

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB, NATURAL )  
RESOURCES DEFENSE COUNCIL, )  
PRAIRIE RIVERS NETWORK, and )  
ENVIRONMENTAL LAW & POLICY )  
CENTER )  
Petitioners, )  
v. ) PCB 2015-189  
ILLINOIS ENVIRONMENTAL ) (Third Party NPDES Appeal)  
PROTECTION AGENCY and )  
MIDWEST GENERATION, LLC )  
Respondents. )

**NOTICE OF FILING**

To:

Robert W. Petti Angad Nagra Illinois Environmental Protection Agency 69 W. Washington Street, Suite 1800 Chicago, IL 60602 <a href="mailto:rpetti@atg.state.il.us">rpetti@atg.state.il.us</a>	Jessica Dexter Staff Attorney Environmental Law & Policy Center 35 E. Wacker Drive, Suite 1600 Chicago, IL 60601 (312) 795-3747 <a href="mailto:jdexter@elpc.org">jdexter@elpc.org</a>
Greg Wannier, Associate Attorney Sierra Club Environmental Law Program 2101 Webster Street, Suite 1300 Oakland, CA 94612 <a href="mailto:greg.wannier@sierraclub.org">greg.wannier@sierraclub.org</a>	Bradley P. Halloran Hearing Officer Illinois Pollution Control Board James R. Thompson Center, Suite 11-500 100 W. Randolph Street Chicago, IL 60601 <a href="mailto:Brad.Halloran@illinois.gov">Brad.Halloran@illinois.gov</a>

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board Respondent, Midwest Generation, LLC's Motion for Leave *Instante* to Supplement Record, a copy of which is herewith served upon you.

Dated: November 14, 2016

MIDWEST GENERATION, LLC

By: /s/ Susan M. Franzetti

Susan M. Franzetti  
Vincent R. Angermeier  
NIJMAN FRANZETTI LLP  
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB, NATURAL	)	
RESOURCES DEFENSE COUNCIL,	)	
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Petitioners,	)	
v.	)	PCB 2015-189
ILLINOIS ENVIRONMENTAL	)	(Third Party NPDES Appeal)
PROTECTION AGENCY and	)	
MIDWEST GENERATION, LLC	)	
	)	
Respondents.	)	

**RESPONDENT MIDWEST GENERATION, LLC'S MOTION FOR LEAVE INSTANTER TO SUPPLEMENT RECORD**

NOW COMES, Respondent, MIDWEST GENERATION, LLC (“MWGen”), by its counsel, to request that the Illinois Pollution Control Board (the “Board”) permit MWGen to include the attached historical Waukegan Generating Station (“Waukegan Station”) permitting documents from the 1970’s and 1980’s in its post-hearing briefs because they relate to a legal issue arising out of a statement the Board included in the 1978 Board Opinion and Order in PCB 77-82 (Aug. 3, 1978) (the “1978 Order”) which granted a thermal alternative effluent limitation (“Thermal AEL”) to the MWGen Waukegan Station. (R:2) The 1978 Order referenced a promise by ComEd to perform additional studies. During the October 5, 2016 hearing, petitioners’ (Sierra Club, Natural Resources Defense Council, Prairie Rivers Network and Environmental Law & Policy Center (the “Petitioners”)) questioning of the witnesses revealed an apparent attempt to use the absence from the permit record in this appeal of any documents indicating such additional studies were performed as legal grounds for invalidating the Thermal AEL’s renewal in 2015. MWGen submits that the attached documents, which consist of the subsequently issued Waukegan Station NPDES permits and related U.S. EPA correspondence,

provide relevant legal history related to the original Thermal AEL and show that there was no “broken promise” concerning additional studies which can lawfully be used decades later to overturn the Thermal AEL’s renewal. In the alternative, should the Board determine that these historical documents may only be relied upon by MWGen if they are part of the permit record, then MWGen requests that the Board grant this motion to supplement the permit record to include the attached documents, pursuant to 35 Ill. Adm. Code 105.214(a). Petitioners did not previously assert that the absence of these studies provides grounds to reverse the Thermal AEL’s renewal, either during the NPDES permit renewal process below nor in their Petition in this appeal. Accordingly, MWGen did not and could not have reasonably determined until the Petitioners’ presentation at the October 5, 2016 hearing that these documents are relevant to the legal arguments that Petitioners are pursuing in this appeal. MWGen submits that supplementing the permit record with these historical NPDES permitting documents will allow true and accurate facts about the promised additional studies to be presented to the Board. Including these documents will also avoid any undue prejudice to MWGen caused by Petitioners’ delay in disclosing its intent to make an issue of these studies.

### **PROCEDURAL BACKGROUND**

During the October 5, 2016 Hearing before the Board, the Petitioners, through their questions, (see Hearing Tr. at 29-30, a copy of which is attached as Exhibit A) revealed an apparent intent to argue, as a legal matter, that the Illinois Environmental Protection Agency (the “Agency”) improperly renewed the Waukegan Station’s Thermal AEL because certain studies referenced in the 1978 Order were not subsequently performed. The 1978 Order contains a statement that Commonwealth Edison (“ComEd”), the prior owner of the Waukegan Station “promised” to continue performing certain additional studies. (The 1978 Order does not,

however, condition the AEL on the actual performance of those studies.) (R:1-3) Petitioners' apparent purpose is to advance, for the first time, the legal contention that if the "promised" studies were not performed, the failure to do so would provide the Board with a lawful basis on which to grant Petitioners' appeal.

The Petitioners' belated pursuit of this legal issue may have arisen from the Board's summary judgment order in which it highlighted that the 1978 Order "found that 'environmental damage to the Lake is minimal' and noted that the owner 'promised to continue studying possible damaging effects on the Lake in the future.'" (See Summary Judgment Order, PCB 15-189, at 5 (Apr. 7, 2016) (quoting from The 1978 Order).)

As shown below, MWGen's investigation of the referenced additional studies has revealed both that (1) the 1978 Order is not referring to studies to be performed at the Waukegan Station, but rather at the larger ComEd Zion Generating Station ("Zion Station") located immediately to the north of the Waukegan Station; and (2) those studies were performed. Because this appeal should not be decided on a legal issue that rests on a false premise, MWGen is seeking to introduce relevant documents concerning the "promised studies" to clarify and accurately inform the historical record relating to the Board's 1978 Order.

### **THE ZION AQUATIC STUDIES**

MWGen has investigated the events relating to the 1978 Order's reference to ComEd's promise to perform additional studies. It has discovered in its historical files for the Waukegan Station copies of two of the permits issued to the Station subsequent to the Board's 1978 Order. When the Waukegan Station's NPDES permit was renewed by the Agency in 1979, shortly after the Board issued the 1978 Order, the 1979 NPDES Permit contained the following condition: "[ComEd] shall perform studies pursuant to the conditions identified in NPDES Permit

No. IL0002763 for the Zion Generating station as a condition of alternative effluent limitations pursuant to Section 316(a) of the [Clean Water] Act.” (See “Exhibit B” to this Motion, p. 24, emphasis added.) The Zion Station was a nearby generating station, also owned by ComEd. The Board’s 1978 Order granted Thermal AELs for both the Zion Station and the Waukegan Station within the same proceeding.

The next NPDES permit, issued to the Waukegan Station in 1985, indicates that the “promised” Zion studies were, in fact, performed. The Waukegan Station 1985 NPDES permit (the “1985 Permit”) removes the condition regarding the studies at Zion Station and instead states that: “No additional monitoring or modification is now being required for reissuance of this NPDES permit.” (See “Exhibit C” to this Motion, p. 8.) The requirement to conduct these studies would not have been dropped in the subsequent 1985 Permit without the studies having been completed. In fact, the 1985 Permit’s statement that no “additional” monitoring would be required confirms that the Zion studies were performed as required by the prior permit. (Id.) Similarly, the 1985 Permit’s conclusion that no additional “modification” was necessary shows that the Zion studies had not shown adverse environmental impacts—one must assume that if the studies found otherwise, then the Agency would have mandated additional studies at the Waukegan Station and/or pursued modifications to the Thermal AEL.

Two other documents complete the historical record on whether ComEd performed the additional studies referenced in the 1978 Order. The Waukegan Station’s NPDES Permit in effect at the time of the 1978 Order had been issued by the U.S. EPA because the NPDES program had not yet been delegated to Illinois. This permit (the “1978 Permit”) shows that, even before the Board noted ComEd’s promise to perform future studies, the U.S. EPA had made the performance of studies at Zion Station a condition of the permit—in fact, the language is

identical to the language in the Agency's 1979 Permit. (See "Exhibit D" to this Motion, p. 19.) When the U.S. EPA sent ComEd copies of the Waukegan Station's 1978 Permit, its cover letter made clear that the studies were to be performed at Zion Station only: "Conducting the program at Zion is a condition of the §316(a) [Thermal AEL] granted for the Zion and Waukegan Stations on June 30, 1977."<sup>1</sup> ("Exhibit E" to this Motion, p. 1.) This is why the 1978 Order says that ComEd would "continue" performing studies; ComEd was already conducting the Zion studies required by the U.S. EPA. (R:2)

The decisions by the Board, the Agency, and the U.S. EPA to seek studies only at the Zion Station are consistent with the relevant facts. First, Zion Station's thermal discharge was three times the size of Waukegan Stations': As the 1978 Order documents, Zion Station's design heat-rejection capacity was  $17.33 \times 10^9$  BTU/hr; Waukegan Station's was only  $5.301 \times 10^9$  BTU/hr. (R:1) Also, the stations both discharge into Lake Michigan, and are in close proximity to one another, so they basically affect the same aquatic community. Thus, if the Zion studies produced no evidence of appreciable harm to that community, it would also mean that the Waukegan Station's smaller discharge to the south was benign as well.

