

Stakeholder Meeting 3rd Quarter 2023 Update

COLSTRIP STEAM ELECTRIC STATION Remedial Activities October 11, 2023

Sarah Seitz (sarah.seitz@mt.gov or 406.444.6797)
Colstrip Environmental Project Officer
Waste Management & Remediation Division

Logistics

Welcome and thank you for participating in DEQ's Colstrip Stakeholders Meeting. Please read the following tips about participating in this hybrid meeting:

- All Zoom participants have been automatically muted. Please remain so until called on to speak. You will need to be given permission to unmute. Once you have spoken, please re-mute yourself.
- On Zoom, use the “raise hand” feature in the app to indicate that you would like to speak. For those in the room, please also raise your hand.
- If you are called on to speak, please identify yourself by stating your first and last name.
- You may also use the chat box and/or Q&A (Zoom webinar) to type your questions.
- If you are joining by phone:
 - Press *6 to mute/unmute yourself.
 - Press *9 to raise your hand.
- Visit the following link for helpful tips about using Zoom software:
 - <https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-meeting>

Agenda

- Overview of Colstrip SES AOC Areas
 - GIS Presentation of the areas to help stakeholders better understand the different AOC areas
- Quarterly Update on Plantsite –
 - ***Coal Ash Pond Closure Status/Alternatives Assessment/Potential Remedy Modification***
 - ***Discussion of DEQ's Preliminary Decision – Alternative 4B***
 - ***Public Comment Period: October 2 through November 2, 2023***
 - ***Process to DEQ's Final Decision***
 - Continue to operate and Optimize Freshwater Flushing/Groundwater Capture System
- Quarterly Update on Units 1&2 –
 - ***Remedial Design Ongoing – DEQ to receive shortly***
 - ***Revised RD/RA Work Plan – October 18, 2023***
 - ***Landfill Permit Materials – October 18, 2023***
 - Next Steps – Remedy implementation continues
 - ***Talen chose not to pursue Request to Amend the Remedy (Alt 11A)***
- Quarterly Update on Units 3&4 –
 - RD/RA Work Plan – October 31, 2023
 - Including updated details on the capture/flushing system and model updates
 - Remedy Components Implemented
 - Flushing/Capture system operation – 6-month review January 2024
 - Dry Disposal – Annual Report 2024
- Site Wide Activities
 - Annual Financial Assurance Review – late 2023
 - Annual AOC Meeting – November 2023
 - Water Feasibility Study – Continued communication between Colstrip SES Owners and City/County/Local Government – twice yearly meetings (July 2023 and Jan 2024)
- Upcoming Activities and Reports

