

Genesee Operations

Land Use Guidelines



Capital Power Genesee Land Operations

Land Use Guidelines

Summary

These Land Use Guidelines (the Guidelines) summarize the practices for how Capital Power manages its land for the Genesee Land Operations. They were developed to meet the needs of the operation and other users of the land, and to meet specific regulatory requirements that govern Capital Power’s land holdings in the Genesee area.

In 2007, an initial land use review was conducted to form the basis of these Guidelines. Since the first issue, feedback has been received from the community, other land users and stakeholders that have shaped the application of the Guidelines.

In 2015 Capital Power received a number of amendments to approvals to operate the Genesee Coal Mine for an additional ten years from the Alberta Energy Regulator:

1. Environmental Protection and Enhancement Act Approval No. 10404-03-00;
2. Water Act Amendments No. 00157408-00-04, No. 00210935-00-03 and No. 157408; and
3. AER Mine License C2005-12 and C99-8D. .

In 2021, the Guidelines were refreshed to reflect the evolving operations at Genesee that includes Capital Power being off coal in 2023.

An End Land Use Plan (ELUP) is under development with the goal of managing the land to the condition of how it will be developed once the Genesee coal mining operations end. The Guidelines are reviewed periodically to ensure they remain appropriate and fair, and align with the ELUP.

The Guidelines cover:

- Land management;
- Land access;
- Environmental management, and;
- Reclamation management.

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About the Genesee Operations

Genesee Generating Station (Capital Power)

In 1982, the City of Edmonton signed a Development Agreement with the County of Leduc for the construction and operation of the Genesee Generating Station (GGS). Genesee Unit 2 (G2) was the first unit to receive approval and began operations in 1989¹. Genesee Unit 1 (G1) was the second unit to receive approval and began operations in 1994. Genesee Unit 3 (G3), one of the most advanced, fuel-efficient, and environmentally progressive coal-fired facilities in Canada, began operations in 2005.

The three units at Genesee are responsible for providing more than 1,300 (gross) megawatts (MW) of base load power to the Alberta electricity grid.

In November 2015, the Government of Alberta announced the phase out of coal emissions by December 2030. Since then, Capital Power has implemented a world-leading program to improve the efficiency of the three units by 11% by 2021 and reduce greenhouse gas emissions by roughly one million tonnes.

In December 2020, Capital Power announced plans toward a low carbon future including the repowering of Genesee Units 1 and 2 to natural gas combined cycle (NGCC) generation units, subject to regulatory approval. Located entirely within the footprint of the existing Genesee Generating Station, the repowering project involves installing new gas-fired combustion turbines and heat recovery steam generators, while utilizing the existing steam turbine generators. The two repowered units provide an additional 560 megawatts of net capacity totaling 1,360 MW. The repowered assets will utilize best in class, hydrogen-ready NGCC technology and are expected to set a new standard for gas generation efficiency in Canada. In support of our efforts to move off-coal in 2023, Genesee Unit 3 will continue with dual-fuel upgrades to maximize fuel flexibility and expand the use of natural gas before moving to 100% natural gas in 2023.

Genesee Mine (Westmoreland Mining Holdings LLC)

Fuel for the three Genesee units comes from the surface coal Genesee Mine adjacent to the plant. Mining began at Genesee in 1988. The mining process involves removing overlying soil and rock layers (overburden) to expose and extract coal reserves, using two electric walking draglines, electric shovels, loaders, dozers, graders, scrapers and haul trucks.

Westmoreland / Capital Power relationship

The Genesee Mine is a Joint Venture (JV) arrangement between Capital Power and Westmoreland Mining Holdings LLC, and includes a JV Committee with three members from each company. Under the JV agreement, Westmoreland operates the Genesee Coal Mine including all mining operations, infrastructure control, and on-site support services. Electricity, natural gas, water, and sewage systems are all provided to the mine by Capital Power.

Land used for mining purposes is owned and managed by Capital Power on behalf of the Joint Venture.

¹ Orderly construction of the buildings dictated that G2 be built before G1.

Public Consultation and Review

The Land Use Guidelines were initially developed in 2007 in consultation with area stakeholders to ensure the land owned by the operation is managed to a fair and reasonable standard. Land users have the opportunity to provide input into the Guidelines governing the land management at Genesee, for consideration.

The Land Use Guidelines summarize the different policies, procedures, and practices that ensure the responsible management of Capital Power land. To ensure alignment with the business needs of the operation, the ELUP and regulatory requirements, the Land Use Guidelines remain a living document.

