

Summer 2019 Connection



Sean Furey

Hello Neighbours and Friends,
We have much to celebrate at the Genesee Generating Station this year.

On July 9, Capital Power celebrated its 10th anniversary since our initial public offering, a major milestone in our history and an exciting stepping stone into our future as a company. To mark our 10th anniversary and reflect our ongoing commitment and focus on the future, we have a new tagline, “*Responsible Energy for Tomorrow*” and redesigned website

(capitalpower.com) that we encourage you to visit.

In October, we will celebrate 30 years since the start of operations at Genesee Unit 2. We are proud to be a part of the Genesee community and look forward to continuing to be your neighbor well into the future.



Sean Furey presents a cheque in honour of Genesee's 30th anniversary to Village of Warburg representatives Mayor Kevin Maine (left), CAO Chris Pankewitz (right of Sean) and Councillor Tina Smith (far right).



Capital Power was proud to once again, support the Village of Warburg's Heritage Day celebration on June 22 with an annual contribution for the festivities. The event also provided an opportunity to present a contribution to the Village in honour of Genesee's 30th anniversary in the community.

Operational Excellence – Update on the Genesee Performance Standard

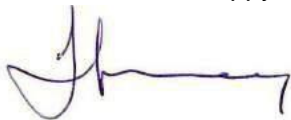
In 2016, we implemented the Genesee Performance Standard (GPS) – a plant efficiency improvement program that sets new standards for environmental performance and efficiency of coal-fired generation.

This year, we will complete year three of the five-year \$50 million GPS program, which aims to reduce greenhouse gas emissions at Genesee by roughly one million tonnes and improve efficiency of the three Genesee units by 10% by 2021.

In June, we successfully completed a planned maintenance outage on Genesee Unit 1. With two shifts per day, about 800 contractors, completed the maintenance work five days ahead of schedule.

The outage included the installation of a new high-efficiency Low-Pressure (LP) Rotor. The new LP Rotor delivers a 2% gain in efficiency, a significant part of our GPS program's goals. The rotor was manufactured by General Electric (GE) in Poland and shipped more than 7,500 km to Genesee.

Have a safe and happy summer!



Sean Furey, Plant Manager
Genesee Generating Station, Capital Power

Genesee Unit 2 to Celebrate 30 Years of Reliable Service

A Proud Past

In October, Genesee Unit 2 (G2), the first of three coal-fired units at the Genesee Generating Station, will celebrate 30 years of producing reliable electricity for Albertans.

As it was known back then, Edmonton Power first proposed to construct a coal plant in the Genesee area in 1977 and the project was approved by the regulator in 1980. Construction began in 1982 and by 1984 the powerhouse was completed before construction ceased later that same year due to regulatory constraints, which would delay the completion of the project for 18 months. At peak construction, approximately 800 workers were involved in the \$880-million project.

Originally scheduled to begin operations in 1987, the 430 MW G2 unit officially began producing power for the grid on October 1, 1989 and continues to supply an important source of baseload power to Alberta.

A Bright Future

During a planned maintenance outage in 2020, G2 will receive a new Low-Pressure Rotor to further improve the unit's efficiency as part of the GPS program.



Genesee Unit 2 celebrates 30 years of operations in October 2019.

The benefits of this upgrade will carry forward as the unit is proposed to be modified to



enable operation with 100% natural gas and allow G2 to continue operating past the legislated phase out of emissions from coal-fired generation by 2030.

Accelerating Plans for Natural Gas Capability at Genesee

On June 18, 2019, we announced plans to maximize the flexibility of the three units at Genesee to use both natural gas and coal as fuel. Referred to as the *Genesee Dual Fuel Project*, the ability to use coal and gas will allow us to better respond to market demands.

Genesee currently uses both gas and coal (“co-fire”) up to 250 megawatts (MW) and has used natural gas as a supplement to coal since 2017. Limitations in the boiler, in addition to natural gas supply and pipeline constraints, restrict the amount of natural gas use. On August 6, 2019, ATCO received approval from the Alberta Utilities Commission to construct a new natural gas pipeline to bring additional fuel supply to the Genesee plant gate to alleviate this constraint.

Dual Fuel Project

The Dual Fuel Project involves adding new gas pipeline infrastructure within the Genesee site and modifications to the Genesee 1 and 2 boilers. Overall emissions from the facility are expected to decrease with the increased use of natural gas and decreased combustion of coal.