S. Seitz hosted an interactive GIS aerial tour of the three AOC Areas.

UNITS 1 & 2 SOEP AND STEP AOC AREA

CASTLE ROCK LAKE

TOWN OF COLSTRIP

PLANT SITE AOC AREA

UNITS 3 & 4 EHP AOC AREA

2015 NAIP IMAGERY



SCALE

0 (In Feet) 3,000



LEGEND

- PROPERTY BOUNDARY
- UNITS 1 & 2 SOEP AND STEP AOC AREA
- PLANT SITE AOC AREA
- UNITS 3 & 4 EHP AOC AREA

Revised May 8, 2017

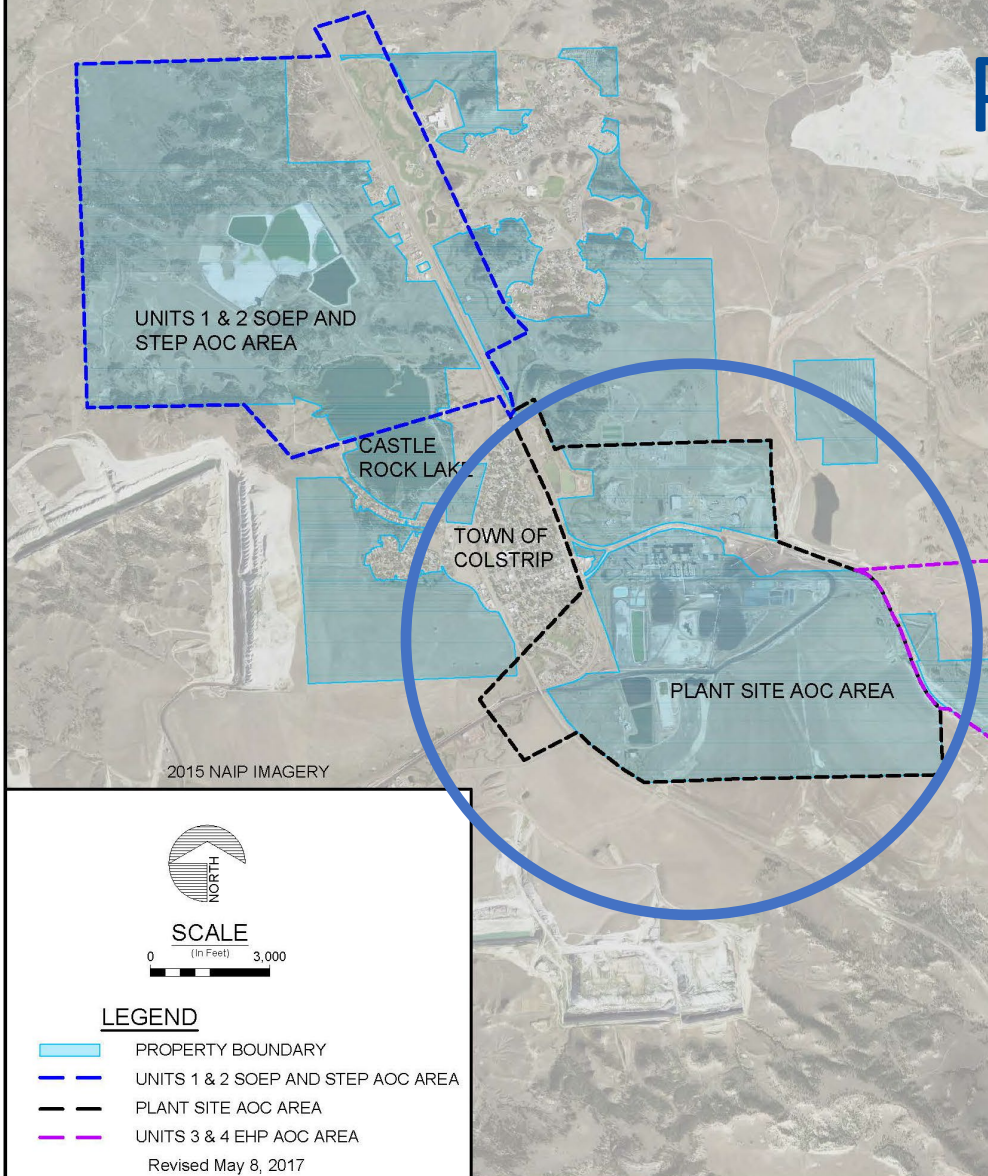
COLSTRIP WASTEWATER AOC AREAS

FIGURE

Hydrometrics, Inc.
Consulting Scientists and Engineers

Plant Site Remedy

- Approved remedy addresses groundwater contamination from coal ash process/disposal ponds
 - Closure of ponds and ash dewatering (in place)
 - Freshwater flushing and groundwater capture system
- Additional Measures:
 - Monitored Natural Attenuation (MNA)
 - Permeable Reactive Barriers (PRB)



Consulting Scientists and Engineers

Plant Site Ponds

- Pond closures and planned closures –
 - **Units 3&4 Bottom Ash Ponds** – Closed in place in East of Units 3&4 (north coal storage barn)
 - **No proposed modification to remedy**
- **DEQ Preliminary Decision on Remedy Modification**
 - **Units 1&2 A Pond** – Closed in place/cover added 2020-2021
 - Dewatering active
 - **Units 1&2 B Pond**
 - Units 1&2 B Pond stopped receiving water (CCR /operations materials) from Units 1&2 SOEP/STEP in Q2 2022
 - **Units 1&2 Bottom Ash and Clearwell**
 - Stopped receiving CCR material in January 2020



Plant Site Ponds – Remedy Modification Process

- DEQ/Talen steps on modification of remedy/closure design for **A Pond**, **B Pond** and **Bottom Ash/Clearwell Pond**
 - Talen Closure Evaluation:
 - DEQ agreed to delayed Closure Activities – Jan 2023
 - Model Updates – Completed March 2023
 - Talen Alternatives Assessment – May 1, 2023
 - 1.35 M cubic yards
 - Three viable alternatives mod remedy
 - Alternative A – Closure in Place
 - Alternative B – Closure by Removal to New Plant Site Landfills
 - Alternative C – Closure in Place with Vertical Barrier Walls
 - DEQ requested selection and evaluation of viable modified remedy – June 2023
 - Talen submitted Request to Modify Remedy to Alternative 4B – Closure by removal to new plant site landfills



Plant Site Ponds – Remedy Modification Alternative 4B

- DEQ's Preliminary Decision
 - Review and agree with Alternative 4B
 - DEQ Decision Document
- **Public Participation**
 - *Posted on website/emailed and notice in papers per AOC requirements for remedy mod decision*
 - *30-Day Comment Period*
 - *Ends November 2, 2023*
- Next Steps
 - DEQ review and response to public comments
 - DEQ Final Decision with Response to Public Comment included
 - Post on website, notice to stakeholders
- Design process for RD/RA Work Plan Addendum and Updated Closure Plan
 - Landfill design – DEQ Remediation/SW



Plant Site Ponds – Preliminary Remedy Modification Decision

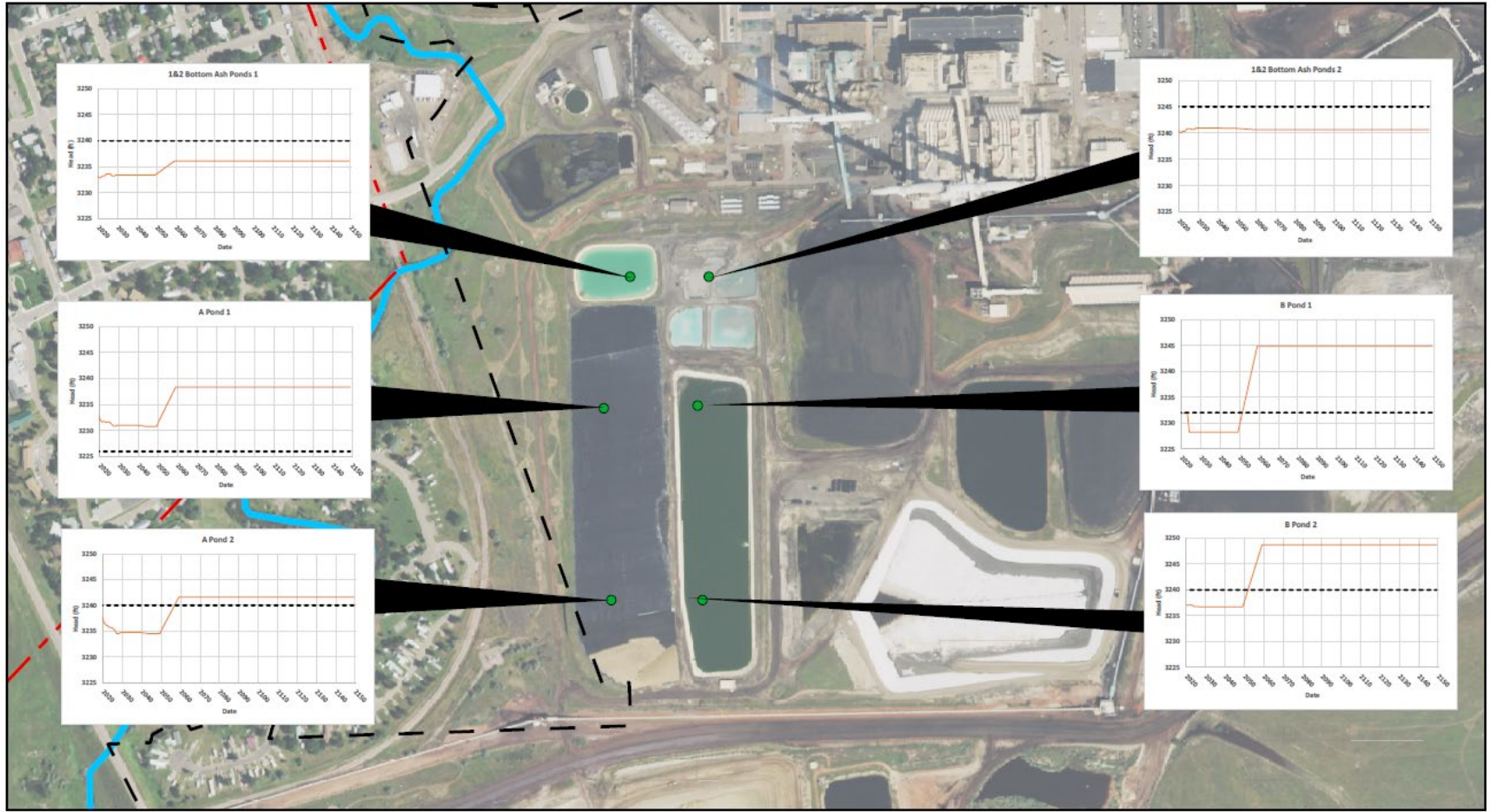
- Q3 2023 Stakeholder Meeting is *NOT* official public comment or responses to comments
- Official Public Comment –
 - <https://deq.mt.gov/News/publiccomment-folder/Colstrip-10-2-23>
 - Montana DEQ Open Public Comment Periods – Colstrip
 - Per the Administrative Order on Consent (AOC) with Talen Montana pursuant to DEQ's enforcement authority under § 75-5-612, MCA, of the Montana Water Quality Act and DEQ's general enforcement authority under the Montana Major Facility Siting Act, DEQ is providing a 30-day public comment period from October 2, 2023 through November 2, 2023. DEQ will consider all substantive comments received and issue a final decision on the remedy modification following the comment review. DEQ may also require Talen Montana to alter the plan.
 - **The public comment period will run October 2, 2023 through November 2, 2023. Public comments can be submitted through two methods:**
 1. Email to the DEQ Colstrip Remediation Project Officer, Sarah Seitz or the DEQ Colstrip email: sarah.seitz@mt.gov or DEQcolstrip@mt.gov with the subject line "Public Comment on Colstrip Plant Site Remedy Modification."
 2. Written Comments post marked by November 2, 2023, can be sent to the attention of the DEQ Colstrip Remediation Project Officer, Sarah Seitz:
Sarah Seitz – Public Comment on Colstrip Plant Site Remedy Modification
c/o Department of Environmental Quality
P.O. Box 200901
Helena MT 59620-0901

