BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	**)**	
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	)	
STANDARDS FOR THE DISPOSAL OF	**)**	**R20-19**
COAL COMBUSTION RESIDUALS	**)**	**(Rulemaking – Land)**
IN SURFACE IMPOUNDMENTS:	**)**	
PROPOSED NEW 35 ILL. ADM. CODE 845	**)**	

NOTICE OF FILING

To: ALL PARTIES ON THE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Illinois Pollution Control Board the attached **Prefiled Responses of Cynthia Vodopivec**, copies of which are herewith served upon you.

/s/ Ryan C. Granholm
Ryan C. Granholm

Dated: September 24, 2020

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NOW COME Dynegy Midwest Generation, LLC, Electric Energy, Inc., Illinois Power Generating Company, Illinois Power Resources Generating, LLC, and Kincaid Generation, LLC, (collectively, "Dynegy"), by their attorneys, Schiff Hardin LLP, pursuant to the Hearing Officer's July 14, 2020 Order and submit the below responses.

Prefiled Responses of Cynthia Vodopivec

Illinois Pollution Control Board:

19. On page 9, you state that any residual risks posed by closed units like Joppa West would be adequately addressed by other existing regulatory programs, such as the Act's general prohibition against water pollution and the groundwater quality standards provided by 35 Ill. Adm. Code Part 620. Please clarify whether Dynegy has conducted groundwater monitoring at the Joppa West site. If not, is Dynegy aware any groundwater impacts of Joppa West on potable water wells in the vicinity of the closed ash pond?

RESPONSE: At the request of IEPA, Dynegy performed sampling from 2010 – 2013 and provided the sampling to the Agency. After receiving those sampling results, the Agency did not request that Dynegy perform any additional monitoring or corrective action. Dynegy did not identify any groundwater impacts to potable water wells in the vicinity of the Joppa West Ash Pond and, as discussed in Melinda Hahn's testimony, we do not believe any potable water wells are at risk.

Illinois Environmental Protection Agency:

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?

RESPONSE: Dynegy is not questioning the applicability of any OSHA regulatory requirement to the closure or operation of a CCR surface impoundment and is committed to complying with all applicable worker safety requirements. Dynegy and its contractors take a number of steps throughout Dynegy's facilities to comply with OSHA requirements, including 29 C.F.R. 1910.1053.

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?

RESPONSE: Dynegy is not questioning the applicability of any OSHA regulatory requirement to the closure or operation of a CCR surface impoundment and is committed to complying with all applicable worker safety requirements. We maintain Safety Data Sheets for various classifications of CCR.

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?

RESPONSE: When Part 257 was implemented, existing Emergency Action Plans were updated to meet the requirements of that part. Safety and health plans are site and job specific and are tailored to the specific work being performed. The majority of CCR work is performed by contractors, who are responsible for their workers' health and safety. As I understand it, Part 257 does not require a safety and health plan or safety data sheets. However, SDSs were already in use at the time Part 257 was adopted.

    b. When the WIIN Act was passed into law in 2018?

RESPONSE: I am not an attorney, but as I understand it, the WIIN Act did not change any of the substantive requirements of Part 257.

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?

RESPONSE: Dynegy is not questioning the applicability of any OSHA or other worker safety requirement to the closure or operation of CCR surface impoundments and is committed to complying with all applicable worker safety requirements. When proposed Part 845 is enacted, we will make any necessary changes to safety and health plans, emergency action plans, and Safety Data Sheets to ensure continued compliance with all applicable requirements. Dynegy cannot determine what specific steps, if any, will be required until the Part 845 regulations are finalized.

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?

RESPONSE: The chemical characteristics of CCR that may be analyzed for beneficial reuse is dependent upon the proposed use. Testing of CCR for beneficial reuse has included, but is not limited to, moisture content, gypsum purity, and loss on ignition.

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?

RESPONSE: At this time, I am not aware of the method of transport of CCR placed in the Joppa West Ash Pond, which ceased receiving CCR more than 40 years ago.

   b. Was the CCR mixed with water in order to pump it to the CCR impoundment?

RESPONSE: See Response 5(a).

   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"?

RESPONSE: See Response 5(a). During the time when the Joppa West Ash Pond received CCR, it was likely designed to hold an accumulation of CCR and liquids. However, as discussed in my pre-filed testimony, when the impoundment was taken out of service in the early 1970s, its design was altered such that it was no longer designed to hold liquids. Since the early 1970s, the Joppa West Ash Pond has been designed to hold an accumulation of just CCR.

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?

RESPONSE: I cannot speculate as to the subsurface conditions of the Joppa West Ash Pond at the time it was receiving CCR, more than 40 years ago.

e. Is there potential for the Joppa West Ash Pond to have leaked when it stored CCR?

RESPONSE: I cannot speculate as to the subsurface conditions of the Joppa West Ash pond over the past 50 or more years.

f. Is the Joppa West Ash Pond currently used to dispose of CCR?

RESPONSE: No. As I currently understand it, there is CCR within the Joppa West Ash Pond.

g. Has Dynegy obtained site specific data on what the water level is with in the footprint of the Joppa West Ash Pond?