In July 2019, we applied to the Alberta Utilities Commission (AUC) for the Dual Fuel Project. Subject to regulatory approval, modifications could start as early as Q1 2020. After the units have been transformed to 100% dual-fuel capability, Genesee 1 and 2 will be able to utilize up to 100% natural gas or coal, or a mix of the two, and Genesee 3 will be able to utilize up to 40% natural gas. The amount of

coal used at any given time, versus natural gas, will be driven by several factors including natural gas prices, carbon costs, and coal costs.

Coal operations at Genesee are currently planned to continue up to December 2029, at which time regulatory requirements will require coal generators to discontinue the use of coal. Genesee will continue as a 100% natural gas-fired facility after that time.

Genesee 4 & 5 Project Schedule

Capital Power and Enmax Corporation continue to assess the timing for starting work on the Genesee Unit 4 and Unit 5 Project (G4/5). Continuation and timing of the Project will be further considered when new generation is required to balance supply and demand.

The current Alberta Utilities Commission (AUC) approval for G4/5 stipulates that construction of Unit 4 must be complete by March 31, 2022 and Unit 5 by March 31, 2023. Commercial Operation Dates (CODs) for G4/5 are now anticipated to be November 2023 and December 2024 respectively.

Due to the change, Capital Power and Enmax Corporation intend to apply again to the AUC requesting approval of a time extension to reflect the newly targeted CODs for each respective unit.

Capital Power to Gain 100% Control of Genesee Generating Station

On August 2, 2019, we announced that we entered into an agreement to divest our 50% share of the Keephills 3 generation unit (K3) to TransAlta Corporation, and to acquire TransAlta’s 50% share of the Genesee 3



generation unit (G3).

K3 and G3 are the only supercritical coal facilities in Alberta, with a net capacity of 463 MW and 466 MW, respectively. Currently both generating units are owned and operated under 50/50 Joint Venture Agreements between Capital Power and TransAlta.

Upon close, G3 will be fully owned and operated by Capital Power and K3 will be fully owned and operated by TransAlta. The transaction is expected to close in the fourth quarter of 2019 subject to regulatory approvals and other customary closing conditions.

Land Reclamation Update

In 2018, 60 hectares of land was reclaimed into farmland bringing the total to 1,142 hectares (~38% of the total surface area at the Genesee Mine) of previously mined area into productive farmland, wildlife habitat, reforested and wetland areas. Another 60 hectares of land is planned to be reclaimed in 2019.

Tree Planting

This spring, our forestry consultant, Chickadee Reclamation, planted 35,000 trees including White Spruce, Aspen, Balsam Poplar and Green Alder at the Genesee Mine as part of our land reclamation efforts. Over the past 10 years, more than 250,000 trees have been planted as part of our reclamation efforts.

Cattle Grazing

A portion of land, not yet used for mining operations, is leased to local farmers to bring their cattle to grassland for grazing. Last year, for the first time the land was self-managed by the cattle owners, which proved highly successful.

In 2018, approximately 750 cow/calf pairs belonging to nine local farmers grazed at the 5,000-acre pasture at Genesee.

Genesee Hosts Pheasant Release Site

In 2018, Capital Power and Hunting for Tomorrow partnered with the Alberta Conservation Association (ACA) 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.

In the fall, another pheasant release will happen at Genesee. Visit ab-conservation.com for more information.



L to R: George Greenhough, Genesee Land Services Manager; Lance Engley, Northeast Regional Manager Alberta Conservation Association; Todd Zimmerling, President & CEO, ACA with his dog Willow and Sean Furey, Vice-President, Solid Fuels with his dog Bella participate in the pheasant hunt at Genesee in September 2018.

North America's Smallest Falcon Takes Sanctuary at Genesee

In 2018, we provided funds to Warne in the Wild to install 30 American Kestrel boxes around Genesee land. The province-wide nest box program, with more than 500 kestrel boxes installed, provides safe and secure nesting sites for the declining species.



During the 2019 nesting season, two breeding pairs of American Kestrels took sanctuary at the newly installed boxes at Genesee laying five eggs per box.



A colourful American Kestrel with five eggs at a nesting box at Genesee in June 2019.