Plant Site Ponds – Preliminary Remedy Modification



Plant Site Ponds – Approved Remedy Closure in Place

P:\Colstrip\2016\006\002\TWR\EMM\GIS\Hydrographs\2025 Closure Options\Hydrographs of Water Levels Below CCR Ponds - Closure-In-Place.mxd



Note: 2019 NAIP Imagery

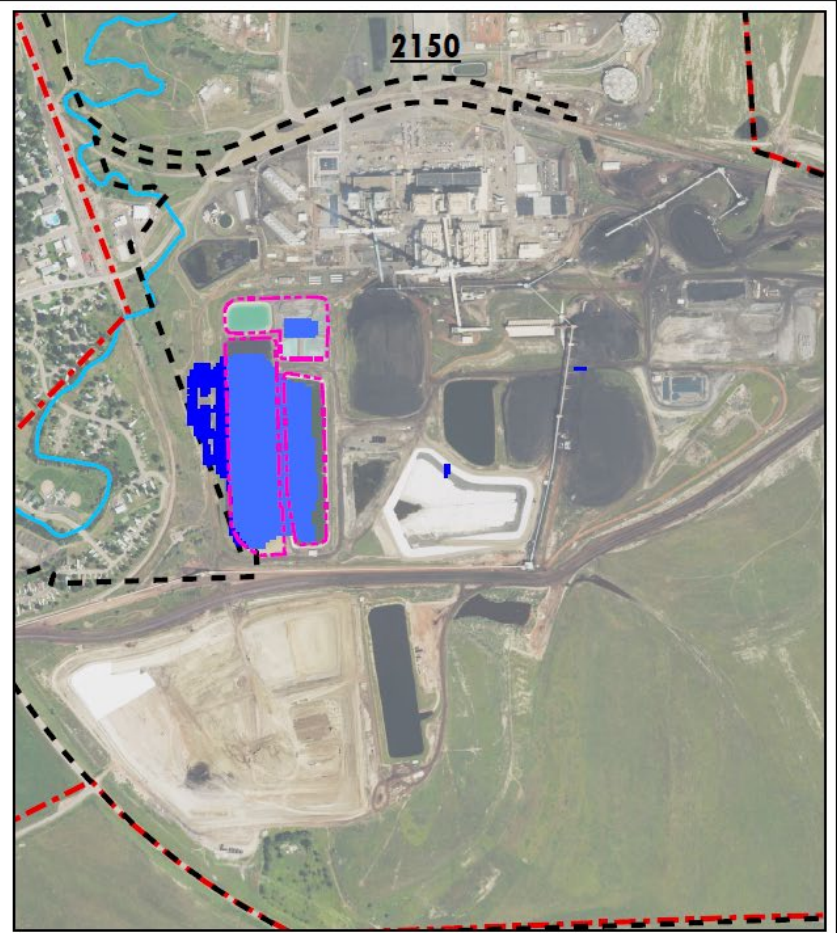
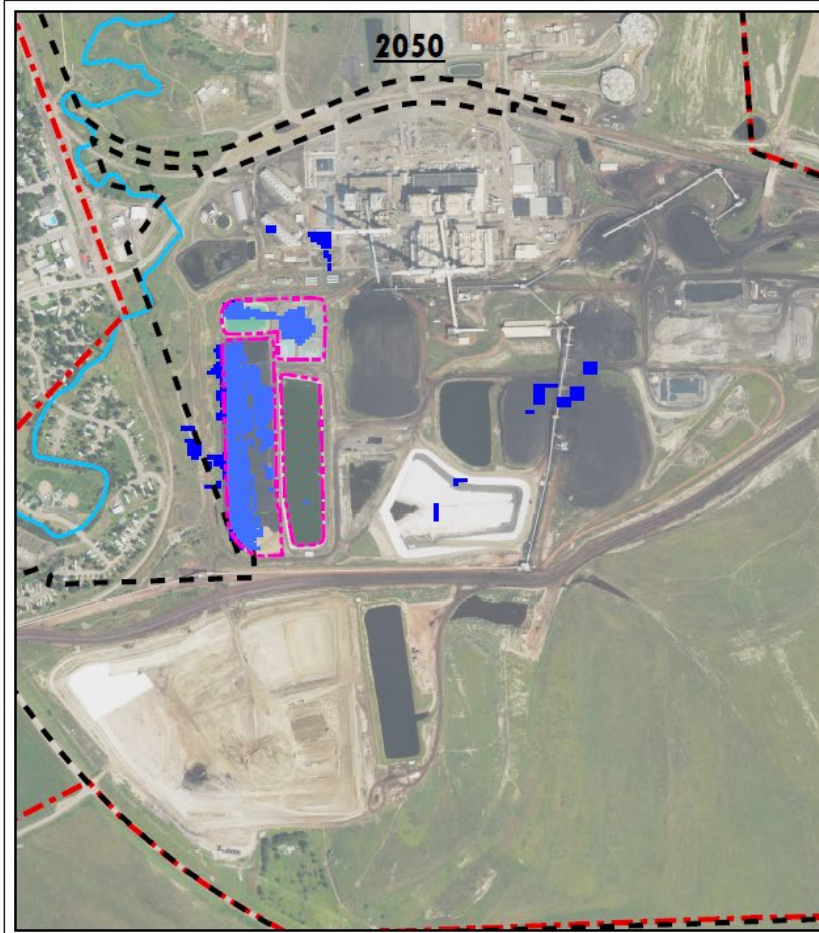
Areas Exceeding Cleanup Criteria (CC)

