BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS FOR THE CHICAGO AREA WATERWAY SYSTEM AND THE LOWER DES PLAINES RIVER: PROPOSED AMENDMENTS TO 35 Ill. Adm. Code Parts 301, 302, 303 and 304	))))))	R08-9 (Rulemaking – Water)

NOTICE OF FILING

TO: Mr. John T. Therriault,
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(VIA ELECTRONIC MAIL)

Ms. Marie E. Tipsord
Hearing Officer
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(VIA FIRST CLASS MAIL)

(SEE PERSONS ON ATTACHED SERVICE LIST)

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the **ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF N. LADONNA DRIVER, ENTRY OF APPEARANCE OF THOMAS G. SAFLEY, ENTRY OF APPEARANCE OF MONICA T. RIOS and PRE-FILED QUESTIONS FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**, copies of which are herewith served upon you.

Respectfully submitted,

CORN PRODUCTS
INTERNATIONAL, INC.

Dated: January 18, 2008

By: /s/ Katherine D. Hodge
One of Its Attorneys

Katherine D. Hodge
N. LaDonna Driver
Thomas G. Safley
Monica T. Rios
HODGE DWYER ZEMAN
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CERTIFICATE OF SERVICE

I, Katherine D. Hodge, the undersigned, hereby certify that I have served the attached ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF N. LADONNA DRIVER, ENTRY OF APPEARANCE OF THOMAS G. SAFLEY, ENTRY OF APPEARANCE OF MONICA T. RIOS, and PRE-FILED QUESTIONS FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY upon:

Mr. John T. Therriault
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

via electronic mail on January 18, 2008; and upon:

Ms. Marie E. Tipsord
Hearing Officer
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by depositing said documents in the United States Mail, postage prepaid, in

Springfield, Illinois on January 18, 2008.

/s/ Katherine D. Hodge
Katherine D. Hodge

CORN:006/Fil/NOF-COS – EOAs, Pre-filed Questions

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
WATER QUALITY STANDARDS AND	)	
EFFLUENT LIMITATIONS FOR THE	)	R08-9
CHICAGO AREA WATERWAY SYSTEM	)	(Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:	)	
PROPOSED AMENDMENTS TO 35 Ill.	)	
Adm. Code Parts 301, 302, 303 and 304	)	

ENTRY OF APPEARANCE OF KATHERINE D. HODGE

NOW COMES Katherine D. Hodge, of the law firm HODGE DWYER ZEMAN, and hereby enters her appearance in this matter on behalf of Corn Products International, Inc.

Respectfully submitted,

By: /s/ Katherine D. Hodge
Katherine D. Hodge

Dated: January 18, 2008

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(217) 523-4900

CORN:006/Fil/EOA – KDH

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
WATER QUALITY STANDARDS AND	)	
EFFLUENT LIMITATIONS FOR THE	)	R08-9
CHICAGO AREA WATERWAY SYSTEM	)	(Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:	)	
PROPOSED AMENDMENTS TO 35 Ill.	)	
Adm. Code Parts 301, 302, 303 and 304	)	

ENTRY OF APPEARANCE OF N. LADONNA DRIVER

NOW COMES N. LaDonna Driver, of the law firm HODGE DWYER ZEMAN, and hereby enters her appearance in this matter on behalf of Corn Products International, Inc.

Respectfully submitted,

By: /s/N. LaDonna Driver
N. LaDonna Driver

Dated: January 18, 2008

N. LaDonna Driver
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(217) 523-4900

CORN:006/Fil/EOA – NLD

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
WATER QUALITY STANDARDS AND	)	
EFFLUENT LIMITATIONS FOR THE	)	R08-9
CHICAGO AREA WATERWAY SYSTEM	)	(Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:	)	
PROPOSED AMENDMENTS TO 35 Ill.	)	
Adm. Code Parts 301, 302, 303 and 304	)	

ENTRY OF APPEARANCE OF THOMAS G. SAFLEY

NOW COMES Thomas G. Safley, of the law firm HODGE DWYER ZEMAN, and hereby enters his appearance in this matter on behalf of Corn Products International, Inc.

