



Maxim Power Corp.

H.R. Milner Power Plant Expansion

August 10, 2011



The Alberta Utilities Commission
Decision 2011-337: Maxim Power Corp.
H.R. Milner Power Plant Expansion
Application No. 1604766
Proceeding ID No. 203

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1 Introduction

1. Maxim Power Corp. (Maxim) applied to the Alberta Utilities Commission (AUC or the Commission) on February 3, 2009, in accordance with Section 11 of the *Hydro and Electric Energy Act* for approval to construct and operate a new 500-megawatt (MW) coal-fired power generating unit (the power plant or M2) at the existing H.R. Milner Generating Station (Application No. 1604766).

2. The Commission issued Interim Decision [2011-290¹](#) on June 30, 2011, granting interim approval to Maxim to construct and operate the power plant and indicating that the Commission would issue a final approval with reasons and any conditions in due course. This decision provides the final approval and conditions with respect to the application.

1.1 Background

3. Maxim presently operates the existing H.R. Milner Generating Station, comprised of a 150-MW coal-fired power plant (M1), in the Grande Cache, Alberta area.

4. The H.R. Milner Generating Station, where the power plant would be constructed, is located approximately 20 kilometres north of the town of Grande Cache, Alberta in the Municipal District of Greenview, in the north half of Section 10 and the south half of Section 15, Township 58, Range 8, west of the Sixth Meridian.

5. The 500-MW power plant is proposed to be constructed on or adjacent to the existing 150-MW H.R. Milner Generating Station site and would include a pulverized coal combustion system, a high efficiency supercritical high pressure steam generator, a high-efficiency steam turbine generator, air emissions control equipment, a water treatment system, an electrical substation and ancillary systems to support these major systems. In addition, facilities including rail off-loading facilities, coal receipt, coal storage and management, and ancillary components to support the major systems would be installed to support both the existing and proposed facilities. Maxim stated that incremental electric transmission facilities would be required to connect the proposed power plant and would be dealt with in subsequent processes.

6. The Commission undertook its own review of all aspects of the application and the materials filed in support of the application prior to deeming it complete pursuant to AUC Rule 007: *Rules Respecting Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations* (AUC Rule 007).

¹ Decision 2011-290: Maxim Power Corp. HR Milner Power Plant Expansion Interim Decision, Application

7. To operate the power plant, Maxim requires, in addition to the Commission's approval, approvals and clearances from a number of other government departments or agencies, including Alberta Environment, Alberta Sustainable Resources Development (ASRD), Transport Canada, NAV Canada and Alberta Culture and Community Spirit (ACCS).
8. As part of its internal review of the application, the Commission took note of the fact that Maxim had already engaged several other government departments and agencies prior to submitting the application to the Commission.
9. Maxim submitted an environmental impact assessment (EIA) to Alberta Environment on February 2, 2009. Alberta Environment asked Maxim three sets of supplemental information requests through 2009 and 2010, pursuant to its process, to ensure that all of the environmental impacts had been identified in the EIA and that the mitigation proposed by Maxim was sufficient. Subsequent to its detailed review, Alberta Environment deemed the EIA to be complete on November 24, 2010.²
10. As part of the Alberta Environment review process, Alberta Environment engages its own technical experts to review the EIA, as well as incorporating the review of the Fish and Wildlife Division of ASRD and Alberta Transportation.
11. The Commission accepts that Alberta Environment conducted a detailed review of the EIA to determine whether it was complete in accordance with the *Environmental Protection and Enhancement Act (EPEA)*. The Commission understands that a "complete" EIA means that the applicant has presented sufficient technical work to fulfill the terms of reference of the EIA, that scientifically credible evidence has been presented to describe the environmental impacts that may be expected as a result of the development and that reasonable mitigation has been proposed to address the potential environmental impacts.
12. Maxim stated that it will apply, as required, to Alberta Environment for amendments to existing approvals, which relate to the existing *EPEA* approval for the M1 generating unit, to take into account the operating conditions and effects of the M2 generating unit and for the industrial run-off collection system.³
13. Maxim also worked with ACCS, and filed with the Commission an *ACCS Historical Resources Act* clearance dated September 25, 2008.⁴
14. Further, Maxim submitted a letter from the Department of Fisheries and Oceans Canada, dated January 26, 2011, stating that if the company's proposed mitigation is followed, a formal approval from the Department of Fisheries and Oceans would not be required.⁵

² Maxim filed its original EIA on February 2, 2009. The EIA consisted of a main document that was registered as Exhibit 15 and twenty one appendices that were registered as exhibits 16 to 35 and Exhibit 41. Subsequently, as a result of information requests, Maxim filed supplemental EIA information documents that were registered as exhibits 52, 53, 55, 56, 57, 58, and 62. The November 24, 2010, letter from Alberta Environment advising that the EIA had been deemed complete was registered as Exhibit 54.

