

**RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION**

**SURFACE MINING DOCKET NO. C17-0006-SC-01-F
APPLICATION BY ALCOA USA CORP.
FOR RELEASE OF PHASE I, II AND III RECLAMATION OBLIGATIONS
134.4 ACRES, PERMIT NO. 1G, SANDOW MINE
MILAM AND LEE COUNTIES, TEXAS**

**ORDER APPROVING RELEASE OF PHASE I, II AND III RECLAMATION
OBLIGATIONS FOR 134.4 ACRES**

Statement of the Case

Alcoa USA Corp. (Alcoa), P.O. Box 1491, Rockdale, Texas 76567 applied to the Railroad Commission of Texas (Commission), Surface Mining and Reclamation Division, for Phase I, II and III release of reclamation obligations for 134.4 acres within the Sandow Mine located in Milam and Lee Counties, Texas. 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. Railroad Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2017).

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. The only parties to the proceeding are Alcoa and the Commission's Surface Mining and Reclamation Division (Staff). There remain no outstanding issues between the parties. Based on the information provided by the application, Staff analyses, and the inspection of the area, Staff recommends Phase I, II and III release of reclamation obligations on 134.4 acres. The parties have filed waivers of 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 recommended by Staff. Alcoa does not request adjustment to the approved reclamation bond at this time and no new bond has been submitted. The Commission determines an eligible bond reduction amount of \$760,761.85 as calculated by Staff.

FINDINGS OF FACT

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

1. By letter dated October 13, 2016, the subject application requesting Phase I, II and III release on 134.4 acres within the Sandow Mine Area (Application), was submitted to the Commission's Surface Mining and Reclamation Division (SMRD and/or Staff) by Alcoa Inc. as the approved permittee under Permit No. 1F at the time of filing. Subsequently, Alcoa USA Corp. filed an application for transfer of the permit and submitted a replacement surety bond for Commission acceptance. By separate Orders dated August 1, 2017, the Commission approved the application for transfer and issued the permit, renumbered as Permit No. 1G, to Alcoa USA Corp. (Docket Nos. C17-0011-SC-01-B; C17-0007-SC-01-E).
2. The Application is made pursuant to Texas Surface Coal Mining and Reclamation Act, TEX. NAT. RES. CODE ANN. CH. 134 (Vernon Supp. 2017) (Act), and the "Coal Mining Regulations," Tex. Railroad Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2017) (Regulations). No filing fee is required. The Application was properly certified by Alcoa Inc. at the time filing [§12.312(a)(3)]. By letter dated August 8, 2017, Alcoa USA Corp., as the approved permittee under Permit No. 1G, affirmed it adopts the Application as its own and certified that the information contained therein is true and correct to the best of its knowledge [*Id.*].
3. The Application was filed with the Hearings Division by letter dated October 17, 2016. By letter dated November 16, 2016, Alcoa submitted a revised draft public notice and map for approval in response to the Administrative Law Judge's (ALJ) review. The ALJ approved the revised notice for publication by letter dated November 18, 2016. Staff declared the Application Administratively Complete by letter dated January 10, 2017. By letter dated January 13, 2017, Staff filed its Technical Analysis (TA) and the December 14, 2016 Field Inspection Report (Inspection Report) recommending approval of the bond release Application with no outstanding comments. Following an inquiry from the ALJ by

letter dated October 17, 2017, Alcoa provided additional information related to the docket by email correspondence. Staff filed additional materials by letter dated October 18, 2017.

4. Alcoa does not request a reduction in the amount of the approved reclamation bond in the Application. The existing reclamation bond in the form of a surety bond issued by Federal Insurance Company, accepted by Order dated August 1, 2017, is in the amount of \$14,000,000 (Docket No. C17-0007-SC-01-E).
5. Copies of the Application were filed for public review at the main office of the Railroad Commission of Texas at 1701 North Congress, William B. Travis Building, Austin, Texas 78701, and the office of the Milam County District Clerk, 102 South Fannin, Cameron, Texas 75840.
6. Notice of application was published once a week for four consecutive weeks in the *Rockdale Reporter* circulated in Milam County on December 1, 8, 15 and 22, 2016. The newspaper is a paper of general circulation in the area of the proposed bond release request area, Milam County. The notice of application contains all information required by the Act and Regulations for notice of an application requesting bond release. The published notice is adequate notification of the request for release. The notice includes the elements required by §134.129 of the Act and §12.312(a)(2) of the Regulations: the name of the permittee, the precise location of the land affected, the number of acres, permit number at the time of application and date approved, the amount of bond approved, 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 contains information on the applicant, location and boundaries of the permit area, the Application's availability for inspection, and the address to which comments should be sent. Alcoa submitted proof of publication to the Commission by letter dated January 4, 2017.