In sum, these documents leave no doubt that the 1978 Order did not request or require studies to be performed at the Waukegan Station, but rather at the Zion Station. The studies were performed and that the results did not require any additional studies at the Waukegan Station or any modification of the Waukegan Station's Thermal AEL.<sup>2</sup>

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<sup>1</sup> Prior to the Board's 1978 Order, U.S. EPA had independently granted a Thermal AEL for Waukegan Station. (R:1)

<sup>2</sup> MWGen has been unable to find copies of these studies, and they might no longer exist: The Zion Station was decommissioned by ComEd in 1998, was never owned by MWGen and hence, no Zion Station historical files would likely have been transferred to MWGen as part of its 1999 purchase of Waukegan Station.

**ARGUMENT**

Based on its line of questioning at the October 5, 2016 Hearing in this appeal, it appears that Petitioners may attempt to argue that the “promised ComEd studies” were legally required to be done because they are referenced in the Board Order. So Petitioners might argue that the Board must rule in their favor because the permit record does not prove that these studies were performed. MWGen submits that, as legal documents related to this new issue of whether ComEd complied with all aspects of the 1978 Order, MWGen should be allowed to bring to the Board’s attention and rely on these historical Waukegan Station permitting documents in its post-hearing briefs to establish that there is no fatal defect affecting the continued legal validity of the Waukegan Station Thermal AEL. At the least, the Board should see these documents so that it knows that any contention that ComEd did not fulfill its promise to the Board in 1978 is patently false.

The attached documents are relevant to this proceeding as legal documents related to the 1978 Board Order. As such, MWGen submits that they do not have to be included in the “permit record” of this case. These documents do not contain information that would have factored into the Agency’s fact-based evaluation (more than twenty years later) of whether the Thermal AEL causes appreciable harm to the local aquatic community or whether the Station’s effluent will violate the applicable Water Quality Standard. *See* 35 Ill. Adm. Code 309.141. Thus, the inclusion of these documents as attachments to MWGen’s post-hearing briefs would not offend Section 40(e)(3)(ii) of the Act, nor Section 105.214(a) of the Board’s regulations. While it would be inappropriate to confront the Agency with *facts* that were unavailable to them at the time the permit was issued—and this is the danger that Section 40(e)(3)(ii) and Section 105.214(a) guard

against—it is essential for the Board to review *all* documents that inform the legal issues in this case.

In the alternative, and because Petitioners did not raise this argument below so that either the Agency or MWGen could have supplemented the record with these additional documents showing that the Zion studies were performed, MWGen is seeking leave by this motion to include these documents in the permit record, pursuant to 35 Ill. Adm. Code 105.214(a).

**CONCLUSION**

The Board should allow MWGen to include in its post-hearing filings the attached historical legal documents regarding ComEd’s compliance with the “promised studies” statement in the 1978 Order because they relate to a legal issue that Petitioner is newly raising in this appeal. In the alternative, the Board should prevent material prejudice to MWGen by granting this motion to supplement the administrative record *instanter* by including the attached documents.

Dated: November 14, 2016

Respectfully submitted,

MIDWEST GENERATION, LLC

By: /s/ Susan M. Franzetti

Susan M. Franzetti  
Vincent R. Angermeier  
NIJMAN FRANZETTI LLP  
10 South LaSalle Street Suite 3600  
Chicago, IL 60603  
(312) 251-5590



**CERTIFICATE OF SERVICE**

I, the undersigned, certify that I have served the attached Respondent, Midwest Generation, LLC's Motion for Leave *Instante*r to Supplement Record, via U.S. Postal Service by First Class Mail, postage prepaid, upon the following persons:

Robert W. Petti  
Angad Nagra  
Illinois Environmental Protection Agency  
69 W. Washington Street, Suite 1800  
Chicago, IL 60602

Jessica Dexter  
Staff Attorney  
Environmental Law & Policy Center  
35 E. Wacker Drive, Suite 1600  
Chicago, IL 60601

Greg Wannier, Associate Attorney  
Sierra Club Environmental Law Program  
2101 Webster Street, Suite 1300  
Oakland, CA 94612

Bradley P. Halloran  
Hearing Officer  
Illinois Pollution Control Board  
James R. Thompson Center, Suite 11-500  
100 W. Randolph Street  
Chicago, IL 60601

Dated: November 14, 2016

/s/ Susan M. Franzetti

Susan M. Franzetti  
Vincent R. Angermeier  
Nijman Franzetti LLP  
10 S. LaSalle Street, Suite 3600  
Chicago, IL 60603

# **EXHIBIT A**

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB, NATURAL	)	
RESOURCES DEFENSE COUNCIL,	)	
PRAIRIE RIVERS NETWORK, and	)	
ENVIRONMENTAL LAW & POLICY	)	
CENTER,	)	No. 15-189
	)	Third-Party
Petitioners,	)	NPDES Permit
	)	Appeal-Water
vs.	)	
	)	
ILLINOIS ENVIRONMENTAL		
PROTECTION AGENCY and		
MIDWEST GENERATION, LLC,		
		Respondents.

NOTICE OF HEARING

A Hearing in the above-captioned matter is scheduled and will continue as necessary on the following date, time and place:

October 5th, 2016  
 9:00  
 James R. Thompson Center  
 Room 9-034  
 100 West Randolph Street  
 Chicago, IL 60601

IT IS SO ORDERED.

1 He cited to the statement in the Midwest Generation  
2 comments about collecting data.

3 HEARING OFFICER HALLORAN: I believe that has been  
4 asked and answered.

5 MS. DEXTER: We'll leave that there then.

6 BY MS. DEXTER:

7 Q I am now going to take us back to that  
8 variance that we referred to at the beginning, the  
9 thermal variance beginning on Page 1 of the  
10 Administrative Record.

11 So going all the way back to the variance  
12 in 1978, the Board Order states that there was an  
13 objection due to "The absence of opinions of recognized  
14 independent experts on Lake Michigan."

15 In allowing the variance, the Board then  
16 noted that, "Edison has promised to continue studying  
17 the possible damaging effects on the lake in the  
18 future."

19 Does the administrative record contain any  
20 promised follow-up study of thermal effects on aquatic  
21 life from Commonwealth Edison?

22 MS. FRANZETTI: I will just make the objection  
23 that I think this does go beyond the permit record in  
24 terms of asking about something that probably occurred

1 back in the 1980's and was never raised below in any  
2 comments or requests for this information to be  
3 included in the record.

4 HEARING OFFICER HALLORAN: So noted and overruled.  
5 You may answer if you're able.

6 THE WITNESS: Can you repeat the question?

7 BY MS. DEXTER:

8 **Q Does the administrative record contain any**  
9 **promised follow-up study of thermal effects on aquatic**  
10 **life from Commonwealth Edison?**

11 A Not to my knowledge.

12 **Q Did Illinois EPA ask the permittees to submit**  
13 **any of this information on the actual -- on the**  
14 **discharge's actual operation experience?**

15 MS. FRANZETTI: Objection to form.

16 MR. PETTI: This information isn't clear. I'll  
17 join the objection.

18 HEARING OFFICER HALLORAN: Do you want to  
19 rephrase, Miss Dexter?

20 MS. DEXTER: Yes.

21 BY MS. DEXTER:

22 **Q Did Illinois EPA require the discharger,**  
23 **prior to issuing the permit, to submit documentation**  
24 **based on the discharge's actual operation experience**

# **EXHIBIT B**

April 2, 1979

FILE COPY

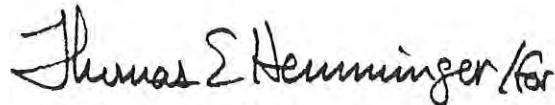
NO. 16-PER-41

RET. \_\_\_\_\_

To: L. C. Ruby  
From: John H. Hughes  
Subject: Reissued NPDES Permit - Waukegan Station

Enclosed is the reissued NPDES Permit for Waukegan Station. Based on our review, we do not intend to object to any of the conditions contained in it. Should you have any problems with the requirements of the permit, please contact me as soon as possible since no appeal can be filed after the effective date of the permit: April 18, 1979.

The station will be responsible for all monitoring and reporting specified by the permit. We believe that although the effective date is April 18, 1979, the station should implement the new monitoring and reporting requirements as soon as possible. A member of my staff will visit the station shortly to discuss the new permit requirements with station personnel and to answer any questions concerning them. Please address any future questions regarding this permit to Steve Winship, Extension 4458.



John H. Hughes

JHH:SKW:cg

## Enclosures

cc: J. P. McCluskey w/o encl.  
R. A. Allen  
R. R. Dlesk  
T. J. Maiman  
G. E. Nelson  
File: Valuable Papers (w/orig.)  
File: 16-PER-HL

NPDES Permit No. IL0002259

Illinois Environmental Protection Agency

Division of Water Pollution Control

2200 Churchill Road

Springfield, Illinois 62706

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: September 30, 1980 Issue Date: March 19, 1979  
Effective Date: April 18, 1979

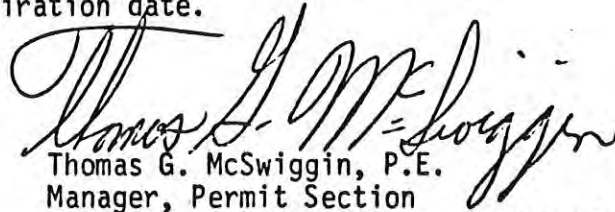
Permittee: Commonwealth Edison Company

Facility Name and Address: Waukegan Generating Station, Greenwood  
Avenue and Lake Michigan, Waukegan,  
Illinois, (Lake County)

Receiving Waters: Lake Michigan

In compliance with the provisions of the Illinois Environmental Protection Act, the Chapter 3 Rules and Regulations of the Illinois Pollution Control Board, and the FWPCA, 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.



