Nashwauk-Blackberry Pipeline Routing Permit Application

Nashwauk-Blackberry Natural Gas Pipeline

Itasca County, Minnesota

SEH No. A-NASHU0701.00

July 2007

NASHWAUK PUBLIC UTILITIES
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July 17, 2007

Mr. Burl Haar, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place E., Suite 350
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Nashwauk Public Utilities Commission (NPUC) hereby applies to the Minnesota Public Utilities Commission (MPUC) for a natural gas pipeline routing permit pursuant to Minnesota Rules, Chapter 4415. NPUC is making an application for the construction of a 24-inch outer diameter natural gas pipeline, about 23 miles in length, in Itasca County of Northeastern Minnesota. NPUC will construct, own and operate the proposed 24-inch natural gas pipeline.

Short, Elliot Hendrickson, Inc, (SEH) is the technical agent and project manager for NPUC. McGrann Shea Anderson Carnival Straughn & Lamb, Chartered is legal counsel for NPUC.

Minnesota rules do not require a Certificate of Need (CON) from the MPUC, unless the pipeline is greater than 50 miles in length. Our understanding is that no Federal Energy Regulatory Commission (FERC) permit is required, unless the pipeline crosses a state boundary. The NPUC proposed pipeline is 23 miles in length and is located entirely in Itasca County.

Although the state pipeline routing rules allow a variable route width of up to 1.25 miles, NPUC is requesting a routing permit that allows a route width of 440 yards or ¼ mile. This width would reduce landowner uncertainty during permitting, but still allow flexibility during final pipeline design and field routing decisions.

This area of the state is primarily forested and mining land, but there are some small plots of potentially impacted agricultural land. NPUC will work with the Minnesota Department of Agriculture, affected landowners, and the MPUC to develop an agricultural mitigation plan as part of the route permit process. A draft mitigation plan for agriculture impact is provided for review as Appendix C of the permit.

Very truly yours,

NASHWAUK PUBLIC UTILITIES COMMISSION

E. Milton Latvala,
President

E. Milton Latvala

cc: Deb Pile, Minnesota Department of Commerce
Jeff Davis, SEH

Application for Pipeline Routing Permit
Content Requirement and Completeness Checklist

Citation	Required Information	Page No.
4415.0115	**General Information**	
Subp. 1	**Cover letter.** Each application must be accompanied by a cover letter signed by an authorized representative or agent of the applicant. The cover letter must specify the type, size, and general characteristics of the pipeline for which an application is submitted.	Cover letter
Subp. 2	**Title page and table of contents.** Each application must contain a title page and a complete table of contents.	I
Subp. 3	**Statement of ownership.** Each application must include a statement of proposed ownership of the pipeline as of the day of filing and an affidavit authorizing the applicant to act on behalf of those planning to participate in the pipeline project.	1
Subp. 4	**Background information.** Each application must contain the following information:	1
A	the applicant's complete name, address, and telephone number	1-2
B	the complete name, title, address, and telephone number of the authorized representative or agent to be contacted concerning the applicant's filing	1-2
C	the signatures and titles of persons authorized to sign the application, and the signature of the preparer of the application if prepared by an outside representative or agent	4
D	a brief description of the proposed project which includes:	5
1	general location	6
2	planned use and purpose	6
3	estimated cost	6
4	planned in-service date	6
5	general design and operational specifications for the type of pipeline for which an application is submitted	7
4415.0120	**Description Of Proposed Pipeline And Associated Facilities**	6
Subp. 1	**Pipeline design specifications.** The specifications for pipeline design and construction are assumed to be in compliance with all applicable state and federal rules or regulations unless determined otherwise by the state or federal agency having jurisdiction over the enforcement of such rules or regulations. For public information purposes, the anticipated pipeline design specifications must include but are not limited to:	7

Citation	Required Information	Page No.
A	pipe size (outside diameter) in inches	7
B	pipe type	7
C	nominal wall thickness in inches	7
D	pipe design factor	7
E	longitudinal or seam joint factor	8
F	Class location and requirements, where applicable	8
G	specified minimum yield strength in pounds per square inch	8
H	tensile strength in pounds per square inch	8
Subp. 2	**Operating pressure.** Operating pressure must include:	8
A	operating pressure (psig)	8
B	maximum allowable operating pressure (psig)	8
Subp. 3	**Description of associated facilities.** For public information purposes, the applicant shall provide a general description of all pertinent associated facilities on the right-of-way.	8
Subp. 4	**Product capacity information.** The applicant shall provide information on planned minimum and maximum design capacity or throughput in the appropriate unit of measure for the types of products shipped as defined in part 4415.0010	9
Subp. 5	**Product description.** The applicant shall provide a complete listing of products the pipeline is intended to ship and a list of products the pipeline is designed to transport, if different from those intended for shipping	9
Subp. 6	**Material safety data sheet.** For each type of product that will be shipped through the pipeline, the applicant shall provide for public information purposes the material identification, ingredients, physical data, fire and explosive data, reactivity data, occupational exposure limits, health information, emergency and first aid procedures, transportation requirements, and other known regulatory controls.	Appendix A
4415.0125	**Land Requirements: For the proposed pipeline, the applicant shall provide the following information:**	9
A	permanent right-of-way length, average width, and estimated acreage	10
B	temporary right-of-way (workspace) length, estimated width, and estimated acreage	10

Citation	Required Information	Page No.
C	estimated range of minimum trench or ditch dimensions including bottom width, top width, depth, and cubic yards of dirt excavated	11
D	minimum depth of cover for state and federal requirements	12
E	Rights-of-way sharing or paralleling: type of facility in the right-of-way, and the estimated length, width, and acreage of the right-of-way	12
4415.0130	**Project Expansion**	
	If the pipeline and associated facilities are designed for expansion in the future, the applicant shall provide a description of how the proposed pipeline and associated facilities may be expanded by looping, by additional compressor and pump stations, or by other available methods	12
4415.0135	**Right-Of-Way Preparation Procedures And Construction Activity Sequence**	**13**
	Each applicant shall provide a description of the general right-of-way preparation procedures and construction activity sequence anticipated for the proposed pipeline and associated facilities	13-21
4415.0140	**Location Of Preferred Route And Description Of Environment**	**21**
Subp. 1	**Preferred route location.** The applicant must identify the preferred route for the proposed pipeline and associated facilities, on any of the following documents which must be submitted with the application	21
A	United States Geological Survey topographical maps to the scale of 1:24,000, if available	Maps in Appendix D
B	Minnesota Department of Transportation county highway maps	Maps in Appendix D
C	Aerial photos or other appropriate maps of equal or greater detail in items A and B. The maps or photos may be reduced for inclusion in the application. One full-sized set shall be provided to the MPUC	Maps in Appendix D
Subp. 2	**Other route locations.** All other route alternatives considered by the applicant must be identified on a separate map or aerial photos or set of maps and photos or identified in correspondence or other documents evidencing consideration of the route by the applicant	22