³ Exhibit 2, page 27 indicates that the proposed industrial runoff collection system is included in Attachment B in the Application to Alberta Environment for an amendment to Approval 9814-02-00.

⁴ Exhibit 2 – Appendix A.

⁵ Exhibit 63.

15. In addition, Maxim stated that it has applied to ASRD for a miscellaneous land lease for the temporary storage area. ASRD requested that the lands maintain a proper buffer distance from the Smoky River. Maxim has revised the configuration and size of the temporary storage area applied for to address the buffer distance from the Smoky River as required by ASRD. Maxim stated that once the power plant has received its final approvals pursuant to *EPEA* from Alberta Environment, then ASRD will issue the miscellaneous land lease to Maxim.

16. With respect to the Commission's internal review process, the Commission issued information requests in 2010 and 2011 to Maxim with respect to various aspects of the application where further information was required to ensure that the application was complete and all material issues within the jurisdiction of the Commission had been addressed.

17. Maxim responded satisfactorily to all information requests during the Commission's review of the application. The Commission deemed the application to be complete on March 4, 2010 in accordance with AUC Rule 007.

18. The Commission issued a notice of application on March 4, 2011. In accordance with its practice, the Commission notified parties through the notice of application⁶ that it would continue to process the application and make a decision without further notice or without a public hearing if there were no parties who were found to be directly and adversely affected by a decision of the Commission with respect to the application and who would have standing to require a public hearing.

19. The Commission received several submissions with respect to the application in response to the notice of application. These submissions related, broadly speaking, to issues of greenhouse gas emissions, criteria air contaminants and mercury, climate change, and impacts to the water quantity/quality and fish in the Smoky River. The individuals who made submissions were from Grande Cache, approximately 20 kilometres away from the power plant site and Okotoks, south of Calgary. The organizations that made submissions with concerns were EnCana, Alberta Wilderness Association and the Pembina Institute, none of which have land interests in the vicinity of the power plant site. No statements of intention to participate were received from the residents who reside at Wanyandie Flats, the residential area closest to the H.R. Milner Generating Facility, being between four and five kilometres away from the potential project site.

20. The Commission receives submissions from persons or organizations seeking the opportunity to participate, and considers each submission on its own merits. Pursuant to Section 9 of the *Alberta Utilities Commission Act*, the Commission is required to hold a hearing if it appears to the Commission that its decision with respect to the application may directly and adversely affect the rights of a person. The test set out in this section is whether a person or organization seeking to participate in a proceeding has shown that the person has rights known to the law and can show that those rights may be directly and adversely affected by a decision of the Commission on the application. This test is set out in the case of *Cheyne v. Alberta (Utilities Commission)*, 2009 ABCA 348. If this test is met, then the Commission would consider that person to have standing and the Commission would proceed with a public hearing at which that person would be able to participate. Typically, this test is met by a person who owns or occupies land in proximity to a proposed development, and who substantiates an interest, with a direct

⁶ Exhibit 65.

bearing on his or her lands or other right known to law, which could be directly and adversely impacted by a decision of the Commission with respect to the application. This is the essence of the test for standing as set out in the *Cheyne* case and Section 9(2) of the *Alberta Utilities Commission Act*. Matters of interest to parties living some distance from a proposed project and matters of general interest to persons in Alberta do not typically meet the statutory test for standing unless they are able to show that their rights may be directly and adversely impacted by a decision of the Commission with respect to the application.

21. The Commission considered each of the submissions from parties in light of the test it applies in relation to standing, and on May 27, 2011, the Commission ruled⁷ that none of the parties seeking standing would be directly and adversely affected by the Commission's decision in this proceeding. This ruling was posted on the Commission's website in accordance with the Commission's usual practice.

