

**RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION**

**SURFACE MINING DOCKET NO. C17-0003-SC-01-F
APPLICATION BY ALCOA USA CORP.
FOR PHASES I, II, AND III RELEASE
OF RECLAMATION OBLIGATIONS FOR 177.2 ACRES
WITHIN PERMIT NO. 1G, SANDOW MINE, MILAM AND LEE
COUNTIES, TEXAS**

**ORDER APPROVING PHASES I - III RELEASES
OF RECLAMATION OBLIGATIONS FOR 177.2 ACRES**

STATEMENT OF THE CASE

Alcoa Inc., former permittee for the Sandow Mine, P.O. Box 1491, Rockdale, Texas 76567 applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for release of Phases I - III reclamation obligations for 177.2 acres within the Sandow Mine located in Milam and Lee Counties, Texas. The acreage requested for release is in Milam County. The application is made pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. Ch. 134 (Vernon Supp. 2017), and the "Coal Mining Regulations" Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE Ch. 12 (Thomson West 2017). Alcoa, Inc. was replaced as the permittee by Commission Order dated August 1, 2017 that approved Alcoa USA Corp. as the permittee as part of Alcoa Inc.'s application for transfer of the permit. Alcoa USA Corp. replaced Alcoa Inc. as the permittee for this application and will be referred to as "Alcoa" in this Order.

Permit No. 1G currently authorizes surface coal mining operations at Alcoa's Sandow Mine within its 8,079.7-acre permit area. Copies of the application were filed in required County and Commission offices and distributed to applicable agencies for review and comment. No requests for hearing were filed following public notice. Staff of the Surface Mining and Reclamation Division has reviewed the request for release of the acreage and filed its Technical Analysis and field inspection report. No comments were made following public notice and mailed notice, and no public hearing was requested.

The only parties to the proceeding are Alcoa and the Commission's Surface Mining and

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

Reclamation Division (Staff). There remain no outstanding issues between the parties. Based on the information provided by the application, as supplemented, Staff analyses, the inspection of the area, clarification and additional information requested by the administrative law judge (ALJ), the administrative law judge recommends release of Phases I - III reclamation obligations for the requested 177.2 acres. The parties have filed waivers of the preparation and circulation of a proposal for decision. After consideration of the application and the Findings of Fact and Conclusions of Law, the Commission approves the release of reclamation obligations as reviewed and recommended. Alcoa does not request adjustment to the approved reclamation bond. The Commission determines an eligible bond reduction amount of \$746,933.44.

FINDINGS OF FACT

Based upon the evidence in the record, the following Findings of Fact are made:

1. By letter dated September 15, 2016, Alcoa USA Corp. (Alcoa) filed its request for Phase I - III releases of reclamation requirements (backfilling, regrading and drainage control, revegetation and protection of surface water and groundwater) for 177.2 acres within the 8.079.7-acre permit area of the Sandow Mine, located in Milam and Lee Counties. The area requested for release is in Milam County. It is a closed waste disposal area that was operated and capped prior to August 3, 1977 when there were no SMRD permitting requirements for the disposal. The area was closed in the 1980's pursuant to TCEQ Risk Reduction Standards. Certain structures exist within this disposal area. The application was filed as administratively complete for processing by the Hearings Division on May 3, 2017.
2. No filing fee is required. The application is made pursuant to the Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. CH. 134 (Vernon Supp. 2017) (Act), and the "Coal Mining Regulations," Tex. R.R. Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2017) (Regulations). The application was properly certified in accordance with §12.312(a)(3) of the Regulations. Alcoa supplemented the application by letters dated October 20, 2016 (to address questions by the inspector), March 22, 2017 (to supply a revised draft notice and responses to comments), March 28, 2017 (to

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

provide a revised map for notice), and by letter dated April 28, 2017 (to provide a publisher's affidavit and newspaper clippings for proof of public notice).