RESPONSE: I am not aware of any information regarding water levels in the Joppa West Ash Pond. Based on visual observations, Dynegy does not believe the Joppa West Ash Pond is currently impounding water.

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?

RESPONSE: See Response 5(g).

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?

RESPONSE: To the extent the Agency is referring to Mr. Rehn's reference on page 7-8 of his testimony to an "old 'capped' pond at the Joppa plant," the document he refers to is not U.S. EPA's 2014 Risk Assessment, but a dam safety assessment performed in 2010. That dam safety assessment (Attachment 11 to Mr. Rehn's testimony) lists the Joppa West Ash Pond as a "capped ash pond." That document does not state whether the Joppa West Ash Pond contains water or is classified as a "CCR surface impoundment," nor does it suggest that it is a part of U.S. EPA's 2014 Risk Assessment. The document was prepared in response to a national inquiry about the structural integrity of ash management units. The phrase "CCR surface impoundment" does not appear in that document, which predates the enactment of a regulatory definition of "CCR surface impoundment" by U.S. EPA and subsequent adoption of that definition by the Illinois Legislature.

6. On page 12 you state Dynegy frequently uses software from EPRI.
   a. Does Dynegy use groundwater modeling software from EPRI?

RESPONSE: No. Dynegy uses an EPRI database software to store groundwater data. However, that software is not "needed to review and access both the model and the data contained within [any] model" that Dynegy will submit under Part 845. Section 845.220(c)(2)(E).

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

RESPONSE: N/A.

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

RESPONSE: N/A.

7. On page 12 you state Dynegy also uses consultants that use their own proprietary software.
    a. a. Is this groundwater modeling software?

RESPONSE: No.

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

RESPONSE: See Response 7.

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

RESPONSE: On further review, to the extent that any of Dynegy's consultants are using groundwater modeling software, it is my understanding that it is USGS's MODFLOW or its MT3DMS software, which is publically available. Therefore, Dynegy does not believe that it will be required to obtain any software on the Agency's behalf when USGS's MODFLOW or MT3DMS software is used. Accordingly, Dynegy no longer objects to the requirement in Section 845.220(c)(2)(E)&(d)(3)(E) to "provide the Agency any necessary licenses and software needed to review and access both the model and the data contained within the model."

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?

RESPONSE: I am aware that the Agency stated in its Prefiled Response to Dynegy Question 22, p. 41 (Aug. 5, 2020) that "the Bureau of Land Permit Section requires an applicant to submit a fully licensed copy of any groundwater computer model(s) used for any permit application that addresses or revises a groundwater impact assessment." However, the Agency did not provide a regulatory citation to this statement so I have not been able to independently verify its response.

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?

RESPONSE: Dynegy is not opposed, in principle, to providing any commercially available modeling software used in any permit applications it submits under Part 845. My testimony refers only to the cost and impracticability of providing software or licenses to the Agency. Section 22.59 of the Act will generate millions of dollars in fees, which the Agency has stated were intended to allow it to administer Part 845. As noted in Response 7(c), Dynegy anticipates that the Agency will be able to use free software available from USGS to review its permit applications and therefore no longer objects to the requirement in Section 845.220(c)(2)(E)&(d)(3)(E) to "provide the Agency any necessary licenses and software needed to review and access both the model and the data contained within the model." To the extent that the Agency believes it needs any commercial software beyond the free software available from USGS, I believe the Agency should purchase that software.

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?

RESPONSE: Dynegy is unable to provide comment on the Agency's proposed "limitation" without a careful review of the proposed language and the relevant contracts governing the groundwater modeling software at issue. Should Dynegy submit to the Agency under Part 845 any groundwater modeling results not from free software available from USGS, but from a proprietary groundwater model, it will work with the Agency to enable it to satisfactorily review that information.

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?

RESPONSE: I have not personally done so.

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?

RESPONSE: Dynegy will work with the Agency to provide the data in a format that can be imported into the groundwater model used by Dynegy, which in all cases to date has been free software available from USGS.

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?

RESPONSE: No.

i. If so, how?
ii. If not, why not?

RESPONSE: U.S. EPA's recent amendment to 40 C.F.R. 257.103 (commonly referred to as Part A) allows Dynegy to make a demonstration extending the deadline to cease placing waste in a CCR surface impoundment. Under 40 C.F.R. 257.103, Dynegy intends to submit to U.S. EPA such demonstrations. Thus, we do not expect the permit deadlines proposed in my testimony will be affected.

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?

RESPONSE: It depends on river conditions and the frequency of the highs and lows. Even collecting monthly groundwater elevation measurements, like quarterly or semi-annual measurements, will not necessarily capture highs and lows. Instead, if changing groundwater elevation is a concern at a particular site, in addition to collecting quarterly or semi-annual groundwater elevation data, an owner or operator, should be allowed to use river level data collected and maintained by the National Oceanic and Atmospheric Administration ("NOAA") to estimate actual groundwater highs and lows. This data is more comprehensive than monthly groundwater elevation data would be, because it is both collected more frequently and has a historical record.

