

**ANNUAL INSPECTION REPORT FOR COAL COMBUSTION RESIDUALS (CCR) UNITS  
SAN MIGUEL ELECTRIC COOPERATIVE POWER PLANT**

**Prepared For:**

**San Miguel Electric Cooperative, Inc.**  
6200 FM 3387  
Christine, Texas 78012

**Prepared By:**

**Wood Environment & Infrastructure Solutions, Inc.**

3755 South Capital of Texas Highway  
Suite 375  
Austin, Texas 78704  
512.795.0360  
wood.com

TX Engineering Firm No F-0012  
Texas Registered Geoscience Firm 50184

**January 10, 2019**

**Revision 0**

**Wood Project No.: 6706160039**

  
Mark J. Breitnauer, P.E.  
Senior Engineer



# Table of Contents

<b>Executive Summary</b> .....	1
<b>1.0 Introduction</b> .....	3
1.1 Brief Description of CCR Units .....	4
<b>2.0 Annual Inspection Requirements</b> .....	5
2.1 Ash Pile .....	5
2.2 Equalization Pond .....	6
2.3 Ash Ponds A and B .....	8
<b>3.0 Inspection Results</b> .....	10
3.1 Previous Inspections .....	10
3.2 Current Inspections .....	10

## TABLES

Summary Table of CCR Units Annual Inspections  
CCR Rule Cross Reference Table  
2018 Annual Inspection for the Equalization Pond and Ash Ponds A and B Results  
2018 Ash Pile Annual Inspection Results

## FIGURES

Figure 1      Site Map  
Figure 2      Equalization Pond Site Map  
Figure 3      Ash Ponds Site Map  
Figure 4      Ash Pile Site Map

## APPENDICES

Appendix A    Copy of October 28th Inspections Summary  
Appendix B    Updated Copy of October 28th Inspections Summary

## Executive Summary

Wood Environment & Infrastructure Solutions, Inc. (Wood) was retained to conduct the 2018 Annual Inspections for the coal combustion residuals (CCR) units at the San Miguel Electric Cooperative Inc. (SMECI) Power Plant, located at 6200 FM 3387, six miles south of Christine, Texas. The Annual CCR Inspections were performed to meet the requirements specified in the United States Environmental Protection Agency (USEPA) CCR Rule, 40 Code of Federal Regulations (CFR) §257.83 (b), for the facility’s surface impoundments (the Equalization Pond and the Ash Ponds A and B) and 40 CFR §257.84(b) for landfills (i.e., the Ash Pile). The purpose of this inspection report is to provide an engineering opinion as to whether the CCR Units are structurally sound and that the design, operation, and maintenance of the Units are in accordance with generally accepted engineering practices.

The San Miguel Equalization Pond and the Ash Ponds A and B, are considered CCR surface impoundments and are subject to the regulatory requirements stipulated in §257.83 (b). The Ash Pile is considered a CCR Landfill and is subject to the regulatory requirements stipulated in §257.84(b). A summary of the inspection findings is provided, as follows:

### Summary Table of CCR Units Annual Inspections

---

CCR Unit	CCR Rule Reference	Requirements Summary	Requirement Status
Ash Ponds A and B	§257.83(b)(1)	Annual Inspection	All Requirements Met
	§257.83(b)(2)	Inspection Report	All Requirements Met
	§257.83(b)(4)	Frequency of Inspections	All Requirements Met
	§257.83(b)(5)	Deficiency Identified	None Identified
Equalization Pond	§257.83(b)(1)	Annual Inspection	All Requirements Met
	§257.83(b)(2)	Inspection Report	All Requirements Met
	§257.83(b)(4)	Frequency of Inspections	All Requirements Met
	§257.83(b)(5)	Deficiency Identified	None Identified
Ash Pile	§257.84(b)(1)	Annual Inspection	All Requirements Met
	§257.84(b)(2)	Inspection Report	All Requirements Met
	§257.83(b)(4)	Frequency of Inspections	All Requirements Met
	§257.83(b)(5)	Deficiency Identified	None Identified

## 1.0 Introduction

Wood Environment & Infrastructure Solutions, Inc. (Wood) was retained to conduct the 2018 Annual Inspections for the coal combustion residuals (CCR) units at the San Miguel Electric Cooperative Power Plant, located near Christine, Texas. The Annual CCR Inspections were performed to meet the requirements specified in the United States Environmental Protection Agency (USEPA) CCR Rule, 40 Code of Federal Regulations (CFR) §257.83 (b), for the facility’s surface impoundments (the Equalization Pond and the Ash Ponds A and B) and 40 CFR §257.84(b) for landfills (i.e., the Ash Pile). The purpose of this inspection report is to provide an engineering opinion as to whether the CCR Units are structurally sound and that the design, operation, and maintenance of the Units are in accordance with generally accepted engineering practices and meet the applicable CCR requirements.

The San Miguel Ash Ponds are considered CCR surface impoundments and are subject to the regulatory requirements stipulated in §257.83 (b). The Ash Pile is considered a CCR Landfill and is subject to the regulatory requirements stipulated in §257.84(b). The CCR Rule requires that the inspection for an existing CCR unit be prepared in a timeframe based on the previous inspection report. The previous inspection report for each of the CCR Units is dated January 10, 2018.

The following table summarizes the documentation required within the CCR Rules for each of the subject CCR Units.

**CCR Rule Cross Reference Table**

Regulatory Requirements	Ash Pile	Ash Ponds A and B	Equalization Pond
Annual Inspection	§257.84(b)(1)	§257.83(b)(1)	§257.83(b)(1)
Inspection Report	§257.84(b)(2)	§257.83(b)(2)	§257.83(b)(2)
Frequency of Inspections	§257.84 (b)(4)	§257.83(b)(4)	§257.83(b)(4)
Deficiency Identified	§257.84 (b)(5)	§257.83(b)(5)	§257.83(b)(5)

## 1.1 Brief Description of the CCR Units

**Figure 1** in Appendix A shows the San Miguel Plant with each of the CCR Units identified. The San Miguel Plant is located in south central Atascosa County south of Christine, Texas. The plant is surrounded by open grassy pasturelands used primarily for livestock and oil and gas production. Each of the CCR Units are briefly described, as follows:

- **Ash Pond A and B** - The Ash Ponds are east-west oriented and were constructed as a side-hill earthen berm impoundment with the northern embankment at or near natural grade. The A and B “cells” are partially divided by a central dike with a connecting weir located near the eastern end of the central dike. The Ash Pond cells are only closed to isolate the north or south cells for periodic ash removal. According to a San Miguel representative, the Ash Pond was last partially dredged in 2016. Additional dredging is scheduled to occur in early 2019.

The perimeter of the Ash Pond is approximately 5,750 feet, and the approximate surface area is 26 acres. The maximum pond depth is approximately 16.5 feet which ranges from 2.5 to 1 (horizontal to vertical) to 3.0 to 1 (horizontal to vertical) on the side slopes on the downstream face. The berm crests have an average width of approximately 10 feet. After recent improvements that were performed by SMECI during the fourth quarter of 2018, the elevation of the embankment crest is 315 feet with a normal pool water surface elevation of 313.5 feet (18-inches below the crest of the berm).

