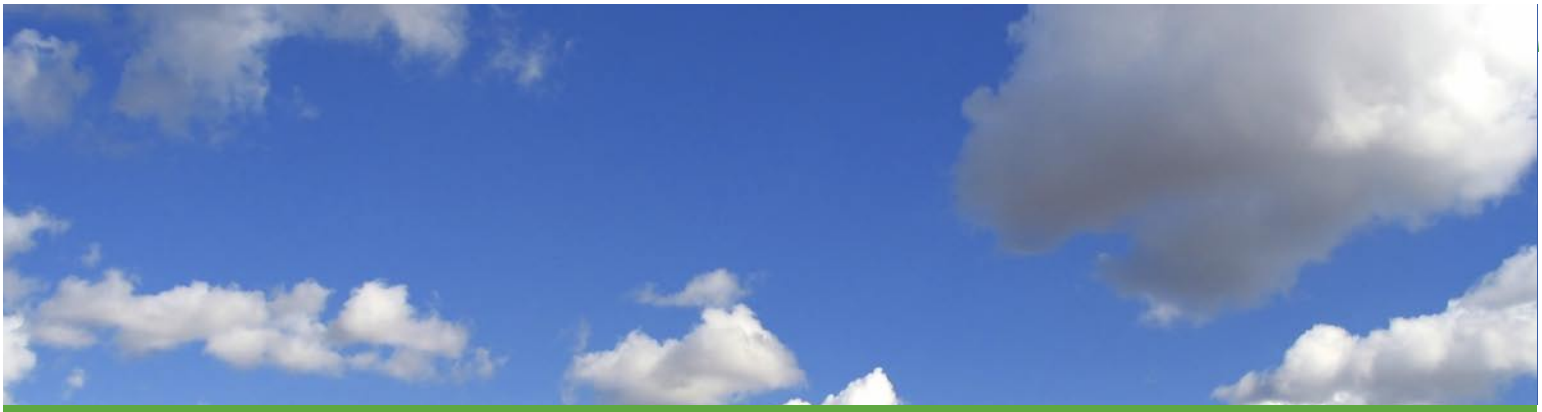

MAXIM Power Corp

Proposed HR Milner Expansion Project
Public Disclosure Document

MAXIM Power Corp.

November 2007

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PRESIDENT'S MESSAGE TO OUR STAKEHOLDERS:

Electricity is an important component of our everyday lives. Over the years, electricity has supported economic growth in Alberta to steadily improve the quality of life for all Albertans. As our Province continues to grow, in terms of both residences and businesses, so does our need for new electricity generating resources. At the same time, older generating units are approaching the end of their economic lifecycles and their output will need to be replaced.

MAXIM Power Corp. ("MAXIM") is an Alberta-based, experienced Independent Power Producer that operates the HR Milner Generating Station near Grande Cache, Alberta. MAXIM acquires or develops, owns and operates innovative and environmentally responsible power projects in Western Canada, the United States, and France.

MAXIM is responding to Alberta's need for new generation. We plan to seek approval to construct a new, environmentally responsible power generating facility at the existing Milner Generating Station site, with an estimated capital investment of $1.4 billion. The proposed project will produce 500 megawatts of electricity and provide a source of cost-effective, base-load energy for the Alberta market.

Alberta coal resources have traditionally been the foundation of the province's electricity supply, and we believe coal will continue to provide a low-cost fuel for electricity generation. We expect the Milner Expansion Project will be the most efficient coal-fired generating plant in Canada, with an efficiency that is approximately 18 to 20 percent better than the average efficiency of existing coal fired generating units in Alberta and about 15 percent better than units installed between 1980 and 2000.

MAXIM is launching a public consultation program with the release of this document (the Public Disclosure Document) and the associated proposed Terms of Reference for our environmental impact assessment. We will maintain dialogue with interested parties through the planning, construction and operational phases of the project. MAXIM is committed to building and maintaining effective, open relationships with all of our stakeholders.

Our values for public consultation are:

- Inclusiveness
- Fairness
- Responsiveness
- Transparency
- Accessibility
- Respect

Circulation of the Public Disclosure Document is the first step in our public consultation and regulatory approvals process. Highlights of the document that follows include:

- A demonstrated track record of public consultation;
- A demonstrated safety and environmental record;
- Practices which protect and enhance environmental quality;
- Advanced emission control equipment;
- Limited surface disturbance by building on the existing Milner site;
- Use of regionally-produced coal in the most efficient coal-fired generating plant in Canada; and
- Local benefits from long-term employment opportunities, locally provided goods and services, support of local community initiatives, and municipal, provincial and federal taxes.

MAXIM believes our plan will address Alberta's need for new, efficient generating resources with an environmentally responsible solution that will create economic opportunity for the region. We welcome and value your involvement in the review process and look forward to discussing our plans with you to ensure our project meets or improves upon established guidelines and requirements.

I would like to thank you in advance for taking the time to review this document and provide us with your feedback.

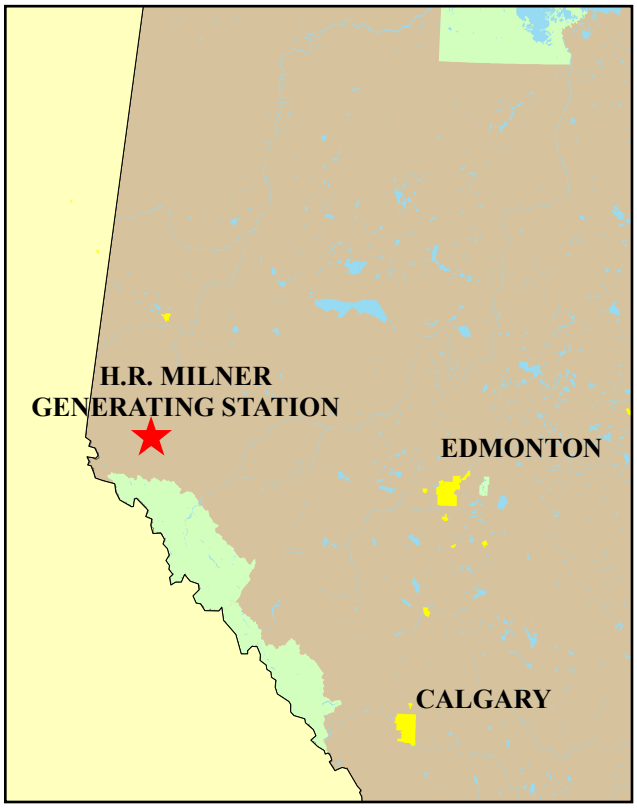
Sincerely,

John R. Bobenic
President & CEO, Maxim Power Corp.

1.0 INTRODUCTION

MAXIM Power Corp. ("MAXIM") is proposing to develop a single unit, 500 megawatt (MW) coal-fired power plant referred to as the HR Milner Expansion ("Milner Expansion" or the "Project"). The Project is located near Grande Cache, Alberta on the site of the existing 150 MW HR Milner Generating Station. The Grande Cache area is situated in the Inner Foothills belt of the Rocky Mountains, northwest of Edmonton. It is anticipated that the Project would be complete and operational in the third quarter of 2012.

MAXIM has prepared this public disclosure document to assist government regulatory agencies, directly affected stakeholders and the general public in understanding the scope of the proposed Project. Preparation of this document is the first step in the public involvement and regulatory approvals process.



The purpose of this disclosure document is to provide the general public, directly-affected stakeholders, and regulators with information about the Project. In addition, it is intended to assist the regulators in determining the degree of environmental and stakeholder information needed for regulatory approval. Under the *Alberta Environmental Protection and Enhancement Act* (EPEA), an Environmental Impact Assessment Report (EIA Report) will be required for the Project. This Public Disclosure document provides the focus for developing the terms of reference for preparation of the Project's EIA Report.

This Public Disclosure document has been prepared after considering Alberta Environment's Guidelines for Environmental Assessment – Preparation of Disclosure Documents.

The project timeline, which commenced earlier this year, will involve issuing a Public Disclosure document (this document) along with the proposed Terms of Reference ("TOR") for the EIA Report we are required to complete. We plan to finalize the TOR this fall and submit all necessary applications to Alberta Environment ("AENV") and the Alberta Energy and Utilities Board ("EUB") by September 2008. To facilitate this schedule, information collected during environmental studies related to MAXIM's #14 Mine project, which have been ongoing since spring 2005, will be used. This information will be supplemented with additional, site-specific studies so as to collect sufficient information to assess the environmental effects of the Project.

