

CCR Unit Closure and Post-Closure Plan

San Miguel Electric Cooperative, Inc.

Atascosa County, Texas

October 18, 2016

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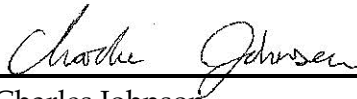
Project No. 0303548
Atascosa County, Texas



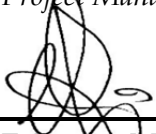
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INTRODUCTION

San Miguel owns and operates a 440-MW mine-mouth, lignite-fired power generating plant and associated lignite-mining facilities. The San Miguel Plant is located approximately 6 miles south of Christine, Texas. Power generation began in January 1982. San Miguel has wholesale power contracts to furnish power and energy to South Texas Electric Cooperative, Inc. through the year 2037. The Facility generates coal combustion residuals (CCR) that are regulated under Title 40, Code of Federal Regulations, Part 257 (40 CFR Part 257)(the CCR Rule).

This document is the Closure Plan and Post-Closure Plan (CPC Plan) for one CCR landfill and two CCR surface impoundments at the Facility:

- (1) the Ash Pile,
- (2) the Ash Water Transport Ponds (Ash Ponds), and
- (3) the Equalization Pond (EP).

This CPC Plan describes the steps necessary to close the Ash Pile at any point during the active life of the CCR landfill by removal of CCR in accordance with 40 CFR §257.102(b).

This CPC Plan describes the steps necessary to close the Ash Ponds and EP at any point during the active life of the CCR surface impoundments with CCR left in place in accordance with 40 CFR §257.102(b).

This CPC Plan also describes post-closure inspection, maintenance, and monitoring required for the CCR surface impoundments closed with CCR left in place in accordance with 40 CFR Part 257.102(b).

According to 40 CFR 257.102 (b)(3)(i), San Miguel **may** amend this initial or any subsequent written closure plan at any time.

Per 40 CFR 257.102 (b)(3)(ii), San Miguel **must** amend the closure plan whenever:

- (A) There is a change in operation of the CCR unit that would substantially affect the written closure plan in effect; or
- (B) Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.

1.1 **REQUIREMENTS**

Regulations in 40 CFR §257.102 et seq. require the preparation, certification, posting on an internet site accessible by the public, and, on closure, implementation of a Closure Plan and Post-Closure Plan for each existing active CCR unit. A completed, certified copy of this Plan must be placed and maintained indefinitely in the San Miguel Operating Record by October 17, 2016. San Miguel will issue notifications and implement recordkeeping in accordance with 40 CFR §257.105 and 40 CFR §257.106 (Section 6).

1.2 **DEFINITIONS**

This CPC Plan includes terms defined consistent with parts of 40 CFR §257.53 (re: 80 FR 21468, April 17, 2015; 80 FR 37988, July 2, 2015) and associated editions of the Federal Register as noted below.

- **Active life or in operation** means the period of operation beginning with the initial placement of CCR in the CCR unit and ending at completion of closure activities in accordance with 40 CFR §257.102.
- **Closed** means placement of CCR in a CCR unit has ceased, and the owner or operator has completed closure of the CCR unit in accordance with 40 CFR §257.102 and has initiated post-closure care in accordance with 40 CFR §257.104.
- **Coal combustion residuals (CCR)** means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.
- **CCR landfill** means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this definition, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.
- **CCR surface impoundment** means a natural topographic depression, manmade excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.
- **CCR unit** means any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context in which it is used. This term includes both new and existing units, unless otherwise specified.
- **Facility** means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing, or otherwise conducting solid waste management of CCR. A facility may consist of several treatment, storage, or disposal operational units (*e.g.*, one or more landfills, surface impoundments, or combinations of them).

- **Qualified professional engineer** means an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under 40 CFR §257. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located.

2.0 CCR UNIT DESCRIPTION

The San Miguel facility is a coal fired steam electric plant capable of generating approximately 440 MW. Construction of the facility began in 1977. The Plant began generating electric power on a commercial basis in 1982.

San Miguel currently operates three CCR units at the facility which are subject to requirements in 40 CFR §257:

- the Ash Pile,
- the Ash Water Transport Ponds (Ash Ponds), and
- the Equalization Pond (EP).

The location of each of those CCR units is shown on Figure 1.

The CCR units are described below.