New conditions or circumstances may warrant updates to ensure optimal land use at Genesee and these policies and programs will continue to remain fair and inclusive. Updates in this version reflect the feedback we've received from land users, changing operational requirements and alignment with the ELUP.

Input from land users, area residents, local business and other stakeholders is encouraged, and will be implemented as necessary.

Introduction

As the land holder for the Genesee operations, Capital Power has an obligation to manage its land in an environmentally and socially responsible manner, through the ongoing application and development of land management practices and stewardship.

Objectives

- Ensure Capital Power's land management practices comply with applicable government laws, regulations and corporate and industrial standards;
- Ensure the current use of Genesee lands align with Capital Power's values and strategic long term plan including the ELUP for Genesee;
- Maintain protection of the environment and conservation of resources as integral components of Capital Power's business and decision making processes;
- Reflect transparent and respectful policies through meaningful and ongoing stakeholder engagement;
- Ensure Capital Power maintains land management practices that are relevant, consistent and fair; and
- Continually improve practices by recognizing changes in local and regional land management practices.

1.0 Land Management

Land Management refers to all aspects of acquiring, maintaining and selling the land owned by Capital Power, and is guided by sound and balanced environmental practice using proven and new agricultural principles. As the landowner, Capital Power is responsible for ensuring the maintenance of the land, and that a variety of land uses are achieved.

1.1 Land Acquisition

Capital Power purchased land to have a reliable supply of fuel for the Genesee Generating Station. Land was purchased from owners in advance of the land being required for mining purposes. The land is managed from the time it was purchased, through the reclamation process up to when the land becomes surplus to Capital Power's operational requirements.

1.2 Land Sales

Capital Power's long-term goal is to return lands to the public, once the land becomes surplus to operational needs. Although not all land owned by Capital Power is used for mining purposes, it serves other operational needs including: a buffer for operational safety, cooling pond, power lines and other uses related to power generation.

As needed, Capital Power-owned land may be sold or traded to facilitate the purchase of other land required for operations. Remaining surplus land may be offered for sale to the public.

Surplus land is sold on a current market value basis. Land values are determined by an independent appraiser. Surplus land is offered for sale (in priority) to the:

1. Former landowner*;
2. Former landowner's family*; and lastly
3. The public.

*Wherever possible, Capital Power will make reasonable efforts to locate the original landowner and/or their family.

1.3 Land Leasing

Land not required for operational purposes may be offered for lease for growing crops, grazing cattle or other purposes. Subletting of leased land to another person is not permitted.

All Capital Power-owned properties offered for lease are independently appraised by a third party to determine the lease rate. Lease rates are based on market value rental rates of land in the region.

Agricultural rental land is offered (in priority) to:

- Current Lessee holding the land;
- All other Capital Power lessees; and
- The public.

The process:

- Individuals leasing land must demonstrate an ability to carry out the terms of the lease agreement;

- Leases will typically be for a term of three years, with the option to renew for additional terms;
- Some land may be leased for annual terms;
- Capital Power will make every effort to provide timely notification for new leases and renewals in consideration of agricultural planning;
- Land may be leased through a sealed bid process where interested parties make a written effort submitted in a sealed envelope;
- If there is a tie between bidders for a lease, the lease is awarded by a lottery process. A draw would take place with all applicants present; and
- Capital Power reserves the right to terminate the lease at any time if the terms of the lease are not being met.

Contact the Manager, Land Services (**see pg. 2**) for a copy of the land lease agreement.

1.4 Cropping on Reclaimed Lands

This procedure applies specifically to leases on reclaimed land. The reclamation of Capital Power land in the Genesee Mine Permit Area involves an extensive program with the goal of obtaining reclamation certification from the Alberta Government, including capability demonstrations for the public and various government organizations. As part of this process, crops are grown to establish and validate productive agricultural land.

Agricultural crops are grown on reclaimed land in rotations consistent with accepted agricultural practices. Reclaimed lands are leased by Capital Power to local farmers who can meet the management practices required to facilitate the acquisition of a reclamation certificate.

Required management practices may include:

- Seeding and tillage practices (e.g. Minimum Tillage);
- Ability to work safely in proximity to industrial equipment and activities;
- Participation in mine safety training and the adherence to mine rules and regulations;
- Ability to accommodate changes to agricultural activities due to mine operational requirements;
- Ability to adopt cropping practices and crop rotations at the request of Capital Power;
- Ability to accommodate requests to establish research plots on leased land.

Reclaimed mine land will be offered for rent on the same basis as general land leasing.

