

**ATTACHMENT 11**

**CLOSURE ALTERNATIVES ASSESSMENT AND ASSESSMENT OF  
CORRECTIVE MEASURES**

**City Water, Light & Power**

**CCR Impoundments – Lakeside and Dallman Ash Ponds**

**Springfield, Sangamon County, Illinois**

**Closure Alternatives Assessment  
and  
Assessment of Corrective Measures**

**February 2022**



*Submitted to:*

Illinois Environmental Protection Agency  
Bureau of Water  
1021 North Grand Avenue East  
Springfield, Illinois



*Prepared for:*

City Water, Light & Power  
3100 Stevenson Drive  
Springfield, Illinois 62703



3300 Ginger Creek Drive, Springfield, IL 62711 | 217.787.2334

ILLINOIS | MISSOURI | INDIANA

## TABLE OF CONTENTS

---

<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 Facility Description/Background.....	1
<b>2. CLOSURE ALTERNATIVES ANALYSIS .....</b>	<b>2</b>
2.1 Alternative 1 – Closure by Removal.....	3
2.2 Alternative 2 – Closure with a Final Cover System.....	3
2.3 Closure Alternatives Assessment .....	4
2.3.1 Assessment Criterion 1 – The Long- and Short-Term Effectiveness and Protectiveness of the Closure Method .....	4
2.3.2 Assessment Criterion 2 – The Effectiveness of the Closure Method In Controlling Future Releases .....	8
2.3.3 Assessment Criterion 3 - The Ease or Difficulty of Implementing a Potential Closure Method .....	8
2.3.4 Assessment Criterion 4 - The Degree to which the Concerns of the Residents Living within Communities where the CCR will be Handled, Transported and Disposed of are addressed by the Closure Method .....	10
2.3.5 Transportation and On-Site Capacity.....	11
2.3.6 Estimated Costs, Contaminant Transport Modeling, and Assess Impacts to Waters of the State .....	13
<b>3. ASSESSMENT OF CORRECTIVE MEASURES .....</b>	<b>16</b>
3.1 Groundwater Monitoring System.....	16
3.1.1 Site Hydrogeologic Characteristics .....	16
3.2 Existing Groundwater Quality .....	20
3.2.1 Nature and Extent.....	20
3.3 Assessment of Corrective Measures.....	22
3.3.1 Constituents of Concern .....	23
3.3.2 Corrective Measure Variants .....	23
<b>4. RESULTS OF PUBLIC MEETING.....</b>	<b>30</b>
<b>5. SELECTION OF CLOSURE METHOD.....</b>	<b>31</b>
<b>6. CLOSURE CONSTRUCTION PROCESS.....</b>	<b>31</b>
6.1 Closure Prioritization.....	31
6.2 Final Closure Plan .....	31
6.3 Closure Schedule .....	32
<b>7. SUMMARY .....</b>	<b>32</b>

## **FIGURES**

---

Figure 1 – Site Location Map  
Figure 2 – Site Details  
Figure 3 – Groundwater Monitoring Network

## **TABLES**

---

Table 1 – Groundwater Protection Standards  
Table 2 – Existing Groundwater Quality

## **ATTACHMENTS**

---

Attachment 1 – Potable Water Well Survey  
Attachment 2 – Contaminant Transport Model