safe level for public drinking water (20,000 picoCuries per liter). These were the only samples taken in this study or in the study described in the following paragraph that exceeded the lower limits of detection.

In May 2006, as part of a separate fleetwide initiative, Exelon began collecting data to determine whether groundwater at Byron was adversely affected by releases of radionuclides. The fleetwide initiative included samples from 10 residential water supply wells. None of the samples had tritium concentrations in excess of 200 pCi/L. Tritium was not found to be migrating off site at detectable concentrations.

Exelon has cooperated fully with the IEPA, the Illinois Attorney General's Office, and the NRC to investigate and remediate tritium from the CWS blowdown pipeline. In March 2010, the Circuit Court for the Fifteenth Judicial Circuit, Ogle County, Illinois Chancery Division approved a Consent Order under which Exelon agreed to perform the following actions to assure future compliance with applicable Illinois statutes and regulations:

- Prevent further releases of regulated wastewater to soil, surface or groundwater;
- Operate continuous monitoring systems in vacuum breaker vaults along the blowdown pipeline;
- Provide funding for implementation of a supplemental environmental project;

- Provide funding for environmental education programs; and
- Provide funding to restore 23 acres to prairie.

6.6 Antidegradation Assessment

The IAC Title 35, Part 302, Water Quality Standards, requires IEPA to assess on a case-by-case basis any activity requiring a CWA Section 401 certification for compliance with the antidegradation standard (§ 302.105(c)(2)). Further, IEPA's assessment is required to consider the fate and effect of any parameters proposed for increased pollutant loading, and to assure that water quality standards will not be exceeded, all existing uses will be fully protected, all reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated, and the activity that results in increased pollutant loading will benefit the community at large.

As previously stated in this application, NRC renewal of the Byron Generating Station operating licenses would not alter discharges or discharge pollutant loads from the Byron units during the extended operating terms, and no construction is planned in connection with the license renewals. In addition, Byron has operated since 1984, and will continue to operate subject to the IEPA NPDES permit IL0048313, as it may be renewed or modified from time to time, as well as any agreements pertaining to water quality between the Station and IDNR.

Compliance with the discharge limits and surveillance requirements specified in NPDES Permit IL0048313 assures that Byron operations will protect existing uses of the Rock River and will not result in exceedances of numeric or narrative water quality standards. Exelon must periodically apply for renewal of the NPDES permit. The application review process provides additional assurance that discharges from Byron will not degrade the Rock River.

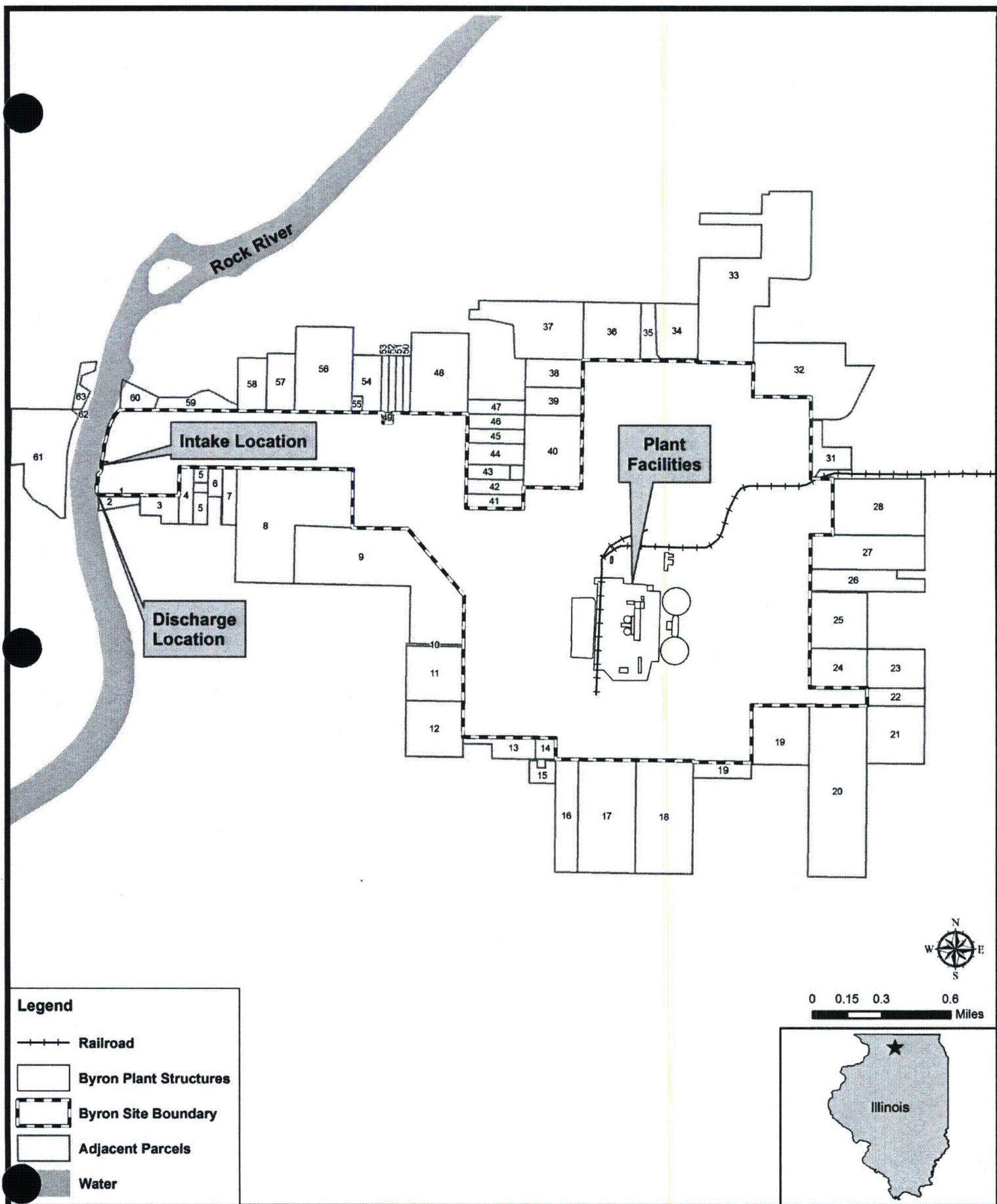
In summary, the proposed renewal of the Byron operating licenses would comply with the antidegradation criteria related to 401 certification reviews by IEPA because no increase to pollutant loading would be associated with NRC renewal of the Byron operating licenses and because Byron would remain subject to the NPDES permit requirements as well as IDNR regulations and agreements during the license renewal terms.

References:

EA 1986. *Impingement Monitoring at Byron Generating Station 1985-1986*, Prepared by EA Science and Technology for Commonwealth Edison, October 1986.

EA 1988. *Impingement Monitoring at Byron Generating Station 1987-1988*, Prepared by EA Science and Technology for Commonwealth Edison, August 1988.

7.0 Exelon Byron Nuclear Generating Station License Renewal Adjacent Property Owners



Exelon Byron Nuclear Generating Station License Renewal Adjoining Property Owners¹

Site	PIN	Owner	Property Address	Mailing Address (if different)
1	09-15-100-019	BURCH WILLIAM E JR	4600 N RIVER RD OREGON IL 61061	4600 N RIVER RD OREGON IL 61061
2	09-15-100-018	BURCH WILLIAM E JR	4600 N RIVER RD OREGON IL 61061	4600 N RIVER RD OREGON IL 61061
3	09-15-200-021	MASTNY JAMES J	4593 N RIVER RD OREGON IL 61061	4593 N RIVER RD OREGON IL 61061
4	09-15-200-007	STORZ STEVEN E	800 E OLD WAGON RD OREGON 61061	800 OLD WAGON RD OREGON 61061
5	09-15-200-009	ALEXANDER CHARLES M & H JOYCE TRUSTEES	4600 N RIVER RD OREGON IL 61061	4600 N RIVER RD OREGON IL 61061
6	09-15-200-019	BRENDEL GLENN	930 E OLD WAGON RD OREGON IL 61061	930 OLD WAGON RD OREGON IL 61061
7	09-15-200-017	HAGEMANN DARRELL	OREGON IL 61061	4224 N RIVER RD OREGON IL 61061
8	09-14-100-002	HAGEMANN DARRELL	1260 E OLD WAGON RD OREGON IL 61061	4224 N RIVER RD OREGON IL 61061
9	09-14-400-003	STEVE BENESH & SONS	4242 N RAZORVILLE RD OREGON IL 61061	3923 N RIVER RD OREGON IL 61061
10	09-23-200-005	STEVE BENESH & SONS	OREGON IL 610610	3923 N RIVER RD OREGON IL 61061
11	09-23-200-006	BENESH STEVEN G	3746 N RAZORVILLE RD OREGON IL 61061	3923 N RIVER RD OREGON IL 61061
12	09-23-200-004	BENESH ANTHONY	OREGON IL 610610000	3923 RIVER RD OREGON IL 61061
13	09-24-100-010	WUBBENA KEVIN L & JODI A	2306 E DEER PATH RD BYRON IL 61010	2306 E DEER PATH RD BYRON IL 61010
14	09-24-100-009	BLUME DUANE L & SANDRA L	2386 E DEER PATH RD BYRON IL 61010	2386 DEER PATH RD BYRON IL 61010
15	09-24-328-007	MINGUS BARRY	3365 BLACKHAWK RD BYRON IL 61010	3365 BLACKHAWK RD BYRON IL 61010
16	09-24-376-004	COMMONWEALTH EDISON CO	CHICAGO IL 60690	PO BOX 767, TAX RM 1822CHICAGO IL 60690
17	09-24-400-001	WINTERTON MARK L	2761 E DEER PATH RD BYRON IL 61010	2761 DEER PATH IL 61010
18	09-24-400-002	MACAULEY ROGER	3200 N GERMAN CHURCH RD OREGON IL 61061	4778 S DAYSVILLE RD OREGON IL 61061
19	10-19-100-002	JOESTON DOLORES A	3485 3497 N GERMAN CHURCH RD ROCKFORD IL 611146092	2929 SUNNYSIDE DR, C 145 ROCKFORD IL 611146092
20	10-19-400-001	HEPFER CHARLES D TRUSTEE	3592 E HOLCOMB RD OREGON IL 61061	3960 E HOLCOMB RD OREGON IL 61061

Site	PIN	Owner	Property Address	Mailing Address (if different)
21	10-19-200-003	BENNETT ROBERT E TRUSTEE	BLACK WALNUT RD LEAF RIVER IL 61047	307 W 4TH ST LEAF RIVER IL 61047
22	10-19-200-006	COMMONWEALTH EDISON CO	BLACK WALNUT RD CHICAGO IL 60690	PO BOX 767, TAX RM 1822 CHICAGO IL 60690
23	10-19-200-004	BENNETT ROBERT E TRUSTEE	BLACK WALNUT RD LEAF RIVER IL 61047	307 W 4TH ST LEAF RIVER IL 61047
24	10-19-200-007	BENNETT ROBERT E TRUSTEE	BLACK WALNUT RIVER IL 61047	307 W 4TH RIVER IL 61047
25	10-18-400-003	WATSON LARRY D	BLACK WALNUT RD STILLMAN VALLEY IL 61084	110 E ROOSEVELT RD STILLMAN VALLEY IL 61084
26	10-18-400-009	WATSON LARRY D	4306 N BLACK WALNUT RD STILLMAN VALLEY IL 61084	110 E ROOSEVELT RD STILLMAN VALLEY IL 61084
27	10-18-400-001	KAFFENBARGER TIMMIE J & JENNIFER A	BLACK WALNUT IL 61010	4754 BLACK WALNUT IL 61010
28	10-18-200-003	KAFFENBARGER TIMMIE J & JENNIFER A	4754 N BLACK WALNUT IL 61010	4754 BLACK WALNUT IL 61010
29	NOT USED			
30	NOT USED			
31	10-18-200-011	BLANCHARD CRAIG	4953 N GERMAN CHURCH RD BYRON IL 61010	4953 N GERMAN CHURCH RD BYRON IL 61010
32	10-07-400-017	WINTERTON MARK L & JOELLEN K	BYRON IL 61010	2761 E DEER PATH RD BYRON IL 61010
33	10-07-100-013	GOULD STEVEN L & TINA M	3519 E WHITAKER RD BYRON IL 61010	3519 WHITAKER RD BYRON IL 61010
34	09-12-400-007	MORRIS SHARI	5362 N KUFALK LN BYRON IL 61010	5362 N KUFALK LANE BYRON IL 61010
35	09-12-400-006	MONTANA PATRICK T & SHARON K	5270 N KUFALK RD BYRON IL 61010	5270 N KUFALK LANE BYRON IL 61010
36	09-12-400-004	SZUMINSKI DALE M	5266 N KUFALK RD BYRON IL 61010	5266 N KUFALK LANE BYRON IL 61010
37	09-12-300-008	SWANSON LINDA A	STILLMAN VLY IL 61084	8847 N KISHWAUKEE RD STILLMAN VLY IL 61084
38	09-12-300-005	VINCER JOSEPH S	BYRON IL 61010	2525 ASH RD BYRON IL 61010
39	09-12-300-006	VINCER JOSEPH S	BYRON IL 61010	2525 ASH RD BYRON IL 61010
40	09-13-100-007	VINCER JOSEPH S	2525 E ASH RD BYRON IL 61010	2525 ASH RD BYRON IL 61010
41	09-13-100-006	BLANCHARD AMOS W & PAULINE C	4629 RAZORVILLE RD BYRON IL 610100000	4629 RAZORVILLE RD BYRON IL 610100000

Site	PIN	Owner	Property Address	Mailing Address (if different)
42	09-13-100-005	HAENITSCH BETTY J	4765 N RAZORVILLE RD CHERRY VALLEY IL 61016	2251 LANCASTER RD CHERRY VALLEY IL 61016
43	09-13-100-009	HAENITSCH BETTY J	4877 N RAZORVILLE RD CHERRY VALLEY IL 61016	2251 LANCASTER RD CHERRY VALLEY IL 61016
44	09-13-100-003	VINCER JOSEPH S	RAZORVILLE RD BYRON IL 61010	2525 ASH RD BYRON IL 61010
45	09-13-100-002	VINCER JOSEPH S	RAZORVILLE RD BYRON IL 61010	2525 ASH RD BYRON IL 61010
46	09-13-100-001	VINCER JOSEPH S	RAZORVILLE RD BYRON IL 61010	2525 ASH RD BYRON IL 61010
47	09-12-300-004	VINCER JOSEPH S	5013 N RAZORVILLE RD BYRON IL 61010	2525 ASH RD BYRON IL 61010
48	09-11-400-013	HENDERSON GARY B TRUSTEE	OREGON IL 61061	2803 E ORCHID LN OREGON IL 61061
49	09-14-200-006	CITY OF BYRON	1669 E ACORN RD BYRON IL 61010	P.O. BOX 916 BYRON IL 610100000
50	09-11-400-007	PEREZ JOEL SR	1780 E ACORN RD BYRON IL 61010	1780 ACORN RD BYRON IL 61010
51	09-11-400-006	OBRIEN CHRISTINE	1768 E ACORN RD BYRON IL 61010	1768 ACORN RD BYRON IL 61010
52	09-11-400-009	ERICKSON RICK E & JULIE A	1710 E ACORN RD BYRON IL 61010	1710 E ACORN RD BYRON IL 61010
53	09-11-400-008	STUKENBERG JAMES R & MARY J COTRUSTEES	1670 E ACORN RD BYRON IL 61010	1670 E ACORN RD BYRON IL 61010
54	09-11-400-011	STUKENBERG DAVID C	1554 E ACORN RD BYRON IL 61010	1546 E ACORN RD BYRON IL 61010
55	09-11-400-010	STUKENBERG DAVID C	1546 E ACORN RD BYRON IL 61010	1546 E ACORN RD BYRON IL 61010
56	09-11-376-001	HICKS BUFORD	1482 E ACORN RD BYRON IL 61010	1482 ACORN RD BYRON IL 61010
57	09-11-351-002	HADICK LEE E	OREGON IL 61061	PO BOX 376 OREGON IL 61061
58	09-11-351-004	MURZYN ALLAN B	903 N DEVILS LN BYRON IL 61010	903 N DEVIL'S LANE BYRON IL 61010
59	09-10-476-003	STEVE BENESH & SONS	RIVER RD OREGON IL 61061	4600 N RIVER RD OREGON IL 61061
60	09-10-451-002	LEFEVRE SAMUEL WAYNE & MARY O	5054 N RIVER RD BENSENVILLE IL 60106	4600 N RIVER RD OREGON IL 61061
61	09-15-100-005	CESCOLINI SERGIO & BONNIE ANN	IL RT 2 ROSELLE IL 60172	4593 N RIVER RD OREGON IL 61061
62	09-15-100-004	CLINE EARL	IL RT 2 OREGON IL 61061	800 OLD WAGON RD OREGON 61061
63	09-10-300-005	CLINE EARL	5202 N IL RTE 2 OREGON IL 61061	4600 N RIVER RD OREGON IL 61061

1. Parcel information from Ogle County GIS website at <http://beacon.schneidercorp.com/Application.aspx?AppID=71&LayerID=592&PageTypeID=1&PageID=953>

8. Legal Description

The following is a summary legal description of the property that is the subject of this application, without metes and bounds:

Parts of sections 12, 13, 14, 15, and 24, Township 24N, Range 10E, 3rd principal meridian; and
Parts of sections 7, 18, and 19, Township 24N, Range 11E, 3rd principal meridian.

Attachment 1
Illinois EPA NPDES Permit Number IL0048313
for Byron Generating Station



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/782-0610

January 24, 2011

Exelon Generation Company, LLC
Environmental Department
4300 Winfield Road
Warrenville, Illinois 60555-5701

Re: Exelon Generation Company, LLC - Byron Nuclear Power Station
NPDES Permit No. IL0048313
Final Permit

Gentlemen:

Attached is the final NPDES Permit for your discharge. The Permit as issued covers discharge limitations, monitoring, and reporting requirements. Failure to meet any portion of the Permit could result in civil and/or criminal penalties. The Illinois Environmental Protection Agency is ready and willing to assist you in interpreting any of the conditions of the Permit as they relate specifically to your discharge.

The Agency received your letter dated January 15, 2011 regarding the draft NPDES permit. Based on the information provided the following changes were made to the permit.

1. The limits for oil/grease were corrected to be 15 mg/l as a 30-day average and 20 mg/l as a daily maximum.
2. The limits for zinc were corrected to be 0.213 mg/l as a 30-day average and 0.433 mg/l as a daily maximum.
3. The limit for copper was corrected to be 0.071 mg/l as a daily maximum.
4. The reference for special condition 9 was added to outfall 002 on page 8 of the permit.
5. Since special condition 9 applies to outfalls other than C01 and 002, the notations in special condition 9 to any outfalls were removed. The references to special condition 9 are on specific outfall pages in the permit.
6. The suggested language for special condition 8 was used.
7. The suggested language for special condition 24 was used.
8. Special condition 3 was corrected to be the maximum temperature of 120°F.

Rockford • 4302 N. Main St., Rockford, IL 61103 • (815) 982-7760

Elgin • 595 S. State, Elgin, IL 60123 • (847) 608-3131

Bureau of Land • Peoria • 7620 N. University St., Peoria, IL 61614 • (309) 693-5462

Collinsville • 2009 Mall Street, Collinsville, IL 62234 • (618) 346-5120

Des Plaines • 9511 W. Harrison St., Des Plaines, IL 60016 • (847) 294-4000

Peoria • 5413 N. University St., Peoria, IL 61614 • (309) 693-5463

Champaign • 2125 S. First St., Champaign, IL 61820 • (217) 278-5800

Marion • 2309 W. Main St., Suite 116, Marion, IL 62959 • (618) 993-7200

9. Special condition 16 was modified to include a reference to outfalls 003 and 004.

The Permit as issued is effective as of the date indicated on the first page of the Permit. You have the right to appeal any condition of the Permit to the Illinois Pollution Control Board within a 35 day period following the issuance date.

To assist you in meeting the self-monitoring and reporting requirements of your reissued NPDES permit, a supply of preprinted Discharge Monitoring Report (DMR) forms for your facility is being prepared. These forms will be sent to you prior to the initiation of DMR reporting under the reissued permit. Additional information and instructions will accompany the preprinted DMRs upon their arrival.

Should you have questions concerning the Permit, please contact Leslie Lowry at 217/782-0610.

Sincerely,

A handwritten signature in cursive script, appearing to read "Alan Keller".

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:LRL:07052102.bah

Attachment: Final Permit

cc: Records Unit
Compliance Assurance Section
Rockford Region
Billing

NPDES Permit No. IL0048313
Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: December 31, 2015

Issue Date: January 24, 2011

Effective Date: January 24, 2011

Name and Address of Permittee:
Exelon Generation Company, LLC
Environmental Department
4300 Winfield Road
Warrenville, Illinois 60555-5701

Facility Name and Address:
Exelon Generation Company, LLC
Byron Nuclear Power Station
4450 North German Church Road
Byron, Illinois 61010
Ogle County

Discharge Number and Name:

001 Cooling System Blowdown
A01 Demineralizer Regenerant Waste
B01 Sewage Treatment Plant Effluent
C01 Wastewater Treatment Plant Effluent
D01 Radwaste Treatment System Effluent
E01 Stormwater Runoff Basin
F01 Intake Screen Backwash
002 Stormwater Runoff Basin Overflow
003 East Station Area Runoff
004 West Station Area Runoff

Receiving Waters:

Rock River

Woodland Creek

Woodland Creek

Unnamed Tributary to Rock River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:LRL:07052102.bah

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall 001</u> – Cooling System Blowdown* (Average Flow = 20.3 MGD)						
The discharge consist of:						
1. Cooling Tower Blowdown						
2. Non-Essential Service Water Blowdown & Strainer Backwash						
3. Essential Service Water Blowdown & Strainer Backwash						
4. Demineralizer Regenerant Waste (A01)						
5. Sewage Treatment Plant Effluent (B01)						
6. Wastewater Treatment Plant Effluent (C01)						
7. Radwaste Treatment Plant Effluent (D01)						
8. Stormwater Runoff Basin (E01)						
9. Intake Screen Backwash						
10. Secondary Steam System (Non-Radioactive) Process Water						
11. Condenser Drain Discharge						
12. Circulating Water Make-Up						
13. Miscellaneous Drain Water						
– Chiller Condensate						
– Fire Protection System Drain Water						
– Service Water Drains						
– Closed Cooling System Drain Water						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				1/Week	Grab
Temperature	See Special Condition 3 & 12.				Daily	Continuous*****
Total Residual Chlorine/ Total Residual Oxidant**				0.05	1/Week	Grab
Zinc (Total)			0.213	0.433	1/Week	Grab
Hydrazine***			0.011	0.027	Daily When Discharging	Grab
Copper (Total)****				0.071	1/Week	Grab
Chromium (Total)				0.2	1/Week	Grab
Oil/Grease			15	20	1/Week	Grab
126 Priority Pollutants	See Special Condition 8 & 15.					
Total Suspended Solids	See Special Condition 24.		Monitor Only		1/Month	Grab

* - See Special Condition 17.

** - See Special Condition 22.

*** - See Special Condition 13.

**** - See Special Condition 14.

***** - During periods of inoperability of the inline temperature instrument temperature can be measured once per day.

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall A01 – Demineralizer Regenerant Waste*</u> (Average Flow = 0.019 MGD)						
The discharge consist of:						
1. Make-Up Demineralizer Regenerant Waste						
2. Condensate Polisher Sump Discharge						
3. Make-Up Demineralizer Area Drains						
4. Well Water Sand Filter Backwash (Alternative Route)						
5. Steam Generators Cleaning Process Waste (Once Every 5 – 10 Years)						
6. Temporary Demineralizer Regenerant Waste						
7. Secondary Steam System (Non-Radioactive) Discharge (Alternative Route)						
8. Reverse Osmosis Waste						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
Total Suspended Solids			15	30	1/Month	8-hour Composite**

The following metal parameter limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.1	0.2	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.5	1	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.2	0.4	Daily	Grab
Nickel	1	2	Daily	Grab
Zinc (Total)	1	2	Daily	Grab

* - See Special Condition 9.

** - Permittee may follow the sampling procedure identified as Byron Station procedure BCP-300-40 or equivalent for determination of total suspended solids by calculation from individual composites.

NPDES Permit No. IL0048313

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
<u>Outfall B01 – Sewage Treatment Plant Effluent*</u> (DAF = 0.008 MGD)						
Flow (MGD)	See Special Condition 1.				Daily	Continuous
pH	See Special Condition 2.				2/Month	Grab
Total Suspended Solids	5.3	10.5	30	60	2/Month	24-hour Composite
BOD ₅	5.3	10.5	30	60	2/Month	24-hour Composite

* - See Special Condition 6.

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall C01 – Wastewater Treatment Plant Effluent *
(Average Flow = 0.028 MGD)

The discharge consist of:

1. Turbine Building Floor Drain Sumps**
2. Turbine Building Fire & Oil Sump**
3. Turbine Building Equipment Drains**
4. Essential Service Water Drain Sumps**
5. Units 1 & 2 Tendon Tunnel Sumps
6. Reactor Building Roof Drains
7. Auxiliary Boiler Blowdown
8. Units 1 & 2 Diesel Fuel Storage Tank Sumps
9. Wastewater Treatment System Sand Filter Backwash
10. Well Water Sand filter Backwash
11. Steam Generator Cleaning Process Waste (Once Every 5 – 10 Years)
12. Condenser Drain Discharge (Alternative Route)
13. Secondary Steam System (Non-Radioactive) Discharge (Alternative Route)
14. Generic Metal Cleaning Activities
15. Waste Treatment Plant Oil Separator
16. Miscellaneous Non-Contaminated Drain Water
 - Chiller Condensate
 - Fire Protection System Drain Water
 - Service Water Drains
 - Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1.				Daily	Continuous
Total Suspended Solids			15	30	2/Month	24-hour Composite

The following metal parameter limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.1	0.2	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.5	1	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.2	0.4	Daily	Grab
Nickel	1	2	Daily	Grab
Zinc (Total)	1	2	Daily	Grab

* - See Special Condition 6 and Special Condition 9.

** - These waste streams may be directed to the radwaste treatment system depending on the results of the process radiation monitors.

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall D01 – Radwaste Treatment System Effluent
(Average Flow = 0.022 MGD)

The discharge consist of:

1. Steam Generator Condensate Blowdown
2. Cooling Jacket Blowdown
3. Auxiliary Building Floor Drains
4. Laundry Waste Treatment System Drains
5. Auxiliary Building Equipment Drains
6. Radwaste Demineralizer Filter Backwash
7. Evaporator Wastewater
8. Turbine Building Floor Drain Sumps (Alternative Route)
9. Turbine Building Fire & Oil Sump (Alternative Route)
10. Turbine Building Equipment Drains (Alternative Route)
11. Essential Service Water Drain Sumps (Alternative Route)
12. Boron Recycle System Blowdown
13. Condensate Polisher Sump Discharge (Alternative Route)
14. Generic Non-Chemical Metal Cleaning Activities
15. Portable Demineralizer Discharge
16. Reactor Coolant Letdown
17. Laboratory Drains, Decon Showers, & Sample Sinks
18. Miscellaneous Drain Water
 - Chiller Condensate
 - Fire Protection System Drain Water
 - Service Water Drains
 - Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1			Daily	Continuous
Total Suspended Solids			15	30	2/Month
					Tank Composite

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall E01 – Stormwater Runoff Basin*
(Average Flow = 0.119 MGD)

The discharge consist of:

1. Parking Lot Runoff
2. Transformer Area Runoff
3. Station Area Runoff
4. Turbine Building Fire & Oil Sump
5. Steam Generators Cleaning Process Waste (Once Every 5 – 10 Years)
6. Generic Non-Chemical Metal Cleaning Activities
7. Chiller Condensate
8. Fire Protection System Drains
9. Service Water Drains
10. Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1.	2/Month	Continuous
------------	--------------------------	---------	------------

The following metal parameters limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.1	0.2	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.5	1	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.2	0.4	Daily	Grab
Nickel	1	2	Daily	Grab
Zinc (Total)	1	2	Daily	Grab

For each week in which a discharge occurs from numbers 4 – 6 listed above to the stormwater runoff basin, outfall E01 shall be monitored and limited for the following additional parameters:

Total Suspended Solids	15	30	1/Week	Grab
------------------------	----	----	--------	------

For each week in which a discharge occurs from numbers 8 – 10 listed above to the stormwater runoff basin, outfall E01 shall be monitored and limited for the following additional parameters:

Total Suspended Solids	30	100	1/Week	Grab
------------------------	----	-----	--------	------

* - See Special Condition 9 and 17.

Outfall F01 – Intake Screen Backwash
(Intermittent Discharge)

There shall be no intentional discharge of collected debris.

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall 002 – Stormwater Runoff Basin Overflow*
(Intermittent Discharge)

The discharge consist of:

1. Parking Lot Runoff
2. Transformer Area Runoff
3. Station Area Runoff
4. Turbine Building Fire & Oil Sump
5. Steam Generator Cleaning Process Waste (Once Every 5 – 10 Years)
6. Generic Non-Chemical Metal Cleaning Activities
7. Chiller Condensate
8. Fire Protection System Drain Water
9. Service Water Drains
10. Closed Cooling System Drain Water

Flow (MGD)	See Special Condition 1.			Measure When Discharging 1/Day When Discharging	Estimate
Oil/Grease	15	20			Grab

The following metal parameters limitations and monitoring are to apply during steam generator(s) cleaning process periods:

Chromium (Hexavalent)	0.011	0.016	Daily	Grab
Chromium (Total)	1	2	Daily	Grab
Copper	0.025	0.041	Daily	Grab
Iron (Total)		1	Daily	Grab
Lead	0.063	0.298	Daily	Grab
Nickel	0.011	0.176	Daily	Grab
Zinc (Total)	0.047	0.26	Daily	Grab

For each week in which a discharge occurs from numbers 4 – 6 listed above to the stormwater runoff basin, outfall 002 shall be monitored and limited for the following parameters:

Total Suspended Solids	15	30	1/Week	Grab
------------------------	----	----	--------	------

For each week in which a discharge occurs from numbers 8 – 10 listed above to the stormwater runoff basin, outfall 002 shall be monitored and limited for the following parameters:

Total Suspended Solids	30	100	1/Week	Grab
------------------------	----	-----	--------	------

* - See Special Condition 9 and 17.

Effluent Limitations and Monitoring

From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	DAF (DMF)		LIMITS mg/l			
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		

Outfall 003 – East Station Area Runoff*
(Intermittent Discharge)

* - See Special Condition 16.

Outfall 004 – West Station Area Runoff*
(Intermittent Discharge)

* - See Special Condition 16.

Special Conditions

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and daily maximum on the monthly Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. This facility meets the allowed mixing criteria for thermal discharges pursuant to 35 IAC 302.102. No reasonable potential exists for the discharge to exceed thermal water quality standards. This determination is based on a maximum temperature of 120°F. The permittee shall monitor the flow and temperature of the discharge prior to entry into the receiving water body. Monitoring results shall be reported on the monthly Discharge Monitoring Report. This permit may be modified to include formal temperature limitations should the results of the monitoring show that there is reasonable potential to exceed a thermal water quality standard. Modification of this permit shall follow public notice and opportunity for comment.

There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions. The normal daily and seasonal temperature fluctuations which existed before the addition of heat due to other than natural causes shall be maintained.

The monthly maximum value shall be reported on the DMR form

SPECIAL CONDITION 4. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 28th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attention: Compliance Assurance Section, Mail Code #19
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 5. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 6. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 7. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(c) and (d), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 8. This permit authorizes the use of water treatment additives that were requested as part of this renewal. The use of any new additives, or change in those previously approved by the Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has been approved by the Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions – Attachment H. In connection with any such modification, the permittee must also submit a new letter to the Agency certifying that the facility is not using any additives containing any of the 126 priority pollutants.

The permittee shall submit to the Agency on a yearly basis a report summarizing their efforts with water treatment suppliers to find a suitable alternative to phosphorus based additives.

SPECIAL CONDITION 9. The samples taken in compliance with the steam generator(s) cleaning process monitoring requirements shall be taken at a point representative of the discharge, but prior to mixing with any other wastewater and stormwater runoff. If the permittee requires further treatment within the station's wastewater treatment system in order to comply with limits, the steam

Special Conditions

Generator(s) cleaning wastes shall not be co-treated with other wastewater (except for incidental amounts) unless this permit has been modified to allow for such co-treatment.

SPECIAL CONDITION 10. There shall be no discharge of polychlorinated biphenyl compounds.

SPECIAL CONDITION 11. The "Upset" defense provisions listed under 40 CFR 122.41(n) are hereby incorporated by reference.

SPECIAL CONDITION 12. In the event that the Rock River is less than 2,400 cfs and/or the temperature differential between the main river temperatures and the water quality standard is less than 3°F, daily calculations will be undertaken to demonstrate compliance with the water quality standard. Calculations shall be based upon hourly measurements, averaged over a 24-hour calendar day for river flow, main river temperature (measured as Circ Water Makeup Temperature), blowdown flow, and blowdown temperature values. In the event that a data or points are unavailable due to technical issues, the missing value shall be estimated. Results of the calculations shall be reported with the DMR on a monthly basis.

SPECIAL CONDITION 13. Outfall 001 shall be monitored for hydrazine when there is a discharge of the steam generator chemical cleaning solution and associated rinses containing hydrazine into the cooling water system. On those occasions monitoring shall be performed at outfall 001 on a daily basis using a minimum of three grab samples taken at periodic intervals during the discharge of steam generator chemical cleaning solution and associated rinses containing hydrazine. Sample collection and analysis procedures shall be in accordance with station practice for measuring hydrazine and standard methods. The quantity of hydrazine discharged in steam generator chemical cleaning solution and associated rinses to the cooling water system, the duration of this discharge to the cooling water system, and the analytical results shall be submitted with the monthly Discharge Monitoring Report. The permittee shall submit a letter to the Agency requesting a modification to this permit, if the use of hydrazine during normal steam generator lay-up is at a higher feed rate or quantity than what has been previously approved by the Agency.

SPECIAL CONDITION 14. Copper monitoring of outfall 001 shall be performed during periods when the station's copper ion system is being utilized for Zebra Mussel infestation control. In addition to monitoring the discharge from outfall 001 for copper (Total) the permittee shall measure the total mass of copper used during Zebra Mussel dosing and include that value with the Discharge Monitoring Report filed the month following the cessation of copper ion system discharge. This permit must be modified to accommodate use of the copper ion system for purposes other than Zebra Mussel control.

SPECIAL CONDITION 15. The discharge of 126 priority pollutants except for chromium and zinc (40 CFR 423, Appendix A) is prohibited in detectable amounts from cooling tower discharges if the pollutants come from cooling tower maintenance chemicals.

SPECIAL CONDITION 16.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) – for outfalls 003 & 004

- A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.
- C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.
- D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph G of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within the shortest reasonable period of time, and shall be provided to the Agency for review upon request.
- E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:
 1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where

Special Conditions

the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.

2. A site map showing:
 - i. The storm water conveyance and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
 - v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
 - vi. Surface water locations and/or municipal storm drain locations
 - vii. Areas of existing and potential soil erosion;
 - viii. Vehicle service areas;
 - ix. Material loading, unloading, and access areas.
 3. A narrative description of the following:
 - i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
 - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;
 - iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;
 - iv. Industrial storm water discharge treatment facilities;
 - v. Methods of onsite storage and disposal of significant materials;
 4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.
 5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
 6. A summary of existing sampling data describing pollutants in storm water discharges.
- F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:
1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
 2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
 3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.
 4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures,

Special Conditions

storage requirements, spill clean up equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.

5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
 - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff;
 - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges;
 - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges;
 - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination;
 - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.
6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion and describe measures to limit erosion.
7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.
8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.
- H. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated thereunder, and Best Management Programs under 40 CFR 125.100.
- I. The plan is considered a report that shall be available to the public under Section 308(b) of the CWA. The permittee may claim portions of the plan as confidential business information, including any portion describing facility security measures.
- J. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.

Construction Authorization

- K. Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

Special Conditions

1. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights thereunder.
2. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.
3. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
4. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- L. The facility shall submit an annual inspection report to the Illinois Environmental Protection Agency. The report shall include results of the annual facility inspection which is required by Part G of the Storm Water Pollution Prevention Plan of this permit. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s).
- M. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.
- N. Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Annual Inspection Report
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
- O. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.

SPECIAL CONDITION 17. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit reissuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 18. Discharge of chemical metal cleaning agents EDTA, Elimin-Ox and/or hydrazine, and associated rinses are allowed once every 5 - 10 years per unit at outfalls A01, C01, and E01.

SPECIAL CONDITION 19. Except as allowed in Special Condition No. 18 of this permit, there shall be no discharge of complexed metal bearing waste streams or associated rinses from chemical metal cleaning unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 20. Exelon Generation Company's demonstration for the Byron Nuclear Power Station in accordance with Section 316(b) of the Clean Water Act was approved by IEPA by a letter dated May 15, 1989. It is determined that no additional intake monitoring or modification is being required for reissuance of this NPDES Permit.

SPECIAL CONDITION 21. Exelon Generation Company's Byron Nuclear Power Station has been deemed to have met the applicable national performance standards and will not be required to demonstrate further that the Rock River Intake Structure meets the specified impingement mortality and entrainment performance standards pursuant to 40CFR125.94(a)(1)(i). This determination was made

Special Conditions

Because of the use and operation of the cooling towers. The Permittee shall request and receive a modification to this permit prior to changing the use or operation of the cooling towers. This determination does not relieve the Permittee of submitting pertinent information regarding the Rock River intake structure and cooling towers operation with the renewal application for this permit as required under 40 CFR 122.21(r)(2), (3), and (5).

SPECIAL CONDITION 22. All samples for Total Residual Chlorine/Total Residual Oxidant shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained.

Discharge Monitoring Reports shall indicate whether chlorine or bromine compounds were used during the month.