3. Staff of the Surface Mining and Reclamation Division has reviewed the request for release of the acreage and filed its Technical Analysis and field inspection report, supplemented by letter dated November 2, 2017. The only parties to the proceeding are Alcoa and the Commission's Surface Mining and Reclamation Division (SMRD or Staff). Copies of the application were filed in the required county and Commission offices, and notices were mailed to landowners and adjoining landowners of the area requested for release and required federal and state agencies. No comments were made following public notice and mailed notice, and no public hearing was requested.
4. Alcoa does not request a reduction in the amount of the approved reclamation bond, \$14 million. The surety bond for reclamation approved by Commission Order dated August 1, 2017 will remain in place with no changes. An eligible bond reduction amount may be determined.
5. Copies of the application were filed for public review at the office of the Railroad Commission of Texas at 1701 North Congress, William B. Travis Building, Austin, Texas 78701, and in the office of the Milam County Clerk, 100 South Fannin, Cameron, Texas 75840. The only owner of the lands requested for release is Alcoa. Adjacent lands are owned by Alcoa, TXU (Luminant), Milam County, and Accurate Inc. Adjacent lands are subject to various leasehold interests. By letters dated April 6, 2017, Alcoa sent notice to owners of other interests in the areas requested for release and to local governmental bodies and other agencies and authorities as required by §12.312(a)(2). Notice was sent to the Milam County Judge and Commissioners Court, Brazos River Authority, Texas General Land Office, Texas Commission on Environmental Quality, Natural Resources Conservation Service, Environmental Protection Agency, Texas State Soil and Water Conservation Board, U.S. Army Corps of Engineers, Taylor Soil and Water Conservation District, and Burleson-Lee Soil and Water Conservation District, Atmos Energy, Bartlett Electric, Bluebonnet Electric, Verizon, TXU, Manville Water Supply Corp., Southwest Milam Water Service Company, and Accurate, Inc. The area requested for release is not located within the territorial boundaries of any other

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

municipality that would be notified pursuant to §12.313(c) of the Regulations.

6. The application, as supplemented, Staff technical analysis and addenda, photographic evidence, and Staff Inspection Report and Evaluation, as well as letters of SMRD approval for permanent structures, documentation of soil testing results and revegetation to control erosion were provided as support for release of reclamation obligations. In addition, materials provided subsequent to a prehearing conference on the docket and in response to questions from the administrative law judge were provided as supplementation, correction, and clarification of the application and Staff TA.
7. Copies of the application were filed for public review in compliance with notice requirements, at the main office of the Railroad Commission of Texas at 1701 North Congress, William B. Travis Building, Austin, Texas and in the office of the Milam County Clerk.
8. Publication of notice of application occurred once each week for four consecutive weeks in *The Rockdale Reporter*, a newspaper of general circulation in Milam County, the location of the area requested for release, on April 6, 13, 20, and 27, 2017. Proof of publication was submitted by letter dated April 28, 2017 with attached affidavit of publication and clippings. The newspaper is in the locality of the surface mining and reclamation operations. The notice of application contains all information required by §134.129 of the Act and §12.312(a) of the Regulations for notice of application for release of Phases I - III reclamation obligations for backfilling, regrading, and drainage control. The notice is adequate notification of the request for release. The notice included the name of the permittee, the location of the land affected, the approximate number of acres, permit number at the time of application and date approved, the amount of approved bond, the type and appropriate dates reclamation work was performed, and a description of the results achieved as they relate to the approved reclamation plan. The notice contained information concerning the applicant, the location and boundaries of the permit area, the availability of the application for inspection, the address to which comments should be sent, and a map with sufficient notice of the boundaries of the area requested for release.

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

9. The Director, SMRD, determined the application to be administratively complete by letter dated May 3, 2017. The Staff's Technical Analysis (TA) and inspection report were filed with the Hearings Division by letter dated May 19, 2017. A prehearing conference was held on September 21, 2017 for this docket and a related docket. For the instant docket, clarification was needed regarding data and information contained in the application and the Staff's TA. The ALJs for the dockets followed up with a letter dated September 26, 2017 detailing the materials required. Additional materials were filed by Alcoa and Staff following the prehearing conference by letters dated September 26, 2017 and October 25, 2017 from Alcoa and by letter dated November 2, 2017 from Staff. The ALJ requested information regarding surface water sampling results by letter dated November 7, 2017 addressed by Staff in its letter dated November 9, 2017.
10. The area requested for release is made up of several parcels of land located in the central to northern portion of the permit area. The approved postmining land use for the areas requested for Phases I - III release is industrial/commercial.
11. No adverse comments or written objections were filed regarding the request for release pursuant to the notification. No requests for hearing or informal conference were filed pursuant to §12.313(d).
12. SMRD's Inspection and Enforcement Section mailed letters dated September 19, 2016 to Alcoa, Luminant, holders of other interests within the area requested for release, and to the Office of Surface Mining Reclamation and Enforcement, Tulsa Field Office (OSM), notifying them of the date scheduled for inspection, October 13, 2016, and the opportunity to participate in the inspection in accordance with §12.312(a)(2) (Attachment II to Appendix III to TA).
13. Staff sent a letter of notification of the application as required by the Act, §134.133 by certified mail to the Milam and Lee County Judges by letters dated April 3, 2017 (Attachment II to the TA). The inspection occurred on the date scheduled.
14. The Commission inspector and five Alcoa representatives were present at the pre-inspection meeting. Three of the Alcoa representatives attended the inspection with the

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

Commission inspector. The area was inspected with the use of a GPS device to ensure that areas were appropriately identified. No rainfall was noted on the date of the inspection, and all areas could be accessed. The inspection report was signed and dated on November 8, 2016.

