An Overview of Metallic Mineral Mine Permitting in Minnesota

Jennifer Engstrom
Division of Lands and Minerals
Minnesota Department of Natural Resources

February 11, 2010

Overview

• Permit authority (statute and rule)
• Contents of Permit to Mine
  – Ferrous
  – Non-ferrous
    • Financial assurance
    • Mine waste characterization
• Potential legislation
Mineland Reclamation Act

- Passed in 1969
- Statutes 93.44 to 93.51
- Authorized commissioner to adopt rules providing for reclamation of lands disturbed by metallic mining
- Peat was added in 1983 by amendment of statute

Minnesota Statute
RECLAMATION OF LANDS
93.44 DECLARATION OF POLICY

In recognition of the effects of mining upon the environment, it is hereby declared to be the policy of this state to provide for the reclamation of certain lands hereafter subjected to the mining of metallic minerals or peat where such reclamation is necessary, both in the interest of the general welfare and as an exercise of the police power of the state, to control possible adverse environmental effects of mining, to preserve the natural resources, and to encourage the planning of future land utilization, while at the same time promoting the orderly development of mining, the encouragement of good mining practices, and the recognition and identification of the beneficial aspects of mining.
Permitting

- Permit to Mine
  - Promulgated rules
    - Ferrous (taconite and iron ore) in 1980
    - Peat in 1985
    - Non-ferrous in 1993
  - Wetland Replacement Plan
    - DNR is the LGU for the Wetland Conservation Act (WCA) on mining sites
    - Wetland mitigation plans become part of Permit to Mine
    - No net loss
  - Control adverse environmental effects of mining and provide for reclamation and good mining practices

Permit to Mine
Ferrous

- Permit to Mine application contents
  - Corporation organizational data and certificates
  - Environmental setting maps
  - Environmental setting analysis
  - Mining and reclamation maps
  - Mining and reclamation plans
  - Financial assurance
Permit to Mine
Ferrous

• Examples of components in application
  – Geology and location of ore body
  – Forest and soil inventories
  – Management of runoff
  – Stockpile design and siting
  – In pit/in mine disposal
  – Tailings basin design and operation plans
  – Reclamation and closure plans
  
  (not an all inclusive list)

Permit to Mine
What is being reclaimed?

• Open pits
• Waste rock and surface material stockpiles
• Tailings basins
• Buildings and equipment
• Infrastructure no longer needed for any other use
• Revegetation of disturbed ground
• Wetlands by restoration, reclamation, or replacement

  (not an all inclusive list)
Permit to Mine
Non-Ferrous

• Rules promulgated in 1993
• No non-ferrous mine in the state
• Similar components as with taconite operations
• Important differences in financial assurance and waste characterization

Permit to Mine: Non-Ferrous
Financial Assurance

• The purpose of financial assurance is to ensure that there is a source of funds to be used by the commissioner if the permittee fails to perform:
  – reclamation activities including closure and postclosure maintenance needed if operations cease; and
  – corrective action as required by the commissioner if noncompliance with design and operating criteria in the permit to mine occurs.
  – Ch. 6132.1200
Financial Assurance
Required Components

• Contingency reclamation plan
  – Plan to reclaim the site if operations cease within the first year
  – Based on third party costs
  – Updated annually based on size of project each year
  – Becomes therefore the plan to close and financially assure the site at any point in time
• Corrective action plan, if needed
  – If non-compliance with approved design and operating criteria

Financial Assurance
Adequacy Determination

• Is amount sufficient to cover reclamation costs, including closure and post-closure maintenance, and any commissioner-ordered corrective action?
• Are funds payable to commissioner and available when needed?
• Is the assurance valid, binding, and enforceable under law?
• Are funds free from impact by bankruptcy?
Financial Assurance Management

- Permittee must annually estimate costs necessary to conduct contingency reclamation (and corrective action plans)
- Commissioner may hire individuals with financial assurance expertise to advise
- Reasonable cost for financial assurance expertise shall be paid by the permittee
- No specific type of financial instrument is mandated, but must meet criteria
- Permittee released only when site fully reclaimed

Permit to Mine: Non-Ferrous Mine Waste Characterization

- Poses some environmental challenges that must be dealt with carefully
- Diligent evaluation during environmental review and permitting
Permit to Mine: Non-Ferrous Mine Waste Characterization

- Conference to outline analyses and tests to characterize waste materials
- Chemical, mineralogical, petrologic, and leaching characteristic results provided
- Results provided
  - At time of permit application
  - To agencies establishing water quality and monitoring standards
  - Throughout life of mine

Permit to Mine: Non-Ferrous Mine Waste Characterization

- Combination of laboratory testing, modeling, and prediction to evaluate potential impact of operation
- Lands and Minerals has been conducting research on sulfur containing rocks for 30 years
- Anticipation of mining in the Duluth Complex (DC) rock in Minnesota
Potential Changes to Statute?

• House File #2560 introduced January 8, 2010
• Senate File #2349 introduced February 3, 2010
• Primarily suggests changes to
  – Definition of responsible person
  – Financial assurance for non-ferrous mining
    • Form (instrument)
    • Annual and public review requirements
    • Process for release
    • Handling during environmental review
    • What is covered

Summary

• Permit to Mine based on statute and three sets of rules to regulate ferrous and non-ferrous mines [and peat mines]
• Non-ferrous rules added focus to financial assurance and mine waste characterization
• Watch for interest in subject and possible changes in the future