SPECIAL CONDITION 23. For copper, zinc, and hydrazine a zone of initial dilution (ZID) is recognized with dimensions of 15.6 feet across the width of the river from the end-of-pipe and 15.5 feet downstream from this point. Within the ZID, 1.42:1 dilution is afforded. A mixing zone is recognized with dimensions extending 148 feet across the width of the river and 229 feet downstream. Within the mixing zone 6.1:1 dilution is afforded.

SPECIAL CONDITION 24. The influent from the Rock River and effluent from Outfall 001 shall be monitored for Total Suspended Solids on a monthly basis for two years from the effective date of this permit. After collection of all required samples, and upon written notification to the Agency the sampling may cease, unless the Agency modifies the permit to require continued sampling at some frequency.

Attachment H

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8-Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.
- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.

- (9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:
- Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.
- (10) **Monitoring and records.**
- Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.
 - Records of monitoring information shall include:
 - The date, exact place, and time of sampling or measurements;
 - The individual(s) who performed the sampling or measurements;
 - The date(s) analyses were performed;
 - The individual(s) who performed the analyses;
 - The analytical techniques or methods used; and
 - The results of such analyses.
 - Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.
- (11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.
- Application.** All permit applications shall be signed as follows:
 - For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
 - For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
 - Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- The authorization is made in writing by a person described in paragraph (a); and
 - The authorization specifies either an individual or position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person with equivalent responsibility; and
 - The written authorization is submitted to the Agency.
- (c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(12) **Reporting requirements.**

- Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when:
 - The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or
 - The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).
 - The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- Transfers.** This permit is not transferable to any person except after notice to the Agency.
- Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - Monitoring results must be reported on a Discharge Monitoring Report (DMR).

- (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
- (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - (2) Any upset which exceeds any effluent limitation in the permit.
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.
- The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.
- (g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).
- (h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) **Bypass.**
- (a) Definitions.
- (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).
- (c) Notice.
- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).
- (d) Prohibition of bypass.
- (1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:
 - (i) Bypass was unavoidable to prevent loss of life personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (iii) The permittee submitted notices as required under paragraph (13)(c).
 - (2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).
- (14) **Upset.**
- (a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated; and
 - (3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).
 - (4) The permittee complied with any remedial measures required under paragraph (4).
- (d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.
- (15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:
- (a) Transfers by modification. Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
- (b) Automatic transfers. As an alternative to transfers under paragraph (a), any NPDES permit may be automatically transferred to a new permittee if:

- (1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
 - (2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and
 - (3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.
- (16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
 - (4) The level established by the Agency in this permit.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
 - (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
 - (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
- (20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (21) The permittee shall not make any false statement representation or certification in any application, record report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).
- (23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.
- (24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
- (27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.
- (28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

(Rev. 7-9-2010 bah)

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** **Water Resources – Surface Water**

Statement of Question:

Provide copies of the following ER references:

- e. Copy of Illinois DNR/Office of Water Resources (OWR) permit 15001 issued April 1977 to Commonwealth Edison (as referenced in IDNR letter to Exelon dated July 10, 2012)

Response:

The requested information is attached.

List Attachments Provided:

1. Illinois Department of Transportation, Division of Water Resources, Permit No. 15001, dated April 7, 1977

STATE OF



ILLINOIS

PWR 2380

PERMIT

No 15001

Department of Transportation

Division of Water Resources

2300 South Dirksen Parkway

Springfield, Illinois 62764

Permission is hereby Granted, this 7th day of April 1977

To

COMMONWEALTH EDISON COMPANY

P.O. BOX 767

CHICAGO, ILLINOIS 60690

To construct a river screen house and blowdown outlet and to perform associated dredging all along the left bank of the Rock River at Mile 65.6 in the NW 1/4 of Section 15, Township 24 North, Range 10 East of the 4th P.M., Ogle County,

in accordance with an application dated April 10, 1974, and the specifications and plans entitled

PROPOSED RIVER SCREEN HOUSE & BLOWDOWN
OUTLET IN THE ROCK RIVER AT BYRON POWER
STATION, COUNTY OF OGLE, STATE OF
ILLINOIS SHEETS 3 OF 3

filed with the Department of Transportation and made a part hereof, and subject to the terms and special conditions contained herein:

Examined and Recommended:

Peter L. Wise

Approved:

Langhorne Bond

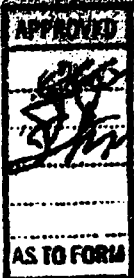
Peter L. Wise, Chief, Bureau of Resource Regulation

Langhorne Bond, Secretary

Approval Recommended:

Donald R. Vonnahme

Donald R. Vonnahme, Acting Director



STATE OF ILLINOIS

NO. 1501

Department of Transportation

Division of Water Resources

2300 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62764

The undersigned permittee, personally, or if a corporation by its duly authorized officer, hereby accepts the permit bearing the same serial number as this coupon subject to all the conditions named therein, on this 28TH day of APRIL, 19 77, at Chicago, Illinois.

COMMONWEALTH EDISON COMPANY

By Wm. H. [Signature]
Vice-President

By _____

[If a corporation
affix seal here]

ATTEST: [Signature]

PRR 2800

THIS PERMIT is subject to the following conditions:

(a) This permit is granted in accordance with an act entitled: "AN ACT in relation to the regulations of the rivers, lakes and streams of the State of Illinois," approved June 10, 1911.

(b) This permit does not convey or recognize any title of the Permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the proposed project or any part thereof will be located, or otherwise grant to the Permittee any right or interest in or to said property whether said property is owned or possessed by the State of Illinois or by any private or public party or parties.

(c) This permit does not in any way release the Permittee from any liability for damage to persons or property caused by or resulting from the work covered by this permit, and does not sanction any injury to private property or invasion of private rights, or infringement of any Federal, State or local laws or regulations.

(d) The Permittee shall remove all piling, cofferdams, false work, excavation and the material incident to the construction of the project herein authorized, from the river, stream or lake in which the work is done, at his own expense. Should the Permittee fail to remove such structures or material, the State reserves the right to have such removal made at the expense of the Permittee. If future operations for public navigation by the State or Federal Government or public interests of any character necessitate any changes in the position of any part of the structure or structures herein authorized, such changes shall be made by and at the expense of the Permittee or his successors in such manner as shall be fixed and determined by the State of Illinois, acting by and through the Department of Transportation, or other properly constituted agency, and within sixty (60) days from receipt of written notice of such necessity from said Department or other properly constituted agency.

(e) If the work here permitted is not completed on or before December 31, 1980 this permit shall cease and be null and void.

(f) The execution and details of the work hereby authorized shall be subject to the supervision and approval of the Department of Transportation—Division of Water Resources.

(g) Starting work on the construction hereby authorized shall be considered full acceptance by the Permittee of all the terms and conditions of this permit however, the attached acceptance, properly executed by the Permittee, must be filed in the office of the Department of Transportation, Division of Water Resources, Springfield, Illinois, within sixty (60) days of the date hereof or this permit shall be null and void.

(h) There shall be no deviation from the plans submitted and hereby approved unless the proposed change in plans shall first have been submitted to and approved, in writing, by the State of Illinois acting by and through its Department of Transportation.

(i) The Department of Transportation in issuing this permit has relied upon the statements and representations made by the Permittee in his application therefor, and in case any statement or representation in said application is found to be false, this permit may be revoked at the option of the Department of Transportation, and when so revoked all rights of the Permittee hereunder shall thereupon and thereby become null and void.

(j) If the Permittee is required by an act of Congress to obtain a permit from any Federal authority for leave to do the things granted by this permit, then such Federal permit shall be obtained before this permit becomes effective.

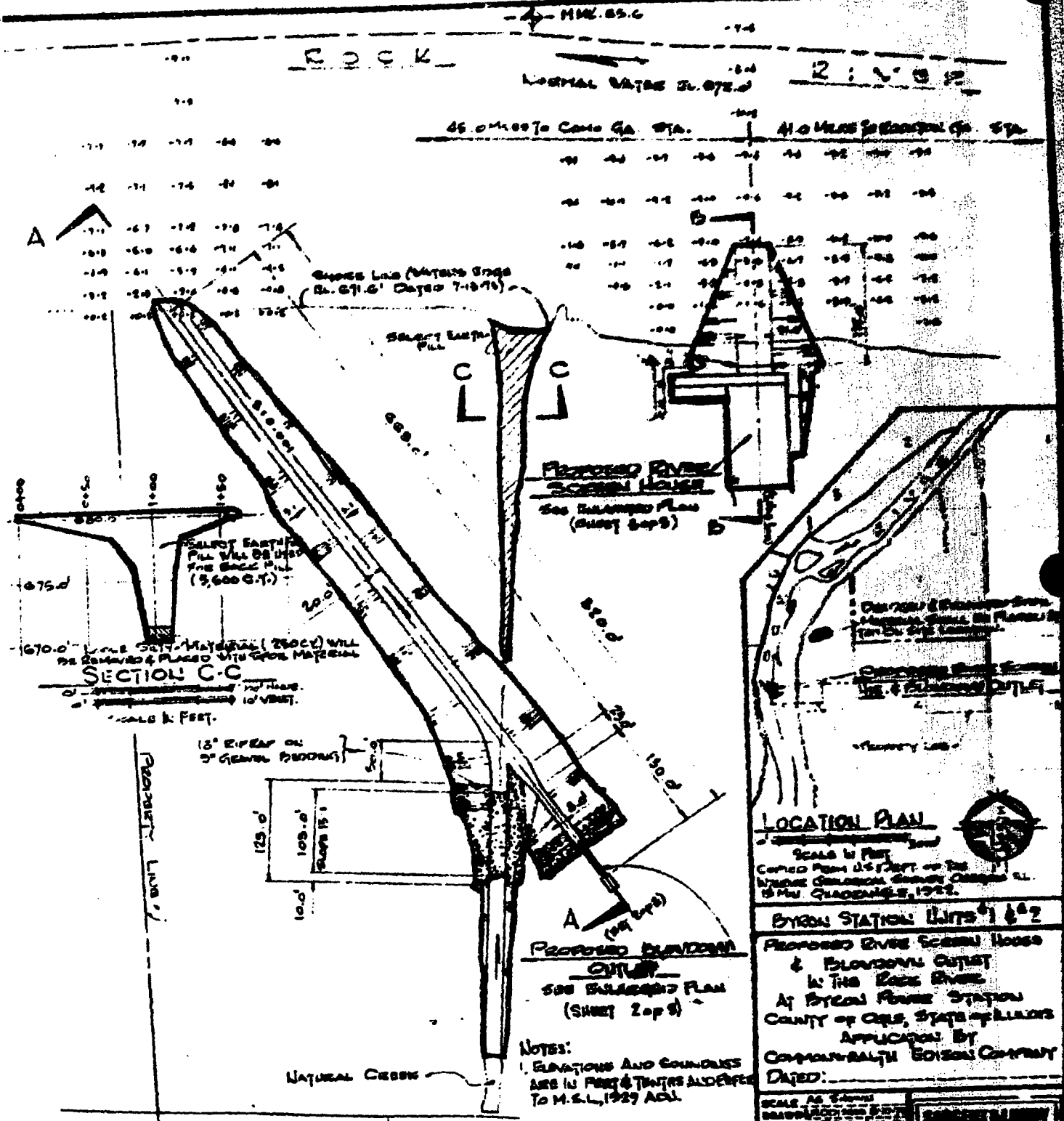
(k) If the project authorized herein is located in or along a lake, the Permittee or his successors shall make no claim whatsoever to any right, title or interest in and to any accretions caused by the construction of said project, and by the acceptance of this permit agrees to remise, convey, release, and quit-claim unto the People of the State of Illinois, for the use and benefit of the public, all rights to any accretions which may accrue to said real estate because of said project.

(l) In issuing this permit, the Department of Transportation shall not be considered as approving the adequacy of the design or structural strength of the proposed structure or improvement.

(m) This permit is subject to further special conditions as follows:

1. This permit is void unless approval for the proposed work is secured from the Corps of Engineers, U.S. Department of the Army.

2. The permittee shall comply with the five stipulations listed in the Illinois Department of Conservation's letter to the Division of Water Resources dated March 7, 1977.



LOCATION PLAN

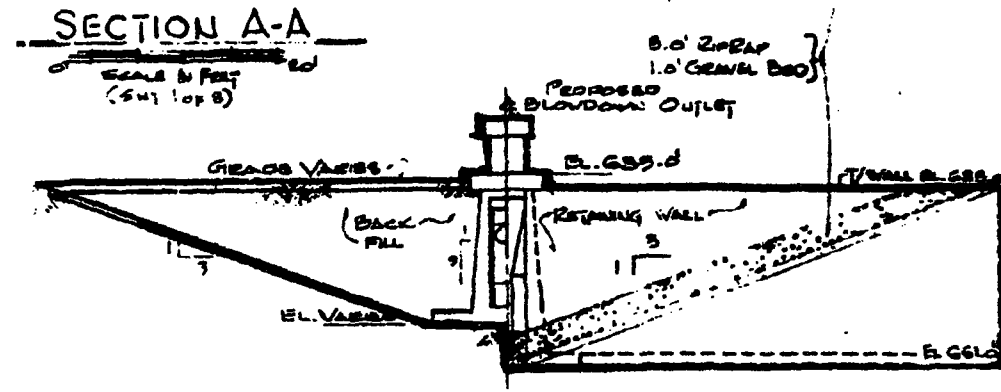
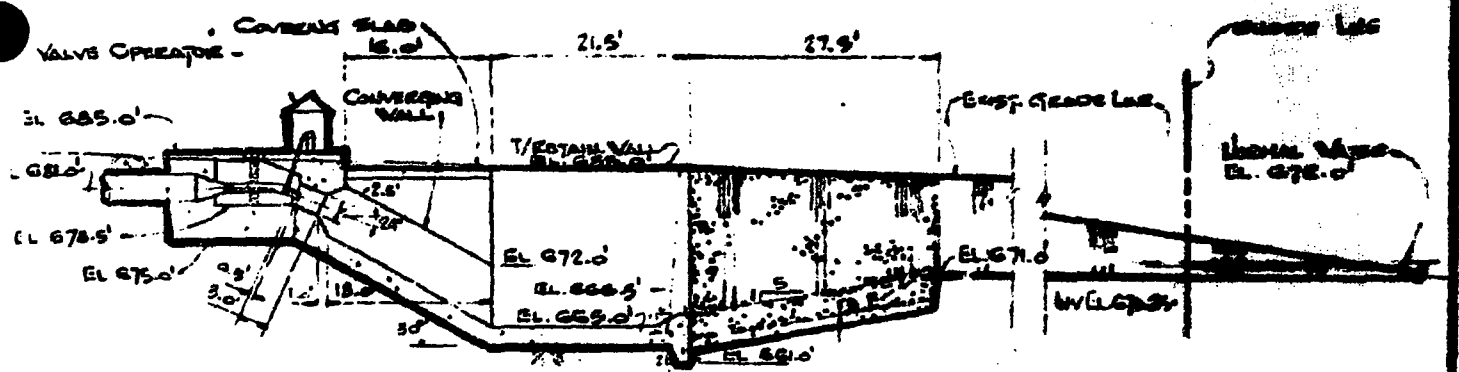
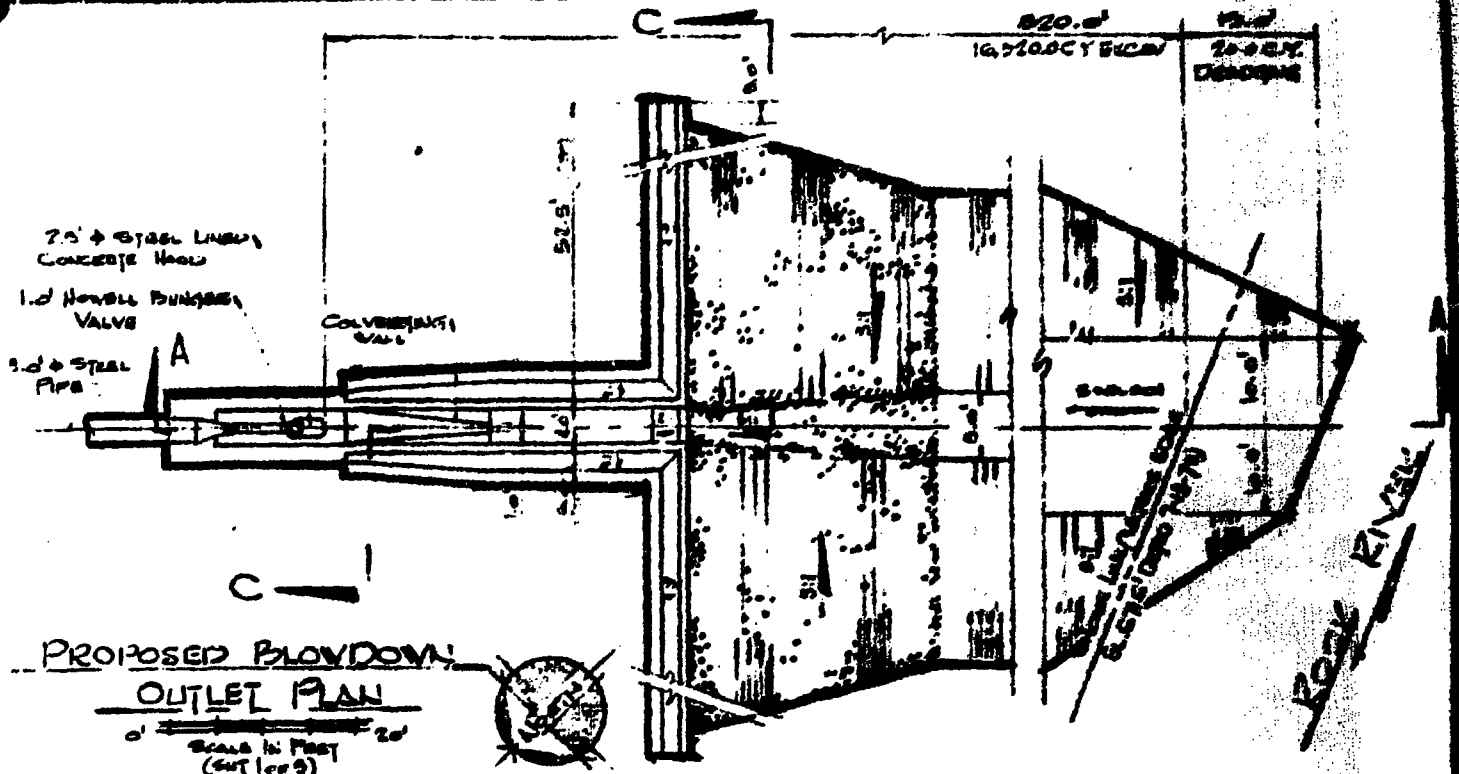
SCALE 1" = 100'

COPYED FROM U.S. DEPT. OF THE INTERIOR GEORGEAN SURVEY CHART NO. 15 PM. CHICAGO, 1922.

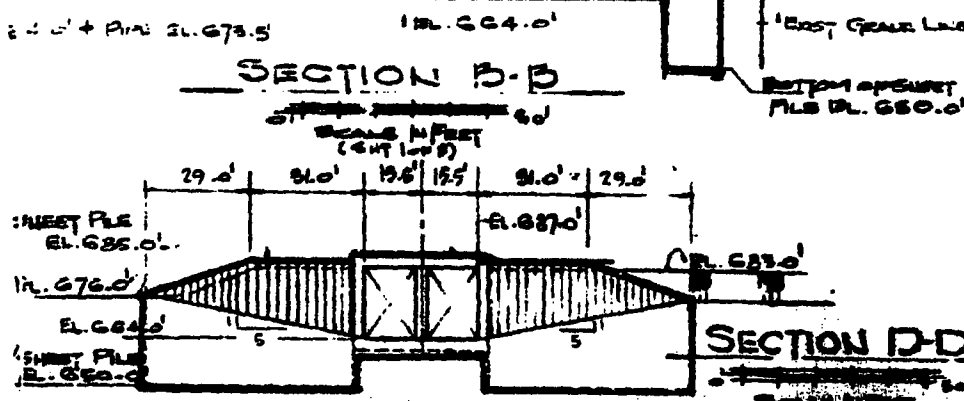
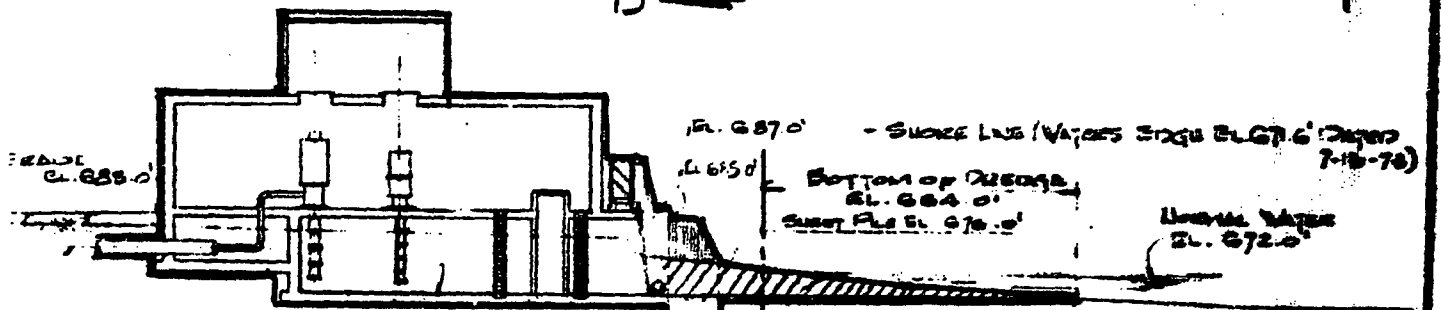
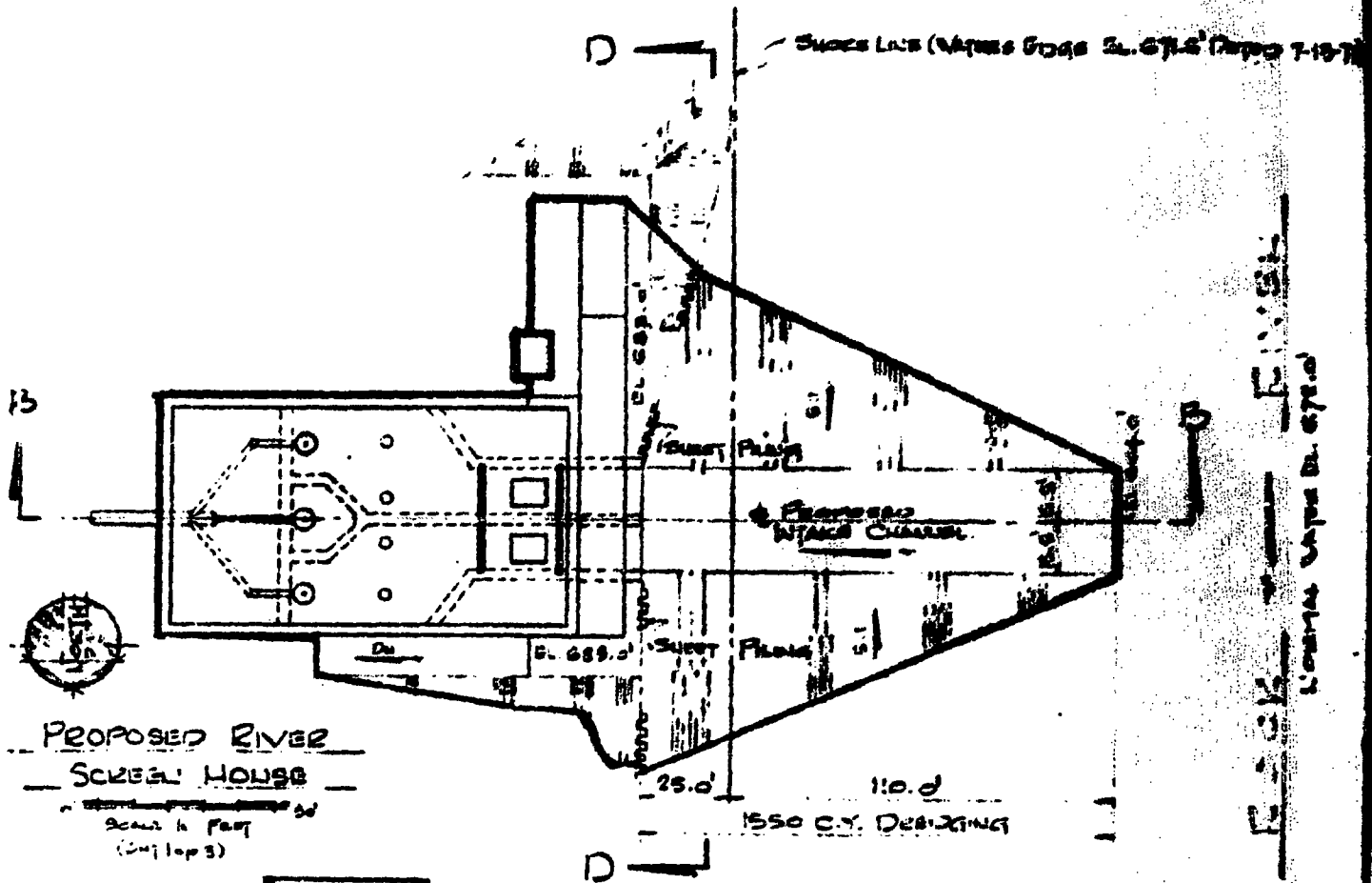
BYRON STATION LOTS 1 & 2

PROPOSED RIVER SECTION HOUSE & BLVD DOWN OUTLET IN THE ROCK RIVER AT BYRON RIVER STATION COUNTY OF COLE, STATE OF ILLINOIS APPLICATION BY COMMERCIAL TRADING COMPANY DATED:

SCALE AS SHOWN	ENGINEER
DRAWN BY	CHECKED BY
APPROVED	REVIEWED
DATE	DATE



BYRON STATION LOTS 14 & 2	
PROPOSED RIVER SCOUR HEDGES & BLOWDOWN OUTLET IN THE ROCK RIVER AT BYRON STATION LOTS 14 & 2 COUNTY OF OGLE, STATE OF ILLINOIS	
APPLICATION BY COMMONWEALTH BYRON COMPANY DATED:	
SCALE AS SHOWN	DESIGNED BY
CHECKED BY	ENGINEER
APPROVED BY	DATE
REVISION	NO. 1-5



BYRON STATION UNITS 1 & 2	
PROPOSED RIVER SCREEN HOUSE & BLINDOWN OUTLET IN THE ROCK RIVER AT BYRON POWER STATION	
COUNTY OF OGLE, ILLINOIS	
APPLICATION BY COMMERCIAL TRADING COMPANY	
DATED: _____	
SCALE: _____	DESIGNED BY: _____
CHECKED BY: _____	ENGINEER: _____
APPROVED: _____	DATE: _____
REVISION: _____	REVISION NO: _____

David Kennedy
Assistant
Director

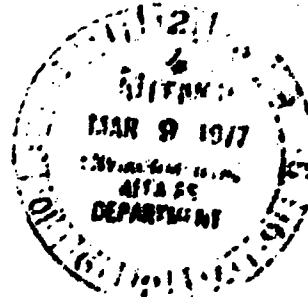
Illinois
Department of
Conservation
Springfield, Illinois

PWR 2440

James E. Pitts
Assistant Director

605 STATE OFFICE BUILDING - 100 SOUTH ST. - SPRINGFIELD 62764
CHIEF OF OFFICE - ROOM 100, 1ST FLOOR

March 7, 1977



Mr. Jon Vonnahme
Department of Transportation
Division of Water Resources
2300 South Dirksen Parkway
Springfield, IL 62764

Dear Mr. Vonnahme:

The Illinois Department of Conservation has completed its discussions with the Commonwealth Edison Company and its review of the permit application to construct a greenhouse and blowdown structure in the Rock River, south of Byron in Ogle County, Illinois.

The results of our review have been inconclusive. Commonwealth Edison has not been able to demonstrate to our satisfaction that operation of their Byron Station will not have harmful effects on the Rock River's ecosystem; the Department of Conservation has not been able to demonstrate it will. However, Commonwealth Edison apparently can meet all existing regulations.

As a result of our review, it does not appear the station's operation will have a catastrophic effect on the river's environment; but it may contribute to a gradual decline in the river's environment. With a proper monitoring program, it ought to be possible to detect changes in the river's ecosystem and establish cause and effect relationships. There also ought to be sufficient lead time to take corrective action to avoid a catastrophe.

The key question to be answered is, how effective is the existing and planned monitoring program in terms of detecting gradual changes, and establishing cause and effect relationships?

To answer this question, Commonwealth Edison and the Department of Conservation have agreed to have a third party (e.g., Illinois Natural History Survey) examine both the validity and reliability of the existing and planned monitoring program for adequacy to detect gradual changes (both declines and improvements) which could have an effect on fish disease, or the river's general ecology.

Commonwealth Edison will provide funds for this review.

Dr. O. A. Vonnahme

March 7, 1977

If the existing and planned monitoring program is determined by the third party to be inadequate to detect gradual changes, then modifications will be made to the monitoring program by Commonwealth Edison in a prioritized manner, recognizing the most important deficiencies first, and implementing those additions. Subsequent modifications of, or additions to, the existing and planned monitoring program will be determined by the availability of funds previously committed to by Commonwealth Edison.

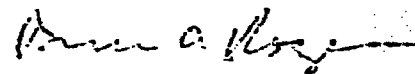
In addition to the agreement cited above, Commonwealth Edison has agreed to have the following stipulations become a part of this permit.

1. Meet all Illinois and U. S. EPA water quality standards for the heated discharge.
2. To grade, seed and mulch all non-revetted banks immediately upon completion of the construction work to prevent soil erosion, and take whatever measures are necessary to minimize soil erosion during construction activity.
3. Limit water withdrawal for make-up to a maximum of 125 cfs.
4. Limit net water consumption to no more than 9% of the Rock River's flow when the flow is at or below 679 cfs, the one-day, ten-year low.
5. The agreements reached between the Department of Conservation and the Commonwealth Edison Company regarding water withdrawal rates for the operation of the proposed Byron Generating Station apply only to the operation of units 1 and 2.

Our objections may be deemed lifted upon your receipt of a letter from Commonwealth Edison agreeing to the stipulations contained in this letter. It should be recognized that by lifting its objection, the Department of Conservation gives up none of its prerogatives for future action through whatever channels may be available at the time.

Thank you for your cooperation.

Sincerely,



Bruce A. Rogers
Supervisor
Division of Long Range Planning

WAB:mok

cc: Col. Daniel Lycan, Corps
John Hughes, Commonwealth Edison
U. S. EPA
Illinois EPA
Illinois Commerce Commission
Illinois Pollution Control Board
Nuclear Regulatory Commission
U. S. Fish & Wildlife Service

Natural History Survey

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** **Water Resources – Surface Water**

Statement of Question:

Provide copies of the following ER references:

- f. Copies of any Notices of Violation (NOVs), nonconformance notifications, or related infractions received from regulatory agencies associated with NPDES permitted discharges, sanitary sewage systems, groundwater or soil contamination, including spills, leaks, and other inadvertent releases of fuel solvents, chemicals, or radionuclides (covering past five years). Include correspondence of self-reported violations to responsible agencies.

Response:

The requested information is attached.

List Attachments Provided:

1. Complaint for Injunction and Civil Penalties, 15th Circuit Court, State of Illinois v. Exelon Generation Company, March 11, 2010
2. Incident Inquiry Letter, IEMA Incident 20120938, Byron, Ogle County, Illinois, September 25, 2012 and Letter from Exelon Nuclear (B. Youman) to Illinois Environmental Protection Agency regarding IEMA Incident 20120938, December 19, 2012.
3. Letter from Exelon Nuclear (B. Youman) to Illinois Emergency Management Agency regarding Sulfuric Acid Spill on 6/20/2013, June 25, 2013

File- 2,09,0411

FILED

IN THE CIRCUIT COURT FOR THE FIFTEENTH JUDICIAL CIRCUIT
OGLE COUNTY, ILLINOIS
CHANCERY DIVISION

MAR 11 2010

PEOPLE OF THE STATE OF ILLINOIS,
ex rel. LISA MADIGAN, Attorney
General of the State of Illinois, and *ex rel.*
JOHN B. ROE, State's Attorney for Ogle
County, Illinois,

Plaintiffs,

v.

EXELON GENERATION COMPANY,
LLC, a Pennsylvania limited liability
company,

Defendant.

Mark T. [Signature]
CLERK OF THE CIRCUIT COURT
OGLE COUNTY

No. 2010-CH-69

COPY

Byron Original

COMPLAINT FOR INJUNCTION AND CIVIL PENALTIES

NOW COMES the PLAINTIFF, PEOPLE OF THE STATE OF ILLINOIS, ex
rel. LISA MADIGAN, Attorney General of the State of Illinois, and *ex rel.* JOHN B.
ROE, State's Attorney for Ogle County, and complains of the Defendant, EXELON
GENERATION COMPANY, LLC, and in support thereof states and alleges as follows:

**I. VIOLATIONS BY DEFENDANT EXELON GENERATION COMPANY,
LLC, RELATED TO RELEASES OF TRITIUM TO THE ENVIRONMENT**

COUNT I

WATER POLLUTION

1. This Count is brought on behalf of the people of the State of Illinois, by
Lisa Madigan, Attorney General of the State of Illinois, and *ex rel.* John B. Roe, State's
Attorney for Ogle County, on their own motion and at the request of the Illinois
Environmental Protection Agency ("Illinois EPA"), pursuant to the terms and provisions

of Section 42(d) and (e) of the Illinois Environmental Protection Act (the "Act"), 415 ILCS 5/42(d) and (e)(2008).

2. The Illinois EPA is an agency of the State of Illinois created by the Illinois General Assembly in Section 4 of the Act, 415 ILCS 5/4 (2008), and charged, inter alia, with the duty of enforcing the Act.

3. Defendant EXELON GENERATION COMPANY, LLC ("Exelon Generation") is a Pennsylvania limited liability company with its principle place of business in Kennett Square, Pennsylvania. Exelon Generation was formed in 2000 to conduct the power generation portion of EXELON CORPORATION's business.

4. As further described in this Complaint, Defendant operates the Byron Nuclear Power Station, a nuclear power generating facility located near Byron in Ogle County, Illinois. (Hereinafter, all property operated by the Defendant in and around Byron shall be referred to as the "Facility"; that portion of the Facility encompassing the power generation plant, including the nuclear reactors, shall be referred to as the "Byron Station"). The Facility is approximately twenty miles southwest of Rockford, Illinois, and ninety miles west of Chicago, Illinois, and sits on approximately 1,782 acres. The Byron Station includes, among other things, two pressurized water reactors that can generate a combined total of 2,353 megawatts of electricity per day. Unit 1 of the Byron Station began commercial operations on September 16, 1985, and has a license for service through 2024. Unit 2 began commercial operations on August 2, 1987, and is licensed through 2026.

5. Operations at the Byron Station generate tritium, a radioactive isotope of hydrogen.

6. Tritium atoms can replace the non-radioactive hydrogen atoms in ordinary water (H₂O) to form tritiated water (HTO). Human exposure to tritium occurs primarily through ingestion of tritiated water. Tritiated water, when ingested, is distributed through the human body in the same manner as ordinary water.

7. Human exposure to tritium increases the risk of developing cancer.

8. At the Facility, Defendant operates a single 2.2 mile long wastewater/blowdown discharge line that runs from the Byron Station to the Rock River. Six vacuum breaker valves are installed in in-ground vaults along the blowdown line. In the ordinary course of operation, vacuum breaker valves function to admit air into the blowdown line to prevent the formation of a vacuum within the pipe.

9. The wastewater/blowdown line operates as a conduit, at various times, for discharges of tritiated water and other wastewater directly to the Rock River. The Facility possesses a National Pollutant Discharge Elimination System ("NPDES") permit applicable to the blowdown line (Permit No. IL0048313) originally issued on September 8, 2000 by Illinois EPA ("NPDES Permit"). The NPDES Permit authorizes and regulates the discharge from the wastewater/blowdown line of sanitary wastes, cooling system blowdown water, radwaste treatment system effluent and various other waste streams generated by the Byron Station to an outfall in the Rock River. As of the filing of this Complaint, the NPDES Permit is under review pursuant to a timely submitted renewal application.

10. On February 13, 2006, the Illinois Emergency Management Agency ("IEMA") notified the Illinois EPA about standing water in five of the six vacuum

breaker vaults. Concentrations of tritium in the standing water in the vaults ranged from 1000 pico curies per liter ("pCi/L") to 82,000 pCi/L.

11. Beginning on February 15, 2006, Defendant investigated potential groundwater impacts and the threat to nearby local private wells in coordination with the Illinois EPA. On March 30, 2006, Defendant reported that sampling the water in vacuum breaker vault 3 contained tritium concentrations of 459 pCi/L and a water sample from a monitoring well near vacuum breaker vault 4 contained tritium concentrations of 3,572 pCi/L.

12. Defendant was aware of the releases described in paragraphs 10 and 11 on or about the time of their occurrences, but did not notify Illinois EPA or local officials or agencies of the releases until after the IEMA advised the Illinois EPA about the standing water.

13. Due to the Defendant's inadequate maintenance and operational procedures in both maintaining the vacuum breakers and operating the wastewater/blowdown line, the vacuum breakers have failed at various times causing the release of liquids flowing through the blowdown pipe, including tritiated water and other contaminants, into vacuum-breaker vaults.

14. These releases entered the vacuum breaker vaults and flowed through the permeable bottom of the housing into groundwater. Vacuum breaker vaults were not made impervious to leaks until mid-2006, on a date better known to defendants.

15. The release and discharge of tritiated water and other wastewaters to the groundwater beneath the vacuum breaker vaults is not authorized by the NPDES Permit or by any regulatory authority.

16. Section 12(a) and (d) of the Act, 415 ILCS 5/12(a) and (d)(2008), provides as follows:

No person shall:

- a) Cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act.

* * *

- (d) Deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

17. Section 3.165 of the Act, 415 ILCS 5/3.165 (2008), defines "contaminant" as follows:

"CONTAMINANT" is any solid, liquid or gaseous matter, any odor or any form of energy, from whatever source.

18. Tritium and the various other substances that are in Defendants' wastewater are "contaminants" as that term is defined in Section 3.165 of the Act, 415 ILCS 5/3.165 (2008).