15. Evidence was presented that portions of the areas requested for release were disturbed by mining and mining-related activities and regraded from 1952 – 2016.
16. Based upon the application and Staff review in its Technical Evaluation Report, the acreages requested for release from Phase I reclamation obligations have met Phase I requirements for backfilling, regrading, and drainage control requirements as required by §12.313(a)(1) of the Regulations and may be approved for Phase I release.
 - (a). The area requested for Phase I release have been backfilled and graded to approximate original contour, [§12.385(a)]. Material has been placed to minimize erosion, to minimize water pollution both on and off the site, and to support the approved postmining land use [§12.384(b)(2)]. Drainage patterns closely resembling premine drainage have been established. All areas requested for release meet Phase I release have been stabilized to control drainage and attendant potential erosion [(§12.389)].
 - (b). Soils were sampled for suitability according to the postmine soil monitoring plan in Section .145 of Permit No. 1F (p. 3-2, application). The technical review, page 2, reflects that the soil-testing grids within the 177.2 acres meet suitability requirements and that data for the grids were submitted by letter dated January 3, 2008 and were approved by letter from the Commission dated June 18, 2008, that stated that the soil testing results did not indicate the presence of acid-and/or toxic-forming materials. A soil grid map was provided by Alcoa.
 - (c). Vegetation was planted within portions of the 177.2-acre release area. The application indicates that revegetation within the area consists of hybrid bermudagrass, Switchgrass, Kleingrass, Wilman Lovegrass, Old World bluestem, Sideoats grama, and Indiangrass.

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

- (d). The requested release area is made up of 13 permanent structures including portions of the conveyor system and related lift stations FL2 through FL-8 (all pre-law structures), Diversion DD-CC1, one impoundment, Pond 017, and three permanent roads, RR-North, South Haul Road, and C2C3 Auxiliary Road. The area proposed for release also contains pre-law landfill areas. Some structures were built pre-law. The pre-law areas were exempt from being reclaimed in accordance with the Act and Regulations, unless they were used for mining related purposes after the Act went into effect. The area requested for release is a closed waste disposal area that was operated and capped prior to August 3, 1977 when there were no SMRD permitting requirements for the disposal area. The capping included areas where structures existed and were considered part of the capping (including the conveyor system and related lift stations). The area was closed in the 1980's in accordance with TCEQ Risk Reduction Standards. Pond 017 was built after the Act went into effect and was approved by the Commission November 22, 1996; however, it serves as a treatment and sedimentation pond from the runoff from the non-mining related stockpile of processed fuel owned by the power plant facility. Related Diversion DD-CC1 approved on the same date routes that runoff to the pond. The diversion and impoundment were never used for mining related purposes. The roads, RR-North, South Haul Road, and C2C3 Auxiliary Road were constructed following the adoption of the Act, August 8, 2009, June 4, 1998, and September 7, 1995, respectively; however, they were constructed in support of the power plant and industrial complex. All structures are permanent and are stable. Portions of the Haulroad are located over portions of the waste disposal area, and structures such as slabs are considered by the TCEQ as part of the capping that occurred prior to regulation by the Commission. The pre-law haulroad, shops, and yards contained within the area proposed for release, used for a time in support of mining post-1977, were approved pursuant to Commission regulation as permanent structures appropriate for the postmine land use. They are again being used by Alcoa and its contractors in support of industrial plant common facilities and by Luminant and its contractors for support of non-mining related activities associated with the power plant such as haulage of ash products and

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

operation of the conveyor system.

17. The area requested for release has been marked in the field with permanent boundary markers to distinguish the area from surrounding areas.
18. The 177.2-acre area is also proposed for Phase II release. The area has been reclaimed in accordance with the postmine land use. Requirements for Phase II release have been met for the area.
 - (a). The area was stabilized with vegetation and road surfacing that reduces the potential for contributing suspended solids to streamflow. A ground cover evaluation was submitted to the Commission on September 15, 2016 and was approved by letter dated October 4, 2016. The area has met the revegetation requirement for industrial/commercial use that vegetation is adequate to control erosion. [§12.395(b)(4) and (5)] The materials initially filed in the docket did not include a soils grid map generally provided with bond release applications. The ALJ requested that Alcoa or Staff provide a soils grid map for the 177.2-acre area submitted that was a part of the soil-testing data approved by the Division. The ALJ also requested an explanation for any areas within the 177.2-acre area that were not tested. Alcoa provided the soils grid map and indicated that soil testing was performed on grids located within the areas requested for release [Grids NF0A, NF0B, NF0C, A04AH, A04AG, A04AF, A04AE, A04AD, A05AC, A03A, A03B, A03C, A02C, and A02E, Drawing No. 142-GR dated 9/26/17 (Attachment 9-2 of supplement dated October 25, 2017)]; some portions of the release area are covered by structures and were not tested, however, as indicated, the areas requested for release were covered and/or capped prior to August 3, 1977 and the structures were built prior to capping.
 - (b). The area proposed for Phase II release is not contributing excess suspended solids to streamflow outside the permitted area in excess of the requirements set by the Act §134.092(a)(10) and 16 TEX. ADMIN. CODE Ch. 12, Subchapter K. All discharges were compliant with the Texas Pollutant Discharge Elimination System Permit No. 00395. No discharges of disturbed drainage from active