2.1 ASH PILE

The Ash Pile is a temporary storage area, approximately one acre in size, used to stage a stabilized mixture of fly ash and flue gas desulfurization (FGD) scrubber waste treatment system sludge until it can be hauled off-site. The Ash Pile was designated the “FGD Stacking Area” as part of the original plant construction.

The Ash Pile is a non-containerized accumulation of solid CCR that is placed on the land. The Ash Pile began receiving CCR before October 14, 2015 and currently receives CCR. Hence, in accordance with 40 CFR §257.53, the Ash Pile is classified as an active existing CCR landfill.

The Ash Pile is located generally northwest of the Plant (Figure 1).

According to San Miguel personnel, the maximum volume of CCR ever on-site over the active life of the Ash Pile is estimated to be 131,250 cubic yards.

2.2 ASH PONDS

The Ash Ponds are two adjoining and connected CCR surface impoundments constructed by San Miguel in 1977 as part of the original plant construction.

The Ash Ponds are a surface impoundment that was constructed and received CCR before October 14, 2015. In addition, the Ash Ponds currently receive CCR. Hence, in accordance with 40 CFR §257.53, the Ash Ponds are classified as an active, existing CCR surface impoundment.

As shown on the San Miguel facility water balance, the Ash Ponds receive and store bottom ash transport water overflow from hydrobins used to dewater the bottom ash CCR produced by the Plant. Those wastes contain CCR as defined in 40 CFR §257.52 (San Miguel 1982).

The Ash Ponds are located on site generally south of the electric power generation plant and west of the EP.

As shown on San Miguel drawings, both Ash Ponds are approximately 2450 feet long and 240 feet wide at the dike crest interior top of bank, and 20 feet deep from the dike crest to the pond bottom (T&G 1980). Based on those dimensions, the total area inside the interior top of bank of the two Ash Ponds is approximately 27 acres. Similarly, the total area drained to the Ash Ponds, including the interior and the dike crest area, is approximately 32 acres.

San Miguel personnel responsible for operation of the Ash Ponds stated that the maximum total volume of CCR on-site during the prior and projected active life of the Ash Ponds is estimated to be limited to 50% of the total capacity of both of the Ash Ponds, or approximately 348,000 cubic yards. The largest area for the Ash Ponds final cover is estimated to be approximately 27 acres.

2.3

EQUALIZATION POND

The EP is a CCR surface impoundment constructed by San Miguel in 1977 as part of the original plant construction.

The EP is a surface impoundment that was constructed and received CCR before October 14, 2015. In addition, the EP currently receives CCR. Hence, in accordance with 40 CFR §257.53, the EP is classified as an active, existing CCR surface impoundment.

As shown on the San Miguel facility water balance, the EP receives process water from the Scrubber Purge Treatment System. That waste contains CCR as defined in 40 CFR §257.52 (San Miguel 1982).

Also, as shown on the San Miguel facility water balance, San Miguel pumps water from the EP to the Ash Ponds at times and rates determined by San Miguel to be necessary and appropriate to maintain adequate freeboard in the EP (San Miguel 1982).

The EP is located on site generally south of the Plant and west of the Ash Ponds (Figure 1).

As shown on San Miguel drawings, the EP is an irregular shape that is approximately 1,570 feet long and 710 feet wide at the dike crest interior top of bank, and 20 feet deep from the dike crest to the pond bottom (T&G 1977).

Based on the dimensions and shape of the EP, the total area inside the EP is approximately 25 acres. Similarly, the total area drained to the EP, including the interior and the dike crest areas, is approximately 28 acres.

San Miguel personnel responsible for operation of the Equalization Pond stated that the maximum volume of CCR on-site during the prior and projected active life of the EP is estimated to be limited to 50% of the total capacity of the EP, or approximately 330,700 cubic yards. The largest area of the EP final cover is estimated to be approximately 24 acres.

3.0

CCR UNIT CLOSURE PLAN

The closure concept for this initial closure plan is to close the Ash Pile CCR landfill by removal of CCR. The closure procedures will comply with requirements in 40 CFR §257.102(c).

The closure concept for this initial closure plan is to close the Ash Ponds and EP CCR surface impoundments by leaving CCR in place. The closure procedures will comply with requirements in 40 CFR §257.102(d).

This section describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted engineering practices and in accordance with 40 CFR §257.102(b). A written closure plan for each CCR unit is required by 40 CFR 256.102(b).

