BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	R 2020-019
STANDARDS FOR THE DISPOSAL	)	
OF COAL COMBUSTION RESIDUALS	)	(Rulemaking - Water)
IN SURFACE IMPOUNDMENTS:	)	
PROPOSED NEW 35 ILL. ADM.	)	
CODE 845	)	

NOTICE OF FILING

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board a **NOTICE OF FILING** and **ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PRE-FILED QUESTIONS**, a copy of which is herewith served upon you.

Respectfully submitted,

Dated: September 10, 2020

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,

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Petitioner,

BY: /s/ Christine Zeivel
Christine Zeivel

THIS FILING IS SUBMITTED ELECTRONICALLY

SERVICE LIST

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	R 2020-019
STANDARDS FOR THE DISPOSAL	)	
OF COAL COMBUSTION RESIDUALS	)	(Rulemaking - Land)
IN SURFACE IMPOUNDMENTS:	)	
PROPOSED NEW 35 ILL. ADM.	)	
CODE 845	)	

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PRE-FILED QUESTIONS

NOW COMES the Illinois Environmental Protection Agency (Illinois EPA or Agency), by and through one if its attorneys, and submits pre-filed questions for the following witnesses:

I. Environmental Law and Policy Center, et al.

- Andrew Rehn
- Mark Hutson
- Scott Payne and Ian Magruder

II. Ameren

- Gary King

III. Midwest Generation

- David Nielson
- Sharene Shealey
- Richard Gnat

IV. Dynegy

- Cynthia Vodopivec
- Lisa Bradley
- Melinda Hahn
- David Hagen
- Andrew Bittmer
- Mark Rokoff
- Rudolph Bonaparte

Illinois EPA requests that the Hearing Officer allow follow-up questioning to be posed based on the answers provided.

I. ENVIRONMENTAL LAW AND POLICY CENTER, ET AL.

Questions for Andrew Rehn

1. On page 8 of your testimony, you suggest that Part 845 should close what you call "knowledge gaps" and "allow the public to see a clear inventory of coal ash in Illinois."
   a. How would you suggest that the Agency identify unknown surface impoundments for inventory?
   b. Are you aware of the Agency's online, publicly accessible GIS mapping tool that shows the Agency's inventory of SIs in the State of Illinois?
2. On page 10 of your testimony, you suggest that Part 845 should require industry to consider rail and barge as options when evaluating closure by removal.
   a. Does Part 845 as proposed preclude transport of CCR by train or barge or limit transport of CCR to trucks?
   b. How do you propose that CCR be transported to a train or barge from the SI?
   c. What facilities or equipment would be necessary to load and unload a train car or barge?
   d. What additional permits will be needed to stage CCR between immediate removal from SI to eventual loading of a train car or barge?
   e. Would an additional permit process (such as for transfer stations) delay the already long-term nature of a removal process?
   f. Would an accident with a train car be more difficult to clean up than a traffic accident due to the potential location and road access limitations?
   g. Would an accident with a barge full of CCR be difficult and nearly impossible to clean up on one of our major rivers?
   h. How will transportation by barge change during seasons of flood or drought?
   i. Are there landfills near railways and riverways that are permitted and willing to accept large amounts of CCR?
   j. Would transport by rail or barge require another transfer station (& requisite permits) or staging area after its trip on the railway or river?
   k. How do you propose that CCR be transported from the train or river to the receiving disposal facility?

l. Would the additional handling of CCR between truck to rail or barge and from rail or barge to truck to receiving facility increase the potential for accidents and exposure to dust and other hazards?

m. Would the additional handling of CCR between modes of transportation increase the locational exposure and potential accidents?

3. Based on Page 11 of your testimony, you appear to be familiar with 35 Ill. Adm. Code Part 840 and its supporting documents, is that correct?

4. Are you aware that the CCR surface impoundment subject to Part 840 has saturated CCR at the base of the unit?

5. Are you aware that documents submitted as part of the Part 840 rulemaking indicate that approximately a third of the CCR volume is at least periodically below the water table?

6. Are you aware that the CCR surface impoundment subject to Part 840 is located within the National Flood Hazard Layer created by FEMA, and is as close as 100 feet from the edge of the Wabash River?

7. Are you aware that the Board found that the closure and post-closure care plans in conjunction with the groundwater corrective action required by Part 840 is protective of human health and the environment?

Questions for Mark Hutson

1. On Page 9 of your testimony you suggest that Part 845 should be amended so as to protect groundwater in general and not just aquifers. You propose changing the definition from "uppermost aquifer" to "uppermost zone of saturation."

   a. Does Part 845.630(a)(1) and (2) require the installation of groundwater monitoring wells that will accurately reflect groundwater quality that has not been impacted by a CCR landfill or CCR surface impoundment and also to reflect the quality of groundwater passing the waste boundary of a CCR surface impoundment, respectively?

   b. Does either 845.630(a)(1) or (2) mention aquifers, or is the term "groundwater quality" used?

   c. Does the definition of Groundwater in Part 845.120 include water below the land surface in a *zone of saturation*?

   d. Wouldn't that include what you might be proposing as the uppermost zone of saturation?

2. Also, on Page 9 of your testimony, you propose that closure with a final cover system should only be permitted if the owner demonstrates that there will be no intermittent, recurring, or sustained hydraulic connection between CCR and groundwater following closure.

a. Do the location restrictions listed in Part 845.300 require closure under Part 845.700 when they are not met?

b. Does the requirement for closure under 845.700(c) include the requirement for closure alternative analysis of 845.710?

c. Do the requirements of closure alternatives in 845.710 determine whether the closure will be by removal or with final cover?

d. If the closure alternatives in Part 845.710 already govern the inevitable closure procedure, whether removal or final cover, does that already take into account the location restrictions listed in 845.300 which include Placement Above the Uppermost Aquifer by way of Part 845.700(a) and 845.700(c)?

3. For Section 845.220(b)(1), you suggest no new CCR surface impoundments should be allowed in the area of inundation.

a. Can engineering be used to protect structures in floodplains from the impacts of flooding?

b. Do solid waste landfills exist in flood plains?

c. Can new solid waste landfills be constructed in floodplains?

d. Can CCR be disposed in solid waste landfills, even those located in floodplains?

4. For Section 845.630(a), you suggest a CCR surface impoundment elevation monitoring system. Please describe more fully what type of system you're envisioning to measure CCR surface impoundment water elevation?

5. For Section 845.630(a)(1), you suggest that Part 845 needs background not impacted by any site operations or CCR-related activity.

a. Does Section 22.59 of the Act require the Agency to propose, and the Board adopt, rules regulating CCR surface impoundments?

b. Does Part 845 as proposed regulate CCR surface impoundments?

c. Does Part 845 contain provisions for closure and corrective action at CCR surface impoundments?