Citation	Required Information	Page No.
Subp. 3	**Description of environment.** The applicant must provide a description of the existing environment along the preferred route	22
4415.0145	**Environmental Impact Of Preferred Route**	**35**
	The applicant must also submit to the MPUC along with the application an analysis of the potential human and environmental impacts that may be expected from pipeline right-of-way preparation and construction practices and operation and maintenance procedures. These impacts include but are not limited to the impacts for which criteria are specified in part 4415.0040 (partial exemption) or 4415.0100	35-58
4415.0040	**Partial Exemption Criteria.** In determining whether a proposed pipeline and associated facilities qualify for partial exemption and issuance of a pipeline routing permit, the MPUC shall consider the impact of the pipeline and associated facilities on the following:	35-58
A	human settlement, existence and density of populated areas, existing and planned future land use, and management plans	36
B	the natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands	36-55
C	lands of historical, archaeological, and cultural significance	36
D	economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations	55
E	pipeline cost and accessibility	56
F	use of existing rights-of-way and right-of-way sharing or paralleling	56
G	natural resources and features	36-55
H	the extent to which human or environmental effects are subject to mitigation by regulatory control and by application of the permit conditions contained in part 4415.0185 for pipeline right-of-way preparation, construction, cleanup, and restoration practices	57
I	cumulative potential effect of related or anticipated future pipeline construction	58
J	relevant policies, rules, and regulations of the state and federal agencies and local government land use laws including ordinances adopted under Minnesota Statutes, section 299J.05, relating to the location, design, construction, or operation of the proposed pipeline and associated facilities	57

Citation	Required Information	Page No.
4415.0150	**Right-Of-Way Protection And Restoration Measures**	**59**
Subp. 1	**Protection.** The applicant must describe what measures will be taken to protect the right-of-way or mitigate the adverse impacts of right-of-way preparation, pipeline construction, and operation and maintenance on the human and natural environment	59
Subp. 2	**Restoration.** The applicant must describe what measures will be taken to restore the right-of-way and other areas adversely affected by construction of the pipeline	61
4415.0160	**Operation And Maintenance**	**63**
	Pipeline operations and maintenance are assumed to comply with all applicable state and federal rules or regulations, unless determined otherwise by the state or federal agency having jurisdiction over the enforcement of such rules or regulations. For public information purposes, the applicant must provide a general description of the anticipated operation and maintenance practices planned for the proposed pipeline.	63-67
4415.0165	**List Of Required Government Agency Contacts And Permits**	**67**
	Each application must contain a list of all the known federal, state, and local agencies or authorities and titles of the permits they issue that are required for the proposed pipeline and associated facilities	67-68

4415.0170	**Evidence of Consideration of Other Routes**	**69**
	Each application shall provide a summary discussion of the environmental impacts of pipeline construction along the alternative routes and the rationale for rejection of the routing alternatives.	69

Glossary, Acronyms and Abbreviations

Alignment: The ground plan providing the exact placement a pipeline. For the purposes of this pipeline routing permit application, "alignment" refers to the specific path and depth that the proposed gas pipeline will follow.

AKA: **Also Known As** - used where the same item is commonly known by multiple common names or acronyms

ANSI: **American National Standards Institute**

APE: **Area of potential effect** - by standard protocol an area defined by a 1-mile buffer around a proposed pipeline.

API: **American Petroleum Institute**

ACE: **Army Corps of Engineers – (A.K.A. USACE) - U.S. Army Corps of Engineers**

BMP: **Best management practice(s)** - structural, nonstructural and managerial techniques designed to reduce the quantities of pollutants from nonpoint sources.

CFR: **Code of Federal Regulations**

EI: **Environmental Inspector(s)** - Construction personnel assigned to ensure compliance with environmental regulations during pipeline installation and site restoration

GLG: **Great Lake Gas Pipeline Company**

HVTL: **High voltage transmission line's** - "High voltage transmission line" or "HVTL" means a conductor of electric energy and associated facilities designed for and capable of operating at a nominal voltage of 100 kilovolts or more either immediately or without significant modification. Associated facilities shall include, but not be limited to, insulators, towers, substations, and terminals. (HVTLs generally require a routing permit from the Minnesota Public Utilities Commission, except in a few limited circumstances.)

kV: **Kilovolt** – one thousand volts

LGU: **Local Government Unit**

MAOP: **Maximum Allowable Operating Pressure**

MCFD: **Thousand cubic feet per day** - a measure of pipeline capacity

MSL: **Mean Sea Level**

MMCF: **Million Cubic Feet** – a standard measure of natural gas quantity

MDA: **Minnesota Department of Agriculture**

MDNR: **Minnesota Department of Natural Resources**

MDOT: **Minnesota Department of Transportation**

MNOPS:	**Minnesota Office of Pipeline Safety**
MPCA:	**Minnesota Pollution Control Agency**
MPUC:	**Minnesota Public Utilities Commission** (A.K.A "PUC" – the acronym PUC is often used in regulations and correspondence, but in this application, Nashwauk Public Utilities Commission may be confused for Minnesota Public Utilities Commission, so "MPUC" and "NPUC" will be used to ensure greater clarity in referring to the two entities.)
MS:	**Minnesota Steel**
MSDS:	**Material safety data sheets** - documents prepared by the supplier or manufacturer of a product clearly stating hazardous nature, ingredients, precautions to follow, health effects and safe handling/storage information.
MSL:	**Mean Sea Level**
MSNTRP:	**Minnesota Steel Nashwauk Taconite Reduction Plant** - the proposed plant being planned for construction near Nashwauk
MSHPO:	**Minnesota State Historic Preservation Office** (A.K.A "SHPO" or "MNSHPO")
NHIS:	**Natural Heritage Information System**
NNG:	**Northern Natural Gas Company**
NPUC:	**Nashwauk Public Utilities Commission**
NRCS:	**Natural Resource Conservation Service,** (U.S. Department of Agriculture)
NRHP:	**National Register of Historic Places**
NWI:	**National Wetlands Inventory,** (U.S. Fish and Wildlife Service)
Pipeline:	Pipe designed to be operated at a pressure of more than 275 pounds per square inch and to carry gas (as defined in Minnesota Rules Chapter 4415.0010, Subparts 26A & 26B).
Pipeline Routing Permit:	The written document issued by the MPUC to the permittee that designates a route for a pipeline and associated facilities, conditions for ROW preparation, construction, clean up, and restoration.
PSI:	**Pounds Per Square Inch** - a standard measure of gas pressure
PSIG:	**Pounds Per Square Inch Gauge** - gas pressure that is measured against atmospheric pressure. This is a pressure gauge reading in which the gauge is adjusted to read zero at the surrounding atmospheric pressure.
PWI:	**Protected Waters Inventory**
RP:	**Recommended Practice**