- **Equalization Pond** - The Equalization Pond is an earthen berm impoundment that shares its western embankment with a water well storage pond (Raw Water). The perimeter around the Equalization Pond is approximately 4,500 feet, and the surface area is approximately 25 acres. The designed pond depth is approximately 16.5 feet with 3.0 to 1 (horizontal to vertical) side slopes on the downstream face and an average crest width of approximately 10 feet. With recent improvements made during the fourth quarter of 2018, the elevation of the embankment crest is 295 feet with a normal pool level gage elevation of 293.0 feet (24-inches below the crest of the berm).
- **Ash Pile** - The Ash Pile is a temporary storage area approximately 1.0 acre in size. The Ash Pile is used to stage a stabilized mixture of fly ash and flue gas desulfurization (FGD) scrubber waste treatment sludge. A concrete wall partially contains the Ash Pile on the eastern side and a steel wall contains the Ash Pile on the southern side. The

Ash Pile material is loaded onto dump trucks using a front-end loader. The Ash Pile material is then transported to San Miguel's surface lignite mines located outside the operating Power Plant boundaries. The Ash Pile does not have a permanent cover due to the transient nature of operations (i.e., daily dump truck loading).

## 2.0 Annual Inspection Requirements

The annual inspection requirements applicable to each of the three CCR Units at the Plant, are described in the following sections.

### 2.1 Ash Pile

The Ash Pile is subject to annual inspection by a qualified engineer, pursuant to 40 CFR §257.84(b)(1), "...to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards". The inspection components are, as follows:

- *40 CFR §257.84 (b)(1)(i) - A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections).*
- *40 CFR §257.84 (b)(1)(ii) - A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.*

The results of the inspection must be documented pursuant to the inspection reporting requirements of 40 CFR §257.84 (b)(2):

*(i) - Any changes in geometry of the structure since the previous annual inspection.*

*(ii) - The approximate volume of CCR contained in the unit at the time of the inspection*

*(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit.*

*(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.*

The frequency of inspections at the Ash Pile is pursuant to 40 CFR §257.84 (b)(4), as follows:

- *The owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by §257.105(g)(9).*

## **2.2 Equalization Pond**

The Equalization Pond is subject to annual inspection by a qualified engineer, pursuant to 40 CFR §257.83(b)(1), “... to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards”. The inspection components are, as follows:

- *40 CFR &257.83(b)(1)(i) - A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information required by §257.73 (c)(1) and §257.74 (c)(1), previous periodic structural stability assessments required under §257.73 (d) and §257.74 (d), the results of inspections by a qualified person, and results of previous annual inspections).*
- *40 CFR §257.83 (b)(1)(ii) - A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.*

The results of the inspection must be documented pursuant to the inspection reporting requirements of 40 CFR §257.83 (b)(2):

*(i) - Any changes in geometry of the impounding structure since the previous annual inspection.*

*(ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection*



*(iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection*

*(iv) The storage capacity of the impounding structure at the time of the inspection.*

*(v) The approximate volume of the impounded water and CCR at the time of the inspection.*

*(vi) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.*

*(vii) Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.*

The frequency of inspections at the Equalization Pond is pursuant to 40 CFR §257.83 (b)(4), as follows:

- *(i) Except as provided for in paragraph (b)(4)(ii) of this section, the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by §257.105 (g)(6).*

### **2.3 Ash Ponds A and B**

Annual Inspection requirements for the Ash Ponds A and B are the same as for the Equalization Pond. The Ash Pond A and B are subject to annual inspection by a qualified engineer, pursuant to 40 CFR §257.83(b)(1), “...to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards”. The inspection components are, as follows:

- 40 CFR &257.83(b)(1)(i) - *A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information required by §257.73 (c)(1) and §257.74 (c)(1), previous periodic structural stability assessments required under §257.73 (d) and §257.74 (d), the results of inspections by a qualified person, and results of previous annual inspections).*
- 40 CFR §257.83 (b)(1)(ii) - *A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.*

The results of the inspection must be documented pursuant to the following inspection reporting requirements of 40 CFR §257.83 (b)(2):

*(i) - Any changes in geometry of the impounding structure since the previous annual inspection.*

*(ii) - The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection*

*(iii) - The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection*

*(iv) - The storage capacity of the impounding structure at the time of the inspection.*

*(v) - The approximate volume of the impounded water and CCR at the time of the inspection.*

*(vi) - Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.*

*(vii) - Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.*

The frequency of inspections at Ash Ponds A and B is pursuant to 40 CFR §257.83 (b)(4), as follows:

*– (i) Except as provided for in paragraph (b)(4)(ii) of this section, the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by §257.105 (g)(6).*

### 3.0 Inspection Results

#### 3.1 Previous Inspections

The most recent inspection performed at the facility was performed by Wood, on December 18 and 19, 2018. The purpose of this inspection was to establish the status of the corrective actions taken in response to prior Annual Inspections findings, as documented in each of SMECI’s individual Annual Inspection Reports, beginning in 2015. A copy of Wood’s October 2018 inspection findings is presented in **Appendix A**.

#### 3.2 Current Inspections

The visual inspections of the CCR Units for the 2018 Annual Inspections were performed under the direction of a qualified professional engineer, on December 18 and 19, 2018. Prior to the inspections, SMECI mowed the impoundment areas to allow for improved visual inspection for seeps and/or structural weaknesses. The available information pertaining to each CCR Unit, including operational records and results of previous annual inspections performed by others, was provided by SMECI for Wood’s review during the course of the inspections. In addition to past inspection records, the available information also included Wood’s Safety Factor Assessment report, dated November 14, 2018. The Safety Factor Assessment report documents certain construction improvements made to the Ash Ponds A and B during the fourth quarter of 2018.

The results of the 2018 Annual Inspection for the Equalization Pond and Ash Ponds A and B, are presented, as follows:

#### 2018 Annual Inspection for the Equalization Pond and Ash Ponds A and B Results

Regulatory Citation	Ash Ponds A and B	Equalization Pond
40 CFR §257.83 (b)(2) (i) - Any changes in geometry of the impounding structure since the previous annual inspection.	No changes in geometry were noted other than the slope realignment on the eastern side of the Ash Ponds, the installation of the toe drain on the west side of the Ash Ponds, and the placement of compacted clay soil along the crest of the berms on the eastern and southern sides of	No changes in geometry were noted other than the addition of compacted clay soils along the crest of the Equalization Pond on the northern, eastern, and southern portions of the berm. (See <b>Figures 1 and 2</b> )

	the Ash Ponds. (See <b>Figures 1 and 3</b> )	
<i>40 CFR §257.83 (b)(2) (ii) - The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection.</i>	The float gage is located at the eastern end of the central dike, at the weir between Ponds A and B. (see <b>Figure 3</b> ). The maximum reading was 14 inches above normal pool depth (anpd).	The stationary partially submerged gage is located on a steel pier near the southwest corner (See <b>Figure 2</b> ). The maximum reading was 24 inches anpd.
<i>40 CFR §257.83 (b)(2)(iii) - The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection</i>	The minimum reading for the impounded water was 3 inches below normal pool depth (bnpd) (Elevation 313.25 feet). The maximum reading for the impounded water was 14 inches anpd (Elevation 314.67 feet). The depth of water at the time of the inspection was 4 inches anpd (Elevation 313.83 feet)	The minimum reading was 36 inches bnpd (Elevation 290 feet). The maximum reading for the impounded water was 24 inches anpd (Elevation 295 feet). The depth of water at the time of the inspection was 12 inches anpd (Elevation 294 feet)
<i>40 CFR §257.83 (b)(2)(iv) - The storage capacity of the impounding structure at the time of the inspection.</i>	The storage capacity was estimated to be 432 acre-feet by SMECI. At the time of the inspection, the estimated CCR in Pond A was 85% and in Pond B was 20%. The estimated volume of impounded water was 15% water in Pond A and 80% water in Pond B.	The storage capacity was estimated to be 410 acre-feet by SMECI. At the time of the inspection the estimated CCR in the Equalization Pond was 45%. The estimated volume of impounded water was 55% water.
<i>40 CFR §257.83 (b)(2)(v) - The approximate volume of the impounded water and CCR at the time of the inspection</i>	The approximate volume of impounded water at the time of the inspection was 205 acre-feet. (432 acre-feet total with 15% water in Pond A and 80% water in Pond B)	The approximate volume of impounded water at the time of the inspection was 225 acre-feet. (410 acre-feet total with 55% water)
<i>40 CFR §257.83 (b)(vi) - Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.</i>	There were no appearances or conditions identified that would indicate an actual or potential disruption of the operation and safety of this CCR Unit and appurtenant structures.	There were no appearances or conditions identified that would indicate an actual or potential disruption of the operation and safety