- Simulated Water Table Elevation
- Pond/Unit Bottom Elevation
- AOC Plant Site Boundary
- CSES Property Boundary



Hydrographs of Water Levels Below CCR Ponds - Closure-In-Place
Plant Site Closure Options Modeling
CSES-Colstrip, Montana
FIGURE 2

Plant Site Ponds – Approved Remedy Closure in Place



Note: 2019 NAIP Imagery

Areas Exceeding Cleanup Criteria (CC)

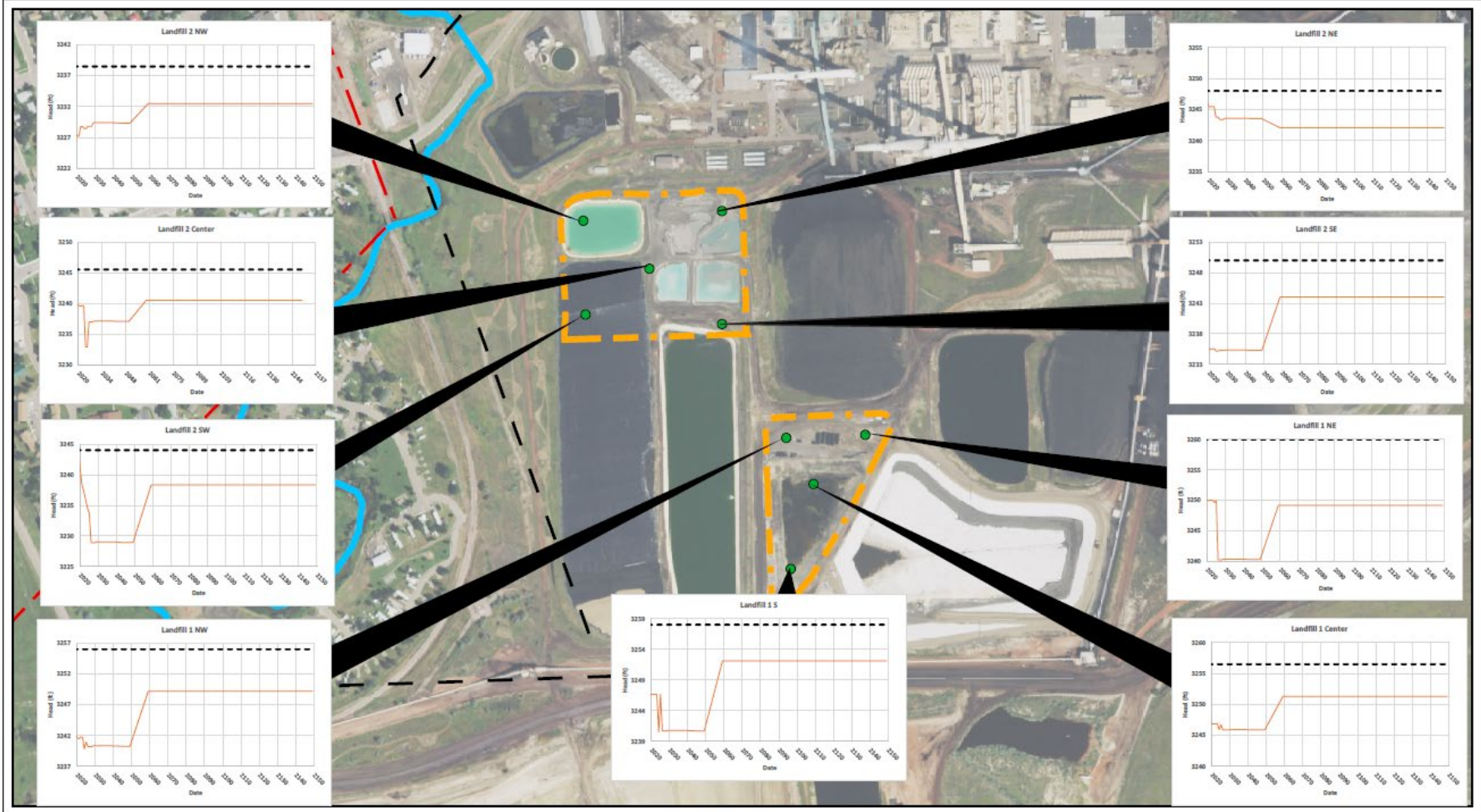
- Pond Boundary
- Boron Exceeding CC
- Boron Exceeding CC within Waste Boundary
- AOC Plant Site Boundary
- CSES Property Boundary



Closure in Place Areas of Exceedance 2050 and 2150 - Layer 1
Plant Site Closure Options Modeling
CSES-Colstrip, Montana
FIGURE 3

