

# INFLOW DESIGN FLOOD CONTROL PLAN

**CFR 257.82**

CCR Surface Impoundments

Oklahoma Plant  
Vernon, Texas

October, 2016

Prepared for: Public Service Company of Oklahoma

Prepared by: American Electric Power Service Corporation

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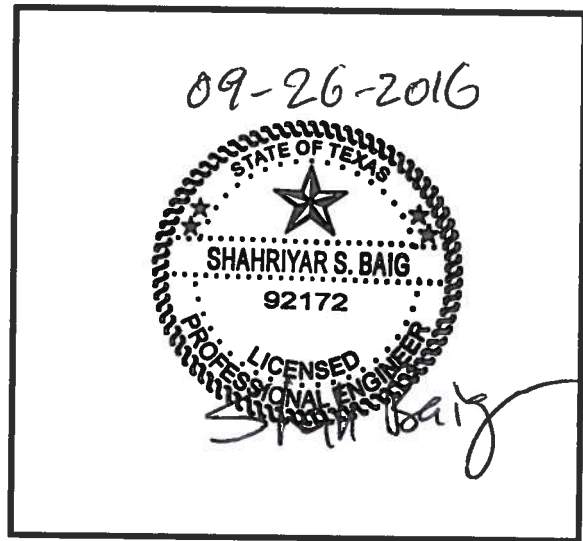
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INFLOW DESIGN FLOOD CONTROL PLAN  
CFR 257.82  
OKLAUNION PLANT  
CCR SURFACE IMPOUNDMENTS

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I certify to the best of my knowledge, information, and belief that the information contained in this inflow design flood control plan meets the requirements of 40 CFR § 257.82

## Table of CONTENTS

<b>1.0 OBJECTIVE</b> .....	4
<b>2.0 DESCRIPTION OF THE CCR UNIT</b> .....	4
<b>3.0 INFLOW DESIGN FLOOD 257.82(a)(3)</b> .....	4
<b>4.0 FLOOD CONTROL PLAN 257.82(c)</b> .....	4

### **Attachment A – Summary of Inflow Design Flood**

## **1.0 OBJECTIVE**

This report was prepared by AEP- Geotechnical Engineering Services (GES) section to fulfill requirements of CCR 257.82 for the hydrologic and hydraulic evaluation of CCR surface impoundments. This document applies to all of the CCR surface impoundments described below.

## **2.0 DESCRIPTION OF THE CCR UNIT**

The Oklaunion Power Station is located near the City of Vernon, Texas. It is owned and operated by Public Service Company of Oklahoma (PSO). There are five CCR surface impoundments at the plant. The Oklaunion Ponds for storing CCR include two, 5+ acre ponds for bottom ash storage and dewatering (Pond 21 and Pond 22), a 13+ acre pond for fly ash storage and dewatering (Pond 23), and a 22+ acre pond for Waster Water and Sludge (WWSP) storage and dewatering pond, and Pond 6 which has a surface area of 68 acres. The ponds were constructed as a continuous upground earthen embankment with 3H:1V inboard and outboard slopes and crest width of 20 feet. These ponds do not have any outlet structures or spillways and rely on evaporation to remove water from the impoundments.

The embankment dams within this report do not fall under the Texas Dam Safety Jurisdiction therefore they do not contain a state identification number.

## **3.0 INFLOW DESIGN FLOOD 257.82(a)(3)**

The facilities are all classified as a Low Hazard Potential Dams. The Inflow Design Flood is the 100-year flood.

## **4.0 FLOOD CONTROL PLAN 257.82(c)**

As briefly noted, all inflows are controlled by plant operations, excluding direct rainfall on the surface of the ponds. The ponds operate with a minimum of 2-feet of freeboard. The 100-year, 24-hour rainfall event is approximately 9 inches.

The attached summary explains that the facility has the capacity to manage the inflow design flood.

**ATTACHMENT A**

**Summary of Inflow Design Flood**

Oklaunion Plant  
PSO  
CCR Surface Impoundments

There are 5 CCR surface impoundments at the Oklaunion Plant. They are Ponds 6, 21, 22, 23 and the WW/Sludge Pond. These ponds are diked, upground reservoirs. The only inflows to the ponds are the plant process waters and direct rainfall. There is no uncontrolled storm water runoff that enters any of these ponds. The ponds have no outfall structures. Outflow from the ponds is through evaporation. The plant has the ability to install temporary pumping systems to empty the water within the ponds if necessary.

These ponds have been permitted by the TCEQ as waste water ponds as well. The TCEQ requires that a 2-ft minimum freeboard be maintained during normal operations.

The CCR surface impoundment ponds have been classified as Low hazard potential and the corresponding inflow design flood is the 100-year event. The most current source of rainfall frequency data is listed as TP-40 by the US Weather Bureau. The 100-yr, 24-hour rainfall is approximately 9 inches.

Therefore, the ponds have adequate capacity to store the required inflow design flood based on maintaining a 2-ft freeboard during normal operating conditions.

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