Each closure plan for CCR units to be closed by removal of CCR is required to include:

- the closure performance standard;
- a narrative description of the closure;
- a description of the procedures to remove the CCR and decontaminate the CCR unit;
- the maximum CCR inventory; and
- the closure schedule.

Each closure plan for CCR units to be closed with CCR in-place is required to include:

- the closure performance standard;
- a narrative description of the closure;
- a description of the final cover system;
- the maximum CCR inventory;
- the maximum area covered; and
- the closure schedule.

The CCR unit closure plan is described in this section.

3.1

CLOSURE PERFORMANCE STANDARDS

The performance standards for closure of the CCR units in this initial closure plan are either:

- (1) removing CCR and decontaminating each area affected by CCR releases for the CCR unit in accordance with 40 CFR §257.102(c)(closure by removal)(Ash Pile); or
- (2) leaving CCR in place in accordance with 40 CFR §257.102(d)(closure in place)(Ash Ponds, EP).

The closure performance standards are described in more detail below.

3.1.1 *Performance Standards for Closure by Removal - Ash Pile*

San Miguel will close the Ash Pile by removing and decontaminating each area affected by releases from that CCR unit in accordance with 40 CFR 257.102(c) (closure by removal).

CCR removal and decontamination of the Ash Pile will be considered completed in accordance with 40 CFR §257.102(c) when each constituent concentration throughout the CCR unit and each area affected by potential release of CCR constituents from that CCR unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established in 40 CFR §257.95(h) for each constituent listed in 40 CFR 257.95, Appendix IV.

3.1.2 *Closure In Place - Ash Ponds and Equalization Pond*

San Miguel will close the Ash Ponds and EP CCR surface impoundments by leaving CCR in place and constructing a final cover system in accordance with the performance standards stated in 40 CFR §257.102(d)(1):

- (i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;*
- (ii) Preclude the probability of future impoundment of water, sediment, or slurry;*
- (iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;*
- (iv) Minimize the need for further maintenance of the CCR unit; and*
- (v) Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.*

3.2 **NARRATIVE DESCRIPTION OF THE CLOSURE**

Closure of a CCR unit will be accomplished in steps related to the closure performance standard, the characteristics of the bottom liner, the CCR contained in the CCR unit, and the surrounding area.

This section describes a narrative description of closure of the CCR units by either:

- (1) closure by removal in accordance with 40 CFR 257.102(c); or
- (2) closure in place in accordance with 40 CFR 257.102(d).

3.2.1

Description of Closure by Removal – Ash Pile

The Ash Pile will be closed by removing and decontaminating each area affected by releases from that CCR unit in accordance with 40 CFR §257.102(c) (closure by removal). The closure will be accomplished in steps as follows.

1. Remove CCR: remaining CCR and CCR-affected soil will be removed from the CCR unit and from each area affected by release of CCR from that CCR unit.
2. Confirm CCR Removal and Decontamination: CCR removal and decontamination of the CCR unit will be confirmed complete by sampling and analytical testing of representative samples of potentially-affected subsoil and ground water for each constituent throughout the CCR unit has been removed to the corresponding background concentration or applicable standards in effect at the time of closure. Ground water monitoring concentrations will be measured to confirm that they do not exceed the ground water protection standard established by San Miguel in accordance with 40 CFR §257.95(h) for each constituent listed in 40 CFR §257, Appendix IV.
3. Site Restoration: The excavated surface will be graded to drain without ponding and native grasses will be established to control erosion. If necessary to achieve positive drainage, clay-rich soil suitable for structural backfill and free of constituent concentrations greater than corresponding background concentration or applicable TRRP Protective Concentration Level (PCL), whichever is greater, will be placed in 6-inch loose lifts and compacted to 95% Standard Proctor maximum dry density and within 2% wet or dry of the optimum moisture content. If necessary, 6-inches of soil capable of sustaining native plant growth will be placed on the top excavation or backfilled surface.

3.2.2

Description of Closure in Place – Ash Ponds and Equalization Pond

The Ash Ponds and EP will be closed by leaving CCR in place (closure in place). The closure will be accomplished in steps as follows.

1. Remove Liquids: Free liquids will be eliminated by removing liquid wastes and/or solidifying the remaining CCR and CCR residues in the CCR unit.
2. Prepare Final Cover System Subgrade: The remaining CCR will be solidified, if necessary, sufficient to support the final cover system, and the surface will be graded and compacted as necessary to support the final cover system.
3. Final Cover System: The final cover system will be constructed in place over the prepared subgrade to achieve the final cover system criteria in 40 CFR §257.102(d)(3).