2.0 GENERAL INFORMATION

2.1 Proponent

The Project proponent is MAXIM Power Corp. ("MAXIM"). Based in Calgary, Alberta, MAXIM is an Independent Power Producer, which acquires or develops, owns and operates innovative and environmentally responsible power projects. MAXIM currently owns and operates 32 power plants in Western Canada, United States, and France, having 492 MW of electric and 125 MW of thermal generating capacity.

MAXIM's experience in coal-fired generation assets is drawn from our ownership and operation of the HR Milner Generating Station ("Milner Generating Station" or "Milner"), acquired in 2004. The Milner Generating Station is a 150 MW coal-fired power station approximately 20 kilometers north of the town of Grande Cache, Alberta, which has been in continuous operation since 1972. Since it began operations in 1972, the Milner Generating Station has used a cost-effective mix of primarily low grade fuels including by-product coal from the adjacent mining operations. Today, the Milner Generating Station uses higher grade fuels resulting in much improved environmental performance with the majority of Milner's fuel railed in from Coal Valley near Hinton, Alberta. The Milner Generating Station is important to the local economy of the region providing employment to 62 full-time employees.

MAXIM trades on the TSX under the symbol MXG. For more information about MAXIM, visit our website at www.maximpowercorp.com.

2.2 Location and Legal Land Description

The Project is to be located adjacent to the existing Milner Generating Station in the Smoky River valley approximately 20 km north of Grande Cache, Alberta. The legal description of the current and proposed operation is the N1/2 of Section 10 and S1/2 of Section 15 Township 58 Range 8 West of the 6th Meridian. The current Milner Generating Station and the proposed Project are situated on privately owned lands.

2.3 Area Activities

The Grande Cache area has supported coal mining since 1969, with several mines phasing in and out of production over the years. Coal from mines now owned by Grande Cache Coal Corporation is hauled to their preparation plant located in the Smoky River Valley where it is treated and separated into metallurgical-grade coal, rejects or tailings. The metallurgical-grade coal is transported via rail to Vancouver or Prince Rupert then shipped to overseas markets. Occasionally, locally produced coal that does not meet minimum metallurgical coal standards, but that is suitable for use as a fuel, is directed to the proponent's existing facility for the generation of electricity.

The principal settlement in the area is the Town of Grande Cache. There are six Aboriginal settlements neighbouring the Project area; three Cooperatives, two Enterprises and one Community. These settlements are:

1. Muskeg Seepee Cooperative;
2. Susa Creek Cooperative;
3. Victor Lake Cooperative;
4. Wanyandie Flats Cooperative comprised of:
    a. Eastland Holdings (known as #119); and
    b. Westland Holdings (known as Wanyandie Flats);
5. Kamisak Enterprise - Grande Cache Lake; and
6. Joachim Enterprise.

The Wilmore Wilderness Park, Alberta's largest protected wilderness area outside of the National Parks is located south and west at an average distance of approximately 25 km from the proposed project location.

Other activities or facilities in the Grande Cache area include forestry operations and timber mills, oil and gas exploration, trapping, a Federal prison, and recreation and tourism.

2.4 Project Purpose

The purpose of the Project is to provide a source of cost-effective energy for the Alberta electricity market. In the mid 1990s the Government of Alberta restructured the electricity industry such that the price of electricity is set by the competitive forces of supply and demand. As with other market-based systems, when supplies get tight, market prices provide a signal for new capacity.

As of the end of September 2006, Alberta's installed generating capacity was listed at approximately 11,000 MW while neighbouring provinces are capability of supplying an additional 950 MW. Alberta's peak demand is expected to approach 10,000 MW in 2007 and grow 3 to 4 per cent per year on average.

The Alberta Electric System Operator's estimates that Alberta will require an additional 4,000 MW of new generation capacity by 2017 to serve growing demand while retiring older, less efficient facilities and maintaining extra capacity to meet demand during planned and unplanned facility outages.

Electricity from the Project, which represents about 10 percent of the projected generation deficit, will provide a source of cost-effective, base-load energy for the Alberta market. The Project will generate electricity in northwestern Alberta, an area identified as having a generation deficit, and thus contributing to the overall reduction of electrical transmission loss charges that all Albertans currently pay for.

2.5 Economic Benefits

Development of the Project will increase the electrical generating capacity in Alberta and provide long-term economic benefits that will help to sustain and strengthen the local, regional, and provincial economies. The capital cost of the Project is estimated at $1.4 billion. The Project will create local, provincial, and national employment opportunities over its life.

Development of the proposed Project will provide the following main benefits:

- Municipal, Provincial and Federal Governments will receive revenue in the form of taxes;
- local, regional and Provincial contractors and retailers will receive benefits by providing goods and services during both the construction phase and the operations phase of the Project; and
- long-term employment opportunities will occur during the operating life of the Project.

MAXIM will continue to support local business as well as Alberta and Canadian engineering firms, contractors, manufacturers and suppliers and ensure that they receive full and fair opportunity to compete in the supply of goods and services. Consistent with our existing practices, MAXIM will also continue to support local initiatives in the Grande Cache area.

3.0 PROJECT DESCRIPTION

3.1 Project Overview

The major components of the Project include a pulverized-coal boiler, high-efficiency steam turbine driving an electric generator, steam-condensing facilities, ash disposal and fuel handling and storage.

3.1.1 Production Processes and Power Plant Technology

The Milner Expansion project proposes to use a pulverized coal ("PC") combustion system. For large plants, PC combustion has been the conventional coal-burning technology worldwide for more than 50 years. This technology has made significant advances over the years to improve efficiency. Efficiency gains in PC technology have been achieved through the following measures:

- increasing the pressure and temperature of the steam used in the power generation process;
- maximizing the amount of power generated in the steam turbine by reducing the temperature at which steam exhausts from it;
- using a high-efficiency steam turbine with a large low-pressure section sized to minimize energy losses as the steam exits from the turbine at high velocity;
- reduction in auxiliary power losses; and
- burning of coal with a higher heating value.

In addition to pulverized coal, other forms of coal combustion are available including fluidized bed and gasification. Fluidized bed technology is not proven for units of the size contemplated for the Milner Expansion project, and this technology does not offer any advantages in efficiency or emission reduction. Gasification technology, which extracts a synthetic gaseous fuel for use in a combustion turbine, can offer extremely low sulphur dioxide (SO_2) emissions, and may be better suited to carbon capture although this technology is not commercially viable in the current market environment.

A review of the available technologies will be conducted and presented as part of MAXIM's regulatory applications.

3.1.2 Coal to Electricity Process

All fossil-fuel burning processes, from automobile engines to aircraft engines to steam power plants, involve converting fuel into useful energy.

In a pulverized-coal power plant, the coal is burned to produce steam, and the steam is used to produce power in a turbine which in turn drives an electrical generator. There are many steps in the coal to electricity process.

Coal is delivered to the power plant, blended if necessary, and placed in storage. When required, the coal is transported by conveyor to crushers and pulverizers, which grind it into a fine powder. This pulverized coal is then blown into the combustion chamber (also know as the furnace) in a stream of hot air. Additional air is forced into the furnace by large fans. The fuel burns in about 2 to 3 seconds before exiting the furnace. Heavier non-combustible materials (bottom ash) produced in the coal burning process fall to the bottom of the furnace where they are extracted. The finer non-combustible materials (fly ash) pass through the furnace and are removed by the emission control equipment.

The furnace is surrounded by a wall of water-filled tubes which is commonly referred to as the boiler. Water is heated continuously as it rises in the furnace walls, eventually turning to steam. In a supercritical steam generator design, similar to that being proposed for the Milner Expansion project, higher pressure and higher temperature steam is used in order to maximize efficiency.