1.5 Water Management

The purpose of Water Management Plan for the Genesee Mine is to:

- Preserve the quality of groundwater resources in the area;
- Keep clean surface mine water out of the mining areas;
- Ensure any surface or groundwater in contact with mining activities is of acceptable quality, prior to release into local drainage systems; and
- Divert all mine wastewater to the Genesee Cooling Pond.

Water management for the Genesee Generating Station and Mine is conducted primarily through operation of the cooling pond. This man-made pond serves as a holding tank for water to be used in the cooling process for the station, and also receives mine runoff.

Mine drainage follows a set of criteria governed by the quality of water being handled. Clean water is defined as surface runoff from undisturbed land (generally pre-mine and reclaimed areas). Mine waste water is defined as runoff originating from the mine, excluding undeveloped areas.

Ground water levels in the area have been continuously monitored since 1980. Water monitoring involves three main areas: surface water (quality) and groundwater (quality and potentiometric surface). Frequency of sampling and measurements vary depending on regulatory and in-house requirements.

Groundwater Protection – Emergency Spill Response Plan

Informed and trained employees are the first line of defence in the prevention and mitigation of hazardous waste spills. Annually, employees review Standard Practices and Procedures specific to hazardous waste management, emergency preparedness, and response to spills. Emergency Response Teams for each shift are trained to respond to environmental spill emergencies. External emergency response services are retained to assist in case of a major environmental incident.

Mine Water Management

Clean Water – ditches around the perimeter of the mine divert clean water to local water sheds with a key goal of the mining operation being to preserve downstream drainage basins.

Mine Water – management has three primary zones:

1. Pre-mine Disturbance (topsoil stripped);
2. Active Mine Disturbance (bench, opened cut, spoils, and ash disposal areas), and;
3. Post-mine Area (reclaimed, yard, and buildings).

For operational reasons, surface water must be controlled (as much as possible) before it enters active mining areas. Interceptors and finger ditches are used, and sumps are excavated within the bench to collect additional runoff and act as pumping transfer stations from surface and groundwater retrieved from the active mining area. Locations of sumps, pumps, and ditches must continually change to accommodate the requirements of advancing mine activities.

Water Monitoring

Characteristics of overburden and mine hydrogeology are assessed annually to determine potential impacts to groundwater. Genesee operations have established several standpipe piezometers in (pre and post) mining areas to monitor the water table. Water levels in piezometers (or ‘monitoring wells’) are monitored (at minimum) annually (but typically more frequent), with the data summarized annually by a Mine Engineering Technician. Hydrogeological data is forwarded to a consultant for analysis and review.

Impacts of mine infrastructure and ash disposal areas on surface and groundwater are also monitored. Piezometers are located in the active mine in areas that represent potential for creating impacts. Regular monitoring of water quality provides assurance that if impacts exist, early intervention and mitigation can be implemented.

1.6 Water Policy

In place since 1982, Capital Power’s Water Policy addresses local area resident’s feedback over the potential for mine activities to adversely affect local area water wells. The policy recognizes mining activities may disrupt aquifers that provide water for local residents.

The policy was updated in 2014 after extensive consultation with local area residents and is attached as **Schedule “A”**.

1.7 Local Cemeteries

Subject to Provincial regulations, Capital Power will not undertake mine activities within 400 metres of the perimeter of four local cemeteries located in or near the Genesee Mine Permit Area:

- Genesee Community Cemetery, (SE 33-50-3-W5M),
- St. John’s Lutheran Cemetery, (NE 10-50-2-W5M),
- St. Francis Cemetery (SW-2-50-3-W5M) and;
- Telfordville Cemetery (NW 36-49-2-5)

Genesee Operations commits to:

- Providing access to the cemeteries at all times, regardless of mining activities;
- Annual grants towards the maintenance of each cemetery; and
- Upon reasonable notice, Westmoreland will suspend mining operations in the immediate vicinity of either cemetery during graveside services – notify Westmoreland (**see pg. 2**).

2.0 Land Access

Capital Power is committed to the security of operations staff, the public, property and its assets. Access to Capital Power lands is generally restricted, but may be granted as necessary.

Inquiries regarding access to CP-owned land should be directed to the Land Service Manager (**see pg. 2**).

2.1 Resource Development/Industry

Westmoreland Mining Holdings LLC and Capital Power work with petroleum and natural gas rights developers to allow, (where/when possible) seismic, drilling and pipeline activities within the Genesee area.

Capital Power strives to achieve a balance of coal and petroleum resource development that ensures resources are developed for the maximum economic value and minimum disturbance to the biological, physical and cultural resources of the area.