3.3 FINAL COVER SYSTEM - ASH PONDS AND EQUALIZATION POND

The final cover system for the Ash Ponds and EP will be as described below.

3.3.1 Final Cover System Design Criteria

The final cover system constructed for closure of the CCR unit will achieve the final cover system design criteria specified in 40 CFR 102(d)(3)(i):

- (A) *The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less.*
- (B) *The infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.*
- (C) *The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth.*
- (D) *The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.*

3.4 ALTERNATIVE FINAL COVER SYSTEM DESIGN CRITERIA

IF San Miguel chooses to construct an alternative final cover system for closure of a CCR unit, the final cover system will achieve the alternative final cover system design criteria specified in 40 CFR §257.102(d)(3)(ii):

- (A) *The design of the final cover system must include an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in [40 CFR §257.102](d)(3)(i)(A) and (B) [i.e., the permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less; and the infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material].*
- (B) *The design of the final cover system must include an erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in [40 CFR §257.102](d)(3)(i)(C) [i.e., the erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth].*
- (C) *The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.*

3.4.1

Methods and Procedures Used to Install the Final Cover System

If San Miguel chooses to implement the final cover system design criteria in 40 CFR §257.102(d)(3)(i) for closure of a CCR unit, the final cover system will be as described below.

- Cap Topsoil Layer: The Cap Topsoil layer will be a 6-inch thick layer of topsoil suitable for seeding and establishment of cover vegetation and support of each stage of related cap construction and maintenance equipment and materials, with a surface slope of 3% to 5% graded to drain to relief, and with a substantially continuous stand of erosion-resistant native or adapted perennial shortgrass cover vegetation in accordance with 40 CFR §257.102(d)(3)(i)(C).
- Cap Soil Fill Layer: The Cap Soil Fill layer will be an 18-inch thick layer of soil fill suitable for supporting the Cap Topsoil layer and related cap construction and maintenance equipment and materials in accordance with 40 CFR §257.102(d)(3)(i)(B).
- Cap Barrier: The Cap Barrier will be either a 36-inch thick layer of compacted clay, or a 40-mil or thicker linear low density polyethylene (LLDPE) flexible membrane liner (FML) with a permeability equal to or less than the permeability of 3-feet of clay with a hydraulic conductivity of 1×10^{-7} cm/sec supported on a 12-inch thick layer of compacted soil or stable CCR if approved by the designing engineer; has a top surface slope of 3% to 5% that is graded to drain to perimeter relief; is suitable for supporting each stage of overlying cap layers and related cap construction and maintenance equipment and materials in accordance with 40 CFR §257.102(d)(3)(i)(A); and is supported by stable CCR, which is solidified if necessary, and stable compacted soil fill in accordance with 40 CFR §257.102(d)(3)(i)(D).

Alternate final cover systems that achieve the alternate final cover system performance requirements in 40 CFR §257.102(d)(3)(ii) may be substituted for the final cover systems described above.

3.5

CCR VOLUME ESTIMATE

As required in 40 CFR §257.102(b)(1)(iv), following are estimates of the maximum volume of CCR ever on-site during the active life of each of the CCR units.

- Ash Pile: 131,350 cubic yards of CCR.
- Ash Ponds: 348,000 cubic yards of CCR, based on 50% of the storage capacity of the Ash Ponds below the dike crest.
- Equalization Pond: 330,700 cubic yards of CCR, based on 50% of the storage capacity of the EP below the dike crest.

3.6 FINAL COVER AREA

As required in 40 CFR §257.102(b)(1)(v), the largest area ever requiring a final cover in accordance with 40 CFR §257.102(d) (i.e. closure in place) at any time during the CCR unit active life is stated below.

- Ash Ponds: 27 acres, based on the total area inside the interior top of bank of each of the two Ash Ponds.
- Equalization Pond: 24 acres, based on the total area inside the interior top of bank of the EP.

3.7 CLOSURE SCHEDULE

As required in 40 CFR §257.102(b)(1)(vi), the estimated schedules for closure of the Ash Pile (CCR Landfill) and Ash Ponds and EP (CCR Surface Impoundments) are shown in Table 1 and Table 2, respectively. In accordance with 40 CFR§ 257.102(b)(1)(vi), each of those schedules includes the sequential steps necessary to close the CCR unit, major milestones, and an estimate of the year in which closure activities will be completed.