Respectfully submitted,

By: /s/Thomas G. Safley
Thomas G. Safley

Dated: January 18, 2008

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CORN:006/Fil/EOA – TGS

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
WATER QUALITY STANDARDS AND	)	
EFFLUENT LIMITATIONS FOR THE	)	R08-9
CHICAGO AREA WATERWAY SYSTEM	)	(Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:	)	
PROPOSED AMENDMENTS TO 35 Ill.	)	
Adm. Code Parts 301, 302, 303 and 304	)	

ENTRY OF APPEARANCE OF MONICA T. RIOS

NOW COMES Monica T. Rios, of the law firm HODGE DWYER ZEMAN, and hereby enters her appearance in this matter on behalf of Corn Products International, Inc.

Respectfully submitted,

By: /s/Monica T. Rios
Monica T. Rios

Dated: January 18, 2008

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CORN:006/Fil/EOA – MTR

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
WATER QUALITY STANDARDS AND	)	
EFFLUENT LIMITATIONS FOR THE	)	R08-9
CHICAGO AREA WATERWAY SYSTEM	)	(Rulemaking – Water)
AND THE LOWER DES PLAINES RIVER:	)	
PROPOSED AMENDMENTS TO 35 Ill.	)	
Adm. Code Parts 301, 302, 303 and 304	)	

PRE-FILED QUESTIONS FOR
THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

NOW COMES CORN PRODUCTS INTERNATIONAL, INC. ("Corn Products"), by and through its attorneys, HODGE DWYER ZEMAN, and submits the following Pre-Filed Questions for the Illinois Environmental Protection Agency ("Agency") for presentation at the January 28, 2008 hearing scheduled in the above-referenced matter:

I. GENERAL QUESTIONS REGARDING THE PROPOSED RULEMAKING

1. As noted in the Agency's Statement of Reasons ("SOR"), "[i]n evaluating proposed rules the Board is required to take into account 'the existing physical conditions, the character of the area involved, including the character of surrounding land uses, zoning classifications, the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution.'" Statement of Reasons, *In the Matter of*: *Water Quality Standards and Effluent Limitations for the Chicago Area Waterway System and the Lower Des Plaines River: Proposed Amendments to 35 Ill. Adm. Code Parts 301, 302, 303, and 304,* R-08-9 at 2 (Ill.Pol.Control.Bd. Oct. 26, 2007) (hereinafter cited as "*SOR*") (quoting 415 ILCS 5/27(a) (2006)). Has the Agency

provided the Board with any information regarding the proposed rule's impact on existing air quality? If so, what considerations did the Agency take into account to determine the impact of the proposed rule on existing air quality? What were the Agency's conclusions regarding the proposed rule's impact on air quality? Did the Agency consider that the installation and operation of certain control technologies which may be necessary in order to comply with the proposed rule will affect the air quality in the region?

2. While developing the proposed water quality standards, what steps did the Agency take to evaluate the characteristics of the Chicago Sanitary and Ship Canal ("CSSC"), such as flow, temperature, discharges into the water body, etc.? At times, the CSSC has low flow and/or flows backwards. Does the Agency know how such conditions will impact Corn Products' ability to comply with the proposed standards?

3. The SOR lists the Use Attainability Analysis ("UAA") factors. *SOR* at 5-6. Did the Agency address factors five and six in the SOR? If so, were the Agency's conclusions included in the SOR or released to interested parties as part of the Agency's outreach efforts? On page 32 of the SOR, the Agency states that in regards to UAA factors three and four, "[t]he factual justification for invoking these two factors is explained in the next two sections." *Id.* at 32. Further, the Agency explains that factor five "applies only to aquatic life uses." *Id.* Where in the SOR has the Agency considered UAA factor six regarding economic and social impact and provided "factual justification" for invoking factor six? Has the Agency determined the economic and social impact of the proposed standards on affected facilities and on the region?

4. The Agency cites to the United Sates Environmental Protection Agency's ("USEPA") Interim Economic Guidance for Water Quality Standards, Workbook, Appendix M as guidance on which States rely when evaluating UAA factor six. *SOR* at 6; *see also* SOR Attachment C. Did the Agency rely on Appendix M to evaluate the social and economic impact of the proposed rule? If so, please explain the extent of the Agency's reliance on Appendix M. If the Agency relied on Appendix M, how did such reliance impact the development of the proposed regulations? Did the Agency draft any report, summary, etc. documenting its conclusions regarding the social and economic impact of the proposed rule?