2.2 Recreation

As part of mine reclamation activities, land use for future recreational opportunities may be considered. Input from Leduc County and the public will be considered in the planning process.

- **Genesee Heritage Park** – Capital Power developed and donated this day-use recreation site in the NW1-51-3-W5 land area. The site is maintained by Leduc County with funding support from Capital Power and Westmoreland Mining Holdings LLC
- **Genesee Cooling Pond** – access is not allowed.
- **Hunting on CP-owned lands** – Capital Power has partnered with the Hunting for Tomorrow Foundation and permits primitive weapons, shot guns and bow hunting on select Capital Power-owned lands. In 2018, Capital Power partnered with the Alberta Conservation Association to provide a location for its Provincial Pheasant Release Program in the Greater Edmonton Region. The pheasants are farm raised and released to create hunting opportunities and are not meant to create a local population.

3.0 Environmental Management

The operating approval for Capital Power’s Genesee Generating Station has Special Monitoring Conditions developed in consultation with Alberta Environment and Parks and community stakeholders. Capital Power manages the associated programs jointly with TransAlta Utilities.

The special Monitoring Conditions are being met by the monitoring and reporting for the Regional Biomonitoring Programs, Mercury Assessment Program, Acid Deposition Program and Wildlife Monitoring Program (collectively referred to as the “programs”). Through these programs, selected environmental receptors in the Genesee-Wabamun area are monitored over the long-term to determine any potential effects of the operation to the area

3.1 Wildlife Monitoring Programs

This program assesses wildlife in the Genesee region and evaluates the effectiveness of mitigation and habitat enhancement measures to ensure the protection of wildlife. Wildlife is monitored relative to species composition and abundance around the operation.

The Genesee area is home to a wide variety of wildlife. Identified populations include white tail deer, mule deer, moose, coyote, beaver, bald eagle, golden eagle, peregrine falcon and numerous migratory waterfowl. The program involves a number of elements:

- **Annual:** Peregrine falcon program
- **Every 5 years:** wildlife aerial survey, raptor/owl survey, songbird survey, amphibian survey, survey of over-wintering migratory birds, habitat analysis, soil and vegetation analysis

3.2 Biomonitoring Programs

This program monitors Chemicals of Potential Concern (COPCs) and other key parameters to determine existing levels and potential long-term effects the operation may be having on selected ecological receptors in the Wabamun-Genesee region. As well, the program aims to determine the presence/absence of key species within the Wabamun-Genesee region.

Power generating facilities may impact the environment via:

- Aerial emissions – from stacks; and
- Water emissions – returning water from the cooling pond back to the North Saskatchewan River.

Monitoring focuses on impacts to selected key receptors from each of these emission pathways that serve as indicators of environmental effects. Key receptors (e.g. fish in regional water bodies) are monitored with a defined frequency to determine baseline levels and long-term trends.

3.3 Air Monitoring Programs

Four programs help us to better understand the potential long term effects of power generating stations on ecological receptors in Genesee-Wabamun region. In some cases, third party consultants are conducting the research and compile the data on behalf of the operation.

Ambient Air Monitoring – an established monitoring network throughout the Wabamun-Genesee region allows for the collection of data to evaluate overall air quality and assess air pollutant trends over time.

Acid Deposition Assessment – acidic emissions from generating stations are quantified to understand key indicators of sensitivity to acidification in water and selected ecological receptors. This allows for the assessment of long-term trends in deposition, patterns and ecological impacts.

Mercury Deposition Assessment – mercury emissions from generating stations are quantified and provide baseline data for mercury levels in water and selected ecological receptors. This allows the assessment of long term trends in emissions, deposition pattern and ecological impacts.

Air Biomonitoring – metals in particulate matter (PM) samples from ambient air are collected and analysed to determine PM sources in ambient air.

All programs are conducted on an on-going basis and results are reported according to AEP guidelines and procedures. Results are available to the public upon request from Capital Power.

3.4 Dust and Noise Management

Capital Power and Westmoreland Mining Holdings LLC are committed to managing dust and noise levels created by the operation.

Noise

Westmoreland Mining Holdings LLC developed an Environmental Management System that provides a framework to define strategies with respect to noise.

New technologies, improved procedures and equipment maintenance are all used to diminish the impact of noise on employees, residents and the surrounding environment.

Area residents experiencing noise concerns can contact the Land Services Manager (see pg. 2); complaints are reviewed on a case-by-case basis. Past practice has resulted in the resolution of complaints through the modification of mining activities, or modifications being completed on equipment determined to be the noise source.

Dust

High efficiency emission control equipment removes almost of the fly ash before the flue gas goes to the power plant stack.