22. The Commission received a letter⁸ from the Pembina Institute requesting that the Commission reconsider its position regarding the standing of two specific individuals who resided approximately 4.5 kilometres from the power plant, and whom the Pembina Institute claimed to represent as part of a group called the Residents Coalition. The Commission requested further information from the two specific individuals and received clear communication from those two individuals⁹ that they were not a member of the Residents Coalition, that they were not represented by the Pembina Institute in any capacity, that they had been consulted by Maxim and were aware of the proposal to construct and operate the power plant and that they had no interest in participating further in the application and were not requesting a hearing with respect to the application.

23. Accordingly, the Commission confirmed its ruling regarding standing in a further ruling¹⁰ issued on June 16, 2011. Therefore, in accordance with its usual practice and that of its predecessor, the EUB, the Commission considered that a hearing was not required as the Commission's decision or order regarding this application would not directly and adversely affect the rights of a person pursuant to Section 9(2) of the *Alberta Utilities Commission Act*.¹¹

24. The Commission received correspondence dated June 7, 2011, from Maxim requesting that the Commission issue a decision on or before June 30, 2011, in order to acknowledge the impact on its business activities, which were dependent upon the outcome of this proceeding. Maxim submitted that the disposition of this application for an approval to construct and operate the power plant was urgently required to ensure that Alberta has sufficient generation, to meet the expectations of private investors in the predictability of the regulatory process and finally to address the potential impact of pending federal carbon legislation on this plant.¹²

⁷ Exhibit 79.

⁸ Exhibit 80.

⁹ Exhibits 85 and 86.

¹⁰ Exhibit 84.

¹¹ See Exhibit 81: Letter from counsel to Maxim at Page 7, referring to Hunt and Lucas, *Canada Energy Law Service* (Alberta), para 695.

¹² Exhibit 81, letter of June 7, 2011, from counsel to Maxim to the Alberta Utilities Commission.

25. Maxim also noted that there were no parties with standing to participate in a hearing and that it is an established practice of the Commission to dispose of an application without a hearing if there are no parties with standing to contest the application and if, upon its own review, the Commission finds that the development is in the public interest.

26. The Commission acknowledges that it is the established practice of the Commission and its predecessor tribunal, to process an application on its own review, if there are no parties with standing who trigger a public hearing pursuant to the Commission's governing legislation.

2 Role and authority of the Commission

27. The Commission is responsible for regulating the construction and operation of power plants in Alberta. Section 11 of the *Hydro and Electric Energy Act* makes it clear that no person shall construct or operate a power plant without prior approval from the Commission.

28. When considering an application for a power plant, the Commission is guided by sections 2 and 3 of the *Hydro and Electric Energy Act* and Section 17 of the *Alberta Utilities Commission Act*.

29. Section 2 lists the purposes of the *Hydro and Electric Energy Act*. Those purposes include:

- To provide for the economic, orderly and efficient development and operation, in the public interest, of hydro energy, and the generation and transmission of electric energy in Alberta.
- To secure the observance of safe and efficient practices in the public interest in the development of hydro energy and in the generation, transmission and distribution of electric energy in Alberta.
- To assist the Government in controlling pollution and ensuring environment conservation in the development of hydro energy and in the generation, transmission and distribution of electric energy in Alberta.
- To provide for the collection, appraisal and dissemination of information regarding the demand for and supply of electric energy that is relevant to the electric industry in Alberta.

30. Section 3 of the *Hydro and Electric Energy Act* requires the Commission to have regard for the purposes of the *Electric Utilities Act* when assessing whether a proposed power plant is in the public interest. The purposes of that act include the development of an efficient electric industry structure and the development of an electric generation sector guided by competitive market forces.

31. Section 3 of the *Hydro and Electric Energy Act* further directs that the Commission shall not have regard to whether the proposed power plant "is an economic source of electric energy in Alberta or to whether there is a need for the electric energy to be produced by such a facility in meeting the requirements for electric energy in Alberta or outside Alberta."

32. Section 17 of the *Alberta Utilities Commission Act* states that the Commission shall:

...in addition to any other matters it may or must consider in conducting the hearing or other proceeding, give consideration to whether construction or operation of the proposed... power plant..., is in the public interest, having regard to the social and economic effects of the ...plant... and the effects of the ...plant... on the environment.