ROW: **Right-Of-Way** - the interest in real property used or proposed to be used within a route to accommodate a pipeline and associated facilities (MN Rules Ch. 4415.0010, Subp. 31).

Route: The proposed location of a pipeline between two end points. A route may have a variable width from the minimum required for the pipeline ROW (70 feet) up to 1.25 miles wide (MN Rules Ch. 4415.0010, Subp. 32). The same pipeline route may have different widths along its length if this condition is determined to be appropriate by the MPUC.

NPUC is initially studying a ½-mile route ROW. Technical staff believes that after field studies are completed the requested route ROW can be narrowed to ¼ mile wide (plus or minus 220 yards from a proposed centerline)

SHPO: **State Historic Preservation Office**

SMYS: **Specified Minimum Yield Strength**

SNA: **Scientific and Natural Areas**

SPCC: **Spill Prevention Containment and Countermeasure Plan**

Study area: For cultural resources study, this is the area in which construction activity could take place; for this project, the study area is the same as requested standard route width of 880 yards or ½-mile total, (plus or minus 440 yards or ¼ mile from a proposed centerline)

SWPP: **Storm Water Pollution Prevention Plan**

TBS: **Town Border Station**

UMRB: **Upper Mississippi River Basin**

USDA: **United States Department of Agriculture**

USDOT: **United States Department of Transportation**

USFWS: **United States Fish and Wildlife Service**

USGS: **United States Geological Survey**

WCA: **Wetland Conservation Act**

WMA: **Wildlife Management Areas**

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Nashwauk-Blackberry Pipeline Routing Permit Application

Nashwauk-Blackberry Natural Gas Pipeline

Prepared for Nashwauk Public Utilities Commission

1.0 STATEMENT OF OWNERSHIP - NATURAL GAS PIPELINE

Nashwauk Public Utilities Commission (Nashwauk) is a municipal utility established under the laws of the State of Minnesota. Nashwauk is qualified to do business in the State of Minnesota as of the date of the attached filing of this pipeline permit application. Nashwauk Public Utilities Commission will be the owner and operator of the 24-inch diameter pipeline and associated facilities as proposed in this application as of the date of this submittal.

The City of Nashwauk received the authority to operate a municipal utility to handle electric service many years ago. Nashwauk has expanded its utility to provide natural gas service to the existing municipal utility, pursuant to Minnesota Statutes § 412.321, among other laws. In July of 2006, the City of Nashwauk formed the Nashwauk Public Utilities Commission and determined officers to govern it. The City of Nashwauk and NPUC Offices are located at 301 Central Avenue, Nashwauk, MN 55769-1311. The technical contact with respect to all elements of the Application is as follows:

Mr. Jeff Davis, PE
Project Manager
Short Elliott Hendrickson Inc.
3535 Vadnais Center Drive
Saint Paul, MN 55110-5196
Telephone: (651) 490-2025
Facsimile: (651) 490-2150

Mobile Phone: (612) 616-4853

Email Address: jdavis@sehinc.com

The signatures and titles of persons authorized to sign the application appear below. Nashwauk is providing a statement of ownership of the proposed pipeline pursuant to Minnesota Rules 4415.0115, Subp. 3.

NASHWAUK PUBLIC UTILITIES
301 Central Avenue, Nashwauk, Minnesota 55769

email: nashwaukcityhall@mchsi.com
Phone: 218.885.1210
Fax: 218.885.1305

STATEMENT OF OWNERSHIP

Nashwauk Public Utilities Commission is a corporation organized and existing under the laws of the State of Minnesota and is currently and has been since September 17, 1977, qualified to do business in the State of Minnesota. Nashwauk Public Utilities Commission will be the owner of the 24-inch outer diameter pipeline and related facilities proposed in this Routing Permit Application as of the day of filing.

AFFIDAVIT

STATE OF MINNESOTA

COUNTY OF ITASCA

I, E. Milton Latvala, being first duly sworn, do hereby state that I am the President of Nashwauk Public Utilities Commission; that I have knowledge of the current plans for construction of the 24-inch outer diameter pipeline and related facilities for which Nashwauk Public Utilities Commission has filed or will file a Pipeline Routing Permit Application, in support of which this Affidavit is provided (the "Nashwauk Blackberry Pipeline Project"); that there are no plans for any third parties to participate as owners in the Nashwauk Blackberry Pipeline Project; and that the duly elected officers of Nashwauk Public Utilities Commission as well as its attorneys and other authorized agents are authorized to act on behalf of Nashwauk Public Utilities Commission in connection with the Nashwauk Blackberry Pipeline Project.

FURTHER AFFIANT SAYETH NOT.

E. Milton Latvala

E. Milton Latvala
President, Nashwauk Public Utilities Commission

Signed and sworn to before me on November 8 2006 by E. Milton Latvala.