5. In the Agency's description of the regulatory history of prior rulemakings establishing water quality standards for the Chicago Area Waterway System ("CAWS") and Lower Des Plaines River ("LDPR"), the Agency discusses arguments that "while an increased temperature standard had perceived benefits such as maintaining the river for year-round navigation and speeding up the degradation of ammonia, there would be no advantage in adopting a General Use designation because the waterway would be incapable of supporting aquatic life anyway and use of the river for recreation up to the Interstate-55 bridge was nonexistent due to industrialization." *SOR* at 10. If an increased temperature standard increases the degradation of ammonia, a lower temperature standard as the Agency proposes will decrease the speed of the degradation of ammonia, thus increasing the amount of ammonia in the CAWS and LDPR. Has the Agency considered the impact that increased ammonia concentrations will have on the environment? What

is the cost to dischargers to account and control for the ammonia increases that will result from the proposed lower temperature standard for the waterways?

6. The Agency explains the history of the thermal demonstrations and adjusted standards for the CAWS and LDPR. *Id.* at 11. According to the Agency, which cites Board orders from prior rulemakings, the Board required Commonwealth Edison to make a thermal demonstration, and subsequently, the Board approved the demonstration and issued a variance from the General Use standard applicable at the I-55 bridge for Commonwealth Edison's facilities. *Id.* at 13. Based on that demonstration, the Board granted an adjusted standard to all five of Commonwealth Edison's facilities on the CAWS and LDPR. *Id.* What factors or circumstances have changed between the time the Board granted an adjusted standard for the CAWS and LDPR to Commonwealth Edison and now? Can dischargers rely on the same scientific basis and demonstration as Commonwealth Edison to obtain an adjusted standard from these rules from the Board? Has the Agency recently considered or evaluated the thermal demonstration submitted by Commonwealth Edison and determined that the scientific basis for the adjusted standard provided to the Agency and Board is no longer applicable? If so, what is the Agency's basis for such a determination?

7. The Agency states that when the CAWS and LDPR were designated as secondary contact, the waters had certain characteristics including flow reversal projects, low velocity, and stagnant flow condition. *Id.* at 19-20. Does the Agency believe that such conditions have changed, particularly the conditions of the CSSC? Further, how can dischargers comply with the proposed standards if such conditions are characteristic of

the CSSC and hinder the CSSC's ability to attain the water quality standards?

8. In regards to the CAWS UAA study, the Agency reiterates several of the UAA's management options that would need to be implemented before all of the CAWS could achieve the recommended attainable uses, which options consider activities at the Metropolitan Water Reclamation District of Greater Chicago ("District") and Midwest Generation's facilities. *SOR* at 95-96. Did the Agency consider any management options that may be available to other dischargers along the CAWS? If so, did such consideration include the costs to dischargers to implement the management options? What were the Agency's conclusions regarding management options for dischargers other than the District and Midwest Generation?

9. The Agency provides a short section in its SOR on the technical feasibility of the proposed rulemaking. *Id.* at 97-99. The Agency concludes its brief technical justification by explaining that Midwest Generation is conducting a study regarding how to provide cooling for its facilities where there is limited land to install cooling capacity. *Id*. at 99. The Agency states that if Midwest Generation concludes that it "is technically infeasible (or economically unreasonable) to install additional cooling capacity at these facilities, Section 316 of the CWA allows Midwest Generation to petition for relief from these requirements." *Id.* Is the Agency supporting a possible future petition by Midwest Generation in advance of such a petition being filed? How would Midwest Generation receiving regulatory relief from the proposed new thermal requirements affect dischargers downstream from Midwest Generation? What technology is considered technically feasible by the Agency to meet the proposed new thermal requirements? Did

the Agency evaluate the types of technology and costs of installation, operation, and maintenance of such technologies that may be necessary for dischargers to install in order to comply with the proposed regulations?

10. The Agency discusses the cost of the proposed rulemaking to Midwest Generation and the District. *Id.* at 99-101. Did the Agency consider any data regarding the cost of the proposed rulemaking to the dozens of other facilities that discharge to these waterways and are affected by the rulemaking?

11. The Agency states that other than the standards for dissolved oxygen and temperature, it is not aware of any other water quality standards that would require dischargers to upgrade technologies to comply with the proposed standards. *Id.* at 101. As stated in the SOR, the Agency knows that the chloride standard will be violated in the receiving waters. *SOR* at 76. Did the Agency consider whether dischargers will have to alter their discharges in order to comply with the proposed chloride standard, which may entail installing technology to lower the chloride levels in their discharges?