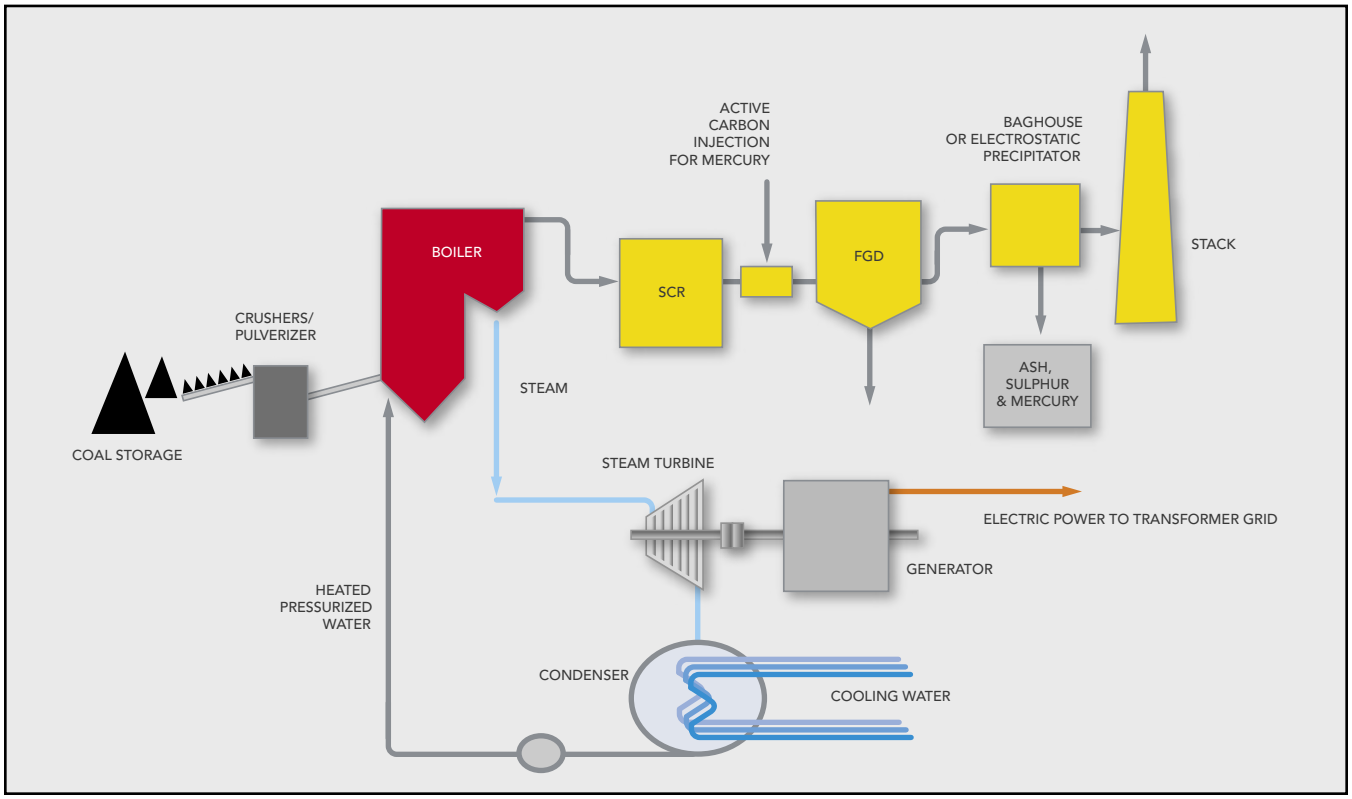
The gas exiting the boiler contains most of the incombustible material in the coal, and several other compounds formed during the combustion process. After exiting the boiler the gas passes through emission control equipment, which is located between the boiler and the exhaust stack. Modern emission control facilities are designed to remove a very high proportion of the pollutants created during the combustion process. The cleaned exhaust gas is then discharged from the stack. Emission control that will be considered for the Milner Expansion Project includes four separate modules:

- Selective Catalytic Reduction ("SCR") for the removal of oxides of nitrogen ("NO_x"). In an SCR, ammonia is injected into the SCR to convert NO_x into nitrogen and water;
- carbon injection to absorb mercury;
- flue gas desulphurization ("FGD") unit to remove sulphur dioxide ("SO_2"). In a FGD unit, lime is injected into the FGD to convert the SO_2 to into inert calcium sulphite/sulphate, which is removed with the fly as); and
- particulate removal equipment to capture fly ash and the calcium sulphite/sulphate created by the FGD.

Steam generated in the boiler flows to a steam turbine where it is converted to shaft energy (also known as shaft horsepower) that in turns drives an electrical generator, which produces electricity. Steam in the turbine expands through many rows of blades that drive a shaft at 3600 rpm or 60 Hertz (revolutions per second).

Once the steam passes through the last row of turbine blades, most of the useful energy has been extracted. At this point the remaining steam exhausts to a condenser, where it is converted back to water by passing between tubes filled with cold water.

The water exiting the condenser is then directed back to the steam generation process as part of a large, closed loop cycle.

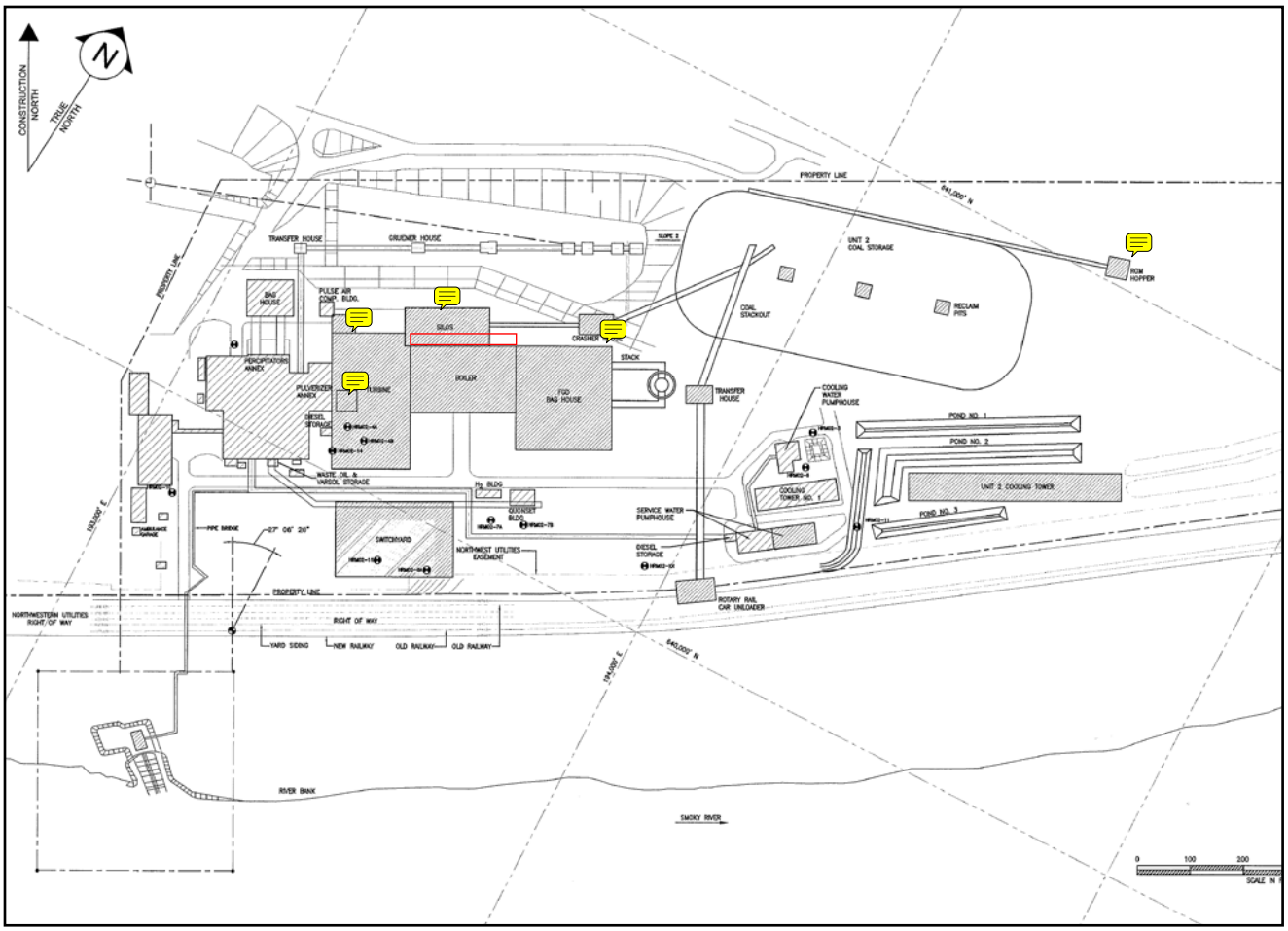


3.2 Site Plan

The conceptual site plan for the Milner Expansion project is shown below. This site plan will be refined during preliminary engineering.

and included in the EIA Report submitted as part of the approvals process.

The Milner Expansion project will consist of a single coal-fired electric generating unit with its ancillary



3.3 Project Components

The Milner Expansion project is contemplated to be the most efficient coal fired generating plant in Canada, with an efficiency that is approximately 18% to 20% better than the average efficiency of existing coal fired generating units in Alberta and about 15% better than units installed between 1980 and 2000. The preliminary design parameters for the Project are provided below. Engineering will continue throughout the development process and some parameters may be modified. Any modifications will be accounted for

support facilities, including fuel handling and cooling. The proposed unit will have a gross output of approximately 500 MW.

The main design parameters of the Milner Expansion project are as follows:

- Plant output: gross 500 MW
- Average Coal consumption: 165 tonnes/hr
- Steam pressure: 25 MPa (3350 psi)
- Main and reheat steam temperature: 575°C or higher
- Gross annual power production; 3,950,000 MWh per year

- Fly ash collected from emission control equipment: 12.6 tonnes per hour
- Bottom ash collected from boiler: 9.1 tonnes/hr
- Water consumption: 181 L/s
- Water discharge: 25 L/s

The foregoing design parameters are estimates; actual parameters will be determined in conjunction with final decisions regarding the ultimate plant load.

3.3.1 Cooling Facilities

The generating plant requires cooling water to condense the steam that exhausts from the steam turbine, and to provide cooling to plant auxiliaries.

Steam exiting the turbine must be condensed back to water prior to re-entering the boiler. This process is necessary as it is not practical to compress the low pressure steam back to boiler pressure due to its very large volume. A condenser is used for this process in conjunction with an evaporative cooling tower. An evaporative cooling tower system uses evaporation of water to reject heat that is absorbed in the condenser.

Auxiliary coolers are required for such items as the turbine oil coolers, generator coolers and for other plant systems. These coolers use a tubed heat exchanger with cooling water flowing through the tubes.

3.3.2 Fuel Handling and Storage Facilities

Coal will be both railed and trucked to the existing coal handling facility, where it will be unloaded and stockpiled. A new truck dump facility is contemplated for the Project site. This new truck dump facility is included as part of the #14 Mine project and will also be reviewed as part of the application for the Milner Expansion project.

The increased coal to be delivered via rail will require new rail offloading facilities to be constructed as part of the Milner Expansion project. These new facilities will include a new rail siding equipped with a new rail car unloading system. Once the coal is offloaded from the rail cars, it will be transported via conveyor to the stockpile.

The coal stockpile area will be enlarged to accommodate the greater volume of coal required for daily operations. The coal stockpile for the expanded facility will involve a single, elongated pile comprised of the various independent fuel sources.

The coal will be reclaimed from the stockpile, crushed, and conveyed into coal silos inside the boiler house. Coal from the silos will be ground into a fine powder and blown into the furnace.

3.3.3 Emissions Control Facilities

The principal emissions from a pulverized coal fired combustion system include nitrogen, oxygen, sulphur dioxide (SO_2), oxides of Nitrogen (NO_x), coal particulate (ash), carbon dioxide and minute amounts of gaseous mercury. Regulated emissions in Alberta include SO_2, NO_x, particulates and mercury.

The emission control system for the Milner Expansion project will be designed to limit emissions to levels that comply with strict provincial emissions guidelines. The components of the emissions control system to be considered are:

- SO_2 Control: All coal contains a small amount of sulphur, and during combustion this is oxidized to form sulphur dioxide (SO_2). The sulphur content of most Alberta coal is very low and therefore power plants built before 2005 did not incorporate any additional sulphur removal equipment. Despite these very low levels of sulphur in Alberta coal, a flue gas desulphurization system will be included in the Milner Expansion design to limit SO_2 emissions to within the new Alberta guidelines.

- NO_x Control: The combustion of any fossil fuel causes a small proportion of the nitrogen in the air to oxidize forming oxides of nitrogen (NO_x).

This reaction is very dependent on the flame temperature inside the furnace. The Milner Expansion project will limit NO_x emissions primarily through combustion technology, although post-combustion treatment will also be considered. The coal burners in the furnace will be designed to minimize the production of NO_x by reducing the intensity of the flame. Should additional NO_x control be required to achieve provincial guidelines, a selective catalytic reduction (SCR) unit will be included between the furnace and the stack to further reduce NO_x emissions.

- Mercury Control: In line with the new Alberta guideline, the plant will incorporate mercury removal equipment as required. In a mercury control system, activated carbon will be injected into the gas stream to absorb gaseous mercury, which is then collected by the particulate removal equipment.

- Particulate Control: All coal contains impurities, which are generally referred to as ash. Most of these impurities are not combustible. About one third of the ash particles stick together during combustion and fall to the bottom of the furnace as bottom ash where they are collected for disposal. The remaining two thirds pass through the furnace as a fine dust called fly ash. Fly ash is typically collected in a baghouse or electrostatic precipitator, at a removal efficiency of above 99.9%. The Milner Expansion project will be designed to control particulate emissions to within the Alberta guidelines.

3.4 Infrastructure Requirements

Infrastructure requirements for the Milner Expansion project, most of which are already in place, include water diversion and transportation, electric transmission, natural gas transportation, rail access and road access. These requirements are discussed in more detail in the following sections.

3.4.1 Water

The Milner Expansion project requires water for a number of purposes including steam generation, cooling, dust control, ash removal, emissions control and employee use. The existing Milner Generating Station currently withdraws water from the Smoky River under license from Alberta Environment. There is an existing water intake structure and pipeline that diverts water from the Smoky River to the Project site.

Water requirements for the project represent approximately 40% of our existing water license volumes. Combined, the Milner Generating Station and the Milner Expansion represent approximately 60% of our existing water license volumes. The total allocation of licences to withdraw water from the Smoky River in the portion of the river basin around the Project site are considered sufficiently small as to be local in effect (Grande Cache Coal EIA, 2001).

Water for the Project will be drawn from the Smoky River under our existing license using our existing intake and water pipeline. No additional water withdrawal rights or allocations will be requested although some enhancements to the pumping capacity may be necessary to facilitate the withdrawal of the additional volume.

To reduce overall consumption, water will be recycled where possible. Some applications, such as dust control, fly ash removal and equipment cleaning can use recycled water.

3.4.2 Electric Transmission

The project site is currently connected to the Alberta electric system by a single 138 kilovolt line that forms a loop between Grande Cache, Grande Prairie and Valleyview. This connection currently allows the output of the Milner Generating Station to be delivered to the Alberta market as well as to the supply constrained region of northwest Alberta.

The additional electric energy generated by the Milner Expansion project will require the construction of a new 240 kilovolt line which is anticipated to involve a conversion of the existing 138 kilovolt transmission line.

The expansion of the electric transmission system in Alberta is a regulated activity and will require applications and consultation activities that are separate from the Milner Expansion project. These activities are carried out by the Alberta Electric System Operator and the affected transmission facility owner, in this case ATCO Electric. Stakeholders have the opportunity to provide comment on these plans and participate in regulatory proceedings regarding these activities once they are brought forward by the respective parties.

3.4.3 Rail Access

Rail facilities operated by Canadian National Railway currently service the existing Milner Generating Station and the nearby third party coal processing plant.

The increased coal requirement for the Milner Expansion project will require the construction of new coal offloading facilities as well as a modification to current fuel handling practices. The changes will improve the efficiency of the coal offloading operation and increase the volume of coal that can be processed using the existing rail infrastructure. The new offloading facilities, as further described in Section 3.3.2 above, will be located within the existing plant site boundary.

3.4.4 Natural Gas

Natural gas will be used for plant start-up. The natural gas pipeline infrastructure operated by ATCO Pipelines currently services the existing Milner Generation Station. The Project is expected to be serviced by this existing pipeline infrastructure.

3.4.5 Road Access

The existing Milner Generating Station is accessed by a shared facility with ingress and egress from Provincial Highway 40.

The effect of traffic during both construction and commercial operations will be assessed to determine if either a temporary or permanent new access point will be needed to support the Milner Expansion Project.