19. Section 3.315 of the Act, 415 ILCS 5/3.315 (2008), defines "person" as follows:

"PERSON" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, state agency, or any other legal entity, or their legal representative, agent or assigns.

20. Defendant is a "person" as that term is defined in Section 3.315 of the Act, 415 ILCS 5/3.315 (2008).

21. Section 3.550 of the Act, 415 ILCS 5/3.550 (2008), defines "waters" as follows:

"WATERS" means all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this State.

22. The groundwater beneath the Byron Station constitutes a water of the State as that term is defined in Section 3.550 of the Act, 415 ILCS 5/3.550 (2008).

23. Section 3.545 of the Act, 415 ILCS 5/3.545 (2008), defines "water pollution" as follows:

"WATER POLLUTION" is such alteration of the physical, thermal, chemical, biological or radioactive properties of any water of the State, or such discharge of any contaminant into any waters of the State, as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish, or other aquatic life.

24. The tritium released from the Facility percolated to and entered groundwater at the Facility. The tritium has moved through and will continue to move through the groundwater.

25. Tritium entering the groundwater as alleged herein altered the radioactive and other properties of the groundwater, created a nuisance, is harmful, detrimental or injurious to public health, safety or welfare and to the environment and thus constitutes water pollution within the meaning of Section 12(a) of the Act, 415 ILCS 5/12(a)(2008).

26. From on or before February 13, 2006, on dates better known to the Defendant and continuing to the date of the filing of this Complaint, the Defendant violated Section 12(a) of the Act, by causing and allowing tritium from its operations to

enter the groundwater. Furthermore, the violation of Section 12(a) will continue until such time as the tritium is removed from the groundwater.

27. By depositing contaminants in the soil overlying the groundwater at the Facility, Defendant created a water pollution hazard.

28. By creating a water pollution hazard, Defendant violated Section 12(d) of the Act.

29. Plaintiff is without an adequate remedy at law. Plaintiff will be irreparably injured, and violation of the pertinent environmental statutes will continue unless and until this Court grants equitable relief in the form of preliminary, and, after a trial, permanent injunctive relief.

WHEREFORE, Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, respectfully requests that this Court enter an order granting a preliminary injunction and, after trial, a permanent injunction, in favor of Plaintiff and against Defendant on this Count I:

1. Finding that Defendant has violated Section 12(a) and (d) of the Act;
2. Enjoining Defendant from any future violations of Section 12(a) and (d) of the Act;
3. Entering an injunction ordering the Defendant to immediately undertake the necessary corrective action that will result in a final and permanent abatement of violations of Section 12(a) and (d) of the Act, including but not limited to, in accordance with a plan acceptable to the Plaintiff and this Honorable Court:
 - a. Prevent further migration of the contaminants released by the Defendant present in the groundwater at and near the Facility;

b. Implement measures to prevent the release of any contaminant from the Facility in violation of the Act;

c. Fully characterize the nature and extent of all soil and groundwater contamination caused by the releases, including identifying background contaminant levels and the future flow of contaminant plumes in groundwater; and,

d. Eliminate any threat to the use of groundwater by citizens in the area impacted by releases from the Facility.

4. Assessing a civil penalty of Fifty Thousand Dollars (\$50,000.00) against Defendant for each violation of the Act and Board Regulations, and an additional civil penalty of Ten Thousand Dollars (\$10,000.00) per day for each day of each violation;

5. Assessing all costs against Defendant including expert witness, consultant, and attorney fees; and

6. Granting such other relief as this Court deems appropriate and just.

COUNT II

VIOLATION OF NONDEGRADATION PROVISIONS

1-24. The Plaintiff realleges and incorporates by reference herein paragraphs 1 through 24 of Count I as paragraphs 1 through 24 of this Count II.

25. Section 620.301 of the Board Groundwater Regulations, 35 Ill. Adm. Code 620.301, provides, in pertinent part, as follows:

- a) No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that:
 - 1) Treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or
 - 2) An existing or potential use of such groundwater is precluded.

26. Because of the release of tritium into groundwater a threat exists such that treatment is necessary to continue the existing use of the groundwater and to assure potential use of the groundwater.

27. Because of the release of tritium into the groundwater a threat exists such that the use or potential use of the groundwater has been precluded.

28. By causing or allowing the release of tritium to the groundwater so as to threaten treatment or impairment to existing or potential uses of the groundwater, the Defendant has violated 35 Ill. Adm. Code 620.301(a)(1) and (2) and, thereby, also violated Section 12(a) of the Act, 415 ILCS 5/12(a)(2008).

29. Plaintiff is without an adequate remedy at law. Plaintiff will be irreparably injured, and violation of the pertinent environmental statutes will continue unless and until this Court grants equitable relief in the form of preliminary, and, after a trial, permanent injunctive relief.

WHEREFORE, Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, respectfully requests that this Court enter an order granting a preliminary injunction and, after trial, a permanent injunction, in favor of Plaintiff and against Defendant on this Count II:

1. Finding that Defendant has violated Section 12(a) of the Act, 35 Ill. Adm. Code 620.115, and 35 Ill. Adm. Code 620.301(a)(1) and (2);

2. Enjoining Defendant from any future violations of Section 12(a) of the Act, 35 Ill. Adm. Code 620.115, and 35 Ill. Adm. Code 620.301(a)(1) and (2);

3. Entering an injunction ordering the Defendant to, in accordance with a plan acceptable to the Plaintiff and this Honorable Court:

a. Prevent further migration of the contaminants released by the Defendant present in the groundwater at and near the Facility; and

b. Fully characterize the nature and extent of all soil and groundwater contamination caused by the releases, including identifying background contaminant levels and the future flow of contaminant plumes in groundwater;

4. Assessing a civil penalty of Fifty Thousand Dollars (\$50,000.00) against Defendant for each violation of the Act and Board Regulations, and an additional civil penalty of Ten Thousand Dollars (\$10,000.00) per day for each day of each violation;

5. Assessing all costs against Defendant including expert witness, consultant, and attorney fees; and

6. Granting such other relief as this court deems appropriate and just.

**II. VIOLATIONS BY DEFENDANT RELATED TO RELEASES OF
NONRADIOACTIVE WASTES INTO THE ENVIRONMENT**

COUNT III

DISCHARGING WASTEWATER WITHOUT AN NPDES PERMIT

1-21. The Plaintiff realleges and incorporates by reference herein paragraphs 1 through 15 and paragraphs 17 through 22 of Count I as paragraphs 1 through 21 of this Count III.

22. Section 12(f) of the Act, 415 ILCS 5/12(f)(2008), provides, in pertinent part, as follows:

No person shall:

Cause, threaten or allow the discharge of any contaminant into the waters of the State, as defined herein, including but not limited to, waters to any sewage works, or into any well or from any point source within the State, without an NPDES permit for point source discharges issued by the Agency under Section 39(b) of this Act, or in violation of any term or

condition imposed by such permit, or in violation of any NPDES permit filing requirement established under Section 39(b), or in violation of any regulations adopted by the Board or of any order adopted by the Board with respect to the NPDES program.

23. Section 309.102(a) of the Board Water Pollution Regulations, 35 Ill. Adm.

Code 309.102(a), provides, in pertinent part, as follows:

- a) Except as in compliance with the provisions of the Act, Board regulations, and the CWA, and the provisions and conditions of the NPDES permit issued to the discharger, the discharge of any contaminant or pollutant by any person into the waters of the State from a point source or into a well shall be unlawful.

24. In addition to the tritiated waters, the discharges from the vacuum breakers and other discharges, as alleged herein, contained wastewaters regulated by the Facility's NPDES Permit.

25. Each discharge of wastewater from the vacuum breakers was a discharge that caused, threatened or allowed the discharge of contaminants into waters of the State.

26. Defendant did not have an NPDES Permit from Illinois EPA for any of the discharges from the vacuum breakers as alleged herein.

27. The discharge of wastewaters at points other than the permitted outfall in the Rock River was a discharge without an NPDES permit that constituted a violation of 35 Ill. Adm. Code 309.102(a) and Section 12(f) of the Act, 415 ILCS 5/12(f)(2008).

28. Plaintiff is without an adequate remedy at law. Plaintiff will be irreparably injured, and violation of the pertinent environmental statutes will continue unless and until this Court grants equitable relief in the form of preliminary, and, after a trial, permanent injunctive relief.

WHEREFORE, Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, respectfully requests that this Court enter an order granting a preliminary injunction and, after trial, a permanent injunction, in favor of Plaintiff and against Defendant on this Count III:

1. Finding that Defendant has violated Section 12(f) of the Act and 35 Ill. Adm. Code 309.102(a);
2. Enjoining Defendant from any future violations of Section 12(f) of the Act and 35 Ill. Adm. Code 309.102(a);
3. Entering an injunction ordering Defendant to cease discharges without an NPDES permit;
4. Assessing a civil penalty of Ten Thousand Dollars (\$10,000.00) against Defendant for each day of each violation of the Act and Board Regulations;
5. Assessing all costs against Defendant including expert witness, consultant, and attorney fees; and
6. Granting such other relief as this Court deems appropriate and just.

COUNT IV

FAILURE TO COMPLY WITH NPDES PERMIT REPORTING REQUIREMENTS

1-21. The Plaintiff realleges and incorporates by reference herein paragraphs 1 through 21 of Count III and paragraphs 1 through 21 of this Count IV..

22. The NPDES Permit applicable to the discharge from the wastewater/blowdown line, as referenced in paragraph 9, contains Standard Conditions that provide, in pertinent part, as follows:

12. Reporting requirements.

(e) Twenty-four hour reporting. The permittee shall report any non-compliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time that the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause, the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance. The following shall be included as information which must be reported within 24 hours:

- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;**
- (2) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit to be reported within 24 hours[.]**
- (f) Other noncompliance.** The permittee shall report all instances of non-compliance not reported under paragraphs 12(c), (d) or (e) at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 12(a).

23. The NPDES permit was in full force and effect at the time of the discharges from the vacuum breakers on the wastewater/blowdown line on or before February 13, 2006.

24. In addition to the tritiated waters, the discharges from the vacuum breakers, as alleged herein, contained wastewaters regulated by the Facility's NPDES Permit.

25. The discharge of wastewaters at points other than the permitted outfall on the Rock River constituted non-compliance with the NPDES Permit.

26. The NPDES Permittee, did not make any notification to the Illinois EPA as required under Standard Condition 12(e) and (f) of the NPDES Permit of wastewater discharges from points other than the permitted outfall on the Rock River.

27. By failing to report these discharges of wastewater regulated by the NPDES Permit, Defendant violated Standard Condition 12(e) and (f) of the NPDES Permit and, thereby, violated 35 Ill. Adm. Code 309.102(a) and Section 12(f) of the Act, 415 ILCS 5/12(f)(2008).

28. Plaintiff is without an adequate remedy at law. Plaintiff will be irreparably injured, and violation of the pertinent environmental statutes will continue unless and until this Court grants equitable relief in the form of preliminary, and, after a trial, permanent injunctive relief.

WHEREFORE, Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, respectfully requests that this Court enter an order granting a preliminary injunction and, after trial, a permanent injunction, in favor of Plaintiff and against Defendant on this Count IV:

1. Finding that Defendant violated Section 12(f) of the Act, 35 Ill. Adm. Code 309.102(a), and Standard Condition 12 (e) and (f) of the NPDES Permit;
2. Enjoining Defendant from any future violations of Section 12(f) of the Act, 35 Ill. Adm. Code 309.102(a), and Standard Condition 12(e) and (f) of the NPDES Permit;
3. Entering an injunction ordering Defendant to comply with the terms of its NPDES Permit;
4. Assessing a civil penalty of Ten Thousand Dollars (\$10,000.00) against Defendant for each day of each violation of the Act and Board Regulations;

5. Assessing all costs against Defendant including expert witness, consultant, and attorney fees; and

6. Granting such other relief as this Court deems appropriate and just.

COUNT V

FAILURE TO ENSURE PROPER OPERATION AND MAINTENANCE AND FAILURE TO MITIGATE

1-24. Plaintiff realleges and incorporates by reference herein paragraphs 1 through 24 of Count IV as paragraphs 1 through 24 of this Count V.

25. Section 306.102 (Systems Reliability) of the Board Water Pollution Regulations, 35 Ill. Adm. Code 306.102, provides as follows:

- a) **Malfunctions:** All treatment works and associated facilities shall be so constructed and operated as to minimize violations of applicable standards during such contingencies as flooding, adverse weather, power failure, equipment failure, or maintenance, through such measures as multiple units, holding tanks, duplicate power sources, or such other measures as may be appropriate.
- b) **Spills:** All reasonable measures, including where appropriate the provision of catchment areas, relief vessels or entrapment dikes, shall be taken to prevent any spillage of contaminants from causing water pollution.

26. Standard condition 4 of the NPDES Permit provides as follows:

Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

27. Standard condition 5 of the NPDES Permit provides as follows:

Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate ancillary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

28. Defendant's failure to construct and operate the blowdown line in a manner so as to minimize violations during equipment malfunctions, as alleged herein, was a violation of 35 Ill. Adm. Code 306.102(a).

29. Defendant's failure to take all reasonable measures to prevent the releases as alleged herein, was a violation of 35 Ill. Adm. Code 306.102(b).

30. The Defendant's failure to contain and remove any of the discharged wastewaters, as alleged in paragraphs 10 and 11, above, and the failure to prevent future discharges constituted a failure to mitigate in violation of Standard Condition 4 of the NPDES Permit and, thereby, violated 35 Ill. Adm. Code 309.102 and Section 12(f) of the Act, 415 ILCS 5/12(f)(2008).

31. Defendant's failure to perform adequate operation and maintenance on the wastewater/blowdown discharge line resulted in the discharges as alleged in this Count.

32. Defendant's failure to perform adequate operation and maintenance on the blowdown line was a violation of Standard Condition 5 of the NPDES Permit, and thereby violated 35 Ill. Adm. Code 309.102 and Section 12(f) of the Act, 415 ILCS 5/12(f)(2008).

33. Plaintiff is without an adequate remedy at law. Plaintiff will be irreparably injured, and violation of the pertinent environmental statutes will continue unless and until this Court grants equitable relief in the form of preliminary, and, after a

trial, permanent injunctive relief.

WHEREFORE, Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, respectfully requests that this Court enter an order granting a preliminary injunction and, after trial, a permanent injunction, in favor of Plaintiff and against Defendant on this Count V:

1. Finding that Defendant violated Section 12(f) of the Act, 35 Ill. Adm. Code 309.102, 35 Ill. Adm. Code 306.102(a) and (b), and Standard Conditions 4 and 5 of the NPDES Permit;

2. Enjoining Defendant from any future violations of Section 12(f) of the Act, 35 Ill. Adm. Code 309.102, 35 Ill. Adm. Code 306.102(a) and (b), and Standard Conditions 4 and 5 of the NPDES Permit;

3. Entering an injunction ordering Defendant to comply with the terms of its NPDES Permit;

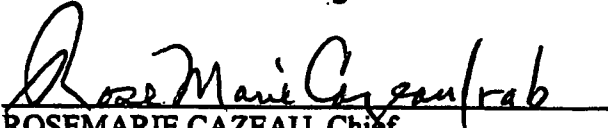
4. Assessing a civil penalty of Ten Thousand Dollars (\$10,000.00) against Defendant for each day of each violation of the Act and Board Regulations;

5. Assessing all costs against Defendant including expert witness, consultant, and attorney fees; and

6. Granting such other relief as this Court deems appropriate and just.

PEOPLE OF THE STATE OF ILLINOIS,
ex rel. LISA MADIGAN, Attorney General of
the State of Illinois

MATTHEW J. DUNN, Chief, Environmental
Enforcement/Asbestos Litigation Division


ROSEMARIE CAZEAU, Chief,
Environmental Bureau North
Assistant Attorney General

JOHN B. ROE, State's Attorney
Ogle County

OF COUNSEL

GERALD T. KARR
Senior Assistant Attorney General
Environmental Bureau
69 West Washington Street, Suite 1800
Chicago, IL 60602
312 814-3369

6. Granting such other relief as this Court deems appropriate and just.

PEOPLE OF THE STATE OF ILLINOIS,
ex rel. LISA MADIGAN, Attorney General of
the State of Illinois

MATTHEW J. DUNN, Chief, Environmental
Enforcement/Asbestos Litigation Division

ROSEMARIE CAZEAU, Chief,
Environmental Bureau North
Assistant Attorney General



JOHN B. ROE, State's Attorney
Ogle County

OF COUNSEL

GERALD T. KARR
Senior Assistant Attorney General
Environmental Bureau
69 West Washington Street, Suite 1800
Chicago, IL 60602
312 814-3369

FILE 2.09.0411

IN THE CIRCUIT COURT FOR THE FIFTEENTH JUDICIAL CIRCUIT
OGLE COUNTY, ILLINOIS
CHANCERY DIVISION

FILED

MAR 11 2010

CLERK OF THE CIRCUIT COURT
OGLE COUNTY

PEOPLE OF THE STATE OF ILLINOIS,
ex rel. LISA MADIGAN, Attorney General
of the State of Illinois, and *ex rel.* JOHN B. ROE IV,
State's Attorney of Ogle County, Illinois

Plaintiff,

v.

EXELON GENERATION COMPANY, LLC,
a Pennsylvania limited liability company,

Defendant.

No.

10 CH 69

COPY

[Byron Original]

CONSENT ORDER

Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, *ex rel.* LISA MADIGAN,
Attorney General of the State of Illinois, and *ex rel.* JOHN B. ROE IV, State's Attorney
of Ogle County, Illinois, the Illinois Environmental Protection Agency ("Illinois
EPA"), and Defendant, EXELON GENERATION COMPANY, LLC, have agreed to
the making of this Consent Order and submit it to this Court for approval.

I. INTRODUCTION

This stipulation of facts is made and agreed upon for purposes of settlement
only and as a factual basis for the Court's entry of the Consent Order and issuance of
any injunctive relief. None of the facts stipulated herein shall be introduced into
evidence in any other proceeding regarding the violations of the Illinois Environmental
Protection Act ("Act"), 415 ILCS 5/1 *et seq.* (2008), and the Illinois Pollution Control

Board ("Board") Regulations, alleged in the Complaint except as otherwise provided herein. It is the intent of the parties to this Consent Order that it be a final judgment on the merits of this matter.

A. Parties to the Consent Order

1. On March 11, 2010 a Complaint was filed against EXELON GENERATION COMPANY, LLC, on behalf of the People of the State of Illinois by the Attorney General of the State of Illinois, on her own motion and upon the request of the Illinois Environmental Protection Agency ("Illinois EPA"), and by the State's Attorney of Ogle County, Illinois, on his own motion, pursuant to Section 42(d) and (e) of the Act, 415 ILCS 5/42(d) and (e)(2008) ("Complaint").

2. The Illinois EPA is an administrative agency of the State of Illinois, created pursuant to Section 4 of the Act, 415 ILCS 5/4 (2008).

3. Defendant EXELON GENERATION COMPANY, LLC ("Exelon Generation") is a Pennsylvania limited liability company with its principal place of business in Kennett Square, Pennsylvania. Exelon Generation was formed in 2000 to conduct the power generation portion of Exelon Corporation's business.

4. At all times relevant to the Complaint and this Consent Order, the Defendant owned and, pursuant to a license issued by the United States Nuclear Regulatory Commission ("NRC"), operated the Byron Nuclear Generating Station, a nuclear power generating facility located in near Byron, Ogle County, Illinois. (Hereinafter, all property owned by the Defendant in and around Byron shall be referred to as the "Facility" and that portion of the Facility encompassing the power generation plant, including the nuclear reactors, shall be referred to as the "Station".) The Facility is approximately twenty miles southwest of Rockford, Illinois, and ninety

miles west of Chicago, Illinois, and sits on approximately 1,782 acres. The Byron Station includes, among other things, two pressurized water reactors that can generate a combined total of 2,353 megawatts of electricity per day. Unit 1 of the Byron Station began commercial operations on September 16, 1985, and has a license for service through 2024. Unit 2 began commercial operations on August 2, 1987, and is licensed through 2026.

5. At the Facility, Defendant owns and operates a single 2.2 mile long wastewater/blowdown discharge line that runs from the Byron Station to the Rock River. Six vacuum breaker valves are installed in in-ground vaults along the blowdown line. In the ordinary course of operation, vacuum breaker valves function to admit air into the blowdown line to prevent the formation of a vacuum within the pipe.

6. The wastewater/blowdown line operates as a conduit, at various times, for discharges of tritiated water and other wastewater directly to the Rock River. The Facility possesses a National Pollutant Discharge Elimination System ("NPDES") permit applicable to the blowdown line (Permit No. IL0048313) last reissued on September 8, 2000 by Illinois EPA ("NPDES Permit"). On October 31, 2000, Commonwealth Edison Company requested that the listed permittee in Byron NPDES permit, No. IL 0048313, be changed from Commonwealth Edison Company to the new owner, Exelon Generation. Illinois EPA will name Exelon Generation as the permittee, when Illinois EPA renews the NPDES permit.

7. The NPDES permit authorizes and regulates the discharge from the wastewater/blowdown line of sanitary wastes, cooling system blowdown water, radwaste treatment system effluent and various other waste streams generated by the Byron Station to an outfall in the Rock River. As of the filing of this Complaint, the

Facility's NPDES permit is under review pursuant to a timely submitted renewal application and remains in full force and effect.

B. Allegations of Non-Compliance

Plaintiff and the Illinois EPA contend that the Defendant violated the following provisions of the Act, 415 ILCS 5/1 *et seq.*, the Board's Groundwater Regulations, 35 Ill. Adm. Code, Subtitle C, NPDES Permit Conditions, and the common law:

Count I: WATER POLLUTION

Violation of Section 12(a) and (d) of the Act, 415 ILCS 5/12(a) and (d) (2004)

Count II: VIOLATION OF NONDEGREDAATION PROVISIONS

Violation of Section 12(a) of the Act, 415 ILCS 5/12(a) (2004), and Sections 620.115, 620.301(a)(1) and (2) of 35 Ill. Adm. Code

Count III: DISCHARGING WASTEWATERS WITHOUT AN NPDES PERMIT

Violation of Section 12(f) of the Act, 415 ILCS 5/12(f) (2004), and Section 309.102 of 35 Ill. Adm. Code

Count IV: FAILURE TO COMPLY WITH NPDES PERMIT REPORTING REQUIREMENTS

Violation of Section 12(f) of the Act, 415 ILCS 5/12(f) (2004), Section 309.102 of 35 Ill. Adm. Code, and Standard Condition 12 of NPDES Permit No. IL0048313

Count V: FAILURE TO ENSURE PROPER OPERATION AND MAINTENANCE AND FAILURE TO MITIGATE

Violation of Section 12(f) of the Act, 415 ILCS 5/12(f) (2004), Sections 309.102, 306.102(a) and (b) of 35 Ill. Adm. Code, and Standard Conditions 4 and 5 of NPDES Permit No. IL0048313

C. Non-Admission of Violations

The Defendant denies the violations alleged in the Complaint filed in this matter and referenced above.

D. Compliance Activities to Date

1. Defendant has conducted a limited sampling program;
2. Defendant has sealed the vacuum breaker vaults;
3. Defendant has implemented an inspection program for the vacuum breaker vaults; and
4. Defendant has installed a leak detection and alarm system on the wastewater/discharge blowdown line.

II. APPLICABILITY

This Consent Order shall apply to and be binding upon the Plaintiff, the Illinois EPA and the Defendant, and any officer, director, agent, or employee of the Defendant, as well as any successors or assigns of the Defendant. The Defendant waives as a defense to any enforcement action taken pursuant to this Consent Order the failure of any of their officers, directors, agents, employees or successors or assigns to take such action as shall be required to comply with the provisions of this Consent Order.

No change in ownership, corporate status or operator of the Station shall in any way alter the responsibilities of the Defendant under this Consent Order. In the event that the Defendant proposes to sell or transfer any real property or operations subject to this Consent Order, the Defendant shall notify the Plaintiff and Illinois EPA thirty (30) calendar days prior to the conveyance of title, ownership or other interest, including a leasehold interest in the Station or a portion thereof. The Defendant shall make as a

condition of any such sale or transfer, that the purchaser or successor provide to Defendant site access and all cooperation necessary for Defendant to perform to completion any compliance obligation(s) required by this Consent Order. The Defendant shall provide a copy of this Consent Order to any such successor in interest and the Defendant shall continue to be bound by and remain liable for performance of all obligations under this Consent Order. In appropriate circumstances, however, the Defendant and a proposed purchaser or operator of the Station may jointly request, and the Plaintiff and Illinois EPA, shall approve modification of this Consent Order to obligate the proposed purchaser or operator to carry out future requirements of this Consent Order in addition to, or, at Plaintiff and Illinois EPA's discretion, in place of the Defendant. This provision does not relieve the Defendant from compliance with any regulatory requirement regarding notice and transfer of applicable facility permits.

III. JUDGMENT ORDER

This Court has jurisdiction of the subject matter herein and of the parties to this Consent Order consenting hereto and, having considered the stipulated facts and being advised in the premises, finds the following relief appropriate:

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

A. Penalty

The Defendant shall pay a civil penalty of Ten Thousand Dollars (\$10,000.00).

Payment shall be tendered at time of entry of the Consent Order.

B. Stipulated Penalties and Interest

1. Exelon Generation shall be liable for stipulated penalties for violations of this Consent Order as specified below. Exelon Generation shall provide notice to the Plaintiff and Illinois EPA of each failure to comply with this Consent Order. Stipulated penalties shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue separately for separate violations of the Consent Order.

<u>Period of Non-Compliance</u>	<u>Penalty per Day for each Violation</u>
Day 1-2	\$500.00
Day 3-4	\$1,000.00
Days 5 and beyond	\$1,500.00

The Plaintiff may make a demand for stipulated penalties upon Exelon Generation for its noncompliance with this Consent Order. However, failure by the Plaintiff to make this demand shall not relieve Exelon Generation of the obligation to pay stipulated penalties. All stipulated penalties shall be payable within thirty (30) calendar days of the date Exelon Generation knows or should have known of its noncompliance with any provision of this Consent Order. The dispute resolution provisions of Section III.H of this Consent Order shall apply to any disagreement between Plaintiff and Exelon Generation about whether an act of noncompliance occurred.

2. Pursuant to Section 42(g) of the Act, interest shall accrue on any penalty amount owed by the Defendant not paid within the time prescribed herein. Interest on

unpaid penalties shall begin to accrue from the date such are due and continue to accrue to the date full payment is received. Where partial payment is made on any penalty amount that is due, such partial payment shall be first applied to any interest on unpaid penalties then owing.

C. Payment Procedures

1. The payments required by Section III.A. and B, above, shall be made by certified check or money order payable to the Illinois EPA for deposit into the Environmental Protection Trust Fund ("EPTF"). The name, case number and the Defendant's federal tax identification numbers shall appear on the face of the certified check or money order.

D. Future Compliance

1. Wastewater Discharge Line

Exelon Generation shall at all times at the Station operate a continuous monitoring system in each vacuum breaker vault in which there is an operating vacuum breaker to warn of any wastewater release from the vacuum breakers. In the event that the Station's monitoring system at an operating vacuum breaker is not functioning, Exelon Generation shall have staff provide continuous visual verification during any discharge at the Station through the blowdown line that the vacuum breaker is functioning properly until such time that the vacuum breaker vault monitoring system resumes its proper function. In the event a release occurs from the blowdown line at the Station, Exelon Generation shall immediately collect all released water that has not entered the soil or surface water until the Station's blowdown line is repaired and

ensure that the collected water is ultimately discharged to the environment in compliance with all applicable requirements of the Act, Board regulations, the terms of the NPDES permit and NRC regulations. Exelon Generation shall take all reasonable actions to determine the cause of the release from the blowdown line at the Station and to repair the problem to halt further releases as soon as possible.

b. Effective immediately, Exelon Generation shall maintain the impermeable barriers installed at the base of each vacuum breaker pit, so as to prevent any accumulated effluent from discharging to the soil.

2. Subject to security and access requirements of the NRC, in addition to any other authority, the Illinois EPA and its authorized employees and representatives, shall have the right of entry into and upon the Defendant's facility which is the subject of this Consent Order, at all reasonable times and upon reasonable notice for the purposes of conducting inspections and evaluating compliance status. In conducting such inspections, the Illinois EPA may take photographs, samples, and collect information, as it deems necessary, subject to clearance in accordance with NRC requirements.

3. This Consent Order in no way affects the responsibilities of the Defendant to comply with any other applicable federal, state or local laws or regulations, including but not limited to the Act and the Board Regulations.

4. The Defendant shall cease and desist from releasing regulated wastewaters to soil, surface water or groundwater from Vacuum Breakers in the blowdown line that was the subject matter of the Complaint.

E. Supplemental Environmental Project

1. In order to promote the goals of the Act to restore, protect and enhance

the quality of the environment, Exelon Generation shall pay a total of Twenty Nine Thousand Dollars (\$29,000.00) for supplemental environmental projects ("SEP"). The value of the SEP will offset penalties sought by the Plaintiff and the Illinois EPA in this matter.

2. The Defendant shall pay the amount of Eleven Thousand Dollars (\$11,000.00) within ten days after the date of entry of this Consent Order to fund environmental educational programs including the acquisition of materials to be used at Outdoor Stewardship Days jointly hosted with Ogle County and Lee County Soil and Water Conservation District. The program is designed to reach approximately 1,250 3rd grade students and teachers.

The payment shall be made by electronic funds transfer in accordance with written instructions that were previously provided to Defendant. Contact for this project is:

Brian Lindquist
Resource Conservationist
Ogle County Soil and Water Conservation District
213 West Pines Road
Oregon, IL 61061

Exelon Generation shall pay the amount of Seven Thousand Five Hundred Dollars (\$7,500.00) within ten days after the date of entry of this Consent Order to fund a program sponsored by the Ogle County Solid Waste Management Department that includes environmental education materials for use in environmental assemblies for local schools. The payment shall be made by electronic funds transfer in accordance with written instructions that were previously provided to Defendant. Contact for this project is:

Steve Rypkema, Director
Ogle County Solid Waste Management Department
909 W. Pines Road
Oregon, IL 61061

Exelon Generation shall pay the amount of Ten Thousand Five Hundred Dollars (\$10,500.00) within ten days of the entry of this Consent Order to fund the restoration to prairie land of a 23 acre farm field located at 995 N. Girl Scout Drive in Stillman Valley IL 61084. The project will establish self-guided educational hiking trails and wheelchair trails for children and adults. This property is owned by the Girl Scouts. The payment shall be made by electronic funds transfer in accordance with written instructions that were previously provided to Defendant. Contact for this project is:

Jason Jones
Property Manager
Northern Illinois Girl Scouts, Rockford Office
2101 Auburn St.
Rockford, IL 61103

3. By signature on this Consent Order, Exelon Generation certifies that, as of the date of entry of this Order, it is not required to perform or develop the foregoing SEP by any federal, state or local law or regulation, nor is it required to perform or develop the SEP by agreement or injunctive relief in any other case. Exelon Generation further certifies that it has not received, and is not presently negotiating to receive credit for the SEP in any other enforcement action.

4. Any public statement, oral or written, in print, film or other media, made by Exelon Generation making reference to the SEP shall include the following language: "This project was undertaken in connection with the settlement of an

enforcement action taken by the Illinois Attorney General, Ogle County State's Attorney and the Illinois EPA."

F. *Force Majeure*

1. *Force majeure* is an event arising solely beyond the control of Exelon Generation, which prevents the timely performance of any of the requirements of this Consent Order and shall include, but is not limited to, events such as floods, fires, tornadoes, other natural disasters, and labor disputes beyond the reasonable control of Exelon Generation. An increase in costs associated with implementing any requirement of this Consent Order shall not, by itself, excuse Exelon Generation for a failure to comply with such a requirement.

2. When a *force majeure* event occurs which causes or may cause a delay in the performance of any of the requirements of this Consent Order, Exelon Generation shall orally notify the Plaintiff and the Illinois EPA within forty-eight (48) hours of the occurrence. Written notice shall be given to the Plaintiff and the Illinois EPA as soon as practicable, but no later than ten (10) calendar days after the claimed occurrence. This section shall be of no effect as to the particular event involved if Exelon Generation fails to comply with these notice requirements.

3. Within ten (10) calendar days of receipt of any written *force majeure* notice, the Plaintiff shall respond in writing regarding Exelon Generation's claim of a delay or impediment to performance. If the Plaintiff and the Illinois EPA agree that the delay or impediment to performance has been or will be caused by circumstances beyond the control of Exelon Generation and that Exelon Generation could not have prevented the delay by the exercise of due diligence, the Parties to the Consent Order shall stipulate to an extension of the required deadline(s) for all requirement(s) affected

by the delay, by a period equivalent to the delay actually caused by such circumstances. Such stipulation may be filed as a modification to this Consent Order. Exelon Generation shall not be liable for stipulated penalties for the period of any such stipulated extension.

4. If the Plaintiff and the Illinois EPA do not accept Exelon Generation's claim of a *force majeure* event, Exelon Generation must file a petition with the Court within twenty (20) calendar days of receipt of the Plaintiff's and the Illinois EPA's determination in order to contest the imposition of stipulated penalties. The Plaintiff shall have twenty (20) calendar days to file its response to said petition. The burden of proof of establishing that a *force majeure* event prevented the timely performance shall be upon Exelon Generation. If this Court determines that the delay or impediment to performance has been or will be caused by circumstances solely beyond the control of Exelon Generation and that Exelon Generation could not have prevented the delay by the exercise of due diligence, Exelon Generation shall be excused as to that event (including any imposition of stipulated penalties), for all requirements affected by the delay, for a period of time equivalent to the delay or such other period as may be determined by this Court.

G. Enforcement and Modification of Consent Order

1. This Consent Order is a binding and enforceable order of this Court. This Court shall retain jurisdiction of this matter and shall consider any motion by Plaintiff or Defendant for the purposes of interpreting and enforcing the terms and conditions of this Consent Order. The Defendant agrees that notice of any subsequent proceeding to enforce this Consent Order may be made by mail and waives any

requirement of service of process.

2. The Parties to this Consent Order may, by mutual written consent, extend any compliance dates or modify the terms of this Consent Order without leave of this Court. A request for any modification shall be made in writing and submitted to the designated representatives. Any such request shall be made by separate document and shall not be submitted within any other submittal required by this Consent Order. Any such agreed modification shall be in writing and signed by authorized representatives of each party to this Consent Order, for filing and incorporation by reference into this Consent Order.

H. Dispute Resolution

1. Except as provided herein, the Parties to this Consent Order may seek to informally resolve disputes arising under this Consent Order, including but not limited to the Illinois EPA's decision regarding appropriate or necessary response activity, approval or denial of any report, plan or remediation objective, or the Plaintiff's rejection of a request for modification or termination of the Consent Order. The Plaintiff reserves the right to seek enforcement by the Court where Exelon Generation has failed to satisfy any compliance deadline within this Consent Order. The following are also not subject to the dispute resolution procedures provided by this section: a claim of *force majeure*, a failure to make any required payment and any circumstances posing a substantial danger to the environment or to the public health or welfare of persons.

2. The dispute resolution procedure must be invoked by a party to the Consent Order through a written notice describing the nature of the dispute and that

party's position with regard to such dispute. The non-disputing party to the Consent Order shall acknowledge receipt of the notice and schedule a meeting to discuss the dispute informally not later than fourteen (14) calendar days from the receipt of such notice. These informal negotiations shall be concluded within thirty (30) calendar days from the date of the first meeting between the parties, unless the parties agree, in writing, to shorten or extend this period. The invocation of dispute resolution, in and of itself, shall not excuse compliance with any requirement, obligation or deadline contained herein, and stipulated penalties may be assessed for failure or noncompliance during the period of dispute resolution. As part of the resolution of any dispute, the Parties to the Consent Order, by agreement or by order of this Court, may extend or modify the schedule for completion of work under this Consent Order to account for the delay in the work that occurred as a result of dispute resolution.

3. In the event that the Parties to the Consent Order are unable to reach agreement during the informal negotiation period, the Plaintiff and the Illinois EPA shall provide Exelon Generation with a written summary of its position regarding the dispute. The position advanced by the Plaintiff and the Illinois EPA shall be considered binding unless, within twenty (20) calendar days of Exelon Generation's receipt of the written summary of the Plaintiff's and the Illinois EPA's position, Exelon Generation files a petition with this Court seeking judicial resolution of the dispute. The Plaintiff shall respond to the petition by filing the administrative record of the dispute and any argument responsive to the petition within twenty (20) calendar days of service of Exelon Generation's petition. The administrative record of the dispute shall include the written notice of the dispute, any responsive submittals, the Plaintiff's and the Illinois EPA's written summary of their position, Exelon Generation's petition

before the Court and the Plaintiff's and the Illinois EPA's response to the petition. The Plaintiff's and the Illinois EPA's position shall be affirmed unless, based upon the administrative record, it is against the manifest weight of the evidence.

I. Notice and Submittals

Except for payments, the submittal of any documents required under this Consent Order, shall be delivered to the following designated representatives:

As to the Plaintiff

Gerald T. Karr
Senior Assistant Attorney General
Environmental Bureau
69 W. Washington St., 18th Floor
Chicago, IL 60602

John B. Roe IV
Ogle County State's Attorney's Office
106 S. Fifth Street.
Oregon, IL 61061

As to the Illinois EPA

Charles Gunnarson
Division of Legal Counsel
Illinois EPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Bill Buscher
Illinois EPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

As to the Defendant

J. Bradley Fewell
Associate General Counsel

Exelon Generation Company, LLC
4300 Winfield Road
Warrenville IL 60555

J. Release from Liability

1. In consideration of the Defendant's payment of a \$10,000.00 penalty, its commitment to cease and desist as contained in Section III.D.4 (regarding cease and desist) above, and completion of all activities required hereunder, the Plaintiff releases, waives and discharges the Defendant from any further liability or penalties for the alleged violations of the Act and Board Regulations that were the subject matter of the Complaint herein. The release set forth above does not extend to any matters other than those expressly specified in Plaintiff's Complaint filed on March 11, 2010. The Plaintiff reserves and this Consent Order is without prejudice to, all rights of the State of Illinois against the Defendant with respect to all other matters, including but not limited to the following:

- a. criminal liability;
- b. liability for future violations;
- c. liability for natural resources damage arising out of the alleged violations; and
- d. the Defendant's failure to satisfy the requirements of this Consent Order.