33. In Decision 2001-111,¹³ the EUB explained its approach to assessing whether the approval of a power plant is in the public interest as follows:

The determination of whether a project is in the public interest requires the Board to assess and balance the negative and beneficial impacts of the specific project before it. Benefits to the public as well as negative impacts on the public must be acknowledged in this analysis. The existence of regulatory standards and guidelines and a proponent's adherence to these standards are important elements in deciding whether potential adverse impacts are acceptable. Where such thresholds do not exist, the Board must be satisfied that reasonable mitigative measures are in place to address the impacts. In many cases, the Board may also approve an application subject to specific conditions that are designed to enhance the effectiveness of mitigative plans. The conditions become an essential part of the approval, and breach of them may result in suspension or rescission of the approval.

In the Board's view, the public interest will be largely met if applications are shown to be in compliance with existing provincial health, environmental, and other regulatory standards in addition to the public benefits outweighing negative impacts.¹⁴

34. The Commission is of the view that this approach to assessing whether a proposed power plant is in the public interest is consistent with the purpose and intent of the statutory scheme.

3 Public interest test

35. The Commission is required to consider whether the construction or operation of the power plant is in the public interest, having regard to the social and economic effects of the power plant and its effects on the environment, pursuant to Section 17 of the *Alberta Utilities Commission Act*.

36. As indicated above, the determination of whether a project is in the public interest requires the Commission to assess and balance the negative and beneficial impacts of the specific project before it, taking into account the adherence to regulatory standards and guidelines applicable to a project, and reasonable mitigation measures proposed to address impacts of the project.

37. The social, economic and environmental effects of the power plant are considered in the following sections.

¹³ EUB Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation 490-MW Coal-Fired Power Plant, Application No. 2001173, December 21, 2001.

¹⁴ EUB Decision 2001-111, page 4.

4 Social and economic effects

38. Maxim indicated that the proposed power plant will be located at or adjacent to the existing facilities located at the H.R. Milner Generating Station. They will be similar to those already in operation and will not appreciably change the existing viewscape.

39. Maxim stated that the nearest residences to the proposed power plant are not within sight of the H.R. Milner Generating Station and, in fact, are located approximately four to five kilometres northeast of the H.R. Milner Generating Station, across the Smoky River.

40. Maxim stated that the pulverized coal super critical technology proposed to be used for the power plant will provide the best available technology economically achievable. This technology, when deployed with air emissions control equipment, is projected to ensure that the power plant meets all existing air emission standards in effect in Alberta. Maxim indicated that this equipment was part of the design of the power plant.

41. Maxim stated that the power plant had an estimated capital cost of \$1.5 billion and would result in \$25.5 million in local expenditures including labour, \$732 million in provincial expenditures, \$742 million outside Alberta, and \$3.2 million per year into the local economy during operations. The power plant would average 450 workers over the construction period of 3.5 years, with a peak of 575 workers. Thirty full-time positions were forecast during operations.

42. Maxim provided information indicating that approximately two per cent of the on-site construction and installation costs would be spent locally, with opportunities for local expenditures, including labour, for positions in construction, local engineering, clerical support, safety and security; site services such as light engineering, surveying, trucking, earth moving, testing, sanitation, transportation and janitorial services; and hotel accommodation, food and entertainment for visiting staff and contractors. Maxim indicated its policy is to maximize local expenditures where qualified opportunities exist and costs are competitive.

5 Environmental effects

43. Maxim provided an air quality assessment as part of the EIA, prepared by Jacques Whitford AXYS Ltd. The assessment concluded that gaseous stack emissions from the power plant are not likely to create any additional adverse environmental or human health problems, with predicted air quality being in compliance with Alberta Source Emission Standards. Acidification of regional lakes due to increased emissions is not expected to be a problem as Maxim indicated there are no nearby lakes. Maxim committed to post-combustion desulphurization to reduce sulphur emissions.

44. The EIA and supplemental information provided by Maxim to Alberta Environment stated that ambient air quality in the vicinity of the power plant at the present time occasionally exceeded Alberta Ambient Air Quality Objectives (AAAQO) for sulphur dioxide (SO₂), total particulate matter (TPM) and respirable or very fine particulate matter (PM_{2.5}) and was predicted to do so in the future. Maxim indicated that some change in growth rates and damage or loss of sensitive plant species may occur as a result of sulphur dioxide emissions but predicted that exceedance of the sulphur dioxide AAAQO is forecast to cease when the existing 150-MW

power plant, M1, is decommissioned.¹⁵ Maxim emphasized that evaluation of ambient air quality is conducted in the general region around the power plant and that exceedances of AAAQO were associated with a variety of activities in the region. This measurement reflects all of the contributing sources in the region. Maxim posited that the power plant would contribute very little to future exceedances as the power plant will be specifically designed to comply with all applicable provincial air emission standards.

