

RAILROAD COMMISSION OF TEXAS HEARINGS DIVISION

**SURFACE MINING DOCKET NO. C16-0024-SC-01-F
APPLICATION BY ALCOA USA CORP.
FOR RELEASE OF PHASE I, II AND III RECLAMATION OBLIGATIONS
130 ACRES, PERMIT NO. 1G, SANDOW MINE
MILAM AND LEE COUNTIES, TEXAS**

ORDER APPROVING RELEASE OF PHASE I, II AND III RECLAMATION OBLIGATIONS FOR 130.0 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 130.0 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. 2018), and the "Coal Mining Regulations," Tex. Railroad Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2018).

Permit No. 1G currently authorizes surface coal mining operations at Alcoa's Sandow Mine within its 4,979.3-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 130.0 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 \$737,022.00 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 August 11, 2016, the subject application requesting Phase I, II and III release on 130.0 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. 2018) (Act), and the "Coal Mining Regulations," Tex. Railroad Comm'n, 16 TEX. ADMIN. CODE CH. 12 (Thomson West 2018) (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 [*d.*].
3. The Application was filed with the Hearings Division by letter dated August 15, 2016. By letter dated November 1, 2016, Alcoa submitted a revised draft public notice and map for approval in response to the Administrative Law Judge's (ALJ) review by letter dated October 25, 2016. Staff declared the Application Administratively Complete by letter dated December 14, 2016. By letter dated January 13, 2017, Staff filed its Technical Analysis (TA) and the September 23, 2016 Field Inspection Report (Inspection Report) recommending approval of the bond release Application with no outstanding comments.

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 Clerk, 100 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 November 10, 17, 24 and December 1, 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 December 5, 2016.
7. Alcoa sent notice of the Application to owners of interests within and adjacent to the areas 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

November 10, 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 (TCEQ), 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, Manville Water Supply Corp., Southwest Milam Water Service Company, Bartlett Electric, and interest holders in land within or adjacent to the proposed release area. The areas 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 December 7, 2016.

8. Staff provided notification of the Application by certified letters dated November 7, 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 by letters dated August 15, 2016 of the date and time of Staff's field inspection scheduled for September 6, 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 September 6, 2016 as scheduled. Following a pre-inspection meeting with representatives from Alcoa and Atmos Energy, SMRD Inspection and Enforcement staff, accompanied by a representative from Alcoa, conducted its inspection of the area requested for release. The field report found that the proposed release area was in compliance with the performance standards of the permit and Regulations with the following exceptions: (1) The boundary for the 130.0-acre area proposed for release of reclamation liability was not marked in the field, and (2) groundcover productivity data was not provided to demonstrate revegetation success for the proposed bond release area. With respect to the first exception noted in the field report, Alcoa committed to marking of the boundary at the inspection closeout and the marking was later confirmed by Staff during a subsequent inspection of the subject acreage. With respect to the second exception, Staff noted that the area is an active TCEQ approved coal combustion byproduct disposal site and the side slopes of the ash pit are stable with no severe rills or gullies observed during the inspection [Staff's TA, p. 2]. Staff later explained groundcover productivity data is not required because the area is considered a structure that is exempted from revegetation requirements [See Findings of Fact Nos. 16 and 21(d), *infra*].
12. By letter dated January 25, 2018, Staff approved Revision No. 72 to the permit, reducing the amount of bonded acreage within the permit area from 8,079.7 acres to 4,979.3 acres by removing areas that have received Phase III release. The 4,979.3-acre permit area is located approximately six miles southwest of Rockdale, Texas and is bordered to the east by State Highway 77. A general location map depicting the permit area prior to approval of Revision No. 72, with the 130.0 acres proposed for release distinguished, is found in Appendix I of Staff's Inspection Report.
13. The 130.0-acre parcel requested for release is located in the AX Area of the Sandow Mine. The subject acreage is located wholly in Milam County. The acreage is comprised entirely of a 130.0-acre industrial non-hazardous solid waste disposal facility regulated by the TCEQ. The facility is authorized by the TCEQ for disposal of non-hazardous Class II and Class III non-mining wastes. The facility is identified in the records of the TCEQ as the "AX Landfill" facility. The subject acreage is owned by Alcoa and is currently leased to

Luminant Mining Company LLC, the operator of the facility. Detailed plans and specifications for the construction of the facility were included within the Registration Package submitted to the TCEQ by letter dated June 9, 2008. The design, construction and operation of the facility was approved by the TCEQ by letter dated August 26, 2008. By letters dated July 29, 2009 and August 26, 2009, Alcoa notified SMRD of both the registration and the TCEQ approval. The 130.0-acre area is deed recorded as the "AX Class II Landfill" in Milam County for perpetuity for use as a landfill pursuant to the TCEQ rules pertaining to Industrial Solid Waste Management.