Nothing in this Consent Order is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the State of Illinois or the Illinois EPA may have against any person, as defined by Section 3.315 of the Act, 415 ILCS 5/3.315 (2008), other than the Defendant.

2. The Parties to this Consent Order reserve all their claims and defenses. This Consent Order shall apply to and bind only the Plaintiff, the Illinois EPA and the

Defendant.

K. Termination

1. This Consent Order shall terminate 12 months following its effective date provided that Exelon Generation has been in continuous compliance with the terms of the Consent Order for the preceding 12 months.

2. Upon termination of the Consent Order, the individual provisions of the Consent Order shall terminate, with the exception of Section III.J, providing a release from liability, which shall survive and shall not be subject to and is not affected by the termination of any other provision of this Consent Order. Upon termination, Exelon Generation shall have no further obligations under the provisions of this Consent Order.

L. Execution and Entry of Consent Order

This Order shall become effective only when executed by all parties to the Consent Order and the Court. This Order may be executed by the parties to the Consent Order in one or more counterparts, all of which taken together shall constitute one and the same instrument. The undersigned representatives for each party to the Consent Order certify that they are fully authorized by the party whom they represent to enter into the terms and conditions of this Consent Order and to legally bind them to it.

WHEREFORE, the parties to the Consent Order, by their representatives, enter

into this Consent Order and submit it to this Court that it may be approved and entered.

AGREED:

FOR THE PLAINTIFF:

PEOPLE OF THE STATE OF ILLINOIS
Ex rel. LISA MADIGAN,
Attorney General of the
State of Illinois

MATTHEW J. DUNN, Chief
Environmental Enforcement/
Asbestos/Litigation Division

BY: Rose Marie Cazeau/rab
ROSEMARIE CAZEAU, Chief
Environmental Bureau

DATE: 2/23/10

Ex rel. JOHN B. ROE IV,
State's Attorney of Ogle County,
Illinois

BY: _____

DATE: _____

FOR THE DEFENDANT:
EXELON GENERATION COMPANY, LLC

BY: _____
J. Bradley Fewell
Its Attorney

DATE: _____

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

DOUGLAS P. SCOTT, Director
Illinois Environmental Protection Agency

BY: [Signature]
JOHN J. KIM
Chief Legal Counsel

DATE: 2/22/10

ENTERED:

JUDGE

DATE: _____

into this Consent Order and submit it to this Court that it may be approved and entered.

AGREED:

FOR THE PLAINTIFF:

PEOPLE OF THE STATE OF ILLINOIS

Ex rel. LISA MADIGAN,

Attorney General of the
State of Illinois

MATTHEW J. DUNN, Chief
Environmental Enforcement/
Asbestos Litigation Division

BY: _____
ROSEMARIE CAZEAU, Chief
Environmental Bureau

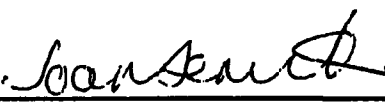
DATE: _____

Ex rel. JOHN B. ROE IV,
State's Attorney of Ogle County,
Illinois

BY: _____

DATE: _____

FOR THE DEFENDANT:
EXELON GENERATION COMPANY, LLC

BY: 
Joan Fencik
Its Attorney

DATE: 2-23-10

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

DOUGLAS P. SCOTT, Director
Illinois Environmental Protection Agency

BY: _____
JOHN J. KIM
Chief Legal Counsel

DATE: _____

ENTERED:

JUDGE

DATE: _____

into this Consent Order and submit it to this Court that it may be approved and entered.

AGREED:

FOR THE PLAINTIFF:

PEOPLE OF THE STATE OF ILLINOIS

Ex rel. LISA MADIGAN,
Attorney General of the
State of Illinois

MATTHEW J. DUNN, Chief
Environmental Enforcement/
Asbestos Litigation Division

BY: _____
ROSEMARIE CAZEAU, Chief
Environmental Bureau

DATE: _____

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

DOUGLAS P. SCOTT, Director
Illinois Environmental Protection Agency

BY: _____
JOHN J. KIM
Chief Legal Counsel

DATE: _____

Ex rel. JOHN B. ROE IV,
State's Attorney of Ogle County,
Illinois

BY: JB Roe IV

DATE: 3/10/10

FOR THE DEFENDANT:
EXELON GENERATION COMPANY, LLC

BY: _____
J. Bradley Fewell
Its Attorney

DATE: _____

ENTERED:

MICHAEL T. MALLON
CIRCUIT JUDGE
JUDGE

DATE: _____



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

Incident Inquiry Letter

September 25, 2012

Mr. Mike Linderamnn
Exelon-Byron Station
4450 N. German Church Rd.
Byron, IL 61010

RECEIVED
DEC 04 2012

BY: *J. Kim*

Re: IEMA Incident 20120938, Byron, Ogle County, Illinois

Dear Mr. Linderamnn,

On 9/5/2012, this office received information that you and/or an organization that you represent were involved in an environmental incident, which occurred at or near 4450 N. German Church Rd. on or before 9/5/2012. Our records currently indicate the involvement of 100 gallons of sodium hypochlorite.

The Illinois Environmental Protection Agency (IEPA) is sending this Incident Inquiry Letter to request further information about the facts and circumstances related to the above referenced incident, pursuant to Section 4(h) of the Environmental Protection Act, 415 ILCS 5/4(h). The IEPA is also seeking information on any actions you have taken or plan to take in response to the incident. Please provide IEPA with the following, to the extent applicable to this incident:

- ☐ a description of what happened and how it happened
- ☐ any mitigation actions taken at the time of the incident
- ☐ a description of any additional cleanup and preventive actions planned
- ☐ if cleanup and disposal have not been completed when you submit your response to this Incident Inquiry Letter, include in your response an estimated time schedule for completing such actions. Upon completion, please submit a final report explaining cleanup actions and disposal.
- ☐ the specific information requested in the enclosed attachment(s)

A written response to this Incident Inquiry Letter is expected by October 25, 2012. If any remediation activities are not completed by this date, submit all information available and a schedule for the completion of the rest. The IEMA Incident number, city, county and responsible party name should be noted in all correspondence about this incident. Please submit one copy of your response to:

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arber 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

Illinois Environmental Protection Agency
Office of Emergency Response
Emergency Operations Unit
1021 North Grand Avenue East
P.O. Box 19276, Mail Drop #29
Springfield, Illinois 62794-9276

If you have any questions regarding any of the above, please contact Jim Clark at 847-344-2424.

Sincerely,

A handwritten signature in black ink, appearing to read "Y. Yarrington".

Yeric Yarrington, Engineering & Assessment Manager
Office of Emergency Response

cc: Incident File
Jim Clark
John Waligore

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

December 19, 2012

LTR: BYRON 2012-0134
File: 2.09.0006
1.10.0101

Illinois Environmental Protection Agency
Office of Emergency Response
Emergency Operations Unit
1021 North Grand Avenue East
P.O. Box 19276, Mail Drop #29
Springfield, IL 62794-9276

Attention: Mr. Jim Clark
Ms. Kendra Dickerson

Re: IEMA Incident 20120938
Exelon Generation Company
Byron Nuclear Power Station
4450 North German Church Road
Byron, Illinois 61010

Dear Mr. Clark and Ms. Dickerson:

On December 4, 2012, Exelon Generation received from your office via e-mail the enclosed letter dated September 11, 2012, concerning a hazardous material incident, which occurred at the subject facility on September 5, 2012.

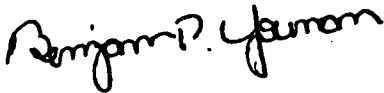
On September 5, 2012, Exelon Generation reported the incident to the Illinois Emergency Management Agency in order to address immediate reporting requirements for such situations. As our notification provides, the release occurred at Byron Station during the offloading of Sodium Hypochlorite by the transporter. During the offload process a transfer hose failed which resulted in an estimated 100 gallons of Sodium Hypochlorite being released onto the asphalt paving in the delivery area. Some of the chemical migrated into an on-site storm water ditch. The transporter and Exelon Operations personnel who were overseeing the offload immediately took actions to stop the flow of the Sodium Hypochlorite from the ruptured hose and placed dams in the storm water ditch to prevent spilled chemical from leaving site property. No personnel were injured as a result of this spill and there is no anticipated acute or chronic health risks associated with the release. Non-response personnel were kept out of the immediate area of the spill and no evacuation was necessary. Exelon Operations personnel pumped the spilled Sodium Hypochlorite from the storm water ditch and then rinsed down the asphalt area and ditch with water. Both the spilled chemical and rinse water were pumped from the storm water ditch to the Circulating Water flume which is the normal system where the Sodium Hypochlorite is added. Sodium Hypochlorite biodegrades quickly into salt and water and since the spill occurred on asphalt paving the heat from the asphalt caused quick degradation of the chemical so it is reasonable to conclude that the actions taken for the spill were sufficient to ensure no adverse impact to the environment. No additional cleanup measures are planned or required to address this release.

Page 2 of 2
LTR: BYRON 2012-0134
File: 2.09.0006
1.10.0101

According to information received from the transporter, Rowell Chemical Company, the unique failure type of the transfer hose coupling was not visible and therefore not detected during the visual inspection of the hose prior to hooking it up for the Sodium Hypochlorite offload. It is suspected the failure is due to a manufacturing defect from the hose supplier. Rowell Chemical Company has inspected all trailers and hoses used for offload of Sodium Hypochlorite. They will provide new, dedicated hoses to all Exelon delivery sites and those hoses will remain at all the Exelon delivery sites and this will ensure less handling and use of the hoses for delivering Sodium Hypochlorite to Exelon sites. These dedicated hoses will be replaced by the delivery company every six months.

If any additional information is required, please contact Zoe Cox at (815) 406-3035 or via e-mail at zoe.cox@exeloncorp.com.

Respectfully,



Benjamin P. Youman
Plant Manager
Byron Nuclear Generating Station

BPY/ZC/eh

Enclosure

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

June 25, 2013

LTR: BYRON 2013-0089
File: 2.09.0006 (SRRS 2H.106)
1.10.0101

Mr. Kevin Sledge
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, Illinois 62704

Subject: Follow-up report for IEMA report # H-2013-0703
Byron Nuclear Power Station
Exelon Generation Company, LLC
Sulfuric Acid Spill on 6/20/13

Dear Mr. Sledge:

On June 20, 2013 at approximately 06:00 am Exelon Byron Station Chemistry personnel noted the pavement and gravel area was wet in the vicinity of the Unit 1 Circulating Water (U1 CW) sulfuric acid feed system containment berm. Upon closer inspection an active leak of liquid was noted to be coming from the berm. Litmus testing performed on the liquid revealed a pH of zero (0) which confirmed the liquid was sulfuric acid. Approximately 120 gallons of sulfuric acid were spilled which exceeds the reportable quantity of 66 gallons. In addition to IEMA notification were made to the following agencies: the National Response Center (report number 1051067), the Ogle County Emergency Services Disaster Agency and the Nuclear Regulatory Commission. No personnel were injured as a result of this spill and there is no anticipated acute or chronic health risks associated with the release. Non-response personnel were kept out of the immediate area of the spill and no evacuation was necessary. Soda ash was applied to the spilled material by Exelon Operations personnel to neutralize the sulfuric acid.

SET Environmental was contracted by Exelon Byron Station to pump out the remaining acid from the U1 CW acid tank so a determination could be made on what component of the acid system was leaking. Initial inspection of the acid system components inside the berm noted a packing leak on the controlling acid feed valve. Further investigation will be performed by Exelon Byron Station to determine if this is the only source of leakage. All degraded components will be repaired before the acid system is placed back into service.

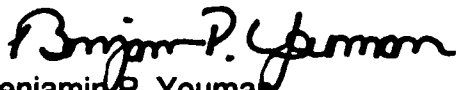
June 25, 2013
Byron Letter #2013-0089
Page 2

Exelon Byron Station is investigating the cause of the failure of the epoxy coated berm to contain the sulfuric acid. This investigation is being documented in the station's Corrective Action Program using an Equipment Apparent Cause Evaluation (EACE) format. The Issue Report number tracking completion of the EACE is 1526956. The epoxy coated berm will be functional prior to placing the acid system back into service.

SET Environmental was contracted by Exelon Byron Station to remediate the neutralized spilled material. The clean-up of the neutralized spilled material was completed on June 21, 2013.

If you require additional information regarding this report, please contact Zoe Cox at (815) 406-3035 or via e-mail at zoe.cox@exeloncorp.com.

Respectfully,



Benjamin P. Youman
Byron Nuclear Generating Station
Plant Manager

BPYZC\eh

Bcc: Z. Cox-Environmental Specialist-Byron
K. Hersey-Senior Environmental Specialist-Cantera

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** Water Resources – Surface Water

Statement of Question:

Provide copies of the following ER references:

- g. Copy of IEPA Water Pollution Control Permit Permit No. 2011-EP-1250 (Hauling of Sanitary Wastewater Tributary to the City of Oregon [waste water treatment plant] (WWTP) and IEPA Permit No. 2009-SC-2169-1 (Land Application of Sludge)

Response:

The requested information is attached.

List Attachments Provided:

1. IEPA Water Pollution Control Permit: Byron Generating Station-Hauling of Sanitary Wastewater Tributary to the City of Oregon WWTP. Permit No. 2011-EP-1250, Issued February 16, 2011
2. IEPA Water Pollution Control Permit: Byron Generating Station-Land Application of River Sediment from Cooling Tower Cleaning – Ogle County, IL, Permit No. 2009-SC-2169-1 (Supplemental), Issued April 20, 2010
3. IEPA Water Pollution Control Permit: Byron Generating Station-Land Application of River Sediment from Cooling Tower Cleaning – Ogle County, IL, Permit No. 2009-SC-2169, Issued June 23, 2009

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 1250-11

PERMIT NO.: 2011-EP-1250

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS
PREPARED BY: Exelon Nuclear

DATE ISSUED: February 16, 2011

SUBJECT: EXELON GENERATION COMPANY - BYRON STATION - Hauling of Sanitary Wastewater Tributary to the City of Oregon WWTP

PERMITTEE TO OWN AND OPERATE

Exelon Generation Company, LLC
4450 N. German Church Rd.
Byron, Illinois 61010

RECEIVED
FEB 22 2011
BY: *[Signature]*

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows:

The hauling of approximately 18,000 gpd DMF of sanitary wastewater tributary to the City of Oregon Wastewater Treatment Facility.

This operating permit expires on January 31, 2016.

This Permit renews and replaces Permit Number 2008-EP-1216 which was previously issued for the herein permitted facilities.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: The issuance of this permit does not relieve the permittee of the responsibility of complying with 35 Ill. Adm. Code, Part 307 and/or the General Pretreatment Regulations (40 CFR 403) and any guidelines developed pursuant to Section 301, 306, or 307 of the Federal Clean Water Act of 1977.

SPECIAL CONDITION 2: The issuance of this permit does not relieve the permittee of the responsibility of complying with any limitations and provisions imposed by the City of Oregon.

SPECIAL CONDITION 3: This permit is being issued with the expressed understanding that the transportation of wastewater to the publicly owned treatment works for treatment will be done in accordance with the following IEPA Bureau of Land requirements:

Page 1 of 2

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:LRL:125011

DIVISION OF WATER POLLUTION CONTROL

cc: EPA - Rockford FOS

City of Oregon
Records - Municipal
Records - Industrial
Binds

Alan Keller
Alan Keller, P.E.
Manager, Permit Section

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.

2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:

- a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;

- b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;

- c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;

- d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;

- e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:

- a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;

- b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;

- c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;

- d. does not take into consideration or affect to the structural stability of any units or parts of the project;

- e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.

6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.

7. These standard conditions shall prevail unless modified by special conditions.

8. The Agency may file a complaint with the Board for suspension or revocation of a permit:

- a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or

- b. upon finding that any standard or special conditions have been violated; or

- c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 1250-11

PERMIT NO.: 2011-EP-1250

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS
PREPARED BY:** Exelon Nuclear

DATE ISSUED: February 16, 2011

SUBJECT: EXELON GENERATION COMPANY - BYRON STATION - Hauling of Sanitary Wastewater Tributary to the City of Oregon WWTP

These regulations as identified in 35 Ill. Adm. Code 809, state that the generator may not give the waste to a hauler unless the hauler has obtained an Illinois special waste haulers license; the hauler may not accept the waste unless it is accompanied by the required manifest; and the receiving facility can not accept the waste unless it is delivered by a licensed special waste hauler or exempt hauler, accompanied by the required manifest and the receiving facility has obtained the required permits to receive the waste.

The authorization number is no longer issued by this Agency. Therefore, you will no longer be required to identify the authorization number on the manifest when shipping waste as authorized by this permit.

RECEIVED
FEB 22 2011
BY: *[Signature]*

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 0293-10

PERMIT NO.: 2009-SC-2169-1

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS

DATE ISSUED: April 20, 2010

PREPARED BY: Exelon Generation Company

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

PERMITTEE TO OWN AND OPERATE

Exelon Generation - Byron Nuclear Station
4450 N German Church Rd.
Byron, Illinois 61010

RECEIVED
APR 23 2010

BY: *H. Loh...* 4/23/10

RECEIVED
APR 2 2010

BY

Supplemental Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities, which were previously approved under Permit No. 2009-SC-2169 dated June 23, 2009. These facilities have been revised as follows:

Surface application of approximately 1,800 dry tons per year of river sediments which have settled out in the bases of the cooling towers at Byron Nuclear Station. The river sediment is temporarily stored at the on-site basin and land applied on 48.23 acres of reclamation land located on station property in Ogle County. The application rate shall not exceed the agronomic rate for the crop grown for nitrogen, phosphorus or potassium, whichever is more limiting.

This operating permit expires on May 31, 2014.

All standard and special conditions and provisions of the original permit are also applicable to this permit unless specifically deleted or revised in this permit.

SPECIAL CONDITION 5:

B. It is not recommended that sludge be applied to sites:

1. When precipitation is imminent,
2. Which have received greater than 1/4 inch rainfall within the 24-hour period preceding the intended sludge application time.
3. When the sediment is covered with standing water.

Page 1 of 1

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:LRL:216909a.wpd

DIVISION OF WATER POLLUTION CONTROL

EPA - Rockford FOS
Records - Industrial
Binds

Alan Keller
Alan Keller, P.E.
Manager, Permit Section

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

RECEIVED JUN 29 2009

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

PERMITTEE TO OWN AND OPERATE

Exelon Generation - Byron Nuclear Station
4450 N German Church Rd.
Byron, Illinois 61010

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows:

Surface application of approximately 1,800 dry tons per year of river sediments which have settled out in the bases of the cooling towers at Byron Nuclear Station. The river sediment is temporarily stored (for up to 8 months) at the on-site basin and land applied on 48.23 acres of reclamation land located on station property in Ogle County. The application rate shall not exceed the agronomic rate for the crop grown for nitrogen, phosphorus or potassium, whichever is more limiting.

This operating permit expires on May 31, 2014.

This permit renews and replaces Permit Number 2004-SC-2559 and 2004-SC-2559-1 which were previously issued for the herein permitted facilities.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: This Permit is issued with the expressed understanding that there shall be no surface discharge from these facilities. If such discharge occurs, additional or alternate facilities shall be provided. The construction of such additional or alternate facilities may not be started until a Permit for the construction is issued by this Agency.

SPECIAL CONDITION 2: This permit is for land application of river sediment by surface application.

SPECIAL CONDITION 3: Due to metals loading, the site life of this land application project is expected to be less than five years. Therefore, additional application sites must be specified at the time of renewal of this permit.

Page 1 of 5

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:LRL:216909.wpd

DIVISION OF WATER POLLUTION CONTROL

EPA - Rockford FOS
Records - Industrial
Binds


Alan Keller, P.E.
Manager, Permit Section

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

SPECIAL CONDITION 4: Land Application Sites

<u>Site ID</u>	<u>Acres</u>
1	4.3
2	4.05
3	4.71
4	6.13
5	5.93
6	5.44
7	4.77
8	5.55
9	5.16
11	2.19

SPECIAL CONDITION 5:

A. River sediments from the cooling tower bases (sludge) shall be applied to sites within the following guidelines:

1. Sludge shall not be applied to sites during precipitation.
2. Sludge shall not be applied to sites which are saturated or with ponded water.
3. Sludge shall not be applied to ice or snow covered sites.
4. Frozen land, which is not ice or snow covered and has a slope of 5% or less, may be used for land application of sludge provided a 200 foot grassy area exists between the sludge applied land and any surface water or potable water supply well.

B. It is not recommended that sludge be applied to sites:

1. When precipitation is imminent,
2. Which have received greater than 1/4 inch rainfall within the 24-hour period preceding the intended sludge application time.

C. Sludge shall not be applied to land which lies within 200 feet from a community water supply well, potable water supply well, surface waters or intermittent streams or within one-fourth of a mile of any potable water supply wells located in consolidated bedrock such as limestone or sinkhole areas unless a 50 foot depth of non-sandy or non-gravelly unconsolidated material exists. In no case shall sludge be applied within 400 feet of a community water supply well deriving water from an unconfined shallow fractured or highly permeable bedrock formation or from an unconsolidated and unconfined sand and gravel formation.

Sludge shall not be applied to sites during the periods in which the seasonal high water table rises within 3 feet of the surface at the site.

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2160-09 (1520-08)

PERMIT NO.: 2009-SC-2160

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River Sediment from Cooling Tower Cleaning - Ogle County

- E. Sludge shall only be applied to land with a background soil pH of 6.5 or greater unless lime or other suitable materials are applied to the site prior to sludge application to raise the soil pH to a minimum of 6.5.
- F. Sludge shall be applied and incorporated into the site soils within the following guidelines:
1. Sludge may be surface applied without incorporation only if the site slope is less than 8% and the annual soil loss does not exceed 5 tons/acre as determined by the Universal Soil Loss Equation.
 2. Sludge shall be incorporated if:
 - A) Site slope exceeds 8% but the annual soil loss is less than 5 tons/acre, or
 - B) Site slope is less than 8% but the annual soil loss exceeds 5 ton/acre.
 3. Sludge shall not be applied to a site with slope greater than 8% with annual soil loss in excess of 5 ton/acre.
 4. Unless surface application is allowed pursuant to this condition, or otherwise specified in this permit, sludge shall be incorporated within 48 hours of application or prior to any rainfall whichever is more restrictive.
- G. The delivery and application of sludge, and the choice of an application site, shall be made so as to minimize the emission of odors to nearby residents taking into account the direction of wind, humidity and day of the week.
- H. Sludge application shall not exceed the following maximum metal loading rates over the lifetime of a site (pounds per acre).
1. Soils with 5-15 meq/100 grams Cation Exchange Capacity (CEC):

<u>Metal</u>	<u>Total Loading</u>	<u>Annual Loading</u>
Cadmium	10	2
Nickel	100	—
Copper	250	—
Zinc	500	—
Manganese	900	—
Lead	1000	—

2. Soils with 0-5 meq/100 grams CEC shall apply only half the metal loading rates set forth in item I(1) above.
3. Soils with 15 or greater meq/100 grams CEC may apply double the total metal loading rates set forth in item I(1) above, however a supplemental permit shall be required for that specific site.

SPECIAL CONDITION 6: Surface application of river sediment at double the total metal loading rates is allowed for sites 5, and 9.

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

SPECIAL CONDITION 7: Annual Operating Report Requirements.

The permit shall submit an annual report with at a minimum the following information:

A. Dates of sediment application, this will include the following:

1. Dates of removal of sediment from cooling tower
2. Period of storage of sediment.
3. Application date of sediment on reclamation site, with site ID identified.

B. Sample the sediment being land applied and chemically analyze said samples in accordance with the recommended procedures contained in the latest edition of Standard Methods for the Examination of Water and Wastewater for the following parameters:

Nutrients
Total Kjeldahl Nitrogen
Ammonia Nitrogen
Phosphorus
Potassium

Metals
Antimony
Arsenic
Cadmium
Chromium
Copper
Lead
Manganese
Mercury
Molybdenum
Nickel
Selenium
Silver
Zinc

Other
pH
% TS
% VS

C. Amount of sediment applied, this will include the following information:

1. Total estimated volume.
2. Loading rate in dry tons per acre with a percent total solids analysis on each site.
3. Thickness of sediment applied.
4. Total Metal Loading which occurred over the life of the site.
5. Quantity of sediment land applied per acre as a yearly total.

D. An updated loading rate for each site based on sediment sample applied to land. At a minimum this shall include updating the tables listed as Sediment Analysis, Nutrient Loading, and Heavy Metal Loading in permit application.

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

PREPARED BY: Conestoga-Rovers & Associates

DATE ISSUED: June 23, 2009

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

- E. Seeding dates with type of vegetation grown at each site.
- F. Precipitation events during sediment application.
- G. If there is any significant change in water treatment chemicals, and if needed provide MSDS sheets with new chemical usage.
- H. The sediment erosion control practices put in place during application periods.
- I. The report shall be submitted annually in November to the Illinois EPA at the following addresses:

Illinois Environmental Protection Agency
DWPC / CAS
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Illinois Environmental Protection Agency
DWPC / FOS
4302 North Main Street
Rockford, Illinois 61103

SPECIAL CONDITION 8: The application of river sediment shall not exceed the guidelines established under 35 Ill. Adm. Code Part 391 agronomic rates. The permittee shall perform agronomic calculations which will demonstrate that the actual sediment application rate for each growing season does not exceed the agronomic nitrogen demand or phosphorus and potassium fertilizer requirement of the crop grown. The agronomic calculations for each growing season shall be submitted to the Illinois EPA on a yearly basis to the addresses listed in Special Condition 7.

**READ ALL CONDITIONS CAREFULLY:
STANDARD CONDITIONS**

The Illinois Environmental Protection Act (Illinois Revised Statutes Chapter 111-12, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

1. Unless the construction for which this permit is issued has been completed, this permit will expire (1) two years after the date of issuance for permits to construct sewers or wastewater sources or (2) three years after the date of issuance for permits to construct treatment works or pretreatment works.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentations of credentials:
 - a. to enter at reasonable times, the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants;
 - e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rules or Regulation effective thereunder as a result of the construction or development authorized by this permit.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

RECEIVED JUN 29 2009

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS
PREPARED BY: Conestoga-Rovers & Associates

DATE ISSUED: June 23, 2009

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

PERMITTEE TO OWN AND OPERATE

Exelon Generation - Byron Nuclear Station
4450 N German Church Rd.
Byron, Illinois 61010

Permit is hereby granted to the above designated permittee(s) to construct and/or operate water pollution control facilities described as follows:

Surface application of approximately 1,800 dry tons per year of river sediments which have settled out in the bases of the cooling towers at Byron Nuclear Station. The river sediment is temporarily stored (for up to 8 months) at the on-site basin and land applied on 48.23 acres of reclamation land located on station property in Ogle County. The application rate shall not exceed the agronomic rate for the crop grown for nitrogen, phosphorus or potassium, whichever is more limiting.

This operating permit expires on May 31, 2014.

This permit renews and replaces Permit Number 2004-SC-2559 and 2004-SC-2559-1 which were previously issued for the herein permitted facilities.

This Permit is issued subject to the following Special Condition(s). If such Special Condition(s) require(s) additional or revised facilities, satisfactory engineering plan documents must be submitted to this Agency for review and approval for issuance of a Supplemental Permit.

SPECIAL CONDITION 1: This Permit is issued with the expressed understanding that there shall be no surface discharge from these facilities. If such discharge occurs, additional or alternate facilities shall be provided. The construction of such additional or alternate facilities may not be started until a Permit for the construction is issued by this Agency.

SPECIAL CONDITION 2: This permit is for land application of river sediment by surface application.

SPECIAL CONDITION 3: Due to metals loading, the site life of this land application project is expected to be less than five years. Therefore, additional application sites must be specified at the time of renewal of this permit.

Page 1 of 5

THE STANDARD CONDITIONS OF ISSUANCE INDICATED ON THE REVERSE SIDE MUST BE COMPLIED WITH IN FULL. READ ALL CONDITIONS CAREFULLY.

SAK:LRL:216909.wpd

DIVISION OF WATER POLLUTION CONTROL

EPA - Rockford FOS
Records - Industrial
Binds


Alan Keller, P.E.
Manager, Permit Section

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

SPECIAL CONDITION 4: Land Application Sites

<u>Site ID</u>	<u>Acreage</u>
1	4.3
2	4.05
3	4.71
4	6.13
5	5.93
6	5.44
7	4.77
8	5.55
9	5.16
11	2.19

SPECIAL CONDITION 5:

A. River sediments from the cooling tower bases (sludge) shall be applied to sites within the following guidelines:

1. Sludge shall not be applied to sites during precipitation.
2. Sludge shall not be applied to sites which are saturated or with ponded water.
3. Sludge shall not be applied to ice or snow covered sites.
4. Frozen land, which is not ice or snow covered and has a slope of 5% or less, may be used for land application of sludge provided a 200 foot grassy area exists between the sludge applied land and any surface water or potable water supply well.

B. It is not recommended that sludge be applied to sites:

1. When precipitation is imminent,
2. Which have received greater than 1/4 inch rainfall within the 24-hour period preceding the intended sludge application time.

C. Sludge shall not be applied to land which lies within 200 feet from a community water supply well, potable water supply well, surface waters or intermittent streams or within one-fourth of a mile of any potable water supply wells located in consolidated bedrock such as limestone or sinkhole areas unless a 50 foot depth of non-sandy or non-gravelly unconsolidated material exists. In no case shall sludge be applied within 400 feet of a community water supply well deriving water from an unconfined shallow fractured or highly permeable bedrock formation or from an unconsolidated and unconfined sand and gravel formation.

D. Sludge shall not be applied to sites during the periods in which the seasonal high water table rises within 3 feet of surface at the site.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River Sediment from Cooling Tower Cleaning - Ogle County

- E. Sludge shall only be applied to land with a background soil pH of 6.5 or greater unless lime or other suitable materials are applied to the site prior to sludge application to raise the soil pH to a minimum of 6.5.
- F. Sludge shall be applied and incorporated into the site soils within the following guidelines:
1. Sludge may be surface applied without incorporation only if the site slope is less than 8% and the annual soil loss does not exceed 5 tons/acre as determined by the Universal Soil Loss Equation.
 2. Sludge shall be incorporated if:
 - A) Site slope exceeds 8% but the annual soil loss is less than 5 tons/acre, or
 - B) Site slope is less than 8% but the annual soil loss exceeds 5 ton/acre.
 3. Sludge shall not be applied to a site with slope greater than 8% with annual soil loss in excess of 5 ton/acre.
 4. Unless surface application is allowed pursuant to this condition, or otherwise specified in this permit, sludge shall be incorporated within 48 hours of application or prior to any rainfall whichever is more restrictive.
- G. The delivery and application of sludge, and the choice of an application site, shall be made so as to minimize the emission of odors to nearby residents taking into account the direction of wind, humidity and day of the week.
- H. Sludge application shall not exceed the following maximum metal loading rates over the lifetime of a site (pounds per acre).
1. Soils with 5-15 meq/100 grams Cation Exchange Capacity (CEC):

<u>Metal</u>	<u>Total Loading</u>	<u>Annual Loading</u>
Cadmium	10	2
Nickel	100	--
Copper	250	--
Zinc	500	--
Manganese	900	--
Lead	1000	--

2. Soils with 0-5 meq/100 grams CEC shall apply only half the metal loading rates set forth in item I(1) above.
3. Soils with 15 or greater meq/100 grams CEC may apply double the total metal loading rates set forth in item I(1) above, however a supplemental permit shall be required for that specific site.

SPECIAL CONDITION 6: Surface application of river sediment at double the total metal loading rates is allowed for sites 5, 6, and 9.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River
Sediment from Cooling Tower Cleaning - Ogle County

SPECIAL CONDITION 7: Annual Operating Report Requirements.

The permit shall submit an annual report with at a minimum the following information:

A. Dates of sediment application, this will include the following:

1. Dates of removal of sediment from cooling tower
2. Period of storage of sediment.
3. Application date of sediment on reclamation site, with site ID identified.

B. Sample the sediment being land applied and chemically analyze said samples in accordance with the recommended procedures contained in the latest edition of Standard Methods for the Examination of Water and Wastewater for the following parameters:

Nutrients
Total Kjeldahl Nitrogen
Ammonia Nitrogen
Phosphorus
Potassium

Metals
Antimony
Arsenic
Cadmium
Chromium
Copper
Lead
Manganese
Mercury
Molybdenum
Nickel
Selenium
Silver
Zinc

Other
pH
% TS
% VS

C. Amount of sediment applied, this will include the following information:

1. Total estimated volume.
2. Loading rate in dry tons per acre with a percent total solids analysis on each site.
3. Thickness of sediment applied.
4. Total Metal Loading which occurred over the life of the site.
5. Quantity of sediment land applied per acre as a yearly total.

D. An updated loading rate for each site based on sediment sample applied to land. At a minimum this shall include updating the tables listed as Sediment Analysis, Nutrient Loading, and Heavy Metal Loading in permit application.

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WATER POLLUTION CONTROL PERMIT**

LOG NUMBERS: 2169-09 (1520-08)

PERMIT NO.: 2009-SC-2169

**FINAL PLANS, SPECIFICATIONS, APPLICATION
AND SUPPORTING DOCUMENTS**

DATE ISSUED: June 23, 2009

PREPARED BY: Conestoga-Rovers & Associates

SUBJECT: EXELON GENERATION COMPANY - BYRON GENERATION STATION - Land Application of River Sediment from Cooling Tower Cleaning - Ogle County

- E. Seeding dates with type of vegetation grown at each site.
- F. Precipitation events during sediment application.
- G. If there is any significant change in water treatment chemicals, and if needed provide MSDS sheets with new chemical usage.
- H. The sediment erosion control practices put in place during application periods.
- I. The report shall be submitted annually in November to the Illinois EPA at the following addresses:

Illinois Environmental Protection Agency
DWPC / CAS
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Illinois Environmental Protection Agency
DWPC / FOS
4302 North Main Street
Rockford, Illinois 61103

SPECIAL CONDITION 8: The application of river sediment shall not exceed the guidelines established under 35 Ill. Adm. Code Part 391 agronomic rates. The permittee shall perform agronomic calculations which will demonstrate that the actual sediment application rate for each growing season does not exceed the agronomic nitrogen demand or phosphorus and potassium fertilizer requirement of the crop grown. The agronomic calculations for each growing season shall be submitted to the Illinois EPA on a yearly basis to the addresses listed in Special Condition 7.

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-1 **Category:** Water Resources – Surface Water

Statement of Question:

h. Provide a description of the methodology/procedure used to ensure compliance with instream flow requirements (i.e., adjusting cooling water system (CWS) makeup and blowdown).

Response:

To ensure compliance with instream river flow requirements, Section 10.4.5 of the UFSAR, Revision 9 states that net withdrawal from the river must be maintained at a level acceptable to the Illinois Department of Conservation. If the consumptive demand exceeds a level acceptable to the Illinois Department of Conservation, the plant power level is reduced until the river flow increases sufficiently to allow the withdrawal rate necessary for full power operation. The implementing Byron procedure is OBOA ENV-2, "Rock River Abnormal Water Level," which is described in the Request for Additional Information Response AQ-2.

List Attachments Provided:

1. UFSAR Revision 9, Section 10.4.5 "Circulating Water System", page 10.4-8

10.4.5 Circulating Water System

Provided on each unit are three circulating pumps, each rated at 214,500 gpm. The main condenser of each unit requires 693,000 gpm of circulating water flow to remove cycle waste heat. This is based on a temperature rise of approximately 23.5°F through the condenser at 100% load. One cooling tower per unit is used to dissipate the waste heat to the atmosphere. The circulating water will flow through a 16-foot-diameter pipeline to each cooling tower inlet header. Following cooling in the tower, flow is directed from each tower basin through an open flume approximately 22 feet deep and 32 feet wide to a pumphouse servicing both units. Three circulating water pumps per unit pump the flow into 16-foot-diameter lines back to the main condensers. Water chemistry is controlled by continuous blowdown of supply water to the condenser and makeup to the open flume between the two towers. The circulating water pumps are of the vertical dry pit type and receive suction from the basin of the natural draft cooling tower via the open flume and pump intake bay. The system is designed to provide a normal submergence level of 6 feet to the pumps. The pump design requires a submergence of approximately 2 feet with three pumps per unit in service.

Under most circumstances, the two-unit Byron Station is capable of operating at full load with cooling tower consumptive losses supplied by a net withdrawal rate no greater than 10% of the Rock River flow. During the simultaneous occurrence of abnormally adverse weather and low river flow, however, cooling tower consumptive demand at full load may exceed 10% of the river flow. In this instance, the net withdrawal from the river will be maintained at a level acceptable to the Illinois Department of Conservation. If the consumptive demand at full load exceeds this level, the plant power level will be reduced until the river flow increases sufficiently to allow the withdrawal rate necessary for full power operation.

Emergency cooling of the plant does not depend upon the circulating water system. Instead, the essential service water system is used, as described in Subsection 9.2.1.2.

The source of water for makeup is the Rock River. Makeup water requires chemical addition to suppress organic growth in the cooling system and reduce scale-forming tendencies.

The makeup water is supplied by Safety Category II pumps located in the river screen house. These pumps, one for each natural draft tower, have a capacity of approximately 24,000 gpm at a total developed head of approximately 374 feet. A third pump is provided as a backup. The arrangement of these pumps within the building is such that the function of the essential makeup pumps is not impaired should a failure of the Safety Category II pumps occur. A drawing of the river screen house is provided in Drawing M-20. Each cooling tower will be approximately 495 feet high

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-2 Category: Water Resources – Surface Water

Statement of Question:

Provide all non-radiological monitoring reports from the last five years, including NPDES Discharge Monitoring Reports and surface water withdrawal records/reports. For discharge monitoring reports (DMR), provide data for 2010, 2011, 2012, and 2013 year to date.