		of this CCR Unit and appurtenant structures.
<i>40 CFR §257.83 (b)(2) (vii) - Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.</i>	The only conditions noted that would bear on the stability or operation of this CCR Unit is the various improvements that were made in the fourth quarter of 2018, as documented in Wood's October 2018 Inspections (see Appendix A)	The only conditions noted that would bear on the stability or operation of this Unit is the various improvements that were made in the fourth quarter of 2018, as documented in Wood's October 2018 Inspections (see Appendix A)

The results of the 2018 Annual Inspection for the Ash Pile is presented, as follows:

### 2018 Ash Pile Annual Inspection Results

<b>Regulatory Citations</b>	<b>Ash Pile</b>
<i>40 CFR §257.84 (b)(2) (i) - Any changes in geometry of the structure since the previous annual inspection.</i>	No changes in the CCR unit geometry were noted.
<i>40 CFR §257.84 (b)(2) (ii) - (ii) - The approximate volume of CCR contained in the unit at the time of the inspection</i>	The approximate volume of ash material located at the Ash Pile at the time of the inspection was 1,500 cubic yards.
<i>40 CFR §257.84 (b)(2)(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit.</i>	No such conditions were identified. Recent maintenance repairs have been made to the concrete wall of the CCR Unit and to the steel portion of the CCR containment, and to the associated drainageways, as documented in Wood's October 2018 inspections (see Appendix A).
<i>40 CFR §257.84 (b)(2)(iv) - Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.</i>	A new sprinkler system was installed to aid in dust suppression and to help eliminate the migration of ash from the Ash Pile. No other changes were noted.

Based on the inspection findings, as described herein, Wood has determined that the CCR Units are structurally sound and that the design, operation, and maintenance of the Units are in accordance with generally accepted engineering practices and meet all applicable CCR

requirements. Specifically, pursuant to 40 CFR §257.83 (b)(5) and 40 CFR §257.84 (b)(5), no deficiencies or release conditions requiring a response action were identified.

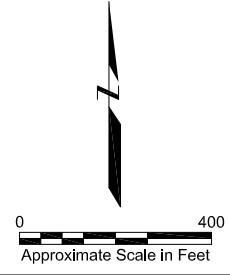
## FIGURES



Plot Date: 01/09/19 - 9:25am. Plotted by: susan.l.brown  
Drawing Path: P:\1670616 Projects\6706160039 - Jackson Walker\San Miguel Power Plant\Figures\ Drawing Name: environmental\_TB\_2018.dwg



SOURCE/REFERENCES: GOOGLE EARTH PRO, 2/14/2014



**wood.**  
Environment &  
Infrastructure  
Solutions, Inc.  
TX Engineering Firm F-0012  
TX Geoscience Firm #50814

**SITE MAP**  
San Miguel Electric Cooperative Inc.  
Atascos County, Texas

Project No.: 6706160039  
Date: 1/3/2019

Figure 1



→ Surface Water Flow



0 250  
Approximate Scale in Feet

<p>Environment &amp; Infrastructure Solutions, Inc.</p> <p>TX Engineering Firm F-0012</p>	<p><b>EQUALIZATION POND SITE MAP</b></p> <p>San Miguel Electric Cooperative Inc. Atascosas County, Texas</p>	
	<p>Project No. 6706160039</p> <p>Date. 01/03/2019</p>	<p>By. SLB</p>

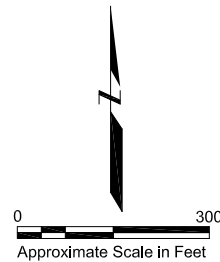
Plot Date: 01/09/19 - 10:41am, Plotted by: susan.l.brown  
 Drawing Path: P:\1 670616 Projects\6706160039 - Jackson Walker\San Miguel Power Plant\Figures\, Drawing Name: environmental\_TB\_2018.dwg

SOURCE: GOOGLE EARTH PRO, 2/14/2014

Plot Date: 01/09/19 - 10:13am, Plotted by: susan.l.brown  
Drawing Path: P:\1670616 Projects\6706160039 - Jackson Walker\San Miguel Power Plant\Figures\, Drawing Name: environmental\_TB\_2018.dwg



SOURCE: GOOGLE EARTH PRO, 2/14/2014



**wood.**  
Environment &  
Infrastructure  
Solutions, Inc.  
TX Engineering Firm F-0012

ASH PONDS SITE MAP  
San Miguel Electric Cooperative Inc.  
Atascosas County, Texas

Project No. 670610039

Date, 01/03/2019

By. SLB

Figure 3

Plot Date: 01/09/19 - 10:18am, Plotted by: susan.l.brown  
Drawing Path: P:\1670616 Projects\6706160039 - Jackson Walker\San Miguel Power Plant\Figures\ Drawing Name: environmental.TB\_2018.dwg



↑ SITE DRAINAGE



0 120  
Approximate Scale in Feet

**wood.**  
Environment &  
Infrastructure  
Solutions, Inc.  
TX Engineering Firm F-0012

ASH PILE SITE MAP  
San Miguel Electric Cooperative Inc.  
Atascos County, Texas

Project No. 670610039  
Date. 01/03/2019

By. SLB

Figure 4

SOURCE: GOOGLE EARTH PRO, 2/14/2019

**APPENDIX A**

***Copy of October 28th Inspections Summary***

**Maintenance and Corrective Measures  
San Miguel Electric Cooperative Inc.  
(as of October 2018)**

**Equalization Pond**

Summary of Prior Deficiency/Observation*	Maintenance and Corrective Measures
The crest of the impoundment had areas with moderate rutting from vehicular traffic in localized areas around the pond.	This is a routine operations maintenance matter. Where needed, the crest of the Equalization Pond is being adjusted to an elevation of 296 feet above mean sea level and these areas are being reconditioned. See Photo No. 1
Moderate wind/wave erosion occurring at the water line of the pond.	This is a routine operations maintenance matter. The water level has been lowered and only minor erosion is present, the liner was not exposed. Maintenance and repair of the inner pond berm is performed by SMECI's Maintenance Contractor. Additionally, the inner berm is being adjusted during the heightening of the berm. See Photo No. 2
Vegetation growth in pond area along the inner face of the embankment/dike.	This is a routine operations maintenance matter. Vegetation has been removed. See Photo No. 3
Dense vegetation observed on the south and east sides. Ponding and moist/soft spots appear along south and east sides.	This is a routine operations maintenance matter. The berms and other areas were mowed. Soft spots were not observed. No evidence of seeps, cracks, or slope failures were observed. Mowing and vegetation clearing is performed on a routine and as-needed basis by the SMECI Maintenance Contractor. See Photo Nos. 4 (after rain) and 5 (dry period)
Sparse vegetation observed on the inner slopes on the north west side and along the downstream toe on the north east side.	This is a routine operations maintenance matter. The areas of sparse vegetation are related to recent machinery operation near the northwestern corner of the Equalization Pond. The equipment was used to stack ash within the pond for drying and eventual removal. The area along the toe of the embankment was cleared of vegetation and is scheduled for reseeding. See Photo Nos. 6 and 7
Small trees/bushes growing on the downstream embankment.	This is a routine operations maintenance matter. Trees and bushes have been removed, a very minor amount of brush remains. See Photo No. 8