3.5 Fuel Supply

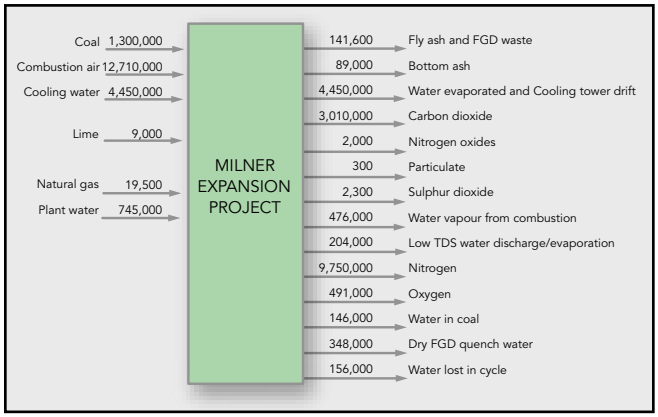
The Milner Generating Station uses coal as its primary fuel. Coal is currently sourced from a combination of local (Grande Cache area) and regional (Hinton area) supplies and delivered either by haul truck in the case of local supply, or rail in the case of regional supply. Start-up fuel for the existing facility is natural gas which is delivered by ATCO Pipelines through an existing pipeline network.

The Milner Expansion project will similarly source its fuel from a combination of local and regional supplies. MAXIM has been advancing the #14 Mine project over the past two years including a comprehensive public involvement process which culminated in the submission of regulatory applications in August 2007. Regional supplies will continue to be delivered to the Project site using the existing rail infrastructure. Some site enhancements will be required to improve the efficiency of coal handling (Section 3.3.2). Natural gas will continue to be used in the Milner Expansion project for plant start-up.

3.6 Preliminary Materials and Energy Balance

The major inputs to the coal-fired electricity generation process are the coal, air for combustion, water for plant processes and water for cooling. Lime is required for the FGD and natural gas is required for startup. The figure below summarizes these inputs

and outputs for a facility that is assumed to operate during 90% of the hours in any given year.



Note: All values in Metric Tonnes per year based on a 90% capacity factor

The major outputs of the coal combustion process, in order of magnitude are nitrogen, water, carbon dioxide, oxygen and ash. The combustion process also results in NO_x, SO_2 and particulate matter that, due to emission control equipment, are well below provincial guidelines for these substances.

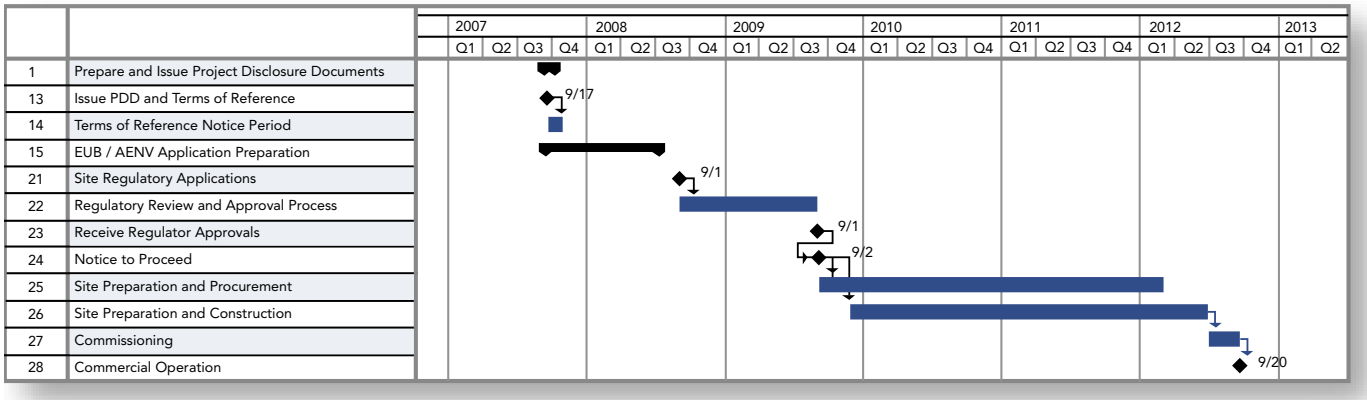
3.7 Project Schedule

The Project schedule contemplates submission of the required permit applications in the third quarter of 2008, followed by a regulatory review period. If the regulatory review agencies grant their approvals, the project would be constructed over a 3.5-year period once the commercial aspects of the project, including contracts for the output of the facility, are secured.

3.8 Decommissioning and Reclamation

The proposed power plant is located on a brownfield site adjacent to the existing Milner Power Plant and the Grande Cache Coal processing facility. The site was developed in 1972 and predates provincial legislation necessitating that conservation and reclamation measures be implemented during development (see further discussion in this regard in Section 4.1.3 Soil and Vegetation).

MAXIM will comply with all relevant terms and conditions attached to the existing *Environmental Protection and Enhancement Act* ("EPEA") Approval for the HR Milner Generating Station and will develop appropriate decommissioning and reclamation programs for the site including the Milner Expansion. These programs will be developed in consultation with local stakeholders as well as the pertinent regulatory agencies.



4.0 ENVIRONMENTAL MATTERS

As part of conducting its operations in a safe and efficient manner, MAXIM strongly endorses practices which protect environmental quality. MAXIM believes that its existing operations represent and illustrate its proactive commitment towards carrying out its activities in an environmentally-responsible manner in compliance with legislation.

MAXIM will conduct a comprehensive Environmental Impact Assessment (EIA) that will meet the requirements and needs of government regulatory review agencies to assess the environmental effects associated with development of the proposed Project. The EIA will establish the environmental baseline conditions in the area, assess local and regional effects, examine project alternatives, evaluate cumulative effects and provide monitoring and management plans to mitigate any adverse effects.

Draft Terms of Reference ("TOR") for the EIA report have been prepared and accompany this document. Input from stakeholders is a key factor in finalizing the TOR. Once finalized, the TOR will provide an outline of the information required to identify and assess the environmental effects associated with development of the proposed Project.

Preliminary environmental information on the Grande Cache area is outlined below, as are preliminary mitigation and protection measures for the expected environmental effects of the Project.

4.1 Regional Setting

The Project site is located on previously disturbed land on the northwest bank of the Smoky River at an elevation of approximately 915 m. It is located on a cleared, relatively flat floodplain terrace, approximately 5 m above river elevation. Surface drainage on the site is towards the Smoky River; however, most rainfall infiltrates vertically downward into the underlying groundwater aquifer, unless it is collected in storm drains.

The Project site occurs within the Smoky River subregion of the northern section of the Rocky Mountain Foothills physiographic region of Alberta. This physiographic region is characterized by rugged topography with coal mining and forestry historically being the main economic activities. The geology of the Smoky River valley in the Grande Cache area is Quaternary sand and gravel overlying Cretaceous shale and siltstone. Coarse sand and gravel underlies the silt throughout the Smoky River valley bottom and likely extends to depths in excess of 35 m in the central portion of the valley. The flood plain terraces are typically underlain by up to three metres of overbank silt deposits associated with low energy alluvial deposition.

The Project site is also located within the Montane ecoclimatic zone or ecoregion, which occurs along the Smoky River Valley from the Town of Grande Cache northward for a distance of about 30 km (Grande Cache Coal EIA, 2001). Vegetation at lower elevations in this zone (approximately 1100 m) is dominated by deciduous species, with the coniferous component increasing with elevation (to approximately 1500 m). Slope aspect is an important factor in determining local microclimates, as north-facing slopes generally have a cooler microclimate that promotes growth while south-facing slopes are dryer (reduced snow pack) and are characterized by aspen and willow over grass (Grande Cache Coal EIA, 2001).

Environmental studies will be able to draw upon the baseline studies conducted for the #14 Mine project located north of the Town of Grande Cache on the slopes of Grande Mountain, the Grande Cache Coal EIA, and prior Smoky River Coal studies.

4.1.1 Air Quality

The major sources of air emissions in the region, except suspended particulates, are the existing Milner Generating Station and the Grande Cache Coal Corporation coal processing plant. The major cause of emissions from the Milner Generating Station is through the combustion of coal, which produces particulates, oxides of nitrogen (commonly reported as nitrogen dioxide or "NO_2"), SO_2 from the sulphur in the coal, and carbon dioxide ("CO_2"). Coal and logging haul trucks are the largest source of particulates. Highway 40 traffic is another contributor to regional air emissions.

As part of the EIA for the Grande Cache Coal Corporation Project, which assessed a surface coal mine and coal processing plant, the existing air quality of the local region and the effects of the development on air quality were assessed. The Grande Cache Coal Project EIA determined that the main air quality parameters of concern were concentrations of particulates (suspended particulates and the smaller $PM_{2.5}$), NO_2, and SO_2. The Milner Expansion project will incorporate leading emissions reduction technology to limit NO_2, SO_2, particulates and mercury to within the guidelines established by Alberta Environment.