7. Alcoa sent notice of the Application to owners of interests within and adjacent to the area requested for release. Alcoa also sent notice to local governmental bodies, planning agencies, sewage and water treatment authorities and water companies in the locality as required by §12.312(a)(2) of the Regulations. The notice was provided via letters dated December 1, 2016. Alcoa mailed notice to the County Judge and Commissioners' Court of Milam County, 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, Texas Department of Transportation, U.S. Army Corps of Engineers, Taylor Soil and Water Conservation District, Burleson-Lee Soil and Water Conservation District, Lee County Soil and Water Conservation District, Manville Water Supply Corp., Southwest Milam Water Service Company, Bartlett Electric, Bluebonnet Electric and interest holders in land within or adjacent to the proposed release area. The area requested for release are not located within the territorial boundaries of any municipality that would be notified pursuant to §12.313(c) of the Regulations. Copies of the notification letters were filed with the Commission on January 5, 2017.
8. Staff provided notification of the Application by certified letters dated November 21, 2016 to the Milam County Judge and Lee County Judge. Mailing of notification was provided at least 31 days prior to the date of consideration of the docket by the Commission in accordance with §134.133 of the Act. Copies of the letters were provided in Attachment II of Staff's TA.
9. 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).
10. Pursuant to §12.312(b) of the Regulations, Staff notified owners of interests in lands and lessees of the Application and the Office of Surface Mining Reclamation and Enforcement, Tulsa Field Office (OSM) by letters dated October 17, 2016 of the date and time of Staff's

field inspection scheduled for November 2, 2016. The notification stated that a release had been requested and, pursuant to §12.312(b)(1), advised them of the opportunity to participate in the on-site inspection. Staff provided copies of the letters in Appendix II within Attachment III (Inspection Report) of the TA.

11. The inspection occurred on November 2, 2016 as scheduled. Following a pre-inspection meeting with representatives from Alcoa, SMRD Inspection and Enforcement staff, accompanied by representatives from Alcoa, conducted its inspection of the area requested for release. The field report found that the proposed release area was eligible for the requested releases, pending Staff review.
12. The 8079.7-acre permit area is located approximately six miles southwest of Rockdale, Texas. The permit area is bordered to the east by State Highway 77. A general location map of the permit area, with the 134.4 acres proposed for release distinguished, is found in Appendix I of Staff's Inspection Report.
13. The 134.4-acre parcel requested for release is located in the AX Area of the Sandow Mine. The subject acreage is found wholly in Milam County and is comprised of the AX Reservoir and surrounding lands. The 134.4 acres are approved for disposal of Class 2 fly ash and Class 3 bottom ash by the Texas Commission on Environmental Quality (TCEQ). However, the area was developed for use with Alcoa's conjunctive water use system as a water supply to the Sandow Power Generation Facilities. Alcoa indicates that coal combustion by-products have not been deposited on the acreage proposed for release.
14. The approved postmining land use for the 134.4 acres proposed for Phase I, II and III release is industrial/commercial (I/C) [Docket No. C4-0017-SC-01-C].
15. The 134.4-acre parcel requested for release has met Phase I requirements for backfilling, regrading, and drainage control pursuant to §12.312(a)(1) of the Regulations.