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

mining occur from the area currently. The only permanent pond located in the 177.2-acre area is Pond 017. This sedimentation pond was constructed after the Act became effective but prior to the requirement that water quality samples be taken from individual ponds. Even so, the approval letter for the pond dated November 22, 1996 specified that Pond 017 “must be monitored in compliance with state and federal wastewater discharge permits as if it were an outfall that receives intermittent discharges of mine water and surface runoff from disturbed areas.” No discharge information was provided in Staff’s review or by Alcoa, nor did Staff address this matter. Upon inquiry from the ALJ, Alcoa indicates that as the pond was used for containment and treatment of runoff from the stockpile of processed fuel owned by the power plant and that the pond has never been used for mining purposes. Alcoa also indicates that the pond is an upstream pond that is the first in a series of ponds that discharge to Outfall 025 (C Area Endlake). Data for this pond (C Area Endlake) has been included in the application. Staff provided a summary of long-term water monitoring data for varying periods of record ranging from March 23, 2012 to December 28, 2016 for the C Area End Lake. The data reflects that concentrations of the constituents regulated by the TCEQ Discharge permit 00395 [pH, TSS (total suspended solids), Fe (total iron), and SS/TSM (total settleable matter)] are within the limitations of the permit. Averages of the constituents as compared to the permit effluent limitations are: 8.1 s.u. for pH (limitation, 6.0-9.0 s.u.); TSS, 4.6 mg/L (35/70 mg/L allowable daily average/ allowable daily maximum); Fe, 0.2 mg/L (limitation 3.0/6.0), and SS/TSM, <0.1 mg/L (limitation 0.5 mg/L). Average concentrations of these parameters meet the requirements of the discharge permit.

- (c). No silt dams to be retained as permanent impoundments for which provisions for sound future maintenance would be required are present within the area proposed for Phase II release.
- (d). There is no prime farmland located in the area proposed for Phase I release for which specific soil reconstruction standards would apply. [§12.624] No small depressions occur within the proposed Phase III release area. (§12.385)

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

19. The 177.2- acre area has met the following requirements for Phase III release.
- (a). No productivity standard applies to industrial/commercial land use.
 - (b). No extended responsibility period is applicable.
 - (c). There are no Alcoa-owned water wells located in the areas requested for release. Monitor wells exist within the area associated with TCEQ permits.
 - (d). The permanent structures located on the area requested for release are appropriate for the postmine land use.
20. The groundwater hydrologic balance has been protected as required by §12.348 for Phase III release and the re-established postmine groundwater system is adequate for the proposed postmine use of industrial/commercial for the acreage requested for Phase III release.
- (a). In addressing requirements of §12.348, Alcoa has submitted groundwater monitoring data for the overburden, spoil and underburden aquifers within and adjacent to the Sandow Mine in its *Groundwater Hydrologic Report* included in its application.
 - (b). Groundwater monitoring that includes the area proposed for Phase III release has been performed in accordance with the provisions of the approved permit. Long-term groundwater monitoring records have been reviewed by Staff on a quarterly basis.
 - (c). Staff analysis indicates the following. The premine overburden aquifers in the reclaimed area have been destroyed; however, they constituted only minor aquifers. The underburden aquifers in the Sandow Mine area are sands of the Simsboro Formation, underlying the lignite bearing Calvert Bluff Formation. These underburden aquifers are separated from the overburden by clays five feet or more in thickness. The shallowest aquifers underlying these clays are thin,

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

silty lenses interbedded with clays and lignite stringers that are limited laterally. The sandier unit (Simsboro) lies tens to hundreds of feet below the underclay and is well developed in Milam and Lee Counties.