As proposed, Section 845.650(b)(2) is overly burdensome. Currently, Dynegy maintains and monitors more than 200 groundwater monitoring wells and piezometers associated with CCR surface impoundments in Illinois and anticipates that it may be required to install additional wells after Part 845 becomes effective. It could to take up to 250 man hours a month and cost upwards of $24,000 a month to collect monthly elevation data from each of these wells. To reduce the burden, while increasing the comprehensiveness of the data, Dynegy recommends that Section 845.650(b)(2) be deleted, and that Section 845.610(e)(3)(C) be revised as follows:

A potentiometric surface map for each groundwater elevation sampling event required by Section 845.6~~5~~40(~~b~~c) and when the CCR surface impoundment is located within 500 feet of a river the highest monthly groundwater elevation must be estimated using daily river level information from the National Oceanic and Atmospheric Administration~~(2)~~;

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

RESPONSE: Not necessarily, see Response 12(a). NOAA data would be more comprehensive and more useful in modeling different river levels.

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?

RESPONSE: Proposed Section 845.210(d) neither expressly prohibits nor allows the use of existing groundwater monitoring data. We are asking for Part 845 to explicitly allow owners/operators to seek IEPA's approval for the use of existing groundwater data. We recommend the following revision to Section 845.210(d)(1):

The Agency may approve the use of any hydrogeologic site investigation or characterization, groundwater monitoring well or system, groundwater monitoring data, or groundwater monitoring plan completed prior to the effective date of these rules to satisfy the requirements of this Part.

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

RESPONSE: Yes. As stated in my testimony at p.15-16, Dynegy recommends adding a reference to existing groundwater monitoring data in 845.210(d)(1) to allow for the Agency to approve of the use of existing monitoring data.

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?

RESPONSE: I am not an attorney and therefore will not offer testimony regarding the interpretation of federal court decisions.

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

RESPONSE: For new CCR surface impoundments, a groundwater monitoring system must be installed before initial receipt of CCR. 40 C.F.R. 257.90(b). Once sampling begins, eight independent samples must be collected in the first six months. 40 C.F.R. 257.94(b). As I stated on p. 16 of my prefiled testimony, for existing impoundments, the U.S. EPA allowed two years to collect this data. Dynegy recommends, Section 845.650(b)(1)(A) allow 18 to 24 months to collect this data.

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

RESPONSE: Dynegy does have existing wells at the Vermilion Power Plant. As noted in the prior question, as drafted, Part 845 neither explicitly prohibits nor allows the use of existing monitoring data.

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?

RESPONSE: Dynegy is not challenging Part 845's requirement that the permeability of the final cover system be equal to or less than 1 x10^{-7}.

40 C.F.R. 257.102(d)(3)(i)(A) states that "The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1 × 10−5 cm/sec, whichever is less."

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?

RESPONSE: See Response 15(a).

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?

RESPONSE: Yes.

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?

RESPONSE: The availability of borrow material varies by site.

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.

RESPONSE: Dynegy is not challenging Part 845's requirement that the permeability of the final cover system be equal to or less than 1 x10^{-7}.

I believe the IEPA-approved cover system for Ash Pond 2 at the Coffeen Power Station will meet the minimum requirements of the CCR Rule. I do not have an opinion on whether it is or is not equivalent to 18 inches of soil material with a permeability to 1x10^{-5} cm/sec. and six inches of protective cover.

The approved Closure Plan for Coffeen Ash Pond 2 states that: "The final cover system design will meet the requirements of the CCR Rule such that the permeability shall be less than or equal to the permeability of the existing bottom liner or subsoils present below the CCR material, or a permeability no greater than 1x10^{-5} cm/sec, whichever is less. This will be achieved for Coffeen Ash Pond No. 2 through construction of an alternate geomembrane cover system. The requirement for the final cover system to be less permeable than the bottom layer allows water in the pore space of the CCR to drain into the foundation soils and not accumulate within the closed CCR impoundment. The closure design achieves the requirements of the low permeability layer and a protective layer to

limit accumulation of water within the CCR impoundment. The geomembrane cover system will be installed over Coffeen Ash Pond No. 2 and consist of, from bottom to top, a 40-mil LLDPE geomembrane, a geocomposite drainage layer, and a minimum 18-inch protective cover soil layer. An erosion layer consisting of no less than 6-inches of earthen material capable of sustaining native plant growth will be placed on top of the protective cover soil layer."

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?

RESPONSE: Yes. However, there are a number of areas where IEPA's proposal goes beyond what Section 22.59 requires and it is my opinion that those additional requirements are not warranted. Dynegy is not challenging each and every instance where IEPA's proposal goes beyond what is required by Section 22.59. Rather, Attachment A of my testimony is intended to point out to the Board that there are a number of areas where the proposal exceeds Part 257. It is my opinion that the proposed Part 845 goes far enough (too far, in the instances noted in my testimony) and no additional requirements are warranted.

    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?

RESPONSE: Under the WIIN Act, U.S. EPA will create a permit program for CCR surface impoundments in states without approved programs. This program has been proposed, but not finalized.

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?

RESPONSE: Dynegy is not contesting the requirement to provide draft permit applications in advance of public meetings. Rather, it is merely pointing out to the Board that the public notification procedures in proposed Part 845 exceed those in Part 257 and that the amount of time required for public notification reduces the time available to complete permit applications—a timeline which the Agency has repeatedly admitted is "tight."