PAMELA JOY LaBINE
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2010

Pamela Joy LaBine
(Signature of notorial officer)

(Seal, if any)

Secretary Public Utilities Commission
(Title)

My commission expires: 1-31-10

2.0 4415.0115 - GENERAL INFORMATION

2.1 Subpart 4: Background Information

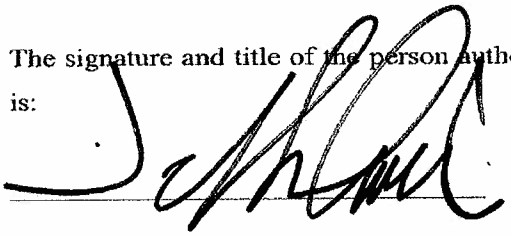
The applicant's complete name, address and telephone number:

Milt Latvala, Chair
Nashwauk Public Utilities Commission
301 Central Avenue
Nashwauk, MN 55769-1311
Telephone: (218) 885-1210

The complete name, title, address and telephone number of the official or agent to be contacted concerning the applicant's filing:

Mr. Jeff Davis, P.E.
Short Elliott Hendrickson Inc.
Project Manager
3535 Vadnais Center Drive
Saint Paul, MN 55110-5196
Telephone: (651) 490-2025
Cellular Telephone: (612) 616-4853

The signature and title of the person authorized to sign the application on behalf of Nashwauk is:



Mr. Jeff Davis, PE, Project Manager

2.2 Brief Description Of The Proposed Project

2.2.1 General Location

Nashwauk Public Utilities Commission (Nashwauk) proposes to construct and operate a proposed pipeline along a route in Itasca County, Minnesota. Nashwauk is proposing to install a 23.5 mile, 24 inch diameter high-pressure natural gas pipeline originating in the northwest ¼

of the southwest ¼ of Section 10, Township 54 North, Range 24 West, Itasca County (Latitude 47.172070, Longitude -93.383398). The proposed pipeline route originates at take-off points on the two existing Great Lakes Gas (GLG) 36-inch pipelines in Blackberry Township. A tap will be installed so that a new 24-inch pipeline will run north for approximately 13.5 miles to an area near the City of Taconite. The proposed pipeline will then turn northeast for approximately 10 miles until it reaches the City of Nashwauk. The pipeline will terminate in the northeast ¼ of the northeast ¼ of Section 36 in Township 57 North Range 23 West, Itasca County (Latitude 47.39019, Longitude -93.16886,). Project location maps are included in Appendix D of this application. Associated facilities along the pipeline route will include valves and cathodic protection equipment. Valves will be located in accordance with applicable federal and state pipeline regulations.

The proposed gas pipeline route will originate about 0.6 miles southeast of the GLG block valve station located just south of U.S. Highway 2 near the unincorporated town of Blackberry, Minnesota Figure 8, Appendix D). Figures 11-1 through 11-7, Appendix D provide detailed aerial photographs of the proposed pipeline route and indicate the homes and buildings identified in Figure 1, Appendix D.

The proposed pipeline will traverse mainly south to north from Blackberry Township to the City of Taconite, then at Taconite the pipeline turns running primarily west to east until reaching the termination point near the City of Nashwauk. The pipeline, to the maximum extent possible, will run adjacent to existing utilities including railroads, natural gas pipelines, electric transmission lines, highways and roads located in Itasca County. The first 2.0 miles of the route will extend north-northeast to avoid a large wetland bog north of U.S. Highway 2. From there the proposed route will turn due east approximately 2 miles to be aligned directly south of the City of Taconite. The proposed route will extend north from this point about 1.5 miles where it will cross the Swan River and then continue north until intersecting with Northern Natural Gas (NNG) 8-inch pipeline ROW. The route will parallel the NNG pipeline 0.9 miles and then follow a proposed 230 kV high voltage transmission line (HVTL) route for 4.2 miles. Within this segment, the route will cross the Swan River a second time. The next 1.3 miles of the proposed route will run within an existing HVTL ROW north of the City of Taconite. At Taconite, the pipeline will turn to the east, where it will proceed eastwards to the City of Nashwauk along 9 miles of new route.

2.2.2 Planned Use And Purpose

The proposed Nashwauk-Blackberry pipeline project will transport the natural gas fuel required to operate the Minnesota Steel Nashwauk Taconite Reduction Plant (MSNTRP), any related or resulting growth in the region, potential electric generation capacity, potential future expansion, and other industrial customers near the City of Nashwauk. Although the route application filed in another MPUC matter involving Excelsior Energy appears to use a similar route as the preferred route in this application, Nashwauk determined its preferred route well before any Excelsior Energy routing determination. The sizing of the pipeline in this route application was determined without regard to Excelsior Energy. The proposed pipeline will allow delivery of natural gas to Minnesota Steel's plant required for processing of taconite and other plant operations. Accordingly, this pipeline is essential to the operation of the new plant. The Nashwauk will be seeking other industrial customers in the future, so the proposed gas pipeline is being sized to allow for industrial expansion near Nashwauk. MSNTRP has indicated gas service is required by August 2009.

Any additional facilities to provide power to MSNTRP or related growth in the region, including electric transmission lines, will be the subject of other docket(s) before the MPUC.

Estimated costs: Approximately $25.0 Million.

2.2.3 General Design And Operational Specifications

The proposed pipeline will be a 24-inch outside diameter, welded steel, fusion bond epoxy-coated pipe. The Maximum Allowable Operating Pressure (MAOP) will be 1016 pounds per square inch gauge (psig). The pipeline is designed to deliver natural gas at a maximum rate of 206 million cubic feet per day and is planned to operate at 599 psig on average.

3.0 4415.0120 - DESCRIPTION OF PROPOSED PIPELINE AND ASSOCIATED FACILITIES

The United States Department of Transportation (USDOT) Safety Regulations, Title 49 Code of Federal Regulations (CFR) Part 192, prescribes minimum federal safety standards for construction, operation and maintenance of natural gas pipelines. Nashwauk will comply with all safety standards for construction, operation and maintenance of natural gas pipelines. Nashwauk will comply with 49 CFR Parts 191, 192, and 199 in constructing, operating and

maintaining the proposed line. Pipeline safety matters for this facility are under the jurisdiction of the Minnesota Office of Pipeline Safety ("MNOPS").

The specifications for pipeline design and construction are assumed to be in compliance with all applicable state and federal rules or regulations unless determined otherwise by the state or federal agency having jurisdiction over the enforcement of such rules or regulations. For public information purposes, the anticipated pipeline design specifications must include but are not limited to those given in Subparts 1 – 6 below.