Response:

The NPDES Discharge Monitoring Reports for the most recent five years (2008 through 2012), as well as for January through July 2013, are provided as Attachments to the Request for Additional Information Response HH-1.

The surface water withdrawal reports for the most recent five years are attached to the response to Audit Needs Question WR-GW-1b.

Below is a list of additional non-radiological monitoring reports related to the land application of sediment from the cooling tower basins, which are attached.

List Attachments Provided:

1. Annual Operating Report Land Application Permit No. 2009-SC-2169-1, dated November 26, 2012
2. Annual Operating Report Land Application Permit No. 2009-SC-2169-1, dated November 23, 2011
3. Annual Operating Report Land Application Permit No. 2009-SC-2169-1, dated November 14, 2010
4. Annual Operating Report Land Application Permit No. 2009-SC-2169-1, dated November 14, 2009
5. Annual Operating Report Land Application Permit No. 2009-SC-2169-1, dated November 14, 2008

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

November 26, 2012

LTR: BYRON 2012-0124
File: 2.09.0411
1.10.0101

**Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Springfield, IL 63794-9276**

Subject: Annual Operating Report Land Application Permit No. 2009-SC-2169-1

In accordance with Illinois Environmental Protection Agency (IEPA) Land Application Permit Number 2009-SC-2169-1, Byron Station is submitting the Annual Operating Report.

Sediments were removed from Unit 2 cooling tower from September 22 to September 30, 2011. Sediments were stored in drying basin from September 22, 2011 to August 30, 2012. Dates of land application were October 22 to October 24, 2012. There was no precipitation during application. No new water treatment chemicals were used in the past year. Erosion control practices were in place for the application timeframe. Land application site is designated as "Site 3 and 4A".

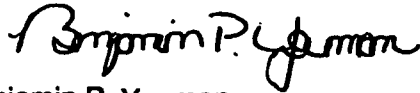
Attached is the analysis of sediment and this data was used in Tables 3.1 to 3.3. Sediment was applied and incorporated into the soil. Slope of the ground at Site 3 and 4A was less than 5% and there is over 15 ft of grass border surrounding application site. Application site was seeded with buffalo grass and covered with straw. Sediment had no odor. Seeding date was November 14, 2012.

The estimated volume of sediment applied was 1035 cubic yards, with loading rate of 4.2 lbs of Zinc per acre for Site 3 and 4A. The loading rate was 67 lbs of Manganese per acre for site 3 and 4A. The Nitrogen Application Rate was used with 1.8 inches thickness of sediment for this application and a Sediment Loading Rate of 154 tons per acre (dry) (see Tables 3.2 & 3.3). There has been one previous land application at Site 3 and this makes the Total Metal Loading value become 91.8 lbs of Zinc per acre and 167.6 lbs of Manganese per acre. The quantity of sediment that was land applied to site 3 and 4A in 2012 was 148 cubic yards per acre.

November 26, 2012
Illinois Environmental Protection Agency
Page 2

If there are any questions regarding this report, please contact Ms. Zoe Cox,
Environmental/Radwaste Supervisor, at (815) 406-3035.

Respectfully,



Benjamin P. Youman
Plant Manager
Byron Nuclear Generating Station

BPY/DS/eh

cc: Illinois Environmental Protection
Division of Water Pollution Control – FOS
4302 North Main Street
Rockford, IL 61103

**SUMMARY OF LABORATORY ANALYSIS OF SEDIMENT
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

<i>Parameter</i>		<i>Result</i> ^{1,2}	<i>Units</i>
Arsenic		3.3	mg/kg
Lead		16.0	mg/kg
Selenium		<0.39	mg/kg
Silver		<0.081	mg/kg
Cadmium		0.5	mg/kg
Chromium		17.0	mg/kg
Copper		32.0	mg/kg
Potassium		1100.0	mg/kg
Manganese		810.0	mg/kg
Molybdenum		0.6	mg/kg
Nickel		13.0	mg/kg
Antimony		<0.36	mg/kg
Zinc		150.0	mg/kg
Mercury		0.120	mg/kg
Ammonia Nitrogen		310.0	mg/kg
pH		8.0	
Available Phosphorus		246.0	mg/kg
Total Phosphorus		1500.0	mg/kg
Total Kjeldahl Nitrogen		2100.0	mg/kg
Total Residue as percent solids		66.0	%
Volatile Residue (TVS)		7.4	%

Notes:

¹ Results and reporting limits have been adjusted for dry weight.

² Sample result from samples taken 2/12/09 & 04/2/12.

TABLE 3.2

**NUTRIENT LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

<i>Contaminant</i>	<i>Fertilizer Requirements</i>	<i>Fertilizer Requirement</i>	<i>Sample</i>	<i>Sediment Loading</i>	<i>Nutrient Loading</i>	<i>Part 391 Calculated</i>
	<i>Illinois Crops</i>	<i>for 1 Year of Grass²</i>	<i>ppm-dry</i>	<i>Rate</i>	<i>Rate</i>	<i>Nutrient Limit</i>
	<i>lbs./ton of grass¹</i>	<i>lbs./acre</i>		<i>tons/acre</i>	<i>lbs./acre</i>	<i>lbs./acre</i>
				<i>(dry)</i>	<i>(dry)</i>	<i>(dry)</i>
Phosphorus (Available) ⁴	6.5	24.7	246.00	154	75.77	800
Potassium	46.8	177.84	1100.00	154	338.80	NA ³
Ammonia N			310.00			
Total Kjeldahl N			2100.00			
Organic N			2570.00			
Available N (1st year)	42.5	161.5	155	154	47.74	161.5
Available N (2nd year)		161.5	155	75	102.41	161.5
Available N (3rd year)		161.5	669	75	178.48	161.5
Available N (4th year)		161.5	669	75	177.96	161.5
Available N (5th year)		161.5	669	75	177.71	161.5

Notes:

¹ From Table IV in Appendix B of Part 391, used an average of tall fescue, Bromegrass, Sorghum-Sudan, Orchard grass, Timothy and Reed Canary grass.

² Assumption - from Appendix C of Part 391 - average crop yield in Ogle County for hay is 3.8 dry tons/acre.

³ The potassium in the sediment is very similar to the potassium in the background and reclamation site (640 ppm versus a range of <549-877 ppm).

⁴ Available Phosphorus determined by SGS Mowers 2/12/09

TABLE 3.3

**HEAVY METALS LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Contaminant	Part 391 Limit	Part 391 Limit	Sample ppm - dry	Sediment Applic. Rate @ 391 Limit	Solids Content at Application	Sediment Density at Application	Dried Sediment yd ³ /acre	Sediment Laid Down	Maximum Allowed Sediment Applic.	Maximum Allowed Sediment Applic.	Heavy Metal Application Rate
	lbs/acre	lbs/acre		(tons/acre)	(%)	tons/yd ³	(wet)	(inches)	Rate (tons/acre)	Rate (tons/acre)	lbs/acre
	(lifetime)	(annual) ¹		(dry)		(wet)	(wet)	(wet)	(dry)	(wet)	
Antimony	700		0.36	972222	66	0.94	1567089	11656.0	154	233	0.1
Arsenic	100		3.30	15152	66	0.94	24422	181.7	154	233	1.0
Cadmium	10	2	0.53	1887	66	0.94	3041	22.6	154	233	0.2
Chromium (hex) ²	440	44	17.00	1294	66	0.94	2086	15.5	154	233	5.2
Chromium (tri) ³	3500	89	17.00	2618	66	0.94	4219	31.4	154	233	5.2
Copper	250		32.00	3906	66	0.94	6296	46.8	154	233	9.9
Lead	1000		16.00	31250	66	0.94	50371	374.7	154	233	4.9
Manganese	900		810.00	556	66	0.94	895	6.7	154	233	249.5
Mercury		7	0.12	29167	66	0.94	47013	349.7	154	233	0.0
Nickel	100		13.00	3846	66	0.94	6199	46.1	154	233	4.0
Selenium ⁴	8		0.39	10256	66	0.94	16532	123.0	154	233	0.1
Silver	178		0.08	1098765	66	0.94	1771060	13173.2	154	233	0.0
Zinc	500		150.00	1667	66	0.94	2686	20.0	154	233	46.2
Molybdenum ⁴			0.62								
pH			7.98								
HEAVY METALS LIMITING LOADING FACTOR				556			895	6.7			
NUTRIENT LIMITING LOADING FACTOR				154			248	1.8			
(2nd year application)				75			121	0.9			
SEDIMENT LIMITED LOADING FACTOR				154			248	1.8			
(Maximum Allowed)											

Notes:

- ¹ If an annual average value is present in the 391 regulations, this value was used as the more conservative value to determine if the metal would limit the application. Closer examination of this metal would be necessary if the metals with annual values restrict the application rate, and multiple-year applications are desirable.
- ² Hexavalent chromium was not detected in the samples, but the detection limit was high. Therefore, the total chromium value was used assuming all was hex chrome.
- ³ Total chromium value was used assuming all was trivalent chromium.
- ⁴ Land used for sediment application is not used for crops or to feed livestock so the concentration of molybdenum and/or selenium could exceed 4.0 mg/kg (dry)

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

November 23, 2011

LTR: BYRON 2011-0155
File: 2.09.0411
1.10.0101

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Springfield, IL 63794-9276

Subject: Annual Operating Report Land Application Permit No. 2009-SC-2169-1

In accordance with Illinois Environmental Protection Agency (IEPA) Land Application Permit Number 2009-SC-2169-1, Byron Station is submitting the Annual Operating Report.

Sediments were removed from Unit 1 cooling tower from March 19, 2011 to March 24, 2011. Sediments were stored in drying basin from March 19, 2011 to September 15, 2011. Dates of land application were November 16th & 17th, 2011. There was no precipitation during application. No new water treatment chemicals were used in the past year. Erosion control practices were in place for the application timeframe. Land application site is designated as "Site 6".


Attached is the analysis of sediment and this data was used in Tables 3.1 to 3.3. Sediment was applied and incorporated into the soil. Slope of the ground at Site 6 was less than 5% and there is over 15 ft of grass border surrounding application site. Application site was seeded with buffalo grass and covered with straw. Sediment had no odor. Seeding date was November 22nd & 23rd, 2011.

The estimated volume of sediment applied was 1037 cubic yards, with loading rate of 80.1 lbs of Zinc/acre for Site 6. The Nitrogen Application Rate was used with 1.6 inches thickness of sediment for this application and a Sediment Loading Rate of 154 tons per acre (dry) (see Tables 3.2 & 3.3). There has been one previous land application at Site 6 and this makes the Total Metal Loading value become 642.4 lbs of Zinc/acre. The quantity of sediment that was land applied to site 6 in 2011 was 189 cubic yards per acre.

November 23, 2011
Illinois Environmental Protection Agency
Page 2

If there are any questions regarding this report, please contact Mr. Allen Creamean, Chemistry Manager (815) 406-3200.

Respectfully,



Bradley J. Adams
Plant Manager
Byron Nuclear Generating Station

BJA/ZC/ca

cc: Illinois Environmental Protection
Division of Water Pollution Control – FOS
4302 North Main Street
Rockford, IL 61103

**SUMMARY OF LABORATORY ANALYSIS OF SEDIMENT
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

<i>Parameter</i>		<i>Result</i> ^{1,2}	<i>Units</i>
Arsenic		3.1	mg/kg
Lead		16.0	mg/kg
Selenium		<0.36	mg/kg
Silver		<0.082	mg/kg
Cadmium		0.7	mg/kg
Chromium		19.0	mg/kg
Copper		29.0	mg/kg
Potassium		1300.0	mg/kg
Manganese		930.0	mg/kg
Molybdenum		0.7	mg/kg
Nickel		14.0	mg/kg
Antimony		<0.30	mg/kg
Zinc		260.0	mg/kg
Mercury		0.120	mg/kg
Ammonia Nitrogen		420.0	mg/kg
pH		7.9	
Available Phosphorus		246.0	mg/kg
Total Phosphorus		1100.0	mg/kg
Total Kjeldahl Nitrogen		2000.0	mg/kg
Total Residue as percent solids		75.9	%
Volatile Residue (TVS)		9.0	%

Notes:

¹ Results and reporting limits have been adjusted for dry weight.

² Sample result from samples taken 2/12/09 & 06/27/11.

**NUTRIENT LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

<i>Contaminant</i>	<i>Fertilizer Requirements</i>	<i>Fertilizer Requirement</i>	<i>Sample</i>	<i>Sediment Loading</i>	<i>Nutrient Loading</i>	<i>Part 391 Calculated</i>
	<i>Illinois Crops</i>	<i>for 1 Year of Grass²</i>	<i>ppm-dry</i>	<i>Rate</i>	<i>Rate</i>	<i>Nutrient Limit</i>
	<i>lbs./ton of grass¹</i>	<i>lbs./acre</i>		<i>tons/acre</i>	<i>lbs./acre</i>	<i>lbs./acre</i>
				<i>(dry)</i>	<i>(dry)</i>	<i>(dry)</i>
Phosphorus (Available) ⁴	6.5	24.7	246.00	154	75.77	800
Potassium	46.8	177.84	1300.00	154	400.40	NA ³
Ammonia N			420.00			
Total Kjeldahl N			2000.00			
Organic N			2570.00			
Available N (1st year)	42.5	161.5	210	154	64.68	161.5
Available N (2nd year)		161.5	210	75	110.66	161.5
Available N (3rd year)		161.5	724	75	186.73	161.5
Available N (4th year)		161.5	724	75	186.21	161.5
Available N (5th year)		161.5	724	75	185.96	161.5

Notes:

¹ From Table IV in Appendix B of Part 391, used an average of tall fescue, Bromegrass, Sorghum-Sudan, Orchard grass, Timothy and Reed Canary grass.

² Assumption - from Appendix C of Part 391 - average crop yield in Ogle County for hay is 3.8 dry tons/acre.

³ The potassium in the sediment is very similar to the potassium in the background and reclamation site (640 ppm versus a range of <549-877 ppm).

⁴ Available Phosphorus determined by SGS Mowers 2/12/09

TABLE 3.3

**HEAVY METALS LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Contaminant	Part 391 Limit	Part 391 Limit	Sample ppm - dry	Sediment Applic. Rate @ 391 Limit	Solids Content at Application	Sediment Density at Application	Dried Sediment yd ³ /acre	Sediment Laid Down	Maximum Allowed Sediment Applic.	Maximum Allowed Sediment Applic.	Heavy Metal Application Rate
	lbs/acre (lifetime)	lbs/acre (annual) ¹		(tons/acre) (dry)	(%)	(tons/yd ³) (wet)	(wet)	(inches) (wet)	Rate (tons/acre) (dry)	Rate (tons/acre) (wet)	lbs/acre
Antimony	700		0.30	1166667	76	0.94	1635224	12162.8	154	203	0.1
Arsenic	100		3.10	16129	76	0.94	22607	168.1	154	203	1.0
Cadmium	10	2	0.74	1351	76	0.94	1894	14.1	154	203	0.2
Chrome (hex) ²	440	44	19.00	1158	76	0.94	1623	12.1	154	203	5.9
Chrome (tri) ³	3500	89	19.00	2342	76	0.94	3283	24.4	154	203	5.9
Copper	250		29.00	4310	76	0.94	6041	44.9	154	203	8.9
Lead	1000		16.00	31250	76	0.94	43801	325.8	154	203	4.9
Manganese	900		930.00	484	76	0.94	678	5.0	154	203	286.4
Mercury		7	0.12	29167	76	0.94	40881	304.1	154	203	0.0
Nickel	100		14.00	3571	76	0.94	5006	37.2	154	203	4.3
Selenium ⁴	8		0.36	11111	76	0.94	15574	115.8	154	203	0.1
Silver	178		0.08	1085366	76	0.94	1521271	11315.2	154	203	0.0
Zinc	500		260.00	962	76	0.94	1348	10.0	154	203	80.1
Molybdenum ⁴			0.67								
pH			7.91								
HEAVY METALS LIMITING LOADING FACTOR				484			678	5.0			
NUTRIENT LIMITING LOADING FACTOR				154			216	1.6			
(2nd year application)				75			105	0.8			
SEDIMENT LIMITED LOADING FACTOR				154			216	1.6			
(Maximum Allowed)											

Notes:

¹ If an annual average value is present in the 391 regulations, this value was used as the more conservative value to determine if the metal would limit the application.

Closer examination of this metal would be necessary if the metals with annual values restrict the application rate, and multiple-year applications are desirable.

² Hexavalent chromium was not detected in the samples, but the detection limit was high. Therefore, the total chrome value was used assuming all was hex chrome.

³ Total chrome value was used assuming all was trivalent chrome.

⁴ Land used for sediment application is not used for crops or to feed livestock so the concentration of molybdenum and/or selenium could exceed 4.0 mg/kg (dry)

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

November 14, 2010

LTR: BYRON 2010-0131
File: 2.09.0411
1.10.0101

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Springfield, IL 63794-9276

Subject: Annual Operating Report Land Application Permit No. 2009-SC-2169

In accordance with Illinois Environmental Protection Agency (IEPA) Land Application Permit Number 2009-SC-2169, Byron Station is submitting the Annual Operating Report.

Sediments were removed from Unit 1 cooling tower from September 16, 2009 to September 22, 2009. Sediments were removed from Unit 2 cooling tower from April 21, 2010 to April 26, 2010. Sediments were stored in drying basin from September 16, 2009, to September 27, 2010. Dates of land application were September 27, to September 30, 2010. There was no precipitation during application. No new water treatment chemicals were used in the past year. Erosion control practices were in place for the application timeframe. Land application site is designated as "Site #5B & 6".

Attached is the analysis of sediment and this data was used in Tables 3.1 to 3.3. Sediment was applied and incorporated into the soil. Slope of the ground at site #5B & 6 was less than 5% and there is over 15 ft of grass border surrounding application site. Application site was seeded with buffalo grass and covered with straw. Sediment had no odor. Seeding date was October 6th & 7th, 2010.

The estimated volume of sediment applied was 1500 cubic yards, with loading rate of 62.3 lbs of zinc/acre for Site #5B & 6. The Nitrogen Application Rate was used with 1.9 inches thickness of sediment for this application and a Sediment Loading Rate of 154 tons per acre (dry) (see Tables 3.2 & 3.3). There has been one previous land application at Site #5B & 6 and this makes the Total Metal Loading value become 562.3 lbs of zinc/acre. The quantity of sediment that was land applied to site #5B & 6 in 2010 was 221 cubic yards per acre.

November 14, 2010
Illinois Environmental Protection Agency
Page 2

If there are any questions regarding this report, please contact Stanley Kerr, Chemistry Manager (815) 406-3200.

Respectfully,



Bradley J. Adams
Plant Manager
Byron Nuclear Generating Station

BJA/DS/sdk

cc: Illinois Environmental Protection
Division of Water Pollution Control – FOS
4302 North Main Street
Rockford, IL 61103

**SUMMARY OF LABORATORY ANALYSIS OF SEDIMENT
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS
Unit 1 and 2 Silts**

<i>Parameter</i>		<i>Result</i> ^{1,2}	<i>Units</i>
Arsenic		6.9	mg/kg
Lead		19.5	mg/kg
Selenium		<6.0	mg/kg
Silver		<0.16	mg/kg
Cadmium		0.7	mg/kg
Chromium		23.0	mg/kg
Copper		31.0	mg/kg
Potassium		1100.0	mg/kg
Manganese		950.0	mg/kg
Molybdenum		<1.89	mg/kg
Nickel		15.5	mg/kg
Antimony		<0.84	mg/kg
Zinc		575.0	mg/kg
Mercury		0.055	mg/kg
Ammonia Nitrogen		225.0	mg/kg
pH		7.5	
Available Phosphorus		246.0	mg/kg
Total Phosphorus		1165.0	mg/kg
Total Kjeldahl Nitrogen		325.0	mg/kg
Total Residue as percent solids		64.0	%
Volatile Residue (TVS)		7.4	%

Notes:

¹ Results and reporting limits have been adjusted for dry weight.

² Sample result is average from samples taken 2/12/09, 11/10/09 & 06/07/10.

TABLE 3.2

**NUTRIENT LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

<i>Contaminant</i>	<i>Fertilizer Requirements</i>	<i>Fertilizer Requirement</i>	<i>Sample</i>	<i>Sediment Loading</i>	<i>Nutrient Loading</i>	<i>Part 391 Calculated</i>
	<i>Illinois Crops</i>	<i>for 1 Year of Grass²</i>	<i>ppm-dry</i>	<i>Rate</i>	<i>Rate</i>	<i>Nutrient Limit</i>
	<i>lbs./ton of grass¹</i>	<i>lbs./acre</i>		<i>tons/acre</i>	<i>lbs./acre</i>	<i>lbs./acre</i>
				<i>(dry)</i>	<i>(dry)</i>	<i>(dry)</i>
Phosphorus (Available) ⁴	6.5	24.7	246.00	154	75.77	800
Potassium	46.8	177.84	1100.00	154	338.80	NA ³
Ammonia N			225.00			
Total Kjeldahl N			325.00			
Organic N			100.00			
Available N (1st year)	42.5	161.5	132.5	154	40.81	161.5
Available N (2nd year)		161.5	132.5	75	22.96	161.5
Available N (3rd year)		161.5	132.5	75	22.92	161.5
Available N (4th year)		161.5	132.5	75	22.90	161.5
Available N (5th year)		161.5	132.5	75	22.89	161.5

Notes:

¹ From Table IV in Appendix B of Part 391, used an average of tall fescue, Bromegrass, Sorghum-Sudan, Orchard grass, Timothy and Reed Canary grass.

² Assumption - from Appendix C of Part 391 - average crop yield in Ogle County for hay is 3.8 dry tons/acre.

³ The potassium in the sediment is very similar to the potassium in the background and reclamation site (640 ppm versus a range of <549-877 ppm).

⁴ Available Phosphorus determined by SGS Mowers 2/12/09

TABLE 3.3

**HEAVY METALS LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Contaminant	Part 391 Limit	Part 391 Limit	Sample ppm - dry	Sediment Applic. Rate @ 391 Limit	Solids Content at Application	Sediment Density at Application	Dried Sediment yd ³ /acre	Sediment Laid Down	Maximum Allowed Sediment Applic.	Maximum Allowed Sediment Applic.	Heavy Metal Application Rate
	lbs./acre (lifetime)	lbs./acre (annual) ¹		(tons/acre) (dry)	(%)	tons/yd ³ (wet)	(wet)	(inches) (wet)	Rate (tons/acre) (dry)	Rate (tons/acre) (wet)	lbs./acre
Antimony	700		0.80	437500	64	0.94	727227	5409.1	154	241	0.2
Arsenic	100		6.90	7246	64	0.94	12045	89.6	154	241	2.1
Cadmium	10	2	0.70	1429	64	0.94	2375	17.7	154	241	0.2
Chrome (hex) ²	440	44	23.00	957	64	0.94	1590	11.8	154	241	7.1
Chrome (tri) ³	3500	89	23.00	1935	64	0.94	3216	23.9	154	241	7.1
Copper	250		31.00	4032	64	0.94	6703	49.9	154	241	9.5
Lead	1000		19.50	25641	64	0.94	42621	317.0	154	241	6.0
Manganese	900		950.00	474	64	0.94	787	5.9	154	241	292.6
Mercury		7	0.06	63636	64	0.94	105779	786.8	154	241	0.0
Nickel	100		15.50	3226	64	0.94	5362	39.9	154	241	4.8
Selenium ⁴	8		5.90	678	64	0.94	1127	8.4	154	241	1.8
Silver	178		0.16	556250	64	0.94	924618	6877.3	154	241	0.0
Zinc	500		575.00	435	64	0.94	723	5.4	154	241	177.1
Molybdenum ⁴			<1.89								
pH			7.45								
HEAVY METALS LIMITING LOADING FACTOR				435			723	5.4			
NUTRIENT LIMITING LOADING FACTOR				154			256	1.9			
(2nd year application)				75			125	0.9			
SEDIMENT LIMITED LOADING FACTOR				154			256	1.9			
(Maximum Allowed)											

Notes:

¹ If an annual average value is present in the 391 regulations, this value was used as the more conservative value to determine if the metal would limit the application.

Closer examination of this metal would be necessary if the metals with annual values restrict the application rate, and multiple-year applications are desirable.

² Hexavalent chromium was not detected in the samples, but the detection limit was high. Therefore, the total chrome value was used assuming all was hex chrome.

³ Total chrome value was used assuming all was trivalent chrome.

⁴ Land used for sediment application is not used for crops or to feed livestock so the concentration of molybdenum and/or selenium could exceed 4.0 mg/kg (dry)

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

November 14, 2009

LTR: BYRON 2009-0121
File: 2.09.0411
1.10.0101

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Springfield, IL 63794-9276

Subject: Annual Operating Report Land Application Permit No. 2009-SC-2169

In accordance with Illinois Environmental Protection Agency (IEPA) Land Application Permit Number 2009-SC-2169, Byron Station is submitting the Annual Operating Report.

Sediments were removed from Unit 2 cooling tower from October 9, 2008 to October 14, 2008. Sediments were stored in drying basin from October 9, 2008 to September 14, 2009. Previous permit had expired on November 30, 2008 and sediments were stored until new permit was issued. Dates of land application were September 15, 2009 to September 21, 2009. There was no precipitation during application. No new water treatment chemicals were used in the past year. Erosion control practices were in place for the application timeframe. Land application site is designated as "Site #3".

Attached is the analysis of sediment and this data was used in Tables 3.1 to 3.3. Sediment was surface applied to the current grass cover without incorporation because the slope at the application site was less than 5% and the amount applied was less than 2 inches.

The estimated volume of sediment applied was 1244 cubic yards, with loading rate of 87.6 lbs of zinc/acre for Site #3. The Nitrogen Application Rate was used with 1.8 inches thickness of sediment for this application and a Sediment Loading Rate of 154 tons per acre (dry) (see Tables 3.2 & 3.3). There has been no previous land application at Site #3 so this is the Total Metal Loading value. The quantity of sediment that was land applied to site #3 in 2009 was 245 cubic yards per acre.

November 14, 2009
Illinois Environmental Protection Agency
Page 2

If there are any questions regarding this report, please contact Stanley Kerr, Chemistry Manager (815) 406-3200.

Respectfully,



Bradley J. Adams
Plant Manager
Byron Nuclear Generating Station

BJA/DS/sdk

cc: Illinois Environmental Protection
Division of Water Pollution Control – FOS
4302 North Main Street
Rockford, IL 61103

UNIT 2 Tower Desilting for 2008

366 loads at 3.4 cubic yds of material = 1244 cubic yards Unit 2

Dates silt was removed from tower --- October 9 to October 14, 2008

Silt stored in drying basin from October 9, 2008 to September 10, 2009

Application date started. September 15, 2009

Attach sediment analysis sheets

Amount of sediment applied in 2009. Total volume was 1244 cubic yards or 245 cubic yards per acre of the "Site 3". With loading rate of 87.6 lbs of zinc /acre for the 5 acre 'site 3' which is the Nitrogen Application Rate using a 1.8 inches thickness of sediment for this application.

Attach updated Tables 3.1 to 3.3

Seeding dates none – surface application

No precipitation during sediment application.

ATTACHMENT 1

Cooling Tower Sludge Land Application Checklist

Page 1 of 1

File Location 2.09.0551

Date Checklist Initiated: 7-6-09

1. Dates of sludge removal from Cooling Tower basin. Oct 9 to Oct 14, 2008
2. Chemistry obtains total solids sample for analysis. Yes
3. Chemistry calculates sludge application rate. Thickness of sludge. 1.8 inches based on Nitrogen
4. Date range sludge is stored in the temporary storage basin. Oct 9th, 2008 to Sept 14, 2009
5. Date sludge is land applied. September 15, 2009 to September 21, 2009
6. Identity of land application site. Site # 3
7. Estimate of volume of sludge land applied. 1244 cubic yards
8. Acreage used to land apply sludge. 5
9. Thickness of sludge land applied. 1.8 inches 245 cubic yds / Acre
10. Date of seeding. No seeding necessary for land application nonincorporation

TABLE 3.3

**HEAVY METALS LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Contaminant	Part 391 Limit	Part 391 Limit	Sample ppm - dry	Sediment Applic. Rate @ 391 Limit	Solids Content at Application	Sediment Density at Application	Dried Sediment yd ³ /acre	Sediment Laid Down	Maximum Allowed Sediment Applic. Rate (tons/acre)	Maximum Allowed Sediment Applic. Rate (tons/acre)	Heavy Metal Application Rate lbs./acre
	lbs./acre (lifetime)	lbs./acre (annual) ¹		(tons/acre) (dry)	(%)	tons/yd ³ (wet)	(wet)	(inches) (wet)	(dry)	(wet)	
Antimony	700		1.60	218750	67	0.94	347332	2583.5	154	230	0.5
Arsenic	100		2.10	23810	67	0.94	37805	281.2	154	230	0.6
Cadmium	10	2	0.84	1190	67	0.94	1890	14.1	154	230	0.3
Chrome (hex) ²	440	44	21.00	1048	67	0.94	1663	12.4	154	230	6.5
Chrome (tri) ³	3500	89	21.00	2119	67	0.94	3365	25.0	154	230	6.5
Copper	250		32.00	3906	67	0.94	6202	46.1	154	230	9.9
Lead	1000		21.00	23810	67	0.94	37805	281.2	154	230	6.5
Manganese	900		980.00	459	67	0.94	729	5.4	154	230	301.8
Mercury		7	0.06	54688	67	0.94	86833	645.9	154	230	0.0
Nickel	100		14.00	3571	67	0.94	5671	42.2	154	230	4.3
Selenium	8		6.00	667	67	0.94	1059	7.9	154	230	1.8
Silver	178		0.23	386957	67	0.94	614412	4570.0	154	230	0.1
Zinc	500		680.00	368	67	0.94	584	4.3	154	230	209.4
Molybdenum	4 ppm		4.7 ppm								
Selenium	4 ppm		<6 ppm								
HEAVY METALS LIMITING LOADING FACTOR				368			584	4.3			
NUTRIENT LIMITING LOADING FACTOR				154			245	1.8			
(2nd year application)				75			119	0.9			
SEDIMENT LIMITED LOADING FACTOR				154			245	1.8			
(Maximum Allowed)											

Notes:

¹ If an annual average value is present in the 391 regulations, this value was used as the more conservative value to determine if the metal would limit the application.

Closer examination of this metal would be necessary if the metals with annual values restrict the application rate, and multiple-year applications are desirable.

² Hexavalent chromium was not detected in the samples, but the detection limit was high. Therefore, the total chrome value was used assuming all was hex chrome.

³ Total chrome value was used assuming all was trivalent chrome.

TABLE 3.2

**NUTRIENT LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

<i>Contaminant</i>	<i>Fertilizer Requirements</i>	<i>Fertilizer Requirement</i>	<i>Sample</i>	<i>Sediment Loading</i>	<i>Nutrient Loading</i>	<i>Part 391 Calculated</i>
	<i>Illinois Crops</i>	<i>for 1 Year of Grass²</i>	<i>ppm-dry</i>	<i>Rate</i>	<i>Rate</i>	<i>Nutrient Limit</i>
	<i>lbs./ton of grass¹</i>	<i>lbs./acre</i>		<i>tons/acre</i>	<i>lbs./acre</i>	<i>lbs./acre</i>
				<i>(dry)</i>	<i>(dry)</i>	<i>(dry)</i>
Phosphorus (Available) ⁴	6.5	24.7	267.00	154	82.24	800
Potassium	46.8	177.84	1100.00	154	338.80	NA ³
Ammonia N			240.00			
Total Kjeldahl N			2800.00			
Organic N			2560.00			
Available N (1st year)	42.5	161.5	632	154	194.66	161.5
Available N (2nd year)		161.5	632	75	173.65	161.5
Available N (3rd year)		161.5	632	75	172.62	161.5
Available N (4th year)		161.5	632	75	172.11	161.5
Available N (5th year)		161.5	632	75	171.86	161.5

Notes:

¹ From Table IV in Appendix B of Part 391, used an average of tall fescue, Bromegrass, Sorghum-Sudan, Orchard grass, Timothy and Reed Canary grass.

² Assumption - from Appendix C of Part 391 - average crop yield in Ogle County for hay is 3.8 dry tons/acre.

³ The potassium in the sediment is very similar to the potassium in the background and reclamation site (640 ppm versus a range of <549-877 ppm).

⁴ Available Phosphorus determined by SGS Mowers 2/12/09

TABLE 3.1

**SUMMARY OF LABORATORY ANALYSIS OF SEDIMENT
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Parameter	PK-001 Result ^{1,2}		PK-002 Result ^{1,2}		PK-003 Result ^{1,2}		Average ³	Units
Arsenic							<2.1	mg/kg ⁶
Lead							21.0	mg/kg ⁶
Selenium							<6.0	mg/kg ⁶
Silver							0.2	mg/kg ⁶
Aluminum	8270		13200		7830		10735.0	mg/kg
Barium	146		134		99.6		140.0	mg/kg
Cadmium							0.8	mg/kg ⁶
Cobalt	7.8	ND	7.3	ND	8		7.6	mg/kg
Chromium							21.0	mg/kg ⁶
Copper							32.0	mg/kg ⁶
Iron	16400		17700		12600		17050.0	mg/kg
Potassium							890.0	mg/kg ⁶
Manganese							980.0	mg/kg ⁶
Molybdenum							4.7	mg/kg ⁶
Sodium	780	ND	725	ND	674	ND	752.5	mg/kg
Nickel							14.0	mg/kg ⁶
Antimony							<1.6	mg/kg ⁶
Vanadium	16.2		24.1		18.1		20.2	mg/kg
Zinc							680.0	mg/kg ⁶
Mercury							0.064	mg/kg ⁶
Method for Sulfur								
in Petroleum Products	0.05	ND	0.05	ND	0.05		0.05	%
Carbonate Alkalinity	160	ND	150	ND	130	ND	155.0	mg/kg
Alkalinity	270		630		530		450.0	mg/kg
Bicarbonate Alkalinity	270		680		530		475.0	mg/kg
Cation-Exchange Capacity	6800		6900		4600		6850.0	mg/kg
Cyanide - total	0.78	ND	0.73	ND	0.67		0.8	mg/kg
Chemical Oxygen Demand ⁴	310	ND	290	ND	270	ND	300.0	mg/kg
Hexavalent Chromium	117	ND	109	ND	101	ND	113.0	mg/kg
N-Hexane Extractable Material	515	ND	479	ND	445	ND	497.0	mg/kg
Sulfate	7530		1760		334		4645.0	mg/kg
Ammonia Nitrogen							240.0	mg/kg ⁶
pH							7.6	⁶
Total Phenols	2.4		1.5	ND	2.8		2.0	mg/kg
Total Phosphorus							1800.0	mg/kg ⁶
Acid Soluble Sulfide	410		370		130		390.0	mg/kg
Total Kjeldahl Nitrogen							2800.0	mg/kg ⁶
Total Residue as percent solids							67.0	% ⁶
Volatile Residue (TVS)							8.3	% ⁶
Oil and Grease	515		479		445		497.0	mg/kg
Radium 226	0.89		2.63		1.38		1.8	pCi/g
Radium 228	0.91		0.7		0.66		0.8	pCi/g
Resistivity	274.5		301.1		545.3		287.8	ohm-cm
Specific Gravity	2.685		2.574		2.724		2.6	
Bulk Density	65.1		74.2		101.8		69.7	pcf
Total Organic Carbon	7.4		7.1		3.2		7.3	%
Available Phosphorus							267	mg/kg ⁶

Notes:

¹ Results and reporting limits have been adjusted for dry weight.

PK-001 is a composite of 6 samples in the 0-2 foot profile in basin.

PK-002 is a composite of 6 samples in the 2-4 foot profile in basin.

PK-003 is a composite of 6 samples in the 4-6 foot profile in basin.

² Non-detects were set at detection limit. ND designates those values that are non-detect.

³ The average is based on the PK-001 and PK-002 results only, since possible indications of the bottom of basin (natural sorts) were present in PK-003 samples and from stratigraphic log notes. Or is most recent data.

⁴ The grab sample from the cooling tower sediment yielded a BOD₅ result of 270 mg/L.

⁵ Sample result from sample taken 9/04/02

⁶ Sample result from samples taken 2/12/09, 6/12/09 & 7/07/09.

Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, IL 61010-9794

www.exeloncorp.com

November 14, 2008

LTR: BYRON 2008-0106
File: 2.09.0411
1.10.0101

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Springfield, IL 62794-9276

Subject: Annual Operating Report Land Application Permit No. 2004-SC-2559-1

In accordance with Illinois Environmental Protection Agency (IEPA) Land Application Permit Number 2004-SC-2559-1, Byron Station is submitting the Annual Operating Report.

Sediments were removed from the Unit 1 cooling tower from March 26, 2008 to April 2, 2008. Sediments were stored in drying basin from March 26, 2008 to September 5, 2008. Dates of land application were September 5, 2008 to September 19, 2008, and the application site is designated as "Original Site".

Attached is the analysis of sediment and this data was used in Tables 3.1 to 3.3. Seeding with Buffalo Grass occurred on September 24, 2008 through September 26, 2008.

The estimated volume of sediment applied was 1600 cubic yards, with loading rate of 213.2 lbs. of zinc/acre for "Original Site", which is the Heavy Metals Application Rate using 1.5 inches thickness of sediment for this application. The previous total metal loading rate for Zinc for lifetime at "Original Site" was 760 lbs. of Zinc per acre. New total metal loading rate for Zinc "Original Site" is 973.2 lbs. of Zinc per acre.

If there are any questions regarding this report, please contact Stanley Kerr, Chemistry Manager at (815) 406-3200.