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?

RESPONSE: Yes. As stated in my testimony "[a]dditional constituents are monitored under the CCR Rule only after triggered by a statistically significant increase over background (257.95(a)).

Dynegy is not contesting the groundwater protection standards listed in Section 845.600(a)(1). Rather, it is merely pointing out to the Board that the initial monitoring requirements under Part 845 are more burdensome and more stringent than under the monitoring requirements under the CCR Rule.

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?

RESPONSE: I am aware of the groundwater quality standards listed in 35 Ill. Adm. Code 620.410, and that the standard listed in that provision for lead is 0.0075 mg/L.

Dynegy is not contesting the standard for lead proposed in Section 845.600. Rather, it is merely pointing out to the Board that the groundwater protection standard for lead under Part 845 is more burdensome and more stringent than under the CCR Rule.

Further, it is important to note that (a) the compliance point under Part 620 is different than the compliance point under Part 845; and (b) Part 620 allows for deviations from Class I groundwater standards in certain situations, such as Class II groundwater, Class IV groundwater, Groundwater Management Zones, and Alternative Groundwater Quality Standards.

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?

RESPONSE: Yes. Dynegy is not contesting the numeric standards proposed in Section 845.600.

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

RESPONSE: As stated in my testimony, under the CCR Rule there is a "[t]wo step process before corrective action is triggered (257.94-96)." Like Illinois's landfill program, which has detection and assessment monitoring requirements, the first step under Part 257 involves monitoring Appendix III constituents; the second step involves monitoring Appendix IV constituents. When a statistically significant exceedance of an Appendix IV constituent occurs, corrective action is triggered.

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

RESPONSE: See Response 17(b)(vii).

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?

RESPONSE: Under 40 C.F.R. 257.95(g)(3), either an alternative source demonstration must be made or an assessment of corrective measures must be initiated

"[w]ithin 90 days of finding that any of the constituents listed in appendix IV to this part have been detected at a statistically significant level exceeding the groundwater protection standards."

Dynegy is not contesting the deadline provided in Section 845.650(d)(4). Rather, it is merely pointing out to the Board that many of the deadlines proposed for Part 845 are more stringent and more burdensome than the CCR Rule.

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?

RESPONSE: See Response 17(b)(viii).

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

RESPONSE: 40 C.F.R. 257.95(g)(3)(ii) allows for review of an alternative source demonstration by "a qualified professional engineer," a "Participating State Director," or "approval from EPA where EPA is the permitting authority." Currently, U.S. EPA does not review the assessment of corrective measures, but U.S. EPA's permit program under the WIIN Act has not been finalized.

Dynegy is not contesting the deadline provided in Section 845.650(d)(4). Rather, it is merely pointing out to the Board that many of the deadlines proposed for Part 845 are more stringent and more burdensome than the CCR Rule.

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?

RESPONSE: 40 C.F.R. 257.97(a) requires an owner to "select a remedy" "as soon as feasible."

Dynegy is not contesting the deadline provided in Section 845.670(b). Rather, it is merely pointing out to the Board that many of the deadlines proposed for Part 845 are more stringent and more burdensome than the CCR Rule.

ELPC, PRN, SC:

1. On page 4 of your testimony, you discuss the CCR generated at Dynegy facilities.
    a. Where does Dynegy get the coal that is burned at each of its facilities in Illinois?

RESPONSE: All of the coal currently purchased for use at Dynegy's operating plants is sourced from the Powder River Basin in Wyoming.

b. Has Dynegy always gotten its coal from those sites?

i. If not, where did it come from?

RESPONSE: Dynegy has historically used coal from other locations, including, but not limited to the Illinois basin.

ii. When did Dynegy change the site from which the coal came from?

RESPONSE: That information varies by site.

c. Does Dynegy dredge its impoundments?

RESPONSE: That information varies by site. CCR has been excavated from some impoundments for beneficial use or for other reasons.

i. Is there still ash in the impoundments from coal burned from more than 2 decades ago?

RESPONSE: That information varies by site. Some CCR in Dynegy's CCR units was likely placed more than two decades ago.

ii. Is that older ash referenced in the question above mixed with more recent ash in the same impoundment?

RESPONSE: That information varies by site. Some impoundments may contain CCR that was placed more than two decades ago as well as ash placed less than two decades ago.

d. Does or did Dynegy mix any scrubber sludge with bottom ash or coal ash in any of its impoundments?

RESPONSE: That information varies by site. Some CCR surface impoundments at Dynegy's facilities may contain byproducts from air pollution control devices.

i. Are there sites where scrubber sludge is disposed of in separate impoundments or landfills, not mixed with other CCR?

RESPONSE: Yes.

ii. How long after the plants began operating did disposal of scrubber sludge begin?

RESPONSE: That information varies by site. Not all facilities generate byproducts from air pollution control devices.

e. Does or did Dynegy utilize dry sorbent injection (DSI) as a sulfur-removal control technology at any of its plants?

RESPONSE: Yes.

i. If so, how long after the plants began operating did use of DSI begin?

RESPONSE: That information varies by site.

ii. Are there impoundments at Dynegy sites that contain only CCR that predates the use of DSI?