**Maintenance and Corrective Measures  
San Miguel Electric Cooperative Inc.  
(as of October 2018)**

Summary of Prior Deficiency/Observation*	Maintenance and Corrective Measures
<p>Water ponding around the toe of the downstream embankment (potentially from storm activities prior to inspection).</p>	<p>This area has had the vegetation removed to help alleviate the ponded water. A streambed is located in this area and flows around the base of the Equalization Pond. Based on visual observations, the surface water is related to the adjacent streambed flowing to the northeast.</p> <p>Recent rain water was pooled in small ruts formed as a result of recent vegetation removal and relatively minor ponding was observed along the streambed. There is no indication of Pond seepage.</p> <p style="text-align: center;">See Photo Nos. 9 (dry) and 10 (after rain)</p>
<p>Slight slope softening on northwest levee face.</p>	<p>No slope softening or slope failure areas were observed.</p> <p style="text-align: center;">See Photo No. 11</p>
<p>Accuracy of measuring water depth and volume of CCR material within unit.</p>	<p>SMECI utilizes operational knowledge and, as needed, drone surveys, to appropriately estimate ash volume at any given time. SMECI replaced the staff gage on the pier in 2016.</p> <p>In July 2018, SMECI dropped the water level and flew the pond with a drone to perform bathymetric survey. At the time the total ash volume was estimated at 90,000 cy.</p> <p style="text-align: center;">See Photo No. 12</p>
<p>Riprap needs realignment.</p>	<p>Riprap was realigned during maintenance activities that removed vegetation near the toe of the Equalization pond.</p> <p style="text-align: center;">See Photo No. 13</p>

**Maintenance and Corrective Measures  
San Miguel Electric Cooperative Inc.  
(as of October 2018)**

**Ash Pond**

Summary of Prior Deficiency/Observation*	Maintenance and Corrective Measures
<p>The crest of the impoundment had areas with moderate rutting from vehicular traffic in localized areas around the pond.</p> <p>Major rutting observed along southeast and northwest of the crest.</p>	<p>This is a routine operations maintenance matter. The crest of the Ash Pond is being raised to the prescribed elevation of 316 feet above mean sea level and the rutted areas are being reconditioned.</p> <p>See Photo Nos. 14 (minor rutting and cracking when dry prior to crest adjustment) and 15 (SE corner prior to crest adjustment)</p>
<p>Moderate wind/wave erosion occurring at the water line of the pond.</p>	<p>This is a routine operations maintenance matter. Some minor erosion was observed, but it did not expose the liner.</p> <p>See Photo No. 16 (prior to ongoing crest adjustments)</p>
<p>Bushes and trees growing around the interior of the pond.</p>	<p>This is a routine operations maintenance matter. The vegetation has been removed. Mowing and vegetation clearing is performed on a routine and as-needed basis by the SMECI Maintenance Contractor.</p> <p>See Photo No. 17</p>
<p>Small trees/bushes growing on the downstream embankment.</p>	<p>This is a routine operations maintenance matter. Vegetation has been removed. Mowing and vegetation clearing is performed on a routine and as-needed basis by SMECI's Maintenance Contractor.</p> <p>See Photo No. 18</p>
<p>Dense vegetation/ tall grasses were observed along the southern exterior slope.</p>	<p>This is a routine operations maintenance matter. This area has been mowed. Mowing and vegetation clearing is performed on a routine and as-needed basis by SMECI's Maintenance Contractor.</p> <p>See Photo No. 19</p>
<p>Lack of vegetation on west side.</p>	<p>This is a routine operations maintenance matter. This area is scheduled for reseeding following the ongoing installation of a toe drain and a top soil cover.</p> <p>See Photo No. 20 (prior to removing vegetation) and 21 (after removing vegetation)</p>
<p>Drainage channel along east side needs to be vegetated</p>	<p>This is a routine operations maintenance matter. The drainage channel was recently cleaned out and vegetation has not been completely reestablished.</p> <p>See Photo No. 22</p>
<p>Erosion gullies were found on the embankment in isolated areas around the perimeter of the disposal area.</p> <p>Minor slope failure observed on south side.</p>	<p>This is a routine operations maintenance matter. These minor erosional rills and slumps are scheduled to be addressed as part of the ongoing crest elevation adjustments.</p> <p>The minor slope failure is associated with an erosional rill.</p> <p>See Photo No. 23 (rills located along the south slope with minor amounts of material washed downslope)</p>
<p>An erosion gully was found on the embankment at the northwest corner of Pond A.</p>	<p>This is an area of active ash removal. The erosional gully is on a temporary roadway constructed specifically for the ash removal activities, not on the Pond A embankment. The temporary road will be removed upon completion of ash removal. See Photo No. 24</p>



**Maintenance and Corrective Measures  
San Miguel Electric Cooperative Inc.  
(as of October 2018)**

Summary of Prior Deficiency/Observation*	Maintenance and Corrective Measures
Water ponding around the toe of the downstream embankment (potentially from storm activities prior to inspection).	No ponded water was observed at the toe of the berm at the time of the site visit. See Photo No. 25
Water appeared to be seeping from the toe of the downstream embankment of Pond A along the western edge.	This area was assessed as part of the berm repairs and it was determined the seepage was related to surface water drainage into a large buried lens of gravel that had washed down from the crest. Upon removal of the gravel, the area quickly dried up. The pond is not seeping. See Photo Nos. 26 (small patch of cattails) and 27 (gravel lens that held storm water runoff). See Photo. No. 26 and 27
Crest has minor desiccation cracks on south side.	This is a routine operations maintenance matter. Very minor desiccation cracks were observed at the time of the site visit, but they were only surficial. See Photo No. 14
Accuracy of measuring water depth and volume of ash within unit.  Pond A boundary/limits needs to be reestablished.	The existing gage works well to obtain water levels. For bathymetric surveys, SMECI utilizes operational knowledge, periodically lowers the water level for drone surveys, and/or performs depth to ash measurements from a jon boat.  At the time of this inspection, it is estimated Pond A is 65% filled with ash. Pond A is scheduled for removal of 158,000 cy of material. It is estimated Pond B is 20% filled with ash. The Pond A boundary will be reestablished as part of the Ash removal process. See Photo No. 28
Scour/erosion around weir structures/pipes.	This is a routine operations maintenance matter. Material has been added to this area and along the central berm. See Photo No. 28
Maintain the pump station area.	This is a routine operations maintenance matter. Ash material has been recently removed from this area to improve drainage to the sump. See Photo No. 29

**Maintenance and Corrective Measures  
San Miguel Electric Cooperative Inc.  
(as of October 2018)**

**Ash Pile**

Summary of Prior Deficiency/Observation*	Maintenance and Corrective Measures
Corrosion and structural cracks on the concrete wall.	The concrete wall serves to contain ash and scrubber sludge where it is blended together to be hauled to the mine. The crack does not impede the function of the wall and was repaired during the October 22-26 facility outage. See Photo No. 30
Concrete retaining wall present only on east side and a steel retaining wall/ baffle wall is used on the south side to contain the Sludge/Ash Pile.	Walls are currently functioning as designed. SMECI repaired the southern steel wall during the October 22-26 facility outage. Inspections will continue to be performed and repairs will be conducted as applicable. See Photo No. 31
Erosion gullies observed along the drainage channel.	This is a routine maintenance matter. SMECI excavated the ditch as part of their routine maintenance in August 2018. See Photo No.32
Sludge pile is exposed resulting in minor erosion.	This is a routine maintenance matter. See Photo No. 33
Storm water runoff not draining properly. Storm water runoff ditches are present on west/north side. Run on drainage behind the concrete wall has no contact with the sludge waste.	This is a routine operations maintenance matter. SMECI excavated the ditches/drainageway as part of their routine maintenance in August 2018. See Photo No. 34
Rutting along haul roads.	This is a routine operations maintenance matter. Rutting was not observed at the time of the site visit. See Photo No. 35
Storm water structures need repair.	This is a routine operations maintenance matter. General repairs were made to storm water structures in August 2018 and are routinely maintained and repaired on an as-needed basis. See Photo No. 36

\*Prior deficiencies/observations are summarized from San Miguel's 2015, 2016, and 2017 Annual Engineering Inspection reports.