Thomas G. McSwiggin, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

TGM:DLR:rd/sp5161a





NPDES Permit No. IL0002259

ATTACHMENT B-1(a)

Effluent Limitations and Monitoring

Discharge Number(s): 001(a)

Discharge Name(s): Condenser Cooling Water and House Service Water

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l		LOAD LIMITS lbs/day (Kg/day)		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		
Flow (MGD)					Continuous	Calculated
pH	See Attachment B-1(a) Continued				Weekly	Grab
Temperature	See Attachment G Continued				Continuous	Recording
Total Chlorine Residual	0.2	0.3			Weekly	Concentration Curve

Page 3

NPDES Permit No. IL0002259

ATTACHMENT B-1(a) CONTINUED

1. The pH shall be in the range 6.0 to 9.0.
2. 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.
3. Total Chlorine Residual
  - A. The reported arithmetic mean concentration and maximum concentration for total chlorine residual shall be based on a chlorine concentration curve. The concentration curve shall be generated using grab samples with an analytical frequency of 5 minutes or less over the exposure time. The exposure time is defined to be from the point of first detectable measurement to the point of the last detectable measurement of total residual chlorine. The exposure time shall not exceed 160 minutes in any 24-hour period. Concentration curves shall be submitted with the Discharge Monitoring Reports.
  - B. The frequency and duration of the chlorine dosing period plus the amount of chlorine applied shall be reported on the Discharge Monitoring Reports.

NPDES Permit No. IL0002259

ATTACHMENT B-1(b)

Effluent Limitations and Monitoring

Discharge Number(s): 001(b)

Discharge Name(s): Recirculating Combined Wastewater Treatment System - Ash Sluice, Demineralizer Filter Backwash, Boiler Blowdown and Gas Side Metal Cleaning Waste

From the first discharge until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	-
Total Suspended Solids			15	517.91 (235.13)		727.33 (330.21)	3/Week	Composit
Oil and Grease	15		20	517.91 (235.13)		969.78 (440.28)	Weekly	Grab
Total (Iron)			2.0	68.48 (31.09)		82.56 (37.48)	Weekly	Composit
Total (Copper)			1.0	34.53 (15.68)		48.49 (22.01)	Weekly	Composit

Page 5

NPDES Permit No. IL0002259

ATTACHMENT B-1(b) CONTINUED

1. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point prior to mixing with condenser cooling water.

NPDES Permit No. IL0002259

ATTACHMENT B-1(b)1

Effluent Limitations and Monitoring

Discharge Number(s): 001(b)1

Discharge Name(s): Boiler Blowdown

From effective date of permit until July 31, 1979, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	-
Iron (Total)	1.0		1.0	0.06(0.03)		1.20(0.55)	Weekly	Composite
Copper (Total)	1.0		1.0	0.06(0.03)		1.20(0.55)	Weekly	Composite
Total Suspended Solids			15	9.19(4.17)		18.01(8.18)	Weekly	Composite
Oil and Grease	15		20	9.19(4.17)		24.02(10.91)	1/3 Months	Grab

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NPDES Permit No. IL0002259

ATTACHMENT B-1(b)1 CONTINUED

1. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge but prior to mixing with condenser cooling water.

NPDES Permit No. IL0002259

ATTACHMENT B-1(b)2

Effluent Limitations and Monitoring

Discharge Number(s): 001(b)2

Discharge Name(s): Gas Side Metal Cleaning Waste

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	
							During Discharge	
Iron (Total)	1.0		1.0			13.21(6.00)	Daily	Composite
Copper (Total)	1.0		1.0			13.21(6.00)	Daily	Composite

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NPDES Permit No. IL0002259

ATTACHMENT B-1(b)2 CONTINUED

1. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge but prior to mixing with other waters.



NPDES Permit No. IL0002259

ATTACHMENT B-1(c)

Effluent Limitations and Monitoring

Discharge Number(s): 001(c)

Discharge Name(s): East Basin - Roof and Floor Drains and Yard Run-off

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	
Oil and Grease	15		20				During Discharge Monthly	Grab
Total Suspended Solids			15				Weekly	Composite

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NPDES Permit No. IL0002259

ATTACHMENT B-1(c) CONTINUED

1. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point prior to mixing with condenser cooling water.

NPDES Permit No. IL0002259

ATTACHMENT B-1(d)

Effluent Limitations and Monitoring

Discharge Number(s): 001(d)

Discharge Name(s): Demineralizer Regenerant Waste

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	-
Total Suspended Solids			15				1/6 Months	Composite

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NPDES Permit No. IL0002259

ATTACHMENT B-1(d) CONTINUED

1. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point prior to mixing with condenser cooling water.

NPDES Permit No. IL0002259

ATTACHMENT B-2(a)

Effluent Limitations and Monitoring

Discharge Number(s): 002(a)

Discharge Name(s): West Basin Roof Drains and Yard Run-off

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	
							During Discharge	
pH	See Attachment B-2(a) Continued						Weekly	Grab
Oil and Grease	15		20				Monthly	Grab
Total Suspended Solids							Weekly	Composite

Page 15

NPDES Permit No. IL0002259

ATTACHMENT B-2(a) CONTINUED

1. The pH shall be in the range 6.0 to 9.0.
2. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point prior to mixing with other wastewater sources, except pH shall be monitored prior to mixing with Lake Michigan.

NPDES Permit No. IL0002259

ATTACHMENT B-2(b)

Effluent Limitations and Monitoring

Discharge Number(s): 002(b)

Discharge Name(s): Coal Pile Run-off

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	
							During Discharge	
pH	See Attachment B-2(b) Continued						Weekly	Grab
Oil and Grease	15		20				1/Month	Grab
Total Suspended Solids								
			15				Weekly	Composite
Iron (Total)			2.0				Weekly	Composite

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ATTACHMENT B-2(b) CONTINUED

1. The pH shall be in the range 6.0 to 9.0.
2. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to mixing with other wastewaters except pH shall be monitored prior to mixing with Lake Michigan.
3. If the permittee, after 6 months of monitoring discharge 002(b) for total iron can demonstrate to the satisfaction of the permitting authority that there is no significant discharge of the designated parameters and that, in that time, the parameters have not exceeded the effluent limit set for said parameters, upon written request by the permittee, the permitting authority shall review the monitoring requirements and may, at their discretion, revise or waive these monitoring requirements by letter without public notice or opportunity for hearing.



NPDES Permit No. IL0002259

ATTACHMENT B-2(c)

Effluent Limitations and Monitoring

Discharge Number(s): 002(c)

Discharge Name(s): East Ash Pond - Supernatant from Dredge Lagoon

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	When Discharge Occurs
pH	See Attachment B-2(c) Continued						3/Week	Grab
Total Suspended Solids			15				3/Week	Composit
Oil and Grease	15		20				Monthly	Grab
**Polychlorinated Biphenyls (PCBs)	See Attachment G						Weekly	Grab

NPDES Permit No. IL0002259

ATTACHMENT B-2(c) CONTINUED

1. The pH shall be in the range 6.0 to 9.0.
2. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge but prior to mixing with other wastewaters except pH shall be monitored prior to mixing with Lake Michigan.
3. If the discharge of 002(c) cannot meet the appropriate standards discharge shall be diverted to the recirculating combined wastewater treatment system (001b).

NPDES Permit No. IL0002259

ATTACHMENT B-2(d)

Effluent Limitations and Monitoring

Discharge Number(s): 002(d)

Discharge Name(s): West Ash Pond - Ash Sluice and Demineralizer Filter Backwash

From effective date of permit until July 31, 1979, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Continuous	When Discharge Occurs
pH	See Attachment b-2(d) Continued						3/Week	Grab
Total Suspended Solids			15				3/Week	Composite
Oil and Grease	15		20				Monthly	Grab
Iron (total)	-		-				Weekly	Grab
Copper (total)	-		-				Weekly	Grab

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NPDES Permit No. IL0002259

ATTACHMENT B-2(d) CONTINUED

1. The pH shall be in the range 6.0 to 9.0.
2. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge but prior to mixing with other wastewaters except pH shall be monitored prior to mixing with Lake Michigan.

NPDES Permit No. IL0002259

ATTACHMENT B-3

Effluent Limitations and Monitoring

Discharge Number(s): 003

Discharge Name(s): Intake Screen Backwash

From effective date of permit until September 30, 1980, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

PARAMETER	CONCENTRATION LIMITS mg/l			LOAD LIMITS lbs/day (Kg/day)			SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	7 DAY AVG.	DAILY MAX.	30 DAY AVG.	7 DAY AVG.	DAILY MAX.		
Flow (MGD)							Estimate	During Discharge

There shall be no discharge of collected debris from intake screen washing operations.

NPDES Permit No. IL0002259

ATTACHMENT G

Special Conditions

1. The permittee shall record monitoring results on Discharge Monitoring Report Forms using one such form for each discharge each month.

The completed Discharge Monitoring Report forms shall be mailed and received by the IEPA no later than the 15th day of the following month, unless otherwise specified by the permitting authority.