RESPONSE: That information varies by site.

iii. Are there impoundments at Dynegy sites that contain both CCR that predates the use of DSI, as well as CCR generated after DSI use began?

RESPONSE: That information varies by site.

2. On page 6 of your testimony, you state "As noted by Dynegy's experts, particularly Dr. Lisa Bradley and Mark Rokoff, Dynegy's CCR surface impoundments are already subject to a comprehensive regulatory scheme—the federal CCR Rule."
    a. Please cite to where in Dr. Lisa Bradley's testimony, it says or explains that Dynegy's CCR surface impoundments are already subject to a comprehensive regulatory scheme.

RESPONSE: See Opinions 1 & 2 of Dr. Lisa Bradley's testimony.

    b. Please cite to where in Mark Rokoff testimony, it says or explains that Dynegy's CCR surface impoundments are already subject to a comprehensive regulatory scheme

RESPONSE: See Opinion 5 of Mark Rokoff's testimony.

    c. Does Illinois Pubic Act 101-0171 ("P.A. 101-0171," also known as the Coal Ash Pollution Prevention Act) mandate that the Illinois rules be the same as the federal CCR rules?

RESPONSE: P.A. 101-0171 states that the rules must be "at least as protective and comprehensive as the federal regulations or amendments thereto promulgated by the Administrator of the United States Environmental Protection Agency in Subpart D of 40 CFR 257 governing CCR surface impoundments."

3. On page 8, you state, "The concept of hydraulic head as the greatest source of risk of contaminant leaching is discussed further in the pre-filed testimony of Dynegy's experts Dr. Lisa Bradley and David Hagen."
    a. Please provide a citation for where Dr. Lisa Bradley states that in her testimony.

RESPONSE: See page 18 of Dr. Lisa Bradley's testimony.

    b. Please provide a citation for where David Hagen states that in his testimony.

RESPONSE: See page 17 of David Hagen's testimony.

    c. Do you have any independent opinion on this topic or do you rely exclusively on the opinion of Dr. Lisa Bradley and David Hagen? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: My opinion, as stated on page 8 of my testimony, is based on U.S. EPA's statements in the CCR Rule's original Federal Register preamble and the testimonies of Dr. Lisa Bradley and David Hagen.

4. On pages 7 through 11 of your testimony, you discuss the Joppa West Ash Pond.
   a. Please provide the basis for the statement on page 7 of your testimony that "the Illinois Legislature. . . clearly intend[ed] the scope of the Illinois CCR program to be identical to that of the federal rule."

RESPONSE: As stated in my testimony, "the Illinois Legislature adopted the exact same definition of 'CCR surface impoundment' as used in the federal CCR Rule." I believe the legislature's decision to use the same definition is evidence of its intent for Part 845 to cover the same universe of units: units that are "designed to hold an accumulation of CCR and liquids, and . . . treat[], store[], or dispose of CCR[]." 415 ILCS 5/3.143.

   b. Has there been groundwater monitoring done at Joppa West?

RESPONSE: At the request of IEPA, Dynegy performed sampling from 2010 - 2013 and provided the sampling results to the Agency. After receiving those sampling results, the Agency did not request that Dynegy perform any additional monitoring or corrective action. Dynegy did not identify any groundwater impacts to potable water wells in the vicinity of the Joppa West ash pond and, as discussed in Melinda Hahn's testimony, we do not believe any potable water wells are at risk.

   c. If so, what are the results of that groundwater monitoring?

RESPONSE: See Response 4(b).

   d. Has Dynegy monitored groundwater at other dewatered CCR impoundments? If so, what were the results of that monitoring?

RESPONSE: The Joppa West Ash Pond was dewatered and closed in the early 1970s. Dynegy does not own other units that have been dewatered and closed for decades.

e. Groundwater monitoring at Dynegy CCR landfills has revealed exceedances of groundwater protection standards, right?

RESPONSE: ***Dynegy objects to this question regarding landfills as beyond the scope of this rulemaking.***

5. In Attachment A and on page 11 of your testimony, you identify ways that the requirements of Part 845 are "substantially or unnecessarily more restrictive than the CCR Rule."
    a. What do you mean by "substantially or unnecessarily more restrictive"?
        i. What is your basis for this answer?

RESPONSE: As stated in my testimony, there are a number of areas where IEPA's proposal exceeds the Illinois Legislature's mandate and the requirements imposed by U.S. EPA in the federal CCR Rule. As a result, these additional requirements are more restrictive and as discussed in Ms. Bradley's testimony are often not necessary to ensure protection of human health and the environment.

b. Where in P.A. 101-171, also known as the Coal Ash Pollution Prevention Act, does it say that there cannot be more restrictive rules than the federal CCR Rule?

RESPONSE: No such statement appears in P.A. 101-0171.

c. You also note that these additional requirements could carry significant costs for owners and operators. Has Dynegy completed a benefits analysis that evaluates the benefits to health and the environment of more protective mandates? If so, please provide the results.

RESPONSE: It is unclear what the phrase "benefits analysis" means. Dynegy has not evaluated the benefits to health and the environment, if any, of the items listed on Attachment A to my prefiled testimony.