Due to the anticipated permitting and construction schedule, San Miguel expects to extend the closure period beyond the six-month maximum time allowed for completing closure of a CCR landfill in 40 CFR§ 257.102(f)(1)(i). At the time of closure San Miguel will place a demonstration of why completion of closure is not feasible within the maximum time allowed in accordance with 40 CFR§ 257.102(f), when and if necessary.

Owners/operators must commence closure within 30 days of either 1) final receipt of CCR or non-CCR waste or 2) removes the known final volume of CCR for beneficial use. According to 40 CFR §257.102(e)(3) closure activities have commenced if the CCR unit has ceased receiving waste and owners/operators have:

- Taken any steps necessary to implement the written closure plan required by paragraph (b) of [40 CFR§ 257.102];*
- Submitted a completed application for any required state or agency permit or permit modification; or*
- Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.*

4.0

CCR UNIT POST-CLOSURE CARE

San Miguel will implement post-closure care of each of the CCR units closed with CCR left in place in accordance with 40 CFR §257. Post-closure care activities will be implemented in accordance with 40 CFR §257.104. Goals of the post-closure care are as follows.

- Maintain the integrity and effectiveness of the CCR unit final cover system, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events (40 CFR §257.104(b));
- Maintain the groundwater monitoring system and implement each applicable monitoring requirements in 40 CFR §257.90 through 98; and
- Prevent storm water run-on and runoff from eroding or otherwise damaging the final cover (40 CFR §257.104(b)).

San Miguel will implement the following CCR unit post-closure activities.

- Inspection and maintenance of the CCR unit final cover system and associated groundwater monitoring wells;
- Groundwater monitoring sampling, analysis, and reporting;
- Facility Operating Record recordkeeping and reporting posted on the internet site available to the public; and
- Deed recordation.

According to 40 CFR 257.104 (d)(3)(i), San Miguel **may** amend this initial or any subsequent written post-closure plan at any time.

Per 40 CFR 257.102 (d)(3)(ii), San Miguel **must** amend the closure plan whenever:

- (A) there is a change in operation of the CCR unit that would substantially affect the written post-closure plan in effect; or
- (B) After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.

4.1

POST-CLOSURE PERIOD

In accordance with 40 CFR §257.104(c), the post-closure care period for each CCR unit be a period of 30 years following San Miguel certification of completion of closure of the CCR unit. If at the end of the post-closure care period the CCR unit is operating under assessment monitoring in accordance with 40 CFR §257.95, San Miguel will continue post-closure care until the CCR unit returns to detection monitoring.

4.2

POST-CLOSURE INSPECTION AND MAINTENANCE

San Miguel will inspect and maintain the final cover system at each CCR unit, each associated groundwater monitoring well, and each associated permanent benchmark throughout the post-closure period. The CCR unit post-closure care inspection and maintenance requirements are described below with typical types of problems each component may have.

- The final cover system will be inspected for damage resulting from natural or unnatural causes. Maintenance activities may include repairing damage caused by settling or erosion; draining and filling areas collecting ponded water; and re-seeding areas with inadequate or inappropriate erosion-resistant cover vegetation as necessary to maintain the effectiveness of the final cover system.
- Storm water run-on and runoff control systems will be inspected for damage resulting from natural causes and non-routine facility operations. Storm water run-on and runoff control berms and drainage channels that drain the CCR unit will be maintained and, as necessary to maintain effectiveness, repaired.
- The groundwater monitoring wells that are part of the CCR unit monitor well network will be inspected for condition necessary to provide adequate and representative ground water samples. Maintenance may include the repair or replacement of damaged, degraded, or missing well caps, identification signs, locking devices, perimeter grading, protective barriers, surface casing, surface pads, and, if necessary, the entire well.

San Miguel will implement groundwater monitoring during the CCR unit post-closure care period in accordance with 40 CFR §257.90 through 257.98.

4.3

CONTACT INFORMATION

The name, address, telephone number, and email address of the person to contact about the CCR units at the San Miguel Plant during the post-closure care period is:

Mari Willis, Environmental Supervisor
San Miguel Electric Cooperative, Inc.
6200 FM 3387
Christine, Texas 78012
(830)784-3411 x 247
MWillis@SMECI.net

4.4

PLANNED CCR UNIT POST-CLOSURE PROPERTY USE

The San Miguel plan for the use of the closed Ash Pile area will be restoration of native plant life or redevelopment.

