

# FALL 2015 CONNECTION



Sean Furey

## Hello Neighbours and Friends,

On many levels – politically, economically and socially – we're in a period of rapid change. As we assess and embrace these changes, we will continue to support and promote a sustainable energy future for Alberta.

We're continuing to advance our current project, the \$1.4 billion Genesee 4 & 5 combined cycle natural gas-fired power plants. We continue to improve our existing operations with leading-edge Dry Sorbent Injection (DSI) technology that reduces emissions. With our updated Land Use Guidelines, we continue to improve the management of our land around Genesee Station to reflect and align with current practices. And we're continuing to evolve the ways in which we connect with you in a more immediate way through our monthly public drop-in sessions.

Best wishes to all of our neighbours for a happy and safe holiday season.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sean Furey'.

**SEAN FUREY, Plant Manager**  
Genesee Generating Station, Capital Power

## Connecting with our Neighbours

We realize that community members expect to be able to get and receive information, raise concerns, and get responses quickly, so we expanded the opportunities for you to connect with us in-person in a more immediate way.

In March, we introduced monthly public, drop-in coffee sessions on the last Wednesday of each month at the Genesee Receiving Building from 3-7 p.m. Anyone from the community can attend, have coffee, and ask questions from Genesee staff.

In addition to more frequent updates to information on our website, we plan to create and increase our use of social media, as well as the info on our website, to provide timely updates on what's happening at Genesee. This allows us to get time-sensitive messages out to the community quickly. See our social media info on back page.

## OVER COFFEE, WE CHATTED ABOUT...

In the drop-in sessions from March to October, the most common questions pertained to land management around Genesee Station, construction related to the Genesee 4 & 5 project (see construction update on page 3) and local community sponsorship.

As well, the Community Advisory Task Group (CATG) process – formal meetings, minutes, submitting questions will continue on pause until there is renewed interest in re-establishing this forum of community interaction. Contact us if you're interested in joining the CATG.

## GENESEEE STATION

BOX 20, SITE 2, RR #1  
WARBURG, ALBERTA T0C 2T0 CANADA

## The Future of Alberta's Energy Mix

"Over the past several months, Capital Power was fully engaged with the climate change policy review being conducted by the Government of Alberta.

Capital Power is committed to helping Alberta and Canada implement meaningful action on climate change by accelerating the phase-out of coal and through growth in renewables.

Capital Power's proposals to government during the consultation process included an accelerated closure of Alberta's coal-fired power plants, with reasonable compensation to investors, and a transitional renewable approach tied to coal plant retirements that would otherwise maintain Alberta's competitive electricity market. While the government's retirement schedule for coal generation is substantially more aggressive than that proposed by Capital Power, we're encouraged that the Climate Leadership Plan incorporates policy approaches that are consistent with our recommendations.

We're also encouraged that the government has committed to treat workers, communities and affected companies fairly, avoid unnecessarily stranding capital, and implement its plan in a way that retains Alberta's competitive electricity market.

The government has signalled that an independent facilitator and the system operator will work with owners of coal-fired power generation to develop a transition plan. Capital Power will work with them to successfully implement the government's policies for the electricity sector and our investors.

Over the past decade, Capital Power has been the largest investor in Alberta power generation. We support government policies that treat investors fairly, and maintain an attractive climate for investment in new power generation. We are cautiously optimistic that with the effective implementation of the new policy framework, Alberta can continue to be an attractive market for investors in power generation.

Capital Power is well positioned to compete to supply both new merchant natural gas generation, and new renewables.

Near term opportunities include the Genesee 4 project, a fully-permitted combined cycle natural gas-fired generation facility proposed to be developed through a joint venture with ENMAX. Capital Power has also applied to connect a proposed 150-megawatt wind farm to the grid, near our existing Halkirk Wind facility, in central Alberta.

We will continue to assess recent policy announcements in detail, including changes to Alberta's carbon pricing regime which would take effect in 2018."

– Capital Power President and CEO Brian Vaasjo

### CAPITAL POWER'S ALBERTA BUSINESS

- Capital Power owns more than 3,200 MW of power generation capacity at 17 facilities across North America.
- In its core market of Alberta, Capital Power owns 2,366 MW of power generation capacity through ownership interests in nine facilities.
- On a capacity basis, 58% of the company's Alberta power generation is from coal-fired units, 36% from natural gas-fired units, and 6% from wind power.
- Capital Power owns an additional 371 MW of Alberta coal-fired power capacity through a power purchase arrangement that entitles the company to a portion of the output from Units 5 and 6 of the Sundance power plant until 2020.
- By market capitalization, Capital Power is one of the largest companies headquartered in Edmonton. The company's Genesee operations directly engage more than 500 employees and contractors in the Edmonton region.