6. On page 11 of your testimony, you state, "The Board should therefore accept the more restrictive requirements that IEPA has proposed only where clear evidence has been presented that such requirements will lead to meaningful environmental benefits."
    a. What do you mean by "meaningful environmental benefits?"

RESPONSE: Dynegy's position is that requirements should not be adopted where not scientifically justified, particularly where they carry significant costs.

b. What is your basis for that definition?

RESPONSE: See Response 6(a).

7. On page 12 of your testimony, you discuss the Proposed Part 845 rules' requirement to "provide the Agency any necessary licenses and software needed to review and access both the model and the data contained within the model."
   a. Is there a possibility that a different software or different model would project a different outcome from the raw data?

RESPONSE: Different groundwater models could project different outcomes from the same data. The same model can also produce different outcomes from the same data, depending on how the data is entered and the model is applied to the data, including the number and type of variables and the assumptions used in running the model.

8. On page 13 of your testimony, you state, "In addition to the issues identified by Dynegy's experts David Hagen and Mark Rokoff, there are several problems with this schedule."
   a. Please provide citations for where this is in David Hagen's testimony.

RESPONSE: See Opinion 12 of David Hagen's testimony.

b. Please provide citations for where this is in Mark Rokoff's testimony.

RESPONSE: See Opinion 6 of Mark Rokoff's testimony.

c. Do you have any independent opinion on this topic or do you rely exclusively on the opinion of David Hagen and Mark Rokoff? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: As set forth on pages 13-14 of my pre-filed testimony, it is my opinion that the proposed schedule set forth in Section 845.700(h) should be revised to provide owners/operators additional time to prepare the required materials and perform the required public outreach for Categories 4 & 5. We are asking the Board to extend the

application deadlines for these two (of the seven total) categories by only 3 months each, without delaying either the first or the final application deadline.

d. You also state, "During the five months following the first submittal deadline, Dynegy will also be required to hold between 10 and 20 public meetings, pursuant to proposed Section 845.240(a), which requires public meetings to be completed at least 30 days before the application deadline."

i. How many Dynegy personnel does Dynegy expect to participate in these meetings?

RESPONSE: Dynegy cannot predict at this time who will attend these meetings.

ii. Will the same people be at each meeting? If so, please explain why.

RESPONSE: See Response 8(d)(i). While Dynegy cannot currently predict exactly who will attend these meetings, it suspects that several of the same employees/consultants may be required at each meeting. Therefore, it may be difficult to schedule multiple public meetings in a short period of time.

9. On page 14 of your testimony, you state Dr. Lisa Bradley, Andrew Bittner, and David Hagen all testify that "the groundwater monitoring requirements in IEPA's Part 845 proposal are substantially more stringent than those in the CCR Rule."

a. Please provide citations for where it says this in Dr. Lisa Bradley's testimony.

RESPONSE: ***Dynegy objects to this question to the extent it mischaracterizes Ms. Vodopivec's testimony. She stated that the quoted concept was "discussed" in the testimonies of Dr. Lisa Bradley, Andrew Bittner, and David Hagen. Subject to this objection:***

See Opinion 3 of Dr. Lisa Bradley's testimony.

b. Please provide citations for where it says this in Andrew Bittner's testimony.

RESPONSE: ***Dynegy objects to this question to the extent it mischaracterizes Ms. Vodopivec's testimony. She stated that the quoted concept was "discussed" in the testimonies of Dr. Lisa Bradley, Andrew Bittner, and David Hagen. Subject to this objection:***

See page 4 of Andrew Bittner's testimony.

c. Please provide citations for where it says this in David Hagen's testimony.

RESPONSE: ***Dynegy objects to this question to the extent it mischaracterizes Ms. Vodopivec's testimony. She stated that the quoted concept was "discussed" in the testimonies of Dr. Lisa Bradley, Andrew Bittner, and David Hagen. Subject to this objection:***

See Opinions 7 & 8 in David Hagen's testimony.

d. Do you have any independent opinion on this topic or do you rely exclusively on the opinion of Dr. Lisa Bradley, Andrew Bittner, and David Hagen? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: My opinion is stated on pages 14-16 of my testimony. The basis for that opinion is contained on those pages, as well as Attachment A, and the testimonies of Dr. Lisa Bradley, Andrew Bittner, and David Hagen.

10. On page 16 of your testimony, you state, "as discussed in Dr. Lisa Bradley's and David Hagen's testimonies, proposed Part 845 is significantly more stringent than the CCR Rule because corrective action under proposed Part 845 can be triggered on just a single exceedance (after confirmation) of a groundwater protection standard."
    a. Please provide citations for where it says this in Dr. Lisa Bradley's testimony.

RESPONSE: See Opinion 3 of Dr. Lisa Bradley's testimony.

b. Please provide citations for where it says this in David Hagen's testimony.

RESPONSE: See Opinion 9 of David Hagen's testimony.

c. Do you have any independent opinion on this topic or do you rely exclusively on the opinions of Dr. Lisa Bradley and David Hagen? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: My opinion is stated on pages 16-17 of my testimony. The basis for that opinion is contained on those pages, as well as Attachment A, and the testimonies of Dr. Lisa Bradley and David Hagen.