4.1.2 Surface Water and Groundwater

The primary surface water bodies and watersheds near the Project site are the Smoky River, directly southeast of the Project site, and the Muskeg River, east of the Project site.

The Smoky River originates in the eastern slopes of the Rocky Mountains at the BC-Alberta border in Jasper National Park. From there, the river flows north and joins the Peace River near the Town of Peace River. The elevation of the Smoky River basin ranges from over 3,000 m at its origin to 915 m at the Project site and 305 m at the river mouth. Stream flow typically peaks in June and flow recession occurs from the fall through the winter, with minimum flows typically between January and March (Grande Cache Coal EIA, 2001). Water quality near the Project site is generally good, although some exceedances of the Canadian Council for Ministers of the Environment (CCME) and Alberta surface water quality guidelines have been observed (Grande Cache Coal EIA, 2001).

The Muskeg River originates in Willmore Wilderness Provincial Park at an elevation of 2,590 m. It intersects with the Smoky River downstream of the Project site at an elevation of approximately 910 m. Maximum flows occur in June and minimum flows in winter months.

Current activities in the Grande Cache area that potentially effect water quality and water quantity in the Smoky River basin include the existing Milner Generating Station, the Grande Cache Coal processing plant, the Town of Grande Cache, timber harvesting activities, the Foothills Forest Products sawmill, oil and gas exploration, and recreation uses. The existing Milner Generating Station is the major water user of the Smoky River in the upper Smoky River watershed. The total allocation of licences to withdraw water from the Smoky River in the portion of the river basin around the Project site are considered sufficiently small as to be local in effect (Grande Cache Coal EIA, 2001).

Groundwater levels in the upper Smoky River valley are generally deep and dry wells are not uncommon (Grande Cache Coal EIA, 2001). Surficial aquifers found on or next to the Project site are unconsolidated Quaternary sediments deposited by alluvial, glaciofluvial, or outwash processes. Groundwater quality is generally good, but concentrations of total dissolved solids (TDS), sodium, chloride, total phosphorus, sulphate, and hardness are relatively high compared to other aquifers in the local region (Grande Cache Coal EIA, 2001).

On the Project site, the alluvial sand and gravel aquifer contains silt, coarse sand, gravel and cobbles with the coarsest grain size at depth. Groundwater levels are typically three to six metres below grade. The direction of groundwater movement in the river valley is slightly seasonally variable. Groundwater typically moves down gradient toward the Smoky River during low surface flow periods (August to April), but during high surface flows (May to July), the groundwater moves under a lower gradient with more parallel flow with the river.

Groundwater in the local area has been used in the past for potable water and other industrial activities. Water quality and water level monitoring has been carried out on the Project site since 1990. With the common exception of manganese, TDS, and one sample for iron, all monitoring well samples collected in 2006 met the applicable guidelines. There is virtually no detectable concentration of organic carbon, hydrocarbons and phenols.

The 2006 Groundwater Monitoring Program report by Westcan Watertech included the following observations and conclusions:

- Groundwater levels are controlled by water elevations in the Smoky River and generally flow parallel or toward the Smoky River from west to east;
- Groundwater levels were slightly lower in 2006 (0.3 to 0.8m) than in 2005;
- A definite trend toward rising concentration of sodium and chloride (and possibly sulphate and TDS) was evident up to 2000 with general decline until 2003; concentrations of sodium and chloride have remained relatively consistent at most monitoring locations since 2004;
- The overall records indicate virtually no evidence of organics; and
- With the exception of manganese, TDS, and iron (October sample from MIL-MW2), the groundwater meets the community drinking water quality guidelines established by the Canadian Council for Ministers of the Environment ("CCME"). The noted exceedences are of an aesthetic nature typical of alluvial aquifers and do not indicate a water quality concern or artificial impact.

4.1.3 Soils and Vegetation

The Grande Cache area is part of the Sub-alpine Forest vegetation zone in Alberta. The Project site is located within the Montane ecoclimatic zone or ecoregion, which occurs along the Smoky River Valley from the Town of Grande Cache northward for a distance of about 30 km (Grande Cache Coal EIA, 2001). Aspen-dominated tree stands and grassy patches on south-facing slopes are common vegetation types found in the Montane ecoregion.

The Project site is cleared with clumps of scattered vegetation. Tree species found in the Smoky River valley near the Project site include: aspen poplar, balsam poplar, lodgepole pine, and white spruce.

The HR Milner Generating Station became operational in 1972; however, provincial legislation related to reclamation was not established until the Land Surface Conservation and Reclamation Act (1973) and the Coal Policy of 1976. No records are available that describes the pre-development soils on the plant site or if any particular conservation measures were followed during construction. Given the location of the Project and the local terrain, however, the following general statements may be made about soils on the Project site.

The site is on a low-lying floodplain/river terrace immediately adjacent to the Smoky River and, as such, has likely been subjected to occasional flooding and overbank deposition in the past. It is probable that the soils which had developed were relatively immature due to these natural disturbances. The floods likely deposited coarser sediments on the terrace, sandy in texture, which would have been well-drained and possibly supported shrubby vegetation.

4.1.4 Aquatic Life

The Smoky River offers good, diverse fish habitat, with numerous islands, side channels, and gravel bars located throughout the section of the river upstream and downstream of the Project site. Fish species found in the Smoky River include: mountain whitefish, bull trout, Arctic grayling, rainbow trout, brook trout, longnose sucker, white sucker, slimy sculpin, and longnose dace (Grande Cache Coal EIA, 2001). The Smoky River appears to provide high-quality habitat for all life stages of mountain whitefish (Grande Cache Coal EIA, 2001).

As part of the Grande Cache Coal Project EIA, the fish habitat of the Smoky River was evaluated at three sections of the river: a plant site section next to the Project site (at the adjacent Grande Cache Coal Processing Plant), a section downstream of the Project site, and a section upstream of the Project site. During a spring 2001 survey, seven species were captured in the Smoky River. Three of these species – mountain whitefish, bull trout, and Arctic grayling – were sportfish, and four of these species – longnose sucker, slimy sculpin, longnose dace, and white sucker – were non-sportfish. Mountain whitefish and bull trout were the two most common species caught in the survey, accounting for 91.7 % of the total sample, and were encountered in each of the three sections of the river. Catch rates for bull trout were highest in the plant site section adjacent to the Milner Power Plant, while Arctic grayling were captured only in the downstream section.

Alberta Fish and Wildlife conducted a fish study during the fall of 2000, as part of a provincial project to monitor selenium levels related to coal mining activities (Grande Cache Coal EIA, 2001). The study included fish sampling on a section of the Smoky River between the Grande Cache Coal Processing Plant site (adjacent to the Project site) and about 1 km downstream of the mouth of Sheep Creek. The fish species captured in the survey included: Arctic grayling, mountain whitefish, rainbow trout, bull trout, and longnose sucker (Grande Cache Coal EIA, 2001).

Groundwater baseline studies have indicated that the Smoky River is maintained by groundwater flows in winter and does not freeze completely to the bottom, suggesting that the river might be suitable for fish overwintering or winter egg incubation (Grande Cache Coal EIA, 2001).

The Smoky and Muskeg rivers are also areas of recreational fishing importance.

4.1.5 Wildlife and Wildlife Habitat

As part of the #14 Mine project, wildlife and wildlife habitat baseline conditions were evaluated using habitat suitability mapping as well as field surveys. Specifically, habitat suitability maps were generated for five key species including mountain goat, moose, elk, grizzly bear and marten. High value mountain goat habitat is concentrated near the Goat Cliffs as well as the Syncline Hills, Grande Mountain and Flood Mountain. High value moose winter habitat is confined to low elevation riparian areas as well as mixed forests on warm aspects. Similarly, elk winter habitat is confined to isolated patches of grassland and mixed deciduous forests on south-facing slopes. The surveyed area contains relatively abundant sources of moderate to high suitability spring feeding habitat for grizzly bears as well as moderate suitability summer berry feeding habitat. Higher quality summer berry feeding habitat is present but less abundant.

About half of the area supports moderate suitability marten habitat with the remaining portions comprised of lower suitability habitats.

4.1.6 Ambient Noise

Sources of existing ambient noise in the regional area include traffic along Highway 40, trucks along forestry roads, the Foothills Forest Products sawmill, the operating activities of the Grande Cache Coal Company coal mine, the operating activities of the existing Milner Generating Station, and noise associated with urban and rural activity.