14. The approved postmining land use for the 130.0 acres proposed for Phase I, II and III release is industrial/commercial (I/C) [Docket No. C4-0017-SC-01-C at Finding of Fact No. 39; Order dated: August 18, 2009]. The approved specific I/C postmining land use is the active 130.0-acre TCEQ-regulated AX Landfill facility authorized for disposal of non-hazardous Class II and Class III non-mining wastes.
15. On September 21, 2017, a prehearing conference was held in this Docket and another bond release docket (Docket No. C17-0003-SC-01-F) for Permit No. 1G to discuss issues noted by the respective ALJs in their review of the materials filed in the dockets. In this Docket, the issues discussed at the prehearing conference related to the applicability of requirements in the Regulations pertaining to backfilling and regrading, soil testing data, and groundcover productivity data. The relevance of a formal program amendment to the Regulations initiated in 2003 addressing the use and disposal of coal combustion byproducts and comments on the proposed rulemaking submitted in 2004 by the Office of Surface Mining Reclamation and Enforcement (OSM or OSMRE) was also discussed at the prehearing conference. In its comments, OSM addressed release of facilities similar to the AX Landfill in stating the Regulations or a policy document should clarify the procedure for removing a coal combustion byproducts disposal area from the Commission's mining permit area and returning complete jurisdiction to the TCEQ. The Commission drafted a revised program amendment in response to OSM's comments but abandoned the proposed rulemaking in 2005.

16. Alcoa and Staff addressed the issues related to the requirements under the Regulations by letters dated October 25 and November 2, 2017, respectively. In agreement with Alcoa's position, Staff clarified the AX Landfill facility is a permanent structure that is exempted from four-foot topsoiling, postmine soil testing, vegetation requirements and postmine slope requirements. Considering the TCEQ-regulated AX Landfill facility to be a structure is consistent with Regulations and is not inconsistent with OSM's December 20, 2017 response to SMRD's Regulatory Interpretation Request [See Finding of Fact No. 19, *infra*].
17. By letter dated November 3, 2017, the ALJ in this Docket noted that Alcoa and Staff had not addressed the issues discussed at the prehearing conference regarding the 2003-2005 rulemaking effort by the Commission and requested the parties to submit briefs on those issues by December 31, 2017. The ALJ also proposed documents related to that rulemaking effort, including the comments submitted by OSM in 2004, be officially noticed in the Docket. By letter dated November 13, 2017, Staff objected to the ALJ taking official notice of the documents and requested that the ALJ reconsider the need to file briefs by December 31, 2017. By letter dated November 21, 2017, the ALJ overruled all objections by Staff, officially noticed the documents and stated Staff may file a motion requesting official notice be taken of evidence that supports Staff's position that the regulatory approach to these issues has evolved since OSM issued its comments related to the Formal Program Amendment that was submitted by the Commission in 2003. Staff's request regarding the need to file briefs by December 31, 2017 was taken under advisement pending review of additional materials that may be admitted in the Docket.
18. By a Regulatory Interpretation Request (RIR) dated December 4, 2017, the SMRD Director sought from OSM clarification on OSM's position on two regulatory interpretations. First, SMRD Director stated that he believed the prior rulemaking was ultimately abandoned for many reasons, including efforts at the federal level to determine how the Surface Mining Control and Reclamation Act might be modified to address coal combustion products and byproducts, that the Commission currently believes the previously contemplated rulemaking is not necessary and further efforts on this issue are not planned; and requested clarification on OSM's current position and confirmation that

the comments provided by OSM by letter dated May 7, 2004 are no longer applicable. Second, the SMRD Director sought OSM's position on the Commission's current interpretation regarding the release of reclamation obligations on areas disturbed by mining-related activities that are subject to the jurisdiction of other regulatory bodies in the State of Texas, specifically "a mined area having an approved postmine land use of industrial/commercial (I/C) and covered by an industrial waste disposal permit issued by another agency could be released from reclamation obligations under our rules even if all reclamation milestones had not been met." The SMRD Director further stated: "It is our opinion that performance standards described in our rules (i.e., approximate original contour, vegetation standards, soil testing, etc.) that have not been achieved would not preclude bond release if sufficient information was provided to demonstrate that the industrial use in the area is consistent with the regulatory requirements of a permit from another regulatory authority, and the final reclamation required by that agency could be achieved and is enforceable."