In July, six surviving chicks were banded so researchers can further study the population. Three of the chicks in one of the nesting boxes were found to be in poor condition, likely as a result of the mother passing away and were removed. The three chicks went to WILDNorth, (formerly the Wildlife Rehabilitation Society of Edmonton) a wildlife rescue and rehabilitation centre for care. With a clean bill of health, a week later the three chicks were moved to a breeding box with “foster” parents near Edson.

The other three chicks were found to be healthy and once banded were returned to their nesting box at Genesee.

2019 Peregrine Falcon Program

In late March, a pair of Peregrine Falcons returned to the Genesee nesting box and our newest Genesee residents — four Peregrine Falcon chicks all hatched by the end of May. On June 19, Alberta Environment and Parks outfitted the four chicks with identification bands. Banding generally ensues when the

chicks are 22-30 days old because they have not fully grown into their flying feathers. Banding helps scientists understand the bird’s movements and behaviour. The information is then recorded into databases for later use.

By the second week of July the four chicks attempted to fledge. Two of the chicks first attempts at flying were not successful and they had to be rescued on July 11.

The rescued chicks were cared for until they developed stronger pectoral muscles needed for flying before being relocated to a hack site in the Pembina River area near Evansburg.



One of the adult Peregrine Falcons captured on a CCTV camera at Genesee on July 16.

The bluffs along the river are ideal for the falcons to nest and hunt prey. The other two were observed to be healthy and flying around the Genesee Station on July 18.

Genesee Peregrine Falcon Webcam

During the spring, we installed a new high-definition camera on the nesting box on G3’s stack. The new camera provides a better picture quality for viewers and provides us with the ability to remotely move and zoom the camera for optimal viewing.

Visit capitalpower.com to view the live camera. The falcon chicks have matured and left the nesting site. The camera is now turned off until next spring.



Supporting Safe Hunting

The Alberta Hunting Education Instructors Association (AHEIA) has successfully managed public access for hunting on Capital Power land at Genesee for more than 10 years through a program called *Hunting for Tomorrow*, enabling managed access to Capital Power's extensive land base.

Each fall, Capital Power opens some of its land for low velocity hunting to hunt deer, elk and moose living on the property.

Low velocity hunting uses primitive weapons including black powder rifles, crossbows and shotguns. As part of this program, hunters provide us with follow-up information on the wildlife they see in the field, providing valuable information in managing overall land use.

In 2018, there were 157 registered hunters at Genesee. Animals harvested include five white-tailed deer (four bucks and one doe, two moose (both cows) and several ducks and geese.

To hunt on Genesee lands, register at info@aheia.com or call **1-780-462-2444**.

Public Coal Sales Being Phased Out

Capital Power supplies large lump coal for sale by appointment. The fuel is primarily used for coal stoves that heat workshops or garages. In recent years, there's been a decline in local demand for lump coal and Capital Power is considering phasing out this service.

If you have questions or concerns about this decision, contact Genesee Land Services Manager, George Greenhough at ggreenhough@capitalpower.com or call **780-969-8618**.

Land for Sale

This fall, Capital Power will be selling some parcels of land in the Genesee area that are surplus to our operational needs.

For more information, please contact George Greenhough, Genesee Land Services Manager at **780-969-8618** or ggreenhough@capitalpower.com.

Genesee Park Group Campground Opens

On July 11, the new Genesee Park Group Campground was officially opened on four acres of land adjacent to Genesee Heritage Park at 3051 Township Road 510 A.

During construction, Capital Power provided in-kind contributions of labour and equipment to spread and shape gravel for the campground.

Owned and operated by Leduc County Parks and Recreation, the campground features nine sites with firepits and picnic tables, picnic shelter, group firepit and pit toilets. Call **780-985-2499** to reserve the group campground.



Leduc County Division 7 Councillor Ray Scobie lights a ceremonial first campfire marking the grand opening of the Genesee Park Campground.



Security at Genesee

Safety and security are a top priority for Capital Power and we diligently monitor and patrol our property at Genesee, as well as collaborate with the local RCMP detachment to report any issues or unusual activity. If you see any suspicious activity on any Capital Power property, please contact our Genesee Guardhouse at **780-969-8505**.