3.1 Subpart 1: Pipeline Design Specifications

American Petroleum Institute (API) has published specifications for high-test line pipe. These specifications cover various grades of seamless and welded steel line pipe. Process of manufacture, chemical and physical requirements, methods of testing, dimensions and other parameters are all specified. Pipe grade designates pipe manufactured according to API specification 5L with specified minimum yield strength (SMYS) designated in pounds per square inch. Electric-resistance welded (ERW) pipe has one longitudinal seam, which is fused by electric resistance welding during the manufacturing process. Anticipated pipeline design specifications are:

A. Nominal pipe size in inches – 24 inches outside diameter (O.D.).

B. Pipe type – welded steel, fusion bond epoxy-coated pipe, API Standard 5L.

C. Nominal wall thickness in inches – 0.375 inches.

D. Pipe design factor – the entire project is being designed to a Class 3 location design factor of less than 50% of Specified minimum yield strength (SMYS.) 0.50.

E. Longitudinal or seam joint factor – 1.0.

F. Class location and requirements – the entire length of the pipeline will be considered Class 3 for design and operation purposes.

G. Specified minimum yield strength (SMYS) in pounds per square inch – 65,000 psig.

H. Tensile strength in pounds per square inch – 80,000 psig.

3.2 Subpart 2: Operating Pressure

The normal and maximum allowable operating pressures for the pipeline are:

A. Operating pressure – Actual operating pressure will be based on operation profile of GLPL pipe at tap point and operation pressure needed in Nashwauk Blackberry pipeline. The planned average operating pressure will be 599 psig.

B. Maximum allowable operating pressure (MAOP) – 1,016 psig.

3.3 Subpart 3: Associated Facilities

This pipeline project will have above ground take-off valves at the beginning and end of the pipeline along with associated launcher and receiver facilities to allow for cleaning and internal inspection of the pipeline using intelligent pig technology. There will be block valves every 7 miles along the pipeline route. Nashwauk will install a new Town Border Station (TBS) the line at the MSNTRP facility near the City of Nashwauk, Minnesota. We will need to locate three TBS, one at the MSNTRP facility, one at a possible city-owned power generation of undetermined location and a third at the termination of the pipeline near the City of Nashwauk to serve city gas needs. This facility location and configuration will be determined during the design phase. The only other associated facilities besides markers required by MNOPS will be cathodic protection facilities. These will consist of a rectifier and ground bed whose location will be determined by actual measurement of pipe to soil potentials along the route after the pipeline is installed. Nashwauk will install marker posts along the route to identify the location of the buried facilities. Typically, these are installed at property boundaries and/or roads to minimize interference with land utilization. At approximately, one-mile intervals and adjacent to the marker posts, Nashwauk will install electrolysis test stations to monitor the effectiveness of cathodic protection efforts.

3.3.1 Valves and Flanges

The design, construction, testing and marking of the valves will comply with the requirements of 49 CFR Part 192.145 Valves and 192.147 Flanges. All valves and flanges will be rated as American National Standards Institute (ANSI) Class 600. Valves are governed by ANSI API 6D, Steel Valves, Flanged and Butt Welding End. Flanges are governed by ANSI B16.5, Pipe Flanges and Flanged Fittings. Nashwauk will install two mid-line valve assemblies along the proposed pipeline in accordance with the Minimum Federal Safety Standards for Gas Lines as established in 49 CFR Part 192.179 Transmission Line Valves. The valve assemblies will also

meet the requirements of 49 CFR Part 192.145, Valves and 49 CFR Part 192.147, Flanges and Flange Accessories.

3.3.2 In-Line Inspection Devices

Nashwauk will design and construct the new pipeline to accommodate the passage of in-line inspection tools ("smart pigs") as required by 49 CFR Part 192.150 (Passage of Internal Inspection Devices). Above-ground appurtenances, called launchers and receivers, will be installed to facilitate the passage of the in-line inspection tools.

3.3.3 Cathodic Protection

A cathodic protection system will be installed to prevent corrosion on the pipeline. Cathodic protection systems consist of aboveground rectifiers and anodes. The exact location of the aboveground facilities will be determined at the time of final design by a cathodic protection specialist. The cathodic protection system will be designed in accordance with 49 CFR Part 192, Subpart I.

3.4 Subpart 4: Product Capacity Information

The minimum throughput design is 0.0 MMCF per day. The proposed pipeline and associated facilities are designed to have a maximum throughput capacity of 206 MMCF per day.

3.5 Subpart 5: Product Description - Natural Gas

The proposed pipeline will carry sweet processed natural gas (methane), a non-hazardous, but highly flammable substance that complies with the tariff filed by GLG. To satisfy the requirements of Minnesota Rules 4415.0120 subpart 6, the complete text of the Material Safety Data Sheet (MSDS) is attached as Appendix A to this application.

3.6 Subpart 6: Material Safety Data Sheet

See Appendix A.

4.0 4415.0125 - LAND REQUIREMENTS

Nashwauk or its designated representative will negotiate with landowners for easements to install the proposed pipeline on each individual tract that the route will cross. Generally, the easement terms will allow Nashwauk the perpetual right to construct, maintain, operate, repair,

replace abandon and/or remove the pipeline and related appurtenances. The easement will allow the grantee necessary ingress and egress to accomplish those purposes. The grantor will agree to not build any building in the easement or remove any soil cover from over the pipeline without the consent of the grantee.

Compensation will be determined based on the fair market value of the land at the time easement is acquired. Landowners will be compensated for any crop damages or other merchantable item losses incurred due to construction activity. Nashwauk considered a range of factors for the proposed pipeline prior to selecting the preferred route. The following major issues were considered in locating the proposed pipeline:

- Minimize the number of nearby residences and other buildings;
- Maximize the sharing of existing public rights-of-way for pipeline construction;
- Avoid sharp turns or "kinks" in pipeline routes;
- Minimize negative impacts and construction disruption on area businesses;
- Avoid environmentally sensitive areas, such as wetlands or tree groves.

The applicant shall provide the following information:

1. Permanent right-of-way length, average width, and estimated acreage. The proposed pipeline right of way is approximately 23.5 miles in length. The proposed pipeline will be placed on a permanent right of way 70 feet in width. Up to 188 acres of new permanent right-of-way will be acquired.
2. Temporary right-of-way (workspace) length, estimated width, and estimated acreage. Localized conditions such as roads, railroads and water body crossings may require temporary additional workspace to complete the installation. Permission to use temporary workspace will be obtained from landowners adjacent to the permanent ROW, in advance of any work being performed. Along portions of the route an additional 30 feet of temporary workspace may be required. It is anticipated that this space will not be fully utilized, but will give the construction crews approximately 100 feet of total right-of-way for workspace if needed. A maximum of 78 acres of temporary workspace, plus 5 acres of staging area workspace may be required, for a maximum of 83 acres of temporary right-of-way and temporary workspace required for this project.