Discharge Monitoring Reports shall be mailed to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
2200 Churchill Road  
Springfield, Illinois 62706

Attention: NPDES Unit (DMR)

Additionally, Discharge Monitoring Report forms shall be mailed to United States Environmental Protection Agency in Chicago on a quarterly basis. The permittee shall submit the reports as follows, unless otherwise specified by the permitting authority.

Period	Report Due At
	U.S. Environmental Protection Agency
Jan, Feb, Mar	April 28th
April, May, June	July 28th
July, Aug, Sept	October 28th
Oct, Nov, Dec	January 28th

Reports shall be addressed to United States Environmental Protection Agency as follows:

NPDES Compliance Unit  
United States Environmental Protection Agency  
Region V  
230 South Dearborn Street  
Chicago, Illinois 60604

The Permittee shall also notify the United States Environmental Protection Agency of any excursions as required by Standard Condition Number 12.

NPDES Permit No. IL0002259

ATTACHMENT G

Special Conditions

2. There shall be no discharge of water side boiler cleaning wastes.

3. Thermal Discharge Limitations

During the period beginning with the effective date of this permit until September 31, 1980 the permittee is authorized to discharge heated effluent from outfall serial number 001(a).

Such discharges shall be limited and monitored by the permittee as specified below:

- a. The discharge of heat shall be restricted to that associated with generation of 1016 MWe of electric power with the generating equipment on-site as of July 1, 1977.
- b. The company shall perform studies pursuant to the conditions specified in NPDES Permit No. IL0002763 for the Zion Generating station as a condition of alternative effluent limitations pursuant to Section 316(a) of the Act.

\*\*4. Dredge Decant Water

Prior to the first discharge of supernatant from the east ash settling pond, the Company shall analyze and report to IEPA and U.S. EPA Region V, the levels of PCBs, if any, in the ash pond; and secondly, the Company shall request in writing to the IEPA, permission to discharge from the ash pond to the recycle treatment system (outfall 001(b)) or, if the discharge from the ash pond will meet all applicable effluent standards, to the perimeter ditch surrounding the ash pond having outfall designation 002(c). After the Company has obtained permission to discharge, the Company thereafter may discharge as necessary without prior notification to either IEPA or U.S. EPA. Weekly grab samples (or, if the discharge occurs less than once per week, whenever a discharge occurs) collected prior to the mixing with other waters shall be analyzed without delay for PCBs, with results reported by phone and a follow-up in writing promptly to the Illinois EPA and U.S. EPA.

If PCBs are detected above background levels in accordance with USEPA methods for measurement of PCBs in Industrial Effluent pursuant to 40 CFR Part 136, discharge from the east ash pond shall be ceased immediately and notified immediately. In the event discharge is ceased because of detection of PCBs, the Company shall request in writing to the IEPA permission to resume discharge from the east ash pond.

For the purpose of this permit detection limits for PCBs shall be equal to or less than 0.1 ppb unless otherwise specified by the IEPA and concurred to by the U.S. EPA.

NPDES Permit No. IL0002259

ATTACHMENT G

Special Conditions

5. The permittee shall monitor and report the following listed parameters at 6 month intervals for outfalls 001(b), 001(c), 001(b)2, 001(b)1, 002(c), 002(a), and 002(b). The sample shall be a 24-hour effluent composite except as otherwise specifically provided below and the results shall be submitted with the monitoring reports for January and June to both IEPA and USEPA unless otherwise specified by the permitting authority. The parameters to be sampled are:

Arsenic (total)  
Barium (total)  
Cadmium (total)  
Chromium (total hexavalent)  
Chromium (total trivalent)  
Copper (total)  
Cyanide  
Fluoride (total)  
Iron (total)  
Iron (dissolved)  
Lead (total)  
Manganese (total)  
Mercury (total)  
Nickel (total)  
Oil, fats and greases\*  
Phenols  
Selenium (total)  
Silver  
Zinc (total)

In addition, the permittee shall monitor any new toxic substances as defined by the FWPCA following notification by the Illinois Environmental Protection Agency.

\*Sample shall be a grab sample.

If the permittee, after monitoring the above list twice, can demonstrate to the satisfaction of the permitting authority that there is no significant discharge of the designated parameters and that, in that time, the parameters have not exceeded the effluent limit set for said parameters, upon written request by the permittee, the permitting authority shall review the monitoring requirements and may, at their discretion, revise or waive these monitoring requirements by letter without public notice or opportunity for hearing.

6. There shall be no discharge of polychlorinated biphenyl compounds from process wastewaters or storm water runoff.



# **EXHIBIT C**



Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-0610

Commonwealth Edison Company  
Waukegan Generating Station  
NPDES Permit No. IL0002259  
Modification of NPDES Permit (Without Public Notice)

OCT 24 1985

Commonwealth Edison Company  
Attn: Thomas E. Hemminger  
Post Office Box 767  
Chicago, Illinois 60690



Gentlemen:

The Illinois Environmental Protection Agency has examined the request for modification of the above-referenced NPDES Permit as stated in your letter of September 24, 1985. Our final determination is to modify the Permit as follows:

Applicable effluent limitations have been applied under Outfall No.'s 003 and 004 and a footnote has been added for clarification of flows. Special Condition No. 7 has been modified to note the previous submission of a 316(b) demonstration by Commonwealth Edison Company.

The Agency is unable to grant other modifications you requested because they are inconsistent with applicable regulations and/or policy.

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 questions or comments, please contact Gary Cima of my staff.

Very truly yours,

A handwritten signature in cursive script that reads "Thomas G. McSwiggin". Below the signature is a small mark that appears to be "57 PM".

Thomas G. McSwiggin, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

TGM:GC:bjh/2271E/38

Enclosure

cc: USEPA/With Enclosure  
Region 2/With Enclosure  
Permit Section  
Records Unit

Illinois Environmental Protection Agency

Division of Water Pollution Control

2200 Churchill Road

Springfield, Illinois 62706

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date: August 1, 1990

Issue Date: September 30, 1985

Effective Date: October 30, 1985

Modification Issue Date: October 24, 1985

Modification Effective Date: Nov. 23, 1985

Name and Address of Permittee:

Facility Name and Address:

Commonwealth Edison Company  
Post Office Box 767  
Chicago, Illinois 60690

Commonwealth Edison Company  
Waukegan Generating Station  
10 Greenwood Avenue  
Waukegan, Illinois 60087  
(Lake County)

Discharge Number and Name:

Receiving Waters: Lake Michigan

- 001 Condenser Cooling Water and House Service Water
- 001(a) Boiler Blowdown
- 001(b) Demineralizer Regenerant Wastes
- 001(c) Wastewater Treatment System Effluent
- 001(d) East Yard Runoff Collection Basin Overflow/Discharge
- 001(e) Demineralized Water (Off-Specification Bypass)
- 001(f) Intake Screen Backwash
- 002 West Yard Runoff Collection Basin Discharge
- 003 East Ash Pond Overflow
- 004 West Ash Pond Overflow

In compliance with the provisions of the Illinois Environmental Protection Act, Subtitle C Rules and Regulations of the Illinois Pollution Control Board, and the FWPCA, 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.

*Thomas G. McSwiggin*  
*by [Signature]*  
Thomas G. McSwiggin, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

NPDES Permit No. IL0002259

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		
1. From the effective date of this permit until August 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 001 Condenser Cooling Water and House Service Water						
This discharge consists of:					Approximate Flow	
1. Condenser Cooling Water					589.0 MGD	
2. House Service Water					27.0 MGD	
3. Boiler Blowdown					0.08 MGD	
4. Demineralizer Regenerant Wastes					0.08 MGD	
5. Wastewater Treatment System Effluent					4.07 MGD	
6. East Yard Runoff Collection Basin Discharge					1.2 MGD	
7. Demineralized Water (Off-Specification Bypass)					Intermittent	
Flow					Daily	Calculated
Temperature	See Special Condition No. 3				Daily	Continuous
Total Residual Chlorine			0.2		1/Week	Concentration Curve*
Plant Capacity Factor (% Capacity of 782 MW)					Daily	Monthly Average and Maximum
Waste Heat Rejection Rate (btu/hr)					Daily	Monthly Maximum
*See Special Condition No. 4						
Outfall(s): 001(a) Boiler Blowdown						
					Approximate Flow 0.03 MGD	
Flow					2/Month	Calculated 24 Hour Total
pH	See Special Condition No. 1				2/Month	Grab
Total Suspended Solids			15.0	30.0	2/Month	8 Hour Composite

NPDES Permit No. IL0002259

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		
1. From the effective date of this permit until August 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 001(b) Demineralizer Regenerant Wastes						
					Approximate Flow 0.08 MGD	
Flow					1/Week	24 Hour Total
pH	See Special Condition No. 1				1/Week	Grab
Total Suspended Solids			15.0	30.0	1/Week	8 Hour Composite

Outfall(s): 001(c) Wastewater Treatment System Effluent

This discharge consists of:

1. East Ash Pond Discharge\*\*
2. West Ash Pond Discharge\*\*

					Approximate Flow	
					5.0 MGD	
					5.0 MGD	
Flow					Daily	Continuous
pH	See Special Condition No. 1				1/Week***	Grab
Total Suspended Solids			15.0	30.0	1/Week***	24 Hour Composite
Oil and Grease			15.0	20.0	1/Week***	Grab
Total Iron				1.0	2/Month***	24 Hour Composite
Total Copper				1.0	***	24 Hour Composite

\*\*The majority of ash pond discharge is recycled. Typically only one ash pond is in service at a time.

\*\*\*The sampling frequency shall be daily during discharge of non-chemical metal cleaning wastes.