6. For Section 845.640(g)(1), you suggest a specific prohibition for intra-well statistical methods except for new CCR surface impoundments. Does Part 845 include a provision which specifies intra-well statistical methods can be used for existing and inactive CCR surface impoundments?

7. For Section 845.600(a)(1), you suggest including Iron, Manganese and Vanadium in the list

of GWPS.

a. Are you aware that USEPA included Iron, Manganese and Vanadium in their analysis of potential contaminants of concern for Part 257?

b. Are you aware that USEPA did not include Iron, Manganese and Vanadium in either Appendix III or Appendix IV of Part 257?

c. Are you aware that Iron and Manganese are sensitive to oxidation and reduction conditions in groundwater?

d. Can a number of anthropogenic activities impact oxidation and reduction conditions in groundwater?

e. Are you aware that Part 620 has GWQS for Iron, Manganese and Vanadium?

f. Are you aware that the Agency has testified that Part 620 is applicable to any constituent at CCR surface impoundments, which does not have a Part 845 GWPS, and that once all of the requirements of Part 845 have been met, all of the Part 620 GWQS will be applicable?

8. For Section 845.610, you suggest quarterly data—chemical and water level—be displayed and put into machine readable tables. How do you envision data security will be maintained with machine readable tables?

9. For Section 845.650(d)(1)(a), you suggest much greater detail.

a. Does 845.650(d)(1)(A) already require the installation of additional monitoring wells to define the contaminant plume?

b. Isn't it likely that characterizing the nature and extent of a release require the installation of multiple monitoring wells within and beyond the plume?

10. For Section 845.650(d)(1)(a), you suggest specific requirements regarding plume movement.

a. Does Part 845.640(c) require owners and operators to determine the rate and direction of groundwater flow after each monitoring event?

b. To the best of your knowledge, do any of the constituents listed in Part 845.600(a)(1) typically migrate faster than the flow of groundwater?

11. For Section 845.650(d)(4), you suggest that the alternative source demonstration to be part of a permit instead of an Agency review.

a. Have you given any consideration to the amount of time the permit process would take relative to the required Agency review?

b. Couldn't the permit process unnecessarily delay corrective action?

12. For Section 845.750(c)(1), you suggest that any alternative cover has to be protected from human and environmental damage and that it last as long as the standard cover.

a. Section 845.750(c)(1) requires that an alternative cover use "…low permeability layer construction technique or material provides equivalent or superior performance…" Would you agree that one aspect of performance is the effective life-span of a technique or material?

b. Please describe and provide examples of the protection from environmental and human damage you are referring to in the proposed language for Part 845.750(c)(1).

c. Would restricting access to the CCR impoundment provide the needed protection?

13. On page 20, you testify about monitored natural attenuation.

a. Could you further describe and provide examples of the attenuation mechanisms that remove contaminants from groundwater?

b. Could you further describe and provide examples of the types of demonstrations you suggest be required so that the rate of movement of the leading edge of any contaminant plumes are reliably identified?

14. For Section 845.220(c)(2), you suggest a requirement that the closure plan and corrective action plan require achievement applicable groundwater standards. Do Sections 845.220(c)(2) and 845.220(d)(3) require that groundwater modeling show that corrective action and closure, respectively, will achieve applicable groundwater standards?

15. On pages 20 and 21 of your testimony, you suggest that models used by owners and operators to model system performance include "evaluations of how declining closure system performance (such as estimated cap deterioration) will affect compliance" with the GWPS.

a. Have you been involved at sites where modeling has been done to evaluate post-closure deterioration of the final cover into the future?

i. If so, where? If there are multiple, please provide a list of the sites.

ii. If not, are you aware of sites where this has been done? What sites?

A. Are these for research or for implementation of choosing a closure or corrective action plan?

B. What were the results of these studies?

C. Were these sites maintained? If so, for how long?

b. Are you aware for how long landfill final covers are to be maintained? If so, for how long?

c. Do landfills commonly have their final covers modeled post-closure? If so, for how long?

d. Are landfill final covers modeled into the future with assumed deterioration?

16. On page 21 of your testimony, you criticize Part 845 for allowing additional CCR to be placed in a surface impoundment for the purposes of grading and contouring the final cover system.

a. If you consolidate multiple areas or impoundments at a site in proximity to one another, could the consolidation into one impoundment reduce the areal size of the plume?

b. If so, is reducing the areal size of a contaminant plume a desired outcome for a corrective action?

Questions for Scott Payne and Ian Magruder

1. On page 6 of your testimony, you state that the HELP model is not meant to be applied when groundwater is in contact with the bottom of the CCR unit.

a. What model would you use instead of HELP where groundwater is in contact with the bottom of the surface impoundment? Is there another model available? How would you model this?

b. Isn't it true that you can change the designation of the layer at the bottom of the model in a HELP model from a vertical drainage layer?

2. Regarding page 9 of your testimony, are there exceptions to your statement that all groundwater elevation data available at a site should be used as calibration data?

a. If so, what? Are there ever times where you would not include all available site-specific data for groundwater elevation data for calibration?

b. Do you look at the age or construction of the well?

3. Have you experienced issues with the accuracy of groundwater elevation data that may be available for a particular site, such as:

a. Long periods of missing groundwater elevation data?

b. Wells that have been abandoned?

c. Wells that have been added?

d. Wells with inaccurate location data, or missing well log data?

4. On Page 13 of your testimony, you state that CCR should be sampled by installing piezometers in saturated impoundments.

   a. Are there practical or technical complexities associated with installing piezometers within a surface impoundment?

   b. If so, please describe.

5. On page 16, you testify that not using attenuation is not as conservative for the outcome of the model.

   a. When you say conservative, do you mean the results using attenuation will be higher concentrations?

   b. If not, but results show cleanup may take longer, is not using attenuation conservative in a different way as it results in higher concentrations?

6. You suggest that daily water levels should be required in at least one well upgradient, down-gradient and within the impoundment.

   a. Is this common? Have you required this at all sites you have worked on?

   b. Does MODFLOW allow for daily fluctuations in river elevations in input? If so, how would that be done?

   c. You have stated that models need to be calibrated to all groundwater data available.

      i. Is it possible to calibrate to daily groundwater elevation data available in a transient model over weeks? Months? Years? Decades?

      ii. How do you input and include daily water levels into a MODFLOW model, for calibrating to the groundwater elevation of a well? Have you done this?

7. You suggest that Part 845 should require site specific data to be used when modeling groundwater.

   a. How would you handle the model boundary or other data for the model that is potentially located off-site?

   b. Are there limitations on obtaining site specific data if, for instance, boundary conditions are two miles off-site?

   c. How would you obtain the data?

      i. How would you obtain the data for the model if you don’t have access to the neighboring property?

ii. Would you potentially be limited to publicly available data?