45. With respect to the question of AAAQO exceedances, the base case comprises Maxim's existing M1 power plant and existing regional approved industrial sources of air emissions in the project area. The near future case comprises Maxim's existing M1 power plant, the proposed M2 power plant and the existing regional approved industrial sources of air emission. The future case is the case where M1 is decommissioned, M2 is fully operational and the existing regional approved industrial sources of air emissions are present.

46. For the M2 power plant, sulphur dioxide (SO₂), nitrogen dioxide (NO₂), total particulate matter (PM) and respirable particulates (PM_{2.5}) were predicted to exceed the one-hour exposure duration; SO₂, PM_{2.5} and TPM were predicted to exceed the 24-hour exposure duration; and dust fall was near the 30-day exposure duration.

47. The aforementioned exceedances also exist with respect to the base case, are projected to increase in the near future case and are predicted to diminish in the future case, should all other contributing sources remain static. Maxim noted that the exceedance measurements include contributions from all existing regional approved industrial sources of air emissions in the area, not just contributions from M1 and M2.

48. Maxim noted that many of the areas where these concentrations are expected were industrial areas governed by occupational health standards and that the highway and hillside above the power plant are areas where the public does not spend a great deal of time. Maxim committed to design the facility to meet occupational health and safety requirements¹⁶ and stated that employees must be familiar with an occupational health and safety plan.

49. A noise impact assessment provided as part of the EIA was reviewed by the AUC and found to comply with the requirements of AUC Rule 012: *Noise Control* (AUC Rule 012). Maxim stated that the power plant is located in a remote area and noted that for such facilities, the AUC accepts a permissible sound level of 40 dBA Leq nighttime¹⁷ at a distance of 1.5 kilometres from the facility fence line. There are no other energy-related facilities within 1.5 kilometres of the power plant. The closest residences to the power plant are in the Wanyandie Flats area, the closest being approximately 4.5 kilometres northeast of the H.R. Milner Generating Station.¹⁸ At this distance, Maxim asserted that the noise impacts from the power plant on residences would not be significant. Maxim indicated that it would not need to apply any mitigation measures to ensure that the power plant would comply with the noise requirements in AUC Rule 012.

¹⁵ Maxim indicated in the Environmental Impact Assessment Report, Exhibit 15, Section 19.1.1.3, that the existing facility (M1) is scheduled to be decommissioned in 2017, when its licence expires.

¹⁶ Exhibit 15, page 21-1.

¹⁷ decibel A-weighting, an environmental noise measurement.

¹⁸ Exhibit 15, Figure 8-3: Predicted Noise Contours of Milner Existing and proposed Facilities shows sound levels in the community of Wanyandie Flats to be less than 30 decibels.

50. From a conservation and reclamation perspective, Maxim stated that new surface disturbances will be minimal except for the new raw water intake system and the temporary storage area. Maxim stated that the temporary storage area will be remediated in accordance with the *Conservation and Reclamation Regulation AR 115/93*, under the jurisdiction of Alberta Environment, with the temporarily stockpiled soil being protected from erosion through industry standard mitigation measures.

51. Maxim indicated that effects of construction on soil conservation were not expected to be significant as most of the development is proposed to be located on a previously disturbed industrial site.

52. Maxim similarly predicted that the effect of acidifying air emissions from the power plant on soil quality in the area would not be significant. Maxim indicated that while potential acid input estimates occasionally exceeded the acceptable threshold for acidic inputs, the evaluation methodology used did not consider the additional losses of acidic inputs due to runoff on steep slopes and the buffering capacity of surface organic matter.

53. Maxim stated that the effects of the power plant on groundwater will not be significant and will be mitigated by restricting excavations to less than four metres depth, providing secondary containment for chemical storage and maintenance of holding tanks and water lines, to which mitigations Maxim had committed. Maxim indicated it will continue a groundwater monitoring program in accordance with Alberta Environment requirements.

54. The effects of the power plant on hydrology were assessed by Maxim as being not significant and requiring no follow-up monitoring. The increased water usage from the Smoky River was predicted to be imperceptible and well within the existing water licence. A new water intake structure was proposed on the Smoky River to replace the existing inlet structure for both M1 and the M2 power plant.

