

STELLARTON PIT MINE PROJECT

Pioneer Coal Limited

Environmental Assessment

Conditions of Approval

Nova Scotia Department of the Environment

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1.0 Community Liaison Committee

The company shall form a Community Liaison Committee (CLC) with local area residents, and as a minimum, the following terms apply to the CLC.

1. The purpose of the CLC is to allow local resident concerns to be brought forward to the company for response and possible resolution, and for the company to keep the local community advised of mine developments. The CLC is an advisory body to the company, with a role to facilitate this communication between the community and the company.
2. Individual membership on the CLC is to be undertaken and continued on the understanding that the mine project has received government approval to proceed, and will proceed in accordance with all other environmental assessment conditions of release, and in accordance with all other required approvals.
3. As a general guide for the conduct of the CLC, the Guidelines for the Formation of a Community Liaison Committee are suggested as a format to be followed.
4. Terms of Reference and membership for the Community Liaison Committee shall be jointly developed by the Proponent and the CLC, and provided to NSDOE.
5. In addition to the above, the CLC shall have the functions described by Pioneer Coal in the Environmental Assessment Report.

2.0 Mining Plans and Operations

1. Blasting is not permitted.
2. All mining and related site activity is prohibited between the hours of 10:00 p.m. and 07:00 am. The proponent shall provide NSDOE with advance notice for approval, of any activities planned to occur between these hours that have the potential to cause disturbance to local area residents, such as excessive machinery and vehicle movements, truck operations, blending facility operation, etc.
3. Summer mine activity plans, including maintenance, environmental monitoring plans and schedules, and site security procedures is to be submitted as part of the

application of any necessary Industrial Approval required under the Environment Act.

3.0 Coal Preparation, Washing and Blending

As part of an application for an Industrial Approval for the Blending Plant at the Stellarton Pit Mine, Pioneer Coal Limited must provide the following information:

1. Blending facility and site design details including coal blending rates and volumes, dust suppression methods, reject wasterock stockpile characteristics including net acid generation potential, wasterock handling procedures, and all points of effluent emission.
2. Blending coal feedstock characteristics, including capacities, sulphur and ash contents, and net acid generation potential.
3. Procedures to separate and dispose of any reject coals, wasterock and tailings, with net acid generation potential.
4. Processing of any coal at the Westville wash plant of Pioneer Coal that does not originate from the Drummond mine of Pioneer Coal in Westville, requires separate approval from NSDOE.

4.0 Reclamation

The following information is to be submitted for review and approval as part of the application for an Industrial Approval, and also submitted to the Department of Natural Resources for review and approval.

1. A preliminary reclamation plan, that includes:
 - (a) topsoil and overburden movement and tailings disposal procedures, methods and schedules.
 - (b) proposed procedures for wasterock stabilization.
2. a detailed landscaping programme that includes:
 - (a) details of the mechanisms and planting proposed to stabilize all nonactive, but worked areas.
 - (b) identification of stabilization problems posed by seasonal factors, and discussion, to the satisfaction of the appropriate government agencies, that an effective stabilization programme will be in effect at all times.
 - (c) a detailed schedule of proposed reclamation of the worked areas. This schedule must provide information on how reclamation is to proceed

including detail of finished slope gradients, the nature and timing of planting, an indication whether or not planting is permanent or temporary, and an indication of any other materials that might be used to screen specific sites or to finish surfaces.

- (d) landscaping details for a reinforced minimum 30 metre buffer zone (as measured from the mine property boundaries) that provides screening for dust and noise on all sides of the proposed mining site.

The submitted plan should indicate the species of trees and shrubs, e.g., the hybrid willow, proposed to strengthen the buffer and details of their characteristics and rates of growth.

- 3. Should there be areas of the site where it is not possible to create a minimum 30 metre buffer (as measured from the mine property boundaries), or areas that pose particular problems such as the blending area, the plan is to provide detail of alternative buffering materials. The latter might include hard materials appropriate to screening and/or surface contouring such as the development of appropriately planted berms.
- 4. A final reclamation plan is to be submitted for review and approval to NSDOE six months prior to cessation of mining work at any pit.

5.0 Noise Impacts and Mitigation

Pioneer Coal Ltd. shall submit for review and approval, a noise monitoring program as part of an application for an Industrial Approval. The noise mitigation and monitoring plan shall include the following:

- 1.
 - (a) a minimum 30 metre buffer zone, as measured from the mine property boundary.
 - (b) use of a conveyor belt to transport waste rock to the waste pile rather than the use of trucks.
 - (c) the use of well maintained mufflers on operational equipment.
 - (d) the possible use of noise baffles in the mine area.
- 2. Noise monitoring stations shall be established at appropriate positions around the perimeter of the site and on private properties close to the boundary site, operating on a daily basis and providing an adequate sampling of noise over a 12 (or 24) hour period.

6.0 Dust Monitoring and Mitigation

- 1. A dust suppression and monitoring program shall be submitted to NSDOE for

review as part of the application for an Industrial Approval. No site disturbance shall be undertaken without the approval of NSDOE until the plan is approved, and until monitoring sites and procedures are established. This plan will be developed in consultation with the CLC.

2. The coal blending area shall be paved with asphalt, and as part of the dust suppression program, the proponent shall construct non-permanent roads to and in the mine from washed gravel.
3. All coal and waste rock transportation trucks are to be washed in the paved blending - truck wash area before leaving the site. All coal shipments from the site are to be covered with fitted tarps.
4. Coal transportation trucks are restricted to the paved blending and truck wash area near the mine site access.
5. Activities that have the potential to create significant dust, such as wasterock and overburden stockpiling, coal extraction and processing, operation of the conveyor system and other earth moving activities, can only be undertaken during the months of July and August by approval from NSDOE.