The San Miguel plan for the use of each CCR unit closed with CCR in place during the post-closure care period will be limited access to the CCR unit to

reduce potential for damage of the final cover system and the associated ground water monitoring wells.

If the post-closure period of a CCR unit extends past the date the Plant is decommissioned, the CCR unit will remain closed to the public or limited to compatible commercial or industrial use.

CCR UNIT CLOSURE AND POST-CLOSURE PLAN AMENDMENT

San Miguel may amend this CCR Unit Closure and Post-Closure Plan at any time.

As specified in 40 CFR §257.102(b)(3)(ii), San Miguel must amend this CCR Unit Closure and Post-Closure Plan for any of the following reasons:

- when there is a change in operation of the CCR unit that would substantially affect the written CCR Unit Closure and Post-Closure plan then in effect; or
- when an unanticipated event necessitates revision of the CCR Unit Closure and Post-Closure plan before or during CCR unit closure activities, or after the CCR unit post-closure care period has commenced.

In addition, as specified in 40 CFR §257.102(b)(3)(iii), San Miguel must amend this CCR Unit Closure and Post-Closure Plan within 60 days prior to a San Miguel-planned change in CCR unit operation or within 60 days after an unplanned CCR unit event (if the change occurs after CCR unit closure activities have been initiated, the CCR Unit Closure and Post-Closure Plan must be amended within 30 days following the triggering event).

San Miguel will provide written certification by a professional engineer that states that the amended CCR Unit Closure and Post-Closure Plan meets the requirements of closure and post-closure care required in 40 CFR §257.102(b)(4).

6.0 *NOTIFICATION AND RECORD KEEPING*

San Miguel will issue notifications and implement recordkeeping in accordance with 40 CFR §257.105 and 40 CFR §257.106.

6.1 *NOTIFICATIONS*

San Miguel will notify the Executive Director of TCEQ, the State Director as defined in 40 CFR §257,105(d), and in accordance with 40 CFR §257.106(g)(1) and (2), when the following documents are made available in the San Miguel facility Operating Record:

- the initial CCR Unit Closure and Post-Closure Plan;
- each amendment to the CCR Unit Closure and Post-Closure Plan;
- written demonstration for a time extension for initiating closure;
- each notice of intent to initiate CCR unit closure;
- each notice of completion of CCR unit closure;
- intent to comply with alternative closure requirements;
- annual progress reports under alternative closure requirements;
- each notification of completion of the CCR unit post-closure care period; and
- each CCR unit deed notation.

In accordance with TCEQ instructions related to CCR units in Texas, San Miguel will send each notification to the TCEQ via internet electronic mail to:

CCRNofify@tceq.texas.gov

6.2 *SAN MIGUEL CCR WEB SITE*

San Miguel will post the following documents on the San Miguel internet site accessible to the public in accordance with 40 CFR §257.107(g)(1) and (2) within 30 days of placing the document in the Operating Record and for a period of five years thereafter:

- the initial CCR Unit Closure and Post-Closure Plan;
- each amendment to the CCR Unit Closure and Post-Closure Plan;
- written demonstration for a time extension for initiating closure;
- each notice of intent to initiate CCR unit closure;
- each notice of completion of CCR unit closure;
- intent to comply with alternative closure requirements;
- annual progress reports under alternative closure requirements;
- each notification of completion of the CCR unit post-closure care period; and
- each CCR unit deed notation.

6.3

DEED NOTATION

For CCR units closed with CCR in-place in accordance with 40 CFR §257.102(i), Deed Notations, San Miguel will record in the permanent deed records of Atascosa County, Texas the following information regarding each CCR unit closure:

- A metes and bounds description and a plat map sealed by Registered Professional Land Surveyor licensed by the Texas Board of Professional Land Surveyors of the portion(s) of the tract(s) of land on which a CCR unit has been closed in place.
- A statement describing the appropriate future land use and documenting any property use limitations in accordance with 40 CFR §257.104(d)(3)(iii).

Within 30 days of recording each deed notation, San Miguel will place a corresponding notification that the notation has been recorded in the San Miguel facility Operating Record and the San Miguel CCR Web Site.

PROFESSIONAL ENGINEER CERTIFICATION

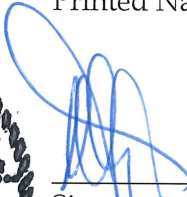
40 CFR Part 257.102 and 40 CFR Part 257.104 require that this CCR Unit Closure and Post-Closure Plan meet those requirements. In addition, a professional engineer must certify that any amendments to the CCR Unit Closure and Post-Closure Plan meet requirements of those rules, and that closure of the CCR unit has been achieved in accordance with those rules. Certification for this initial CCR Unit Closure and Post-Closure Plan is provided below.