12. The Agency also states that it "is not aware of any facilities other than those discussed above [Midwest Generation and the District] that will be required to install upgrades to achieve compliance with this proposal . . . ." *Id.* at 101. The Agency's list of potentially affected facilities includes several major dischargers in addition to the District and Midwest Generation. *See SOR* Attachment TT. Did the Agency review any information that considers whether other facilities along the CAWS and LDPR will need to install cooling towers, where none currently exist, or install other technology in order to comply with the proposed rule?

II. QUESTIONS RELATED TO CHLORIDES

13. If the proposed rule were adopted as currently drafted, with current discharges, would the CSSC attain the chloride standard at all locations and at all times? On what do you base your conclusion? If no, please list all areas of the CSSC that would not attain the proposed chloride standard.

14. How much time is provided for companies to comply with the proposed chloride standard once the rules are adopted and become effective?

15. How will the CSSC's attainment with the chloride standard be determined?

16. How many tests must be conducted to determine noncompliance of the CSSC with the chloride standard?

17. If a party other than a government entity or discharger conducts chloride testing on the CSSC and submits data to the Agency that demonstrates that the CSSC does not meet the chloride standard, what actions, if any, would the Agency take in response to such a demonstration?

18. If testing determines that the CSSC is not in compliance with the chloride standard, will segments of the CSSC be designated as noncompliant? How will the Agency determine the boundary of such segments? What does a designation of noncompliance mean in terms of the chloride standard that a discharger must meet?

19. Under what circumstances will mixing zones be allowed if the CSSC does not attain the chloride standard?

20. If the CSSC does not attain the chloride standard, how is the intake and subsequent discharge of non-contact cooling water that contains chlorides in excess of the standard regulated?

21. If the CSSC does not attain the chloride standard, and if chlorides drawn in with non-contact cooling water are concentrated due to the use of a cooling tower, how is the increase in chlorides in the discharge regulated?

- Is a mixing zone allowed in this circumstance?
- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the chloride standard under this circumstance? If so, what are those technologies?
- Is the Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these technologies been successfully applied?
- At what cost to construct, install, operate, and maintain such technologies?
- Has the Agency considered how much energy these technologies consume? If so, how much energy will be used to operate these technologies?
- How much CO2 is emitted due to the increased energy consumption?

22. If the CSSC does attain the chloride criteria, and if chlorides drawn in with non-contact cooling water are concentrated due to the use of a cooling tower, and the discharge does not comply at the edge of the mixing zone at all times, how is the discharge regulated?

- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the chloride standard in this circumstance? If so, what are those technologies?
- Is the Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these technologies been successfully applied?
- At what cost to construct, install, operate, and maintain such technologies?
- Has the Agency considered how much energy these technologies consume? If so, how much energy will be used to operate these technologies?
- How much CO2 is emitted due to the increased energy consumption?

23. How is the critical use of chlorine compounds, which are used for cooling system disinfection and zebra mussel control, regulated under the proposed chloride limits? Does the rule consider these compounds to be chlorides? Has the Agency studied the chemistry of these compounds to determine if a conversion to chlorides occurs in connection with the use of these compounds in cooling water? Does the test method for chlorides correctly distinguish between these compounds?

24. Many NPDES permits require dehalogenation prior to discharge. Has the Agency studied the chemistry of dehalogenation?

- Does dehalogenation create chloride compounds?
- Does the test method required when dehalogenation is used correctly detect these compounds?
- If the CSSC does not attain the chloride standard will the use of dehalogenation that leads to the formation of chloride compounds be restricted? If not, how will the discharge of any chloride compounds generated by this process be affected or regulated?
- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the chloride standard in this circumstance? If so, what are those technologies?
- Is the Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these technologies been successfully applied?
- What is the cost to construct, install, operate, and maintain such technologies to address chloride that might result from dehalogenation?
- Has the Agency considered how much energy technologies to address chloride that might result from dehalogenation consume? If so, how much energy will be used to operate these technologies?
- How much CO2 is emitted due to the increased energy consumption of these technologies?