Respectfully,



Bradley J. Adams
Plant Manager
Byron Nuclear Generating Station

BJA/DS/sdk

CC: Illinois Environmental Protection Agency
Division of Water Pollution Control – FOS
4302 North Main Street
Rockford, IL 61103

bcc: J. Bolte – Environmental – Cantera
D. Starke – Chemistry - Byron

TABLE 3.1

**SUMMARY OF LABORATORY ANALYSIS OF SEDIMENT
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Parameter	PK-001 Result ^{1,2}		PK-002 Result ^{1,2}		PK-003 Result ^{1,2}		Average ³	Units
Arsenic							8.6	mg/kg ⁶
Lead							21.0	mg/kg ⁶
Selenium							<13	mg/kg ⁶
Silver							<0.35	mg/kg ⁶
Aluminum	8270		13200		7830		10735.0	mg/kg
Barium	146		134		99.6		140.0	mg/kg
Cadmium							0.9	mg/kg ⁶
Cobalt	7.8	ND	7.3	ND	8		7.6	mg/kg
Chromium							20.0	mg/kg ⁶
Copper							23.0	mg/kg ⁶
Iron	16400		17700		12600		17050.0	mg/kg
Potassium							1100.0	mg/kg ⁶
Manganese							930.0	mg/kg ⁶
Molybdenum							3.1	mg/kg ⁶
Sodium	780	ND	725	ND	674	ND	752.5	mg/kg
Nickel							16.0	mg/kg ⁶
Antimony							<3.5	mg/kg ⁶
Vanadium	16.2		24.1		18.1		20.2	mg/kg
Zinc							1200.0	mg/kg ⁶
Mercury							0.069	mg/kg ⁶
Method for Sulfur								
in Petroleum Products	0.05	ND	0.05	ND	0.05		0.05	%
Carbonate Alkalinity	160	ND	150	ND	130	ND	155.0	mg/kg
Alkalinity	270		630		530		450.0	mg/kg
Bicarbonate Alkalinity	270		680		530		475.0	mg/kg
Cation-Exchange Capacity	6800		6900		4600		6850.0	mg/kg
Cyanide - total	0.78	ND	0.73	ND	0.67		0.8	mg/kg
Chemical Oxygen Demand ⁴	310	ND	290	ND	270	ND	300.0	mg/kg
Hexavalent Chromium	117	ND	109	ND	101	ND	113.0	mg/kg
N-Hexane Extractable Material	515	ND	479	ND	445	ND	497.0	mg/kg
Sulfate	7530		1760		334		4645.0	mg/kg
Ammonia Nitrogen							280.0	mg/kg ⁶
pH	7.3		7.6		7.4		7.5	
Total Phenols	2.4		1.5	ND	2.8		2.0	mg/kg
Total Phosphorus							2700.0	mg/kg ⁶
Acid Soluble Sulfide	410		370		130		390.0	mg/kg
Total Kjeldahl Nitrogen							3200.0	mg/kg ⁶
Total Residue as percent solids							63.0	% ⁶
Volatile Residue (TVS)	5.9		3.4		0.99		4.7	%
Oil and Grease	515		479		445		497.0	mg/kg
Radium 226	0.89		2.63		1.38		1.8	pCi/g
Radium 228	0.91		0.7		0.66		0.8	pCi/g
Resistivity	274.5		301.1		545.3		287.8	ohm-cm
Specific Gravity	2.685		2.574		2.724		2.6	
Bulk Density	65.1		74.2		101.8		69.7	pcf
Total Organic Carbon	7.4		7.1		3.2		7.3	%

Notes:

¹ Results and reporting limits have been adjusted for dry weight.

PK-001 is a composite of 6 samples in the 0-2 foot profile in basin.

PK-002 is a composite of 6 samples in the 2-4 foot profile in basin.

PK-003 is a composite of 6 samples in the 4-6 foot profile in basin.

² Non-detects were set at detection limit. ND designates those values that are non-detect.

³ The average is based on the PK-001 and PK-002 results only, since possible indications of the bottom of basin (natural sorts) were present in PK-003 samples and from stratigraphic log notes. Or is most recent data.

⁴ The grab sample from the cooling tower sediment yielded a BOD₅ result of 270 mg/L.

⁵ Sample result from sample taken 9/04/02

⁶ Sample result from sample taken 6/12/08.

TABLE 3.2

**NUTRIENT LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Contaminant	Fertilizer Requirements	Fertilizer Requirement	Sample	Sediment Loading	Nutrient Loading	Part 391 Calculated
	Illinois Crops	for 1 Year of Grass²	ppm-dry	Rate	Rate	Nutrient Limit
	lbs./ton of grass¹	lbs./acre		tons/acre	lbs./acre	lbs./acre
				(dry)	(dry)	(dry)
Phosphorus	6.5	24.7	2700.00	154	831.60	800
Potassium	46.8	177.84	1100.00	154	338.80	NA ³
Ammonia N			280.00			
Total Kjeldahl N			3200.00			
Organic N			2920.00			
Available N (1st year)	42.5	161.5	724	154	222.99	161.5
Available N (2nd year)		161.5	724	75	198.54	161.5
Available N (3rd year)		161.5	724	75	197.37	161.5
Available N (4th year)		161.5	724	75	196.78	161.5
Available N (5th year)		161.5	724	75	196.49	161.5

Notes:

¹ From Table IV in Appendix B of Part 391, used an average of tall fescue, Bromegrass, Sorghum-Sudan, Orchard grass, Timothy and Reed Canary grass.

² Assumption - from Appendix C of Part 391 - average crop yield in Ogle County for hay is 3.8 dry tons/acre.

³ The potassium in the sediment is very similar to the potassium in the background and reclamation site (640 ppm versus a range of <549-877 ppm).

TABLE 3.3

**HEAVY METALS LOADING RATE
EXELON GENERATION COMPANY - BYRON STATION
BYRON, ILLINOIS**

Contaminant	Part 391 Limit	Part 391 Limit	Sample ppm - dry	Sediment Applic. Rate @ 391 Limit	Solids Content at Application	Sediment Density at Application	Dried Sediment yd ³ /acre	Sediment Laid Down	Maximum Allowed Sediment Applic.	Maximum Allowed Sediment Applic.	Heavy Metal Application Rate
	lbs/acre (lifetime)	lbs/acre (annual) ¹		(tons/acre) (dry)	(%)	tons/yd ³ (wet)	(wet)	(inches) (wet)	Rate (tons/acre) (dry)	Rate (tons/acre) (wet)	lbs/acre
Antimony	700		3.50	100000	63	0.94	168862	1256.0	154	244	1.1
Arsenic	100		8.60	5814	63	0.94	9818	73.0	154	244	2.6
Cadmium	10	2	0.88	1136	63	0.94	1919	14.3	154	244	0.3
Chrome (hex) ²	440	44	20.00	1100	63	0.94	1857	13.8	154	244	6.2
Chrome (tri) ³	3500	89	20.00	2225	63	0.94	3757	27.9	154	244	6.2
Copper	250		23.00	5435	63	0.94	9177	68.3	154	244	7.1
Lead	1000		21.00	23810	63	0.94	40205	299.0	154	244	6.5
Manganese	900		930.00	484	63	0.94	817	6.1	154	244	286.4
Mercury		7	0.07	50725	63	0.94	85655	637.1	154	244	0.0
Nickel	100		16.00	3125	63	0.94	5277	39.2	154	244	4.9
Selenium	8		13.00	308	63	0.94	520	3.9	154	244	4.0
Silver	178		0.35	254286	63	0.94	429392	3193.8	154	244	0.1
Zinc	500		1200.00	208	63	0.94	352	2.6	154	244	369.6
							200	1.5			213.2
Molybdenum	4 ppm		3.1 ppm								
Selenium	4 ppm		<13 ppm								
HEAVY METALS LIMITING LOADING FACTOR				208			200	1.5			
NUTRIENT LIMITING LOADING FACTOR				154			260	1.9			
(2nd year application)				75			127	0.9			
SEDIMENT LIMITED LOADING FACTOR				154			200	1.5			
(Maximum Allowed)											

Notes:

¹ If an annual average value is present in the 391 regulations, this value was used as the more conservative value to determine if the metal would limit the application.

Closer examination of this metal would be necessary if the metals with annual values restrict the application rate, and multiple-year applications are desirable.

² Hexavalent chromium was not detected in the samples, but the detection limit was high. Therefore, the total chrome value was used assuming all was hex chrome.

³ Total chrome value was used assuming all was trivalent chrome.

June 26, 2008

Client: EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010

Work Order: WRF0633
Project Name: Sediment
Project Number: Cooling Tower Silt

Attn: Ms. Zoe Cox

Date Received: 06/17/08

An executed copy of the chain of custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-833-7036

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Cooling Tower Silt	WRF0633-01	06/12/08 10:50

Samples were received without ice into laboratory at a temperature of 6 °C.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

Illinois Certification Number: 100453

The Chain of Custody, 1 page, is included and is an integral part of this report.

Unless subcontracted, volatiles analyses (including VOC, PVOC, GRO, BTEX, and TPH gasoline) performed by TestAmerica Watertown at 1101 Industrial Drive, Units 9&10. All other analyses performed at the address shown in the heading of this report.

Approved By:

Michael M. Miller

TestAmerica Watertown
Mike Miller For Warren L. Topel
Project Manager

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	MRL	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: WRF0633-01 (Cooling Tower Silt - Sludge)						Sampled: 06/12/08 10:50			
General Chemistry Parameters									
% Solids	63		%	NA	1	06/18/08 15:11	lcr	8060498	SW 5035
Ammonia as N	0.028		% dry	0.0029	1.82	06/25/08 13:01	tdc	8060670	SM 4500NH
Phosphorus, Total (as P)	0.27		% dry	0.0079	5	06/25/08 14:48	pxm	8060688	EPA 365.1
Total Kjeldahl Nitrogen	0.32		% dry	0.0079	1	06/23/08 10:50	pxm	8060518	EPA 351.2
Metals									
Antimony	<3.5		mg/kg dry	3.5	2	06/20/08 13:06	gaf	8060506	SW 6010B
Arsenic	8.6		mg/kg dry	4.4	2	06/20/08 13:06	gaf	8060506	SW 6010B
Cadmium	0.88		mg/kg dry	0.32	2	06/20/08 13:06	gaf	8060506	SW 6010B
Chromium	20		mg/kg dry	0.57	2	06/20/08 13:06	gaf	8060506	SW 6010B
Copper	23		mg/kg dry	5.1	2	06/20/08 13:06	gaf	8060506	SW 6010B
Lead	21		mg/kg dry	3.8	2	06/20/08 13:06	gaf	8060506	SW 6010B
Manganese	930		mg/kg dry	0.25	2	06/20/08 13:06	gaf	8060506	SW 6010B
Mercury	0.069		mg/kg dry	0.016	1	06/23/08 12:44	mmm	8060577	EPA 245.5
Molybdenum	3.1		mg/kg dry	1.9	2	06/20/08 13:06	gaf	8060506	SW 6010B
Nickel	16		mg/kg dry	1.1	2	06/20/08 13:06	gaf	8060506	SW 6010B
Potassium	1100		mg/kg dry	5.4	2	06/20/08 13:06	gaf	8060506	SW 6010B
Selenium	<13		mg/kg dry	13	2	06/20/08 13:06	gaf	8060506	SW 6010B
Silver	<0.35		mg/kg dry	0.35	2	06/20/08 13:06	gaf	8060506	SW 6010B
Zinc	1200		mg/kg dry	0.76	2	06/20/08 13:06	gaf	8060506	SW 6010B

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
General Chemistry Parameters														
Total Kjeldahl Nitrogen	8060518			% wet	N/A	0.0050	<0.0050							
Ammonia as N	8060670			% wet	N/A	0.0010	<0.0010							
Phosphorus, Total (as P)	8060688			% wet	N/A	0.0010	<0.0010							
Metals														
Antimony	8060506			mg/kg wet	N/A	0.11	<0.11							
Arsenic	8060506			mg/kg wet	N/A	0.14	<0.14							
Cadmium	8060506			mg/kg wet	N/A	0.010	<0.010							
Chromium	8060506			mg/kg wet	N/A	0.018	<0.018							
Copper	8060506			mg/kg wet	N/A	0.16	<0.16							
Lead	8060506			mg/kg wet	N/A	0.12	<0.12							
Manganese	8060506			mg/kg wet	N/A	0.0080	<0.0080							
Molybdenum	8060506			mg/kg wet	N/A	0.060	<0.060							
Nickel	8060506			mg/kg wet	N/A	0.035	<0.035							
Potassium	8060506			mg/kg wet	N/A	0.17	<0.17							
Selenium	8060506			mg/kg wet	N/A	0.40	<0.40							
Silver	8060506			mg/kg wet	N/A	0.011	<0.011							
Zinc	8060506			mg/kg wet	N/A	0.024	<0.024							
Mercury	8060577			mg/kg wet	N/A	0.010	<0.010							

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

CCV QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
Metals														
Potassium	8F20004		50.000	mg/L	N/A	N/A	47.4		95		90-110			
Silver	8F20004		1.0000	mg/L	N/A	N/A	0.998		100		90-110			
Antimony	8F20004		5.0000	mg/L	N/A	N/A	4.79		96		90-110			
Arsenic	8F20004		5.0000	mg/L	N/A	N/A	4.82		96		90-110			
Cadmium	8F20004		5.0000	mg/L	N/A	N/A	4.85		97		90-110			
Chromium	8F20004		5.0000	mg/L	N/A	N/A	4.67		93		90-110			
Copper	8F20004		5.0000	mg/L	N/A	N/A	4.81		96		90-110			
Lead	8F20004		5.0000	mg/L	N/A	N/A	4.78		96		90-110			
Manganese	8F20004		5.0000	mg/L	N/A	N/A	4.79		96		90-110			
Molybdenum	8F20004		5.0000	mg/L	N/A	N/A	4.82		96		90-110			
Nickel	8F20004		5.0000	mg/L	N/A	N/A	4.81		96		90-110			
Selenium	8F20004		5.0000	mg/L	N/A	N/A	4.84		97		90-110			
Zinc	8F20004		5.0000	mg/L	N/A	N/A	4.76		95		90-110			

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: WRF0639-02													
% Solids	8060498	83.0		%	N/A	N/A	83.0				0	20	
QC Source Sample: WRF0644-09													
% Solids	8060498	81.7		%	N/A	N/A	78.7				4	20	
QC Source Sample: WRF0492-02													
Total Kjeldahl Nitrogen	8060518	4.02		% dry	N/A	1.0	3.34				19	200	
QC Source Sample: WRF0627-01													
Phosphorus, Total (as P)	8060688	2.32		% dry	N/A	0.027	2.54				9	27	

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
General Chemistry Parameters														
Ammonia as N	8060670		0.0010	% wet	N/A	0.000033	0.00101		101		90-110			
			000											
Phosphorus, Total (as P)	8060688		0.0500	% wet	N/A	0.0010	0.0505		101		90-110			
			00											
Metals														
Antimony	8060506		5.0000	mg/kg wet	N/A	0.11	4.56		91		82-111			
Arsenic	8060506		5.0000	mg/kg wet	N/A	0.14	4.74		95		85-112			
Cadmium	8060506		2.5000	mg/kg wet	N/A	0.010	2.32		93		83-109			
Chromium	8060506		2.5000	mg/kg wet	N/A	0.018	2.19		88		84-110			
Copper	8060506		5.0000	mg/kg wet	N/A	0.16	4.64		93		84-111			
Lead	8060506		5.0000	mg/kg wet	N/A	0.12	4.66		93		84-110			
Manganese	8060506		2.5000	mg/kg wet	N/A	0.0080	2.35		94		83-109			
Molybdenum	8060506		5.0000	mg/kg wet	N/A	0.060	4.67		93		84-110			
Nickel	8060506		5.0000	mg/kg wet	N/A	0.035	4.66		93		83-108			
Potassium	8060506		10.000	mg/kg wet	N/A	0.17	9.54		95		69-117			
Selenium	8060506		10.000	mg/kg wet	N/A	0.40	9.26		93		79-104			
Silver	8060506		2.5000	mg/kg wet	N/A	0.011	2.41		97		74-116			
Zinc	8060506		2.5000	mg/kg wet	N/A	0.024	2.31		92		80-107			
Mercury	8060577		0.2500	mg/kg wet	N/A	0.010	0.229		92		76-133			
			0											

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	Limit	Q
Metals														
QC Source Sample: WRF0608-01														
Antimony	8060506	<1.1	103.68	mg/kg dry	N/A	2.3	78.6	81.0	76	78	70-122	3	30	
Arsenic	8060506	5.39	103.68	mg/kg dry	N/A	2.9	104	104	96	95	67-127	0	21	
Cadmium	8060506	0.116	51.841	mg/kg dry	N/A	0.21	47.7	46.0	92	88	65-118	4	18	
Chromium	8060506	3.97	51.841	mg/kg dry	N/A	0.37	51.8	46.9	92	83	63-122	10	21	
Copper	8060506	7.25	103.68	mg/kg dry	N/A	3.3	102	100	92	90	69-123	2	25	
Lead	8060506	3.21	103.68	mg/kg dry	N/A	2.5	99.1	96.0	92	90	67-120	3	18	
Manganese	8060506	465	51.841	mg/kg dry	N/A	0.17	686	613	425	286	69-119	11	27	M*
Molybdenum	8060506	1.77	103.68	mg/kg dry	N/A	1.2	97.9	95.7	93	91	69-119	2	24	
Nickel	8060506	9.71	103.68	mg/kg dry	N/A	0.73	103	97.8	90	85	63-117	5	21	
Potassium	8060506	381	207.37	mg/kg dry	N/A	3.5	622	562	116	87	70-130	10	20	
Selenium	8060506	<4.0	207.37	mg/kg dry	N/A	8.3	199	193	96	93	63-120	3	21	
Silver	8060506	<0.11	51.841	mg/kg dry	N/A	0.23	50.9	49.3	98	95	65-121	3	30	
Zinc	8060506	49.1	51.841	mg/kg dry	N/A	0.50	108	93.6	114	86	57-125	15	39	
QC Source Sample: WRF0627-01														
Mercury	8060577	2.52	6.7103	mg/kg dry	N/A	0.27	8.32	8.97	86	96	56-140	7	24	

EXELON-BYRON
4450 N. German Church Road
Byron, IL 61010
Ms. Zoe Cox

Work Order: WRF0633
Project: Sediment
Project Number: Cooling Tower Silt

Received: 06/17/08
Reported: 06/26/08 15:19

CERTIFICATION SUMMARY

TestAmerica Watertown

Method	Matrix	Nelac	Illinois
EPA 245.5	Solid/Soil		
EPA 351.2	Solid/Soil		
EPA 365.1	Solid/Soil		
SM 4500NHH	Solid/Soil		
SW 5035	Solid/Soil	X	X
SW 6010B	Solid/Soil	X	X

DATA QUALIFIERS AND DEFINITIONS

M* Spike recovery limits are not applicable when the sample concentration is greater than or equal to 4 times the spike added. The LCS or CCV analyzed concurrently with these samples met control criteria.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

Phone 920-261-1660 or 800-833-7036
Fax 920-261-8120

WRFO633

To assist us in using the proper analytical methods,
is this work being conducted for regulatory purposes?
Compliance Monitoring **NPD&S**

Client Name Exelon Byron Station Client #:

Address: 4450 N German Church Rd

City/State/Zip Code: Byron, IL 61010

Project Manager: Zoe Cox

Telephone Number: 815-406-3035 Fax 815-406-3301

Sampler Name: (Print Name) X J. Anderson David Starke

Sampler Signature: X [Signature] David H. Hinkle

Project Name: _____

Project #: _____

Site/Location ID: State:

Report To:

Invoice To: Contract 141 Release 19

Quote #: Post:

[illegible]

126/17/08

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-3 **Category:** Water Resources-Surface Water

Statement of Question:

Regarding dredging near the River Screen House:

3a. Provide the following information regarding dredging near River Screen House, including a description of the last time dredging was done (about 8 or 9 years ago).

1. Schedule (frequency)
2. Volume withdrawn
3. Methods used
4. How spoils were/are managed.

3b. Provide copies of any responses/authorizations from Army Corp of Engineers.

3.c. Provide the results of any sampling of dredge spoils.

Response:

There is no set frequency for dredging near the River Screen House. Divers are used to periodically examine the area in front of the River Screen House and evaluate the need for dredging. As a result of such inspections, dredging occurred in 2001 and 2007. In 2012, an evaluation concluded that dredging was not required, although a request to dredge was filed with and approved by the U.S. Army Corps of Engineers as being covered under Nationwide Permit No. 3.

The typical methods for dredging and sediment management used in 2001 and 2007 are explained in the attached letters to the U.S. Army Corps of Engineers from Exelon dated June 4, 2007 and January 29, 2001. The corresponding approval letters from the U.S. Army Corps of Engineers dated July 3, 2007 and February 15, 2001 are attached to this response. The approval letter from the U.S. Army Corps of Engineers to Exelon dated September 20, 2012 is also attached.

The volume of removed sediment, which is composed largely of sand and silt, is not measured or estimated, and the sediment is not sampled. The sediment is placed in an upland designated retention pond, from which none has been removed to date.

List Attachments Provided:

1. Letter from Exelon Nuclear (M. Snow) to U.S. Army Corps of Engineers regarding Joint Permit Application for Exelon Byron Nuclear Generating Station, June 4, 2007
2. Letter from Commonwealth Edison (K. Womack) to U.S. Army Corps of Engineers regarding Joint Application for Exelon Byron Nuclear Generating Station, January 29, 2001

3. Letter from U.S. Army Corps of Engineers to Exelon Nuclear (M. Snow):
CEMVR-OD-P-2007-925, July 3, 2007
4. Letter from U.S. Army Corps of Engineers to Exelon Nuclear (K. Womack):
CEMVR-OD-P-404830, February 15, 2001
5. Letter from U.S. Army Corps of Engineers to Exelon Generation (B. Youman):
CEMVR-OD-P-2012-1323, September 20, 2012

Exelon Generation
Byron Generating Station
4450 North German Church Road
Byron, IL 61010-9794
Tel 815-234-5441

www.exeloncorp.com

June 4, 2007

LTR: BYRON 2007-0061

File: 2.09.0960

(1.10.0101)

**U.S. Army Corps of Engineers, Rock Island
Attn: Regulatory Branch
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004**

**Subject: Joint Permit Application for Exelon Byron Nuclear Generating Station in Byron,
Ogle County, Illinois**

Exelon Byron Nuclear Generating Station is submitting this joint permit application to request written verification that the proposed project meets the conditions of Nationwide Permit 7 (Outfall Structures and Maintenance). The project site consists of Byron Nuclear Generating Stations Units 1 and 2 located adjacent to the east side of the Rock River and west of North River Road. Geographically the site is in Section 15, Township 24 North, Range 10 East. A previous application dated January 30, 2001 was submitted and approved as CEMVR-OD-P-404830 on February 15, 2001. The scope of work is the same as in 2001. A previous letter dated January 11, 2006 was submitted and approved as CEMVR-OD-P-2006-102 on February 3, 2006; however there was no work performed.

As part of the construction of the generating station, Exelon Byron Generating Station was built with eight turning vanes in the Rock River to direct cooling waters through the river from scouring and eroding the opposite river bank. Over a period of time sediment has built up around these turning vanes. In order to keep the turning vanes functioning properly, we need to excavate the accumulated sediment from around the vanes using mechanical and hydraulic dredging methods. The company has found limited success in dredging around the turning vanes by using a mechanical dredge only. Therefore, our intent is to also utilize diver assisted hydraulic dredging equipment to completely clean out the areas around and between the turning vanes.

The sediment to be removed will be placed in a designated upland area. We propose to pump and deposit the dredged spoils into an existing retention pond that was recently regraded and removed from the Rock River floodway limits.

We are limiting the amount of removed sediment to the minimum necessary to restore the river in the immediate vicinity of the turning vanes to the approximate dimensions that existed when the turning vanes were built. We do not believe the proposed project will cause any direct or indirect adverse environmental effects to the river. The proposed project simply consists of removing accumulated sediment from around and between eight existing turning vanes in the Rock River at the Exelon Byron Nuclear Generating Station.

We are requesting written verification that the proposed project meets the conditions of Nationwide Permit 7. The July 27, 2000 wetland assessment, prepared by Christopher B. Burke Engineering, Ltd. is included for your review.

If there are any questions regarding this application, please contact Mr. Stanley Kerr, Chemistry Manager, at (815) 406-3200.

Respectfully,


Marseyne Snow
Plant Manager
Byron Nuclear Generation Station

Enclosure

cc: IDNR-OWR
IEPA

CHRISTOPHER B. BURKE ENGINEERING, LTD.

15 West Higgins Road • Suite 600 • Rosemont, Illinois 60018-4920 • TEL (847) 823-0500 • FAX (847) 823-0520

January 29, 2001

U.S. Army Corps of Engineers
Rock Island District
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

Attention: Richard J. Baugh, P.E., Chief, Permit Evaluation Branch

Subject: Joint Permit Application for Exelon Byron Nuclear Generating Station
in Byron, Ogle County, Illinois
(CBBEL Project No. 00-268)

Dear Mr. Baugh:

On behalf of Commonwealth Edison, Christopher B. Burke Engineering, Ltd. (CBBEL) is submitting this joint permit application to request written verification that the proposed project meets the conditions of Nationwide Permit 7 (Outfall Structures and Maintenance). The project site consists of Byron Nuclear Generating Stations Units 1 and 2 located adjacent to the east side of the Rock River and west of North River Road. Geographically the site is in Section 15, Township 24 North, Range 10 East.

As part of the original construction of the generating station, ComEd built 8 turning vanes in the Rock River to direct cooling waters through the river from scouring and eroding the opposite river bank (7/22/94 plans and sections included). Over time sediment has built up around these turning vanes. In order to keep the turning vanes functioning properly, ComEd needs to excavate the accumulated sediment from around the vanes using mechanical and hydraulic dredging methods. ComEd has found limited success in dredging around the turning vanes by using a mechanical dredge only. Therefore, their intent is to also utilize diver assisted hydraulic dredging equipment to completely clean out the areas around and between the turning vanes.

The removed sediment will be placed in a designated upland area. ComEd proposes to pump and deposit the dredged spoils into an existing retention pond that was recently regraded and removed from the Rock River floodway limits.

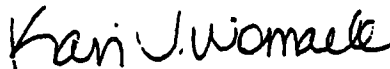
bcc: Jim Bolte – Environmental – Cantera
Dave Starke – Chemistry – Byron

ComEd is limiting the amount of removed sediment to the minimum necessary to restore the river in the immediate vicinity of the turning vanes to the approximate dimensions that existed when the turning vanes were built. In our opinion, the proposed project will not cause any direct or indirect adverse environmental effects to the river. The proposed project simply consists of removing accumulated sediment from around and between 8 existing turning vanes in the Rock River at the ComEd Byron Nuclear Generating Station.

We request written verification that the proposed project meets the conditions of Nationwide Permit 7. The following information is included for your review:

- Tab 1: ~~Completed joint permit application and statement designating CBBEL~~
as the authorized agent.
- Tab 2: July 27, 2000 wetland assessment, prepared by CBBEL.
- Tab 3: Rock River Sediment Management Systems Plans and Sections,
prepared by ComEd.

Sincerely,



Kari J. Womack
Head, Environmental Resources Section II

Cc: IDNR-OWR, Gary Jereb
IEPA, Bruce Yurdin
USFWS, Jeff Mengler
ComEd, Mike Robinson

/kjlw
CORRSP L00268.129



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 West Higgins Road • Suite 600 • Rosemont, Illinois 60018-4920 • TEL (847) 823-0500 • FAX (847) 823-0520

July 27, 2000

Commonwealth Edison
Byron Nuclear Generating Plant
4450 North German Church Road
Byron, Illinois 61010

Attention: Patrick Sankey

Subject: Wetland Assessment of the ± 11.4 -Acre Byron Nuclear Generating
Stations Units 1 & 2, in Byron, Ogle County, Illinois
(CBBEL Project No. 00-268)

Dear Mr. Sankey:

As requested, Christopher B. Burke Engineering, Ltd. (CBBEL) completed a wetland assessment of the ± 11.4 acre Byron Nuclear Generating Stations Units 1 & 2 in Byron, Illinois. No wetlands areas were identified at the time of the site visit. An aerial photograph delineation is included as Exhibit 7.

The attached report describes the findings of our wetland assessment and the methodology and reference materials used to assist in the wetland assessment. Routine On-Site Data Forms, required by the COE, are also included. The wetland assessment is based on field conditions at the time of the CBBEL site visit and our understanding of current federal, state and local regulations. An evaluation of historic conditions was not performed.

Sincerely,

A handwritten signature in black ink that reads 'Kari J. Womack'.

Kari J. Womack

Head, Environmental Resource Section II

A handwritten signature in black ink that reads 'Christopher B. Burke'.

Christopher B. Burke, Ph.D., P.E.
President

EWK/
CORRSPD L00268.727

WETLAND ASSESSMENT REPORT COMMONWEALTH EDISON BYRON NUCLEAR GENERATING STATIONS UNITS 1 & 2

WETLAND DELINEATION

On July 14, 2000, Christopher B. Burke Engineering, Ltd. (CBBEL) completed a wetland field investigation of the Byron Nuclear Generating Stations Units 1 & 2. The site is located east of Route 2 and the Rock River and west of North River Road, in Byron, Illinois (Exhibit 1). Wetland boundaries were delineated in accordance with the methodology established by the U.S. Army Corps of Engineers (COE).

The site consisted of a Byron Nuclear Generating Station and openfield. Over time, the site has become vegetated by fallow field plant species. Dominant vegetation consisted of clover (*Trifolium sp.*), Kentucky bluegrass (*Poa pratensis*), and other common weedy species.

METHODOLOGY

The Corps of Engineers Wetland Delineation Manual, dated January, 1987, identifies the mandatory technical criteria for wetland identification. The three essential characteristics of a jurisdictional wetland are hydrophytic vegetation, hydric soils and wetland hydrology as described below:

Hydrophytic Vegetation: The hydrophytic vegetation criterion is based on a separation of plants into five basic groups:

- (1) Obligate wetland plants (OBL) almost always occur (estimated probability >99%) in wetlands under natural conditions;
- (2) Facultative wetland plants (FACW) usually occur in wetlands (estimated probability 67-99%), but occasionally are found in nonwetlands;
- (3) Facultative plants (FAC) are equally likely to occur in wetlands or nonwetlands (estimated probability 34-66%);
- (4) Facultative upland plants (FACU) usually occur in nonwetlands (estimated probability 67-99%), but occasionally are found in wetlands; and
- (5) Obligate upland plants (UPL) almost always occur (estimated probability >99%) in nonwetlands under natural conditions.

If greater than 50% of the plants present are FAC (with the exception of FAC-), FACW, or OBL the subject area is considered jurisdictional in terms of vegetation.

Hydric Soils: Hydric soils are defined in the manual as "soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part." Field indicators include color, mottling, gleying, and sulfidic odor.

Wetland Hydrology: The wetland hydrology criterion is often the most difficult to determine. Typically, the presence of water for a week or more during the growing season creates anaerobic conditions. Anaerobic conditions lead to the prevalence of wetland plants. Morphological adaptations of plants, driftlines and watermarks are examples of wetland hydrology field indicators.

REFERENCE MATERIALS

The following reference materials were reviewed and used to assist in the wetland field reconnaissance. They are included as Exhibits 1-6.

LOCATION

The ±11.4 acre Byron Nuclear Generating Stations Units 1 & 2 is located east of Route 2 and the Rock River and west of North River Road, in Byron, Will County, Illinois (Exhibit 1). Geographically, the property is in Section 15, Township 24 North, Range 10, East of the Third Principal Meridian. Property boundaries were taken from "Topographic Survey", prepared by CBBEL, dated June 23, 2000.

NATIONAL WETLAND INVENTORY

The National Wetland Inventory (NWI), Oregon, IL quadrangle, as shown on Exhibit 2, indicates no wetlands are mapped on-site. The NWI serves only as a large-scale guide; actual wetland locations and types often vary from that mapped.

SOIL SURVEY

The Soil Survey of Ogle County, Illinois, as shown on Exhibit 3, was reviewed to determine the location of hydric soils on site. Mapped hydric soil can be indicative of wetland conditions. The following soils are mapped within the property:

- | | | |
|------|---|-----------------------------|
| 73 | - | Ross silt loam |
| 175B | - | Lamont fine sandy loam |
| 440A | - | Jasper silt loam |
| 570B | - | Martinsville silt loam |
| 802 | - | Orthents, loamy, undulating |

NATURAL RESOURCES CONSERVATION SERVICE

The Natural Resources Conservation Service (NRCS) wetland map (undated), as shown on Exhibit 4, indicates that no wetlands are mapped within the study area:

The NRCS is the lead agency responsible for determining farmed wetland boundaries. Because the site does not contain cropland, further consultation with NRCS is not required.

USGS TOPOGRAPHIC MAP

The United States Geological Society (USGS) Topographic Map, Oregon, IL quadrangle (1999), as shown on Exhibit 5, was reviewed to determine the historic local drainage pattern. The Atlas indicates that site runoff drains to the Rock River.

FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map (FIRM), Unincorporated Ogle County, Illinois, Community Panel Number 170525 0230A, effective April 5, 1988, as shown in Exhibit 6, was reviewed to determine the location of regulatory floodplain within the study area. Mapped floodplain can be indicative of wetland hydrology. The FIRM indicates Zone AE (100-year) regulatory floodplain is located within the study area.

CONCLUSION

In our opinion, the \pm 11.4 acre Byron Nuclear Generator Stations Units 1 & 2 site in Byron, Ogle County, Illinois does not contain any wetland areas based on the methodology established by the U.S. Army Corps of Engineers (COE).

If you have any questions, please do not hesitate to contact CBBEL.

EWK/
CORRSPD L00268.727

[illegible]

NOTE: TAKEN FROM NATIONAL WETLANDS INVENTORY (NWI); OREGON, IL QUADRANGLE

APPROXIMATE SCALE: 1" = 2000'

PROPOSED PROJECT : UNKNOWN

WATERWAY : N/A

TRIBUTARY TO : ROCK RIVER

NAME OF LOCAL GOVERNING COMMUNITY: BYRON

COUNTY : OGLE

STATE : IL

APPLICATION BY : CBBEL-AUTHORIZED AGENT

OWNER, PROPRIETOR, OR DULY AUTHORIZED AGENT.

CB

CHRISTOPHER B. BURKE ENGINEERING LTD
9575 WEST HIGGINS ROAD SUITE 600
ROSEMONT, ILLINOIS 60018 (847) 823-0500

CLIENT

COMED

PROJECT No
00-268

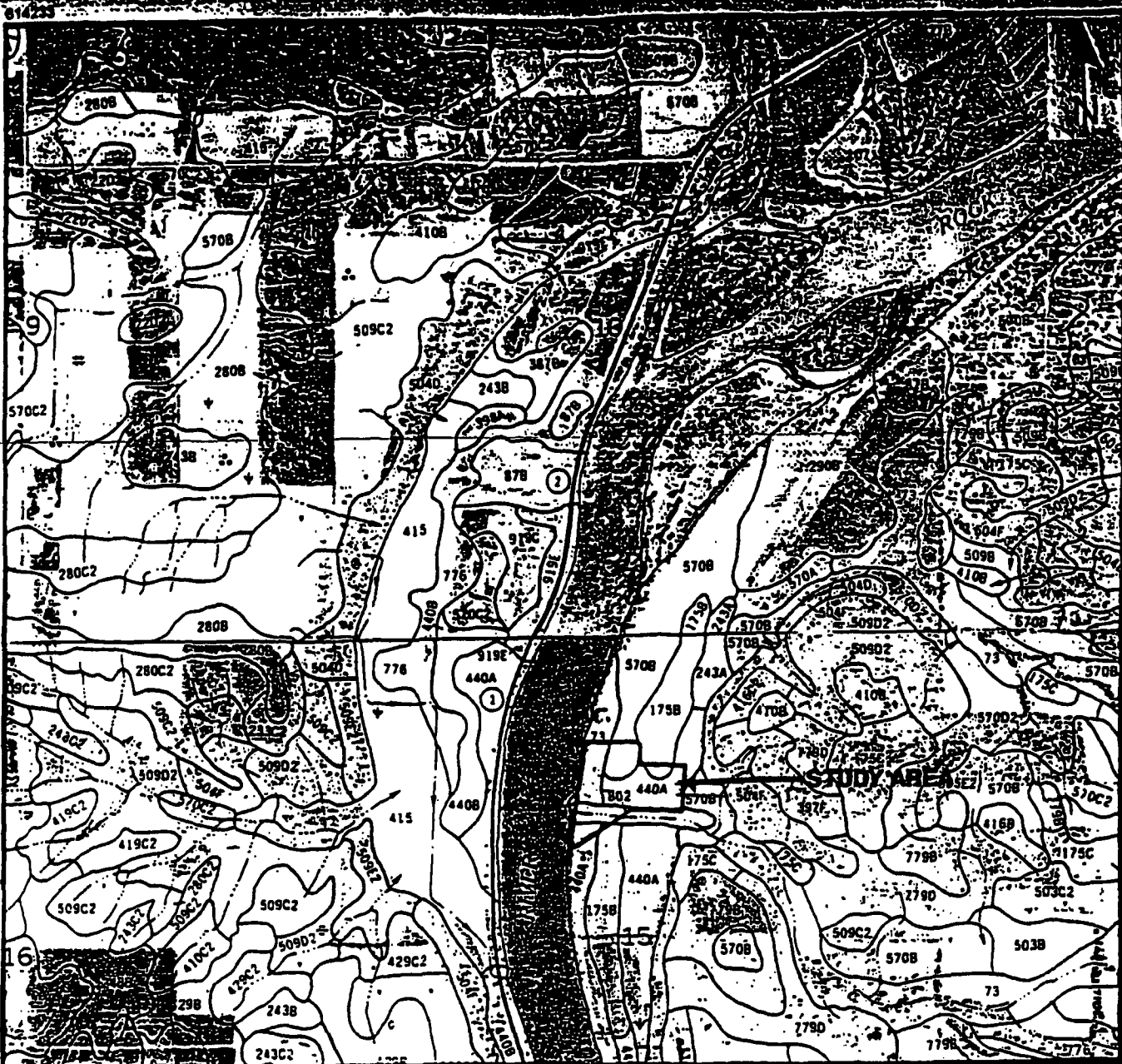
TITLE

NATIONAL WETLAND INVENTORY

DATE 7/19/00

EXHIBIT 2

ROYAL BLUEPRINT COMPANY



NOTE: TAKEN FROM OGLE COUNTY, IL SOIL SURVEY

LEGEND

73 - ROSS SILT LOAM
 175B - LAMONT FINE SANDY LOAM
 440A - JASPER SILT LOAM
 570B - MARTINSVILLE SILT LOAM
 802 - ORTHENTS, LOAMY, UNDULATING

APPROXIMATE SCALE: 1" = 1320'

PROPOSED PROJECT : UNKNOWN

WATERWAY : N/A

TRIBUTARY TO : ROCK RIVER

NAME OF LOCAL GOVERNING COMMUNITY : BYRON

COUNTY : OGLE

STATE : IL

APPLICATION BY : CSBEL-AUTHORIZED AGENT

OWNER, PROPRIETOR, OR DULY AUTHORIZED AGENT.