**PHOTO 1:**

This is the first lift of clay soils being added to the eastern crest of the Equalization Pond to bring it to a 296 foot elevation. The view of the crest is to the south along the crest. The crest was leveled and wet rutted materials were removed and replaced with clay soils.



**PHOTO 2:**

Clay soils were added to the crest of the berm behind the temporary berm previously installed. Wave erosion was minimal along the shoreline and the underlying clay liner was not exposed. This view is to the west-southwest.



**PHOTO 3:**

Vegetation along the interior of the berm crest has been removed. This view is to the east-southeast during the installation of the first lift of clay soils on the berm crest.



**PHOTO 4:**

This photograph is looking to the south along the eastern flank of the Equalization Pond and shows the vegetative cover following recent precipitation events. No trees or brush were observed along the slope.



**PHOTO 5:**

Looking to the southeast from the southern crest of the Equalization Pond toward a recently disturbed area associated with brush and vegetation removal. This picture is from a drier period showing the brown vegetation. This area is a streambed that parallels the southern and eastern sides of the Equalization Pond.



**PHOTO 6:**

Looking to the south-southeast from near the northwestern corner of the Equalization Pond. There was sparse vegetation near the shoreline. This area was disturbed by heavy equipment during the piling of ash within the pond. This area will be reseeded following the completion of the crest work at the pond.



**PHOTO 7:**

This photograph is looking to the northeast down the slope of the Equalization Pond berm. The area on the southern side of the small drainageway was recently scraped and leveled near the toe of the embankment.



**PHOTO 8:**

Two small bushes remain on the southern slope of the Equalization Pond embankment, all other brush has been removed. The area in the background is the streambed after recent rainfall events. Small amounts of ponded rain water were observed in shallow depressions.



**PHOTO 9:**

This photograph is looking to the southeast from the crest of the berm near the southwestern corner of the Equalization pond berm. This shows the streambed along the toe of the berm to be nearly dry after a period of no rainfall and the vegetation to be brown. No water was observed at the toe of the berm.



**PHOTO 10:**

This photograph shows ponded water near the toe of the berm after a heavy rainfall event. No seeps were observed along the toe of the berm during a walking inspection of the toe of the berm.



**PHOTO 11:**

Looking to the west along the northern slope of the Equalization Pond embankment. A crossing with a culvert is visible near the right side of the photograph. Water tends to pond upstream of the culvert which is partially responsible for the cattail growth. Slope softening was not observed.



**PHOTO 12:**

The Equalization Pond gauge is readily visible on the north side of the pier near the end of the pier.





**PHOTO 13:**

Rip rap was realigned during the removal of brush near the toe of the Equalization Pond embankment. Rip rap was observed to be grass covered for several feet up the embankment. This picture was taken after a rainfall event which is the source of the pooled water.



**PHOTO 14:**

This is a view to the east along the southern crest of the Ash Pond B embankment. This was a relatively dry period and negligible rutting was observed on the crest of the berm. Rutting on the southeastern and northwestern corners of the Ash Ponds had been addressed by applying clay soils to the effected areas.



**PHOTO 15:**

The southeastern corner of Ash Pond B looking to the south. This area was not rutted and has clay soils placed in this area.



**PHOTO 16:**

Looking to the west along the crest of the Ash Pond B. A temporary berm had been placed along the crest and will be incorporated into the ongoing crest repairs. Only minor erosion of the interior embankment was observed and the clay liner was not exposed.



**PHOTO 17:**

This view is to the west along the crest of Ash Pond B embankment. All brush and vegetation was removed from the embankment. The shoreline showed only minor erosion.



**PHOTO 18:**

Looking to the west along the toe of the Ash Pond's southern side. All brush has been removed from the slope. No seeps or erosion were observed in this area and the berm is well vegetated.



**PHOTO 19:**

Looking to the west from near the midpoint of the southern side of the Ash Ponds. No seeps were observed in this area. Only minor erosional rills were observed along the southern edge of the embankment in this area. These erosional rills are scheduled to be addressed as part of the ongoing crest repairs.



**PHOTO 20:**

This view is to the north along the western slope of the Ash Ponds embankment. This was a dry period and vegetation was sparse.



**PHOTO 21:**

This photograph is looking to the east and shows the western slope of the Ash Ponds embankment during ongoing repairs. The slope was leveled and a key was installed in the foreground beyond the piping in preparation for the installation of the toe drain. Rain events have postponed this work.



**PHOTO 22:**

This photograph is looking to the north along the drainageway east of the Ash Ponds. The drainageway was recently cleaned out and channelized to enhance drainage.



**PHOTO 23:**

Looking to the west at the southern side of the Ash Ponds southern embankment. This is the area of small erosion rills near the crest of the embankment. This area will be addressed as part of the ongoing crest repairs. The photograph was taken after recent rain events.



**PHOTO 24:**

This photograph is looking to the south at the northwestern corner of Ash Pond A. The erosional gully in the foreground is on a temporary road constructed specifically for ash removal activities. The road will be removed upon completion of the ash removal.



**PHOTO 25:**

This photograph is looking to the north along the western side of the Ash Pond area. Some ponding of storm water was observed along the access road to the pump area and along the piping leading to the pump area. No ponding was observed at the toe of the berm.



**PHOTO 26:**

A small area of dead cattails was observed along the western slope of the Ash Ponds. This is the same area depicted in earlier reports (Arias). There was no seepage at the time the photograph was taken. There was some small gravel present on the surface of the ground along the slope.



**PHOTO 27:**

View of the excavation completed at the location of the dead cattails. The excavation revealed a buried lens of small gravel. This gravel lens was holding stormwater runoff and slowly allowing it to seep to the surface. The material underlying the gravel was a fat clay. After exposing and removing the gravel lens, the excavation quickly dried up confirming there is no pond seepage.



**PHOTO 28:**

The gauge located at the weir between Ash Pod A and B. New clay soils had recently been added to the berm on both side of the weir bridge.





**PHOTO 29:**

The view is to the southwest toward the pump area, on the west side of the Ash Pond. This photograph was taken during a dry period. Erosional areas at this location are being corrected as part of the slope repair work.



**PHOTO 30:**

This view is of the repaired crack in the concrete retaining wall at the Ash Pile area. The diagonal crack in the concrete was repaired during the outage week of October 22-26, 2018. Drainage is to the north and west on the northern and western sides of the concrete wall.



**PHOTO 31:**

This view of the southern side of the metal retaining wall at the Ash Pile shows the addition of steel plate onto the existing wall. The steel plate was welded onto the existing I-beams to cover any leakage from the interior steel wall. The wall was repaired during the plant outage of October 22-26, 2018.