55. Maxim stated that surface water quality and aquatic resources in the Smoky River will not be significantly affected by the power plant. Discharge of process water, after dilution and mixing in the Smoky River, was predicted to have no measurable effect on water quality and therefore no effects to aquatic resources.

56. Maxim stated that the only aquatic impact predicted was in relation to the construction of the raw water intake in the Smoky River, which could have a minor impact on fish habitat. Maxim indicated that compensation for the loss of fish habitat would be negotiated with the Department of Fisheries and Oceans Canada prior to construction. Maxim stated that monitoring would be required as part of the *Fisheries Act* authorization required for the construction of the raw water intake.

57. On January 26, 2011, Fisheries and Oceans Canada provided a letter¹⁹ to Maxim indicating that, providing Maxim incorporates its proposed mitigation measures as well as additional mitigation from Fisheries and Oceans Canada, the proposal is not likely to impact fish and fish habitat and that a formal approval would not be required to proceed. These mitigation measures include utilization of existing roads and trails to avoid disturbing riparian vegetation, minimization and preservation of riparian areas near the river shoreline, rescue and relocation of fish near the construction area prior to construction, and removal and relocation of spoil piles and waste materials from the work site away from the Smoky River channel with stabilization to prevent them from entering fish habitat.

58. Potential silt release during construction and operation will be controlled through erosion and sedimentation mitigation procedures. The existing wastewater facilities, that utilize a wetland treatment system before discharge to the Smoky River, were expected by Maxim to be capable of serving M1 and the M2 power plant.

59. Maxim stated that it would implement an erosion and sediment control plan and provide daily monitoring of the Smoky River for total suspended solids during construction of the raw water intake. It proposed to undertake monitoring of semi-annual water quality and benthic invertebrate communities in the Smoky River as well as groundwater monitoring in the vicinity of the power plant. Maxim indicated that an application to Alberta Environment for an amendment to the existing approval of the power plant under the *Environmental Protection and Enhancement Act* was pending.

60. Storm water runoff will be directed to on-site collection ponds that Maxim will allow to evaporate under normal conditions. Maxim stated that if discharge from the ponds is required, the water will be tested prior to release to the on-site wetland. Maxim indicated that it has made application to Alberta Environment for approval amendments with regard to the industrial runoff collection system.

61. Maxim stated that the proposed power plant will be located on a previously developed site and, therefore, the effects of the power plant on soil and vegetation, mostly from minor clearing, are not anticipated to be significant and no follow-up or monitoring is proposed.

62. Maxim similarly indicated that the power plant would result in no significant wildlife impacts as the work would occur within the existing H.R. Milner Generating Station site. Impacts to wildlife from construction transportation or construction activities are expected to be temporary and have no significant impact on wildlife. Therefore, no specific monitoring or mitigation is proposed.

63. Field studies found no historical resources on the proposed power plant site and, therefore, Maxim predicted no interaction between the proposed development and historical resources. Mitigation measures were provided to protect historical resources should any be uncovered during excavation. Maxim provided a letter from ACCS to the Commission which confirmed that it had issued a clearance for the power plant,²⁰ dated September 25, 2008, pursuant to the *Historical Resources Act*.

¹⁹ Exhibit 63, DFO Canada letter.

²⁰ Exhibit 17.

64. Maxim stated that it intends to continue disposing of fly ash and bottom ash from the combustion of coal by M1 in the Flood Creek Ash and Solid Inert Waste Disposal site located across the Smoky River from the power plant until it has reached capacity and subsequently expects to utilize a new facility. The amount of ash to be disposed of from the existing power plant, M1, is 100,000 tonnes per year and the power plant, M2, will add an additional 175,000 tonnes per year. While both facilities are operating, prior to the planned decommissioning of M1 in or about 2017, the volume of ash from the H.R. Milner Generating Facility will be approximately 275,000 tonnes per year. The existing facility, which Maxim shares with Grande Cache Coal Corporation, only has capacity to accommodate dispersal of 550,000 more tonnes. Maxim indicated that it would apply to Alberta Environment for approval of a new ash disposal facility west of Highway 40 and south of Sheep Creek approximately five kilometres from the H.R. Milner Generating Facility.