Plant Site Ponds – Remedy Modification Alternative 4B

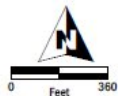
P:\Colstrip\500 0000 0000 Plant Site\0000 0000\2023 Closure Options Modeling\FIGURE 8 - Hydrographs of Water Levels Below Landfills



Note: 2019 NAIP Imagery

Areas Exceeding Cleanup Criteria (CC)

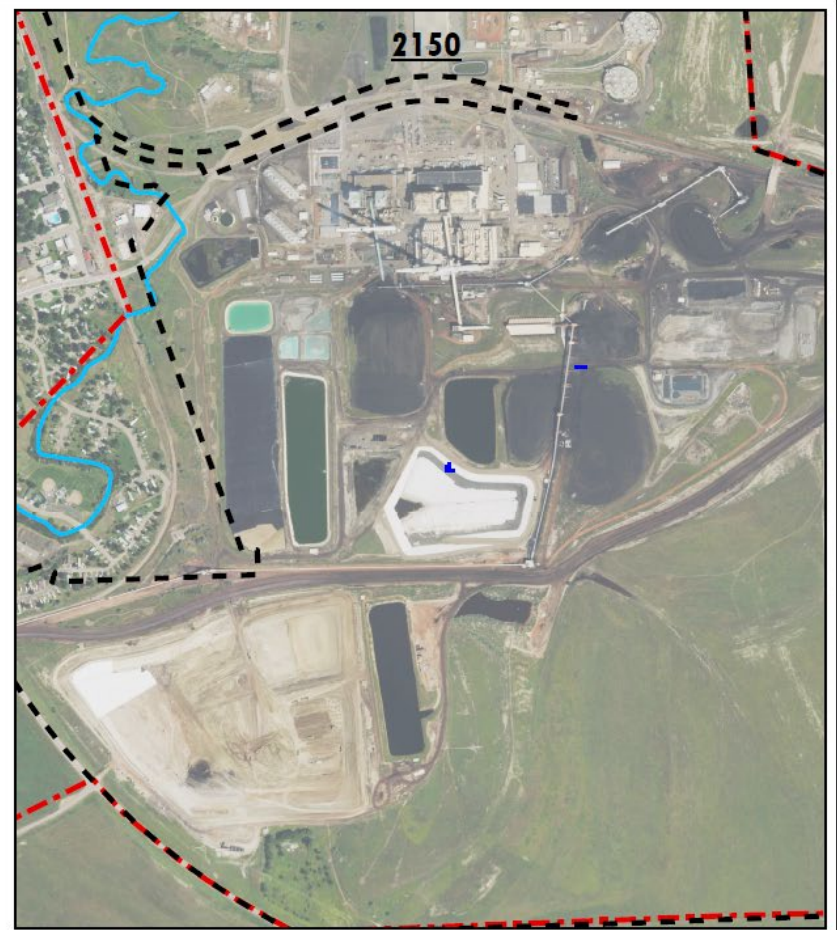
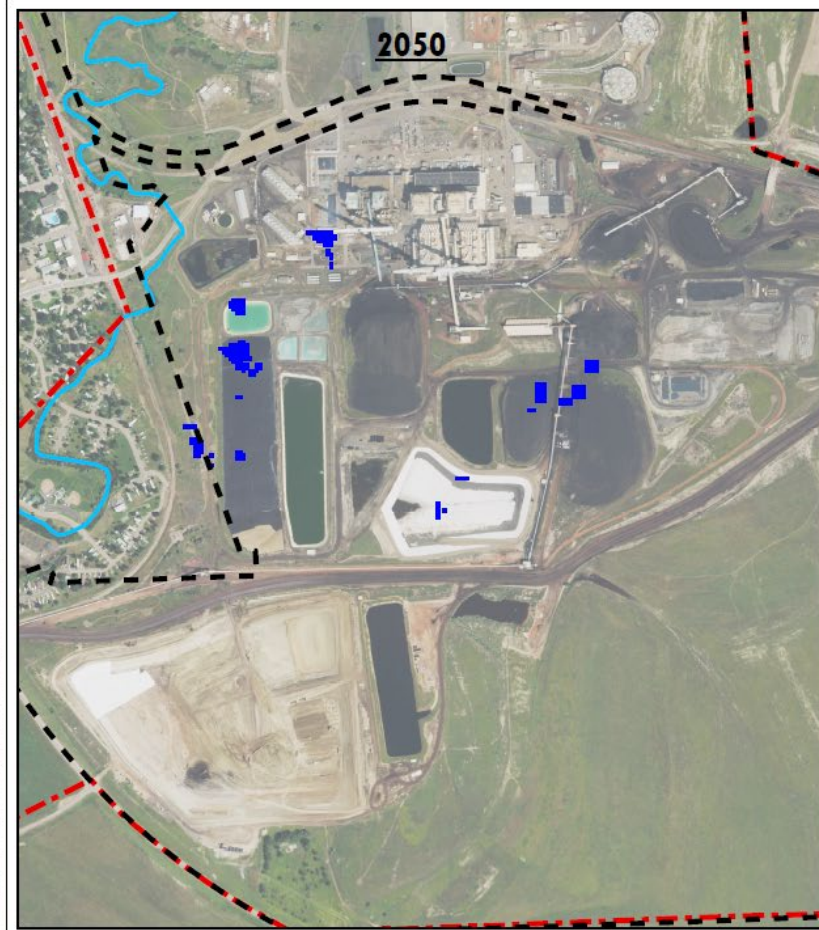
- Simulated Water Table Elevation
- Pond/Unit Bottom Elevation
- AOC Plant Site Boundary
- CSES Property Boundary
- New Ash Disposal Units



NewFields

Hydrographs of Water Levels Below Landfills
Plant Site Closure Options Modeling
CSES-Colstrip, Montana
FIGURE 8

Plant Site Ponds – Remedy Modification Alternative 4B



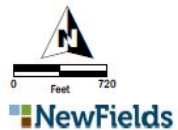
Note: 2019 NAIP Imagery

Areas Exceeding Cleanup Criteria (CC)