8. You recommend a number of additions to the hydrogeologic site characterization requirements in Section 845.620.

   a. To what extent are the hydraulic characteristics on each geologic layer, each soil and each fill layer needed.?

      i. Will contaminants from an impoundment flow through the soil layers at the site?

      ii. Is there professional judgment involved to identify where this data is necessary?

   b. To what extent is the modeled or measured CCR impoundment percolation rates needed to properly close each CCR surface impoundment?

      i. Is there professional judgment involved which can be utilized to identify when this data is necessary?

   c. To what extent is the measurement of CCR separation from groundwater, including daily groundwater elevation measurements and evaluation of separation due to seasonal variation needed to properly close a CCR surface impoundment?

      i. Is there professional judgment involved which can be utilized to identify when this data is necessary?

II. AMEREN

Questions for Gary King

1. On Page 7 of your testimony you state that Hutsonville Ash Pond D was closed pursuant to the Board's Part 840.

   a. Is a CCR surface impoundment closed in place, similar to a landfill, in that they are both final disposal sites?

   b. Are the requirements of Sections 845.750(c) similar to the requirements of Section 811.314(a), (b) and (c)?

   c. Are the requirements of Section 845.750(c)(B)(i) and (ii) the same as Section 840.126(a)(1) and (2)?

   d. Are the requirements of Section 845.750(c)(2)(A) through (E) the same as Section 840.126(b)(1) through (5)?

2. You propose that Section 845.100 include new subsections (i), (j), and (k).

a. Does Section 3.143 of the Act include a time limit during which a CCR surface impoundment must be designed in order to meet the definition?

b. In Section 22.59(m) of the Act, the phrase "without limitation" is used. What do you believe the meaning of this phrase is?

c. Doesn't Section 22.59(m) of the Act divide CCR surface impoundments into two categories, "existing" and "any CCR surface impoundment constructed after the effective date" of Section 22.59 of the Act?

d. Did the legislature provide a definition for "existing CCR surface impoundment" as used in Section 22.59(m) of the Act?

e. Based on your understanding of the Part 845, as proposed, if an owner or operator of a CCR surface impoundment determined that it was in their best economic interest to remove only a portion of the CCR from a CCR surface impoundment, and use a final cover system for closure of the remaining CCR, would the remaining closed in place CCR be subject to post-closure care requirements?

3. You propose the following definition revision to Section 845.120:

"Inactive Closed CCR surface impoundment" means an inactive CCR surface impoundment that completed closure before ~~October 19, 2015~~ the effective date of this Part with an Agency-approved closure plan.

a. Does the Illinois Environmental Protection Act include requirements and prohibitions which must be followed outside of any Board rule?

b. Does Section 22.59(e) of the Act provide a condition applicable only to owners and operators of CCR surface impoundments who complete closure, with an Agency approved closure plan, within 24 months (i.e. July 30, 2021) of the effective date of Section 22.59 of the Act?

c. Would the proposed change to the definition of "Inactive Closed CCR Surface Impoundment" have the effect of potentially making all of those CCR surface impoundments referred to by Section 22.59(e), subject to Section 845.170?

4. You provide testimony about the Meredosia Old Ash Pond.

a. Is it known whether the Old Ash Pond at Meredosia ever impacts groundwater?

b. Has the Old Ash Pond at Meredosia ever contributed to impacts to groundwater?

c. Was the material in the Old Ash Pond at Meredosia transported to the impoundment by pumping it there?

i. If so, was the CCR mixed with water in order to pump it to the CCR impoundment?

ii. In order to contain the mixture of CCR and water, was the Old Ash Pond at Meredosia designed to "hold an accumulation of water and liquids"?

d. For the period of time that the Old Ash Pond at Meredosia was receiving CCR would there have been head on the bottom of the impoundment?

e. Is there potential for the Old Ash Pond at Meredosia to have leaked when it stored CCR?

f. Is the Old Ash Pond at Meredosia currently used to dispose of CCR?

g. Has Ameren obtained site specific data on what the water level is with in the footprint of the Old Ash Pond at Meredosia?

h. Is any of the ash in the impoundment saturated?

i. If so what is the range of saturated thickness within the foot print of the Old Ash Pond at Meredosia?

i. Referring to pages 7 and 8 of Andrew Rehn's testimony for ELPC, Mr. Rehn testifies that the USEPA Risk Assessment identified the Old Ash Pond as a surface impoundment? Do you agree with this statement?

5. You propose deleting Section 845.740(b), which requires owners and operators to continue groundwater monitoring for three years following closure by removal.

a. Does Section 22.59(g)(10) of the Act require that the Agency propose and the Board adopt rules that define when complete removal of CCR is achieved and specify the standards for responsible removal?

b. Assuming contamination has migrated down gradient of a CCR surface impoundment, will removal of CCR result in immediate compliance with applicable groundwater standards in the plume?

c. Can geologic materials be variable over fairly short distances?

d. Can groundwater migrate at different velocities within geologic materials due to the material's variable nature?

e. Can the variability of geologic materials and groundwater flow result in different concentrations of contaminants at various monitoring points?

f. Why should an owner or operator who elects to close a CCR surface impoundment by removal not be required to demonstrate compliance with the applicable groundwater protection standards for a time period that allows for observation of variation in groundwater quality?

6. You propose new Subpart J to require site-specific cost recordkeeping by the Agency. On page 24 of your testimony, you state that "[i]n other programs where the Illinois EPA is entitled to such fees, such as the Site Remediation Program, the Board has provided for similar accountability measures."

    a. Was the fee structure for the CCR surface impoundment program statutorily determined by the legislature in Section 22.59(j) of the Act?

    b. Did the legislature determine that flat fees were appropriate?

    c. Did the legislature require that costs incurred in administering the Agency's statutory and regulatory mandates be documented or recovered from the owner or operator?

    d. Are you aware that under Section 58.7(b)(1) of the Act, the legislature provided that the Agency may recover its reasonable costs incurred and documented while administering the Site Remediation Program?

    e. Does Section 22.59 of the Act authorize the Agency to recover its reasonable and documented costs directly from the owner or operators?

    f. If there is no need for a determination or documentation of what costs are reasonable for purposes of recovery, what statutory mandate would proposed Subpart J fulfill?

    g. Why do you believe the Board has the legal authority to require Illinois EPA to keep a site-specific accounting of the Agency's administration of the CCR surface impoundment program and Part 845?

III. MIDWEST GENERATION

Questions for David Nielson

1. Is it true that in addition to treating wastewater, significant amounts of CCR have been deposited in CCR surface impoundments?