- (d). Alcoa provided an analysis of the groundwater data from pertinent wells along with its application. From this analysis, and Staff review, the water levels in the spoil monitoring wells adjacent near or adjacent to the area proposed for Phase III release show measurable increases in water levels since the time of mining, for those wells possessing long-term records. The water levels in the spoil monitoring wells appear to be stable or are approaching the post-recovery stage. Seasonal rises and drops in water levels appear to be occurring, indicating that the groundwater system within the spoil has stabilized or is approaching stability. Data provided by Alcoa and reviewed by Staff for the Sandow Mine include data for seven spoil LTGM wells in the vicinity of the areas proposed for release: well SP-36 (A Area), wells SP-17 and SP-47 (C Area), wells SP-21 and SP-22 (F Area), well SP-34 (G Area), and well SP-42 (H Area); data for eight overburden long-term monitoring wells: well AX2077 (AX area), wells C-1RR-OB and C-3-OB, (C Area), wells F-2-OB and PZ-F70-26 (F Area), well OB-32 (G Area), wells H4159A and OB-42R (H Area); and data for eight underburden wells: AX2077A (AX Area), wells SW-2-UB and P3-R (C Area), wells F74-5 and SW-1 (F Area), wells G38-20(S) and UB-H2-93R (G Area), and well H51-14 SIMS (H Area).
- (e). For this specific application, records for the following long-term groundwater monitoring wells (LTGM) were most applicable: Spoil LTGM wells SP-21 (F Area) and SP-36 (A Area), overburden LTGM wells AX2077 and F-2-OB, and underburden LTGM wells AX2077A, SW-2-UB, and F734-5 SIMS. Staff reviewed the analysis provided by Alcoa and the data and determined that long-term quarterly monitoring data for most of the overburden and underburden hydrologic units within and adjacent to the proposed Phase III release area and spoil monitoring wells do not indicate that any significant impacts have occurred to water quantity or quality.
- (f). Water levels in most spoil monitoring wells with long-term records show

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

measurable increases since mining. Staff analysis agrees that the levels are stable or are approaching the post-recovery stage, with seasonal rises and drops. For Spoil Well SP-36, located about 2,400 feet southeast of the proposed release area, for the period of record August 1994 to May 2016, data reflect that water levels are approximately 24 feet higher than the initial measurement, although with minor fluctuations through May 2012, leveling off to October 2014, and increasing to May 2016. Water quality for the well measured by TDS, chloride, and sulfate reflect that these concentrations have essentially fluctuated through the period of record. For Spoil Well SP-21, located approximately 5,800 feet southeast of the proposed release area, for the period of record June 2005 to April 2016, current levels are approximately 16 feet higher than initial measurements and have trended upward. Water quality for these wells using data for TDS, chloride, and sulfate reflect the following: TDS and chloride concentrations have shown upward trends; sulfate concentrations have gradually decreased from June 2005 to the January 2012, but have shown little change since then.

- (g). Staff reviewed information provided for overburden LTGM Wells AX2077 in the AX Area located 6,300 feet southeast of the proposed release area, and LTGM well F-2-OB located 10,400 feet southeast of the proposed release area. Although water levels for the period of record September 2000 to April 2016 trended downward for LTGM Well AX2077 until 2005, they have trended upward to the present and are 6.5 feet lower than the initial measurement. For LTGM Well F-2-OB, water levels measurements for the period of record August; 1994 to April 2016 reflect current water levels approximately 75 feet higher than initial measurements. Water quality data for LTGM AX2077 reflect an upward trend for TDS until February 2016 and decreases to August 2016. Chloride concentrations trended upward from 2004 to August 2015 and then decreased slightly by August 2016. Sulfate concentrations increased. For LTGM well F-2-OB, for the period of record August 1994 to April 2016, TDS concentrations fluctuated, and chloride and sulfate data reflect slight fluctuation. For both the spoil wells and overburden wells no concerns exist regarding pH. In previous applications Staff noted a concern regarding overburden well AX2077 due to

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

increasing TDS, chloride and sulfate concentrations requesting analysis of the data in future submittals. Staff also noted concerns with spoil well SP-21 in the F-Area because of increasing TDS and chloride concentrations. Alcoa had indicated that it acknowledged Staff's concerns associated with LTGM Well AX2077 and would address these trends in future submittals. Alcoa did not provide additional information regarding the well. Regarding the increasing TDS and chloride concentrations in spoil LTGM Well SP-21, Staff's evaluation of the data as described in its analyses of other applications, indicated that the data supports a conclusion that the increase in chloride in this well is the cause of the increase in TDS concentration, and that no viable mechanism for chloride increase resulting from mining activities is known in the Gulf Coast province. (Docket No. C15-0001-SC-01-F)