■ Boron Exceeding CC

--- AOC Plant Site Boundary

--- CSES Property Boundary



Closure by Removal Areas of Exceedance 2050 and 2150 - Layer 1
Plant Site Closure Options Modeling
CSES-Colstrip, Montana
FIGURE 9

Plant Site Ponds – Remedy Modification Alternative 4B

DEQ's Preliminary Decision

PUBLIC COMMENT

- Public Comment Website:
 - <https://deq.mt.gov/News/publiccomment-folder/Colstrip-10-2-23>
- Send comments via email or mail:
 1. sarah.seitz@mt.gov or DEQColstrip@mt.gov with “Public Comment on Colstrip Plant Site Remedy Modification” in subject
 2. Mail written comments:

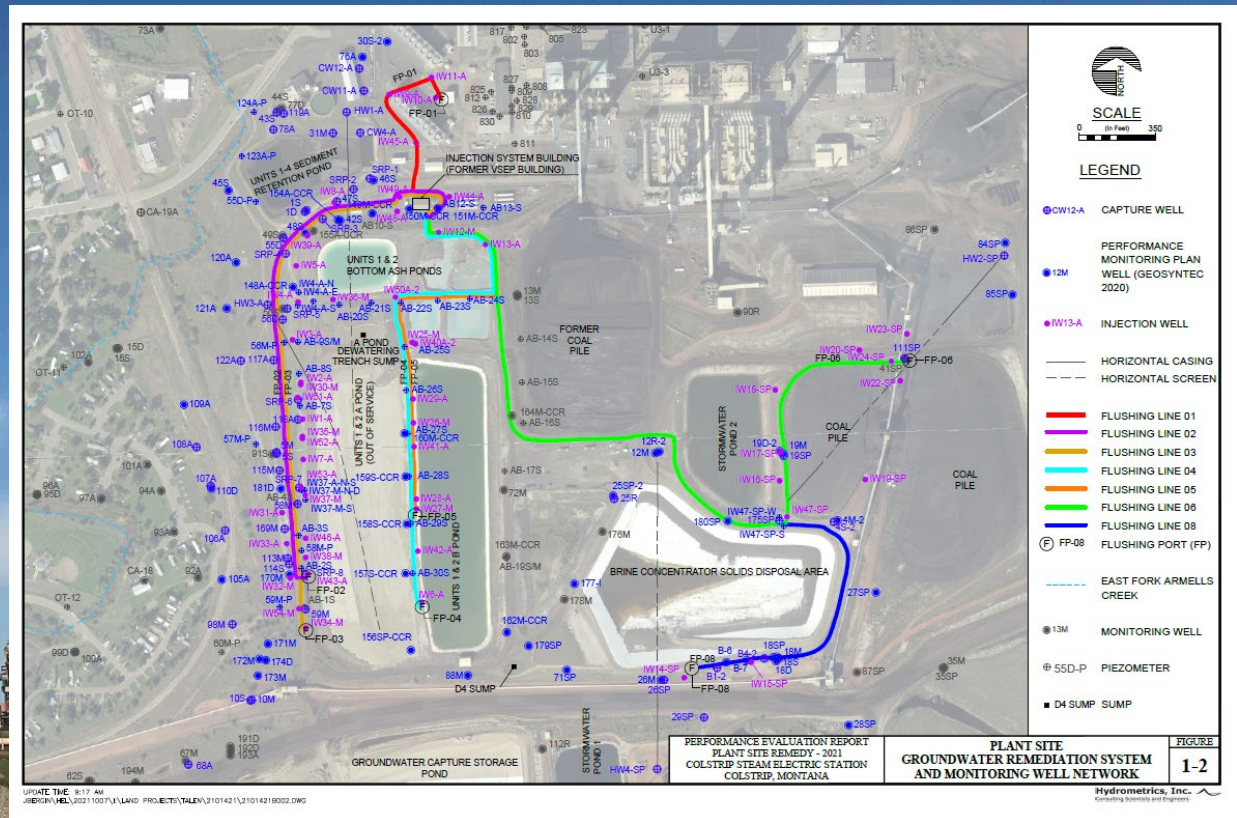
Sarah Seitz – Public Comment on Colstrip Plant Site Remedy Modification
c/o Department of Environmental Quality
P.O. Box 200901
Helena MT 59620-0901



Plant Site – Groundwater Flushing/Capture

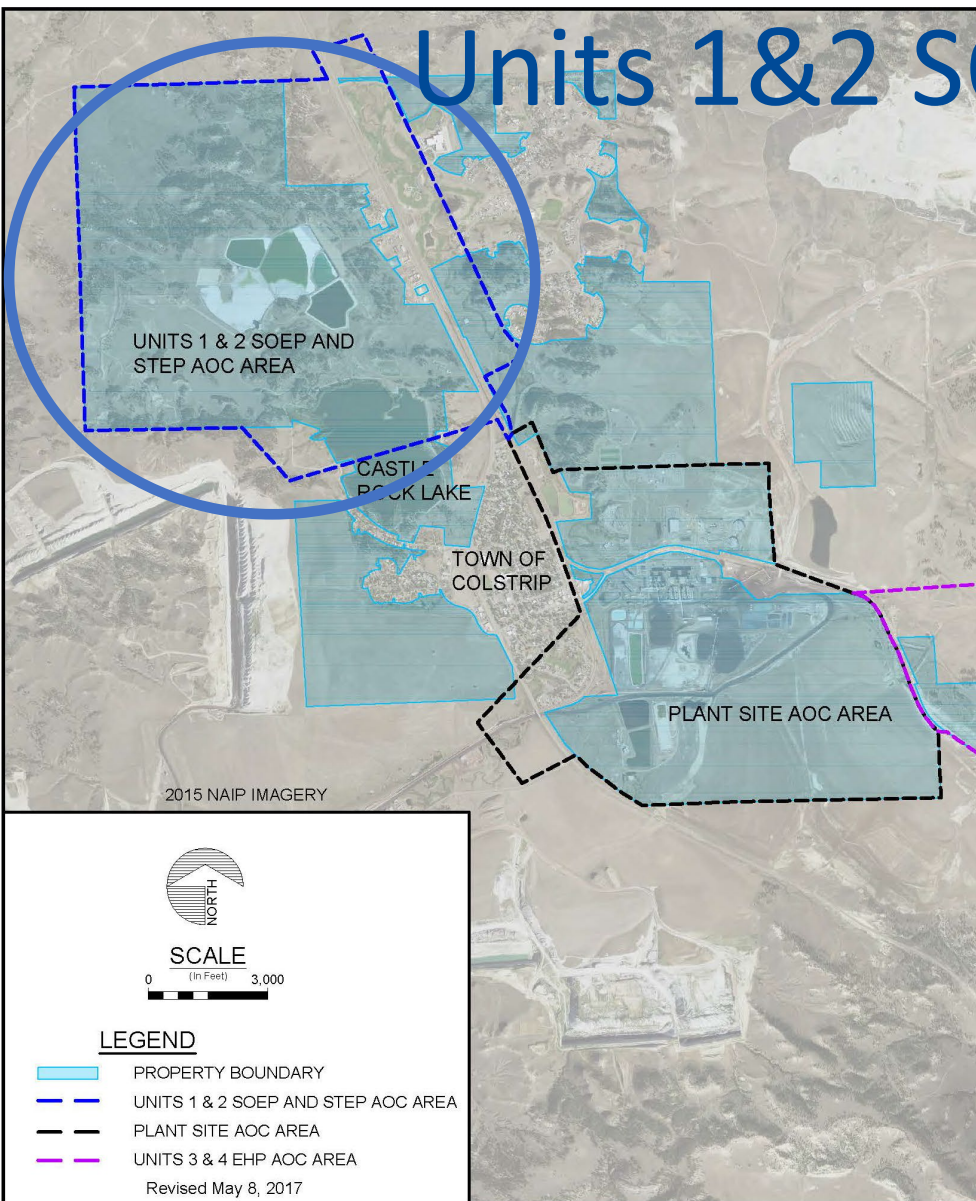
- Operate and Optimize Groundwater Flushing/Capture System
 - Started GW Capture/Flushing Remediation in July 2020
 - Updated analytical to be presented in next Annual Hydrologic Report – Spring 2024