NPDES Permit No. IL0002259

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		

1. From the effective date of this permit until August 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): 001(d) East Yard Runoff Collection Basin Overflow/Discharge

This discharge consists of:

1. East Yard Area Runoff
2. Units 1-4 Roof and Floor Drainage
3. Unit 6 Roof Drainage
4. East Yard Polymer Building Drains
5. Demineralizer Filter Backwash
6. Oil Separator Effluent
7. Laboratory Sink Drains
8. Units 7 and 8 Roof and Floor Drainage

Approximate Flow

- Intermittent
- Intermittent
- Intermittent
- Intermittent
- 0.03 MGD
- Intermittent
- Intermittent
- 0.001 MGD

Flow				Daily	Continuous	
pH	See Special Condition No. 1			1/Week	Grab	
Total Suspended Solids			15.0	30.0	1/Week	24 Hour Composite
Oil and Grease			15.0	20.0	1/Month	Grab

Outfall(s): 001(e) Demineralized Water (Off-Specification Bypass)

Approximate Flow  
Intermittent

Flow				1/Week	Estimate
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Outfall(s): 001(f) Intake Screen Backwash

Approximate Flow  
0.15 MGD

Flow				1/Month	Calculated 24 Hour Total
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There shall be no discharge of collected debris.

NPDES Permit No. IL0002259

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		
1. From the effective date of this permit until August 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 002 West Yard Runoff Collection Basin Discharge						
This discharge consists of:					Approximate Flow	
1. West Yard Area Runoff						Intermittent
2. Car Dumper Area Runoff						Intermittent
3. Main Switchyard Area Runoff						Intermittent
4. West Yard Polymer Building Drains						Intermittent
5. Peaker Sump Discharge						Intermittent
Flow					Daily	Continuous
pH	See Special Condition No. 1				1/Week	Grab
Total Suspended Solids			15.0	30.0	1/Week	24 Hour Composite
Oil and Grease			15.0	20.0	1/Month	Grab

NPDES Permit No. IL0002259

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		
1. From the effective date of this permit until August 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 003 East Ash Pond Overflow*****						
This discharge consists of:						
					Approximate Flow	
1. Bottom Ash and Fly Ash Transport Water					5.0 MGD	
2. Ash Hopper Overflow					1.0 MGD	
3. Supernatant from the Dredge Spoil Lagoon****					Intermittent	
4. Coal Pile Runoff Collection Basin Overflow					Intermittent	
5. Non-Chemical Metal Cleaning Wastes					Intermittent	
Flow					1/Week	24 Hour Total
pH	See Special Condition No. 1				1/Week	Grab
Total Suspended Solids			15.0	30.0	1/Week	24 Hour Composite
Oil and Grease			15.0	20.0	1/Week	Grab
Total Iron				1.0	2/Month***	24 Hour Composite
Total Copper				1.0	***	24 Hour Composite

\*\*\*The sampling frequency shall be daily during discharge of non-chemical metal cleaning wastes.

\*\*\*\*See Special Condition No. 5

\*\*\*\*\*This is an emergency outfall. Ash pond effluent is normally directed to the wastewater treatment system which discharges via Outfall No. 001(c).



NPDES Permit No. IL0002259

Effluent Limitations and Monitoring

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION LIMITS mg/l		SAMPLE FREQUENCY	SAMPLE TYPE
	30 DAY AVG.	DAILY MAX.	30 DAY AVG.	DAILY MAX.		
1. From the effective date of this permit until August 1, 1990, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:						
Outfall(s): 004 West Ash Pond Overflow*****						
This discharge consists of:						
					Approximate Flow	
1. Bottom Ash and Fly Ash Transport Water						5.0 MGD
2. Ash Hopper Overflow						1.0 MGD
3. Coal Pile Runoff Collection Basin Overflow						Intermittent
4. Non-Chemical Metal Cleaning Wastes						Intermittent
5. Supernatant from the Dredge Spoil Lagoon****						Intermittent
Flow					1/Week	24 Hour Total
pH	See Special Condition No. 1				1/Week	Grab
Total Suspended Solids			15.0	30.0	1/Week	24 Hour Composite
Oil and Grease			15.0	20.0	1/Week	Grab
Total Iron				1.0	2/Month***	24 Hour Composite
Total Copper				1.0	***	24 Hour Composite

\*\*\*The sampling frequency shall be daily during discharge of non-chemical metal cleaning wastes.

\*\*\*\*See Special Condition No. 5

\*\*\*\*\*This is an emergency outfall. Ash pond effluent is normally directed to the wastewater treatment system which discharges via Outfall No. 001(c).

NPDES Permit No. IL0002259

Special Conditions

1. The pH shall be in the range 6.0 to 9.0.
2. 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.
3. Thermal Discharge Limitations  

During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge heated effluent from outfall(s) serial number(s) 001.

Such discharges shall be limited and monitored by the permittee as specified below:

  - a. The discharge of heat shall be restricted to that associated with generation of 1016 MWe of electric power with the generating equipment on-site as of July 1, 1977.
  - b. Commonwealth Edison Company's demonstration for the Waukegan Generating Station in accordance with Section 316(a) of the CWA was approved by the Illinois Pollution Control Board in Order PCB 78-72, -73 Consolidated dated September 21, 1978. No additional monitoring or modification is now being required for reissuance of this NPDES Permit.
4. Chlorine may not be discharged from each units main cooling condensers for more than two hours in any one day.
  - a. The reported average concentration and maximum concentration for Total Residual Chlorine shall be based on a chlorine concentration curve generated during the respective chlorination period of each unit.
  - b. The concentration curves, sampling dates, the frequency and duration of the chlorine dosing period plus the amount of chlorine applied, shall be reported with Discharge Monitoring Reports.
5. There shall be no discharge of polychlorinated biphenyl compounds.
6. There shall be no discharge of chemical metal cleaning agents and associated rinses unless this permit has been modified to include the new discharge.

NPDES Permit No. IL0002259

Special Conditions

7. Commonwealth Edison Company shall submit to IEPA within six months from the effective date of this permit an operational plan to minimize impingement losses as supplement to a 1977 request for a determination pursuant to Section 316(b) of the CWA for the Waukegan Generating Station.
8. The permittee shall record monitoring results on Discharge Monitoring Report Forms using one such form for each discharge each month.

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.

Discharge Monitoring Reports shall be mailed to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
2200 Churchill Road  
Springfield, Illinois 62706

Attention: Compliance Assurance Section

Additionally, Discharge Monitoring Report forms shall be mailed to United States Environmental Protection Agency in Chicago on a quarterly basis. The permittee shall submit the reports as follows, unless otherwise specified by the permitting authority.

Period	Report Due At
Jan, Feb, Mar	April 28th
April, May, June	July 28th
July, Aug, Sept	October 28th
Oct, Nov, Dec	January 28th

Reports shall be addressed to United States Environmental Protection Agency as follows:

NPDES Water Division - Compliance Section  
United States Environmental Protection Agency  
Region V  
230 South Dearborn Street  
Chicago, Illinois 60604

ATTACHMENT H

10

Standard Conditions

Definitions

**Act** means the Illinois Environmental Protection Act, Ch. 111 1/2 Ill. Rev. Stat., Sec. 1001-1051 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; for permit termination, revocation and reissuance, or 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 requirement.
- (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 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 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. 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, 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. This period may be extended by request of the Agency 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;
    - (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.
- (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.
- (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) **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.
- (d) **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.**
- (e) **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 times; 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) **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;**
- The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- (f) **Other noncompliance.** The permittee shall report all instances of noncompliance 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)(e).
- (g) **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) **Transfer of permits.** A permit may be automatically transferred to a new permittee if:
- (a) **The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;**
- (b) **The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees; and**
- (c) **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.**
- (14) **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.**
- (15) **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 discharger 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.**
- (16) **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:**
- (1) **User charges pursuant to Section 204(b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;**
- (2) **Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and**
- (3) **Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act**
- (17) **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.**
- (18) **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.**
- (19) **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.**
- (20) **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 \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 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.**
- (21) **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 permit 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.**
- (22) **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 shall, 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.**
- (23) **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.**
- (24) **In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.**
- (25) **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.**
- (26) **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.**

# **EXHIBIT D**

**FILE COPY**

**NO.** 16-PER-H1

**RET.** \_\_\_\_\_

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Permit No. IL 0002259

Application No. IL 0002259

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act:),

COMMONWEALTH EDISON COMPANY

is authorized by the United States Environmental Protection Agency, Region V,  
to discharge from a facility located at Waukegan Generating Station  
Greenwood A.e. and Lake Michigan  
Waukegan, Illinois 60085

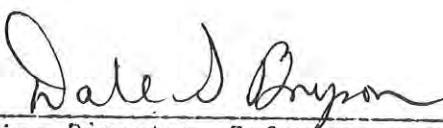
to receiving waters named Lake Michigan

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit and the authorization to discharge shall expire at midnight, October 1, 1979 . Permittee shall not discharge after the above date of expiration, In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information, forms, and fees as are required by the Agency authorized to issue NPDES permits no later than 180 days prior to the above date of expiration.

This permit, modified in accordance with 40 CFR 125, shall become effective upon this date of signature and supersedes NPDES Permit number IL 0002259 dated November 27, 1974 and modified on December 30, 1976.