- (h). In Docket No. C15-0010-SC-01-F, Staff indicated that although LTGM Well AX2077 in the AX Area (and LTGM Well H4159A in the H Area, not pertinent here) show apparent adverse trends, the trends do not preclude release. Staff indicated that these trends are to be expected in postmine long-term groundwater monitoring wells as set out in the PHC for the mine and the Staff's Cumulative Hydrologic Impact Assessment. As resaturation occurs, the levels of TDS, chlorides and sulfates will begin to decline.
- (i). Staff reviewed data provided for underburden LTGM well AX2077A located 6,300 feet southeast of the proposed release area, underburden LTGM well SW-2 UB located 8,400 feet east of the proposed release area, and underburden LTGM well F74-5 SIMS located approximately 10,200 feet east of the proposed release area. Water levels for AX2077A and SW-2 UB have remained stable or have increased; however, the water levels for underburden LTGM well F74-5 SIMS trended downward to 1994, remained stable, and then increased in 1997 over 50 feet. Staff expressed no concerns with levels of pH which have generally remained stable. No concerns were expressed regarding TDS, sulfate, or chloride concentrations.
- (j). After review of the data provided by Alcoa and other data available to Staff, Staff

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

concluded that the quarterly LTGM data for overburden and underburden hydrologic units within and adjacent to the proposed areas of release do not indicate that any significant impacts have occurred to water quantity or quality. When the spoil is resaturated, higher mineralized water will be flushed out and the spoil groundwater quality should slowly improve and then stabilize. This flushing and stabilization of spoil groundwater quality may take many tens of years or more but has no impact on the ability of local groundwater systems to meet groundwater demands in the area. Staff concluded that the groundwater systems adjacent to the proposed release areas have not been impacted by deterioration in water quality or quantity resulting from mining and reclamation activities. Water quality has followed trends predicted in the probable hydrologic consequences determination made by Alcoa and Staff's cumulative hydrologic impact assessment.

21. Alcoa has conducted surface mining activities in accordance with §12.313(a)(3) and §12.349 to protect surface water quality and quantity for the acreage proposed for release. Surface water quality and quantity have been protected.
 - (a). The areas proposed for release from reclamation liability drain to East Yegua Creek at TCEQ Stream Segment 1212 of the Brazos River. All discharge from the mine flows to Somerville Lake on Yegua Creek, TCEQ Stream Segment No. 1212, and ultimately to the Brazos River.
 - (b). TCEQ issued TPDES Permit No. 00395 to Alcoa for wastewater discharges from the Sandow Mine. For the C Area Endlake that captures runoff from the area proposed for release, sampling is conducted at monitoring point 025. The C Area Endlake has various periods of record ranging from March 23, 2012 to December 28, 2016 for quarterly measurement of flow and pH, and sampling of total suspended solids (TSS), total iron (Fe), and total settleable matter (SS/TSM). Alcoa provided data for the sediment pond and others in its *Surface Water PHC* (probable hydrologic consequences determination) contained in the application. Staff used this data and data in its files to provide a summary table

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

for the C Area Endlake for flow, pH, TSS, Fe, and SS/TSM (total settleable matter). The table reflects average pH of 8.1 standard units (s.u.), TSS of 4.6 mg/L, Fe of 0.2, and SS/TSM of < 1 mg/L. These averages meet the requirements of the water quality permit effluent limitations for pH, 6.0 – 9.0; TSS, 35 mg/L allowable daily average and 70 mg/L, allowable daily maximum; Fe, 3.0 allowable daily average and 6.0 allowable daily maximum; and SS/TSM, 0.5 ml/L. (TA, p. 8) Staff analysis indicated that there are no adverse trends observable from the data provided by Alcoa for its long-term pond sampling data.

- (c). For stream monitoring, Alcoa provided a report that included stream monitoring data for monitoring locations in the north, central, and southern portions of the permit area. Data for the following paired stream monitoring stations are pertinent to the location of the areas proposed for release: long-term surface water monitoring (LTSM) station data for Station WQMP1 (upstream undisturbed, located on Yegua Creek); LTSM Station 7 (downstream disturbed located on Yegua Creek at Highway 77), LTSM Station 6 (upstream undisturbed, located on Country Club Creek), and LTSM Station 13 [downstream disturbed, located on Yegua Creek (final outfall location)]. Table 2 in the application contains statistical analyses of 17 constituents for which sampling was conducted, including those required for LTSM stations, flow, pH, total dissolved solids (TDS), TSS, Fe, Manganese (Mn), sulfate (SO₄), and Chloride (Cl). Staff reviewed and analyzed data for the LTSM Station Nos. WQMP1, 6, 7, and 13 located in the north mine area. Staff had specified in previous bond release applications that it based its analysis on baseline data and long-term monitoring data for these stations as supplemented by Staff with recent data available in the Commission's files. No specific information was presented in Staff's analysis for this application indicating whether Staff used any data other than that provided by Alcoa for its comparisons. By letter dated November 7, 2017, the ALJ noted certain discrepancies between the values included in Staff's analysis and those that appeared in the applicant's Table 2 and requested clarification regarding the data used. By letter dated November 9, 2017, Staff filed its clarification. The differences in values for the parameters included in Staff's analysis were due to Staff's use of data for different periods of record than the periods of record used

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

by Alcoa. Staff indicated that its periods of record were used due to their availability digitally. Approximately 1-3 years were added for recent years of sampling results in the periods of record used by Staff, and approximately 6-22 years of sampling data were excluded in the data used by Staff at the beginning of the periods of record.