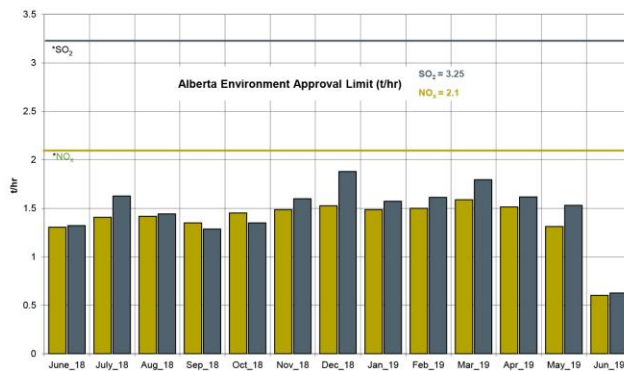
Genesee Station Environmental Performance

The following graphs show the most recent environmental performance results:

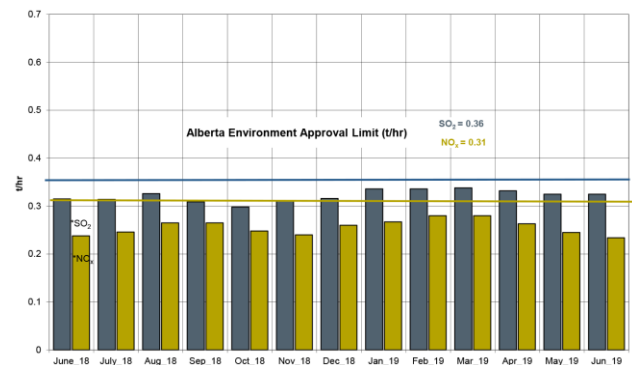
- Ambient air quality as measured by the Genesee ambient air monitoring trailer;
- Stack emissions for stack one (for generating units 1 and 2);
- Stack emissions for stack two (for generating unit 3).

Measurements are compared to guidelines and approval limits set by Alberta Environment & Parks. Genesee continues to operate below maximum levels set for ambient air quality and stack approval limits.

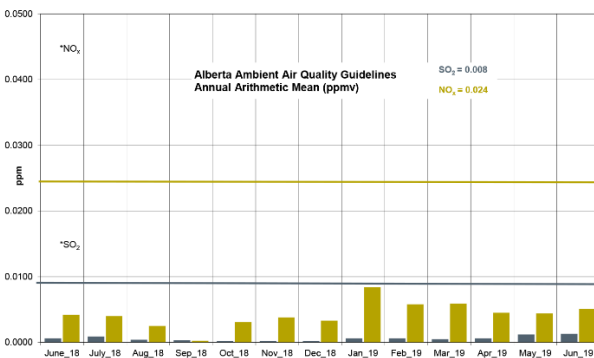
G 1/2 Emission Levels



G3 Emission Levels



Ambient Emission Levels



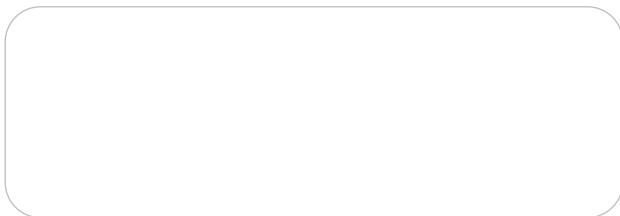
Sulphur Dioxide (SO₂): In high concentrations, SO₂ is known to be harmful to vegetation and human health. SO₂ is soluble in water and excessive levels can lead to sulfuric acid deposition or acid rain.

Nitrogen Oxides (NO_x): When concentration is high, NO_x is of concern because it contributes to ground-level ozone or smog.

Note: All results are converted to reference standard conditions to be comparable to other coal fired plants in Alberta and elsewhere.



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What is Important to You?

If you have an idea or suggestion for the Genesee Connection Newsletter, contact Community Engagement and help us continue to provide relevant information of interest to you.

Genesee Contact Information

If you have questions or comments about our operations, community engagement or our land management practices, please feel free to contact us.

Generating Station Reception
780-848-8300

Community Engagement
780-848-8474
PublicConsultation@capitalpower.com

Manager, Land Services
George Greenhough **780-969-8618**

Genesee Guardhouse
(24-hour Security)
780-969-8505

capitalpower.com



Careers

For more information on starting a career with Capital Power and to view current job opportunities, visit our website at capitalpower.com/careers. Capital Power is an equal opportunity employer.

Newsletter

Get this newsletter by email: If you prefer to receive your copy of the Genesee Connection by email instead of hard copy, or if you no longer wish to receive this newsletter, please contact us at **Community Consultation** and we will remove you from our mailing list.

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