- Modifications
Plant Site Remedy
Mod will require



Units 1&2 SOEP/STEP Remedy

- Approved remedy addresses groundwater contamination from coal ash process/disposal ponds and cells
 - Ash dewatering
 - Ash removal to a new landfill
 - Freshwater flushing and groundwater capture system
 - Additional Measures:
 - Monitored Natural Attenuation (MNA)
 - Permeable Reactive Barriers (PRB)



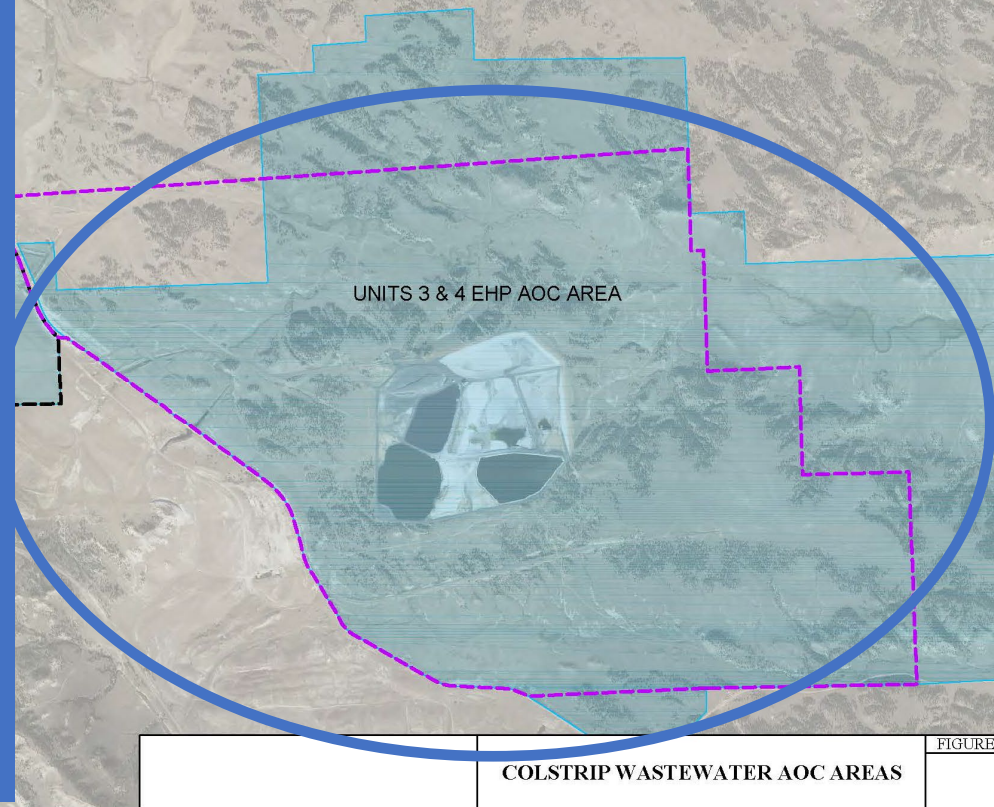
Units 1&2 SOEP/STEP Update

- Groundwater Remedy Started 2nd Quarter 2023 –
 - Small-Scale Capture/Flushing System
 - Annual Review 2024 – Spring 2024
- Remedial Design/Remedial Action (RD/RA) Work Plan
 - RD/RA Workplan – Submitted April 17, 2023
 - Landfill design – 75% in RD/RA Work Plan
 - Hydrogeological – ongoing analysis
 - Design – ongoing design updates
 - DEQ Review of RD/RA Workplan – June 28, 2023
 - Comments to Talen
 - Response to comments back 60-days
 - **Revised RD/RA Work Plan and Landfill Permit Application Materials**
On Track for submittal from Talen to DEQ October 18, 2023
- **Alternative 11A – Talen informed DEQ in September 2023 that they are not pursuing Alternative 11A Request to Amend the Remedy**
 - <https://deq.mt.gov/News/pressrelease-folder/news-article111>



Units 3&4 Evaporation Holding Pond (EHP) Remedy

- Approved remedy addresses groundwater contamination from coal ash process/disposal ponds and cells
 - Cell Closures & Ash dewatering
 - Freshwater flushing and groundwater capture system
 - Additional Measures:
 - Monitored Natural Attenuation (MNA)
 - Permeable Reactive Barriers (PRB)