Site specific conditions will require additional temporary workspace at crossings of features such as highways, railroads, streams, ditches, wetlands and roads. Nashwauk will request 40 foot wide by 200 foot long workspaces adjacent to the right-of-way at these crossing locations. This additional workspace is necessary for staging equipment, temporary storage of spoil and to ensure a safe work area. Permission to utilize additional temporary workspace will be obtained from landowners along the route as required by site specific conditions. Nashwauk has estimated approximately 30 crossing locations where staging areas may be required. Assuming sites averaging 40 feet wide by 200 feet long, approximately 5 acres of additional temporary staging area workspace will be required.

3. Estimated range of minimum trench or ditch dimensions including bottom width, top width, depth and cubic yards of dirt excavated.

   Trenching is typically accomplished using a crawler-mounted, wheeled-type ditch-digging machine or backhoe. Typically, the ditch will be 84 inches deep to allow sufficient cover as specified by statute. Trench width will be a minimum of 36 inches for the 24-inch outside diameter pipe. Assuming the maximum possible trench depth, this project will result in approximately 88,500 cubic yards of soil excavation.

   Welded pipe will be mechanically lowered into the trench. Trench access will be restricted to qualified workers with appropriate safety gear. Trench boxes and bracing will be used as necessary during construction to ensure worker safety. In areas, requiring personnel to work or inspect inside the trench, OSHA regulations regarding trenching and excavating dimensions will be followed.

   The State of Minnesota requires a minimum depth of cover to be 54 inches in certain areas as detailed in Minnesota Statutes 116I.06, Subdivisions 1-3. Nashwauk will require a minimum of 54 inches of ground cover for this proposed pipeline. Federal minimum pipeline cover requirements range from 18 inches to 48 inches depending on the circumstances encountered.

   a. Estimated trench bottom width - 36 inches

   b. Estimated trench depth - 84 inches

   c. Estimated trench top width - 36 inches or more

   d. Estimated excavation - 88,500 cubic yards

4. Minimum depth of cover for state and federal requirements: 54 inches. A typical cross-section for the open trench section of the proposed gas pipeline is shown in Figure C-1, in Appendix C of this application. A working section of trench is shown in Figure C-2.

5. Rights-of-way sharing or paralleling, type of facility in the right-of-way, and the estimated length, width, acreage of the right-of-way.

   The preferred route for this pipeline will parallel existing electric transmission right-of-way, existing gas pipeline right-of-way and state and county road ROW to the maximum extent possible. Nashwauk will strive to avoid individual residences, buildings and sensitive areas such as wetlands and other areas that will affect the environment or present difficult construction problems. Nashwauk will investigate all opportunities to share or parallel any existing rights-of-way that will not increase the environmental or economic impact of the project. The preferred route will minimize the impacts to the landowners while ensuring the safety of the pipeline. The route is proposed to be 23.5 miles, with a right-of-way of 70 feet for 188 acres of right-of-way land. Temporary right-of-way and temporary staging areas may consume a maximum of an additional 83 acres of land.

5.0 4415.0130 - PROJECT EXPANSION

If the pipeline and associated facilities are designed for expansion in the future, the applicant shall provide a description of how the proposed pipeline and associated facilities may be expanded by looping, by additional compressor and pump stations, or by other available methods.

The proposed pipeline is designed to meet the natural gas supply needs of the planned Minnesota Steel Nashwauk Taconite Reduction Plant. The pipeline size allows capacity for additional industrial and other customers in the Nashwauk area that may apply for future gas service. No project expansion is planned at this time.

6.0 4415.0135 - RIGHT-OF-WAY PREPARATION PROCEDURES AND CONSTRUCTION ACTIVITY SEQUENCE

Pipeline construction projects must be carefully planned to meet construction schedules and seasonal weather conditions. Brief summaries of the sequence phases for pipeline construction are described below. Construction will begin as soon as permits and rights-of-way easements

have been acquired. The construction schedule for the proposed pipeline will be designed to allow for excavation, grading and directional drilling occurring during the summer and autumn months of 2009. This project will be managed to minimize construction-related effects on local natural resources and adjacent recreational activities.

6.1 Environmental Compliance

Nashwauk will utilize Environmental Inspector(s) (EI) to monitor construction activities and ensure environmental compliance throughout the duration of the project. The EI will have a variety of duties including monitoring compliance with mitigative measures required by environmental permits and approvals; inspecting the environmental mitigation measures implemented by the contractor as required by permitting agencies; and recommending corrective measures when non-compliance with permit conditions is observed. The EI will be given the authority to issue stop-activity orders and corrective actions to maintain environmental compliance with all permits.

Nashwauk will require the contractor supervisory personnel to have environmental training prior to commencement of construction. The EI or other qualified personnel will provide environmental training for construction personnel, which will focus on the PUC permit conditions, other environmental permit requirements and project specific mitigation plans.

Environmental compliance will be enforced through contract provisions, inspection, documentation and communication. If a contractor is deemed in non-compliance with an environmental requirement, Nashwauk may invoke penalties against the contractor to obtain environmental compliance. The contractor will be informed during contract negotiations that environmental compliance is as important as any other contract requirement, and that noncompliance with an environmental requirement is deemed a material breach of the contract construction staff.

6.2 Route Planning

During the route selection process, Nashwauk and its consultants spent many months reviewing various maps and data and performing many site inspections. In addition, Nashwauk met with numerous stakeholders along the route including cities, counties, state agencies and railroad authorities. The intent of the preliminary meetings was to provide information regarding the

proposed project and solicit input relating to any issues or concerns that should be considered by Nashwauk during the route selection process.

Each applicant shall provide a description of the general right-of-way preparation procedures and construction activity sequence anticipated for the proposed pipeline and related facilities.

6.3 Surveying

The first step in construction of a pipeline is to prepare the right-of-way. Nashwauk will conduct a centerline land survey to depict accurately the location and layout of the pipeline, followed by staking of the pipeline centerline. Staking will be at a maximum of 400-foot intervals. Right-of-way edges will be staked every 100 feet. This survey will also identify the extent of approved work areas. Before commencing any survey activities, Nashwauk will contact all landowners to obtain any necessary survey permission. In addition, Nashwauk will comply with Minnesota Rules Chapter 4415.0035 regarding public notice and distribution of application materials. Nashwauk is committed to providing affected landowners with complete information about the project, and keeping them informed throughout the survey, right-of-way acquisition, construction and restoration stages of the project.