- (a) The area requested for Phase I release is stable with no active erosion evident.
- (b) The subject acreage was mined from 2001 to 2004. Final grading occurred from 2003 to 2016. A majority of the final shaping of the AX Reservoir took place in 2015 and 2016. The area has been graded in a manner to support I/C land use and minimize erosion and water pollution [§12.385].
- (c) The 134.4 acres proposed for release are included within all or portions of 26 soil-testing grids. By letters dated October 20, 1998; March 4, 2005; June 23, 2006; June 15, 2012; June 5, 2013; and September 16, 2016, SMRD determined that the soil-testing data for all 26 soil-testing grids did not indicate the presence of acid- and/or toxic-forming materials in the top four feet of postmine soil [§12.386].
- (d) The AX Reservoir is the only permanent structure located within the area proposed for release. SMRD approved the AX Reservoir as a permanent structure by letter dated January 21, 2016. The structure is depicted in multiple photographs within Appendix IV of Staff's Inspection Report.
- (e) A limited-use vehicular (LUV) pathway traverses the eastern edge of the AX Reservoir within the proposed release area. The LUV path is not subject to approval prior to release due to the following: 1) no improved roadbed has been established that would preclude vegetation; 2) it does not cross-drainage structures; 3) it is not located in and/or does not cross or ford any channel of an intermittent or perennial stream; 4) it has only a limited clearing of woody vegetation; 5) it is located to control damage to public and private property; and 6) maintenance of the path is limited to consisting of only the occasional filling of chuckholes or ruts so as to remain passable [Advisory Notice IN-EN-3-(149)]. A recent photograph of the LUV pathway was provided by Alcoa and filed by Staff on October 18, 2017.

- (f) The proposed release area is a TCEQ approved waste disposal site; however, no coal combustion by-products have been deposited on the subject acreage (Finding of Fact No. 13, *supra*) [§12.375].
16. The 134.4 acres requested for release has met Phase II requirements for revegetation and that the area not be contributing suspended solids to streamflow or runoff outside the permit area in excess of effluent limitations pursuant to §12.313(a)(2).
- (a) No rills or gullies were observed or noted in Staff's inspection of the proposed release area [§12.389].
 - (b) The 134.4 acres proposed for release are approved for industrial/commercial (I/C) postmine land use. The acreage has been reclaimed to and managed in accordance with the approved postmine land uses [§§12.147 and 12.399].
 - (c) Revegetation has been established on the subject acreage pursuant to the requirements for I/C postmine land use [§§12.390 – 12.395]. Alcoa submitted a groundcover evaluation for the proposed release area on September 9, 2016. By letter dated October 25, 2016, SMRD confirmed the groundcover in the area is adequate to control erosion [§12.395]. The vegetation within the proposed release area consists of hybrid bermudagrass, Common bermudagrass, Switchgrass, Kleingrass, William lovegrass, Old world bluestem, Sideoats grama and Indiangrass that was planned to help stabilize the slopes and minimize erosion.
 - (d) There is no prime farmland located within the 134.4-acre area for which other requirements would be applicable [§§12.620 – 12.625].
 - (e) As set out in Finding of Fact No. 17(b), the 134.4-acre area requested for release is not contributing excess solids to streamflow or runoff outside the permit area in excess of effluent limitations set out in the water quality permit or in excess of stream segment standards (Finding of Fact No. 17(b)(iii), (vii) – (viii), *infra*).

17. Alcoa has conducted surface mining activities on the 134.4 acres requested for Phase III release in accordance with §12.313(a)(3).

(a) The groundwater hydrologic balance has been protected as required by §12.348 and the re-established postmine groundwater system is adequate for the approved postmine use of the 134.4 acres.

(i). 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.

(ii). Groundwater monitoring for 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.

(iii). 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 underburden by clays five feet or more in thickness. The shallowest aquifers underlying these clays are thin, silty lenses interbedded with clays and lignite stringers that are limited laterally. The sandier unit (Simsboro) is separated from the mined and affected area by an underlay of several tens of feet to hundreds of feet in thickness and is fairly well developed in this region in the lower Wilcox Group outcrop.

(iv). Data from two spoil long-term groundwater monitoring (LTGM) wells near the proposed release area indicate water quantity in the spoil has not be

adversely affected by mining activities. Water level measurements obtained from spoil LTGM well SP-36 in the A Area show current levels have increased approximately 24 feet over the period of record (August 1994 – May 2016). In the F Area, measurements obtained from spoil LTGM well SP-21 show water level increases over the period of record (June 2005 – April 2016) of approximately 16 feet.