Signed this ~~JAN 20 1978~~

  
\_\_\_\_\_  
Acting Director, Enforcement Division

PART I

A. 1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Beginning on the effective date of this modification and lasting until July 1, 1977 the permittee is authorized to discharge from outfall(s) serial number(s) 001(a)-Condenser Cooling Water Demineralizer Filter Backwash, Boiler Blowdown and House Service Water

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
	kg/day (lbs/day)	Other Units (Specify)	Measurement Frequency	Sample Type
Flow-M <sup>3</sup> /Day (MGD) (2)	-	-	Continuous	-
Temperature c (°F) (3)	-	-	Continuous	-
Free Chlorine Residual (3)	-	0.2 mg/l	Once / 7 Days	Grab
Total Chlorine Residual (3)	-	0.5 mg/l	Once / 7 Days	Grab
Heat Rejection Rate (BTU/Hr)	-	-	Monthly Max.	Report
Plant Capacity Factor (%)	-	-	Monthly Avg.	Report

(1) See Part I-C.4. for definition.

(2) Intake and Discharge temperatures.

(3) See Part III-A.7 for additional chlorine limitations and monitoring requirements. Chlorination period not to exceed a total of 2 hours per day per unit. The frequency and duration of chlorination on a per unit basis shall be reported on the Discharge Monitoring Report.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of the discharge but prior to entry into Lake Michigan.



PART I

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Beginning on the effective date of this modification and lasting until July 1, 1977 the permittee is authorized to discharge from outfall(s) serial number(s) 001(b)-Deminerizer Regenerant Waste

Such discharges shall be limited and monitored by the permittee as specified below:

<u>FLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
	kg/day (lbs/day)	Other Units (Specify)	Measurement Frequency	Sample Type
Flow-M <sup>3</sup> /Day (MGD)	-	-	When Sampling	24-Hr.
Dissolved Solids	-	-	1 Discharge Period Per	Composite
	Daily Avg <sup>(1)</sup>	Daily Avg <sup>(1)</sup>	7 days	
	Daily Max <sup>(1)</sup>	Daily Max <sup>(1)</sup>		

(1) See Part I-C.4 for definition.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of the discharge but prior to mixing with other waters.

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**PART I**  
**13. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

Beginning on the effective date of this modification and lasting until July 1, 1977 the permittee is authorized to discharge from outfall(s) serial number(s) 002 -Ash Pond Overflow

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>
	<u>kg/day (lbs/day)</u>	<u>Other Units (Specify)</u>	
Flow-M <sup>3</sup> /Day (MGD)	-	Daily Avg <sup>(1)</sup> Daily Max <sup>(1)</sup> Daily Avg <sup>(1)</sup> Daily Max <sup>(1)</sup>	When Sampling One Day/7 Days
Suspended Solids	-	-	One Day/7 Days
Dissolved Solids	-	-	One Day/7 Days
Oil and Grease	-	-	Once/7 Days
Iron (Total)	-	2.0 mg/l	One Day/Month
Iron (Dissolved)	-	0.5 mg/l	One Day/Month
Copper (Total)	-	-	One Day/Month
			24 Hr. Composite
			24 Hr. Composite
			Grab
			24 Hr. Composite
			24 Hr. Composite
			24 Hr. Composite

(1) See Part I-C.4 for definition.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored by grab sample measured once per 7 days.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of combined discharge at the confluence of the two unnamed ditches in the south-east corner of the facility.

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PART I

**A. 4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

During the period beginning July 1, 1977 and lasting until October 1, 1979 the permittee is authorized to discharge from outfall(s) serial number(s) 001(a)-Condenser Cooling Water and House Service Water

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
	kg/day (lbs/day)	Other Units (Specify)	Measurement Frequency	Sample Type
Flow-M <sup>3</sup> /Day (MGD) (2)	-	Daily Avg (1)	Continuous	-
Temperature °C(°F)	-	Daily Max (1)	Continuous	-
Free Chlorine Residual (3)	-	Daily Avg (1)	Once/7 Days	Grab
Total Chlorine Residual (3)	-	Daily Max (1)	Once/7 Days	Grab
Heat Rejection Rate (BTU/Hr.)	-	-	Monthly Max.	Report
Plant Capacity Factor (%)	-	-	Monthly Avg.	Report

(1) See Part I-C.4 for definition  
 (2) Intake and Discharge temperatures.  
 (3) See Part III-A.7 for additional chlorine limitations and monitoring requirements.  
 The frequency and duration of chlorination on a per unit basis shall be reported on the Discharge Monitoring Report.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored by grab sample measured once per 7 days.

There shall be no discharge of floating solids or visible foam in other than trace amounts.  
 Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of the discharge but prior to entry into Lake Michigan.

PART I

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1.5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting until October 1, 1979 the permittee is authorized to discharge from outfall(s) serial number(s) 001(b)-Deminerlizer Regenerat Waste

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS		Other Units (Specify)	MONITORING REQUIREMENTS	
	kg/day (lbs/day)	Other Units		Measurement Frequency	Sample Type
Flow-M <sup>3</sup> /Day (MGD)	-	-		When Sampling 1 Discharge	Composite @
Suspended Solids	-	-	15 mg/l	Period Per 7 Days	Half-Hour Intervals
Iron (Total)	-	-	2.0 mg/l	One/7 Days	Grab
Copper (Total)	-	-	1.0 mg/l	One/7 Days	Grab

(1) See Part I-C.4 for definition.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of the discharge but prior to entry into the discharge flume.

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PART I

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**.7 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

During the period beginning July 1, 1977 and lasting until October 1, 1979 the permittee is authorized to discharge from outfall(s) serial number(s) 001(d) - Treated Floor Drain and Roof and Yard Effluents and Yard Effluents

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>	
	kg/day (1) (2)	Other Units (Specify) (2)	Measurement Frequency	Sample Type
Low-pH Day (1) (2)	-	-	When Sampling	-
Suspended Solids	-	15 mg/l	One Day/7 Days	Composite
Oil and Grease	-	15 mg/l	Once/7 Days	Grab

- (1) During periods of discharge.
- (2) See Part I-C.4 for definition.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored by grab sample measured once per 7 days.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of the discharge but prior to entry into the discharge flume.



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18. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting until October 1, 1979 the permittee is authorized to discharge from outfall(s) serial number(s) 001(e) - Recirculating Combined Waste Treatment System Blowdown

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC

kg/day (lbs/day)	DISCHARGE LIMITATIONS	
	Other Units (Specify)	(2) Daily Avg
Daily Avg	Daily Max	Daily Max

MONITORING REQUIREMENTS (1)

Measurement Frequency	Sample Type
-----------------------	-------------

Flow-#3/Day (MGD)	When Sampling
Suspended Solids	One Day / 7 Days
Dissolved Solids	One Day / 7 Days
Oil and Grease	Once / 7 Days
Iron (Total)	Once / 3 Months
Iron (Dissolved)	Once / 3 Months
	24 Hr. Composite
	24 Hr. Composite
	Grab
	Grab
	Grab

(1) See Part III-A.6.a for special monitoring requirements in the event that metal cleaning wastes are discharged to the recirculating combined waste treatment system.

(2) See Part I-C.4 for definition.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored by grab sample measured once per 7 days.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At a point representative of the discharge but prior to entry into the discharge flume.

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**PART I**

**9 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

During the period beginning July 1, 1977 and lasting until October 1, 1979 the permittee is authorized to discharge from outfall(s) serial number(s) 002 - Coal Pile Runoff Collection Basin Discharge <sup>Just After</sup>

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS</u>		<u>Other Units (Specify)</u>	<u>MONITORING REQUIREMENTS (1)</u>		
	<u>kg/day (lbs/day)</u>	<u>Daily Avg. (2)</u>		<u>Daily Avg (2)</u>	<u>Daily Max (2)</u>	<u>Measurement Frequency</u>
Flow-M <sup>3</sup> /Day (MGD)	-	-	-	-	When Sampling	-
Suspended Solids	-	-	15 mg/l	-	1 Discharge	Composite
Oil and Grease	-	-	15 mg/l	-	Period per 7 Days	Grab

(1) During periods of discharge  
 (2) See Part I-C.4 for definition

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored by grab sample measured once per 7 days.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): ~~At a point~~ representative of the discharge but prior to entry into Lake Michigan.

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B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:
  - a. Neutralization, Recirculating Combined, Metal Cleaning, Combined Bilge and Drain, and Coal Pile Runoff Waste Treatment Systems
    - (1) Preliminary Plans Submitted by May 1, 1976 \*
    - (2) Construction Progress Report by December 31, 1976
    - (3) Attainment of Operational Level by July 1, 1977
  - b. Chlorine Application Point Relocation Project Operational by January 31, 1977

\*Completed

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of non-compliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.



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C. MONITORING AND REPORTING

1. Representative Sampling - Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.
2. Reporting - The permittee shall record monitoring results on Discharge Monitoring Report forms, using one such form for each discharge each month. The completed monthly forms shall be retained by permittee for a period of three months beginning with each calendar quarter, and the forms from those three months shall be mailed to USEPA no later than the 28th day of the following month; i.e. (a) January, February, March (submit April 28); (b) April, May, June (submit July 28); (c) July, August, September (submit October 28); October, November, December (submit January 28).

The permittee shall retain a copy of all reports submitted. All reports shall be submitted to:

U.S. Environmental Protection Agency  
Attention: Chief, Compliance Unit  
230 South Dearborn Street  
Chicago, Illinois 60604

The permittee shall submit these monitoring reports each month to the State Agency by the 15th day of the following month at the following address:

Manager  
Illinois EPA-DWPC Region 2C  
1701 First Avenue  
Maywood, Illinois 60153

3. Noncompliance Notification - If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the

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following information, in writing within five (5) days of becoming aware of such condition: (a) a description of the discharge; (b) cause of noncompliance; (c) the period of noncompliance, including exact dates and times; (d) if not corrected, the anticipated time the noncompliance is expected to continue, and (e) steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

4. Definitions

a. "Daily Average" Discharge

1. Weight Basis - The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of the measured daily discharge by weight divided by the number of days during the calendar month when the measurements were made.