- (i). Based upon the data provided for pH, the minimum, maximum, and average pH measurements were all within the requirements of the permit, between 6.5 and 9.0 s.u. According to the available data, the minimum, maximum and average values for pH at LTSM Station Nos. 6 (upstream), WQMPI (upstream) and 7 (downstream) fall within the TCEQ stream segment criteria, except for the minimum value at Station 6, 6.1 s.u.

- (ii). The flow-weighted averages for TDS for undisturbed upstream stations WQMP1 and 6 are 549.0 mg/L and 302.0 mg/L, respectively. The flow-weighted averages for TDS for downstream disturbed stations 7 and 13 are 512.5 mg/L and 424.3 mg/L, respectively. The flow-weighted averages for downstream disturbed stations 7 and 13 do not meet the stream segment criterion of 400 mg/L for Stream Segment 1212, to which all discharge from the Sandow Mine flows, but does meet the stream segment criterion of 640 mg/L for Stream Segment 1211, the segment to which drainage from the release areas flow initially. The flow-weighted averages for TDS at stations 7 and 13 are less than or approximate the baseline flow weighted TDS values, 1708.1 (station 7) and 406.9 (station 13).

- (iii). The LTSM stations are monitored for the parameters TSS, Fe, and Mn; however, these are not part of the water quality requirements for the stream segments.
 - (1). Average concentrations of TSS at the downstream stations 7 and 13 are less than the baseline values at these stations. The

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

average concentrations at the downstream stations are similar to the upstream stations.

- (2). The average concentrations of Fe at downstream stations are less than the baseline average concentrations.
 - (3). The average concentration of Mn at downstream station 7 is lower than upstream station WQMP1, but the average concentration of Mn at downstream station 13 is higher than the upstream stations WQMP1 and station 6. Average concentrations at upstream and downstream stations are similar to baseline concentrations except for Station 13 that is downstream of previous mining.
- (iv). The stream segment criteria for SO₄ are 130 mg/L maximum annual average concentration of SO₄ for Stream Segment 1211 and 100 mg/L maximum annual average concentration for Stream Segment 1212. The average concentration at Station 7, 212.1 mg/L, is approximately half the average concentration of upstream station WQMP1 but is higher than upstream Station 6. The concentration at Station 7 does not meet either the criteria for Stream Segment 1211 or Stream Segment 1212. The average concentration at downstream Station 13 is higher than the concentration at upstream Station 6 but lower than upstream Station WQMP1. The concentration of SO₄ at downstream Station 13, 127.7 mg/L is, however, less than the baseline concentration of 451.3 mg/L at Station 13. The concentration meets the criterion for SO₄ for Stream Segment 1211.
- (v). The average concentrations for Cl for downstream stations meet the criteria of the stream segments and are lower than baseline concentrations.

22. Alcoa has provided all necessary information regarding the measures it has used to ensure protection of the surface water hydrologic balance. Required monitoring has

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

been performed. The results of water quality sampling and flow measurements sufficiently show that no material effects have occurred to the surface water within the areas proposed for release. Staff examined the data provided, along with data contained in its records and has determined that Alcoa has used measures to protect the hydrologic balance. Based upon the applicant's determination of probable hydrologic consequences of its operation, and Staff's cumulative hydrologic impact assessment prepared by Staff for the permit, water quality sampling, and stream segment criteria, Staff's analysis of the release application indicates that no material damage should occur to the surface water hydrologic balance. The flow-weighted averages for TDS for downstream disturbed stations 7 and 13, 512.5 mg/L and 424.3 mg/L, respectively, do not meet the stream segment criterion of 400 mg/L for Stream Segment 1212, to which all discharge from the Sandow Mine flows, but do meet the stream segment criterion of 640 mg/L for Stream Segment 1211, the segment to which drainage from the release areas flow initially. The C Area End Lake receives all discharges and will influence the TDS concentrations in East Yegua Creek. The concentrations of TDS in the Lake for the period April 17 – May 16, 2013 reflect an average TDS in the lake of 768 mg/L. TDS concentrations at the disturbed downstream stations are expected to remain near levels recently observed and are less than in baseline and early monitoring data, and the TDS concentrations should not materially affect the lake. In its CHIA, Staff indicates that the effects of mining on the TDS concentrations measured at Mass-Balance Location 2 (East Yegua Creek) could be as high as 223 mg/L; an increase in TDS concentration at Somerville Lake up to a maximum level of 230 mg/L may occur; however, this concentration is less than the maximum annual average concentration for Stream Segment 1212 (400 mg/L). As for water quantity, Staff notes that Alcoa's analysis of surface water quantity indicates that increases in surface water runoff will mitigate increases in evaporative losses and estimates that annual evaporation losses (1,817 acre-feet/year) for all permanent impoundments to be approximately 2% in comparison to the combined average flows at USGS Station Nos. 08109700 and 08109800 on East and Middle Yegua Creeks.