25. Illinois EPA admits that "there will be violations of the chloride standard during winter months when road salting takes place to address winter weather events and safety to motorists." *SOR* at 76. In addition, the Agency states that it will continue to work with "state and local government entities to mitigate the potential harm to

aquatic life from these practices." *Id.* at 77. How does the Agency intend to work with dischargers to address this problem? Will the Agency allow for mixing zones to comply with the chloride standard even where the receiving water may not meet the standard due to the road salt runoff?

26. Has the Agency considered how dischargers will comply with the sulfate standard where the receiving water is in violation of the chloride standard? If so, what were the Agency's conclusions?

III. QUESTIONS RELATED TO DISSOLVED OXYGEN

27. If the proposed rule were adopted as currently drafted, with current discharges, would the CSSC attain the dissolved oxygen ("DO") standard at all locations and at all times? On what do you base your conclusion? If no, please list all areas of the CSSC that would not attain the proposed DO standard.

28. How much time is provided for companies to comply with the proposed DO standard?

29. How will the CSSC's attainment with the DO standard be determined?

30. How many tests must be conducted to determine noncompliance of the CSSC with the DO standard?

31. If a party other than a government entity or discharger conducts DO testing on the CSSC and submits data to the Agency that demonstrates that the CSSC does not meet the DO standard, what actions, if any, would the Agency take in response to such a demonstration?

32. If testing determines that the CSSC is not in compliance with the DO standard, will segments of the CSSC be designated as noncompliant? How will the Agency determine the boundary of such segments? What does a designation of noncompliance mean in terms of the DO standard that a discharger must meet?

33. Did the Agency consider the influence of natural weather events on the CSSC in developing the proposed DO standard? If so, how were such considerations taken into account?

34. As the Agency notes in its SOR, to manage flood events, human manipulation of the CSSC results in periods of little flow as the level of the CSSC is unnaturally manipulated to reduce volume in anticipation of a storm event. *SOR* at 18. This may lead to depletion of DO due to low flow and stagnation. How does the proposed rule address this potential noncomplying condition?

35. If a combined sewer overflow or other weather event causes or contributes to a condition of noncompliance with the DO standard, what steps does the Agency plan to take to remedy this situation?

36. Under what circumstances will mixing zones be allowed if the CSSC does <u>not attain</u> the DO standard?

37. If the CSSC does <u>not attain</u> the DO standard, how is the intake and subsequent discharge of non-contact cooling water that contains DO below the standard regulated?

38. If the CSSC does not attain the DO standard, and if the DO in cooling water is reduced due to the operation of the cooling system, how is the decreased DO in the discharge regulated?

- Is a mixing zone allowed in this circumstance?
- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the DO standard? If so, what are those technologies?
- Is the Agency aware of the successful implementation such technologies to solve this problem? If so, where have these technologies been successfully applied?
- At what cost to construct, install, operate, and maintain such technologies?
- Has the Agency considered how much energy these technologies consume? If so, how much energy will be used to operate these technologies?
- How much CO2 is emitted due to the increased energy consumption?

39. If the water body does attain the dissolved oxygen criteria and if waters drawn in have reduced DO due to the use of cooling systems, and the discharge does not comply at the edge of the mixing zone at all times, how is the discharge regulated?

- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the DO standard? If so, what are those technologies?
- Is the Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these

technologies been successfully applied?

- At what cost to construct, install, operate, and maintain such technologies?

- Has the Agency considered how much energy these technologies consume? If so, how much energy will be used to operate these technologies?

- How much CO2 is emitted due to the increased energy consumption?

40. Can critical water treatment compounds, which are used for cooling system disinfection and zebra mussel control, and dehalogenation systems, reduce the oxygen content of the water?

- Has the Agency studied this water chemistry?

- Does the Agency know how many users of cooling water would be affected in this circumstance?

- Does the Agency have an understanding of the technologies available to comply with the DO standard in this circumstance? If so, what are those technologies?

- Is the Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these technologies been successfully applied?

- What is the cost to construct, install, operate, and maintain such technologies to address the decreased DO concentrations resulting from the use of water treatment compounds and dehalogenation?

- Has the Agency considered how much energy technologies to address decreased DO concentrations resulting from the use of water treatment compounds and dehalogenation consume? If so, how much energy will be used to operate these technologies?

- How much CO2 is emitted due to the increased energy consumption of these technologies?

41. Is it permissible under the proposed rule to aerate water as it is discharged in order to increase the DO concentration in the receiving water?