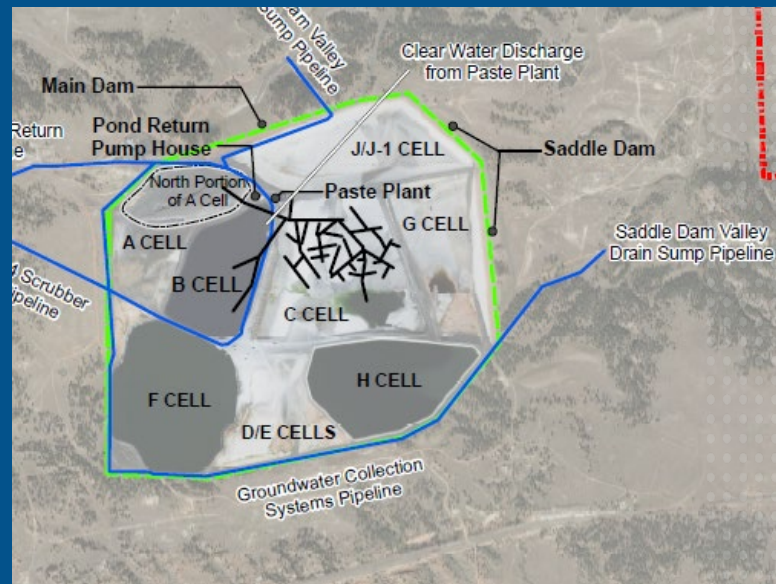


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Hydrometrics, Inc.
Consulting Scientists and Engineers

Units 3&4

- Groundwater Remedy Starting –
 - Capture/Flushing System
 - Started July 2023
 - DEQ and Talen – 6-month review in January 2024
- Remedial Design – RD/RA Work Plan – 2023
 - Submittal by Talen to DEQ October 31, 2023
 - MNA and PRB Studies – On-going
- Dry disposal operational –
 - Annual report
 - January 2024



Site Wide Discussions – Q2 2023

UNITS 1 & 2 SOEP AND
STEP AOC AREA

CASTLE
ROCK LAKE

TOWN OF
COLSTRIP

PLANT SITE AOC AREA

UNITS 3 & 4 EHP AOC AREA

2015 NAIP IMAGERY



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Revised May 8, 2017

COLSTRIP WASTEWATER AOC AREAS

FIGURE

Hydrometrics, Inc.
Consulting Scientists and Engineers



Site Wide Activities

- Annual Financial Assurance Review
 - October – November 2023
- Annual AOC Pubic Meeting
 - November 8, 2023 (*tentative*)
 - Colstrip – Hybrid Mtg
 - Email and notices to follow
- Water Feasibility Study
 - DEQ facilitate continued semi-annual meetings for discussions with Local Government (City/County/State) and Colstrip SES Power Plant Owner Representatives
 - Next Mtg January 2024
- DEQ's Coal Ash Website:
<https://deq.mt.gov/cleanupandrec/Programs/colstrip>

AOC Financial Assurance

Colstrip Owners	Financial Assurance (FA) Provided as of June 2023 ¹
Talen	\$115.3 million
Puget Sound Energy	\$125.8 million
Northwestern Energy	\$15.7 million
Portland General Electric	\$21.0 million
Avista	\$15.7 million
PacifiCorp	\$10.5 million
Total	\$304.1 million

1: DEQ revisits and reviews FA annually or with updated closure plan/remedy selection, and every 5-years DEQ comprehensive review (next comprehensive review in 2027)

CCR Rules – Federal EPA

Talen Montana responsible for self-implementing and reporting for coal combustion residual (CCR) Rule Compliance – website

- <https://www.talenenergy.com/ccr-colstrip/>
- DEQ joined for EPA's CCR Inspection of Colstrip Steam Electric Station CCR
 - July 11 and 12, 2023
 - EPA is reviewing notes and CCR documents
 - EPA will send inspection notes to Talen >70 days
- EPA Contact: Doug Knappe – Region 8 EPA - POC
 - <https://www.epa.gov/coalash>
 - No update or inspection report at this time
- DEQ will continue to be part of future discussions
 - DEQ exploring CCR as state rules



Next Steps

AOC Plant Site:

- Public Comment on DEQ's Preliminary Remedy Modification Decision
 - Public Comment ends November 2, 2023
- Continued remedy implementation
- MNA Study

AOC Units 1&2 SOEP/STEP:

- Optimization of Small-Scale Flushing/Capture Groundwater Treatment System
- RD/RA Workplan Revisions & Draft Landfill Permit Materials – October 18, 2023
 - MNA/PRB Studies
- NO Potential Request to Amend Remedy (Alt 11A)

AOC Units 3&4 EHP:

- RD/RA Workplan – October 31, 2023
 - Includes updated groundwater model for review
- Startup for clean water flushing 6-month review – January 2024

Remediation Act – Water Feasibility Study –

- DEQ coordination with stakeholders and facilitate semi-annual meetings
- Next Meeting January 2024

CCR Inspection/Coordination –

- DEQ coordination with EPA to support any data/report needs for completion and update DEQ on modifications or progress

Other Opportunity for Public Input:

**Climate Pollution Reduction Grant Program:
Public Meeting – October 23, 2024 at 3:00pm**

“To engage the public and gather valuable input on pollution reduction measures that should be included in the Montana Climate Action Plan, the state will host a public meeting at 3 p.m. on Oct. 23, 2023.”

<https://deq.mt.gov/News/publicmeetings-folder/CPRG-10-06-2023>



[YouTube](#)

Connect with us!

- **Sarah Seitz**
- *Colstrip WMR Project Officer*
- Sarah.Seitz@mt.gov
- 406.444.6797
- <https://deq.mt.gov/cleanupandrec/Programs/colstrip>



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YouTube



References

DEQ Colstrip Coal Ash Pond Cleanup Website:
<https://deg.mt.gov/cleanupandrec/Programs/colstrip>

MCA Title 75 Chpt 8 – Coal Fired Generating Unit Remediation Act:
https://leg.mt.gov/bills/mca/title_0750/chapter_0080/part_0010/sections_index.html

Talen CCR Rule Website:
<https://www.talenenergy.com/ccr-colstrip/>

EPA Region 8 CCR: Doug Knappe (Knappe.Doug@epa.gov)