- (v). Water quality in the spoil has generally stabilized. Water quality data from spoil LTGM wells SP-36 (A Area) and SP-21 (F Area) show pH levels have displayed variability within acceptable ranges. Total dissolved solids (TDS), chloride and sulfate concentrations have fluctuated over the period of record the A and F Areas. LTGM well SP-21 in the F Area has shown increasing trends in TDS and chloride as the water levels have increased in this well, but Staff notes increasing concentrations of these parameters is expected. As water levels increase, concentrations of various parameters increase, reach a peak level and then decline as resaturation occurs.
- (vi). Overburden LTGM wells near the area proposed for release are located in the AX Area (AX2077) and the F Area (F-2-OB). Water level measurements obtained from LTGM AX2077 show the current water level is approximately 6.5 feet lower than initial measurement, but have displayed an upward trend since August 2005. In the F Area, measurements obtained over the period of record (August 1994 – April 2016) from overburden LTGM well F-2-OB show a water level increase of approximately 75 feet.
- (vii). Water quality data analyzed from overburden LTGM well F-2-OB in the F Area indicates no problematic issues exist regarding pH levels or concentrations of TDS, chloride or sulfate. Analysis of data obtained from overburden LTGM well AX2077 in the AX Area indicates an upward trend

in TDC, chloride and sulfate concentrations since 2004. Increases in these parameters was expected in the approved probable hydrologic consequences (PHC) determination and the cumulative hydrologic impact assessment (CHIA) for the Sandow Mine. As overburden water is recharged to equilibrium conditions, concentrations of the various parameters increase, reach a peak level and then decline as saturation occurs.

- (viii). Underburden LTGM wells near the proposed release area are located in the AX Area (AX2077A), C Area (SW-2 UB) and F Area (F74-5 SIMS). Current water levels obtained from overburden LTGM wells in the AX and C Areas show increases of 41.5 feet and 63 feet, respectively. In the F Area, the current water level at overburden LTGM well F74-5 SIMS shows a decrease of approximately 38 feet when compared to initial measurements. Water levels observed at this well initially trended downward, but began to trend upward and have demonstrated reasonable stability since 1999.
- (ix). The data reported from the three underburden LTGM wells indicates there are no impediments to release regarding water quality of the underburden. The observed pH levels have fluctuated within acceptable ranges. TDS, chloride and sulfate concentrations have remained consistent with initial measurements or have generally trended downward.
- (x). Reclaimed area water quality appears to have followed trends expected from the groundwater PHC determination and Staff's CHIA for the Sandow Mine Area. Groundwater systems adjacent to the area proposed for release have not been impacted by deterioration in water quality or quantity due to mining and reclamation activities conducted under the approved permit.

- (b) 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 Phase III release.
 - (i). The 134.4 acres proposed for release from reclamation liability are located in the north area of the mine. Runoff from the proposed release area is drained by East Yegua Creek (Stream Segment 1211).
 - (ii). All discharge from the Sandow Mine flows to Somerville Lake on Yegua Creek (TCEQ Stream Segment No. 1212) and ultimately to the Brazos River.
 - (iii). TCEQ issued TPDES Permit No. 00395 to Alcoa for wastewater discharges from the Sandow Mine. Runoff from the 134.4-acre area drains to Pond 025 in the C Area of the Sandow Mine. Staff's technical review utilized data available in the SMRD files for Pond 025 to evaluate surface water quality through an analysis of parameters for flow (Q), pH, total suspended solids (TSS), total iron (Fe), and total settleable matter (SS/TSM) during the period of record (March 2012 – December 2016). These parameters are required to be sampled quarterly under the approved TPDES permit. Values and concentrations of pH, TSS, Fe, and SS/TSM for the period of record are consistently within effluent limitations established by TPDES Permit No. 00395. The analyzed data does not indicate adverse trends related to water quality at Pond 025. Further, the data indicates runoff from the area proposed for release is not contributing suspended solids to stream flow or runoff outside of the permit area in excess of performance standards [§ 12.313(a)(2)].
 - (iv). Runoff from all disturbed areas at the Sandow Mine is monitored under the TPDES Permit, applicable stream segment criteria and provisions outlined

in the approved long-term surface water monitoring program in Permit No. 1G.