CHRISTOPHER B. BURKE ENGINEERING, LTD
 9575 WEST HIGGINS ROAD SUITE 600
 ROSEMONT ILLINOIS 60018 (847) 223-0500

CLIENT

COMED

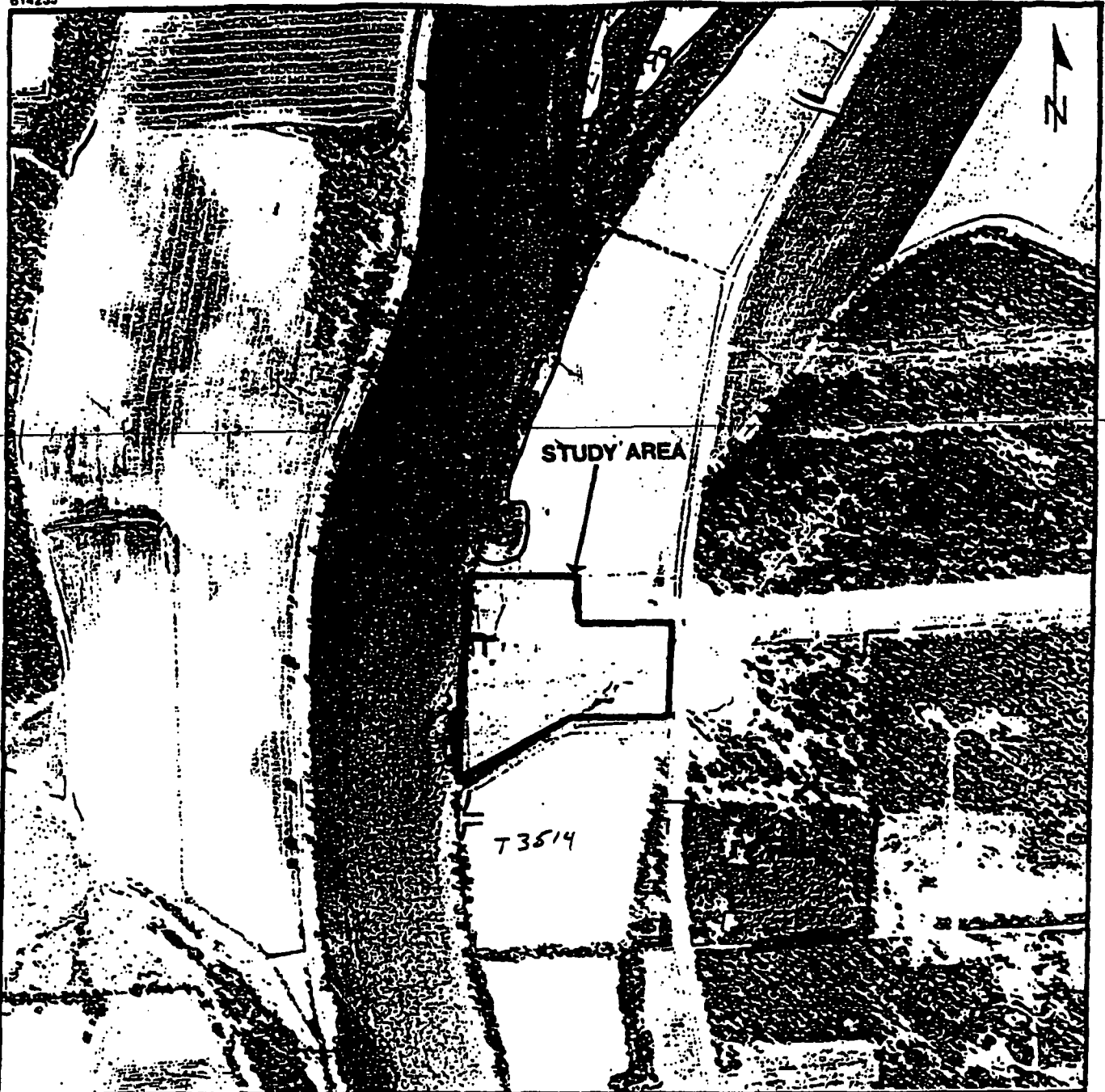
PROJECT No
 00-268

TITLE

SOIL SURVEY

DATE 7/19/00

EXHIBIT 3



NOTE: TAKEN FROM THE NATURAL RESOURCE CONSERVATION SERVICE(NRCS)
WETLAND MAP(UNDATED)

APPROXIMATE SCALE: 1" = 660'

PROPOSED PROJECT : UNKNOWN

COUNTY : OGLE

WATERWAY : N/A

STATE : IL

TRIBUTARY TO : ROCK RIVER

APPLICATION BY : CBBEL-AUTHORIZED AGENT

NAME OF LOCAL GOVERNING COMMUNITY : BYRON

OWNER, PROPRIETOR, OR DULY AUTHORIZED AGENT.



CHRISTOPHER B. BURKE ENGINEERING LTD
9575 WEST HIGGINS ROAD SUITE 600
ROSEMONT, ILLINOIS 60018 1847 923-0500

CLIENT

COMED

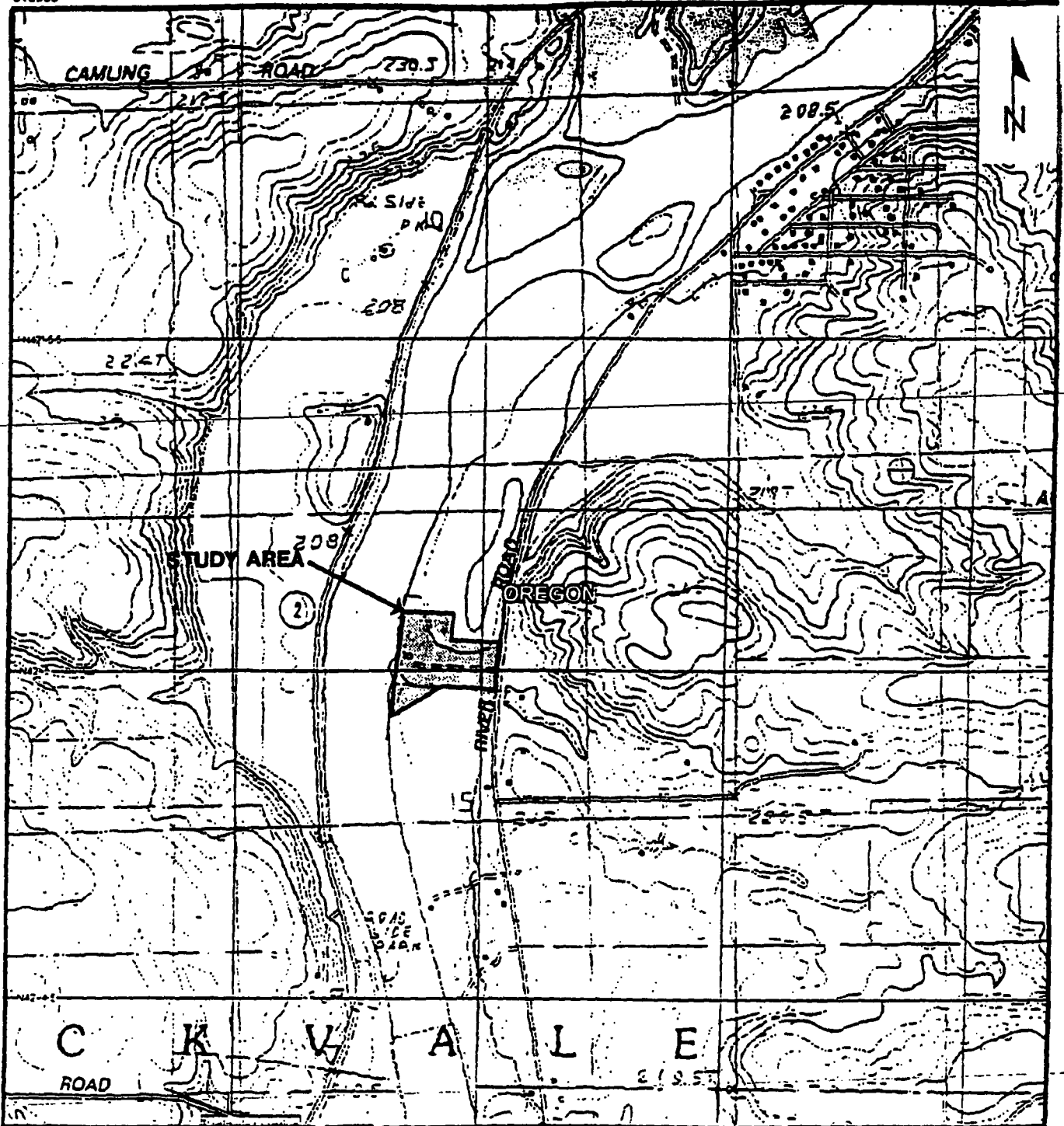
PROJECT NO
00-268

TITLE

NRCS WETLAND MAP

DATE 7/19/00

EXHIBIT 4



NOTE: TAKEN FROM USGS TOPOGRAPHIC MAP, OREGON, IL QUADRANGLE (1999)

APPROXIMATE SCALE: 1" = 650'

PROPOSED PROJECT : UNKNOWN

COUNTY : OGLE

WATERWAY : N/A

STATE : IL

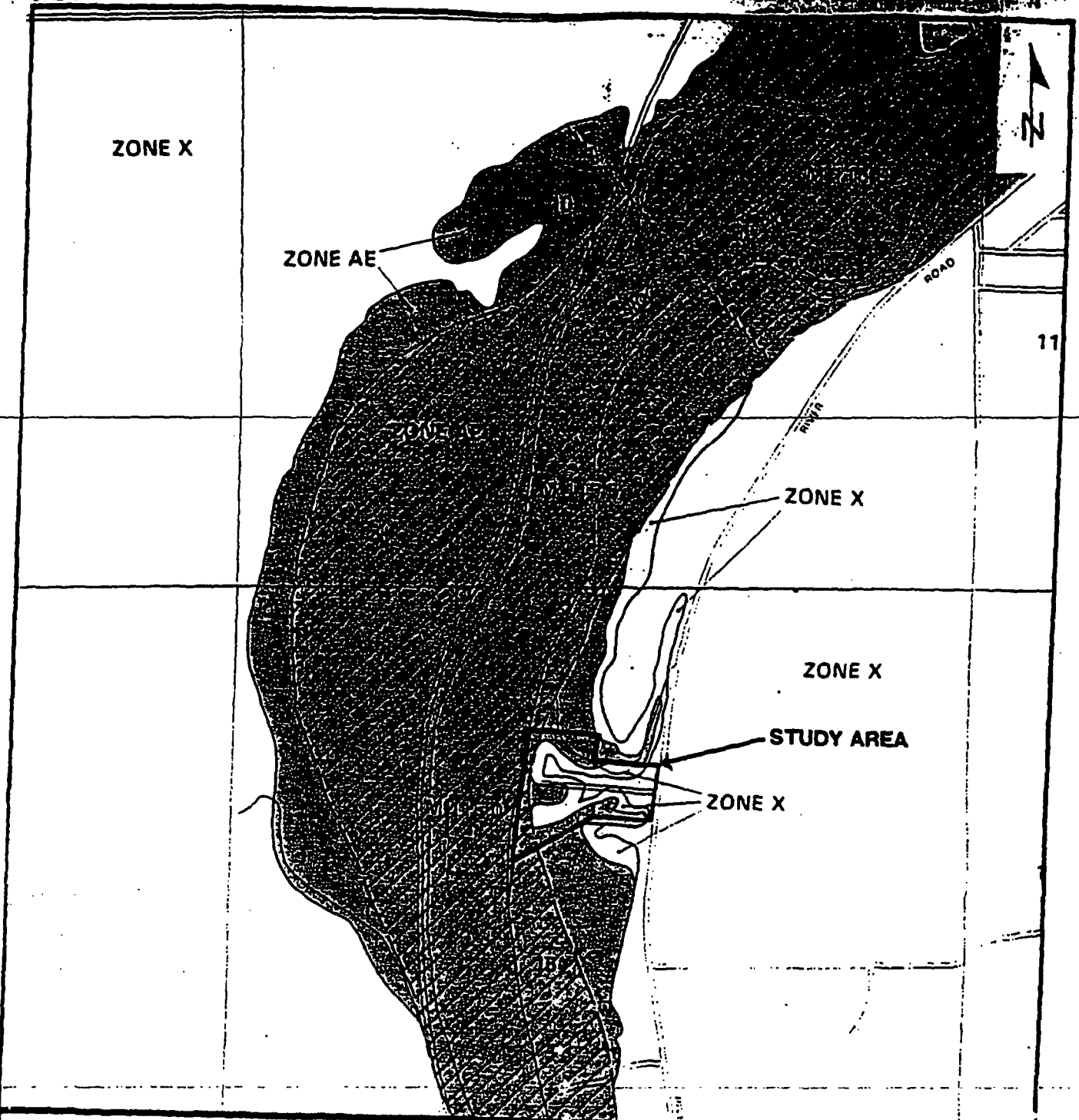
TRIBUTARY TO : ROCK RIVER

APPLICATION BY : CBBEL-AUTHORIZED AGENT

NAME OF LOCAL GOVERNING COMMUNITY : BYRON

OWNER, PROPRIETOR, OR DULY AUTHORIZED AGENT.

CBB CHRISTOPHER B. BURKE ENGINEERING, LTD. 9515 WEST HIGGINS ROAD SUITE 600 ROSEMONT, ILLINOIS 60018 (847) 823-0500	CLIENT	COMED	PROJECT No	00-268		
	TITLE USGS MAP				DATE	7/19/00
					EXHIBIT 5	



NOTE: TAKEN FROM THE FLOOD INSURANCE RATE MAP(FIRM), UNINCORPORATED OGLE COUNTY, ILLINOIS. COMMUNITY PANEL NUMBER 170523 0230A. EFFECTIVE DATE: APRIL 5, 1988

LEGEND

ZONE AE - BASE FLOOD ELEVATIONS DETERMINED

APPROXIMATE SCALE: 1" = 1000'

PROPOSED PROJECT : UNKNOWN

WATERWAY : N/A

TRIBUTARY TO : ROCK RIVER

NAME OF LOCAL GOVERNING COMMUNITY : BYRON

COUNTY : OGLE

STATE : IL

APPLICATION BY : CBEL-AUTHORIZED AGENT

OWNER, PROPRIETOR, OR DULY AUTHORIZED AGENT.



CHRISTOPHER B. BURKE ENGINEERING LTD
9575 WEST HIGGINS ROAD SUITE 600
ROSEMONT ILLINOIS 60016 1647 823-0500

CLIENT

COMED

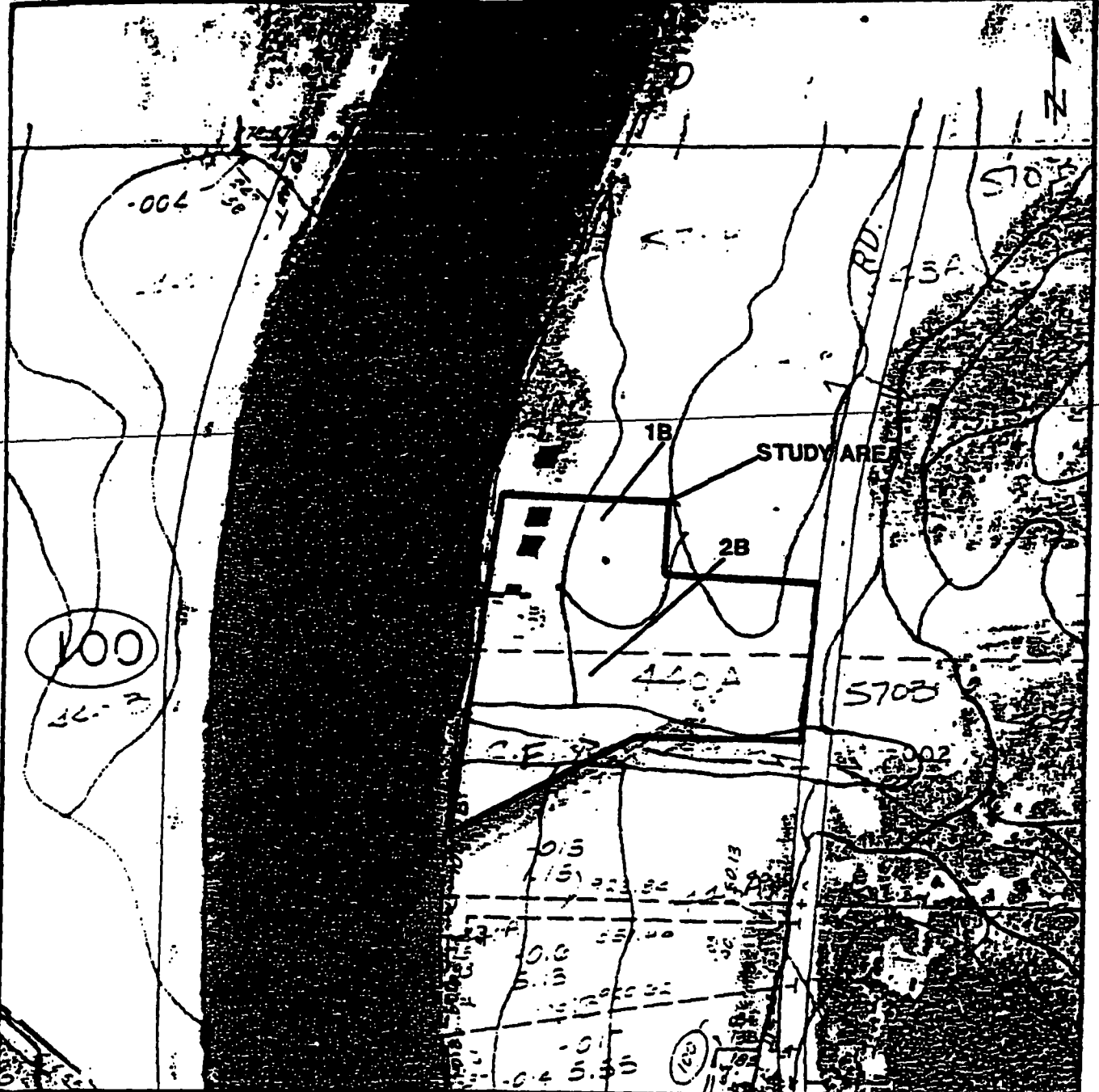
PROJECT No
00-268

TITLE

FIRM

DATE 7/19/00

EXHIBIT 6



APPROXIMATE SCALE: 1"=400'

PROPOSED PROJECT : <u>UNKNOWN</u>	COUNTY : <u>OGLE</u>
WATERWAY : <u>N/A</u>	STATE : <u>IL</u>
TRIBUTARY TO : <u>ROCK RIVER</u>	APPLICATION BY : <u>CBBEL-AUTHORIZED AGENT</u>
NAME OF LOCAL GOVERNING COMMUNITY : <u>BYRON</u>	OWNER, PROPRIETOR, OR DULY AUTHORIZED AGENT.

CBB CHRISTOPHER B. BURKE ENGINEERING LTD 9575 WEST HIGGINS ROAD SUITE 600 ROSEMONT, ILLINOIS 60016 (647) 823-0500	CLIENT COMED	PROJECT No 00-268	
	TITLE APPROXIMATE WETLAND DELINEATION		DATE 7/19/00 EXHIBIT 7

APPENDIX A

1

2

3

(1987 COE Wetlands Delineation Manual)

Project/Site: Byron Nuclear Generating Plant	Project No: 00-268	Date: 14-Jul-2000
Applicant/Owner: Commonwealth Edison		County: Ogle
Investigators: KJW		State: Illinois
		Plot ID: 1

Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: Upland
Is the site significantly disturbed (Atypical Situation:)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: 18
Is the area a potential Problem Area?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Field Location:
(If needed, explain on the reverse side)		

(USFWS Region No. 3)

[illegible]

FAC Neutral: 0/2 = 0.00%
 Numeric Index: 12/3 = 4.00

<50% HYDROPHYTIC VEGETATION.

HYDROLOGY

<u>NO</u> Recorded Data (Describe in Remarks): N/A Stream, Lake or Tide Gauge N/A Aerial Photographs N/A Other <u>YES</u> No Recorded Data		Wetland Hydrology Indicators Primary Indicators <u>NO</u> Inundated <u>NO</u> Saturated in Upper 12 Inches <u>NO</u> Water Marks <u>NO</u> Drift Lines <u>NO</u> Sediment Deposits <u>NO</u> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <u>NO</u> Oxidized Root Channels in Upper 12 Inches <u>NO</u> Water-Stained Leaves <u>NO</u> Local Soil Survey Data <u>NO</u> FAC-Neutral Test <u>NO</u> Other (Explain in Remarks)	
Field Observations:			
Depth of Surface Water:	N/A (in.)		
Depth to Free Water in Pit:	N/A (in.)		
Depth to Saturated Soil:	N/A (in.)		

• NO EVIDENCE OF WETLAND HYDROLOGY.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Byron Nuclear Generating Plant Applicant/Owner: Commonwealth Edison Investigators: KJW	Project No: 00-268	Date: 14-Jul-2000 County: Ogle State: Illinois Plot ID: 1
---	---------------------------	--

SOILS

Map Unit Name (Series and Phase): Martinsville silt loam Map Symbol: 570b Drainage Class: well drained Taxonomy (Subgroup): mesic Typic Hapludalfs Profile Description	Mapped Hydric Inclusion? Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No
--	---

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc
0-8		10YR4/3	N/A	N/A N/A	Silt loam, FILL
8-11		10YR5/4	N/A	N/A N/A	Silt loam, FILL

Hydric Soil Indicators: NO Histosol NO Histic Epipedon NO Sulfidic Odor NO Aquic Moisture Regime NO Reducing Conditions NO Gleyed or Low Chroma Colors	NO Concretions NO High Organic Content in Surface Layer in Sandy Soils NO Organic Streaking in Sandy Soils NO Listed on Local Hydric Soils List NO Listed on National Hydric Soils List NO Other (Explain in Remarks)
---	--

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampling Point within the Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Hydric Soils Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	

Remarks: ALL CRITERIA ARE NOT MET.
--

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Byron Nuclear Generating Plant Applicant/Owner: Commonwealth Edison Investigators: KJW	Project No: 00-268	Date: 14-Jul-2000 County: Ogle State: Illinois Plot ID: 2
---	---------------------------	--

Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on the reverse side)	<input checked="" type="radio"/> Yes <input type="radio"/> Yes <input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> No <input checked="" type="radio"/> No	Community ID: Upland Transect ID: 2B Field Location:
---	--	--	---

VEGETATION

(USFWS Region No. 3)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
<i>Typha latifolia</i>	Herb	OBL	<i>Daucus carota</i>	Herb	UPL
Cattail, Broad-Leaf			Queen Anne's Lace		
<i>Eleocharis erythropoda</i>	Herb	OBL	<i>Melilotus officinalis</i>	Herb	FACU
Spikerush, Bald			Sweetclover, Yellow		
<i>Rumex crispus</i>	Herb	FAC+			
Dock, Curly					

Percent of Dominant Species that are OBL, FACW or FAC:
 (excluding FAC-) 3/5 = 60.00%

FAC Neutral: 2/4 = 50.00%
 Numeric Index: 14/5 = 2.80

Remarks:

>50% HYDROPHYTIC VEGETATION.

HYDROLOGY

NO Recorded Data(Describe in Remarks): <u>N/A</u> Stream, Lake or Tide Gauge <u>N/A</u> Aerial Photographs <u>N/A</u> Other YES No Recorded Data Field Observations Depth of Surface Water: N/A (in.) Depth to Free Water in Pit: N/A (in.) Depth to Saturated Soil: N/A (in.)	Wetland Hydrology Indicators Primary Indicators <u>NO</u> Inundated <u>NO</u> Saturated in Upper 12 Inches <u>NO</u> Water Marks <u>NO</u> Drift Lines <u>NO</u> Sediment Deposits <u>NO</u> Drainage Patterns in Wetland Secondary Indicators (2 or more required): <u>NO</u> Oxidized Root Channels in Upper 12 Inches <u>NO</u> Water-Stained Leaves <u>NO</u> Local Soil Survey Data <u>NO</u> FAC-Neutral Test <u>NO</u> Other (Explain in Remarks)
---	--

Remarks:

NO EVIDENCE OF WETLAND HYDROLOGY.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Byron Nuclear Generating Plant Applicant/Owner: Commonwealth Edison Investigators: KJW	Project No: 00-268	Date: 14-Jul-2000 County: Ogle State: Illinois Plot ID: 2
---	---------------------------	--

SOILS

Map Unit Name (Series and Phase): Jasper silt loam Map Symbol: 440A Drainage Class: well drained Taxonomy (Subgroup): mesic Typic Argiudolls Profile Description				Mapped Hydric Inclusion? Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc
0-5		10YR3/1	N/A	N/A N/A	Silt loam, FILL
8-18		10YR3/1	N/A	N/A N/A	Silt loam, FILL

Hydric Soil Indicators:

NO Histosol NO Histic Epipedon NO Sulfidic Odor NO Aquic Moisture Regime NO Reducing Conditions NO Gleyed or Low Chroma Colors	NO Concretions NO High Organic Content in Surface Layer in Sandy Soils NO Organic Streaking in Sandy Soils NO Listed on Local Hydric Soils List NO Listed on National Hydric Soils List NO Other (Explain in Remarks)
---	--

Remarks:

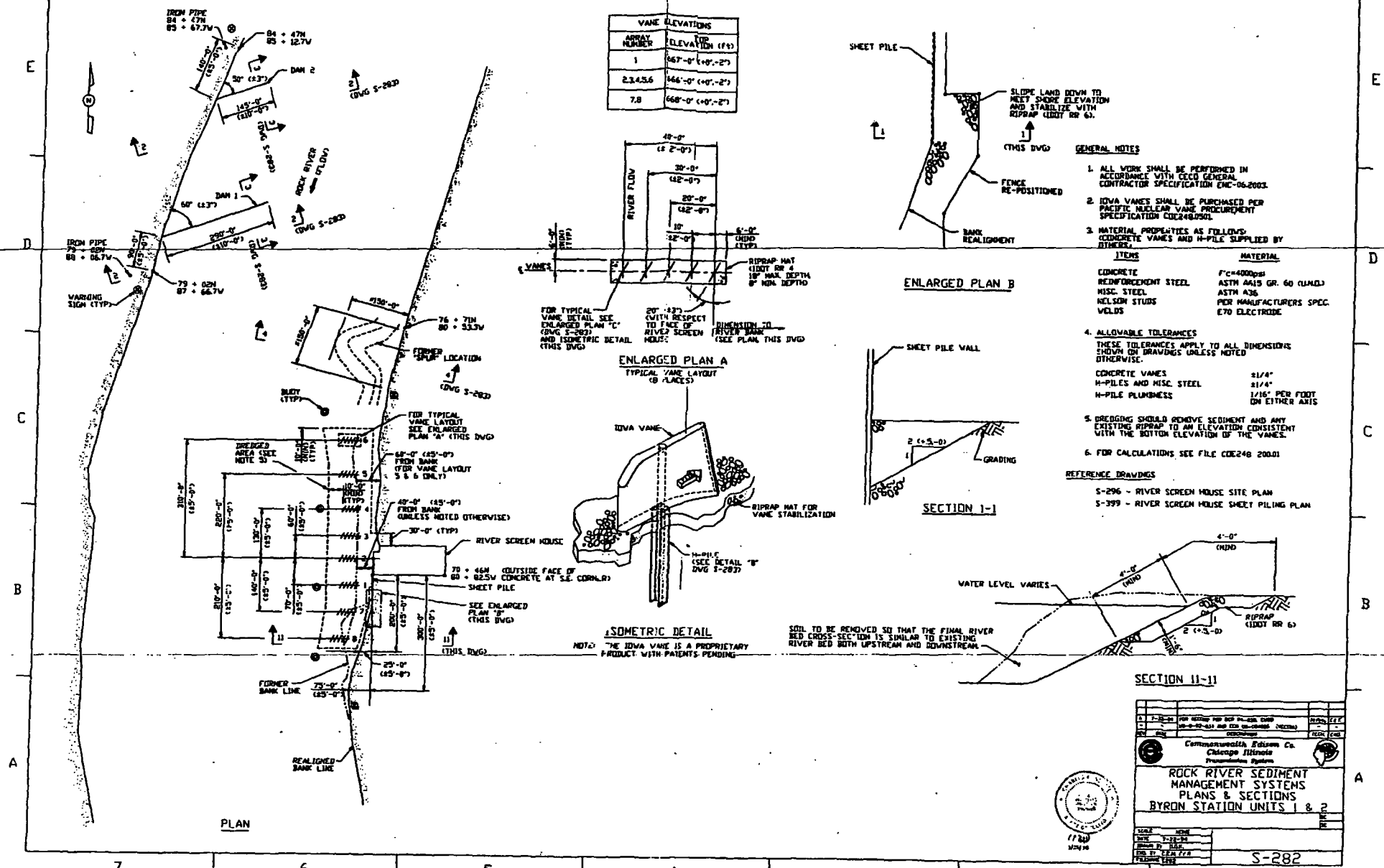
WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is the Sampling Point within the Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
---	--

Remarks:

ALL CRITERIA ARE NOT MET.

S-282



CENTRAL DRAWING FACILITY 24 X

COMMONWEALTH EDISON CO. CHICAGO, ILLINOIS TRANSMISSION SYSTEMS	
ROCK RIVER SEDIMENT MANAGEMENT SYSTEMS PLANS & SECTIONS BYRON STATION UNITS 1 & 2	
DATE: 11-28-24 DRAWN BY: [blank] CHECKED BY: [blank]	SCALE: [blank] SHEET: S-282 TOTAL SHEETS: 2

JOINT APPLICATION FORM

1. Application Number (to be assigned by Agency)		2. Date <div style="text-align: center;">05/31/2007 Month / Day / Year</div>		3. For agency use only (Date Received)						
4. Name and address of applicant Exelon Generation Byron Station 4450 N German Church Rd Byron, IL 61010 Attention: Stan Kerr Telephone no. during business hours (815) 406-3200 Include area code ()			5. Name, address, and title of authorized agent Same as Applicant Telephone no. during business hours () Include area code ()							
6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Also indicate the drainage area at the watershed to the downstream limit. Use attachments if needed. The proposed activity includes excavating accumulated sediments from around and between 8 existing turning vanes located in the Rock River at the Byron Nuclear Generating Station. Exelon proposes to use mechanical and hydraulic dredging methods to remove the sediment, which will be pumped and deposited into a constructed retention pond located outside the Rock River floodway limits. Verification that the proposed project meets the conditions to Nationwide Permit 7 (outfall Structures and Maintenance) is sought. From the Illinois Environmental Protection Agency we are requesting Section 401 water quality certification, if applicable.										
7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of the subject property if different from applicant. Available upon request.										
8. Location of activity Rock River Name of waterway at location of the activity Address: 4744 North River Rd Street, road, or other descriptive location Byron In or near city or town Ogle County State Zip			Legal Description: <div style="display: flex; justify-content: space-around; font-weight: bold;">NE 15 24N 10E 3rd</div> <div style="display: flex; justify-content: space-around; font-size: small;">1/4 Sec Twp. Rge P.M.</div> UTM (Universal Transverse Mercator): If available N-466169 E-307421 Zone North East Byron Name of Local Governing Community IL 61010 Code							
9. Date activity is proposed to commence			Estimated Time of Construction							
10. Is any portion of the activity for which authorization is sought now complete? Month and Year the activity was completed			Yes <input type="radio"/> No <input checked="" type="radio"/> If answer is "Yes" give reasons in Item 6. Indicate the existing work on drawings.							
11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Natural Resources, and Environmental Protection Agency, these agencies need not be listed. <table style="width:100%; border-collapse: collapse;"><tr><td style="width:30%; border-bottom: 1px solid black;">Issuing Agency</td><td style="width:30%; border-bottom: 1px solid black;">Type of Approval Identification</td><td style="width:10%; border-bottom: 1px solid black;">No.</td><td style="width:10%; border-bottom: 1px solid black;">Date of Application</td><td style="width:10%; border-bottom: 1px solid black;">Date of Approval</td></tr></table>						Issuing Agency	Type of Approval Identification	No.	Date of Application	Date of Approval
Issuing Agency	Type of Approval Identification	No.	Date of Application	Date of Approval						
12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein?			Yes <input type="radio"/> No <input checked="" type="radio"/> (If "Yes", explain in Item 6.)							
13. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed										
			Signature of Applicant or Authorized Agent Marseyne Snow Typed or Printed Name of Applicant or Authorized Agent							

NCR FORM 426

08 AUG 02

☒ CORPS OF ENGINEERS COPY

☐ IDNR/OWR COPY

☐ IEPA COPY

☐ APPLICANT'S COPY

See Attached Document from 7-27-2000

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 N River Rd
Byron, IL 61010

VICINITY MAP

LIST OF ADJACENT PROPERTY OWNERS

NO. NAME

ADDRESS

1.

2.

3.

4.

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 North River Rd
Byron, IL 61010

JOINT APPLICATION FORM

1. Application Number (to be assigned by Agency)		2. Date <div style="text-align: center;">05/31/2007</div> <div style="text-align: center; font-size: small;">Month / Day / Year</div>		3. For agency use only (Date Received)							
4. Name and address of applicant Exelon Generation Byron Station 4450 N German Church Rd Byron, IL 61010 Attention: Stan Kerr Telephone no. during business hours (815) 406-3200 Include area code ()			5. Name, address, and title of authorized agent Same as Applicant Telephone no. during business hours () Include area code ()								
6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Also indicate the drainage area at the watershed to the downstream limit. Use attachments if needed. The proposed activity includes excavating accumulated sediments from around and between 8 existing turning vanes located in the Rock River at the Byron Nuclear Generating Station. Exelon proposes to use mechanical and hydraulic dredging methods to remove the sediment, which will be pumped and deposited into a constructed retention pond located outside the Rock River floodway limits. Verification that the proposed project meets the conditions to Nationwide Permit 7 (outfall Structures and Maintenance) is sought. From the Illinois Environmental Protection Agency we are requesting Section 401 water quality certification, if applicable.											
7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of the subject property if different from applicant. Available upon request.											
8. Location of activity Name of waterway at location of the activity <u>Rock River</u> Address: <u>4744 North River Rd</u> Street, road, or other descriptive location <u>Byron</u> In or near city or town <u>Ogle</u> County State Zip <u>IL 61010</u>			Legal Description: <div style="display: flex; justify-content: space-around; font-weight: bold;">NE 15 24N 10E 3rd</div> <div style="display: flex; justify-content: space-around; font-size: small;">Sec Twp. Rge P.M.</div> <div style="display: flex; justify-content: space-between;"><div>UTM (Universal Transverse Mercator): If available</div><div>N-466169 E-307421</div></div> <div style="text-align: center; font-size: small;">Zone North East</div> <div style="display: flex; justify-content: space-between;"><div>Byron</div><div>Name of Local Governing Community</div></div> <div style="display: flex; justify-content: space-between;"><div>IL</div><div>61010</div></div> <div style="text-align: right; font-size: small;">Code</div>								
9. Date activity is proposed to commence			Estimated Time of Construction								
10. Is any portion of the activity for which authorization is sought now complete? Month and Year the activity was completed			Yes <input type="radio"/> No <input checked="" type="radio"/> If answer is "Yes" give reasons in item 6. Indicate the existing work on drawings.								
11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Natural Resources, and Environmental Protection Agency, these agencies need not be listed. <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%; border-bottom: 1px solid black;">Issuing Agency</th><th style="width: 20%; border-bottom: 1px solid black;">Type of Approval</th><th style="width: 10%; border-bottom: 1px solid black;">Identification</th><th style="width: 10%; border-bottom: 1px solid black;">No.</th><th style="width: 20%; border-bottom: 1px solid black;">Date of Application</th><th style="width: 10%; border-bottom: 1px solid black;">Date of Approval</th></tr></thead></table>						Issuing Agency	Type of Approval	Identification	No.	Date of Application	Date of Approval
Issuing Agency	Type of Approval	Identification	No.	Date of Application	Date of Approval						
12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein?			Yes <input type="radio"/> No <input checked="" type="radio"/> (If "Yes", explain in item 6.)								
13. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed											
<div style="display: flex; justify-content: space-between;"> <div>Signature of Applicant or Authorized Agent <u>Marseyne Snow</u></div> <div>Typed or Printed Name of Applicant or Authorized Agent</div> </div>											

See Attached Document from 7-27-2000

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 N River Rd
Byron, IL 61010

VICINITY MAP

LIST OF ADJACENT PROPERTY OWNERS

NO. NAME

ADDRESS

1.

2.

3.

4.