2. How is the CCR and wastewater moved from the generation station to the CCR impoundment?

3. Does Midwest Generation operate CCR landfills?

    a. Could you describe how CCR materials are moved from the generation station to the CCR landfills?

    b. Is transporting CCR to a landfill more labor intensive than moving CCR to a CCR surface impoundment?

    c. Is it cheaper to transport CCR to a surface impoundment compared to transport it to a

landfill?

4. Is it true that Part 814 of the Board's regulations requires that onsite landfills be constructed with low permeability liner, leachate collection and removal system as well as a low permeability final cover?

5. Is it true that landfills in Illinois are required to have a leachate collection system which will limit the amount of leachate in a CCR landfill to less than 30 centimeters?

6. Do you consider the current practice in Illinois of requiring low permeability liner, leachate collection and removal system as well as a low permeability final cover for onsite landfills to be overly protective?

    a. If so, why?

    b. If not, why not?

7. Do you consider the proposed final cover requirements of Part 845 to be overly protective for closure of CCR impoundment which was not constructed with a low permeability liner nor a leachate collection and removal system?

    a. If so, why?

    b. If not, why not?

8. Are you familiar with the Part 257 requirements for placing CCR in a landfill?

    a. Are there leachate collections system requirements in Part 257?

    b. Have there been valid scientific studies which support the practice of limiting head on a landfill liner in order to minimize migration of leachate through the liner of a landfill?

    c. What is the scientific basis of the concept of increased hydraulic head on a CCR liner increasing the risk of contaminant leaching from the disposal of CCR in an impoundment?

    d. Would this scientific basis of limiting head accumulation to reduce the risk of contaminant leaching from the disposal of CCR in an impoundment provide clear evidence that such a minimization of hydraulic head on a CCR impoundment liner would lead to meaningful environmental benefits for the construction of new CCR impoundments?

    e. Is it true that minimization of hydraulic head on a CCR impoundment liner as proposed in Part 845 is a very similar practice to what Part 257 requires for a CCR landfills?

9. Referring to page 18 of Lisa Bradley's testimony on behalf of Dynegy, Dr. Bradley notes that USEPA's risk assessment shows the highest risk associated with CCR surface impoundments is due to hydraulic head.

    a. What is the scientific basis of the concept of hydraulic head being the greatest source of risk of contaminant leaching from the disposal of CCR in an impoundment?

    b. Would this scientific basis of limiting head accumulation to reduce the risk of contaminant leaching from the disposal of CCR in an impoundment provide clear evidence that such a requirement would lead to meaningful environmental benefits for the construction of new CCR impoundments?

10. As a licensed professional engineer who believes that valid scientific studies should be the basis for environmental regulation would you consider there to be merit to reducing the hydraulic head on the liners of both landfills and surface impoundments? If not, why not?

11. On page 9 of your testimony you propose an alternative method of leachate collection which you indicate is at least as protective as the system proposed in Part 845 as follows:

    "For example, a collection system similar to that shown in Figure 2 would provide a proactive means of protecting groundwater since the lower geomembrane liner would impede the flow of any leakage from the primary composite liner and direct the flow to the leachate pumping system. The leachate collection and removal system in this case would effectively act as a leak detection system, which would provide immediate notice to the owner or operator that the surface impoundment's liner is leaking."

    a. Under your alternate method would the hydraulic head on the primary composite liner be reduced or minimized?

    b. For what period of time would there continue to be hydraulic head on the primary composite liner?

12. Is there an advantage to the system proposed in 845 which would enable the hydraulic head on the composite liner to be minimized any time during the operation of the impoundment potentially meeting the operation requirements for the CCR impoundment and allow the CCR impoundment to be minimized at the time of closure.

13. Does reduction of hydraulic head on the composite liner reduce the potential for the migration of contaminants through the composite liner? If not, why?

14. In your testimony regarding Section 845.770, you discuss the potential of decontaminating liners.

    a. Do synthetic liners have holes and imperfections?

b. Could the heavy equipment that is likely to be used for removing CCR damage the liner?

c. Could tears too small to see compromise the integrity of the liner?

d. How do you believe an owner or operator would assure the clay portion of a composite liner was decontaminated, which you agree can become saturated with CCR constituents, without removing the synthetic?

e. Have you ever been involved with or overseen a project where the decontamination of a composite liner in a CCR surface impoundment has been performed? If so, please provide a summary of the site(s), the liners, and the processes used.

f. Have you read or researched about a project where the decontamination of a composite liner in a CCR surface impoundment has been performed? If so, please provide a summary of the site(s), the liners, and the processes used.

g. For what purpose would the allegedly decontaminated liner be reused?

Questions for Sharene Shealey

1. On Page 3 of your testimony you state that Midwest Generation (MWG) stores CCR in surface impoundments only temporarily before removal for off-site beneficial use.

   a. Does MWG have to remove ponded liquids from above the CCR prior to removing the CCR?

   b. Prior to removing CCR does MWG have to remove free liquids from within the CCR?

   c. How is the removal of free liquids within the CCR accomplished?

   d. The Agency acknowledges that the time required would vary based on multiple factors, but based on your experience, what is the time range typically required to pump out ponded liquids and remove free liquids from within the CCR pore space at MWG's fleet of CCR surface impoundments? Please discuss both smaller and larger impoundments.

   e. The Agency acknowledges that the time required would vary based on multiple factors, but based on your experience, what is the time range typically that has been required to remove CCR from the CCR surface impoundments at MWG's fleet of CCR surface impoundments? Please discuss both smaller and larger impoundments.

f. How often is the water removed from each CCR surface impoundment at MWG's fleet of CCR surface impoundments for the purpose of removal of CCR from the impoundments? Please discuss both smaller and larger impoundments.

g. When the free liquids have been removed and excavation has begun, do precipitation events ever occur requiring the removal of additional liquids in order to complete the removal of CCR at the CCR surface impoundments operated by MWG?

h. Does MWG consider the dewatering of CCR surface impoundments, as is its practice at most of its CCR surface impoundments, to be overly burdensome?

i. Does MWG consider the dewatering of CCR surface impoundments, as is its practice at most of its CCR surface impoundments, to be overly protective of groundwater?

2. On Page 3 of your testimony, you state that MWG has lined their CCR surface impoundments with "poz-o-pac" since the late 1970's. According to a US Department of Transportation article https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/97148/020.cfm poz-o-pac was a patented formulation until its patents expired in the early 1970's.

   a. Do you know if the "poz-o-pac" materials used in the impoundments met the patented formula when installed?

   b. Poz-o-pac was used and evaluated as used with road construction projects. Is MWG aware of any studies suggesting poz-o-pac is an appropriate material for lining surface impoundments?