IV. QUESTIONS RELATED TO TEMPERATURE

42. If the proposed rule were adopted as currently drafted, with current discharges, would the CSSC attain the thermal standard at all locations and at all times? If no, please list all areas of the CSSC that would not attain the proposed thermal standard.

43. How much time is provided for companies to comply with the proposed thermal standard once the rules are adopted and become effective?

44. How will the CSSC's attainment with the thermal standard be determined?

45. How many tests must be conducted to determine noncompliance of the CSSC with the thermal standard?

46. If a party other than a government entity or discharger conducts thermal testing on the CSSC and submits data to the Agency that demonstrates that the CSSC does not meet the thermal standard, what actions, if any, would the Agency take in response to such a demonstration?

47. If testing determines that the CSSC is not in compliance with the thermal standard, will segments of the CSSC be designated as noncompliant? How will the Agency determine the boundary of such segments? What does a designation of noncompliance mean in terms of the thermal standard that the discharger must meet?

48. Did the Agency consider the influence of the weather in developing the proposed thermal standard? If so, how were such considerations taken into account?

49. Under what circumstances will mixing zones be allowed if the CSSC does not attain the thermal standard?

50. If the water body does not attain the thermal standard, how is the intake of water that is above the standard and subsequently discharged above the thermal standard regulated?

51. If the water body does not attain the thermal criteria and if water is drawn in below the standard limit but is then raised above the standard at the point of discharge, how is the increase in temperature of the discharge regulated?

- Is a mixing zone allowed in this circumstance?
- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the thermal standard in this circumstance? If so, what are those technologies?
- Is the Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these technologies been successfully applied?
- At what cost to construct, install, operate, and maintain such technologies?
- Has the Agency considered how much energy these technologies consume? If so, how much energy will be used to operate these technologies?
- How much CO2 is emitted due to the increased energy consumption?

52. If the water body does attain the thermal criteria and if the discharge does not comply at the end of the mixing zone at all times, how is the discharge regulated?

- Does the Agency know how many users of cooling water would be affected in this circumstance?
- Does the Agency have an understanding of the technologies available to comply with the thermal standard in this circumstance? If so, what are those technologies?
- Is that Agency aware of the successful implementation of such technologies to solve this problem? If so, where have these technologies been successfully applied?
- At what cost to construct, install, operate, and maintain such technologies?
- Has the Agency considered how much energy these technologies consume? If so, how much energy will be used to operate these technologies?
- How much CO2 is emitted due to the increased energy consumption?

53. In regards to the proposed thermal standard, the Agency states that it used the "75th percentile as the monthly average to ensure seasonal norms are preserved in the system." *SOR* at 83. It is our understanding that using the 75th percentile as the average means that during the other 25% of the time, the water downstream of the District's discharge is noncompliant with the proposed standard. Is the Agency approving a standard that allows for water downstream of the District's discharge to be out of compliance with the proposed thermal standard 25% of the time? How are dischargers

downstream of the District supposed to account for a receiving water that violates the water quality standard 25% of the time? Why would the Agency permit noncompliance at such a high rate?

54. The Agency states that the "proposed thermal quality standards are more stringent than the current Adjusted Water Quality Standards at Interstate-55 for all of the months, especially considering the period average." *Id.* at 86. What is the Agency's justification for proposing a standard more stringent than the adjusted standard that the Board granted based, presumably, on good science and a reliable thermal demonstration?

V. QUESTIONS RELATED TO COOLING TOWERS

Cooling towers are commonly used to reduce temperature of water and would likely be the primary technology used to achieve compliance with the proposed standards. The following questions relate to the anticipated need to construct and operate cooling towers to met the proposed thermal standard.

55. The CAWS UAA notes that the water in the CSSC is composed mainly of effluent from the District's Stickney plant and upstream flow from the Chicago River System. *SOR* Attachment B at 4-70. This portion of the CSSC is also subject to human manipulation that impacts flow, CSO events and other artificial effects that can impart odorous properties to the water. Corn Products is concerned that use of water from the CSSC in a cooling tower may release odors. If the use of CSSC water in a cooling tower releases odors, how will the Agency address any odor complaints that might result?

- If such complaints were to occur, will the discharger be able to continue to use its cooling tower?
- What remedies are available to address the sources, i.e. the CSSC

water, of these odors?

- What is the estimated cost of such remedies?