6.4 Right-of-Way Acquisition

Nashwauk will work with the landowners from whom private right-of-way easements may be necessary and discuss the project in detail prior to conducting any necessary surveys and soil investigations. As the route-permit process proceeds, Nashwauk intends to continue to discuss the project with the owners of potentially affected properties. If a MPUC route permit is issued, the final negotiation and acquisition phase will begin in order to obtain the necessary temporary construction and permanent right-of-way easement rights for the pipeline and associated facilities. ROW compensation will be based on the fair market value of the land at the time the easement is acquired.

6.5 Storage Areas along Right-of-Way

Where possible, staging and lay down areas will be located within the right-of-way and limited to previously disturbed or developed areas. When additional property is temporarily required for construction, temporary limited easements will be obtained through negotiations and obtaining private permission with affected landowners. Temporary right-of-way will be restricted to special construction access needs or additional staging or lay down areas required

outside of the proposed transmission line private easement right-of-way. These storage areas will consist of open areas that will be fenced as deemed necessary to protect equipment and materials as well as the public. When encountered along a right-of-way, fences will be adequately braced before any opening to the fence is made. Locking gates or appropriate fencing will be installed when construction in the area has been completed. Any damage to fences, gates and cattle guards will be restored to the original condition or replaced. Access and livestock control will be employed during construction to limit impact to the use of the land.

6.6 Gas Pipeline Construction Activity Sequence

6.6.1 Clearing/Grading

During the acquisition phase, individual property owners will be advised of construction schedules, site access needs, and any vegetation clearing and soil stripping required for the Project. Any vegetation that is in the way of construction equipment may have to be removed. Wood from the clearing operation will be offered to the landowner or removed from the site. Brush will be chipped and disposed of on the right-of-way. Some locations may require soil analysis to assist with the design of the pipeline. Nashwauk will inform the landowners at the initial survey consultation that these borings may occur. An independent geotechnical testing company will advance borings and analyze soils.

In order to make the right-of-way into a suitable work area, a clearing, grubbing and grading crew will prepare a work area approximately 70 feet wide to allow safe and efficient operation of construction equipment. The minimum amount of aboveground vegetation and obstacles will be cleared to allow safe and efficient use of construction equipment. Clearing of the right-of-way will follow accepted industry practices and sound construction guidelines.

The majority of the pipeline route will require minimal grading since it is relatively flat. Areas do exist where fill will need to be added to construct a base for drilling and boring equipment. Upon completion of the project, fill will be removed and ground elevations will be returned to similar pre-construction contours. Excavation and grading will only occur where necessary to increase stability and decrease the gradient of unstable slopes. In all cases, permit conditions will be followed to assure minimal disturbance and impact to the existing environment and landscape.

When the construction area is cleared prior to trenching, the Contractor will grade the area as is necessary to create a relatively flat work surface for the passage of heavy equipment and vehicles for subsequent construction activities. Minimal grading will be required on most of the right-of-way where the terrain is flat to gently sloping. In particularly difficult terrain, additional construction right-of-way may be required. Grading and cut-and-fill excavation will be performed to minimize effects on natural drainage and slope stability. Spoil banks will contain gaps to allow storm water to flow away from the construction area to prevent it from backing up or flooding.

6.6.2 Tree-cutting and Vegetation Clearing

For this project, the predominant land uses along the proposed route include grasslands, regeneration of young forest, deciduous forestland, smaller tracts of agricultural lands and wetlands. Nashwauk proposes to install pipe under all tree rows (windbreaks) using boring or directional drilling techniques that preserve the trees and surrounding area. In areas where vegetation removal and tree-cutting is required, trees will be cut in uniform length and stacked along the right-of-way. The landowner will have one week to remove the stacked timber himself or herself, if the timber is not removed within one week after cutting the contractor is responsible to remove and dispose of the cut timber from the work site. The profile of stumps left from tree-cutting will be as low as possible, and the removal of stumps will be limited to only that necessitated by pipeline installation.

6.6.3 Agricultural Land Management

The Minnesota Department of Agriculture (MDA) will be the lead agency for the development of any agricultural mitigation plan required for the gas pipeline project. Only a small fraction of the land along the proposed pipeline route is currently farmed. For cultivated farm land, a detailed agricultural mitigation plan will be developed as part of the Minnesota route permit process. A draft agricultural mitigation plan is provided in Appendix B of this application. This draft will be revised in consultation with affected landowners, the MDA, and other regulatory agencies as specified by Minnesota Statutes 116C.61, Subd. 3(b).

Nashwauk will be required to notify the Commissioner of Agriculture if burial of the natural gas pipeline will impact cultivated agricultural land (as that term is defined in Minn. Stat. § 116.01, subd. 4). The Commissioner of Agriculture may participate and advise the MPUC as to whether to grant a permit for the project and the best options for mitigating adverse impacts to

agricultural lands if the permit is granted. Preliminary discussion of potential agricultural impacts of this project has already occurred with MDA environmental review staff.

In agricultural areas where there is a need to separate topsoil and subsoil, a two-pass trenching process will be used. The first pass removes topsoil and stockpiles it along the outer edge of the right-of-way. The second pass removes subsoil and stockpiles it adjacent to the top soil in such a manner as to avoid mixing of the two-soils. This allows for proper restoration of the soil during the backfilling process. The contractor places the sub-soil in the ditch first, and then finishes the backfill process with the topsoil.

6.6.4 Trenching

Before any trenching activities, notification will be provided to the Minnesota Gopher State One-Call as required to ensure all utilities are properly identified. All other safety procedures will be adhered to as required by the Federal and State Offices of Pipeline Safety, Nashwauk safety procedures and worker safety regulations.

The Contractor will perform most trenching using a conventional tracked backhoe. Construction mats will be employed as necessary to reduce rutting. Trench dimensions will comply with applicable normal construction techniques, land use practices and all project regulatory permit requirements. If there is water in the trench, it is drained or pumped dry, where practicable to insure the pipe is placed at the proper depth, Where the pipe crosses highway or road ditches, the excavation of trenches or borings will be deep enough to provide a minimum of 54 inches of cover over the pipe to comply with Minnesota Department of Transportation (MNDOT) requirements. All surfaced road crossings will be bored, to avoid interrupting traffic flow.