Questions for Richard Gnat

1. On page 20 of your testimony, you state that "the definition and concept of 'free liquids' as only liquid waste has been consistent over time" and "is always used to refer to the characteristic of the waste stream itself."

   a. Wouldn't precipitation water percolating through a landfill or surface impoundment constitute or form leachate?

   b. Wouldn't leachate be considered a free liquid?

   c. Can CCR be removed in a saturated or nearly saturated condition?

   d. Would CCR need to dry out (such as to remove free liquid) before effectively removing it?

2. You testify that 180 days to establish background groundwater quality will not provide representative data.

a. How long does Part 257 allow for new and lateral expansions of CCR surface impoundments to collect background data?

b. Has Part 257 required existing surface impoundments to collect data since approximately 2016?

c. Does Part 845 prohibit the use of existing groundwater data for background calculations?

3. Are you familiar with 35 Ill. Adm. Code Part 620?

   a. Are there numerical GWPS as proposed in Part 845 similar to the numerical GWQS in Part 620?

   b. Does Part 620 contain a set of rules regarding how a corrective action must be completed?

4. Does Part 845 contain both a set of GWPS and a set of rules regarding how a corrective action must be completed?

   a. Won't a specific set of rules governing how corrective action must be completed give owners and operators of CCR surface impoundments regulatory certainty as to the requirements they must meet?

5. You testify that the timeline from detection to initiation of assessment of corrective measures as proposed in Part 845 in not reasonable.
   a. How long after a confirmed exceedance of an Appendix IV GWPS does Part 257 allow for an owner or operator make an alternative source demonstration?

   b. How long after a confirmed exceedance of an Appendix IV GWPS does Part 257 allow for an owner or operator to begin an assessment of corrective measures?

   c. Does USEPA review or provide any evaluation of either the alternative source demonstration or the assessment of corrective measures?

   d. Does Part 845.650(d)(4)(A) require that the Agency provide a written response, which either concurs or does not concur with the alternative source demonstration?

IV. DYNEGY

Questions for Cynthia Vodopivec

1. As the Regional Environmental Health and Safety Manager (EHS Manager), what changes were implemented at the Dynegy CCR surface Impoundments when 29 CFR 1910.1053 was added to the federal register in 2016 in its final version?
2. As the Regional EHS Manager, what is your current policy with respect to fly ash, bottom ash and other CCR materials with respect to Safety Data Sheets?
3. As the Regional EHS Manager, what changes were made to your onsite safety and health plans, emergency action plans, and safety data sheets:
    a. When Part 257 was implemented?
    b. When the WIIN Act was passed into law in 2018?
    c. What changes will be made to your onsite safety and health plans, emergency action plans and safety data sheets when proposed Part 845 is enacted?
4. On page 4 of your testimony, you state that market demand for CCR is dependent on the chemical characteristics of the CCR. What chemical characteristics are analyzed for in CCR? Is it limited to geotechnical parameters? Which ones?
5. You provide testimony about the Joppa West Ash Pond.
    a. Was the material in the Joppa West Ash Pond transported to the impoundment by pumping it there?
    b. Was the CCR mixed with water in order to pump it to the CCR impoundment?
    c. In order to contain the mixture of CCR and water was the Joppa West Ash Pond designed to “hold an accumulation of water and liquids”?
    d. For the period of time that the Joppa West Ash Pond was receiving CCR would there have been head on the bottom of the impoundment?
    e. Is there potential for the Joppa West Ash Pond to have leaked when it stored CCR?
    f. Is the Joppa West Ash Pond currently used to dispose of CCR?
    g. Has Dynegy obtained site specific data on what the water level is with in the footprint of the Joppa West Ash Pond?
    h. Is any of the ash in the impoundment saturated?
        i. If so, what is the range of saturated thickness within the footprint of the Joppa West Ash Pond?

i. Referring to pages 7 and 8 of Andrew Rehn's testimony for ELPC, Mr. Rehn testifies that the USEPA Risk Assessment identified the Old Ash Pond as a surface impoundment? Do you agree with this statement?

6. On page 12 you state Dynegy frequently uses software from EPRI.

   a. Does Dynegy use groundwater modeling software from EPRI?

   b. If so, what is the name of the software?

   c. Is this software based upon USGS's MODFLOW?

7. On page 12 you state Dynegy also uses consultants that use their own proprietary software.

   a. Is this groundwater modeling software?

   b. If so, what is the name of the software?

   c. Is this software based upon USGS's MODFLOW?

8. On page 12 you testify that owners/operators may not be able to comply with the requirement to provide the Agency necessary software and licenses.

   a. Are you aware the Agency's Bureau of Land already has a requirement that licenses for groundwater modeling software be supplied for evaluating groundwater flow models?

   b. Do you not believe that it would make it easier to evaluate groundwater modeling results if the groundwater model itself could be examined? For instance, to more closely examine specific data input or output that is not fully explained in the model technical documentation?

9. Would a limitation on the Agency's use address Dynegy's concerns about providing proprietary software, such that the software would only be used for evaluating the modeling provided by the owner or operator?

10. On page 12, you state that the raw modeling data could be provided to the Agency to import into whatever software the Agency chooses.

    a. Have you imported modeling data from one modeling software format into another modeling software format?

       i. If so, how much time does it take? What problems have you encountered?

       ii. Has it ever been impossible to fully import a model into the new format?

    b. With the tight timeframes involved in reviewing and approving applications for CCR surface impoundment applications for corrective action and closure, do you think it is possible the Agency may not have the time to convert all of said models and data into appropriate formats to import into software currently available to the Agency?

11. On Page 13 and 14 of your testimony, you express your concern regarding schedules for submission of permit applications and suggest an additional three months for two categories. Dynegy's witness Andrew Bittner states on page 4 of his testimony that the most recent amendments to Part 257 require the initiation of closure for unlined CCR surface impoundments by April 11, 2021.

    a. Do you anticipate that this new USEPA deadline to initiate closure will impact Dynegy's proposed modified timeline to initiate closure under Part 845, as discussed in your testimony?

        i. If so, how?

        ii. If not, why not?

12. On page 14 of your testimony, you reference monthly groundwater elevation measurements after stating that the groundwater monitoring requirements in Part 845 as proposed are "substantially more stringent" than those in Part 257.

    a. Isn't it likely that limiting groundwater elevation readings to semi-annually or quarterly could miss highs and lows especially in close proximity to rivers?

    b. Would monthly elevation readings produce more accurate potentiometric surface representation, especially in locations in close proximity to rivers?

13. On Pages 15 and 16 of your testimony, you request specific language allowing the use of previous data.

    a. Does Part 845 currently prohibit the use of existing data?

    b. Do you believe acceptance of existing data should be subject to Agency approval?

