

CCR Rule Operating Criteria

§257.71 Liner Design Criteria

FGD Pond 2
Jim Bridger Plant
Point of Rocks, Wyoming

September 13, 2016



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PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify, as a Professional Engineer in the State of Wyoming, that the information in this document was assembled under my direct supervisory control. This report is not intended or represented to be suitable for reuse by the PacifiCorp or others without specific verification or adaptation by the Engineer.

I hereby certify, as a Professional Engineer in the State of Wyoming that this report has been prepared in accordance with and meets the requirements of 40 Code of Federal Regulations §257.71. The Jim Bridger FGD Pond 2 does not meet the liner design criteria.



Jason Stratton, P.E.

September 13, 2016

Date

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Figure 1. Site Vicinity..... Error! Bookmark not defined.

1.0 INTRODUCTION

The PacifiCorp Jim Bridger Power Plant is located approximately nine miles northeast of Point of Rocks, Wyoming. This report addresses the requirements of §257.71 – Liner design criteria for existing CCR surface impoundments, as it pertains to the FGD Pond 2 at the Plant. This requirement includes documenting whether or not the 4B Pond was constructed with any one of the following [4]:

- Soil liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec;
- Composite liner consisting of an upper geomembrane liner of at least 30-mil thickness (60-mil if HDPE) over a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec; or
- Alternate composite liner: geomembrane liner that meets the above thickness criteria over a non-geomembrane layer that meets the above hydraulic conductivity criteria.

2.0 EXISTING CONDITIONS

The PacifiCorp Jim Bridger Power Plant is a coal-fueled steam-electric operation with four operating units having a total generating capacity of 2.12 GW, and is located approximately nine miles northeast of Point of Rocks, Wyoming. FGD Pond 2 was originally constructed in 1990 and expanded to its current size and configuration in 2003. The pond has a permitted surface area of 402 acres and a permitted capacity of 11,534 acre-ft. Flows enter the pond from the existing pond currently covers an area of about 250 acres. The western third of the pond area was sectioned off from the main body of FGD waste by an internal dike (Dike VI). Informally this western portion of the pond has been labelled FGD Pond 2A for potential future construction of a CCR rule compliant cell. A Location Map for FGD Pond 2 is presented in Figure 1.

FGD Pond 2 is a zero discharge facility and generally evaporates water at the same rate it is disposed of in this pond. It does not have a spillway, or outlet structure. The inlet structure consists of two, 10-inch diameter HDPE pipelines which can discharge at various points along the southern side of the pond.

Seepage from the current FGD Pond 2 has created a groundwater plume beneath the general area of the disposal ponds (FGD Ponds 1 and 2). This plume is presently controlled by a series of groundwater pump back wells which discharge the pumped water back into FGD Pond 2.

3.0 EXISTING LINER SYSTEM

Construction records, drawings, and permit applications for both the 1990 construction and the 2003 expansion do not indicate a soil liner or a geomembrane liner were constructed. It is likely the embankment core and soil-bentonite cutoff wall would meet soil liner permeability requirements but it appears the entire pond bottom area does not meet these requirements. Visual observations do not suggest the presence of a geomembrane liner or compacted soil liner over the pond bottom area.