65. Since 2010,²¹ when Maxim provided its ash generation data to the Commission, ash disposal in the Flood Creek Facility has continued. Based upon Maxim's response to information requests about rates of ash generation, the Commission estimates that Maxim could require additional ash disposal capacity prior to or within approximately one year after operation of the power plant commences.

66. Maxim provided data²² respecting fogging and icing frequencies caused by additional combustion water vapour on Highway 40 before and after the operation of the proposed power plant. In order to assess the potential effects, Maxim completed a dispersion modeling assessment of the water vapour plume to predict the formation of fog due to the M2 power plant emissions alone, and not those occurring naturally. Maxim stated that fog was predicted to increase from 0.445 per cent of the year (approximately two days per year) to 0.935 per cent of the year (approximately 3.5 days). It appears from this data that the occurrences of fogging affecting Highway 40 could approximately double as a result of the operation of the power plant. Maxim forecast that icing would increase from 0.160 per cent of the year (less than one day) to 0.821 per cent of the year (approximately three days). It appears from this data that the occurrences of icing affecting Highway 40 could increase approximately four-fold as a result of operation of the power plant. Maxim stated that given the relative absence of fogging and icing conditions (less than one per cent of the time) and the limited extent of the fog predicted on Highway 40, it believed that the existing signage remained a suitable notification measure and did not propose additional mitigation with respect to fogging and icing.

6 Commission findings

67. The Commission has reviewed the entire record, including the application, the EIA, the information responses from Maxim to Alberta Environment and to the Commission, and the letters or approvals from Alberta Environment, the Department of Fisheries and Oceans Canada, Alberta Culture and Community Spirit and Alberta Sustainable Resources Development. The Commission evaluated the evidence submitted by Maxim and relies upon its own evaluation as well as the existing and anticipated involvement of other government regulatory agencies with respect to the specific authorizations that are within their scope of authority to issue.

²¹ Exhibit 51, AUC-MAXIM-203, AUC-MAXIM-203-1.

²² Exhibit 56, AUC and AENV Round 1 SIR responses, page 3-65.

68. The Commission finds that the location of the proposed power plant within the boundaries of the existing H.R. Milner Generating Facility site will result in minimal negative social impact.

69. The Commission also finds that the power plant will create positive economic benefits arising through employment and business opportunities in the local area, tax revenue and the anticipated contribution to provincial economic output. In particular, the evidence stated that the estimated local expenditures, including labour, could be in the range of \$25.5 million with an additional \$732 million in provincial expenditures. The power plant was expected to create approximately 450 jobs during the construction period, with a peak of 575 workers, and that 30 full-time positions were forecast for the operations phase.

70. The Commission is satisfied that Maxim has provided credible evidence showing that the air quality, ambient air quality, criteria air contaminants and potentially acidifying air emissions issues have been addressed through the applied-for power plant design, commitments made in the application and related materials to mitigation measures, and the existing and anticipated oversight by Alberta Environment. In addition, Maxim will be required to comply with the *Specified Gas Emitters Regulation* promulgated pursuant to the Alberta *Climate Change and Emissions Management Act* in relation to greenhouse gas emissions. The Commission is satisfied that the power plant is designed, and can be constructed and operated, to meet all applicable provincial air emission standards.

71. The Commission is satisfied that the power plant will have minimal to low impacts on surface water and ground water quality, hydrology, silt release and storm water runoff, and that monitoring and mitigation of effects to water resources will be addressed through subsequent environmental review by and approvals from Alberta Environment. Further, the Commission is satisfied that any impacts as a result of erosion and sediment have been addressed by Maxim in the erosion and sediment control plan submitted to Alberta Environment. In reaching this finding, the Commission relies, inter alia, upon the evidence provided by Maxim of its erosion and sediment control plan and the commitment by Maxim to undertake daily monitoring of the Smoky River for total suspended solids during construction of the raw water intake. Maxim also proposed semi-annual water quality and benthic invertebrate community monitoring in the Smoky River and groundwater quality monitoring programs. Maxim also stated that it has made an application to Alberta Environment with respect to the industrial runoff collection system.

72. The Commission also notes that the potential impacts to fish and fish habitat of the raw water intake in the Smoky River have been reviewed by the Department of Fisheries and Oceans Canada. In particular, the Commission relies upon Maxim commitment to negotiate compensation for any impacted fish habitat with the Department of Fisheries and Oceans Canada prior to construction and to adhere to monitoring protocols which are required as part of the *Fisheries Act* authorization that Maxim requires for the raw water intake. The Commission also relies upon the January 26, 2011, correspondence from the Department of Fisheries and Oceans Canada stating that formal approval is not required if the mitigation submitted by Maxim is implemented.