14. On Page 16 of your testimony you state that Section 845.650(b)(1)(A) should allow more time for the collection of background samples for CCR surface impoundments not previously included by Part 257 and cite the Vermilion Station as an example.

    a. Did the USWAG decision decided in August 2018 rule that inactive CCR surface impoundments at inactive facilities should be included in Part 257?

    b. Are you aware of the amount of time Part 257 allows for determining background for new CCR surface impoundments?

    c. Does Dynegy have existing monitoring wells at Vermilion, which have monitoring data that may be acceptable for background calculation?

15. On page 18 of your testimony, you state that the federal CCR rule only requires a cover system with a permeability of no greater than 1X10-5 cm/sec., compared to 1X10-7 cm/sec required by Part 845.

        a. Does Part 257.102(d)(3)(i)(A) require that the final cover system have a permeability which is no more than 1X10-5?

b. Does Part 257.102(d)(3)(i)(A) require that the permeability of the final cover system be less than or equal to any bottom liner or natural subsoils?

16. On page 5 of your testimony, you provide a list of the closure status of several of Dynegy's CCR surface impoundments. On page 18, you testify that a majority of Dynegy's sites lack sufficient borrow material.

    a. Isn't it true that several of the approved closure plans for the CCR surface impoundment cover systems you listed have low permeability layers that are less permeable than 1 X10-5 cm/sec?

    b. Since you provided anticipated closure dates for each CCR surface impoundment you did not considered to already have been closed, is it true that Dynegy was able to obtain adequate borrow material?

    c. As an example, you cite Ash Pond 2 at the Coffeen Power Station. Do you believe that a 40-mil LLDPE geomembrane, a geo-composite drainage layer, and a minimum 18-inch protective soil layer is equivalent to 18 inches of soil material with a permeability to 1x10-5 cm/sec. and six inches of protective cover.

17. You testify on page 11 that "IEPA's proposal adds myriad new requirements, making Part 845 *substantially* and *unnecessarily* more restrictive" than Part 257 (emphasis added in original text).

    a. Does Section 22.59 of the Act require that the rules adopted pursuant to that Section include certain requirements not included in Part 257?

    b. In support of this statement, Attachment A of your testimony lists several ways in which Part 845 is more stringent than Part 257.

        i. Item 1: Does USEPA provide any oversight of the Part 257 program that would require modeling software?

        ii. Item 5: Would you expect a public meeting to be more beneficial to local residents and make it easier for them to provide value added input if they have an opportunity to study a proposal?

        iii. Item 12: Are you aware that constituents listed in Section 845.600(a)(1) are listed in Appendices III and IV of Part 257?

        iv. Item 13: Are you aware that the Class I Groundwater Protection Standard is 0.0075 mg/L and is currently applicable everywhere in Illinois where Class I and Class III groundwater exists?

        v. Item 14: Are you aware that with the exception of Lithium, Cobalt and combined Radium 226 and 228 (Illinois currently has an individual standard for each of these Radium isotopes), all of the constituents listed in Section 845.600(a)(1) have enforceable groundwater quality standards?

vi. Item 15: Does Part 257 require a two-step process when there is an exceedance of an Appendix IV constituent?

vii. Are you aware that the exceedance of an Appendix III constituent never triggers corrective action under Part 257?

viii. Item 20: Are you aware of how long after the exceedance of an Appendix IV constituent Part 257 allows to initiate the assessment of corrective measures?

ix. In Part 257 is the time allowed to make an assessment of corrective measures and the time allowed to make an alternative source demonstration the same?

x. Does USEPA review either the alternative source demonstration or the assessment of corrective measures?

xi. Item 22: Under Part 257, does an owner or operator ever have to determine a final remedy or only make semiannual reports on the progress in the decision-making process?

Questions for Lisa Bradley

1. In Table 2-1, you equate coal with ashes or coal ash residue.
    a. How are these the same when one is the parent material and the other is the portions of the parent material that cannot be incinerated?
    b. Aren't the chemical compositions and portions of silica verses the entire mass hugely different?
2. In Table 2-1, you state that no part of the ash residuals are carcinogenic. The Illinois EPA notes the individual constituents to be evaluated include arsenic, beryllium, cadmium, chromium, cobalt, and lead. These constituents are listed as either known or reasonably anticipated to be carcinogens by the United States Department of Health and Human Services National Toxicology Program (NTP). In addition, radium 226 and 288 are listed by the International Agency for Research on Cancer (IARC) as carcinogenic to humans. Further, silica, a common component of coal ash residue, is listed as a known carcinogen for inhalation exposure in both publications, NTP in 2000 and IARC in 2012. Did Dynegy consider carcinogenicity of the individual constituents when developing the conclusion of "No Hazard" for coal ash residue?
3. Silica is listed as a cause of lung cancer among a number of other health issues 29 CFR 1910.1053. When creating Table 2-1 did you account for 29 CFR 1910 in its entirety as it pertains to the individual heavy metals and silica composition that is known to exist in coal ash?
4. In Table 2-1, you state that there is no repeated dose ingestion or inhalation toxicity.
    a. The Illinois EPA notes the U.S. EPA has provided ingestion toxicity data for most of the individual constituents, inhalation toxicity data for the following individual

constituents: antimony, barium, beryllium, boron, cadmium, chromium, cobalt, fluoride, lead, mercury and selenium. In addition, inhalation toxicity data is available for silica. Where individual constituents considered when the developing the conclusion of "No Hazard" for coal ash residue?

b. 29 CFR 1910.1053 requires a respirator for workers that will only receive one dose of silica by inhalation.

   i. Is Dynegy claiming that silica derived from coal (listed as having a crystalline silica composition) has been chemically altered and is no longer crystalline silica?

   ii. What measures are taken by Dynegy at their CCR surface impoundments to comply with 29 CFR 1910.1053?

5. In Table 2-1, you state that there is no hazard for worker epidemiology. How does Dynegy ensure that they are compliant with does 29 CFR 1910.1053, 29 CFR 1910.1018, 29 CFR 1910.1024, 29 CFR 1910.1025 and 29 CFR 1910.1027?

6. In Table 2-1, you state that there is no hazard for acute ingestion or inhalation toxicity. The Illinois EPA notes that the United States Health and Human Services Agency for Toxic Substances and Disease Registry has evaluated several of the individual constituents of coal ash residue for acute toxicity and developed acute toxicological data for some of the individual constituents.

   a. Did Dynegy consider any other source than the 2006 study, especially when Silica has been listed as a carcinogen since 2000 by the National Toxicology Program and added to the federal register for OSHA regulations in 2016 as 29 CFR 1910.1053?

   b. What measures has Dynegy taken to monitor and ensure that silica is not air borne above established PEL (by OSHA)?