4.1.7 Archaeological and Palaeontological Resources

While the project site is previously disturbed and currently used for industrial purposes, the Grande Cache area contains significant palaeontological resources. Dinosaur tracks are found in many of the geological formations present in the region, especially the Gates formation, a unit famous for dinosaur trackways found in association with coal layers. Bird tracks and other vertebrate, invertebrate, and plant materials are also found in the region's geological formations. The palaeontological potential of the Project site is considered to be low to minimal because it is a previously disturbed site .

4.2 Project-Environment Interactions and Effects

The main Project-environment interactions are related to atmospheric emissions, storm water management, wastewater or effluent disposal, ash disposal and dust control.

Some of the Project's key interactions with the environment include:

- **Air Quality.** Air quality issues relate primarily to atmospheric emissions from plant processes, machinery, vehicles and dust associated with the Project. Atmospheric emissions are commonly categorized as regulated (requiring some type of approval on limits) and unregulated which include fugitive dust emissions and greenhouse gases that may carry intensity targets and associated financial penalties associated with pending legislation. The regulated emissions include SO_2, NO_x, PM_{10}, $PM_{2.5}$, and mercury. The primary greenhouse gas is CO_2.

Regulated emissions will be managed to achieve provincial guidelines through the use of proven control equipment.

The conversion of any fossil fuel into useful energy creates carbon dioxide. Efficiency gains in the power generation process using supercritical technology are currently the most practical and cost effective method of reducing the intensity of carbon dioxide emissions per unit of electricity. MAXIM's proposed design, which will incorporate many of the recent efficiency improvements in the power generation process, is expected to result in CO_2 emissions that are approximately 18% to 20% lower than the average CO_2 emissions from the existing coal fired generating units in Alberta.

- **Surface Water.** Water requirements for the Project will be withdrawn from the Smoky River under an existing license. Potential effects of water withdrawal include affecting the health of the aquatic ecosystem by decreasing flow levels in the river. The total allocation of licences to withdraw water from the Smoky River in the portion of the river basin around the Project site are considered sufficiently small so as to be local in effect (Grande Cache Coal EIA, 2001).

Wastewater streams produced by industrial processes will be recycled as much as possible to minimize consumption. Industrial wastewater will be treated and collected in on-site water management ponds. Some of the water held in the management ponds will evaporate into the atmosphere while the balance will be returned to surface water quality specifications and ultimately discharged into the Smoky River. Sanitary sewage produced by the power plant will be collected and transported off-site for treatment and disposal.

As with the existing facility, stormwater runoff will be collected in the on-site water management ponds for settling, evaporation, and monitoring to meet water quality standards prior to discharge into the Smoky River via a natural wetland. Releases will be required to meet surface water quality parameters specified in the approval.

- **Groundwater.** Groundwater could be affected by seepage from the surface runoff and process wastewater settling ponds. Mitigation measures

that will be considered to minimize effects of the project on groundwater include regular testing of groundwater monitoring wells and avoiding steep slopes for construction of the power plant facilities and site drainage works.

- **Soils and Vegetation.** The Project will be constructed on a previously cleared and disturbed lands resulting in sparse natural vegetation on the site. The effects of the Project on vegetation and soils are anticipated to be negligible.

- **Aquatic Life.** The Smoky River, directly east of the Project site, contains fish habitat. The water quality of the Smoky River can be affected by surface runoff and the discharge of treated wastewater generated by the Project. Mitigation measures that will be considered to minimize effects of the project on aquatic habitat include:
  - using ditches and berms to divert surface runoff from the power plant site to settling ponds prior to discharge;
  - regular monitoring and testing of treated wastewater to ensure compliance with surface water quality objectives;
  - regular monitoring and maintaining of the drainage systems and settling ponds; and
  - regular testing of groundwater monitoring wells.

- **Wildlife and Wildlife Habitat.** The proposed power plant will be constructed on a previously cleared and disturbed site resulting in a low wildlife habitat value. Potential effects to wildlife include disturbance as a result of noise, restriction of wildlife movement along the Smoky River valley and wildlife/vehicle collisions.

- **Noise.** The proposed power plant's major sources of noise emissions are construction activities, and the operation of industrial and diesel powered equipment at the Project site. Construction of the power plant facilities will occur over a period of 42-48 months. The operation of the Project is expected to marginally increase the ambient noise levels in the near term, as the existing HR Milner Generating Station remains operational.

- **Archaeological and Palaeontological Resources.** In general, the archaeological and palaeontological potential of the Project site is considered to be low to minimal because it is a previously disturbed site. The proposed Project will have limited surface disturbance since it is occurring on land that has already been cleared and built on.

- **Ash Disposal.** Ash from the combustion of coal will require disposal. Ash from the existing HR Milner operation is disposed of in the Flood Creek disposal site. The Flood Creek site is expected to reach capacity before the end of the Project's expected life. As a result, it will be necessary for MAXIM to evaluate options for ash disposal. Ash disposal options that will be evaluated for the Project include existing mined out open pits that could be suitable for reclamation. Disposal of ash for the project is expected to be a standalone activity and is not expected to include disposal of anything other than the incombustible materials from the coal combustion process.

- **Miscellaneous Solid and Liquid Waste.**
  - Refuse (non-hazardous): A small amount of non-hazardous refuse will be generated daily from activities. Disposal methods for non-hazardous solid wastes will consist of storage in dumpster bins and periodic disposal at the Grande Cache landfill;
  - Refuse (hazardous): A minimal amount of hazardous solid waste (oily rags, paint cans, miscellaneous chemical storage containers) will be generated from time to time. These items will be collected and isolated in a secured hazardous storage area for disposal by licensed contractors. Hazardous waste or hazardous recyclables will be stored in containers or tanks in accordance with the Hazardous Waste Storage Guidelines published by Alberta Environment, and amended from time to time;

- Petroleum Liquids: Used engine oils, gear case and other lubricants will be generated by operating activities. These materials will be collected and stored in appropriate containers for site removal and proper disposal by approved contractors.

5.0 COMMUNITY INFORMATION

MAXIM has been in discussion with local stakeholders regarding our #14 Mine project since 2005. These efforts have established key relationships through publicly issued documents, face-to-face meetings, open houses and participation in community activities. Our relationships in the area are very strong and we look forward to expanding our consultation discussions to include the Milner Expansion project.

Investment in the Project is estimated to be $1.4 billion with a significant portion of the expenditures benefiting local and regional contractors and suppliers. Information from similar projects suggests that the Project will create 800 person-years of employment during the construction phase. A detailed socio-economic assessment outlining these benefits will be prepared as part of our regulatory applications.

Upon commercial operation, the Project is expected to contribute an additional 30 full-time positions (in addition to the existing 62 full-time positions) to the local economy.

5.1 Public Consultation to Date

Public consultation to date has focused on our #14 Mine project. The following groups continue to be consulted, in the various forms they have identified as appropriate to their needs:

- Métis Nation Local #1994;
- Aseniwuche Winewak Nation of Canada;
- local residents;
- municipal (Town of Grande Cache) and regional (MD of Greenview) governments;
- provincial government;
- local businesses and service providers, including the Chamber of Commerce and the Death Race organizers;
- other industrial operators;
- interest and synergy groups;
- non-governmental organizations;
- tourism operators; and
- trappers.

Consultation on the #14 Mine project has identified a number of issues that local parties consider important in the context of development in the Grande Cache area. These issues include wildlife, traffic, noise, visibility, air quality, recreation activities and effective communication.

Additionally, Aboriginal concerns as voiced by the Métis Nation of Alberta, and the Aseniwuche Winewak (Rocky Mountain People) Nation, which encompasses the individual cooperatives and enterprises and include respect of traditional land use sites, improved plant operations, provision of employment opportunities for aboriginal people, coal dust issues, and water quality protection.

5.2 Proposed Public Consultation

Meaningful consultation with the public is an integral part of the Project. MAXIM recognizes the importance of informing the local community and other key stakeholders about the Project and obtaining their feedback so as to ensure that all pertinent environmental and social concerns have been identified, and means for mitigating these concerns have been investigated. MAXIM is committed to conducting its activities in an environmentally and socially responsible manner. Throughout our consultation activities MAXIM will:

- engage in ongoing, open and co-operative dialogue with any public participant or stakeholder who has a sincere interest in the Project. MAXIM will attempt, where practical, to address each concern in the development and design of the Project;

- emphasize meeting with public participants who reside, use or have a specific interest in the Project area and/or adjacent locale. For those groups having interests which are provincial in scope, efforts will be made to seek representatives from

local chapters residing within the Grande Cache area. Where local representation is not available, MAXIM will make participation as convenient as possible through regular correspondence and/or by arranging to meet with interest groups; and

- seek input from local community and key stakeholders at all stages of design and development to assist in decision making for the Project. Participants will be provided with opportunities to view, question and understand MAXIM's plans and operating practices.