- Genesee Unit 1 & 2 – 99.5% removal (ESP equipped stack 1)
- Genesee Unit 3 – 99.8% removal (baghouse equipped stack 2)

Regular monitoring of area dust levels and proactive control measures helps ensure dust from the operations is managed appropriately. Multiple monitoring and control measures manage dust from the operation:

- Seasonal road watering programs on haul roads;
- Ash wetting before transporting it to the mine;
- Ash storage areas capped with non-erosive materials; and
- Fly ash haul trucks washed down and dusted off before entering public highways.

Ambient Dust is monitored in the Genesee area in proximity to the operations.

Rural areas are prone to dust from multiple sources, but residents experiencing dust deposits that they believe are a result of the operation should contact the Land Services Manager (**see pg. 2**).

An investigation into the dust source will be conducted and documented, and where possible, additional control measures put in place.

3.5 Natural Areas

Capital Power recognizes the need to maintain natural areas on its land base.

Treed lands outside of the active mining areas may be preserved in their natural state as much as possible. This includes the exclusion of cattle grazing and limiting land clearing for agricultural activities.

Land currently in agricultural production may be removed from that use to accommodate the preservation of natural areas.

As part of the mine reclamation program, Capital Power has and will continue to construct wetland and plant forested areas.

4.0 Reclamation Management

4.1 Reclamation

Reclamation is the process of restoring a disturbed site to a desired condition within a specified period of time. The reclamation plan for the Genesee Mine involves returning the equivalent or better land capability.

The objective is to provide a range of similar planned end uses in similar locations to those currently in existence:

- Lands capable of sustainable agriculture, including livestock grazing;
- Lands capable of self-sustaining and naturally maturing wildlife habitats;
- Productive wetlands and watercourses;
- Lands for recreational opportunity;
- Lands for commercial resource development; and
- Lands that will be planted to forest.

Westmoreland Mining Holdings LLC and Capital Power are committed to follow established practices and guidelines during the development, operation and reclamation of the Genesee Mine. Consultation with the local community and provincial regulators provides direction for end land use after reclamation.

Reclamation activities will sequentially and progressively follow mining and are an integral part of mining activities. The time from initial disturbance through final reclamation is approximately 6-8 years.

Stages of Reclamation

1. Land clearing

- Based on the mine plan, areas identified for mining require removal of trees and brush one to two years in advance of mining.

2. Topsoil salvage

- Stripped ahead of mining and either stockpiled or directly placed on land undergoing reclamation.
- Salvaged to the depth of the “A” horizon (~20 cm or 8 inches).
- Used for either direct placement in reclaimed areas or placed in storage piles for future use.

3. Subsoil salvage and placement

- Pre-strip fleet (cable shovel / loader and haul trucks) removes the overburden (subsoil) in advance of the dragline operation and develops a suitable bench for the draglines to operate from.
- Salvaged subsoil is hauled through the active mine and placed in an area that is being reclaimed or stockpiled for future reclamation.
- Subsoil is placed to a 1.0 metre depth in an area of final design elevation and landscape features.

4. Subsoil conditioning

- Prior to topsoil placement, subsoil is conditioned to pull rocks to surface and loosen compacted soil.
- Overburden and other material recovered (i.e. piled by the dragline and dumped by the pre-strip fleet) are re-contoured using tracked dozers.
- A deep tillage cultivator is used to condition the subsoil.
- Rocks are removed and the subsoil is smoothed to create a leveled surface for topsoil placement.

5. Topsoil placement

- Topsoil is placed to a thickness 18-20 cm (8 inches).
- In winter, haul trucks place the topsoil into long rows called “cells”; topsoil is then spread uniformly over the surface of the subsoil with a dozer.
- In the spring, the freshly laid topsoil is cultivated and seeded to annual crops.

6. Crop rotations

- After the topsoil is placed and leveled, the land is re-vegetated according to end land use plans. Capital Power manages the land by:
 - Renting to local farmers who plant agricultural crops such as wheat, barley and canola.
 - Once weeds are under control alfalfa is brought into to the crop rotation.

4.2 Reclamation certificates

Capital Power will apply for reclamation certificates from the AEP as a final step in the reclamation process. The reclamation certificate confirms the land has been returned to a condition that is equal to or better than its pre-mined condition.

4.3 Trees and Forestry

Westmoreland and Capital Power are committed to follow pertinent established practices and guidelines during the development, operation and reclamation of the Genesee Mine. Managing the forest habitat within the mining area is part of reclaiming land to equivalent or better land capability.