23. A reduction of the permit area boundaries and a revised estimate of the costs of reclamation were approved administratively by the Director, Surface Mining and Reclamation Division, dated July 18, 2016 (Revision No. 60, approved July 18, 2016,

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

resulting in a reduction in the permit area boundaries within Permit No. 1F from 10,730.3 acres to 8,079.7 acres (a reduction of 2,650.6 acres), and a revised estimate of the cost of reclamation for the permit, \$13,481,862. The 177.2 acres requested for Phases I-III release are bonded at the disturbed rate (with no prior release having been approved) of \$3,832/acre. If the application is approved by the Commission, as proposed, Alcoa would be eligible to reduce its performance bond obligations by \$746,933.44, as shown in the following table:

Phase Requested	Area Acres	Disturbance Category	Bonded Per Acre	Eligible Reduction Per Acre	Eligible Reduction
Phases I, II, and III	177.2	Disturbed	\$3,832	\$3,832	\$679,030.40
Subtotal					\$679,030.40
Admin. Costs (10%)					\$ 67,903.04
Total					\$746,933.44

24. The eligible bond reduction amount, based upon the Findings of Fact contained in this Order and Staff calculations, with which Alcoa agrees, is \$746,933.44. No reduction of the \$14 million surety bond approved by order dated August 1, 2017 is requested in this application.
25. Open meeting notice of Commission action was accomplished.

Conclusions of Law

Based on the above Findings of Fact, the following Conclusions of Law are made:

1. Proper notice was provided for this request for release of reclamation obligations.
2. A public hearing on the request is not warranted.

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

3. Alcoa has complied with all applicable provisions of the Act and the Regulations for release of reclamation obligations for the areas requested for release as set out in the Findings of Fact.
4. The Commission may approve a release of reclamation obligations for Phases I - III reclamation obligations on 177.2 acres, as set out in the Findings of Fact
5. An eligible bond reduction amount of \$746,933.44 for use in reclamation cost estimates may be determined.

IT IS THEREFORE ORDERED BY THE RAILROAD COMMISSION OF TEXAS that the above Findings of Fact and Conclusions of Law are adopted;

IT IS FURTHER ORDERED that a release of Phases I - III reclamation obligations on 177.2 acres, as set out in the Findings of Fact, is hereby approved;

IT IS FURTHER ORDERED that the current bond remains in effect according to its terms until released or the Commission approves a replacement bond;

IT IS FURTHER ORDERED that, because of Phases I - III release of 177.2 acres, the Commission approves an eligible bond reduction amount of \$746,933.44;

IT IS FURTHER ORDERED that the Commission may vary the total amount of bond required from time to time as affected land acreage is increased or decreased or where the cost of reclamation changes;

IT IS FURTHER ORDERED by the Commission that this order shall not be final and effective

Alcoa USA Corp.
Surface Mining Docket No. C17-0003-SC-01-F

until 25 days after a party is notified of the Commission's order. If a timely motion for rehearing is filed by any party of interest, this order shall not become final and effective until such motion is overruled, or if such motion is granted, this order shall be subject to further action by the Commission. As authorized by TEX. GOV'T CODE §2001.146(e), the time allotted for Commission action on a motion for rehearing in this case prior to its being overruled by operation of law, is hereby extended until 90 days from the date the parties are notified of the order.

SIGNED in Austin, Texas December 5, 2017.

RAILROAD COMMISSION OF TEXAS



CHAIRMAN CHRISTI CRADDICK

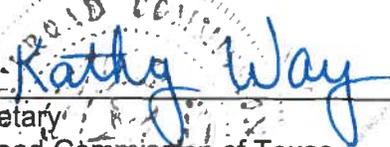


COMMISSIONER RYAN SITTON



COMMISSIONER WAYNE CHRISTIAN

ATTEST:


Secretary
Railroad Commission of Texas