7.0 Surface Water Quality and Fish Habitat

Before any new excavation is started, or other surface activities that in the opinion of NSDOE have the potential to adversely impact surface water quality or fish habitat, the proponent shall:

1. Conduct an environmental baseline water quality and quantity survey of receiving waters. Water flows in Bear Brook shall be determined to check on theoretically determined values. Survey sample suite, sample locations and frequency and other monitoring parameters shall be submitted to NSDOE for review and approval.

Water quality parameters to be tested for are to include, but not be limited to, pH, turbidity, suspended solids, alkalinity, aluminum and heavy metals.
2. Undertake a baseline fish habitat survey and benthic organism inventory survey of receiving waters. The proponent shall consult with Fisheries and Oceans Canada as to details of the survey, including extent. Survey results are to be submitted to NSDOE for review and approval.
3. Submit for review and approval as part of the application for an Industrial Approval, an environmental effects monitoring program to gauge the long term impacts of site effluent discharges on water quality and fish habitat of nearby streams and water bodies.

8.0 Surface Water Control and Watercourse Protection

1. The site shall be maintained to prevent siltation of surface water that is discharged from the property.
2. Pioneer Coal shall, as part of the application for an Industrial Approval, submit:
 - (a) Plans for soil erosion prevention, sedimentation control, and wastewater effluent treatment systems. These plans shall include, but not be limited to, engineering design of flow control structures, treatment systems and wastewater impoundments, description of parameters and construction materials of all flow control structures, truck wash runoff management, and potential incorporation of emergency spillways into site drainage control structures. Site drainage and runoff control structures shall be designed to capture a 24 hour precipitation event with a 20 year statistical recurrence, or at the direction of NSDOE.

The plan should also include consideration of methods to direct run-off from the washing of both on-site and off-site trucks to the water treatment ponds.
 - (b) A wastewater management contingency plan that details the control, treatment and disposal steps that would be taken to deal with situations such as acid mine drainage, suspended solids, control of storm water events, sedimentation pond breach, etc. If untreated water from the site is entering the Middle River by way of the old workings, the flow of this water is to be contained and controlled until the mine water has been treated and is in compliance with effluent discharge limits.
 - (c) A plan for a liming treatment system and for the disposal of sludge from sediment ponds.
3. All liquid effluent discharges from the site shall be in compliance with all appropriate regulations and guidelines that pertain to water quality and fish habitat protection.
4. The testing of water quality from the retention ponds be undertaken on a random basis at least once a month for the complete set of samples. pH and turbidity are to be tested for and recorded on a daily basis.
5. If a flocculant aid is needed in the settling ponds, a non-aluminum based product shall be used.

9.0 Groundwater

Before any new excavation is started, or other surface activities that in the opinion of NSDOE have the potential to adversely impact groundwater, the proponent shall;

1. Undertake additional groundwater pump tests to predict the areal extent of any cone of depression that may be caused by pit dewatering.
2. Undertake a groundwater quantity and quality program to document and characterize baseline site groundwater conditions, domestic well water yield and water quality information.
3. Details regarding procedures and extent of these groundwater tests and monitoring programs are to be submitted by the proponent to NSDOE for review and approval.
4. Groundwater shall be tested from samples taken from test wells close to the existing residents on a bimonthly basis. Water levels in test wells and a representation sample of residential wells in the area are to be recorded weekly.
5. If residential wells are negatively affected by the open pit mining operation, an alternate supply shall be provided.
6. A check is to be made by use of existing records or other means as to the actual elevation of the water level in the old mine workings.

10.0 Acid Mine Drainage (AMD)

Before any new excavations are started or bedrock and wasterock piles disturbed, or other surface activities that in the opinion of appropriate NSDOE staff have the potential to acidify water, the proponent shall:

1. Submit to NSDOE for review and approval a plan and methodology for AMD characterization.
2. Conduct a survey to characterize AMD potential of all coals, waste rocks, tailings, and any other bedrock materials expected to be disturbed by the project.
3. As part of the general mining plan to be submitted for government review and approval, the proponent shall include an AMD monitoring, prevention and treatment plan.
4. Kinetic or B.C. Confirmation Tests shall be performed on samples which have the potential for acid generation. The location of all samples taken for these tests shall be clearly delineated on a map.

11.0 Spontaneous Combustion

Before any previously undisturbed coal is mined or disturbed, the proponent shall:

1. Be restricted to mining only virgin coal in the Foord seam until the probability of spontaneous combustion is determined.
2. Take representative coal samples from all coal seams to be disturbed, and tested to determine the coal characteristics and susceptibility to spontaneous combustion.
3. Provide a proposed spontaneous combustion monitoring program and a coal fire extinguishing plan, and include proposals for coal fire mitigation. Mitigation is to consider, among other measures, sealing off surface openings on the site in an effort to oxygen starve a coal fire.
4. Submit this information for review and approval, plus a detailed plan to the Nova Scotia Department of Natural Resources that presents procedures and methods to reduce or eliminate any potential for spontaneous combustion.

12.0 Areas East of MacGregor Avenue

Due to the lack of information regarding the potential impacts of surface mining in the areas east of MacGregor Avenue, the open pit operation is to be confined to the area west of MacGregor Avenue.

13.0 Other

1. The proposed operator of the open pit mine shall have in place equipment and material to contain an oil or chemical spill.
2. The proponent shall take into account the historic as well as the current market value of properties on which he is acquiring options.
3. The proponent make offers to purchase properties on the west side of Foster Avenue where the mine site boundaries are in close proximity to adjacent private property homes.
4. The process of arbitration agreed to by the proponent be mandated.