- (v). In support of Phase III release from reclamation obligations, Alcoa provided long-term surface water monitoring (LTSM) data from LTSM stations located throughout the permit area. Staff, in its TA, limited its evaluation to LTSM Station Nos. WQMP1, 6, 7 and 13. These stations are located near the proposed release area and are used to monitor discharges upstream and downstream of the 134.4 acres which allows for a comparison of the water quality between areas that have been disturbed by mining activities and areas that were undisturbed by mining related activities. LTSM Station Nos. WQMP1 and 6 monitor undisturbed runoff and are located on East Yegua Creek and Country Club Creek, respectively. LTSM Station Nos. 7 and 13 monitor disturbed runoff from the proposed release area and are located on East Yegua Creek.
- (vi). The approved LTSM plan requires that LTSM Station Nos. WQMP1, 6, 7 and 13 be sampled for flow (Q), pH, total dissolved solids (TDS), total suspended solids (TSS), total iron (Fe), total manganese (Mn), sulfate and chloride.
- (vii). Staff, in its TA, determined the parcel proposed for release did not have a negative impact on surface water quality by comparing the water quality of disturbed and undisturbed LTSM stations through an evaluation of (1) baseline surface water data, (2) applicable stream segment criteria to include Federal and State effluent standards, (3) the probable hydrologic consequences (PHC) determination by the permittee and (4) the Cumulative Hydrologic Impact Assessment (CHIA) estimates by Staff for specific mass-balance points.

- (1). The average pH levels observed during the monitoring period at undisturbed LTSM Station No. 6 [7.0 standard units (s.u.)] and disturbed LTSM No.7 (7.6 s.u.) are equal to the averages observed at these stations during the baseline period. The pH range at disturbed LTSM Station Nos. 7 (6.5 s.u. – 8.8 s.u.) and 13 (7.0 s.u. – 8.1 s.u.) are within the established TCEQ stream segment criteria (6.5 s.u. – 9.0 s.u).
- (2). The average TDS concentrations at disturbed LTSM Station No. 7 (567.9 mg/L) is lower than the average observed at this station during the baseline period (1,724.9 mg/L). The flow-weighted TDS concentrations at disturbed LTSM Station No. 7 have trended upward over the period of record. However, the highest TDS concentrations observed at LTSM Station No. 7 occurred from 1979 to 1991 and began to decline between 1991 and 2008 due to discharge of water from depressurization activities into East Yegua Creek. The flow-weighted average TDS concentration calculated for LTSM Station No. 7 (512.5 mg/L) is less than the maximum annual average concentration for Stream Segment No. 1211 (640 mg/L; Yegua Creek) but exceeds the maximum annual average established for Stream Segment No. 1212 (400 mg/L; Somerville Lake).
- (3). The average TSS concentration observed during the monitoring period at undisturbed LTSM Station No. 6 (13.4 mg/L) and disturbed Station No. 7 (18.3 mg/L) are lower than the baseline averages observed at these stations. The ranges applicable to these stations are also lower than the baseline. At disturbed LTSM Station No. 13, TSS concentration averages 29.9 mg/L and ranges from 4.0 mg/L to 491.0 mg/L, higher than TSS concentration upstream at LTSM

Station No. 7. Flow-weight averages attributable to LTSM Station No. 7 depict a steady trend over the period of record.

- (4). The average Fe concentration observed during the monitoring period at undisturbed LTSM Station No. 6 (0.8 mg/L) is lower than the baseline average (2.0 mg/L), and the maximum concentration (2.4 mg/L) is lower than the maximum observed during the baseline (3.7 mg/L). At disturbed LTSM Station No. 7, the average Fe concentration (0.7 mg/L) is similar to the baseline (1.0 mg/L), but the maximum observed during the monitoring period (4.2 mg/L) is higher than the baseline maximum (1.8 mg/L). However, the available data indicates that Fe concentrations at LTSM Station No. 7 have remained at or below 0.15 mg/L since September 2009.

- (5). The average Mn concentration observed during the monitoring period at undisturbed LTSM Station No. 6 (0.3 mg/L) is higher than the baseline average (0.1). At undisturbed LTSM Station No. WQMP1, the average Mn concentration is 1.1 mg/L and ranges from 0.01 mg/L to 6.1mg/L. At disturbed LTSM Station No. 7, the average Mn concentration (0.7 mg/L) and range (0.01 mg/L – 41.1 mg/L) is greater than those observed during the baseline period at this station and those observed at the undisturbed stations during the monitoring period. This is expected as LTSM Station No. 7 is located downstream of areas previously disturbed by mining activities. However, a single Mn concentration collected on April 13, 2004 (41.1 mg/L) distorts the analysis. Once this outlier is removed from the data set, the Mn concentration average for LTSM Station No. 7 is lower than the baseline Mn concentration averages at undisturbed LTSM Station Nos. 6 and WQMP1, suggesting that

mining activities in the proposed release area have not resulted in discernible impacts to Mn levels in surface water.