"I hereby certify that I have reviewed the CCR unit management practices for the San Miguel Plant in Atascosa County, Texas, and being familiar with the provisions of 40 CFR Part 257.102 and 40 CFR Part 257.104, attest that this CCR Unit Closure and Post-Closure Plan has been prepared in accordance with good engineering practices."

Seal:

E. Doyon Main, P.E.
Printed Name of Licensed Professional Engineer





Signature of Licensed Professional Engineer

Date: 10/27/2016

REFERENCES

Information used as sources of information for preparation of this Closure and Post-Closure Plan for the Ash Pile, Ash Ponds, and Equalization Pond are listed below.

- | | |
|-----------------|--|
| San Miguel 1982 | Facility Water Balance, San Miguel Electric Cooperative, Inc., ca. 1982. |
| T&G 1977 | Sludge Disposal Basin, 69 kV Substation & Temp. Parking Area, San Miguel Plant Unit No. 1, Drawing No. C-12, Rev. 0, Tippet & Gee, Inc., April 1, 1977, revised April 5, 1977. |
| T&G 1980 | Site Plan and Vicinity Map, San Miguel Plant Unit No. 1, Drawing No, 1-C-1C Rev 3, Tippet & Gee, Inc., April 1, 1977, revised April 14, 1980. |

Tables

October 18, 2016
Project No. 0303548

Environmental Resources Management
206 East 9th Street, Suite 1700
Austin, Texas 78701
(512) 459-4700

TABLE 1

Estimated Closure Schedule

Ash Pile
 CCR Unit Closure and Post-Closure Plan
 San Miguel Electric Cooperative, Inc.
 Atascosa County, Texas

Event/Activity	Estimated Start ⁽¹⁾	Anticipated Duration
Preparation of construction plans and specifications	Q1 2038	12 Months
Obtain necessary local and state permits / site logistics ⁽²⁾	Q1 2039	9 Months
Notification of intent to initiate closure of CCR Unit, per 40 CFR 257.106	Q4 2039	N/A
Procurement process for construction	Q4 2039	3 Months
Review and approval of contractor submittals	Q1 2040	3 Months
Contractor mobilization	Q2 2040	1 Month
CCR Removal, Decontamination, Site Restoration	Q2 2040	6 Months
Demobilization	Q4 2040	1 Month
Prepare and submit closure certification report internet site	Q4 2040	3 Months
Begin 30 year post closure care (inspections, maintenance, ground water monitoring)	Q1 2041	30 Years

NOTES:

- 1) The above closure schedule is estimated and may change for a variety of reasons.
- 2) Closure activities have commenced when owners/operators have submitted applications for state or local permits per 40 CFR 257.102(e)(3).

TABLE 2

Estimated Closure Schedule

Ash Ponds and Equalization Pond
CCR Unit Closure and Post-Closure Plan
San Miguel Electric Cooperative, Inc.
Atascosa County, Texas

