

PUBLIC SERVICE COMMISSION

Reclamation Division

Memorandum

TO: Commissioners Kroshus, Fedorchak, and Christmann
Steve Kahl, Executive Secretary
John Schuh, General Counsel

FROM: *DKM* *ZAB* *RK*
Dean Moos, Zanna Brinkman and Randy Kowalski

DATE: July 1, 2019

SUBJECT: Bond Release No. 2 to Permit No. KRGC-8404 held by Knife River Corporation
for the Gascoyne Mine, Case No. RC-13-811

Summary

On September 24, 2013, Knife River Corporation (KRC) filed the application for Bond Release No. 2 to Surface Coal Mining Permit KRGC-8404 at the Gascoyne Mine. This application requests final bond release on 222 acres of land located in the NE1/4 and part of the S1/2 of Section 33, T131N, R99W, Bowman County. The bond release tract contains approximately 64.4 acres of land that was affected by mining activities and 157.6 acres of land that was not disturbed by mining activities. The reclaimed lands are subject to our current reclamation law and rules and Knife River Corporation has demonstrated that the reclaimed lands have met all applicable bond release performance standards. The Reclamation Division recommends approval of this bond release application based on the findings discussed below.

Approval of this bond release was delayed due to the length of time it took for KRC to respond to deficiencies identified in our technical review of the bond release package.

Discussion

Coal removal occurred between 1987 and 1989 on approximately 18 acres of the bond release tract. The remaining associated disturbance acreage (46 acres) was used for soil stockpiles, access roads and for backfilling and shaping the final pit area. The backfilling, grading and soil respread was completed in 1999. Seeding was completed from 1992 to 2000 in increments as the land was reclaimed. Partial bond release was granted for the completion of backfilling and soil replacement (first and second stage bond release) as part of Bond Release No. 1 to KRGC-8404 (Case No. RC-613-99-544 approved October 25, 2000). The reclaimed areas were probed to verify topsoil and subsoil respread thickness for partial Bond Release No. 1 that covered all the disturbed areas within this final bond release tract. KRC is requesting third and fourth stage

bond release for successfully completing revegetation on the disturbed areas. The bond release tract contains approximately 56.1 acres of reclaimed cropland/hayland, 5.5 acres of fish and wildlife habitat (grassland), and 2.8 acres of reclaimed township road. KRC requested and was granted a variance from the 10-year liability period for the approximately 4.0 acres of reclaimed cropland that was redisturbed in 2010 to make drainage repairs (Case No. RC-14-314 approved July 30, 2014). The variance allows this tract to be considered for final bond release about two years sooner than would have been required.

Reclaimed Cropland

The reclaimed cropland located within the NW1/4 of Section 33 is being managed with annually seeded crops. This property is owned by Fischbein Flatz Family Farm, LLP and leased to an area farmer for crop production. The reclaimed land in this tract has been cropped annually with the adjoining undisturbed land in this quarter-section since 2004. The reclaimed cropland within the bond release area was initially planted to an alfalfa and grass pre-crop seed mixture and managed as hayland prior to beginning annual crop production.

The reclaimed cropland located within the S1/2 of Section 33 (property owned by Allen Andersen) consists only of 1.5 acres of associated disturbance for a stockpile access road. The reclaimed access road is located within a cropland field that has been enrolled in the Conservation Reserve Program (CRP) since 2011. The reclaimed access road was initially planted to an alfalfa and grass pre-crop seed mixture and managed as hayland until the land was broke in 2003 for annual crop production. The area was seeded annually to spring wheat or durum until 2011.

The revegetation performance standards for third and fourth stage bond release of cropland is simply yield or productivity. The cropland productivity or yield standard is developed from the pre-mine productivity values of the soils that existed prior to mining. The annual yield obtained from a control area or the annual county yield data published in *North Dakota Agricultural Statistics* (NDAS) is used to adjust the yield standard to account for annual variability. The prime farmland standards do not apply to this bond release tract, thus only two years of yield data are needed to demonstrate success. The yield data used to demonstrate revegetation success must be obtained after year six of the 10-year revegetation responsibility period.

The yield data provided by KRC to demonstrate success was obtained after year six of the responsibility period. KRC developed separate unadjusted yield standards for the reclaimed cropland located in the NW1/4 of Section 30 (Flatz) and the S1/2 Section 31 (Andersen) within Permit KRGC-8404. The unadjusted productivity standards were calculated using Natural Resource Conservation Service (NRCS) productivity indices (PI) based on the pre-mine soil types. The unadjusted standard for the reclaimed cropland on the Flatz property is 26.1 bushels/acre of wheat based on the pre-mine weighted average soil PI of 81.5%. The unadjusted standard for the reclaimed access road on the Andersen property is 10.5 bushels/acre of wheat based on the pre-mine weighted average soil PI of 33.0%. The hayland productivity standards were applied to the production data obtained from the CRP cover. The hay productivity standard is based on the forage suitability groups of the soils that existed prior to disturbance using a median level of management for hay production with an upward adjustment for CRP

management for this application. The unadjusted standard calculated for the CRP/hay production is 0.72 t/ac hay. The yield data demonstrating reclamation success is summarized in **Tables 1a and 1b.**

Table 1a: Cropland Productivity – NW1/4 Section 33 (Flatz)				
Sample Year	Crop Grown	Control Area	Adjusted Yield Standard	Reclaimed Actual Yield
2007	Sp. Wheat	14.8 bu/ac	16.8 bu/ac	19.5 bu/ac
2010	Sp. Wheat	35.8 bu/ac	40.6 bu/ac	38.7 bu/ac *not statistically diff.

Table 1b: Cropland Productivity – S1/2 Section 33 (Andersen)				
Sample Year	Crop Grown	Control Area	Adjusted Yield Standard	Reclaimed Actual Yield
2010	Durum	20.9 bu/ac	22.9 bu/ac	25.3 bu/ac
2014	CRP/Hay	Bowman Co (NDAS) 2.15 ton/ac	1.1 ton/ac	2.9 ton/ac

The productivity evaluation was based on hand sampling of the reclaimed cropland and the control area for the individual landownership tracts. The control areas were located on undisturbed land within each of the respective crop fields. The sampling for the Flatz property did not include the 3.8 acres repaired in 2010 and assigns 0 production to the repaired acres. The allowance for the repaired area was considered as part of the variance approved for the area (Case No. RC-14-314 approved July 30, 2014). The cropland control area for the Andersen property was not used for the 2014 CRP/hay sample year due to the changes in crop management. The annual county yield data published in *North Dakota Agricultural Statistics* (NDAS) was used to adjust the CRP/hay yield standard for the 2014 growing season.

The productivity sampling and annual climatic correction methods used for this bond release are based on our current revegetation guideline document, *Standards for Evaluation of Revegetation Success and Recommended Procedures for Pre- and Post-Mining Vegetation Assessments (July 2003)*. The Reclamation Division is in the final stages of releasing an updated revegetation standards document. The control area method used to adjust the wheat yield standard to account for annual variability presented in this bond release application is the same as that outlined in the pending revised document. The method used to determine the 2014 CRP/hay annual yield standard using the NDAS hay yield information is the same as outlined in the pending revised document. The proposed document revision includes updated Forage Suitability Group yield rating information that is used to calculate the unadjusted yield standard for hay production based on the soils that existed prior to mining. The reclaimed yield for the 2014 CRP/hay would meet the standard determined using the updated forage suitability information.

The reclaimed township road ditch is well vegetated to prevent erosion. The data included in the application for basal cover measured in 2013 documented 98 percent total ground cover on the reclaimed road ditch in the NW1/4 of Section 33. The reclaimed road area meets the performance standard for industrial and commercial areas.

Reclaimed Fish and Wildlife Habitat (Grassland)

The reclaimed land approved for fish and wildlife grassland habitat is located in the S1/2 of Section 33 on a former scoria pit that existed prior to KRC's coal mining activities but was used by KRC for soil stockpiles. The revegetation performance standards for third and fourth stage bond release of wildlife grassland habitat is perennial cover that is adequate to control erosion. The data included in the application for basal cover measured in 2007 documented 99 percent total ground cover for the fish and wildlife habitat area. The reclaimed stockpile areas meet the performance standards for reclaimed fish and wildlife grassland habitat.

General Information

The formal final bond release inspections were conducted on October 23, 2013 and October 18, 2018. The surface owners, Bowman County Commissioners and several state and federal agencies were invited to participate in the inspections. Representatives from the Reclamation Division and Knife River Corporation were present for both inspections. Surface owners participating in the inspections were Hans Flatz (2013 only), Kelly Schumacher (renter of Flatz property) and Allen Andersen. Bowman County Commissioner, Kenneth Steiner attended both inspections and also represented the Fischbein Township Board at the 2013 inspection. The 2018 inspection was attended by Fischbein Township Board members Kelly Schumacher, Colby Schumacher, Wayne Wilson and Fischbein Township Clerk, Mark Kelner. John Sieving from the OSM's Casper Field Office attended the 2018 inspection. The Reclamation Division also inspected the bond release tracts with John Sieving on November 5, 2013 along with representatives from Knife River Corporation.

The differential settling on the reclaimed mine pit area (located on the west side of the property) was observed and discussed during both bond release inspections. Although the settling areas could be traversed by farm equipment several areas were identified for repair by filling with topsoil and minimal grading. The areas repaired following the 2013 inspection were identified and discussed in the variance approved in 2014 (Case No. RC-613-99-544). Following the 2018 inspection, Knife River Corporation developed a plan to repair several more features that appeared difficult for maneuvering farm equipment or where crop loss occurred due to water ponding. The Reclamation Division approved the plan for a local contractor to make repairs using small amounts of topsoil fill and/or surface grading (December 6, 2018 letter). The features identified for repair ranged from approximately 200 square feet to slightly more than 5000 square feet. As provided in Policy Memorandum No. 20, repairs to features that are each less than 0.5 acres in size and involve only the small addition or reshaping of topsoil materials do not re-initiate the ten-year revegetation responsibility period.

The newspaper notice for this bond release application was published in the Bowman Pioneer, the official county newspaper. It was published once a week for four consecutive weeks from October 11, 2013 to November 1, 2013. The Reclamation Division received a copy of a September 9, 2013 letter from the owner of the Flatz property to KRC regarding a settling feature that was presenting a problem for farming operations. No other objections or written comments were received on the bond release application.

Approval of the bond release will allow a monetary release of \$174,716 for the completion of all reclamation activities within Permit KRGC-8404. Once this bond release becomes effective there will be no bonded acreage remaining in this permit and thus Permit KRGC-8404 will be effectively terminated. If approved at the July 10, 2019 Commission meeting, the bond release will become effective August 9, 2019.

Attached are the motion and award form for your consideration.

Minedata/Gascoyne/Permits/KRGC-8404/BondRelease/No.2/BR2_apprvl_memo_7-1-19.docx

Bond Release 2 to KRGC-8404 area map showing the year seeded (2015 NAIP image)