7. In Table 2-1, you state that there is no genetic or reproductive hazard for coal ash or ash residue. However, arsenic (29 CFR 1910.1018), lead (29 CFR 1910.1025), and cadmium (29 CFR 1910.1027) are known to OSHA to be hazardous. They are also known teratogens according to the NBCI. Please explain how and why they are not teratogens when ingested or inhaled at a CCR surface impoundment?

8. On page 11 of your testimony, you state that the constituents in CCR are naturally occurring. Does the fact that a constituent occurs naturally mean that it is non-toxic?

9. On page 18 of you testify that CCR could become airborne if it is dry. If it is dry and becomes airborne, are you suggesting that even though there is a potential for exceedance of the NAAQS standard cited on page 21386 of the federal register for the Preamble of Part 257, 35 micrograms per meter cubed, is not relevant to CCR surface impoundments?

10. On page 18 of your testimony, you list the potential human exposures to CCR for risk assessments.

a. Why are site workers for CCR surface impoundments and site workers at the power generation facilities that are associated with some of the CCR Surface Impoundments omitted from the conceptual model for risk assessment to humans?

b. Wouldn't this omission of site workers render the entire "Section 3.1.3 Risk Assessment is Comprehensive and Thorough" incomplete and the antithesis of comprehensive and thorough?

11. In Table 3-4, human health is evaluated only as an ingestion of the listed constituents. Why is inhalation omitted from the Table?

12. Section 3.1.4 is named "Risk Assessment was Conservative". The Illinois EPA notes the 2014 Risk Assessment conducted for CCR used a 1 in 100,000 (1.0E-05) target cancer risk. The Illinois EPA requires risks to be evaluated at a more conservative 1 in 1,000,000 (1.0E-06) target cancer risk.

    a. Was Illinois EPA's target cancer risk of 1.0E-06 taken into consideration when stating the risk assessment was conservative?

    b. Were mixtures of similar-acting chemicals evaluated?

    c. If airborne contaminants and inhalation hazards are omitted from the risk assessment, how is the Risk Assessment "conservative"?

13. In Section 3.2.2, you state several times that the CCR surface impoundments are a part of RCRA. How is federal regulation for worker safety (29 CFR 1910.120 and 29 CFR 1926.65) and airborne hazards (29 CFR 1910 Subpart Z) with respect to RCRA omitted from your risk assessment and toxicology assessments?

14. Page 16 of your testimony notes the use of a probabilistic risk assessment, when Illinois EPA uses a single point approach when conducting risk assessments. How would using the single point approach affect the risk assessment?

15. Using the probabilistic risk assessment, Table 3-1 indicates an exceedance of Illinois EPA 1.0E-06 target cancer risk for 1 chemical. Where other carcinogens risks calculated at levels between 1.0E-05 and 1.0E-06?

16. Table 3-1 indicates the target hazard quotient of 1 is exceeded with 3 chemicals of coal ash. How does this information coordinate with earlier statements that coal ash is not hazardous to human health?

17. Your testimony states that the human health risk assessment evaluated inhalation exposure. However, the testimony does not discuss the risks associated with air-borne constituents. Why does the testimony not discuss the risks associated with inhalation exposure?

18. Was chromium evaluated as a mutagen in the risk assessment? Where mutagenic age-adjustment factors used when determining a risk for chromium?

19. How do Opinions 4 and 5 ensure compliance with 12(a) and 12(d) of the Illinois

Environmental Protection Act? Further, how does an “imminent threat” correlate with effects from chronic exposure?

20. On Page 25 of your testimony, you cite Part 257.96(g), which appears to be a typographical error.
    a. Was the correct citation Part 257.95(g)?
    b. When Part 257.95(g) was initially adopted was there a numerical GWPS for all of the Appendix IV constituents, or only those that had a corresponding MCL?
    c. Did USEPA subsequently adopt numerical values for all of the Appendix IV constituents?
    d. Does Part 257.95(h) list the numerical GWPS that USEPA adopted and cite to the MCL for constituents with an MCL?
    e. If the calculated background concentration for a constituent is lower than MCL or the numerical value listed in Part 257.95(h), isn’t that a statistically significant level?
21. On Page 31 of your testimony, you discuss CCR surface impoundments that capped or otherwise maintained.
    a. Isn’t the citation to the Federal Register in your foot note (CCR Rule. EPA-HQ-RCRA-2009-0640-11970; p21342) from the preamble of the original October 2015 CCR rule?
    b. Didn’t USEPA vacate Part 257.100(b), and require all inactive CCR surface impoundments to meet all of the Part 257 requirements?
    c. Wasn’t the cited Federal Register text written before the USWAG decision which found that inactive ponds at inactive facilities should also be regulated by Part 257?
22. On Page 32 of your testimony, you discuss the inclusion of CCR surface impoundments that contain de-minimis quantities of CCR.
    a. Does Part 257 define de-minimis?
    b. Did the preamble to Part 257 provide any guidance as to how to differentiate between a man-made excavation storing CCR and a man-made excavation storing a de-minimis quantity of CCR?
    c. Do you have a position on what de-minimis quantity of CCR is?
    d. Does the liquid in a CCR surface impoundment that may contain dissolved constituents from CCR, which then flows to a secondary or tertiary impoundment that may only contain de-minimis quantities of CCR, also exert hydraulic head on the bottom of that impoundments?

Questions for Melinda Hahn

1. On Page 4 of your testimony you state that it was determined that neither potable wells nor water intakes were at risk from CCR surface impoundments in Illinois.
    a. Can groundwater and surface water be used for purposes other than drinking water?
    b. Can water uses such as irrigation or live-stock watering, be impacted by contamination from a CCR surface impoundment?
    c. Is water that is not currently be used for a specific purpose a valuable resource?
    d. If so, should valuable resources be protected from degradation?
    e. Are you aware of the antidegradation standards that Illinois has for groundwater in Part 620?

Questions for David Hagen

1. On page 3 of your testimony you state that closure is not simply a matter of closure in place or closure by removal. Do Sections 845.670 and 845.710 require owners and operators of CCR surface impoundments to assess multiple factors based on site specific data as part of the corrective action plan and closure alternatives analysis, respectively?
2. On page 3 of your testimony and the subsequent example models, you explain that the example models you provide demonstrate "…compliance is achieved when the maximum groundwater concentration upgradient of the river falls below the Illinois GWPS."
    a. Under Part 845 and Part 257, isn't the point of compliance for a CCR surface impoundment the down gradient waste boundary?
    b. Do Sections 845.660 or 845.670 prohibit the evaluation of monitored natural attenuation within the context of the required evaluation?
3. On page 28 of your testimony you provide example conditions that might allow an owner or operator to reduce groundwater monitoring from quarterly to semi-annually. If those conditions and allowance for reduction in sampling frequency is incorporated into Part 845, would it be your expectation that those demonstrations would be subject to Agency review and approval?
4. On Page 29 of your testimony you state: "The Unified Guidance notes that "as the number of tests increases, the false positive rate associated with the testing network as whole (i.e., across all well-constituent pairs) can be surprisingly high.""
    a. Does monitoring for more constituents make it more likely that a false positive will be detected for any single constituent?
    b. Does each constituent have to comply with its own GWPS?