19. By letter dated December 20, 2017, OSM responded to SMRD's December 4, 2017 RIR seeking clarification on OSM's position. With regard to the first issue, OSM confirmed that the comments provided by OSM in 2004 were specific to the abandoned proposed rulemaking and are not a further interpretation of the Regulations as approved previously by OSM. Regarding the second point of clarification, OSM provided its position on SMRD's current interpretation as follows:

OSMRE believes it is reasonable to release a permit area as I/C land use that meets the standards for that land use in [RCT] approved regulations. Reclamation standards for other land uses would no longer be applicable. Further it would appear that a site covered by a solid waste permit that follows closure plans as described in solid waste regulations would provide assurance that the post mining land use of I/C can be achieved.

The RIR and OSM's response were filed in the Docket on December 20, 2017 and were officially noticed by the ALJ on January 8, 2018. The ALJ ruled the briefs addressing the

proposed rulemaking were to be filed at the parties' discretion (neither party elected to file such a brief) [See Finding of Fact No. 17, *supra*].

20. By letter dated January 8, 2018, the ALJ requested Alcoa to file a copy of the approved TCEQ permit that allows for disposal of Class II and III waste on the subject 130.0 acres and submit a short brief addressing the applicable TCEQ regulations related to capping, vegetation and closure of the facility. By letter dated January 22, 2018, Alcoa conveyed that, pursuant to the Texas Solid Waste Disposal Act, the AX Landfill facility is a qualifying facility for which the authorization is similar to a "permit" by rule that generally authorizes a facility while imposing conditions relating to operation and closure of the facility, but no single document issued by TCEQ is referred to as a "permit" that authorizes the disposal of the materials at the facility. However, it is clear from the brief and other documents in the record that authorization exists under the Texas Solid Waste Disposal Act and TCEQ regulations to dispose of Class 2 and 3 wastes at the AX Landfill, and the facility is subject to operation and closure requirements under TCEQ regulations [See Finding of Fact No. 13, *supra*]. The brief further addressed applicable TCEQ regulations related to capping, vegetation and closure of the facility as requested.
21. The 130.0-acre parcel requested for release has met applicable Phase I requirements for backfilling, regarding 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. Various reclamation activities began in 2001 and have continued as necessary for maintaining the area. Final grading of the area was accomplished from 2003 to 2016 to support the approved specific I/C postmining land use (the construction and operation of the AX Landfill facility) and minimize erosion and water pollution.
 - (c). The 130.0-acre AX Landfill facility is an active TCEQ-regulated industrial solid waste disposal facility for non-hazardous Class II and III non-mining wastes. The facility is deed recorded as such in Milam County. The 130.0-acre area is subject

to applicable TCEQ regulations related to capping, vegetation and closure of the facility.

- (d). The 130.0-acre AX Landfill facility as designed, engineered and constructed is considered to be a structure under the Regulations. As a structure, there is no obligation under the Regulations to provide a vegetative cover for release of the 130.0 acres. Further, Staff contends the subject area is essentially an off-channel basin designed to capture and contain all rainfall as well as any sediment that might be mobilized by rainfall.
 - (e). As set forth in Alcoa's October 25, 2017 letter, Alcoa established it satisfied the requirement contained in §12.386 that "backfilling and grading activities result in a minimum 4-foot cover of the best available nontoxic and noncombustible material over all exposed coal seams and all acid-forming, toxic-forming and noncombustible materials." That cover was provided beneath the AX Landfill facility. The material used for the cover was the best available nontoxic and noncombustible material, taken from the highwall when it was cut down and graded. The material was used to partially fill the mine pit in accordance with the approved backfill and grading plan. Alcoa estimates the thickness of the cover over the area is on the order of approximately 50 feet.
 - (f). The AX Landfill is the only permanent structure within the 130.0-acre area requested for Phase I, II and III release of reclamation liability.
22. All acreage requested for release from Phase II reclamation obligations have been reclaimed in accordance with reclamation requirements of § 12.313(a)(2) of the Regulations for industrial/commercial land use.
- (a). No rills or gullies were observed or noted in Staff's inspection of the proposed release area [§12.389].