Trees in the pre-mine area may be salvaged by qualified parties. Trees with no merchantable value are cleared by Westmoreland prior to removing topsoil. The woody debris is disposed of into the active mine cuts, or used as ground cover in reforestation areas.

Capital Power will develop treed / reforested areas in both reclaimed and other lands owned by the company for: wildlife habitat, carbon capture, recreation, biomass for fuel, lumber, etc. Capital Power may lease land to third parties who have the ability to grow and manage reforestation projects.

Schedule “A”: Groundwater Supply Policy

**This Policy is intended to replace existing water policies for the Genesee operations. It was developed in consideration of the Genesee Mine Extension Application, submitted in 2011.*

Capital Power Commitment

Capital Power (CP) is committed to working with each land owner within the Area of Potential Influence (API) who is experiencing Water Supply Issues to ensure their household and/or farm existing groundwater supply is not interrupted or diminished as a result of mining activities.

Regardless of the cause, affected land owners will be supplied with an alternative water supply while the concern is being investigated and resolved. The water supply will be comparable to what the land owner had prior to experiencing the issue. The commitment applies to CP today, and to what it may be in the future.

Background

The Genesee Mine is a Joint Venture (JV) arrangement between CP and Westmoreland Mining Holdings LLC . Under the JV Agreement, Westmoreland operates the Genesee Mine including all mining operations, infrastructure control, and on-site support services. Mine land is owned and managed by CP.

Coal mining operations at the Genesee Mine may affect neighbouring water supplies as mining continues. Drawdown of aquifer levels within the active mine and diversion of surface water does occur and is inevitable in all mining operations.

Groundwater Monitoring

CP, in conjunction with Westmoreland, uses a network of monitoring wells to monitor and evaluate all of the major groundwater-bearing areas before mining activity begins. They are located throughout the planned, reclaimed and adjacent mining areas so that changes to the groundwater flow can be measured. In some areas, piezometers are used.

As required in our operating license, CP reports water level information from its monitoring wells to the Alberta Energy Regulator (AER). This information reflects groundwater changes in the water-bearing formations in the area of our active mine operations.

In February 2013, as part of the Genesee Mine Licence Application, Alberta Environment and Parks requested the Genesee Mine undertake a field verified survey of water wells, dugouts and springs in the project area. The survey provided AEP with an updated record of water sources to allow for an evaluation of the density of water users in the adjacent lands currently surrounding the Genesee Mine.

The information has been added to the *Alberta Water Well Information Database*.

Application of the Policy

Affected Area

Based on results from the monitoring wells and assessments completed as part of the Genesee Mine Extension Application, it has been determined that the Genesee Mine has the potential to impact groundwater up to a distance of two kilometers (1.2 miles) from the mine disturbance area.

However, in consideration of the Genesee Community, CP has extended the API as denoted by the yellow boundary in the attached map: *Genesee Mine Extension Proposed Water Policy 2012*.

The API is within:

- Southeast of Highway 770 by the Strawberry Creek;
- Northeast and northwest of TWP 504 by the North Saskatchewan River;
- Southwest by a four kilometer (2.5 miles) distance from the mine disturbance area.

All landowners are encouraged to practice good well maintenance to the best of their ability. It is the landowner's responsibility to develop their own water supply.

Complaint Investigation and Mitigation Measures

Below is the process that CP and landowners within the API will follow if a landowner experiences a loss of or change in water supply from an existing water source. This applies to all wells as long as there are no more than four separate households or residences per quarter section.

***Note:** The terms 'you' and 'your' below refer to a "landowner within the API".

1. Upon first noticing an issue with your water supply that you suspect is due to mining activities, you are advised to call CP's Land Services Manager.
2. **If an emergency water supply is required**, you are advised to call the Land Services Manager or the Genesee Station Guardhouse. CP will cover the cost of the temporary water supply 100 per cent, as long as the location it is required at is within the API (see attached map).
3. CP will initiate and cover the costs of an investigation. If the cause of the Water Supply Issue is uncertain, or the landowner and CP cannot agree on the cause, a more in-depth investigation may be conducted².

CP will provide at least two third-party investigators for the landowners to choose from and if the landowners do not agree to the two names provided, they can provide an additional two names³. If CP and the landowners cannot agree on a name on the list, the selection of the third-party investigator shall be left to the Director.

If the investigation determines:

- a) The Genesee Mine **is** the cause of the Water Supply Issue; CP will cover 100% of the costs associated with restoring the water supply.
- b) The cause of the Water Supply Issue **cannot be determined**; CP will cover 100% of the costs associated with restoring the water supply.
- c) The Genesee Mine **is not** the cause of the Water Supply Issue; the well owner will be responsible for covering the costs of restoring the water supply.