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 North River Rd
Byron, IL 61010

JOINT APPLICATION FORM

1. Application Number (to be assigned by Agency)		2. Date <div style="text-align: center;">05/31/2007</div> <div style="text-align: center; font-size: small;">Month / Day / Year</div>		3. For agency use only (Date Received)											
4. Name and address of applicant Exelon Generation Byron Station 4450 N German Church Rd Byron, IL 61010 Attention: Stan Kerr Telephone no. during business hours (815) 406-3200 Include area code ()			5. Name, address, and title of authorized agent Same as Applicant Telephone no. during business hours () Include area code ()												
6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Also indicate the drainage area at the watershed to the downstream limit. Use attachments if needed. The proposed activity includes excavating accumulated sediments from around and between 8 existing turning vanes located in the Rock River at the Byron Nuclear Generating Station. Exelon proposes to use mechanical and hydraulic dredging methods to remove the sediment, which will be pumped and deposited into a constructed retention pond located outside the Rock River floodway limits. Verification that the proposed project meets the conditions to Nationwide Permit 7 (outfall Structures and Maintenance) is sought. From the Illinois Environmental Protection Agency we are requesting Section 401 water quality certification, if applicable.															
7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of the subject property if different from applicant. Available upon request.															
8. Location of activity Name of waterway at location of the activity <u>Rock River</u> Address: <u>4744 North River Rd</u> Street, road, or other descriptive location <u>Byron</u> In or near city or town <u>Ogle</u> County State Zip <u>IL 61010</u>			Legal Description: <div style="display: flex; justify-content: space-around; font-weight: bold;">NE 15 24N 10E 3rd</div> <div style="display: flex; justify-content: space-around; font-size: small;">Sec Twp. Rge P.M.</div> UTM (Universal Transverse Mercator): If available <u>N-466169 E-307421</u> Zone North East <u>Byron</u> Name of Local Governing Community <u>IL 61010</u> Code												
9. Date activity is proposed to commence			Estimated Time of Construction												
10. Is any portion of the activity for which authorization is sought now complete? Month and Year the activity was completed			Yes <input type="radio"/> No <input checked="" type="radio"/> If answer is "Yes" give reasons in Item 6. Indicate the existing work on drawings.												
11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Natural Resources, and Environmental Protection Agency, these agencies need not be listed. <table style="width: 100%; border-collapse: collapse;"><tr><th style="width: 30%; text-align: left;">Issuing Agency</th><th style="width: 30%; text-align: left;">Type of Approval Identification</th><th style="width: 10%; text-align: left;">No.</th><th style="width: 20%; text-align: left;">Date of Application</th><th style="width: 10%; text-align: left;">Date of Approval</th></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>						Issuing Agency	Type of Approval Identification	No.	Date of Application	Date of Approval					
Issuing Agency	Type of Approval Identification	No.	Date of Application	Date of Approval											
12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein?			Yes <input type="radio"/> No <input checked="" type="radio"/> (If "Yes", explain in Item 6.)												
13. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed															
Signature of Applicant or Authorized Agent <u>Marseyne Snow</u>			Typed or Printed Name of Applicant or Authorized Agent												

NCR FORM 426

08 AUG 02



CORPS OF ENGINEERS COPY



IDNR/OWR COPY



IEPA COPY



APPLICANT'S COPY

See Attached Document from 7-27-2000

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 N River Rd
Byron, IL 61010

VICINITY MAP

LIST OF ADJACENT PROPERTY OWNERS

NO. NAME

ADDRESS

1.

2.

3.

4.

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 North River Rd
Byron, IL 61010

JOINT APPLICATION FORM

1. Application Number (to be assigned by Agency)		2. Date <div style="text-align: center;">05/31/2007 Month / Day / Year</div>		3. For agency use only (Date Received)																										
4. Name and address of applicant Exelon Generation Byron Station 4450 N German Church Rd Byron, IL 61010 Attention: Stan Kerr Telephone no. during business hours (815) 406-3200 Include area code ()			5. Name, address, and title of authorized agent Same as Applicant Telephone no. during business hours () Include area code ()																											
6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Also indicate the drainage area at the watershed to the downstream limit. Use attachments if needed.																														
<p>The proposed activity includes excavating accumulated sediments from around and between 8 existing turning vanes located in the Rock River at the Byron Nuclear Generating Station. Exelon proposes to use mechanical and hydraulic dredging methods to remove the sediment, which will be pumped and deposited into a constructed retention pond located outside the Rock River floodway limits. Verification that the proposed project meets the conditions to Nationwide Permit 7 (outfall Structures and Maintenance) is sought.</p> <p>From the Illinois Environmental Protection Agency we are requesting Section 401 water quality certification, if applicable.</p>																														
7. Names, addresses, and telephone numbers of all adjoining and potentially affected property owners, including the owner of the subject property if different from applicant.																														
Available upon request.																														
8. Location of activity			Legal Description:																											
Rock River Name of waterway at location of the activity Address: 4744 North River Rd Street, road, or other descriptive location Byron In or near city or town Ogle County State Zip			<table border="0" style="width: 100%;"> <tr> <td>NE</td> <td>15</td> <td>24N</td> <td>10E</td> <td>3rd</td> </tr> <tr> <td></td> <td>1/4</td> <td>Sec</td> <td>Twp.</td> <td>Rge</td> </tr> <tr> <td colspan="5">UTM (Universal Transverse Mercator): If available</td> </tr> <tr> <td colspan="5" style="text-align: center;">N-466169 E-307421</td> </tr> <tr> <td colspan="5" style="text-align: center;">Zone North East</td> </tr> </table> Byron Name of Local Governing Community IL 61010 Code			NE	15	24N	10E	3rd		1/4	Sec	Twp.	Rge	UTM (Universal Transverse Mercator): If available					N-466169 E-307421					Zone North East				
NE	15	24N	10E	3rd																										
	1/4	Sec	Twp.	Rge																										
UTM (Universal Transverse Mercator): If available																														
N-466169 E-307421																														
Zone North East																														
9. Date activity is proposed to commence			Estimated Time of Construction																											
10. Is any portion of the activity for which authorization is sought now complete? Month and Year the activity was completed			Yes <input type="radio"/> No <input checked="" type="radio"/> If answer is "Yes" give reasons in Item 6. Indicate the existing work on drawings.																											
11. List all approvals or certifications required by other federal, interstate, state, or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for concurrent application to the Corps of Engineers, Illinois Department of Natural Resources, and Environmental Protection Agency, these agencies need not be listed.																														
Issuing Agency		Type of Approval Identification		Date of Application																										
12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein?			Yes <input type="radio"/> No <input checked="" type="radio"/> (If "Yes", explain in Item 6.)																											
13. Application is hereby made for authorizations of the activities described herein. I certify that I am familiar with information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed			Signature of Applicant or Authorized Agent Marseyne Snow Typed or Printed Name of Applicant or Authorized Agent																											

NCR FORM 426

08 AUG 02

☐ CORPS OF ENGINEERS COPY

☐ IDNR/OWR COPY

☐ IEPA COPY

☒ APPLICANT'S COPY

See Attached Document from 7-27-2000

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 N River Rd
Byron, IL 61010

VICINITY MAP

LIST OF ADJACENT PROPERTY OWNERS

NO. NAME

ADDRESS

1.

2.

3.

4.

PROJECT DESCRIPTION

Rock River Turning Vanes Dredging

LOCATION:

4744 North River Rd
Byron, IL 61010



**DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004**

REPLY TO
ATTENTION OF

<http://www.mvr.usace.army.mil>

July 3, 2007

Operations Division

SUBJECT: CEMVR-OD-P-2007-925

**Mr. Marseyne Snow
Plant Manager
Byron Generating Station
4450 North German Church Road
Byron, Illinois 61010**

Dear Mr. Snow:

Our office reviewed your application dated June 6, 2007, concerning the proposed maintenance dredging around eight turning vanes in the Rock River, associated with the Byron Nuclear Generating Station in Section 15, Township 24 North, Range 10 East, Ogle County, Illinois.

Your project is covered under Nationwide Permit No. 3, as published in the enclosed copy of the Nationwide Permit portion of the March 12, 2007 Federal Register, provided you meet the permit conditions and the General Conditions for the nationwide permits which are also included in the Federal Register and the Special and/ or Regional permit Conditions for this nationwide permit. The Corps has also made a determination of no effect on federally threatened and endangered species or critical habitat. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision. The Illinois Environmental Protection Agency (IEPA) also issued Section 401 Water Quality Certification with conditions for this nationwide permit. You must also comply with these conditions.

Bank and shoreline protection shall consist of suitable clean materials, free from debris, trash, and other deleterious materials. If broken concrete is used as riprap, all reinforcing rods must be cut flush with the surface of the concrete, and individual pieces of concrete shall not exceed 3 feet in any dimension. Asphalt and broken concrete containing asphalt are specifically excluded from this authorization.

This verification is valid for two years from the date of this letter, unless the nationwide permit is modified, reissued or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing any changes if and when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from this date to complete your activity under the present terms and conditions of this nationwide permit.

This letter contains an approved jurisdictional determination for the subject site. If you object to this jurisdictional determination, you may request an administrative appeal under Corps regulations found at 33 CFR Part 331. Enclosed is a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this approved jurisdictional determination, you must submit a completed RFA form to the Mississippi Valley Division Office at the following address:

Mr. James B. Wiseman, Jr.
U.S. Army Corps of Engineers
Mississippi Valley Division
ATTN: CEMVD-PD-KM
Post Office Box 80 (1400 Walnut Street)
Vicksburg, Mississippi 39181-0080

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by September 1, 2007.

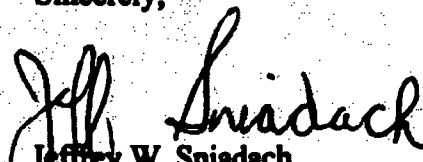
It is not necessary to submit an RFA form to the Division Office if you do not object to the approved jurisdictional determination contained in this letter.

Although an individual Department of the Army permit and individual IEPA 401 certification will not be required for the project, this does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. If you have not already coordinated your project with the Illinois Department of Natural Resources - Office of Water Resources, please contact them at 217/782-3863 to determine if a floodplain development permit is required for your project.

You are required to complete and return the enclosed "Completed Work Certification" upon completion of your project, in accordance with General Condition No. 26 of the enclosed Fact Sheet.

Should you have any questions, please contact our Regulatory Branch by letter, or telephone me at 309/794-5369.

Sincerely,


Jeffrey W. Sniadach
Project Manager
Enforcement Section

When the structure or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit are still in existence at the time the property is transferred, the terms and conditions, will continue to be binding on the new owner(s), of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

Enclosures

Copies Furnished: (w/o enclosures)

**Mr. Mike Diedrichsen, P.E.
Office of Water Resources
IL Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62701-1271**

**Mr. Bruce Yurdin
Illinois Environmental Protection Agency
Watershed Management Section, Permit Sec. 15
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276**



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/782-3362

MAY 10 2007

RECEIVED

MAY 14 2007

CEMVR-OD-P

Rock Island District
Corps of Engineers
Clock Tower Building
Rock Island, IL 61201

Re: Final Notice of Issuance of Nationwide Permits, March 12, 2007
Section 401 Certifications, Denials, and Regional Conditions

Gentlemen:

On March 12, 2007 the Corps of Engineers issued the final notice concerning the disposition of the expiring Nationwide Permits (NWP) under Section 10 of the 1899 Rivers and Harbors Act and Section 404 of the Clean Water Act.

Based on our review of the final rules, Section 401 certifications are hereby issued for the following NWPs without conditions:

NWP 4 - Fish and Wildlife Harvesting, Enhancement, and Attraction Device and Activities
NWP 5 - Scientific Measuring Devices
NWP 7 - Outfall Structures and Associated Intake Structures
NWP 20 - Oil Spill Cleanup
NWP 22 - Removal of Vessels
NWP 36 - Boat Ramps
NWP 45 - Emergency Repair Activities

In addition, the following NWPs are hereby issued Section 401 certifications subject to the regional conditions as indicated below:

NWP 3 - Maintenance. Refer to Regional Conditions contained in Attachment 1

NWP 6 - Survey Activities. Refer to Regional Conditions contained in Attachment 2

NWP 12 - Utility Line Activities. Refer to Regional Conditions contained in Attachment 3

NWP 13 - Bank Stabilization. Refer to Regional Conditions contained in Attachment 4

ROCKFORD - 4302 North Main Street, Rockford, IL 61103 - (815) 987-7760 • DES PLAINES - 9511 W. Harrison St., Des Plaines, IL 60016 - (847) 294-4000
ELGIN - 595 South State, Elgin, IL 60123 - (847) 608-3131 • PEORIA - 5415 N. University St., Peoria, IL 61614 - (309) 693-5463
BUREAU OF LAND - PEORIA - 7620 N. University St., Peoria, IL 61614 - (309) 693-5462 • CHAMPAIGN - 2125 South First Street, Champaign, IL 61820 - (217) 278-5800
SPRINGFIELD - 4500 S. Sixth Street Rd., Springfield, IL 62706 - (217) 786-6892 • COLLINSVILLE - 2009 Mail Street, Collinsville, IL 62234 - (618) 346-5120
MARION - 2309 W. Main St., Suite 116, Marion, IL 62959 - (618) 993-7200

NWP 14 - Linear Transportation Projects. Refer to Regional Conditions contained in Attachment 5

NWP 27 - Aquatic Habitat Restoration, Establishment, and Enhancement Activities. All activities conducted under NWP 27 shall be in accordance with the provisions of 35 Il. Adm. Code 405.108. Work in reclaimed surface coal mine areas are required to obtain prior authorization from the Illinois EPA for any activities that result in the use of acid-producing mine refuse.

NWP 33 - Temporary Construction, Access and Dewatering. Refer to Regional Conditions contained in Attachment 6

NWP 38 - Cleanup of Hazardous and Toxic Wastes. Refer to Regional Conditions contained in Attachment 7

NWP 41 - Reshaping Existing Drainage Ditches. Refer to Regional Conditions contained in Attachment 8

NWP 46 - Discharges into Ditches. Refer to Regional Conditions contained in Attachment 9

NWP 47 - Pipeline Safety Program Designated Time Sensitive Inspections and Repairs. Refer to Regional Conditions contained in Attachment 10

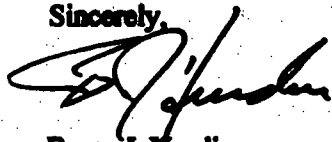
Section 401 Certification is denied for the following NWPs:

- NWP 15 - U.S. Coast Guard Approved Bridges**
- NWP 16 - Return Water from Upland Contained Disposal Areas**
- NWP 17 - Hydropower Projects**
- NWP 18 - Minor Discharges**
- NWP 19 - Minor Dredging**
- NWP 21 - Surface Coal Mining Activities**
- NWP 23 - Approved Categorical Exclusions**
- NWP 25 - Structural Discharges**
- NWP 29 - Residential Development**
- NWP 30 - Moist Soil Management for Wildlife**
- NWP 31 - Maintenance of Existing Flood Control Facilities**
- NWP 32 - Completed Enforcement Actions**
- NWP 34 - Cranberry Production Activities**
- NWP 37 - Emergency Watershed Protection and Rehabilitation**
- NWP 39 - Commercial, and Institutional Developments**
- NWP 40 - Agricultural Activities**
- NWP 42 - Recreational Facilities**
- NWP 43 - Stormwater Management Facilities**
- NWP 44 - Mining Activities**

NWP 48 - Commercial Shellfish Aquaculture Activities
NWP 49 - Coal Remining Activities
NWP 50 - Underground Coal Mining Activities

Should you have any questions or comments regarding the content of this letter, please contact me or my staff at the above telephone number and address.

Sincerely,



Bruce J. Yurdin
Manager, Watershed Management Section
Bureau of Water

cc: Records Unit
CoE, Chicago District
CoE, Louisville District
CoE, Memphis District
CoE, St. Louis District
IDNR, OWR, DWRM, Schaumburg and Springfield
USEPA, Region 5
USFWS, Rock Island, Barrington and Marion



Illinois Department of Natural Resources

One Natural Resources Way • Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

Rod R. Blagojevich, Governor

Sam Flood, Acting Director

June 28, 2007

EXELON GENERATION -BYRON STATION (STAN KERR)

MAINTENANCE DREDGING

STATEWIDE PERMIT NOTIFICATION LETTER

Thank you for your recent submittal regarding the project as shown on the enclosed copy of your submittal. Based on the information you have submitted, it appears that the project qualifies for approval under the Illinois Department of Natural Resources, Office of Water Resources statewide permit program. We have enclosed a copy of the applicable statewide permit(s) (as noted below) which appear to apply to your work. Please review this material to determine whether your work will meet the terms and conditions of the permit(s). If any of the conditions would not be met, please advise us of the differences and we will continue with the formal permit process.

If we do not hear from you within thirty (30) days, we will assume it is your intention to comply with the conditions of the statewide permit(s).

This letter should not be construed as a release from any other federal, state or local requirements. If you have not already done so, you should contact the local regulatory agency to ascertain applicable local floodplain construction requirements.

If you have any questions feel free to contact the person noted below at 217/782-3863.

- | | |
|---|---|
| <input type="checkbox"/> Rod Johnson | <input type="checkbox"/> Mike Diedrichsen |
| <input type="checkbox"/> Rob Glesing | <input checked="" type="checkbox"/> Mark McCauley |
| <input type="checkbox"/> Jason Campbell | <input type="checkbox"/> Wes Rust |
| <input type="checkbox"/> Jerry Bishoff | |

BY: _____

cc: City of Byron (Betsy Faudree)
Ogle County (Mike Reibel)

Statewide Permit(s) Enclosed:

- | | |
|---|---|
| <input type="checkbox"/> SW 1 - Fringe Construction | <input type="checkbox"/> SW 8 - Underground Crossings |
| <input type="checkbox"/> SW 2 - Rural Bridges | <input type="checkbox"/> SW 9 - Shoreline/Streambank Protection |
| <input type="checkbox"/> SW 3 - Barge Fleeting Facilities | <input type="checkbox"/> SW 10 - Additions/Accessory Structures |
| <input type="checkbox"/> SW 4 - Aerial Utility Crossings | <input checked="" type="checkbox"/> SW 11 - Dredging |
| <input type="checkbox"/> SW 5 - Minor Boat Docks | <input type="checkbox"/> SW 12 - Replacement Structures |
| <input type="checkbox"/> SW 6 - Minor Floodway Construction | <input type="checkbox"/> SW 13 - Temporary Construction |
| <input type="checkbox"/> SW 7 - Outfalls | <input type="checkbox"/> SW 14 - Special Use of Public Water |



DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF:

February 15, 2001

RECEIVED

Operations Division

SUBJECT: CEMVR-OD-P-404830

FEB 17 2001

Ms. Kari Womack

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018

Christopher B. Burke Engineering, Ltd

Dear Ms. Womack:

Our office reviewed your application dated January 30, 2001, concerning the proposed removal of accumulated sediment from around 8 turning vanes in the Rock River at the ComEd Byron Nuclear Generating Station in Section 15, Township 24 North, Range 10 East, Ogle County, Illinois.

Your project is covered under Item 7 of the enclosed Fact Sheet No. 4A(IL), provided you meet the permit conditions for the nationwide permits which are also included in the Fact Sheet. The Corps has also made a determination of no impact on federally threatened and endangered species. We based these determinations on the information furnished us. The Illinois Environmental Protection Agency (IEPA) also issued Section 401 Water Quality Certification with conditions for this nationwide permit. Please note these additional conditions included in the Fact Sheet. You must also comply with these conditions.

Bank and shoreline protection shall consist of suitable clean materials, free from debris, trash, and other deleterious materials. If broken concrete is used as riprap, all reinforcing rods must be cut flush with the surface of the concrete, and individual pieces of concrete shall not exceed 3 feet in any dimension. Asphalt and broken concrete containing asphalt are specifically excluded from this authorization.

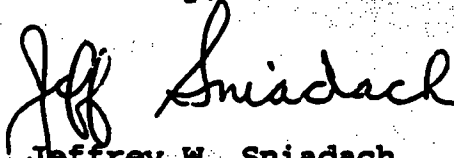
This verification is valid for two years from the date of this letter, unless the nationwide permit is modified, reissued, or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing the changes if and when they occur. Furthermore, if you commence or are under contract to commence these activities before the date the nationwide permit is modified or revoked, you will have twelve months from the date to complete the activity under the present terms and conditions of this nationwide permit.

Although an individual Department of the Army permit and individual IEPA 401 certification will not be required for the project, this does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. If you have not already coordinated your project with the Illinois Department of Natural Resources - Office of Water Resources, please contact them at 217/782-3863 to determine if a floodplain development permit is required for your project.

You are required to complete and return the enclosed "Completed Work Certification" upon completion of your project, in accordance with General Condition No. 14 of the enclosed Fact Sheet.

Should you have any questions, please contact our Regulatory Branch by letter, or telephone me at 309/794-5369.

Sincerely,



Jeffrey W. Sniadach
Project Manager
Enforcement Section

Enclosures

Copies Furnished:

Mr. Bob Dalton
Illinois Department of Natural Resources
Lincoln Tower Plaza, 524 South Second Street
Springfield, Illinois 62701-1787 (w/o enclosures)

Mr. Bruce Yurdin
Manager, Bureau of Water Section #15
Watershed Management Section
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276 (w/o enclosures)



ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES
Office of Water Resources

March 5, 2001

524 South Second Street, Springfield 62701-1787

George H. Ryan, Governor @ Brent Manning, Director

COMMONWEALTH EDISON
BYRON NUCLEAR STATION (MIKE ROBINSON)

ROCK RIVER
DREDGING - TURNING VANES

STATEWIDE PERMIT NOTIFICATION LETTER

Thank you for your recent submittal regarding the project as shown on the enclosed copy of your submittal. Based on the information you have submitted, it appears that the project qualifies for approval under the Illinois Department of Natural Resources, Office of Water Resources statewide permit program. We have enclosed a copy of the applicable statewide permit(s) (as noted below) which appear to apply to your work. Please review this material to determine whether your work will meet the terms and conditions of the permit(s). If any of the conditions would not be met, please advise us of the differences and we will continue with the formal permit process.

If we do not hear from you within thirty (30) days, we will assume it is your intention to comply with the conditions of the statewide permit(s).

This letter should not be construed as a release from any other federal, state or local requirements. If you have not already done so, you should contact the local regulatory agency to ascertain applicable local floodplain construction requirements.

If you have any questions feel free to contact the person noted below at 217/782-3863.

☐ Rod Johnson
☐ Rob Glesing
☐ Scott Arends

☐ Mike Diedrichsen
☒ Mark McCauley
☐ Nathaniel Butler

BY:

cc:

- ☒ U. S. Army Corps of Engineers (Rock Island District) w/encl.
- ☒ Illinois Environmental Protection Agency w/encl.
- ☒ IDNR/OREP (Robert Schanzle) w/encl.
- ☒ Ogle County (Mike Reible) w/encl.
- ☒ Christopher B. Burke Engineering Ltd. (Kari Womack)

Statewide Permit(s) Enclosed:

- ☐ SW 1 - Fringe Construction
- ☐ SW 2 - Rural Bridges
- ☐ SW 3 - Barge Fleeting Facilities
- ☐ SW 4 - Aerial Utility Crossings
- ☐ SW 5 - Minor Boat Docks
- ☐ SW 6 - Minor Floodway Construction
- ☐ SW 7 - Outfalls

- ☐ SW 8 - Underground Crossings
- ☐ SW 9 - Shoreline/Streambank Protection
- ☐ SW 10 - Additions/Accessory Structures
- ☒ SW 11 - Dredging
- ☐ SW 12 - Replacement Structures
- ☐ SW 13 - Temporary Construction
- ☐ SW 14 - Special Use of Public Water

JOINT APPLICATION FORM

1. Application Number (To Be Assigned by Agency)

2. Date

3. For Agency Use Only (Date Received)

20015018

29 1 01
Day Month Year

2/2/01

4. Name and Address of Applicant

Commonwealth Edison
Byron Nuclear Station
4450 North German Church Road
Byron, IL 61010
Attention: Mike Robinson

5. Name, Address and Title of Authorized Agent

Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, IL 60018
Attention: Kari J. WornackTelephone No. During
Business HoursAC (815) 234-5441 x. 2107
AC ()Telephone No. During
Business HoursAC (847) 823-0500
AC ()

6. Project Description and Remarks: Describe in detail the proposed activity, its purpose, and intended use. Use attachments if needed.

The proposed activity includes excavating accumulated sediment from around and between 8 existing turning vanes located in the Rock River at the ComEd Byron Nuclear Generating Station. ComEd proposes to use mechanical and hydraulic dredging methods to remove the sediment, which will be pumped and deposited into a constructed retention pond located outside the Rock River floodway limits. Verification that the proposed project meets the conditions of Nationwide Permit 7 (Outfall Structures and Maintenance) is sought.

7. Names, addresses and telephone numbers of all adjoining and potentially affected property owners, including the owner of subject property if different from applicant.

Available upon request.

8. Location of Activity

Legal Description:

Rock River

Name of waterway at location of the activity

NE 15 24N 10E 3rd
X Sec. Twp. Rge. P.M.

Address:

Located west of North River Road and adjacent to the east side of the Rock River
Street, road or other descriptive location

Byron

In or Near City or Town

Byron

Name of Local Governing Community

Ogle

County

IL

State

Zip Code

9. Date activity is proposed to commence Spring 2001

Estimated Time of Construction 2 Years Following Authorization

10. Is any portion of the activity for which authorization is sought now complete? Yes X No If answer is "yes" give reasons in item 6.

Month and Year the activity was completed

Indicate the existing work on drawings.

11. List all approvals or certifications required by other federal, interstate, state or local agencies for any structures, construction, discharges, deposits, or other activities described in this application. If this form is being used for an application to the Corps of Engineers, Illinois Department of Transportation, and Illinois Environmental Protection Agency, these agencies need not be listed.

Issuing Agency

Type Approval

Identification No.

Date of Application

Date of Approval

RECEIVED

JAN 30 2001

LUMBURG IL

FORCE MAN:

12. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? (If "Yes", explain in item 6.) Yes X No

13. Application is hereby made for authorization of the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities.

Signature of Applicant or Authorized Agent

Kari J. Wornack, Authorized Agent

Typed or Printed Name of Applicant or Authorized Agent

Ogle County Planning & Zoning Department

108 South Fifth Street
Oregon, IL 61061
(815) 732-3201
Fax (815) 732-2229

9 then 2

September 7, 2001

Exelon Generation - Byron Generating Station
Attention: Steve Kuczynski, Byron Plant Manager
4450 N. German Church Rd.
Byron, IL 61010

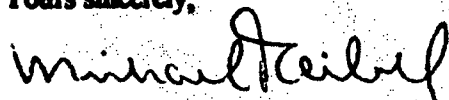
RE: SFHA Development Permit No. 13-01 F (Maintenance Dredging)

Dear Mr. Kuczynski:

Enclosed please find the above permit. Please post it at the work site so that it is in plain view from a public road. Also, please contact me for a final inspection and issuance of a Use Permit upon completion of the authorized work.

If you have any questions, please feel free to contact me.

Yours sincerely,



Michael Reibel
Planning & Zoning Administrator/
Flood Plain Administrator

NO. 0914

DEPT. CL. 01 18

RECEIVED FROM Comm Ed

Fifty and 00/100 - 2 DOLLARS

Permit - SFHAD

Account Total \$ 50. - #18106

Amount Paid \$ 50. -

Balance Due \$ 0 M. E. Clark

THE EFFICIENCY LINE AN AMBROS PRODUCT

SPECIAL FLOOD HAZARD AREA DEVELOPMENT PERMIT

PERMIT NO. 13-01 F

MAINTENANCE DREDGING

DEVELOPMENT PERMIT REQUIREMENTS:

1. All work performed under this "Development Permit" shall conform to the approved application and plans, and approved amendments thereto;
2. This "Development Permit" shall be posted in a conspicuous place on the premises, in plain view from a public road, during the execution of the work until completion of same;
3. A development permit under which no work is commenced within six (6) months after issuance shall expire by limitation, and a new "Development Permit" shall be secured;
4. All work performed under this "Development Permit" shall conform to all Conditions of ILLINOIS DEPARTMENT OF NATURAL RESOURCES/OFFICE OF WATER RESOURCES STATEWIDE PERMIT NO. 11 - AUTHORIZING MINOR MAINTENANCE DREDGING ACTIVITIES

LOCATION: Part of the NE1/4 Section 15 Rockvale Township 24N, R10E of the 4th P.M., Ogle County, IL

APPLICANT: Exelon Generation - Byron Generating Station, 4450 N. German Church Rd., Byron, IL 61010

DATE ISSUED: September 5, 2001

BY:



PLANNING & ZONING ADMINISTRATOR

**OGLE COUNTY PLANNING & ZONING DEPARTMENT
COURTHOUSE ANNEX SOUTH, 105 S. FIFTH STREET**

OREGON, IL 61051

(815) 732-1190



REPLY TO
ATTENTION OF

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004**

September 20, 2012

Operations Division

SUBJECT: CEMVR-OD-P-2012-1323

**Mr. Benjamin Youman
Exelon Generation Company, LLC
Byron Station
4450 North German Church Road
Byron, Illinois 61010**

Dear Mr. Youman:

Our office reviewed all information provided to us in your application dated August 30, 2012 concerning the proposed sediment removal and maintenance of the turning vanes and intake structure in the Rock River in Section 15, Township 24 North, Range 10 East, Ogle County, Illinois.

Your project is covered under Nationwide Permit No. 3, as published in the enclosed Fact Sheet No. 7 (IL), provided you meet the permit conditions for the nationwide permits, which are also included in the Fact Sheet. The Corps has also made a determination of no effect on federally threatened and endangered species or critical habitat. The Illinois Environmental Protection Agency (IEPA) also issued Section 401 Water Quality Certification with conditions for this nationwide permit. Please note these additional conditions included in the Fact Sheet. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

You are encouraged to conduct your construction activities during a period of low flow. You are required to remove all fill material used as a temporary crossing to an upland, non-wetland site, to seed all disturbed areas with native grasses and to implement appropriate measures to insure that sediments are not introduced into waters of the United States during construction of this project.

Bank and shoreline protection shall consist of suitable clean materials, free from debris, trash, and other deleterious materials. If broken concrete is used as riprap, all reinforcing rods must be cut flush with the surface of the concrete, and individual pieces of concrete shall not exceed 3 feet in any dimension. Asphalt and broken concrete containing asphalt are specifically excluded from this authorization.

This verification is valid for two years from the date of this letter unless the nationwide permit is modified, reissued or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing any changes if and when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from this date to complete your activity under the present terms and conditions of this nationwide permit. If your project plans change, you should contact our office for another determination.

Our office has completed a Preliminary Jurisdictional Determination concerning your project area. A copy of our Jurisdictional Determination is enclosed. A Preliminary Jurisdictional Determination is not appealable, and it is applicable only to the permit program administered by the Corps of Engineers.

This authorization does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. If you have not already coordinated your project with the Illinois Department of Natural Resources – Office of Water Resources, please contact them at 217/782-3863 to determine if a floodplain development permit is required for your project. You may contact the IEPA Facility Evaluation Unit at 217/782-3362 to determine whether additional authorizations are required from the IEPA. Please send any electronic correspondence to EPA.401.bow@illinois.gov.

This delineation/determination has been conducted to identify the limits of the Corps of Engineers' Clean Water Act jurisdiction for the particular site identified in this request. This delineation/determination may not be valid for the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should coordinate with the local office of the Natural Resources Conservation Service prior to starting work.

The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the free navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

You are required to complete and return the enclosed "Completed Work Certification" upon completion of your project, in accordance with General Condition No. 30 of the nationwide permits.

The Rock Island District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete the attached postcard and return it or go to our Customer Service Survey found on our web site at <http://per2.nwp.usace.army.mil/survey.html>. (Be sure to select "Rock Island District" under the area entitled: Which Corps office did you deal with?)

Should you have any questions, please contact our Regulatory Branch by letter, or telephone me at 309/794-5369.

Sincerely,



Jeffrey W. Sniadach
Project Manager
Enforcement Section

When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Transferee

Date

Enclosures

Copies Furnished: (w/o enclosures)

Mr. Mike Diedrichsen, P.E.
Office of Water Resources
IL Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62701-1271

Mr. Dan Heacock
Illinois Environmental Protection Agency
Watershed Management Section, Permit Sec. 15
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
Epa.401.bow@illinois.gov (email copy)

COMPLETED WORK CERTIFICATION

Permit Number: CEMVR-OD-P-2012-1323

Name of Permittee: Exelon Nuclear Byron Station

Date of Issuance: September 20, 2012

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

**U.S. Army Engineer District,
Rock Island
ATTN: Regulatory Branch
Clock Tower Building
Post Office Box 2004
Rock Island, Illinois 61204-2004**

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above reference permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

JS

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-4

Category: Water Resources – Surface Water

Statement of Question:

Per NPDES permit, special condition #12, provide a discussion on the methodology or procedure employed to calculate temperature at the edge of the river mixing zone.

Response:

The Illinois thermal water quality standard (35 IAC 302.211) applicable at the edge of the Byron mixing zone is indicated in the following table.

Time of Year	River Temperature
January - March	60°F
April - November	90°F
December	60°F

Byron Procedure 0BOSR CW-W1 establishes the methodology for demonstrating compliance with the Illinois thermal water quality standard, which must be performed weekly when the Rock River flow rate is greater than 2,400 cfs and daily when the Rock River flow rate is 2,400 cfs or less and/or the differential between the main river temperature and the water quality standard is less than 3°F. The methodology consists of determining the maximum allowable circulating water blowdown temperature (capped at 120°F) and comparing it with the actual circulating water blowdown temperature. Compliance with the thermal water quality standard at the edge of the mixing zone is demonstrated when the actual blowdown temperature is below the maximum allowable blowdown temperature.

The maximum allowable blowdown temperature is calculated as follows, not to exceed 120°F:

$$\text{Max Allowable Blowdown Temp} = (\text{Make-Up Water Temp} + \text{Max Allowable Temp Rise})$$

where "Max Allowable Temp Rise" is 83°F for river flow rates of 2,400 cfs or greater and is selected from the following table for river flow rates less than 2,400 cfs.

MAXIMUM ALLOWABLE TEMPERATURE RISE (°F)

River Flow Rate (cfs)	Blow Down Flow Rate (gpm)						
	8,976*	11,200	13,464	15,708	17,952	20,196	22,440
700	73.5	59.5	50.5	44.2	38.5	36.2	32.7
875	83.0	74.6	62.5	53.8	48.1	43.1	40.0
1,200	83.0	83.0	83.0	72.5	64.1	59.5	54.4
1,500	83.0	83.0	83.0	83.0	79.4	72.5	66.8
1,800	83.0	83.0	83.0	83.0	83.0	83.0	79.4
2,100	83.0	83.0	83.0	83.0	83.0	83.0	83.0
2,400	83.0	83.0	83.0	83.0	83.0	83.0	83.0

* Note: For blow down flow rates less than 8,976 gpm, use Max Allowable Temp Rise = 83.0 °F

List of Attachments Provided:

None

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-5

Category: Water Resources – Surface Water

Statement of Question:

Water Quality Standard demonstration required by NPDES permit special condition #12 – Over the last 10 years, how many times has the change in temperature (delta-T) at the edge of the mixing zone or the maximum observed in-stream temperature (T-max) been approached (i.e., within 5° F) or exceeded and when? Where such instances have occurred, please provide dates of occurrence and supporting observations for river temperature, river flow, blowdown discharge temperature, and discharge flow.

Response:

The current requirements contained in Special Condition #12 were first added to the Byron Station NPDES permit in January 2011. Prior to that time, compliance with thermal limitations at the edge of the mixing zone, as defined by Section 302.211, Illinois Administration Code, Title 35, Chapter 1, Subtitle C, was demonstrated by, at least once per week, verifying that the maximum actual blowdown temperature did not exceed the calculated maximum allowable blowdown temperature, which was determined using an approved calculation method set forth in a Station procedure. The Station procedure derived the calculated maximum allowable blowdown temperature based on existing Rock River temperature and a calculated maximum river temperature increase. When the arithmetic sum of these values exceeded 120 degrees Fahrenheit, the calculated maximum allowable blowdown temperature limit defaulted to 120 degrees Fahrenheit. The maximum allowable blowdown temperature and the corresponding maximum actual blowdown temperature for each week were both reported on an attachment to the monthly Discharge Monitoring Reports. From August 2003 through January 2011, there were no reports that the maximum actual blowdown temperature during any week exceeded the calculated maximum allowable blowdown temperature.

In January 2011, the Byron Station NPDES permit conditions related to compliance with thermal limitations associated with the mixing zone were modified, and the current requirements contained in Special Condition #12 were added to the permit. Pursuant to Special Condition #12, if Rock River flow is less than 2,400 cfs, and/or the temperature differential between the main river temperature and the water quality standard is less than 3° F, then daily calculations must be undertaken to demonstrate compliance with the water quality standard.

Since January 2011, there have been no events where the temperature differential between the main river temperature (as represented by the Byron circulating water makeup temperature) and the water quality standard was less than 3° F. However, during the period from June 22, 2012 through December 19, 2012, the Rock River flow remained below 2,400 cfs. Accordingly, Byron Station calculated the temperature at the edge of its mixing zone on a daily basis during that period and reported the results in the monthly Discharge Monitoring Reports, which have been provided to the NRC in response to Byron License Renewal Environmental Audit Request for Additional Information HH-1. The temperature at the mixing zone edge was within 5° F of the water quality standard on four days in July 2012. The following table provides dates of occurrence and supporting observations for river temperature, river flow, blowdown discharge temperature, and discharge flow.

Date	Average Rock River Flow (cfs)	Average Circulating Water Makeup Temperature (°F)	Average Circulating Water Blowdown Flow (gpm)	Average Circulating Water Blowdown Temperature (°F)	Calculated Temperature at Edge of Mixing Zone (°F)	Water Quality Standard Temperature (°F)
7/06/12	1,875	84	13,113	102	85	90
7/07/12	1,987	84	12,675	102	85	90
7/17/12	1,774	84	15,449	102	85	90
7/18/12	1,731	85	15,736	101	86	90

List of Attachments Provided:

None

Byron Environmental Audit – Request for Additional Information Response

Question #: WR-SW-6

Category: Water Resources – Surface Water

Statement of Question:

When was the last time metal cleaning waste was discharged from any of the plant NPDES outfalls? Please provide a description of the nature of the discharge including volume discharged and chemical quality.

Response:

A review of monthly Discharge Monitoring Reports (DMRs) for Byron during the years 2003 through 2013 shows that no discharges of metal chemical cleaning waste were reported from any NPDES-permitted outfall during that period. Copies of DMRs prior to 2003 are not readily available.

Other records indicate that the most recent metal chemical cleaning activity at Byron was steam generator cleaning during a Unit 1 refueling outage in 1994. No record was found concerning the nature or volume of discharges, if any, of metal chemical cleaning wastes that may have occurred at that time.

List of Attachments Provided:

None