- (6). No baseline data for sulfate is available for LTSM Station Nos. 6 and 7. The average sulfate concentration observed during the monitoring period at disturbed LTSM Station No. 7 is 212.1 mg/L and the range is 17.0 mg/L to 888.0 mg/L. The average is higher than the stream segment criterion for the maximum annual average sulfate concentration established for Stream Segment Nos. 1211 (130 mg/L) and 1212 (100 mg/L). A comparison of LTSM data for undisturbed LTSM Station No. WQMP1 to the baseline data for the same station shows that the baseline average sulfate concentration (615.7 mg/L) is higher than the average sulfate concentration observed during the monitoring period (431.7 mg/L) and the baseline range (75.0 mg/L to 2,350.0 mg/L) is higher than the monitoring period sulfate concentration (9.0 mg/L to 1,150.0 mg/L). Alcoa and Staff concludes these increases at a LTSM station monitoring undisturbed areas indicates that sulfate concentrations are naturally occurring and are the result of the movement of sulfate materials in runoff. At disturbed LTSM Station No. 13, downstream of the permit boundary, the average sulfate concentration observed during the monitoring period (124.9 mg/L) shows that some dilution is occurring as flows progress downstream. Further, disturbed LTSM Station No. 7 has exhibited a decreasing trend in sulfate concentration since 2014.
- (7). No baseline data for chloride is available for LTSM Station Nos. 6 and 7. The average chloride concentration observed during the monitoring period at disturbed LTSM Station No. 7 is 91.9 mg/L and the range is 25.0 mg/L to 223.0 mg/L. The established range at this

station can exceed the stream segment criterion for chloride concentration for Stream Segment Nos. 1211 (East Yegua Creek) and 1212 (Somerville Lake). A comparison of LTSM data for undisturbed LTSM Station No. WQMP1 to the baseline data for the same station shows that the baseline average chloride concentration (300.5 mg/L) is higher than the average chloride concentration observed during the monitoring period (116.6 mg/L) and the baseline range (44.0 mg/L to 1,250.0 mg/L) is higher than the monitoring period chloride concentration (2.0 mg/L to 359.0 mg/L). At disturbed LTSM Station No. 13, downstream of the permit boundary, the average chloride concentration observed during the monitoring period (82.3 mg/L) shows that some dilution is occurring as flows progress downstream. Further, disturbed LTSM Station No. 7 has exhibited a decreasing trend in chloride concentration since 2014.

- (viii). No negative impacts to water quality are anticipated from flows leaving the proposed release area. Alcoa indicates that water quality in the C-Area End Lake will influence TDS concentrations in East Yegua Creek. TDS readings in the lake observed between April 17, 2013 and May 16, 2013 show an average of 768 mg/L. Staff and Alcoa expect TDS concentrations at downstream LTSM Station 7 to remain near levels observed during recent water samples and below baseline and early monitoring data indicating water quality has been protected as predicated in the approved surface water PHC determination in the permit.

Runoff from the 134.4 acres proposed for release in the north area of the Sandow mine drains to the North and E-Area End Lakes. These end lakes are covered under Water Rights Permit No. 5540. Alcoa provides an analysis of surface water quantity in comparison to the approved PHC

determination in the permit. In the analysis, Alcoa indicates that increases in surface water runoff will mitigate increases in evaporative losses. Based on premine and postmine conditions considered in Table 146-25, Alcoa estimates the annual evaporation losses (1,817 acre-feet/year) for all permanent impoundments to be approximately 2% in comparison to the combined average flows of USGS Stations 08109700 and 08109800 on East and Middle Yegua Creeks (84,000 acre-feet/year).

The Cumulative Hydrologic Impact Assessment (CHIA) for this mine is contained in Staff's TA for the Three Oaks Mine (Docket No. C1-0004-SC-00-A, Permit No. 48; TA Addendum No. 2, January 24, 2002). The CHIA identifies a defined cumulative impact area (CIA) that includes the Sandow Mine. Material damage criteria within the CIA are based on baseline surface water information contained in the permit, TCEQ stream-segment criteria, drinking water standards, and TPDES wastewater discharge permit standards. In its CHIA Staff indicates that the effects of mining on the TDS concentrations measured at mass-balance location No. 2 (East Yegua Creek) could be as high as 223 mg/L, and anticipates a maximum increase in TDS concentration at Somerville Lake to 230 mg/L. Anticipated TDC concentrations at both locations are within the maximum annual average concentration for Stream Segment No. 1212 (400 mg/L). The flow-weighted TDS concentrations observed at LTSM Station Nos. 6 (undisturbed) and 7 (disturbed) somewhat exceed the TDS concentrations predicted downstream at Somerville Lake, but have shown a downward trend following discharges of water from depressurization activities into East Yegua Creek beginning in 1991.