E.g. Supply issues not a result of the Genesee Mine would include a lack of appropriate well maintenance affecting water supply, and/or mechanical or electrical failure of equipment.

² The in-depth investigation may include: an interview with the land owner (to establish the concern and identify past, present and future uses of the water supply); a review of the driller report on the well, the CP inventory data, the pertinent piezometer or observation well data, or any pertinent mining activity data, if applicable; measurements of water levels in the well manually and/or with a data logger; collection of a water sample; a pumping test; a water system inspection to ensure proper functioning, and; a review of well owner maintenance records, where available.

³ All third-party investigators involved in a formal, in-depth investigation shall be a registered hydrogeologist with The Association of Professional Engineers and Geoscientists of Alberta (APEGA).

In cases (a) and (b) above, CP's first choice will be to attempt to re-establish water by drilling a deeper well or drilling more wells. If drilling is not possible, an alternate water supply will be provided. CP will pay for the alternate water supply with all needed hook-ups. CP will supply and deliver the quantity of water as set out in the *Water Act* for typical household and for agricultural use that is licensed or registered under *Water Act*. The landowner will be responsible for paying for any additional water needed beyond what is stipulated in the *Water Act*.

In all cases, regardless of the cause of the Water Supply Issue, CP will cover the cost of a continued temporary water supply while the investigation is being conducted. If the Genesee Mine is determined not to be the cause of the Water Supply Issue, the temporary water supply will still continue, provided that the land owner is actively taking steps to have the problem corrected.

4. In all cases, a findings report will be produced and a meeting will be arranged with the land owner to review. Both the landowner and the regulator will receive a copy of the report.

Contacts:

- Capital Power Land Services Manager (780-969-8706)

Water Policy Q&A

1) What if I have an issue with my water supply?

Landowners may notify Capital Power at 780-969-8706 as soon they notice a problem that they suspect may be related to mining activities. The complaint will be investigated to determine the cause of the problem.

Landowners with concerns regarding interference with their water supply from a licence holder such as CP, can also call a 24-hour hotline phone number jointly run by the AER and AEP (1-800-222-6514).

2) Who will have to pay for the water supply while my complaint is investigated?

CP will pay the full cost of providing a temporary replacement water supply until the complaint is investigated and a final report is discussed with the owner. If the report concludes that the landowner is responsible for restoring the water supply, the temporary water supply will continue until the water supply has been restored provided that the landowner is taking reasonable steps towards resolving the issue (i.e. working with a company to order replacement parts, conduct maintenance, etc.)

3) How do you know if mining has caused a loss of water?

The Genesee Mine relies on the information obtained from our network of monitoring wells and piezometers. In addition, extensive assessments were completed by third party water experts for the Genesee Mine Extension Application in 2011 and 2012. Based on this information, we have an understanding of how and where the mine is likely to cause changes in water supply for nearby landowners. Monitoring wells are installed between the mine and existing water wells to monitor levels.

If water levels in the monitoring wells drop towards the mine over time, it is likely that mining is affecting the groundwater in that area.

4) How far away from the mine can water problems occur?

All aquifers that are disturbed in and above the active (open) coal seams have the potential to be affected during mining. The amount that the water level might decrease can vary depending on the particular water bearing formation, or aquifer. Generally, the closer a well is to the mine, the more likely it may be affected.

Water loss has been observed within up to 2 kilometers (1.2 miles) of the *Mine Disturbance Area*. This is determined from water level readings taken at our piezometers throughout the mine and local area. These readings help CP to develop maps of the major water bearing formations showing the extent of the decrease in area water levels.

5) What can I do to maintain my well or water source on my own?

The Government of Alberta requires landowners to be responsible for properly operating and maintaining their wells to ensure safe water. A number of things can be done by the landowner to ensure the quality of the water is as good as possible.

The Government of Alberta and Leduc County provides workshops for well owners looking for information on how they can protect and maintain healthy water wells for their homes and farm operations.

For more information on the **Working Well Program**, visit the Alberta Environment and Parks website or contact the Leduc County Agricultural Department at 780-955-4593.

To order copies of Working Well fact sheets, brochures and other information resources:

Alberta Environment and Parks Information Centre

780-427-2700 (toll-free: 310-0000)

780-422-4086 (fax)

env.education@gov.ab.ca

www.environment.alberta.ca/01317.html

6) Is CP doing anything to find out about local water supplies before problems could develop?