**PHOTO 32:**

Drainage along the western edge of the Ash Pile area. Minor erosion was observed along the edges of the drainageway.



**PHOTO 33:**

View to the southeast of the Ash Pile area. Ash is removed with a front-end loader and then placed onto large haul trucks.



**PHOTO 34:**

In this area of the Ash Pile, drainage is to the west. This view is to the northeast.



**PHOTO 35:**

This view is to the north-northwest of the northern portion of the ash loadout area. The haul road is in the background. It was not rutted at the time of the observations.



**PHOTO 36:**

This is the drainage to the south along the eastern side of the haul road. This drainageway is scheduled to be cleaned out during the facility outage, to allow better storm water drainage.

---

**APPENDIX B**

*Updated Copy of October 28th Inspections Summary*

---

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**

Summary of Prior Deficiency/Observation*	Summary of Deficiencies/Observations
<p>The crest of the impoundment had areas with moderate rutting from vehicular traffic in localized areas around the pond.</p>	<p>This is a routine operations maintenance matter. The crest of the Equalization Pond was surveyed and compacted clay soils were placed along the roadway as needed. The roadway occupies the crest of the berm and was adjusted to an elevation of 295 feet above mean sea level (amsl). See Photo Nos. 9, 11, 13, 14, 15, 16, and 17</p>
<p>Moderate wind/wave erosion occurring at the water line of the pond.</p>	<p>This is a routine operations maintenance matter. The crest of the berms have been adjusted to 295 feet amsl where needed by an SMECI Maintenance Contractor. The previous temporary berm that was placed along the interior edge of the berm has been incorporated into the recently place compacted clay soils berm adjustment. Minor erosion is present, but represents a consistent edge along the water line. The liner was not exposed. See Photo Nos. 9, 11, 13, 15, 16, and 17</p>
<p>Vegetation growth in pond area along the inner face of the embankment/dike.</p>	<p>This is a routine operations maintenance matter. Vegetation has been removed. See Photo Nos. 9, 11, 13, 15, 16, and 17</p>
<p>Dense vegetation observed on the south and east sides. Ponding and moist/soft spots appear along south and east sides.</p>	<p>This is a routine operations maintenance matter. The berms and other areas were mowed prior to the Annual Inspection. Minor soft spots were observed, but are attributed to rainfall prior to the Annual Inspection. No evidence of seeps, cracks, or slope failures were observed along the slope or toe of the berm. Mowing and vegetation removal was performed prior to the Annual Inspection and on an as needed basis during the year by an SMECI Maintenance Contractor. See Photo Nos. 6, 7, 8, and 12</p>
<p>Sparse vegetation observed on the inner slopes on the north west side and along the downstream toe on the northeast side.</p>	<p>This is a routine operations maintenance matter. The areas of sparse vegetation at the northwestern portion of the Equalization Pond are related to recent machinery operation and have not recovered a vegetative cover. This area and the area along the toe of the embankment that was cleared of vegetation are scheduled for reseeding. See Photo Nos. 3 and 18</p>
<p>Small trees/bushes growing on the downstream embankment.</p>	<p>This is a routine operations maintenance matter. Trees and bushes have been removed. See Photo Nos. 1, 4, 5, 6, 7, 8, 12, and 14</p>

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**

Summary of Prior Deficiency/Observation*	Summary of Deficiencies/Observations
<p>Water ponding around the toe of the downstream embankment (potentially from storm activities prior to inspection).</p>	<p>This area has had the woody vegetation removed to help alleviate the ponded water and facilitate more effective drainage. Some regrowth of the woody vegetation was observed within this area. A streambed is located in this area and flows around the base of the Equalization Pond. Based on visual observations, the surface water is related to the adjacent streambed flowing to the northeast.</p> <p>Recent rain water was pooled in ruts formed as a result of the vegetation removal and relatively minor ponding was observed along a shallow depression in the streambed. There is no indication of Equalization Pond seepage.</p> <p style="text-align: center;">See Photo Nos. 6, 7, 8, and 12</p>
<p>Slight slope softening on northwest levee face.</p>	<p>Slight slope softening was observed in the area adjacent to the cattails along the drainageway on the northern side of the Equalization Pond, but is likely due to recent rainfall. No slope failure areas were observed.</p> <p style="text-align: center;">See Photo Nos. 2 and 17</p>
<p>Accuracy of measuring water depth and volume of CCR material within unit.</p>	<p>SMECI utilizes operational knowledge and, as needed, drone surveys, to appropriately estimate ash volume at any given time. SMECI replaced the staff gauge on the pier in 2016.</p> <p>In July 2018, SMECI dropped the water level and flew the pond with a drone to perform a bathymetric survey. At the time the total ash volume was estimated at 90,000 cy. The current gauge used at the Equalization Pond is scheduled to be replaced so that the gauge is easier to read.</p> <p style="text-align: center;">See Photo No. 10</p>
<p>Riprap needs realignment.</p>	<p>Riprap was realigned during maintenance activities that removed vegetation near the toe of the Equalization Pond.</p> <p style="text-align: center;">See Photo No. 7 and 8</p>

\*Prior deficiencies/observations are summarized from San Miguel's 2015, 2016, and 2017 Annual Engineering Inspection reports.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 1:**

Looking to the east along the northern slope of the Equalization Pond. The Equalization Pond slopes were recently mowed for the Annual Inspection. Recent December rainfall made the slopes soft in isolated areas. The December 18-19, Annual Inspection was conducted under partly cloudy conditions.



**PHOTO 2:**

This is the area along the northern slope where a culvert and roadway cross a drainageway. The view is to the west along the northern slope of the Equalization Pond. The culvert was not visible on the upstream side of the culvert and caused some ponding of the overland flow along the drainageway.



**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 3:**

The area at the northeastern corner of the Equalization Pond was slightly damp, likely from recent rainfall. This view is to the east from the northern side of the toe of the berm.



**PHOTO 4:**

Looking to the north along the east side of the Equalization Pond. There were minor areas of soft soils, likely due to recent rainfall events. Vegetation was generally dormant at the time of the site visit.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 5:**

Looking to the north along the toe of the Equalization Pond from near the southeastern corner of the Equalization Pond showing the general vegetative cover along the eastern berm.



**PHOTO 6:**

Looking to the southwest at the southeastern corner of the Equalization Pond along the toe of the berm. Pounded runoff from recent rainfall was observed. No visible seeps were observed from the toe of the berm.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 7:**

Rip rap located along the toe of the Equalization Pond berm. The drainageway channel was located adjacent to the toe of the berm. Most woody vegetative grown was removed during the summer of 2018 within the channel, but some of the plants within the drainageway have begun to regrow. No woody plant growth was observed along the slope of the berm at the time of the site visit.



**PHOTO 8:**

Looking to the east along the southern slope of the Equalization Pond berm. Some of the rip rap was exposed along the toe of the berm, but most of the riprap was covered with grasses.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 9:**

The southern portion of the crest of the Equalization pond berm looking to the east-southeast. The crest was surveyed in the Fall of 2018 to ensure an elevation of 295 feet above mean sea level (amsl). Any areas below 295 feet amsl were augmented with compacted clay soils to the required elevation.



**PHOTO 10:**

The water level gauge for the Equalization Pond was difficult to read and is located on the right hand side of the railing. Plant personnel indicated that the present water level gauge is planned to be replaced in the near future.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 11:**

Looking to the west along the crest of the berm of the Equalization Pond. The drainageway adjacent to the toe of the berm is visible within the left hand side of the photograph. No cracks or rutting was observed along the crest of the berm.