4.0 CONCLUSIONS

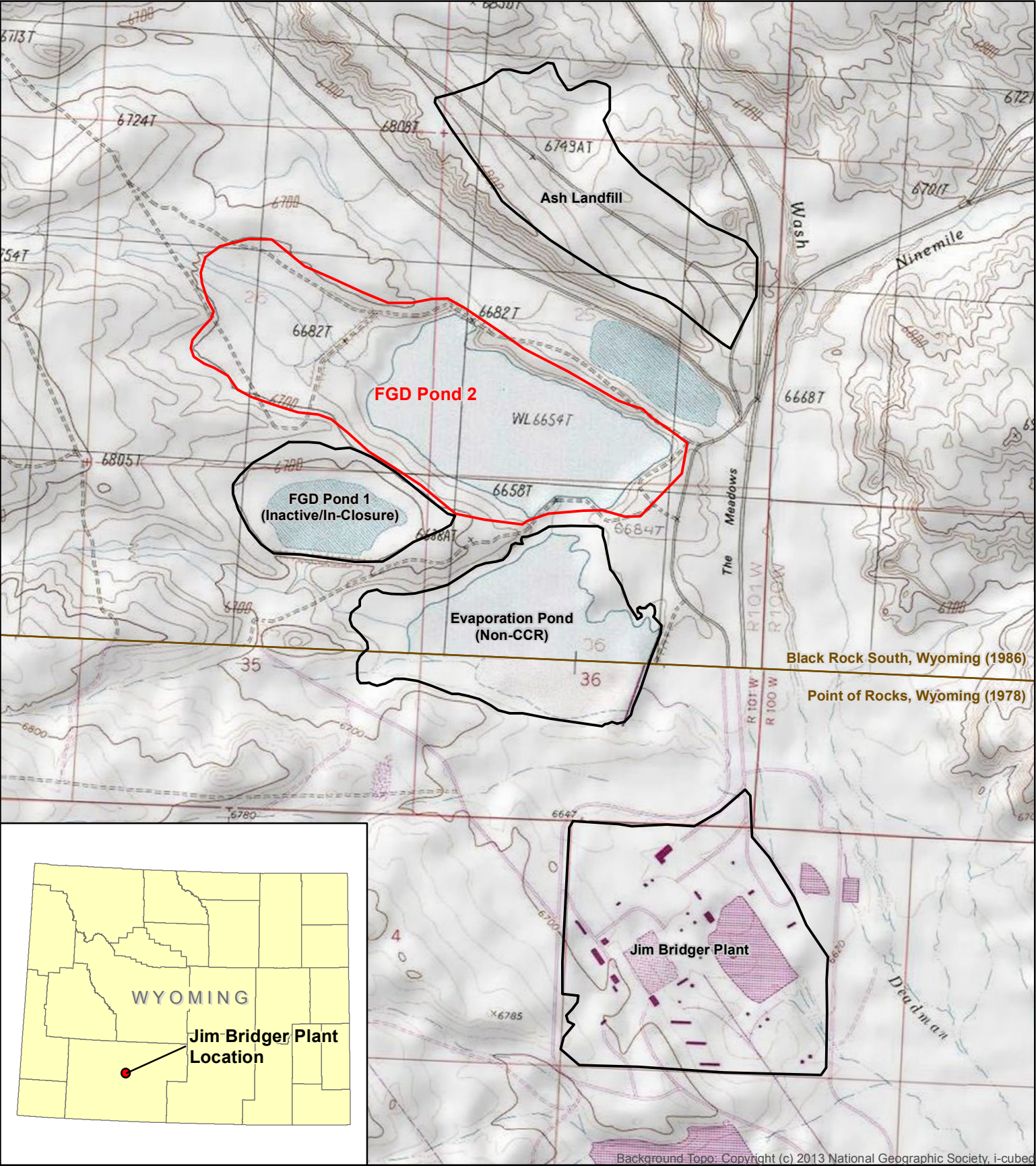
The FGD Pond 2 does not meet the requirements of §257.71 – Liner design criteria for existing CCR surface impoundments, due to absence of an installed geomembrane liner and compacted clay soil liner. The Rule states that existing CCR surface impoundments are considered unlined if “the owner or operator of the CCR unit fails to document whether the CCR unit was constructed with a liner that meets the requirements of paragraphs (a)(1)(i), (ii), or (iii) of this section.”

5.0 SOURCE(S)

- [1] GEI Consultants (2009) *FINAL Coal Ash Impoundment – Specific Site Assessment Report: PacifiCorp Energy Jim Bridger Power Station*. U.S. EPA. Report Dated September 2009. 117pp.
- [2] Maxim Technologies (2001) *Jim Bridger Plant FGD Pond 2 Expansion Point of Rocks, Wyoming*. Prepared for PacifiCorp. Report Dated December 3, 2001. 30 pp.
- [3] Pacific Power & Light Company (1990) *State of Wyoming, Office of the State Engineer, Application for Permit 9596: Jim Bridger Project – Evaporation Pond*. Dated July 19, 1990.
- [4] Environmental Protection Agency (EPA) *40 CFS § 257 Disposal of Coal Combustion Residuals from Electric Utilities*. Dated April 17, 2015.

REVISIONS

Revision Number	Date	Revision Made	By Whom
0	9/13/2016	Initial Issue	Tetra Tech



Black Rock South, Wyoming (1986)

Point of Rocks, Wyoming (1978)

WYOMING

Jim Bridger Plant
Location

Jim Bridger Plant

Deadman

FIGURE 1
Location Map for FGD Pond 2

CCR Rule Compliance Reports
Jim Bridger Power Plant
PacifiCorp

Sweetwater County, Wyoming

Date: 6/1/2016