- (c) No wells are located within the proposed release area [§12.333].

- (d) The area requested for release of reclamation obligations is capable of sustaining the approved postmine land use. Monthly inspections and Staff's inspection on December 14, 2016 demonstrate that the land has been reclaimed to and managed in accordance with the requirements for industrial/commercial land use.
- (e) The acreage is not required to complete an extended responsibility period prior to Phase III release [§12.395].

18. Of the 134.4 acres proposed for Phase I, II and III release, 133.6 acres are bonded at the mined rate of \$5,154/acre and 0.79 acres are bonded at the disturbed rate 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 \$760,761.85, as shown in the following table:

Bond Reduction as Proposed

| Phase Requested | Area Acres | Disturbance Category | Bonded Per Acre | Eligible Reduction Per Acre | Eligible Reduction |
|------------------------|-------------------|-----------------------------|------------------------|------------------------------------|---------------------------|
| Phase I, II & III | 133.6 | Mined | \$5,154.00 | \$5,154.00 | \$688,574.40 |
| Phase I, II & III | 0.79 | Disturbed | \$3,832.00 | \$3,832.00 | \$3,027.28 |
| Subtotal | | | | | \$691,601.68 |
| Admin. Costs (10%) | | | | | \$69,160.17 |
| Total | 134.4 | | | | \$760,761.85 |

19. The eligible bond reduction amount, based upon the Findings of Fact contained in this Order and Staff calculations, with which Alcoa agrees, is \$760,761.85. No reduction of the \$14,000,000 surety bond approved by Order dated August 1, 2017 is requested in this Application.

20. All acres requested for release were marked in the field to distinguish them from active mining and reclamation areas.
21. Alcoa and Staff, the only parties to the proceeding, filed waivers of the preparation and circulation of a proposal for decision. The proposed order was circulated to the parties with opportunity for comment. No exceptions to the proposed order were filed.
22. Open meeting notice has been posted for Commission consideration of this Application in accordance with TEX. GOV'T CODE ANN. CH. 551 (Vernon Supp. 2017).

CONCLUSIONS OF LAW

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

1. Proper notice of application and notice of consideration by the Commission has been provided for this request for release of reclamation obligations.
2. No public hearing was requested, and none is warranted.
3. Alcoa has complied with all applicable provisions of the Act and the Regulations regarding notice for Commission jurisdiction to attach to allow consideration of the matter.
4. Alcoa has complied with all applicable provisions of the Act and the Regulations for the acreage requested for release as set out in the Findings of Fact.
5. The Commission may approve a release of Phase I, II and III reclamation obligations for the 134.4 acres, as set out in the above Findings of Fact and Conclusions of Law.
6. An eligible bond reduction amount of \$760,761.85 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 a release of Phase I, II and III reclamation obligations for 134.4 acres is hereby approved;

IT IS FURTHER ORDERED that the current bond remains in effect in accordance with its terms until a replacement bond is approved by the Commission;

IT IS FURTHER ORDERED that, as a result of the Phase I, II and III release of 134.4 acres, the Commission approves an eligible bond reduction amount of \$760,761.85;

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 that the area shall continue to be marked in the field to assist in future field inspections of other areas; and

IT IS FURTHER ORDERED by the Commission that this Order shall not be final and effective 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 this 7th day of November, 2017.

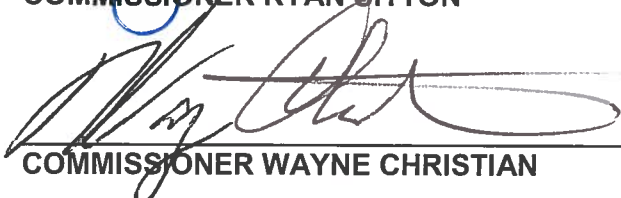
RAILROAD COMMISSION OF TEXAS



CHAIRMAN CHRISTI CRADDICK



COMMISSIONER RYAN SITTON



COMMISSIONER WAYNE CHRISTIAN

ATTEST:



Secretary, Railroad Commission of Texas