2. Concentration Basis - The "daily average" concentration means the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Maximum" Discharge

1. Weight Basis - The "daily maximum" discharge means the total discharge by weight during any calendar day.

Part I

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2. Concentration Basis - The "daily maximum" concentration means the daily determination of concentration for any calendar day.
5. Test Procedures - Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.
6. Recording of Results - For each measurement or sample pursuant to the requirements of this permit the permittee shall record the following information: (a) the exact place, date, and time of sampling; (b) the dates the analyses were performed; (c) the person(s) who performed the analyses; (d) the analytical techniques or methods used; and (e) the results of all required analyses.
7. Additional Monitoring by Permittee - If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.
8. Records Retention - All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the State Water Pollution Control Agency.

Part II

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PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge - All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.
2. Facilities Operation - The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
3. Adverse Impact - The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.
4. Bypassing - Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property

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damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Regional Administrator and the State in writing of each such diversion or bypass.

5. Removed Substances - Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

6. Power Failures - In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either: (a) in accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities; or, if no date implementation appears in Part I, (b) halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of one or more of the primary sources of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry - The permittee shall allow the head of the State Water Pollution Control Agency, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials: (a) to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and (b) at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.



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AS MODIFIED: JAN 20 1978

2. Transfer of Ownership or Control - In the event of any changes in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State Water Pollution Control Agency.
3. Availability of Reports - Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 308 of the Act.
4. Permit Modification - After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following: (a) violation of any terms or conditions of this permit; (b) obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or (c) a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
5. Toxic Pollutants - Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee is notified.

Part II . . .

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6. Civil and Criminal Liability - Except as provided in permit conditions on "Bypassing" (Part II, A-4) and "Power Failure" (Part II, A-6), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
7. Oil and Hazardous Substance Liability - Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.
8. State Law - Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.
9. Property Rights - The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
10. Severability - The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Part III  
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Part III

A. Other Requirements

1. Provisions for Change of Monitoring Frequency

If the permittee after monitoring for at least six (6) months determines that he is consistently meeting the effluent limits contained herein, the permittee may request the Regional Administrator and the Director that the monitoring requirements be reduced to twice monthly, monthly or be eliminated. Upon written notification by the Regional Administrator and the Director, the Permittee will monitor as directed.

2. Additional State Requirements

This permit incorporates all applicable provisions of the Illinois Environmental Protection Act and of the Rules and Regulations of Illinois Pollution Control Board, as if they were set forth herein. All such provisions shall become conditions of this Federal NPDES permit as provided by Section 401(d) of the Federal Water Pollution Control Act Amendments of 1972.

3. Prohibited Discharges

- a. This permit is specifically for the listed pollutants to be discharged from the designated outfalls only. Discharge of pollutants from an undesignated outfall is not permitted.
- b. There shall be no discharge of debris from intake screen washing operations.
- c. There shall be no discharge of polychlorinated biphenyl compounds.
- d. There shall be no discharge of water side boiler cleaning wastes.

4. Intake Monitoring Requirements

The final report of the intake monitoring program submitted by the permittee on July 9, 1976 is being evaluated with regard to Section



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316(b) of the Act. The Regional Administrator and the Director, after evaluation of the report, may modify the permit in accordance with Part II-3.4 to establish an implementation schedule to insure compliance with Section 316(b).

5. Thermal Discharge Limitations

During the period beginning July 1, 1977 and lasting until October 1, 1979 the permittee is authorized to discharge heated effluent from outfall serial number 001.

Such discharges shall be limited and monitored by the permittee as specified below:

1. The discharge of heat shall be restricted to that associated with generation of 1016 MWe of electric power with the generating equipment on-site as of July 1, 1977.

2. The company shall perform studies pursuant to the conditions specified in NPDES Permit No. IL 0002763 for the Zion Generating Station as a condition of alternative effluent limitations pursuant to Section 316(a) of the Act.

6. Miscellaneous Wastes

a. After July 1, 1977, discharge of metal cleaning wastes shall be directed to the recirculating combined waste treatment system. Recirculating combined waste treatment system blowdown sampling will be performed for one day prior to discharge of these wastes into the treatment system and for three days thereafter as follows:

AS MODIFIED  
JAN 20 1978

<u>Parameter</u>	<u>Daily Max (1)</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	-	Continuous	-
Suspended Solids	15 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals
Dissolved Solids	3500 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals
Oil and Grease	15 mg/l	Daily	Grab
Copper (Total)	1.0 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals
Iron (Total)	2.0 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals
Zinc (Total)	1.0 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals
Chromium Hexavalent (Total)	0.3 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals
Alkalinity (Total)	-	Daily	Grab
Chromium Trivalent (Total)	1.0 mg/l	Daily	24-Hr. Composite @ Half-Hour Intervals

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored by daily grab samples.

The results of this sampling shall be reported together with the volume of the metal cleaning wastes pursuant to the reporting requirements of Part I-C.2 of this permit.

- b. After July 1, 1977 liquid discharges from miscellaneous waste collection sumps, yard drains, and excess run-off from coal storage areas shall be diverted to existing ash settling basins or comparable settling facilities for treatment prior to discharge.

(1) See Part I-C.4 for definition.

AS MODIFIED, JAN 20 1978

7. Chlorine Limitations And Monitoring

- a. From the effective date of this permit until July 1, 1977 the permittee is limited to a free chlorine residual of 0.2 mg/l daily average and 0.5 mg/l daily maximum with the discharge of chlorine not to exceed two hours per day per unit.
- b. Daily average shall be defined as the arithmetic average of the chlorine concentrations obtained using the procedure set forth in Exhibit A of the Chlorine Stipulation executed by Commonwealth Edison Company and Region V, U.S. Environmental Protection Agency on April 2, 1976.
- c. The daily maximum for total residual chlorine shall be defined as the average of two highest instantaneous chlorine concentrations obtained using the procedures set forth in Exhibit A of the Chlorine Stipulation executed by Commonwealth Edison Company and Region V, U.S. Environmental Protection Agency on April 2, 1976 for each chlorination period. This definition shall also apply to daily maximum free residual chlorine until July 1, 1977. After July 1, 1977 the daily maximum for free residual chlorine shall be the single highest chlorine concentration obtained using the procedures set forth in Exhibit A of the Chlorine Stipulation executed by Commonwealth Edison Company and Region V, U.S. Environmental Protection Agency on April 2, 1976 for each chlorination period.
- d. The monitoring location for chlorine residual shall be as referenced in Exhibit C-2 of the Chlorine Stipulation executed by Commonwealth Edison Company and Region V, U.S. Environmental Protection Agency on April 2, 1976.
- e. The Chlorine Stipulation executed by Commonwealth Edison Company and Region V, U.S. Environmental Protection Agency, on April 2, 1976 is incorporated by reference into this permit as though fully set forth herein.

B. Modification Provision

NPDES Permit No. IL 0002259, as modified on JAN 20 1978 containing herein all modifications supersedes, for all purposes on and after the date of modification, the original permit issued and dated November 29, 1974, and modified December 30, 1976. However, this modification is not in derogation of any action heretofore taken under the original permit issued and dated November 27, 1974, and modified December 30, 1976, nor does this modification relieve the permittee of any liability for violation of any provision of the original permit issued and dated November 27, 1974, and modified December 30, 1976, committed prior to the effective date of this modification.

# **EXHIBIT E**

FILE COPY  
NO. 16-PER-H1  
RET.



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION V  
230 SOUTH DEARBORN ST.  
CHICAGO, ILLINOIS 60604

Mr. John Hughes  
Director of Water Quality  
Commonwealth Edison Company  
Post Office Box 767  
Chicago, Illinois 60690

FEB 20 1978



Re: Commonwealth Edison Company  
Zion Nuclear Generating Station  
NPDES Permit No: IL 0002763

Waukegan Generating Station  
NPDES Permit No: IL 0002259

Dear Mr. Hughes:

On June 30, 1977, Region V communicated to you its determination pursuant to §316(a) of the Federal Water Pollution Control Act, as amended, to impose alternative thermal limitations in the referenced NPDES permits contingent on the performance of a monitoring program. That program was to be based on a draft report by Spigarelli and Murarka of Argonne National Laboratory entitled "Recommendations for Future Monitoring at Zion, Waukegan and other Lake Michigan Power Plants: A Report to EPA, Region V" (Argonne Report). You commented on the draft Argonne Report on June 15, 1977, and it was subsequently revised in July 1977. A copy of the revision was given to Mr. Jim Rice of Commonwealth Edison who discussed it informally with Mr. Gary Milburn of my staff.

While your June 1977 comments and subsequent discussions with Mr. Rice suggest that you are in substantial agreement with the Argonne recommendations, certain differences do exist and are addressed below. These include dissolved oxygen monitoring, frequency of phytoplankton and zooplankton sampling, and egg and larval monitoring frequency. More specific issues within these categories are also discussed.

Concerning the comments at the bottom of page 4 of your letter, EPA cannot be responsible for adoption or endorsement of this program by the Illinois EPA or the U. S. Nuclear Regulatory Commission (NRC). We believe Edison is aware of our recent correspondence with Mr. Edson Case in which we have discussed the proposed lake-wide monitoring program and requested that the NRC review that program and coordinate their Environmental and Technical Specification requirements so that duplicative and wasteful efforts are reduced.