11. On page 16, you state, "For CCR units that do not have existing groundwater data, because they are not currently regulated by the CCR Rule, (for example, those at Dynegy's Vermilion Power Station) this time period is not sufficient to gather a representative sample of groundwater conditions. Instead, at least eighteen to twenty-

four months should be allowed to gather monitoring data at existing, but newly-regulated units, so that this initial data set will reflect normal seasonal variations in groundwater levels and flow patterns."

a. What is your basis for the amount of time (18 to 24 months) you claim is needed to gather this monitoring data?

RESPONSE: The basis, as stated on page 16 of my testimony, is that "the CCR Rule allowed for two years to initially gather such data" from existing CCR surface impoundments and 18-24 months are appropriate to "reflect normal seasonal variations in groundwater levels and flow patterns."

b. How many of Dynegy's CCR units do you claim would need this time extension?

RESPONSE: This will depend on the number of units subject to Part 845 and IEPA's acceptance of existing monitoring data. As has been noted by others, the applicability of Part 845 to some units remains in dispute.

12. On page 17, you state, "As outlined in the testimony of David Hagen, because Part 845 departs from the CCR Rule's two-step process—specifically the use of statistical methods to identify exceedances—there is a high probability that IEPA's proposed groundwater monitoring provisions could trigger corrective action based on erroneous or insufficient sampling."

a. Please provide citations for where it says this in David Hagen's testimony.

RESPONSE: See Opinion 9 of David Hagen's testimony.

b. Are you aware of any instances in which there has been erroneous or insufficient sampling that triggered corrective action?

RESPONSE: The CCR Rule employs a two-step program to determine where corrective action is required. I am not aware of other instances where corrective action has been triggered under other regulatory programs based on a single confirmed exceedance of a single groundwater standard. Furthermore, under Illinois' landfill program, corrective action is trigger when there is a statistically significant increase above the groundwater protection standard. See e.g., 35 Ill. Adm. Code 811.318(b)(5) ("An observed statistically

significant increase above the applicable groundwater quality standards of Section 811.320 in a well located at or beyond the compliance boundary shall constitute a violation."). See also 35 Ill. Adm. Code 811.320(a)(2).

i. If so, what caused this "erroneous or insufficient" sampling?

RESPONSE: See Response 12(b).

ii. If so, what was the result of that corrective action?

RESPONSE: See Response 12(b).

c. Do you have any independent opinion on this topic or do you rely exclusively on the opinion of David Hagen? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: I defer to David Hagen's testimony on this topic.

13. On page 17, you state, "To ensure corrective action is triggered only where scientifically justified, Dynegy recommends, as outlined in the testimonies of Dr. Lisa Bradley and David Hagen, that corrective action be triggered only when there is a statistically significant level above a groundwater protection standard."
    a. Please provide citations for where it says this in Dr. Lisa Bradley's testimony.

RESPONSE: See Opinion 3 of Dr. Lisa Bradley's testimony.

b. Please provide citations for where it says this in David Hagen's testimony.

RESPONSE: See Opinion 9 of David Hagen's testimony.

c. Do you have any independent opinion on this topic or do you rely exclusively on the opinions of Dr. Lisa Bradley and David Hagen? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: I defer to Dr. Lisa Bradley's and David Hagen's testimony on this topic.

14. On page 17, you state, "as explained in Mark Rokoff and Andrew Bittner's expert testimony, proposed Part 845 is more stringent than the requirements in the CCR Rule with respect to evaluating closure options."
    a. Please provide citations for where it says this in Andrew Bittner's testimony.

RESPONSE: See page 5 of Andrew Bittner's testimony.

b. Please provide citations for where it says this in Mark Rokoff's testimony.

RESPONSE: See Opinion 5 of Mark Rokoff's testimony.

c. Do you have any independent opinion on this topic or do you rely exclusively on the opinions of Mark Rokoff and Andrew Bittner? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: I defer to Mark Rokoff's and Andrew Bittner's testimony on this topic.

15. On page 17, you discuss costs associated with closure alternative analysis performed under Section 845.710. You also state that "[t[he prescriptive nature of Section 845.710 takes away some of the flexibility afforded under the CCR Rule to select a closure methodology best suited to each site."
    a. What closure methods are "best suited" for a site?

RESPONSE: The appropriate closure for each site is determined by site specific factors.

b. What "flexibility" do you assert that the alternatives analysis "takes away?"

RESPONSE: See Opinion 5 of Mark Rokoff's testimony and Opinion 3 of Andrew Bittner's testimony.

c. How does the alternatives analysis – an informational requirement – "take away" those "flexibilities?"

RESPONSE: See Response 15(b).

16. On page 18, you state, "as explained in Dr. Rudy Bonaparte's testimony, the requirements for final covers for CCR surface impoundments under proposed Part 845 are substantially more stringent than under the CCR Rule."
    a. Please provide citations for where it says this in Dr. Rudy Bonaparte's testimony.

RESPONSE: See Opinions 1-6 of Dr. Rudy Bonaparte's testimony.

b. Do you have any independent opinion on this topic or do you rely exclusively on the opinion of Dr. Rudy Bonaparte? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: My opinion is stated on pages 18-19 of my testimony. The basis for that opinion is contained on those pages, as well as Attachment A, and the testimony of Dr. Rudy Bonaparte.