**PHOTO 12:**

An area of ponded water is visible adjacent to the toe of the berm in this photograph. This accumulation of runoff is likely due to recent rainfall events. The edge of the crest of the berm slope was reshaped during the recent enhancement of the crest of the berm. Plant personnel indicated that this area along the crest of the berm will be reseeded in the Spring when the season is more favorable to plant growth.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 13:**

View to the east-northeast along the roadway along the top of the berm. No cracking or rutting was observed along the crest. No vegetative growth was noted along the interior of the crest.



**PHOTO 14:**

Looking to the north along the crest of the Equalization Pond along the eastern side of the pond. Note the reshaped crest and side slope of the berm.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 15:**

Looking to the south along the crest of the berm on the eastern side of the Equalization Pond. No vegetative growth was noted along the interior of the berm.



**PHOTO 16:**

Looking to the west along the Equalization Pond berm from the northeastern corner of the berm. The photograph shows the reshaped and compacted crest of the berm.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**Equalization Pond**



**PHOTO 17:**

Looking to the east along the crest of the berm on the northern side of the Equalization Pond. Not cracks or rutting was observed along the crest.



**PHOTO 18:**

The piled ash in the Equalization Pond that is staged from removal. This photograph is to the southeast from the northwestern corner of the Equalization Pond.



**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**

Summary of Prior Deficiency/Observation*	Summary of Deficiencies/Observations
The crest of the impoundment had areas with moderate rutting from vehicular traffic in localized areas around the pond.  Major rutting observed along southeast and northwest of the crest.	This is a routine operations maintenance matter. The crest of the Ash Pond was raised to the prescribed elevation of 315 feet amsl. During the addition of the compacted clay soils the rutted areas were removed and reconditioned.  See Photo Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16
Moderate wind/wave erosion occurring at the water line of the pond.	This is a routine operations maintenance matter. Some minor erosion was observed, but it did not expose the liner. Water erosion was generally uniform along the interior of the Ash Pond berms.  See Photo Nos. 8, 9, 10, 15, and 16
Bushes and trees growing around the interior of the pond.	This is a routine operations maintenance matter. The vegetation has been removed and none was observed at the time of the inspection. Mowing and woody vegetation clearing is performed on a routine and as-needed basis by the SMECI Maintenance Contractor.  See Photo Nos. 1, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, and 18
Small trees/bushes growing on the downstream embankment.	This is a routine operations maintenance matter. Woody vegetation has been removed and none was observed at the time of the inspection. Mowing and woody vegetation clearing is performed on a routine and as-needed basis by SMECI's Maintenance Contractor.  See Photo Nos. 2, 7, 10, 11, 12, 13, 14, 15, 16, 19, 20, and 21
Dense vegetation/ tall grasses were observed along the southern exterior slope.	This is a routine operations maintenance matter. This area was mowed prior to the inspection. Mowing and vegetation clearing is performed on a routine and as-needed basis by SMECI's Maintenance Contractor.  See Photo Nos. 13, 19, and 20
Lack of vegetation on west side.	This is a routine operations maintenance matter. A toe drain and slope realignment was conducted on the west side of the Ash Ponds. This area is scheduled for reseeding in the Spring.  See Photo Nos 3, 4, and 5
Drainage channel along east side needs to be vegetated	This is a routine operations maintenance matter. The drainage channel was recently cleaned out and vegetation has not been completely reestablished.  See Photo No. 25

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**

Summary of Prior Deficiency/Observation*	Summary of Deficiencies/Observations
<p>Erosion gullies were found on the embankment in isolated areas around the perimeter of the disposal area.</p> <p>Minor slope failure observed on south side.</p>	<p>This is a routine operations maintenance matter. These minor erosional rills and slumps were scheduled to be addressed as part of the ongoing crest elevation adjustments.</p> <p>The minor slope failures are associated with erosional rills. Some of the erosional features were not corrected during recent construction activities along the exterior berms.</p> <p style="text-align: center;">See Photo Nos. 21, 23, and 24</p>
<p>An erosion gully was found on the embankment at the northwest corner of Pond A.</p>	<p>This is an area of active ash removal. The erosional gully is on a temporary roadway constructed specifically for the ash removal activities, not on the Ash Pond A embankment. The temporary road will be removed upon completion of ash removal when Ash Pond A is drained and dredged. See Photo No. 2</p>
<p>Water ponding around the toe of the downstream embankment (potentially from storm activities prior to inspection).</p>	<p>No ponded water was observed at the toe of the berm at the time of the site visit.</p> <p style="text-align: center;">See Photo Nos. 4, 13, 14, 19, and 20</p>
<p>Water appeared to be seeping from the toe of the downstream embankment of Pond A along the western edge.</p>	<p>This area was assessed as part of the berm repairs and it was determined the seepage was related to surface water drainage into a large buried lens of gravel that had washed down from the crest. Upon removal of the gravel, the area quickly dried up. The pond is not seeping. Following the repairs no seepage was observed at the time of the inspection.</p> <p style="text-align: center;">See Photo Nos. 3, 4, and 5</p>
<p>Crest has minor desiccation cracks on south side.</p>	<p>This is a routine operations maintenance matter. No desiccation cracks were observed at the time of the inspection.</p> <p style="text-align: center;">See Photo Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16</p>
<p>Accuracy of measuring water depth and volume of ash within unit.</p> <p>Pond A boundary/limits needs to be reestablished.</p>	<p>The existing gague works well to obtain water levels. For bathymetric surveys, SMECI utilizes operational knowledge, periodically lowers the water level for drone surveys, and/or performs depth to ash measurements from a jon boat.</p> <p>At the time of this inspection, it is estimated Pond A is 85% filled with ash. Pond A is scheduled for removal of 158,000 cy of material. It is estimated Pond B is 20% filled with ash. The Pond A boundary will be reestablished as part of the Ash removal process.</p> <p style="text-align: center;">See Photo Nos. 1 and 6</p>

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**

Summary of Prior Deficiency/Observation*	Summary of Deficiencies/Observations
Scour/erosion around weir structures/pipes.	This is a routine operations maintenance matter. Material has been added to this area and along the central berm. See Photo Nos. 17 and 18
Maintain the pump station area.	This is a routine operations maintenance matter. Ash material has been recently removed from this area to improve drainage to the sump. Another sump was established to control runoff. Runoff from the roadway leading to the berm on the northwest side of the Ash Ponds is now limited by the installation of a drainageway to the surface water runoff culvert on the northwestern side of the Ash Ponds. See Photo Nos. 3 and 22

\*Prior deficiencies/observations are summarized from San Miguel's 2015, 2016, and 2017 Annual Engineering Inspection reports.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 1**

Looking to the east along the northern side of the Ash Pond A. Ash and water have been diverted into Pond B in preparation for the dewatering of Ash Pond A. The ash will be dredged from Ash Pond A in early 2019.



**PHOTO 2:**

The northern side of the northwestern corner of Ash Pond A looking to the southeast. Surface water now drains into a culvert approximately 75 feet north of Ash Pond A. This surface water runoff originates along the roadway that leads to the Ash Pond berms. The interior portion of the northern berm is currently covered in dredged ash.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 3:**

This photograph is looking to the south-southwest across the recently completed toe drain located on the western side of Ash Pond A. This area had not been seeded at the time of the Annual Inspection. It will be seeded when temperatures start to warm to allow germination of the grass seed.