5. On page 30 of your testimony you discuss a real-world situation in which Boron concentrations increased at a monitoring point after closure occurred.

    a. Could the increase in Boron concentration be caused by a rebalancing of hydrogeologic conditions as they changed after cover placement?

    b. Could those changes have been predicted by groundwater modeling?

    c. Do you believe a groundwater model that predicted such an increase would be a valid justification for an alternative source demonstration?

    d. If the Agency concurs with an alternative source demonstration, does Part 845 require corrective action?

6. On page 34 of your testimony you state that proposed Part 845 does not allow enough time to complete a closure construction permit application. Based on your testimony and the testimony of other Dynegy witnesses, Dynegy appears to have a good understanding of the closure priorities required by Part 845, as proposed.

    a. Since Section 22.59 of the Act requires that the Board adopt rules by March 30, 2021, is Dynegy doing work now so that when a final rule is available, less time will be needed to prepare permit applications?

    b. If Dynegy is currently taking steps to ensure future compliance, please describe.

Questions for Andrew Bittner

1. Referring to page 7 of your testimony, why should evaluation of constructing an onsite landfill not be a requirement of the closure alternatives analysis, where such evaluation would include viability?

2. On page 30 of your testimony, you state that post closure leachate concentrations “are not affected” by the presence of consolidated CCRs.

    a. Do you believe that would be the case if the CCR being consolidated was of a different nature? For example: consolidating FGD materials into a bottom ash CCR surface impoundment or consolidating fly ash from Illinois Basin Coal with fly ash from Powder River Basin coal.

    b. Do you believe that consolidating CCR with different characteristics would require modelling to demonstrate compliance with the GWPS?

Questions for Rudolf Bonaparte

1. On Pages 3 and 4 of your testimony you discuss the lack of specificity regarding the requirements for inspections by a qualified professional engineer in Section 845.540(b) during post-closure care. Further, you opine that such inspections could cease at the initiation of closure, or alternately be completed every five years.

a. Does Section 22.59 of the Act require that Part 845 be at least as protective and comprehensive as Part 257?

b. Does Part 257.83(b) require annual inspections by a qualified professional engineer for existing, new and lateral expansions of CCR surface impoundments?

c. Does Part 257.83(b) require those annual inspections to ensure design, construction, operation and maintenance are consistent with generally recognized and accepted good engineering practices?

d. Does post-closure care require maintenance?

e. Can Part 845 be at least as protective and comprehensive as Part 257 without following the same inspection schedule?

CERTIFICATE OF SERVICE

I, the undersigned, on affirmation state the following:

That I have served the attached **NOTICE OF FILING** and **ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PRE-FILED QUESTIONS** by e-mail upon Don Brown at the e-mail address of don.brown@illinois.gov, upon Renee Snow at the e-mail address of Renee.Snow@Illinois.Gov, upon Matt Dunn at the e-mail address of mdunn@atg.state.il.us, upon Stephen Sylvester at the e-mail address of ssylvester@atg.state.il.us, upon Andrew Armstrong at the e-mail address of aarmstrong@atg.state.il.us, upon Kathryn A. Pamenter at the e-mail address of KPamenter@atg.state.il.us, upon Virginia I. Yang at the e-mail address of virginia.yang@illinois.gov, upon Nick San Diego at the e-mail address of nick.sandiego@illinois.gov, upon Robert G. Mool at the e-mail address of bob.mool@illinois.gov, upon Vanessa Horton at the e-mail address of Vanessa.Horton@Illinois.gov, upon Paul Mauer at the e-mail address of Paul.Mauer@illinois.gov, upon Deborah Williams at the e-mail address of Deborah.Williams@cwlp.com, upon Kim Knowles at the e-mail address of Kknowles@prairierivers.org, upon Andrew Rehn at the e-mail address of Arehn@prairierivers.org, upon Faith Bugel at the e-mail address of fbugel@gmail.com, upon Jeffrey Hammons at the e-mail address of Jhammons@elpc.org, upon Keith Harley at the e-mail address of kharley@kentlaw.edu, upon Daryl Grable at the e-mail address of dgrable@clclaw.org, upon Michael Smallwood at the e-mail address of Msmallwood@ameren.com, upon Mark A. Bilut at the e-mail address of Mbilut@mwe.com, upon Abel Russ at the e-mail address of aruss@environmentalintegrity.org, upon Susan M. Franzetti at the e-mail address of Sf@nijmanfranzetti.com, upon Kristen Laughridge Gale at the e-mail address of kg@nijmanfranzetti.com, upon Vincent R. Angermeier at the e-mail address of va@nijmanfranzetti.com, upon Alec M. Davis at the e-mail address of adavis@ierg.org, upon Jennifer M. Martin at the e-mail address of Jmartin@heplerbroom.com, upon Kelly Thompson at the e-mail address of kthompson@ierg.org, upon Walter Stone at the e-mail address of Water.stone@nrgenergy.com, upon Cynthia Skrukrud at the e-mail address of Cynthia.Skrukrud@sierraclub.org, upon Jack Darin at the e-mail address of Jack.Darin@sierraclub.org, upon Christine Nannicelli at the e-mail address of christine.nannicelli@sierraclub.org, upon Stephen J. Bonebrake at the e-mail address of bonebrake@schiffhardin.com, upon Joshua R. More at the e-mail address of jmore@schiffhardin.com, upon Ryan C. Granholm at the e-mail address of rgranholm@schiffhardin.com, upon N. LaDonna Driver at the e-mail address of LaDonna.Driver@heplerbroom.com, upon Alisha Anker at the e-mail address of aanker@ppi.coop, upon Chris Newman at the e-mail address of newman.christopherm@epa.gov, upon Claire A. Manning at the e-mail address of cmanning@bhslaw.com, upon Anthony D. Schuering at the e-mail address of aschuering@bhslaw.com, upon Jennifer Cassel at the e-mail address of jcassel@earthjustice.org, upon Melissa Brown at the e-mail address of Melissa.Brown@heplerbroom.com, upon Thomas Cmar at the e-mail address of tcmar@earthjustice.org,, and upon Kiana Courtney at the e-mail address of KCourtney@elpc.org.

That my e-mail address is Christine.Zeivel@illinois.gov

That the e-mail transmission took place before 4:30 p.m. on the date of September 10, 2020.

/s/ Christine Zeivel
September 10, 2020