At all times, the Project Manager's contact information will be available should any stakeholder have questions or concerns. There is also a local representative for MAXIM in Grande Cache. In addition, the MAXIM project team will continue making regular visits to stakeholders to keep everyone connected and updated throughout the project.

5.3 Related Activities

Milner Power Inc., a wholly owned subsidiary of MAXIM is currently proposing to develop the #14 Mine project, located approximately 4 km north of the Town of Grande Cache and 8 km south of the Project site. The total area of the coal leases includes approximately 2781 hectares of undeveloped land, although the area of surface disturbance for the mine site will only be approximately 60 hectares of the lease.

There will be two phases of coal extraction in the mine: development mining and pillar extraction. The method is commonly referred to as room-and-pillar mining. Production from #14 Mine is based on a mine life of 27 years at a planned production rate of 480,000 tonnes per year. Separate regulatory applications have recently been filed with the Alberta Energy and Utilities Board (EUB) and Alberta Environment (AENV).

6.0 REGULATORY MATTERS

Submission of this Public Disclosure Document marks the first step in the regulatory process. The proposed Project described in this document represents the basis for applications for approvals to be submitted to the EUB and AENV.

6.1 Existing Approvals

The existing HR Milner Generating Station has the following approvals:

- EUB Approval No. U2004-014. This approval is to operate the existing facility;
- EUB Connection Order No. U2003-015. This order provides for the connection of the generating facility to the provincial grid;
- Nuclear Safety and Control Act License No 13573-1-06.0. This license is related to certain radioactive materials utilized in plant gauges;
- Water Act License No. 6496. This license authorizes the diversion of water from the Smoky River for use within the generating facility;
- Water License Amendment 0037203-00-03. This amendment authorizes a change in the license holder for License No. 6496; and
- Environmental Protection and Enhancement Act (EPEA) Approval No. 9814-01-00 (including associated amendments 01 though 05). This approval and associated amendments are related to the plant operating conditions and air emissions, wastewater, hazardous solid wastes, groundwater, soils, reclamation and decommissioning.

6.2 New Approvals Required

New approvals and authorizations required for development of the Project include:

- AENV approvals related to the EPEA;
- AENV approvals related to the Water Act for water management plans (water makeup, water withdrawal, wastewater, and potable water) and harmonization with the Canadian Environmental Assessment Act (CEAA), including Fisheries Act concerns (fish habitat);
- Alberta Sustainable Resources Development (ASRD) approvals for land access and occupation under the Public Lands Act and the Natural Resources Conservation Board Act;
- EUB approvals related to the Hydro and Electric Energy Act to construct and operate a power generation facility;
- Consultation with Alberta Tourism, Parks, Recreation and Culture (ATPRC), to identify approvals and permits under the Historical Resources Act, including palaeontological requirements;
- Consultation with the Department of Fisheries and Oceans and Transport Canada to identify authorizations required under the Fisheries Act and the Navigable Waters Protection Act for works affecting fish habitat and navigable waterways respectfully; and
- The MD of Greenview No. 16 approval for a Municipal Development permit under the Municipal Government Act and local bylaws.

MAXIM plans to file concurrent applications with EUB and AENV for approval of the Project. The EIA report will accompany the applications.

Abandonment and decommissioning approvals will be applied for at the end of the life of the project.

7.0 CONTACT INFORMATION

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GLOSSARY OF TERMS

- Ash - Impurities consisting of silica, iron, alumina, and other noncombustible matter that are contained in coal
- Base load - The term applied to that portion of a station or boiler load that is practically constant for long periods.
- Carbon Dioxide (CO_2) - is a chemical compound composed of one carbon and two oxygen atoms. It is a colourless, odourless, non-poisonous gas that is a product of fossil fuel combustion. Carbon Dioxide is considered a greenhouse gas that traps terrestrial (i.e. infrared) radiation.
- Electric Generator - A device that converts another form of energy into electric energy. Common types of electric generators spin an electromagnet on a shaft, which induces electric voltage in coils of wire surrounding the electromagnet. In the case of a coal-fired power plant, the shaft is driven by a steam turbine.
- Flue Gas Desulphurization - Flue gas desulphurization is technology that employs a sorbent, usually lime or limestone, to remove sulfur dioxide(SO_2) from the gases produced by burning fossil fuels.
- Generating Capacity - The maximum amount of power, usually measured in megawatts (MW), that an electric generating plant can produce.
- Kilovolt (kV) – 1,000 volts
- Megawatt (MW) – 1,000,000 watts.
- Metallurgical Coal – The various grades of coal suitable for making steel, such as coking coal, which is used to make coke, and PCI coal, which is used in the steelmaking process for its calorific value.
- Nitrogen - is a chemical element that is a colourless, odourless, tasteless and mostly inert diatomic gas at standard conditions, constituting at a very high 78.1% by volume of Earth's atmosphere.
- NO_x- Gases consisting of one molecule of nitrogen and varying numbers of oxygen molecules. Nitrogen oxides are produced in the emissions of vehicle exhausts and from power stations. In the atmosphere, nitrogen oxides can contribute to formation of photochemical ozone (smog), can impair visibility, and have health consequences; they are considered pollutants.
- Particulate Matter (PM) – Particulate matter consists of airborne solid particles and liquid droplets. These particles are classified as "coarse" if they are smaller than 10 microns, or "fine" if they are smaller than 2.5 microns. Coarse airborne particles are produced during grinding operations, or from the physical disturbance of dust by natural air turbulence processes, such as wind. Fine particles can be a by-product of fossil fuel combustion, such as diesel and bus engines.
- $PM_{2.5}$ any particulate matter with a diameter less than or equal to 2.5 microns
- PM_{10} any particulate matter with a diameter less than or equal to 10 microns.
- Raw Coal – Coal that has been removed or exposed for removal from the mine, but that has not been processed.
- Sedimentation Ponds - Man-made ponds constructed to catch and retain surface drainage in order that sediments in the drainage may settle to the bottom of the pond and not be discharged into streams or rivers.

- Selective Catalytic Reduction (SCR) - Non-combustion control technology that destroys NO_X by injecting a reducing agent (e.g. ammonia) into the flue gas that, in the presence of a catalyst (e.g. vanadium, titanium, or zeolite), converts NO_X into molecular nitrogen and water

- Sulphur Dioxide (SO_2) - A gas produced by burning sulphur-containing fuels such as coal. SO_2 reacts with oxygen and water vapour in the air which, when dissolved in rain, causes acidification of soil and water.

- Supercritical Steam Generator - Water is heated to produce steam through a gradual expansion without boiling. Improved thermodynamics of expanding higher pressure and temperature steam through a steam turbine result in supercritical steam generating units being more efficient than sub-critical units that convert water to steam through the process of boiling.

- Stockpile (coal) – Coal accumulated in a heap on surface, pending consumption.

- Steam Turbine – A device for converting energy of high-pressure steam (produced in a boiler) into mechanical power which can then be used to generate electricity

- Substation - An assemblage of equipment that changes or regulates voltage in electric transmission and distribution systems. Among other things, substations are used to increase the voltage of electricity so that it can be transported efficiently over long distances and reduce the voltage so that it can be delivered in a practical and economical manner to homes and businesses.

- Tailings - Particles of unwanted material removed during the processing of coal.

- Thermal Coal - Coal that is used primarily for its heating value. Thermal coal tends not to have the carbonization properties possessed by metallurgical coals. Most thermal coal is used to produce electricity in thermal power plants.

- Tonne – A metric tonne, which is approximately 2,205 pounds, as compared to a short ton or net ton, which is 2,000 pounds, or a long ton or British ton which is 2,240 pounds. Unless expressly stated otherwise, the metric tonne is the unit of measure used in this document.

- Tonnes of Coal – means, unless expressly stated otherwise, (i) in respect of metallurgical coal, tonnes of clean coal (coal that has been processed in a preparation plant); (ii) in respect of thermal coal, tonnes of raw coal.

- Volatile – substances, other than moisture, which are given off as gas and vapour during combustion.

- Volt - Basic unit of electrical potential. One volt is the force required to send one ampere of electrical current through a resistance of one ohm

- Watt – A standard unit of power defined as one Joule of energy transferred or dissipated in one second

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