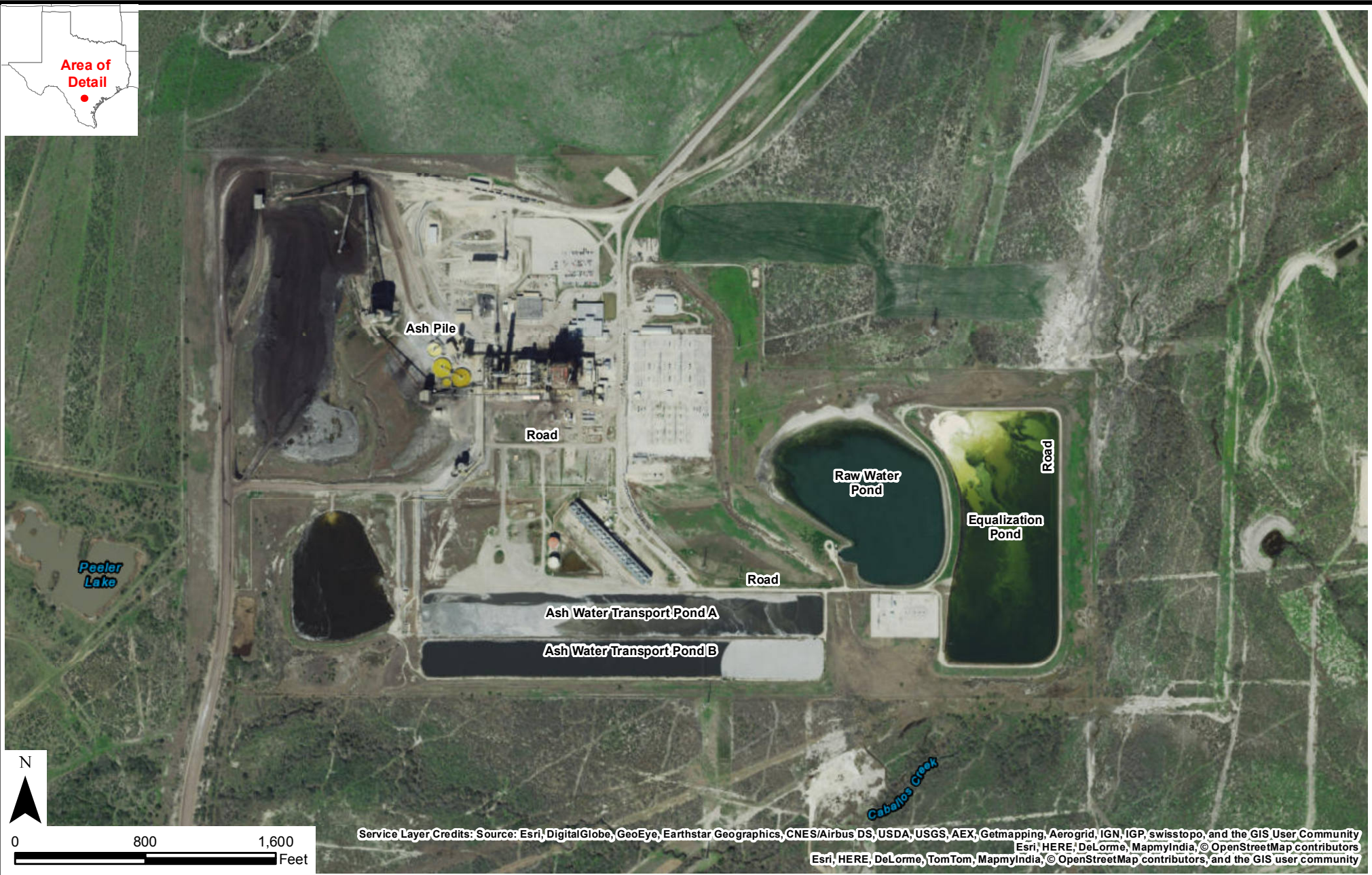
Event/Activity	Estimated Start ⁽¹⁾	Anticipated Duration
Engineering design and preparation of construction plans and specifications	Q1 2038	12 Months
Obtain necessary local and state permits / site logistics ⁽²⁾	Q1 2039	9 Months
Notification of intent to initiate closure of CCR Unit, per 40 CFR 257.106	Q4 2039	N/A
Procurement process for construction	Q4 2039	6 Months
Review and approval of contractor submittals	Q2 2040	6 Months
Contractor mobilization	Q4 2040	1 Month
Impoundment dewatering	Q4 2040	9 Months
If required, waste stabilization/re-grading, per plans and specifications	Q3 2041	12 Months
Multilayer cap construction	Q3 2042	12 Months
Demobilization	Q3 2043	1 Month
Prepare and post closure certification report to internet site	Q3 2043	3 Months
Begin 30 year post closure care (inspections, maintenance, ground water monitoring - closure in-place)	Q4 2043	30 Years

NOTES:

- 1) The above closure schedule is estimated and may change for a variety of reasons.
- 2) Closure activities have commenced when owners/operators have submitted applications for state or local permits per 40 CFR 257.102(e)(3).

Figure

October 18, 2016
Project No. 0303548



Environmental Resources Management

DESIGN: PD/CJ	DRAWN: EFC	CHKD.: .
DATE: 9/8/2016	SCALE: AS SHOWN	REVISION: 0
W.O.NO.: K:\GIS\SMEC\Christine_TX\IMXD\Fig1_SitePlan_CCR.mxd		

FIGURE 1
SITE PLAN
CCR Closure and Post Closure Plan
San Miguel Electric Cooperative, Inc. Facility
Atascosa County, Texas