73. As the power plant is proposed to be constructed on a previously developed site, the Commission accepts that potential impacts to soil, vegetation and wildlife will be minimal to low.

74. The Commission notes that some effects to vegetation in the area around the power plant may occur due to air emissions from the power plant but accepts Maxim's assertion that any effects to vegetation will be insignificant. The Commission is comfortable that any environmental effects that are predicted can be mitigated to acceptable levels with known mitigation methods.

75. With respect to noise impacts, the Commission finds that Maxim has met the requirements of AUC Rule 012 and must meet the noise control requirements during its operation.

76. Finally, with respect to conservation and reclamation of the temporary storage site, the Commission accepts Maxim's commitment that it will remediate that site in accordance with Alberta Environment's requirements.

77. There are two specific areas where the Commission has outstanding concerns. Those two areas are ash capture and disposal, and fogging and icing in the vicinity of the power plant, particularly on Highway 40.

78. With respect to ash capture and disposal, the current ash disposal facility lacks the capacity to handle any further ash from M1 alone after four to five years,²³ and it is unclear whether it would be able to meet any ash disposal requirements for the new power plant within approximately a year of operation of M2. The Commission directs Maxim, as a condition of this approval, to capture and transport ash generated by the power plant and dispose of that ash at a new Alberta Environment-approved ash disposal facility, in a manner that controls the dispersion of airborne particulate matter, to the satisfaction of Alberta Environment. When the existing ash disposal facility reaches its capacity, Maxim shall close the existing ash disposal facility and maintain or reclaim it to the satisfaction of Alberta Environment and ensure that a new ash disposal facility is opened in accordance with the requirements of Alberta Environment pertaining to these types of facilities. Maxim is directed to file with the Commission a copy of the Alberta Environment approval of the new ash disposal facility upon receipt of same by Maxim.

79. With respect to fogging and icing occurrences in the vicinity of the power plant, the Commission is concerned with the predicted magnitude of the increases in the frequency of these occurrences, approximately doubling in respect of fogging and increasing approximately four-fold in respect of icing, particularly since the power plant location is immediately adjacent to the main highway in the area. Maxim took the position that no further mitigation was needed for this impact but did not provide any evidence that Alberta Transportation is satisfied with that position. The Commission directs Maxim as a condition of this approval to monitor and, if needed, mitigate the effects of fogging and icing of Highway 40 in proximity to the power plant, to the satisfaction of Alberta Transportation. Maxim is directed to file with the Commission evidence that Alberta Transportation is satisfied either that no further mitigation is required, or that Maxim has implemented any mitigation required by Alberta Transportation.

80. Based on the record of this proceeding, the Commission has given consideration to whether the construction and operation of the power plant is in the public interest pursuant to Section 17 of the *Alberta Utilities Commission Act*. The Commission has assessed and balanced the negative and beneficial impacts of the power plant, as stated in this Section 6. The

²³ Exhibit 51, AUC-Maxim-203-1, page 7.

Commission is satisfied that the power plant will provide economic benefits to the Grande Cache region and to the province. The Commission concluded that minimal negative social impacts would materialize. With respect to environmental impacts, the Commission has considered that these will be adequately addressed given the design of the power plant, the various mitigative measures committed to by Maxim, and Maxim's obligations to comply with existing regulations and standards and the regulatory requirements of Alberta Environment and all other responsible government departments and agencies. The Commission has also determined that conditions will be imposed on Maxim in this decision and in the power plant approval relating to ash capture and disposal, and fogging and icing impact monitoring and mitigation. As a result, the Commission concludes that the construction and operation of the power plant is in the public interest and approves the power plant.

7 Decision

81. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves the application to construct and operate a new coal-fired 500-MW power generating unit on the H.R. Milner Generating Station site and grants Maxim the approval set out in Appendix 1 – Power Plant – Approval No. U2011-255 – August 10, 2011 (Appendix 1 will be distributed separately).

Dated on August 10, 2011.

The Alberta Utilities Commission

(original signed by)

Carolyn Dahl Rees
Vice-Chair

(original signed by)

Mark Kolesar
Commission Member

(original signed by)

Bill Lyttle
Commission Member