56. Since odors may result from VOCs or HAPs, how will emissions from a cooling tower be handled? Since the presence of VOCs and/or HAPs is variable depending on their presence in the intake water, how can emissions be quantified for air permitting purposes? What is the penalty for failure to quantify, permit, and report such emissions?

57. Since the region is nonattainment for PM2.5, will the Agency permit the construction of cooling towers which increase emissions of PM2.5?

- How long will this permitting take the Agency if it requires a state construction permit?
- If a cooling tower is subject to PSD, how long will permitting take?
- How long will construction take?
- If the permit is appealed, how will the Agency address the permitee's inability to comply with the thermal standard during the pendency of the appeal process?
- What is the total PM2.5 that would be emitted from cooling towers used to comply with the proposed rule?
- How will this affect the region's current nonattainment status?
- If offsets are not available, what means are available to obtain permits?

58. The operation of cooling towers consumes large amounts of energy. Has the Agency considered the total energy that will be used by dischargers to operate cooling towers? If so, what is the Agency's estimate of the amount of energy to be consumed by the operation of cooling towers?

59. What quantity of CO2 emissions and emissions of other pollutants will result from the use of cooling towers?

60. Cooling towers must be cleaned from time to time. What is the nature of the sediment that will be present in a cooling tower? Will the sediment be considered hazardous waste? Special waste? What is the cost to a discharger in terms of complying with the hazardous waste or special waste regulations in order to manage the cooling tower sediment? Did the Agency consider the impact of the proposed rules in terms of the creation of additional hazardous waste or special waste due to the construction and operation of cooling towers?

61. How will new and additional chemicals which must be added to the intake water for the proper operation of the cooling tower be addressed? Understanding that these are regulated by the discharger's NPDES permit, how long will it take to obtain a revised NPDES permit from the Agency? If such permit is appealed, will the discharger be able to operate the cooling tower during the pendency of the appeal?

62. How will the increased concentration of existing pollutants in the discharge (as a result of the cooling tower process) be governed under the NPDES permit? How long will it take to obtain a revised NPDES permit from the Agency for the increased concentrations of existing pollutants in the discharge? If such permit is

appealed, will the discharger be able to operate the cooling tower during the pendency of the appeal?

63. Will the District accept cooling tower blow down?

64. New sewer connections require engineering and District and Agency approval prior to and upon completion. Has the timing of such a process been considered by the Agency? At what cost to construct, operate, and maintain the sewer connections? What is the impact on the District of receiving this additional flow returned from the CSSC?

65. Has the Agency evaluated unintended consequences of this proposal? For example, has the Agency considered the increased use of Lake Michigan water to dilute and cool the water bodies as a measure of compliance? Has the Agency considered the use of groundwater for cooling purposes? If so, what were the Agency's conclusions?

66. On page 5 of the SOR, the Agency lists the six minimum requirements for state water quality standards as described by 40 C.F.R. § 131.6. *SOR* at 5. The fourth requirement is an "antidegradation policy consistent with § 131.12." *Id.* If the construction of cooling towers does become necessary to comply with the proposed regulations, did the Agency consider that the water discharged from the cooling towers will contain concentrations of the constituents present in the intake water in higher concentrations as a result of running the water through the cooling tower? Would higher concentrations of constituents in discharge water degrade the receiving body and trigger an anti-degradation analysis? Did the Agency evaluate the possibility that the proposed rules would lead to anti-degradation analyses due to the construction of cooling towers?

Further, there may be new chemicals added to the discharge by the nature of running the water through the cooling tower. Did the Agency consider whether such activities would trigger anti-degradation analysis? Has the Agency evaluated the cost associated with such analyses in terms of resources expended by the discharger and the resources that the Agency will utilize to review anti-degradation submissions?

67. The Agency recognizes that the "existing history of sediment pollution in the CAWS and LDPR will make this [Section 302.403 – Unnatural Sludge] standard nearly impossible to attain." *SOR* at 55. Has the Agency considered whether the construction of cooling towers, which may be necessary to comply with the proposed standards, will aggravate the unnatural sludge problem in the CAWS and LDPR?

V. CONCLUSION

This concludes Corn Products' questions for the Agency. Corn Products thanks the Board for the opportunity to present these questions today.

* * *

Corn Products reserves the right to supplement or modify these pre-filed questions.

Respectfully submitted,

CORN PRODUCTS
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By: /s/ Katherine D. Hodge
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