### SUPERCritical COAL-FIRED POWER GENERATION

- All but two of Alberta's coal-fired facilities use subcritical generation technology.
- Capital Power owns 50% of Genesee 3 and Keephills 3, which use supercritical combustion technology that delivers greater fuel efficiency and lower emissions. Opened in 2005 and 2011, they are among the cleanest coal-fired units in North America. Under federal regulations, the units would have operated until 2055 and 2061.
- Greenhouse gas (GHG) emissions at Genesee 3 and Keephills 3 are up to 20% lower than at other Alberta coal units, and the remaining GHG emissions are offset to the level of a natural gas combined cycle unit.
- In addition, Genesee 3 and Keephills 3 are equipped with pollution control technologies that reduce air emissions such as NOx and SO2 by 50 – 70% compared to older facilities, and capture more than 99.8% of particulate emissions.

## A Leader in Clean Power Generation

Over the past decade, Capital Power has been the single largest builder of new power generation in Alberta. We've invested in Alberta to construct one of the province's largest wind farms, the most advanced peaking facilities in Canada and the province's largest and most modern natural gas plant. But by far our largest investment is in our coal power plants west of Edmonton.

We're continuing to advance our current project, the \$1.4 billion Genesee 4 & 5 power plants, and intend to continue to be Alberta's largest investor in new power generation, and a greener grid.

## Preparatory work completed for Genesee 4 & 5

Capital Power and ENMAX have been working through a rigorous process to select the general contractor for the Genesee 4 & 5 Project. We expect to have a qualified proponent in place early in the New Year (contact info about the successful proponent will be posted on the project website).

In advance of major construction in 2016, the area around the entrance to the station underwent preparatory work from September to early November.

Construction activities involved site preparation and developing site access for the Project. VOICE, the roadway construction contractor, demolished and removed two existing transformers, completed preparatory work for site roads, lay-down area, drainage ditches and culverts, and relocated the helipad. Genesee Operations also removed the existing modular office building engineering complex.

Construction activities will resume in early 2016, with the construction of a new mechanical shop, relocation of the existing fuelling station (to the newly constructed south lay-down area), relocation of underground utilities and ambulance, orientation, and security buildings, finishing the helipad with asphalt and constructing a new intersection (relocated to the north of the existing entrance) that will provide safe and efficient access to the site.

More information about upcoming construction will be provided in the spring 2016 Genesee Connection newsletter. Advanced notice will be provided for any temporary road disruptions.

## Innovation Anthology – Focus on land initiatives at Genesee

Capital Power was proud to sponsor "Innovation Anthology" – a multi-media production based on interviews with scientists and innovators. Five interviews focused on land initiatives at Genesee, with each airing multiple times as 90-second commentaries. All full interviews are available at [www.innovationanthology.com/programs](http://www.innovationanthology.com/programs).

## Genesee Land Use Guidelines

Capital Power recently updated our Land Use Guidelines that summarize the practices for how we manage the land around Genesee Station to align with current practices.

The guidelines 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. The Guidelines cover land management, land access, environmental management and reclamation management.

The 2015 Genesee Operations Land Use Guidelines are available for review at: <http://bit.ly/1WDgrwF>. To provide your feedback, email: [publicconsultation@capitalpower.com](mailto:publicconsultation@capitalpower.com).



**Our updated Land Use Guidelines reflect how land is managed at Genesee.**



Contained within a 105' silo, the newly installed DSI system injects hydrated lime into G3's flue gas stream to further reduce SO<sub>2</sub> emissions from G3.

## Dry Sorbent Injection (DSI) System Unit Reduces Emissions from Genesee 3

This past summer, the installation of a new Dry Sorbent Injection (DSI) system was completed at Genesee Unit 3 (G3), with testing ongoing throughout the fall.

To enhance the capture rate of sulfur dioxide (SO<sub>2</sub>), the DSI system injects hydrated lime (stored in a 105 ft. silo) into G3's flue gas stream through eight injection ports. The system meets the Clean Air Strategic Alliance (CASA) requirements for SO<sub>2</sub> emissions to not exceed 0.36 tonnes per hour, which comes into effect Jan. 1, 2016.

Even with G3's superior environmental controls and flue gas desulphurization unit, the super-critical facility had a capture

rate between 0.4 to 0.5 tonnes of SO<sub>2</sub> per hour. Testing of the DSI system is showing positive results capable of meeting CASA's regulations.

This method of enhancing the capture rate of SO<sub>2</sub> has been proven to lower emissions, is a relatively low capital cost (compared to alternatives) and had a quick installation time. Capital Power also has experience handling and disposing of hydrated lime on site.

The diverse project team includes Engineering, Environment, Legal, Operations, Safety and Supply Chain with the support of Genesee Operations. The DSI system has received approval from Alberta Environment and will be ready for Jan. 1, 2016.

## