

**PUBLIC SERVICE COMMISSION**  
**Reclamation Division**

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**Memorandum**

**TO:** Commissioners Wefald, Cramer, and Clark  
Illona Jeffcoat-Sacco  
Bill Binek

**FROM:** Guy Welch, Dean Moos and Jim Deutsch

**DATE:** May 14, 2008

**SUBJECT:** Bond Release No. 2 to Permit NAFK-8705 held by The Falkirk Mining Company, Case No. RC-06-532

**Summary** – On December 27, 2006, The Falkirk Mining Company applied for Bond Release No. 2 to Surface Coal Mining Permit No. NAFK-8705 to release all of the remaining reclamation liabilities on 193.4 acres of reclaimed land at the Falkirk Mine. This acreage consists of 140.4 acres of reclaimed fish and wildlife habitat grassland, 46 acres of reclaimed wetlands and 7.0 acres of reclaimed roads and right-of-ways. The reclaimed acreage is subject to the current (1979) reclamation law. Mining and reclamation activities occurred from 1981 through 1985. The Falkirk Mining Company has demonstrated that the reclaimed lands have met all applicable final bond release performance standards. The Reclamation Division has reviewed the application and recommends approval of this bond release application based on the information contained in the application and field inspection. Our findings are summarized below. A bond release approval form is attached.

**Discussion** – Bond Release Application No. 2 to Permit NAFK-8705 pertains to lands located in Section 31, T146N, R82W, McLean County. The United States Fish and Wildlife Service (USFWS) own 166.4 acres of the bond release tract, labeled Tract 2A-1 and 2A-2 on the attached map, and Falkirk owns the balance. Falkirk entered into an agreement with the USFWS in 1987 where the USFWS agreed to relinquish wetland easements on 560 acres of land surrounded by Falkirk lease holdings in exchange for 166.4 acres of land that is included in this bond release application. Tract 2B, owned by Falkirk, is part of a buffer for an existing ash disposal pit located just east of the bond release tract. Falkirk rebuilt County Road 16 along the south edge of the bond release tract and the section line road adjacent the east side of the tract. A small scale map of the bond release application area is attached.

Coal removal and mining disturbance was initiated in 1981 and completed by 1984. Eighteen to twenty one inches of topsoil and 22 to 42 inches of subsoil were respread following grade approval. The USFWS land was initially seeded in 1985 and the Falkirk owned property was seeded in 1990. Introduced and native dense nesting cover seed mixtures were initially seeded on the USFWS property, but the area seeded with the introduced species was sprayed with Roundup, tilled and reseeded to native species in 1995. This eliminated the need for separate management strategies for the two separate seed mixtures and was completed in consultation with the USFWS. Two reclaimed wetlands were constructed on this property. One is approximately 13.0 acres in size and the other was designed to be approximately 33.0 acres in size. Wetland topsoil was salvaged and respread in the wetland basins. The majority of the contributing watersheds to the reclaimed wetlands have been reclaimed. The fish and wildlife habitat grassland and the wetlands were initially left idle until the vegetation became established. In 1992, a high intensity short duration grazing season was initiated. The bond release tract was fenced and a water well was drilled to facilitate grazing management.

First and second stage bond release (backfilling and grading and soil replacement) has been previously granted for all but 8.1 acres of the bond release tract. Third (vegetation establishment) and fourth (final) stage bond release is being requested for all of the acreage included in this bond release application. The USFWS and Falkirk had agreed that vegetation sampling data from their portions of this bond release tract can be combined for the purposes of demonstrating revegetation success. The Reclamation Division concurs that this is acceptable since the property was mined, reclaimed and managed as a single unit.

Revegetation performance standards information for the fish and wildlife grasslands and wetlands are discussed below. When the bond release application was submitted in December of 2006, the rules required that mining companies demonstrate that the performance standards have been achieved for any two years after the sixth year of the responsibility period, or for the last two consecutive years of the responsibility period. Based on the changes that were effective in April 2007, our rules now require that companies demonstrate revegetation success for fish and wildlife habitat during the last year of the responsibility period.

### **Fish and Wildlife Habitat Grassland**

As previously mentioned, this bond release contains 140.4 acres of reclaimed fish and wildlife habitat grassland. The Falkirk Mining Company is the surface owner of 27.0 acres of this amount and the balance is owned by the USFWS. The revegetation success standards for reclaimed fish and wildlife habitat are 1) ground cover (basal) must be at least 73% and, 2) that a majority of the seeded species have become established and that they comprise at least 60% of the total vegetative composition. Falkirk has included data in the bond release application demonstrating that these parameters have been achieved for three years after the sixth year of the responsibility period. Vegetation sampling data from 2003, 2004 and 2005 is being used to demonstrate revegetation success. These years correspond to years 9, 10 and 11 for the area reseeded in 1995. The table below summarizes the applicable revegetation success standards.

Year	Ground Cover (%)		Diversity/Seasonality (% by wt)	
	Standard	Reclaimed	Standard	Reclaimed
2003	73	98.3	60	64.8
2004	73	98.9	60	71.3
2005	73	98.6	60	64.0

Since Falkirk initially seeded a dense nesting cover consisting of introduced grasses and legume species, the seeded introduced species were counted when determining if the diversity/seasonality standard was achieved. These introduced species, alfalfa and intermediate wheatgrass, comprised approximately 13% of the composition during the years being used to determine revegetation success. A total of eight native and introduced species were included in the introduced and native dense nesting cover seed mixtures. Ground cover and productivity sampling data shows that four of these species were consistently present during the years being used to demonstrate revegetation success and that five of these species were present during two of the three years. Slender wheatgrass was included in the native grass seed mixture but it is short-lived and usually does not persist through the 10-year responsibility period. Introduced invasive species, primarily Kentucky bluegrass, smooth brome grass and crested wheatgrass, have invaded the reclaimed fish and wildlife habitat grassland. Falkirk and the USFWS managed the land with livestock grazing during the responsibility period in an effort to reduce the relative percentage of these species. These species are not necessarily detrimental to this post-mine land use. The cover and production data included in the bond release application demonstrate that the established vegetation is permanent and wildlife monitoring data shows that the land is providing habitat for wildlife.

## Fish and Wildlife Habitat Wetlands

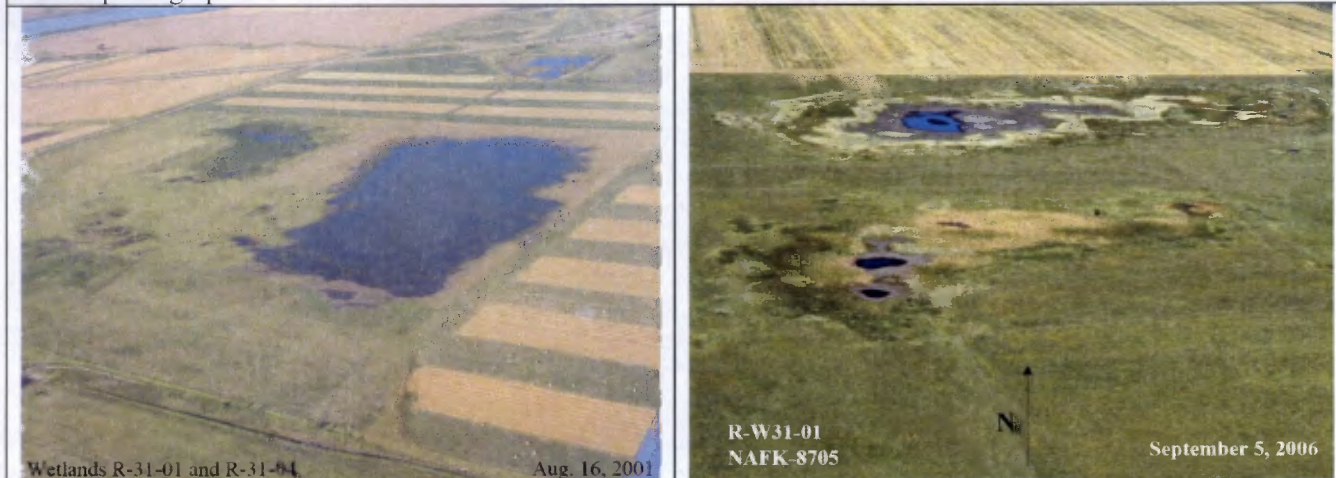
Two seasonal wetlands were reclaimed on USFWS property. Reclaimed Wetland R-W31-01 is about 13 acres in size and reclaimed Wetland R-W31-04 is approximately 33 acres in size. Water quality analysis shows that reclaimed Wetland R-W31-01 is a fresh water wetland while reclaimed Wetland R-W31-04 is slightly brackish, according to Stewart and Kantrud's wetland classification system.

Our revegetation success standards for reclaimed wetlands are somewhat subjective in that there are no specific quantitative values, such as number of species or percent relative species composition. Our performance standards require that reclaimed wetlands exhibit vegetation zones dominated by native, perennial, emergent and submergent hydrophytes appropriate for the abiotic characteristic of the intended wetland class. Species diversity, seasonality and regenerative capacity must be similar to that listed by Stewart and Kantrud. Ground cover on the land surrounding the wetland must be adequate to control erosion to avoid sedimentation into the reclaimed wetland basin. Reclaimed wetlands must exhibit the degree of permanence for the class for which it was designed (based on water supply from normal year precipitation as described by the ND Water Commission or based on basin configuration and the 50% annual water yield from the watershed). All or nearly all of the contributing watershed must have final grade approval and no additional water can be added to the basin during the last five years of the responsibility period.

Nearly all of the watersheds for the reclaimed wetlands have been reclaimed and ground cover data for the fish and wildlife habitat grassland is adequate to control erosion and avoid sedimentation. The Reclamation Division reviewed and approved the designs for the wetland basins which are based on the expected annual runoff yields of the watersheds. No additional water has been pumped into the reclaimed wetlands during the last five years of the responsibility period.

Wetland vegetation information has been included in the bond release application showing that the reclaimed wetlands are functioning as seasonal prairie pothole wetlands. The wetlands have low-prairie, wet-meadow and shallow-marsh zones. However, both have a deep-marsh zone which is characteristic of semi-permanent wetlands and this is certainly acceptable. Falkirk has included aerial photographs, line drawings showing the vegetation zones of the wetlands and a species list documenting the relative abundance of species present in each vegetation zone for both wetlands annually during the years 2001 through 2006. The vegetation communities associated with the reclaimed wetlands are dynamic in response to weather patterns. The reclaimed wetlands were filled to capacity in the late 1990's due to an abundance of precipitation but have dried considerably over the past few years due to limited spring runoff. Aerial photographs of the wetlands are shown below.

Aerial photographs of reclaimed Wetlands R-W31-01 and R-W31-04 in 2001 and 2006



Wildlife use of the reclaimed grassland and wetlands is included in the bond release application. The data shows that this property is providing habitat for a wide variety of migratory and local species. Also, the bond release application contains a post-mine hydrologic assessment showing that there has been no permanent and un-mitigated degradation to the hydrologic environment.

### **General Information**

The formal bond release inspection was held on September 5, 2007. Attending the inspection were Jim Deutsch, Dean Moos, Dr. Stephan Schroeder, Guy Welch and Bruce Beechie of the Reclamation Division; Randall Croke, Joe Clarke, Jeremy Eckroth, Len Friedt, Gerard Goven and Tina Webb, representing the Falkirk Mine; PSC Wetland Advisory Committee members Dave Dewald, NRCS, Terry Allbee, ND Natural Resource Trust, Jon Schumacher, NDGF, and Terry Ellsworth and Carol Aron USFWS Bismarck Office; and USFWS Craig Hultberg, and Kathy Baer, USFWS Audubon National Wildlife Refuge. McLean County Commissioners and OSM Casper Field Office were invited, but did not attend. The bond release inspection report is on file in the Reclamation Division.

A fairly heavy infestation of Canada thistle was noted along edges of the largest wetland during the bond release inspection. Falkirk hired a contractor to spray the Canada thistle with Milestone herbicide in the fall of 2007. This herbicide has been proven to be effective in the control of this noxious weed and there are no grazing restrictions associated with it. This herbicide has low toxicity to birds, fish, mammals and aquatic invertebrate.

Representatives of the PSC Wetland Advisory Committee participated in the final bond release field inspection and they were given copies of the bond release application prior to the field inspection. The Wetland Advisory Committee members did not express any concerns regarding the reclaimed wetlands.

The USFWS sent us a letter on September 17, 2007 indicating that, as surface owners, they are satisfied with the reclaimed fish and wildlife habitat grasslands and wetlands. In this letter they raised several questions which have since been addressed by the Falkirk Mine and/or the PSC. The questions pertained to future noxious weed control, wetland discharge easements, real property transfer documentation and a pipe or culvert under a county road. Kathy Baer verbally indicated during a telephone conversation on May 6, 2008, that the issues raised in the September 17, 2007 letter have been adequately addressed and that her agency had no further concerns regarding this bond release. Falkirk also obtained a letter from the McLean County Superintendent of Highways, Ronald Wagner, indicating that the County is satisfied with the reclaimed roads included in this bond release.

A final bond release public notice was published in the Bismarck Tribune, Underwood News, McLean County Independent and Washburn Leader News weekly from August 30<sup>th</sup> through September 20<sup>th</sup>, 2007. No objections to this bond release were received.

The acreage in this permit is currently bonded under three separate bonds totaling \$50,822,494.00. Falkirk is not requesting a monetary reduction in the current bond amount with this final bond release application. Since the coal and surface was privately held when the area was mined, OSM concurrence is not needed.

If the bond release is approved, Falkirk will be released from all remaining reclamation liabilities on the 193.4 acres included in this bond release application. If approved at the May 21, 2008 meeting, the bond release will become effective June 23, 2008, unless a formal hearing is requested.

Also attached are a motion and award form for consideration at the May 21, 2008 Commission meeting.

