Dear Mr. Cobb:

Re: Vermilion Site
Ash Pond Closures Options Report

Enclosed please find the Vermilion site ash pond closure options report requested in your May 30, 2017 letter. Options are identified for the north, old east, and new east ash ponds at our former Vermilion power station site. The report was prepared by Stantec Consulting Services, Inc. (St. Louis, MO). It includes cost estimates for the various identified ash pond closure options and costs for associated river bank stabilization options. This report should be read in conjunction with the river bank stabilization options report submitted to you on November 6, 2017 and the groundwater flow and transport modeling report that will be submitted to you in October 2018.

The probable cost estimates are based on information available at this time and should not viewed as exact cost determinations. The estimates are based upon numerous assumptions such as the viability of beneficial reuse, ability to obtain U.S. Army Corp of Engineers permits, availability and costs of materials, etc.

At this time, Dynegy Midwest Generation, LLC (DMG) is unable to make a recommendation as to the closure option that it would like to implement for each ash pond. DMG believes it must wait until the hydrogeologic studies are completed in October 2018 to make a recommendation.

In the meantime, DMG will proceed with Section 404 permitting with Army Corp of Engineers (Louisville, KY District) for implementing river bank stabilization along the north and old east ash ponds.
We would be happy to meet with you to discuss the enclosed report. You should also feel free to call me at 618/343-7761 if you have questions about the report.

Sincerely,
Dynegy Midwest Generation, LLC by its agent Dynegy Operating Company

Rick Diericx
Managing Director – Environmental Compliance

Enclosures
November 27, 2017

File: let_vermilion_closure_IEPA_20171127

Attention: Mr. Victor Modeer, PE
Dynegy Midwest Generation, LLC
1500 Eastport Plaza Drive
Collinsville, Illinois 62234

Reference: Closure Options
Ash Ponds Closure
Vermilion Site

Dear Mr. Modeer,

Stantec Consulting Services Inc. (Stantec) has completed an evaluation of closure options for the North Ash Pond (NAP), Old East Ash Pond (OEAP), and New East Ash Pond (NEAP) at the Vermilion Site. For your use in responding to the letter from the Illinois Environmental Protection Agency (IEPA) to Dynegy Midwest Generation, LLC (DMG) dated May 30, 2017, please find attached a table that includes an opinion of probable cost, anticipated project duration, and a summary of each closure option evaluated. The attached figures are provided to illustrate each closure option. Details regarding the riverbank stabilization options along the North and Old East Ash Ponds are included in Vermilion Site Riverbank Assessment prepared by Stantec on November 2, 2017 and submitted to the IEPA by DMG on November 6, 2017. The riverbank improvements can be implemented prior to or in conjunction with closure construction.

Stantec appreciates the opportunity to support this project. If you have any questions or need additional information, please call.

STANTEC CONSULTING SERVICES INC.

Matthew Hoy, PE
Project Manager/Senior Associate
Matthew.Hoy@Stantec.com

Matt Vaughan, PE
Senior Associate
Matt.Vaughan@Stantec.com

Attachments: Table 1 – Closure Options Summary
Figure 1 – Close in Place (Option 1)
Figure 2 – Closure by Removal (Option 2)
Figure 3 – Beneficial Re-use (Option 3)
Figure 4 – Consolidate OEAP to NAP/NEAP (Option 4)
Figure 5 – Consolidate NEAP and OEAP Layback to NAP (Option 5)

Cc. Matt Ballance
### Table 1 - Closure Options Summary

<table>
<thead>
<tr>
<th>Option 1: Close in place (NAP, OAP)</th>
<th>Option 2: Closure by removal (NAP, OAP, NEAP)</th>
<th>Option 3: Beneficial Re-use (NAP, OAP, NEAP)</th>
<th>Option 4: Consolidate OAP to NAP/NEAP, close NAP and NEAP in place</th>
<th>Option 5: Consolidate NEAP and OAP, layback to NAP, close OAP and NAP in place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considerations</td>
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<tr>
<td>Opinion of Probable Cost (Closure)</td>
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</tbody>
</table>

### Summary

- **Option 1:** Close in place (NAP, OAP)
  - Consolidate ash and close in place (NEAP)
  - The OAP and NEAP will remain in place, stabilize the riverbank along the OAP and NEAP as necessary, with rock toe with live branch layering and/or a buried riprap trench.
  - Contour the ash to promote positive drainage.
  - Construct an engineered cap system over the ash ponds.
  - Drainage of post-closure surface runoff will generally be consistent with existing drainage patterns.