The pipeline will be installed using both open trenching and directional drilling. Directional drilling will be used to cross under the Swan River, U.S. Route 169, several county and township roads, a tributary to Swan River, and four unnamed intermittent streams, all with a minimum of 54 inches of natural cover. These directionally drilled sections will account for approximately 0.25 miles (1,320 feet) of the total pipeline length. Where the pipe crosses highway or road ditches, the trench or boring is excavated deep enough to provide a minimum of 54 inches of cover over the pipe. All surfaced road crossings will be installed via directional drilling so that traffic flow will not be interrupted.

The State of Minnesota requires a 54-inch minimum depth of cover in certain areas as detailed in Minnesota. Statutes § 116I.06, subds. 1, 2, and 3. Construction specifications will provide for a minimum of 54 inches of ground cover for this proposed pipeline unless waived by the landowner, or to accommodate special construction needs. For most of the proposed route, it is anticipated that requirements will call for at least 54 inches of cover over the pipeline. Federal minimum cover requirements range from 18 inches to 48 inches depending on the circumstances encountered.

Conventional tracked backhoes will be used where ground conditions are unsuitable for a ditching machine and if a deeper or wider trench is required. Trench dimensions will comply with applicable land use and regulatory requirements. In wet marshy areas, draglines and clamshells will be used to do the ditching. To insure the pipe is buried at the proper depth, the trench will be drained or pumped dry where practicable, or concrete coated pipe with weights set on is used to overcome any buoyant force.

Where trenching dewatering is needed, water will be discharged directly to the ground if there is adequate vegetation along the right-of-way to filter the water effectively. Where vegetation is sparse or absent, or in environmentally sensitive areas (e.g., adjacent to streams or wetlands), straw bale dewatering structures or suitable filtering alternatives will be used to minimize siltation in adjacent waterbodies. Trench dewatering discharges will be directed to vegetated upland areas to prevent sediment from entering waterbodies and wetlands to the extent practicable.

6.6.5 Stringing

Stringing involves the placement of pipe, from storage areas along the right-of-way next to the trench. Pipe will be loaded onto trucks, transported to the right-of-way, and unloaded by trucks equipped with booms rigged to handle pipe. The pipe will be strung either prior to or after ditching.

6.6.6 Bending And Line-Up

After the joints of pipe are strung along the trench and before the sections of pipe are joined together, individual sections of the pipe will be bent to allow for uniform fit of the pipeline with the varying contours of the bottom of the trench and to accommodate changes in the route direction. A track-mounted, hydraulic pipe-bending machine will be used for this purpose when

using the size of pipe proposed for this project. API standard 1104 limits the degree of deflection in a field bend to1-1/2 degrees per foot per diameter inch. Bends requiring greater deflection than the API standard will be factory fabricated.

Installation of the pipe, following the bending, commences with internally swabbing the pipe, and aligning the bevels for welding. The weld material is deposited after the proper spacing and alignment of the bevels is accomplished. The line up clamp is held until enough of the weld is completed to assure weld integrity.

6.6.7 Welding

A very important phase of pipeline construction is the welding process. Welding is the joining of the individual sections of pipe to form the pipeline. Only qualified welders using specified procedures can weld on this project to meet code requirements. To maintain the rigorous qualifications for certification of pipeline welding, welders take periodic weld tests.

A third party radiographic contractor will inspect all welds using radiographic examination to determine the quality of the weld. Radiographic examination is a nondestructive method of inspecting the inner structure of welds to determine if any defects are present. Defects will be repaired or removed as outlined in API 1104, the code for "Welding of Pipelines and Related Facilities" which is incorporated by reference by 49 CFR 192. An independent certified inspection contractor unrelated to the pipeline construction contractor will perform the weld inspection.

6.6.8 Coating And Lowering In

After welding is complete, the girth weld and the pipe adjacent to the weld must be wrapped or coated for protection from corrosion. An electronic holiday detector monitors the coating during this operation to assure there is no damage to the coating. The detector is pulled along the circumference of the pipe and uses electrical voltage to find any voids in the coating. Any chips, gaps or other areas of inadequate coating will be repaired before the pipe is lowered into the trench. When the detector determines the pipe is adequately coated, the pipe will be lowered into the trench. After the welds are completed, the pipeline is ready to lower into the trench. Special side boom tractors spread out along the pipeline simultaneously lift the line and move it over the open trench. The welded string of pipe is then lowered into the trench.

6.6.9 Backfill

After lowering the pipe into the ditch, the contractor backfills the trench by placing the subsoil in the trench first and then placing the topsoil in the trench last. This operation will be performed in a manner that will prevent damage to the pipe and coating from either the backfill material or the lowering equipment. Excess backfill material will be bermed over the ditch centerline to permit natural settling, with the intent that the final ground elevations will be similar to pre-construction contours. Where the ditching process was used to separate top and subsoil, backfill is also installed by placing the subsoil into the trench prior to placement of the topsoil to maintain the soil segregation.

Where an excessive amount of rocks are present in the backfill, the pipeline will be protected with rock shield or similar protective coating and/or backfilled with clean padding or clean sand prior to backfilling with the rocky material.

6.6.10 Pressure Testing

After backfilling, the pipeline will be tested to ensure that the system is capable of withstanding the operating pressure for which it was designed. In this process, the pipeline is filled with water at a pressure equal to 1.5 times the design pressure and is maintained for a minimum of eight (8) hours. Water availability and terrain conditions will determine test lengths, and test water will be disposed of pursuant to MDNR permit requirements. Approximately 2.5 million gallons of water will be required for pipeline hydrostatic pressure testing.

Nashwauk will apply for all necessary Individual MNDNR Hydrostatic Test Water Withdrawal and NPDES/SDS Discharge Permits required to obtain and ultimately dispose of hydrostatic test water from major waterbodies crossed by the pipeline and/or municipal sources along the route. The test water will be discharged through energy dissipation devices to the ground surface or to a nearby waterbody. These discharges will be done in accordance with Nashwauk's permits issued by the appropriate state agencies.

6.6.11 Clean-Up and Restoration

The final phase of pipeline construction involves clean up and restoration of the right-of-way. Any surplus materials and construction debris will be removed and disposed of according to permits or local codes. Restoration of the easement right-of-way surfaces involves smoothing by chisel plow, disc harrows or other equipment, and stabilizing when necessary. In non-