Yes. A water well inventory program of area wells was completed to record and update current sources of water, including water levels and chemistry. CP's inventory includes a description of the well and its equipment, its history and how much water was/ is being used.

Where available, the original driller's record on the well and water quality analysis record will be obtained from Alberta Environment and Parks. CP will keep this information on file and send a copy of each record to the well owner. Participation in this program is optional for the well owner. If the well owner prefers, the original driller's record can be used as the base line information for the well.

7) What guidelines does CP follow to assess my water supply?

Total daily water requirements will be different for each well owner depending on their situation. CP will follow the allocation guidelines set out in the Water Act for typical household and agricultural use.

8) Specifically, what process will CP follow if I experience a problem with my water supply?

CP will investigate the problem and may hire an experienced water well driller and/or a hydrogeologist to help evaluate it. If it has been determined that the problem could be a result of Genesee Mine activities, then CP will develop a plan to fix the problem and replace your water.

9) What will CP do to ensure that new future subdivisions established in the API have water?

CP will assist landowners in advance of drilling a well to determine if there are any known issues as a result of mining or if there are any historical issues with water supply in the area. It is the landowner's responsibility to develop their own new water supply.

If a land owner cannot establish a water supply on a newly parceled out subdivision (to a maximum of 4 parcels per quarter section) and wishes to investigate whether the mine is the cause, then CP will initiate an investigation as per the Policy. CP, at a minimum, will require that the landowner pay for the drilling of two new wells to a minimum depth of 92.6 meters (300 feet) each, before CP will initiate an investigation as described in Answer 8 of the Policy.

10) Does the Policy still apply if I sell my land to someone else?

The Policy applies to the land location, not the landowner, so in the event land is sold to a new owner the water supply will still be covered under the Policy.

11) What will CP do if I've had water supply issues that were addressed under the former policy?

The new Policy starts when it has been approved. The rules of the old policy apply until then. CP will not cover historical costs borne by the landowner under the old policy when the new Policy comes into effect.

12) How long will the new water policy be in effect?

The new Policy will be in effect until the final Reclamation Certificate is issued for the mine.

13) How often will the new water policy be reviewed?

The new Policy will be reviewed each time a new mine license is applied for. The mine license at Genesee gets renewed every 10 years.

Water Policy Glossary

API (Area of Potential Influence)

Water supplies within this area have been identified as having the potential to be impacted by Genesee mining operations.

Aquifer

Any water-bearing formation containing or conducting groundwater, especially ones that supply water for wells, springs, etc.

Mine Disturbance Area

All land within the licence area that has been or is currently being used for mining purposes. This includes reclaimed land and land in the process of reclamation, the active pit where the draglines are operating, and areas where pre-mining operations, such as topsoil stripping, are taking place.

*This is NOT the permit extension boundary. The mine disturbance area is a moving area within the mine permit extension boundary.

Piezometer

An instrument used to measure groundwater levels. Piezometers are installed in a number of monitoring wells in and around the *Mine Disturbance Area*.

Water Supply Issue

Any issue related to water quality or quantity that can impact the supply of water.

Water Well Verification Program for Landowners

As part of the Genesee Mine Extension Project, Capital Power and Westmoreland will be continuing their mining operations. As coal mining may affect groundwater and diversion of surface water, Capital Power is prepared to undertake this Water Well Verification Program for Landowners.

Capital Power is committed to offer the following program to all landowners in the area of potential influence (API) being a distance of 2 km (1.2 miles) from the mine disturbance area. The API (as per the attached map) is within:

- Southeast of Highway 770 by Strawberry Creek;
- Northeast and northwest of TWP 504 by the North Saskatchewan River;
- Southwest for 4 km (2.5 miles) from the mine disturbance area.

*All landowners within the API will be provided with a copy of their well information, also available on the Alberta Environment and Sustainable Resource Development website. (*Note: information only exists for landowners with **registered** wells. If you have unregistered wells on your property, you may choose to register them.*

Further, all landowners in the API will be offered an opportunity **at no cost** to have their groundwater wells tested by one of the approved well contractors selected by the landowner from the approved list of water well contractors, as attached, to inspect their well(s):

1. Review the information on the Alberta Environment & Parks website to the extent possible;
2. Attend the well and conduct an aquifer test to establish the specific capacity of each water well;
3. Collect a groundwater sample for routine health and metals analysis; and
4. Collect water well maintenance history and note the condition of the water well.

This program will be offered to all landowners in the API and is the landowners' choice to participate.

Information gathered will then be compiled by Millennium EMS Solutions Ltd. who will distribute a copy of the water well report to the landowner and retain a copy in their database.