- **Option 2:** Closure by removal (NAP, OAP, NEAP)
  - Since closure by removal will require 5-10 years, stabilize the riverbank along the OAP and NEAP as necessary, with rock toe with live branch layering and/or a buried riprap trench.
  - Contour the ash to promote positive drainage.
  - Construct an engineered cap system over the existing ash ponds.
  - Drainage of post-closure surface runoff will generally be consistent with existing drainage patterns.

- **Option 3:** Beneficial Re-use (NAP, OAP, NEAP)
  - Since excavation for beneficial reuse will require 10-30 years, stabilize the riverbank along the OAP and NEAP as necessary, with rock toe with live branch layering and/or a buried riprap trench.
  - Contour the ash to promote positive drainage.
  - Construct an engineered cap system over the existing ash ponds.
  - Drainage of post-closure surface runoff will generally be consistent with existing drainage patterns.

- **Option 4:** Consolidate OAP to NAP/NEAP, close NAP and NEAP in place
  - Since excavation for consolidation and closure will require 3-5 years, stabilize the riverbank along the OAP and NEAP as necessary, with rock toe with live branch layering and/or a buried riprap trench.
  - Contour the ash to promote positive drainage.
  - Construct an engineered cap system over the existing ash ponds.
  - Drainage of post-closure surface runoff will generally be consistent with existing drainage patterns.

- **Option 5:** Consolidate NEAP and OAP, layback to NAP, close OAP and NAP in place
  - Since excavation for consolidation and closure will require 3-5 years, stabilize the riverbank along the OAP and NEAP as necessary, with rock toe with live branch layering and/or a buried riprap trench.
  - Contour the ash to promote positive drainage.
  - Construct an engineered cap system over the existing ash ponds.
  - Drainage of post-closure surface runoff will generally be consistent with existing drainage patterns.

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Keywords: Ash ponds, closure, beneficial reuse, engineered cap system, riverbank stabilization.
LEGEND

ASH POND BORDER
PROPOSED DITCH
OVERLAND FLOW DIRECTION
LINES OF ASH REMOVAL

0 500 1,000 Feet

Index

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
1: 2,000的比例尺

Project Location: Danville, IL

Client/Project: Dynegy Midwest Generation, LLC
Title: Vermillion Site
Project: Ash Ponds Closure
Figure No.: 2

Option 2: Closure by Removal (NAP, OAP, HAP)

ATTORNEY-CLIENT PRIVILEGED AND CONFIDENTIAL
NORTH ASH POND (CONSOLIDATE 400,000 CY FROM OEAP AND STILLING POND)

OLD EAST ASH POND (APPROXIMATELY 992,000 CY)

NEW EAST ASH POND (CONSOLIDATE 610,000 CY FROM OEAP AND STILLING POND)

EXISTING OLD EAST ASH POND DISCHARGE PIPE (STORMWATER RUNOFF)

EXISTING NORTH ASH POND DISCHARGE PIPE

STILLING POND (APPROXIMATELY 15,000 CY)

LEGEND

ASH POND BORDER
PROPOSED DITCH
OVERLAND FLOW DIRECTION
LIMITS OF CLOSURE CAP
CLOSURE BY CONSOLIDATION

300
1,000
Feet

Notes:
- Constructed System: NAP-NEAP & NAP-SEAP Lines East of 150 Feet
- Reference: OSR Lines, Illinois, Indiana

Project Location:
- Danville, IL

Client/Project:
- Dynegy Midwest Generation, LLC
- Vermilion Site

Project:
- Ash Ponds Closure

Note:
- Option 4: Consolidate OEAP to NAP/NEAP, close NAP and NEAP in-place.
NORTH ASH POND
(CONsolidate 433,000 CY FROM NEAP, ASH LAYBACK, AND STILLING POND)

ASH LAYBACK
(APPROXIMATELY 75,000 CY)

NEW EAST ASH POND
(APPROXIMATELY 343,000 CY)

EXISTING OLD EAST ASH POND DISCHARGE PIPE
(STORMWATER RUNOFF)

EXISTING OLD EAST ASH POND (CLOSE IN PLACE)

EXISTING NORTH ASH POND DISCHARGE PIPE

STILLING POND
(APPROXIMATELY 32,000 CY)

LEGEND

ASH POND BORDER
PROPOSED DITCH
OVERLAND FLOW DIRECTION
LIMITS OF CLOSURE CAP
CLOSURE BY CONSOLIDATION

Notes:
1. Candidate borders - Hand: RED Ditch/Pipe shown East 6'50 (100 Feet)
2. Overdrawn: Oils/Sludge

Client/Project:
Client: Dynegy Midwest Generation, LLC
Site: Vermilion Site
Project: Ash Ponds Closure

Figure No. 5

Opinion 5: Consolidate NEAP and CEAP Layback to NAP; close ODA and NAP in place.

ATTORNEY-CLIENT PRIVILEGED AND CONFIDENTIAL