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Edison is aware that Region V fully intends to implement a lake-wide monitoring program and to require other utilities to participate either as a condition of our concurrence in §316(a) determinations, as part of our concurrence in future environmental impact statements in which once-through cooling is proposed, or potentially as part of §316(b) determinations or monitoring requirements. Each additional increment of once-through cooling on the Lake will need to sustain a higher burden of proof. Our predictive capabilities and our understanding of the Lake Michigan ecosystem must be greatly improved if once-through cooling is to be a viable option at all.

Concerning the monitoring categories mentioned earlier we propose the following resolutions where differences with the Argonne Plan were indicated in your June 1977 response:

Table 4: Dissolved Oxygen

Continuous or twice daily measurements of the dissolved oxygen will be required but only for one year. This data will compliment the gas-supersaturation model (table 18, page 2) verifications which you have agreed to perform by providing exposure histories. In addition, the dissolved oxygen measurements will give some indication of the frequency, duration, timing and degree of gas-supersaturation during the year.

Table 11: Phytoplankton and Zooplankton

We propose to adopt the schedule recommended by Commonwealth Edison that is, sampling once a week.

We note that Argonne has changed their recommendation such that increased plankton sampling would have been necessary only if chlorophyll concentrations changed  $\geq 15\%$  between successive samples. We are not at this time requiring that Edison adhere to that recommendation. Chlorophyll-a (table 10) and  $N_2$  fixation (table 12) must also be measured once a week. However, Mr. Rice has informally proposed that  $N_2$  fixation only be measured if phytoplankton sampling indicates nitrogen fixers. We believe that the proposal is unacceptable because phytoplankton would not have been analyzed, and if they were,  $N_2$  sample collection would occur sometime after the phytoplankton sampling. Thus, no direct comparison could be made. In further response to your comments on table 12, we are aware that the majority of phytoplankton in the area of Zion and Waukegan are not nitrogen fixing. However, these phytoplankton can be important nuisance organisms, and heat in combination with nutrients is known to stimulate their growth. We believe it important to obtain better understanding of how these organisms are affected, if at all, by condenser passage and thermal stimulation.

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Table 5 - Total Dissolved Solids  
Table 6 - Turbidity  
Table 7 - Total and Soluble Phosphorus  
Table 8 - Soluble Silica  
Table 9 - Organic Carbon

Based on the above requirement for phytoplankton-zooplankton sampling the following parameters should be sampled on all plankton sampling and acoustic survey days: total dissolved solids (TDS), turbidity, total phosphorus, soluble phosphorus, soluble silica, and organic carbon.

This requirement is consistent with the Edison recommendations and subsequent discussions with Mr. Rice.

Table 13: Benthos - no disagreement.

Table 14: Acoustic Fish Surveys

The 7 survey periods, 4 consecutive sample days per survey period, recommended by Edison is acceptable, with the understanding that at least 2 nights be sampled as well.

Table 15: Fish-Trawl and Gill Nets

The 7 survey periods, 4 sample days per survey period, recommended by Edison is acceptable.

Table 16: Impingement

The Argonne recommendation was based on a statistical analysis of previous years impingement data and was designed to provide a higher precision estimate of fish impingement losses. For this reason we believe it should be adhered to. Based on the Argonne recommendations, further discussions with Drs. Spigarelli and Murarka, and the Edison recommendations, the following impingement sampling schedule will be required:

Once per week during the year except 1) during the spring period of peak smelt impingement when ten continuous days shall be sampled; 2) during the period of peak alewife impingement when 30 continuous days shall be sampled to begin at the onset of spring inshore migration [about May 1, for Zion]; 3) during the fall period when peak smelt and alewife impingement occurs, ten continuous days shall be sampled.

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We calculate that approximately 94 days would be sampled annually under this schedule. Under the Edison recommended schedule approximately 104 days would be sampled.

Table 17: Eggs and Larvae

Deletion of sampling for eggs and larvae at the intake as recommended by Edison is not acceptable.

Sampling for eggs and larvae shall be conducted once per week except during periods of peak abundance when sampling shall be every other day.

Table 18: Other Recommendations by Argonne

We will only comment where Edison has expressed a recommendation different than that by Argonne which has not been dealt with above.

P. 3 Concerning Phytoplankton and Zooplankton

EPA will not ask Edison to sponsor a review group.

With respect to measuring length, frequency, sex ratio and fecundity of Mysis and Pontoporeia, these measurements are needed to supply a baseline for macrobenthos population dynamics. Sampling at the intake should not be arduous and is certainly less costly than conducting such sampling in the lake.

P. 4 Fish Monitoring

While we recognize and encouraged the efforts of the Lake Michigan Utility Group in sponsoring the Limnetics report on Lake Michigan Fish Populations, we believe that effort is far from "complete". We view that work as a building block for future efforts particularly as the data base improves.

Fish sampling with seine nets is a necessity. Without such sampling, there is no way of knowing what is in the nearshore area which often has many species not found offshore.

The revision of the Argonne Report now recommends (p. 26) that simulation modeling be applied to selected species. Edison has not had a chance to comment on this recommendation. While we recognize that modeling has many limitations we believe it offers another useful tool in attempting to assess lakewide impacts. We believe that such a model is necessary in attempting to assess new uses of the Lake. The Lake Michigan Utility Group should be looking carefully at a future effort in that direction. Certain basic data must be available for such a model, and if that data is not available now, then efforts should begin to collect such information.



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Finally, it is not our wish to impose costly non-productive monitoring efforts on the utility industry. We expect to review these efforts at least yearly, and perhaps more often, and to make adjustments if they are needed. Therefore, we will expect you to submit the data at the end of the first year's program. We will analyze the data and notify you as soon as possible of any changes desired. However, you will be expected to continue the program into the next year until you hear otherwise from us.

Enclosed with this letter are modified NPDES permits for Zion and Waukegan Stations reflecting our §316(a) determinations and the conditions thereof. Conducting the program at Zion is a condition of the §316(a) alternative thermal limitations granted for the Zion and Waukegan Stations on June 30, 1977.

If you have any questions, please contact Vacys J. Saulys at 312/353-2098 or Gail C. Ginsberg at 312/353-2094.

Very truly yours,



Dale S. Bryson, Acting Director  
Enforcement Division

Attachments

cc: w/Attachments

Michael Mauzy  
Illinois Environmental  
Protection Agency

A. Daniel Feldman, Esquire  
Isham, Lincoln, & Beale

Thomas Eisele  
Lake Michigan Federation

David Comey  
Citizens For A Better  
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Illinois Environmental  
Protection Agency

## Monitoring Program for Zion Nuclear Generating Station

Parameter	Units	Location	Frequency	Method (Ref)	Report
<u>Physical-Hydrological</u>					
Temperature	C°/F°	Intake Discharge(s)	Continuous	Available	Hourly $\bar{x}$
Lake current	<u>ft./sec.</u> compass	Minimum of two	Continuous	Ducted impeller, record	Vector analysis
<u>Chemical</u>					
Chlorine residual	mg/l	Discharge	All fish survey days	Amperometric	$\bar{x}$ range for each chlorination period
Dissolved O <sub>2</sub> , N <sub>2</sub>	mg/l % sat.	Intake Discharge (s)	2/24 hr or continuous (1 year only)	Meter	Hourly or daily means
Gas Plume	"	Model verifica- tion plume map	2/condition	Continuous flow	Model predictions and verifications
Total dissolved solids (TDS)	mg/l	Intake	2/24 hr, 1/wk & all plankton samples & acoustical surveys	Std. methods	Daily or weekly means
Turbidity	N.T.U.	"	Same as TDS & fish sample days	Turbidimeter	"
Total phosphorus	mg/l	"	Same as TDS	Isobutanol (20)	"
Soluble phosphorus	"	"	"	"	"
Soluble silica	"	"	"	Auto analyzer	"
Organic carbon	"	Intake	Same as TDS	Carbon analyzer	Daily or weekly means

Monitoring Program for Zion Nuclear Generating Station (continued)

Parameter	Units	Location	Frequency	Method (Ref)	Report
<u>Biological</u>					
Phytoplankton		Intake	Once weekly	(2)	Dates, sample #
Zooplankton (nutrient change)		"		"	"
Chlorophyll-a		"	once weekly	Fluorometer	All data
N <sub>2</sub> fixation		"	once weekly	Acetylene reductions	"
Benthos Mysids Amphipods		Intake	2/month; 1/week	(2)	All data
Fish Acoustic surveys		Plume Reference	7/days 4/consecutive days/survey at least 2 nights	(13,14)	
Trawl-nets		"	"	(2)	
Impingement		Intake Screens	Once per week during the year except (1) during the spring period of peak smelt impingement when ten continuous days shall be sampled; (2) during the period of peak alewife impingement when 30 continuous days shall be sampled to begin at the onset of spring inshore migration [about May 1 for Zion]		Daily totals bv species

Monitoring Program for Zion Nuclear Generating Station

Parameter	Units	Location	Frequency	Method (Ref)	Report
					3) during the fall period when smelt and alewife impingement occurs, ten continuous days shall be sampled.
Eggs-larvae		Intake forebay	1/week, every other day during peak abundances	(2)	Sample totals by species

Note: This monitoring program is based upon and is to be guided by the July 1977 report, "Recommendations for Future Monitoring at Zion, Waukegan, and Other Lake Michigan Power Plants: A Report to U.S. EPA (Region V)", and any subsequent revisions to that report. All references are contained on pp. 30-31 of that report.