**PHOTO 4:**

Looking to the north across the slope realignment and toe drain installation. A key was excavated at the toe of the drain and then gravel was installed in a stepped pattern along the berm slope. The gravel was encapsulated within a geotextile liner.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 5:**

Looking to the north along the western edge of the berm on the western side of Ash Pond A showing the realigned slope and toe drain.



**PHOTO 6;**

Part of the effluent that was piped into Ash Pond A is now routed to the western end of Ash Pond B.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 7:**

Looking to the east along the southern berm of Ash Pond B from the southwestern corner of the ash pond showing the compacted clay soil that were placed on the berm to adjust the crest height to 315 feet amsl.



**PHOTO 8:**

The view of the interior of the berm along Ash Pond B looking to the east.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 9:**

Another photograph of the interior of the berm along the southern side of Ash Pond B showing the remnants of the temporary berm previously placed on the berm. No cracks or ruts were observed along the berm during the Annual Inspection.



**PHOTO 10:**

Looking to the west along the southern side of the berm along the southern side of Ash Pond B. Some reshaping of the exterior of the berm was conducted at the time of the crest realignment.



**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 11:**

Looking to the east along the southern side of the berm along the southern side of Ash Pond B. The exterior of the berm was reshaped somewhat farther down the exterior slope in this area.



**PHOTO 12:**

Looking to the west along the southern side of the berm on the southern side of Ash Pond B. Two electrical utility poles are installed on the outside slope of the berm in this area.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 13:**

The reshaped exterior of the berm on the exterior of Ash Pond B looking to the west from the southeastern corner of the Ash Ponds.



**PHOTO 14:**

Looking to the north along the reshaped crest of the berm along the east side of Ash Pond B and A. The exterior slope of the berm along the eastern side of the Ash Ponds was realigned to provide a gentler slope at a 3.5 to 1 (horizontal to vertical) incline. The slope was seeded, but has only a small amount of grass growth due to the colder winter season.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 15:**

Looking to the west along the crest of the newly enhanced crest of the berm along the southern side of Ash Pond B. No vegetative growth was observed along the interior of the crest berm.



**PHOTO 16:**

The east crest of the berm along the eastern side of Ash Pond A. This area had compacted clay soils placed along the crest during the recent enhancement of the crests along the Ash Ponds.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 17:**

The gauging device located at the weir on the eastern end of the central dike within the Ash Ponds.



**PHOTO 18:**

The newly installed flow lines for ash and water effluent from the power plant. The flow is now directed into Ash Pond B in preparation for the dredging of Ash Pond A. This view is to the west.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 19:**

This view is to the east from the base of the southwestern corner of the Ash Ponds. No seeps or structural collapses were observed along the base of the Ash Pond berms.



**PHOTO 20:**

This view is to the east of the base of the Ash Ponds berm from near the midpoint of the berm. The vegetative cover was good except in those areas that have been recently disturbed by construction activities. These are planned to be reseeded in the Spring.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 21:**

Minor erosion rills located on the western side of the electrical utility poles along the southern side of the Ash Pond B berm. These are minor and can be addressed during routine maintenance activities.



**PHOTO 22:**

A sump has been constructed below the pumping station on the western side of the Ash pond to collect rainwater runoff.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 23:**

Erosion is still located along the northwest side of the flow lines adjacent to the recently installed toe drain. This view is to the east.



**PHOTO 24:**

Another erosional feature that was caused by runoff at the southern end of the concrete utility chase located on the top of the berm on the northwestern side of Ash Pond A. Recent construction activities have eliminated the source of this runoff. This feature can be corrected during routine maintenance of the Ash Pond berms.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH POND**



**PHOTO 25:**

The drainageway to the east of the toe of the eastern side of the Ash Ponds. The drainageway has cut into native soils. No seeps were observed in this area. The view is to the north.



**PHOTO 26:**

The dredged ash from the northwest portion of Ash Pond A. The ash is contained within a temporary earthen berm. This are will be excavated during the dredging and removal of ash form Ash Pond A. This view is to the west.



**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH PILE**

Summary of Prior Deficiency/Observation*	Summary of Deficiencies/Observations
Corrosion and structural cracks on the concrete wall.	The concrete wall serves to contain ash and scrubber sludge where it is blended together to be hauled to the mine. The crack does not impede the function of the wall, but was repaired during the October 22-26 facility outage. See Photo No. 1
Concrete retaining wall present only on east side and a steel retaining wall/ baffle wall is used on the south side to contain the Sludge/Ash Pile.	Walls are currently functioning as designed. SMECI repaired the southern steel wall during the October 22-26 facility outage by installing steel plate on the northern side of the wall. Inspections will continue to be performed and repairs will be conducted as applicable. See Photo Nos. 4 and 9
Erosion gullies observed along the drainage channel.	This is a routine maintenance matter. SMECI excavated the ditch as part of their routine maintenance in August 2018. The area was cleaned using the front end loader and most of the erosion rills were removed prior to the inspection. See Photo Nos. 8 and 10
Sludge pile is exposed resulting in minor erosion.	This is a routine maintenance matter. See Photo Nos. 4, 6, and 7
Storm water runoff not draining properly. Storm water runoff ditches are present on west/north side. Run on drainage behind the concrete wall has no contact with the sludge waste.	This is a routine operations maintenance matter. SMECI excavated the ditches/drainageway as part of their routine maintenance in August 2018. The drainageway to the north of the Ash Pile should be cleaned. See Photo Nos. 2, 6, and 8
Rutting along haul roads.	This is a routine operations maintenance matter. Rutting was not observed at the time of the inspection. See Photo No. 5
Storm water structures need repair.	This is a routine operations maintenance matter. General repairs were made to storm water structures in August 2018 and are routinely maintained and repaired on an as-needed basis. See Photo No. 6 and 8

\*Prior deficiencies/observations are summarized from San Miguel's 2015, 2016, and 2017 Annual Engineering Inspection reports.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH PILE**



**PHOTO 1:**

Looking to the west at the concrete wall portion of the Ash Pile Containment. The upper portion of the crack in the concrete was covered with a steel plate and attached to a second plate of the opposite side. The continuation of the crack to the lower right was cleaned and filled. A sprinkler system is attached to the top of the wall, but was not operating at the time of the inspection.



**PHOTO 2:**

The southern side of the steel portion of the containment wall. Steel plates were attached to the northern side of the wall to cover all penetrations in the wall. Windblown ash was located on the southern side of the wall. Prior to the Annual Inspection a rail storm with high winds swept through the area. This material is typically cleaned up by hand on a periodic basis according to plant personnel.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH PILE**



**PHOTO 3:**

The view is to the northwest of the eastern side of the containment area.



**PHOTO 4:**

The ash pile had recently been removed prior to the inspection. This view is to the south. A portion of the recently installed steel plate can be seen at the top of the southern wall.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH PILE**



**PHOTO 5:**

The wester leg of the inbound haul road directly to the north of the Ash Pile. The view is to the north from the Ash Pile.



**PHOTO 6:**

The drainageway between the inbound and outbound haul roads. Sediment was above the drain culvert.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH PILE**



**PHOTO 7:**

Looking to the south toward the Ash Pile in the distance the inbound haul road.



**PHOTO 8:**

Looking to the south-southwest toward the drainage culvert located on the western side of the Ash Pile. The Ash Pile area drains to this culvert.

**Annual Inspection Summary  
San Miguel Electric Cooperative Inc.  
(December 18-19, 2018)**

**ASH PILE**



**PHOTO 9:**

Looking to the east from the western side of the Ash Pile.



**PHOTO 10:**

Looking to the north from the southwestern edge of the Ash Pile area. All drainage is to the north toward the culvert of the western side of the Ash Pile.