17. On page 18, you state, "Because the majority of its sites lack sufficient native borrow material, Dynegy anticipates that a requirement to use 18-inches of additional earthen material in the cover system could cost up to $50 – $100 million, with no associated environmental benefit."
    a. What is the basis for your assertion that there no associated environmental benefit?

RESPONSE: See Opinions 1-6 of Dr. Rudy Bonaparte's testimony, Opinion 11 of Dave Hagen's testimony, as well as pages 18-19 of my testimony, which explain that the proposed reduced cover system requirements proposed by Dynegy and Dr. Bonaparte are supported by both the CCR Rule and IEPA's past practice in approving cover systems for CCR surface impoundments, and are equally protective of groundwater.

18. On page 19 of your testimony, you state, "As discussed in the testimony of David Hagan, and consistent with prior Agency approvals, Dr. Bonaparte's proposed revisions to the final cover system requirements are protective of human health and the environment."
    a. Please cite to where in David Hagan's testimony he asserts that Dr. Bonaparte's proposed revisions to the final cover system requirements are protective of human health and the environment.

RESPONSE: See Opinion 11 of David Hagen's testimony.

    b. Please specify which of Dr. Bonaparte's proposed revisions to the final cover system requirements you assert are protective of human health and the environment.

RESPONSE: As stated in my testimony on page 18-19, Dynegy recommends "that the Board reduce the required thickness of the earthen low permeability layer and of the protective layer for units that close using a geomembrane." See Opinions 3 & 4 of Mr. Bonaparte's testimony and Opinion 11 of Mr. Hagen's testimony. Dynegy is proposing the revisions listed below.

Section 845.750(c)(1)(A)(i): "The minimum allowable thickness must be ~~0.91 meter (3 feet)~~18 inches; and . . ."

Section 845.750(c)(2)(B): "Be at least three feet thick, when used in combination with a low permeability layer meeting the requirements of Section 845.750(c)(1)(A); or 18 inches thick, when used in combination with a low permeability layer meeting the requirements of Section 845.750(c)(1)(B), and must be sufficient to protect the low permeability layer from freezing and minimize root penetration of the low permeability layer."

c. What is the basis of your assertion that Dr. Bonaparte's proposed revisions to the final cover system requirements protective of human health and the environment?

RESPONSE: See Opinions 1-6 of Dr. Rudy Bonaparte's testimony, Opinion 11 of Mr. Hagen's testimony, as well as pages 18-19 of my testimony, which explain that the proposed reduced cover system requirements proposed by Dynegy and Dr. Bonaparte are supported by both the CCR Rule and IEPA's past practice in approving cover systems for CCR surface impoundments, and are therefore protective of human health and the environment.

d. Do you have any independent opinion on this topic or do you rely exclusively on the opinions of David Hagen and Dr. Bonaparte? If you have an independent opinion, please state that opinion and provide the basis for it.

RESPONSE: Yes. As stated on pages 18-19 of my testimony, I am aware that the revisions suggested by Mr. Bonaparte—spelled out in Response 18(b)—are more protective than what is required under the CCR Rule and are consistent with final cover systems approved by IEPA in the past. Therefore, it is my opinion that these revisions are protective of human health and the environment.

I am also aware, as I state on p. 18 of my testimony, that the additional cover materials required by proposed Part 845 could be extremely costly. Therefore it is my opinion that this requirement is not economically reasonable.

19. On page 19 of your testimony, you state, "Exceeding the requirements of the CCR Rule, without clear scientific justification, is not in the interests of the State of Illinois, particularly the communities surrounding CCR surface impoundments."
    a. What is the basis for this opinion regarding the "State of Illinois?"

RESPONSE: See page 19 of my testimony. I am also aware that elected leaders of at least six communities near Dynegy's facilities in Illinois have filed public comments in this rulemaking docket recommending that the Board not mandate closure by removal. See Public Comment Nos. 10, 11, 12, 30, 31, & 32.

    b. What is the basis for this opinion regarding "communities surrounding CCR surface impoundments?"

RESPONSE: See Response 19(a).

    c. Do you work with "communities surrounding CCR impoundments? If yes, what communities and in what capacity do you engage with them?

RESPONSE: While my role, personally, does not involve regular interaction with community members surrounding Dynegy's facilities in Illinois, other Dynegy employees regularly engage with members of the community, including local elected officials.

    d. Did you ask those communities whether "[e]xceeding the requirements of the CCR Rule, without clear scientific justification," is in the interest of communities surrounding CCR surface impoundments? If yes, when did you ask them this? If you spoke with different communities at different times or in different contexts, provide details of each.

RESPONSE: See Responses 19(a)&(c). I am aware that elected leaders of at least six communities near Dynegy's facilities in Illinois have filed public comments in this rulemaking docket recommending that the Board not mandate closure by removal.

CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 24th day of September, 2020, I have electronically served the attached **Prefiled Responses of Cynthia Vodopivec**, upon all parties on the attached service list. I further certify that my email address is rgranholm@schiffhardin.com; the number of pages in the email transmission is 35; and the email transmission took place today before 5:00 p.m.

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