- (b). The 130.0 acres proposed for release are approved for industrial/commercial postmine land use. Vegetative groundcover must be sufficient to control erosion in order to be eligible for Phase II release from reclamation obligations. Pursuant to §12.313(a)(2), revegetation has been established on the regraded mined lands in accordance with the approved reclamation plan as the proposed release area is an active coal combustion by-product disposal site. The area was graded to support the approved specific I/C postmining land use (the construction and operation of the AX Landfill facility) and minimize erosion and water pollution [See also Finding of Fact No. 21(d), *supra*].
 - (c). Pursuant to TCEQ regulations, the AX Landfill facility was designed to capture and contain all rainfall as well as any sediment that might be mobilized by rainfall. As set out in Finding of Fact Nos. 23(b)(iii) and (vii), *infra*, the 130.0-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.
 - (d). There is no prime farmland within the 130.0-acre area for which other requirements would be applicable [§§12.620 – 12.625].
23. Alcoa has conducted surface mining activities on the 130.0 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 130.0 acres requested for Phase III release.
 - (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 areas 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 areas 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 areas 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 130.0 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 TPDS Permit No. 00395 to Alcoa for wastewater discharges from the Sandow Mine. Runoff from the 130.0-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 areas and are used to monitor discharges upstream and downstream of the 130.0 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 6.1 mg/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 areas 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.

- (8). 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 130.0 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.

24. No wells are located within the proposed release areas [§12.333].
25. The area requested for release of reclamation obligations is capable of sustaining the approved postmine land use. Monthly inspections and Staff's inspection on September 6, 2016 demonstrate that the land has been reclaimed to and managed in accordance with the specific approved industrial/commercial land use.
26. The acreage is not required to complete an extended responsibility period prior to Phase III release [§12.395].
27. The 130.0 acres proposed for Phase I, II and III release are bonded at the mined rate of \$5,154/acre. If the Application is approved by the Commission, as proposed, Alcoa would be eligible to reduce its performance bond obligations by \$737,022.00, 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 III	130.0	Mined	\$5,154.00	\$5,154.00	\$670,020.00
Admin. Costs (10%)					\$67,002.00
Total	130.0				\$737,022.00

28. The eligible bond reduction amount, based upon the Findings of Fact contained in this Order and Staff calculations, with which Alcoa agrees, is \$737,022.00. No reduction of the \$14,000,000 surety bond approved by Order dated August 1, 2017 (Docket No. C17-0007-SC-01-E) is requested in this Application.
29. All acres requested for release were marked in the field to distinguish them from active mining and reclamation areas. All areas contiguous to the 130.0-acre parcel proposed for release have previously been granted Phase III release by the Commission. Staff asserts that continued marking of the subject area after Commission approval of the requested release would not provide material assistance in future field inspections of acreage within the Permit No. 1G area.
30. 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.
31. Open meeting notice has been posted for Commission consideration of this Application in accordance with TEX. GOV'T CODE ANN. CH. 551 (Vernon Supp. 2018).

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 130.0 acres, as set out in the above Findings of Fact and Conclusions of Law.
6. An eligible bond reduction amount of \$737,022.00 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 130.0 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 130.0 acres, the Commission approves an eligible bond reduction amount of \$737,022.00;

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; and

IT IS FURTHER ORDERED by the Commission that this order shall not be final and effective until 25 days after the Commission's Order is signed, unless the time for filing a motion for rehearing has been extended under Tex. Gov't Code §2001.142, by agreement under Tex. Gov't Code §2001.147, or by written Commission Order issued pursuant to Tex. Gov't Code §2001.146(e). If a timely motion for rehearing is filed by any party at 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. Pursuant to Tex. Gov't Code §2001.146(e), the time allotted for Commission action on a motion for rehearing in this case is 100 days from the date the Commission Order is signed.

SIGNED this 22th day of May, 2018.

RAILROAD COMMISSION OF TEXAS



CHAIRMAN CHRISTI CRADDICK



COMMISSIONER RYAN SITTON



COMMISSIONER WAYNE CHRISTIAN

ATTEST:



Secretary, Railroad Commission of Texas

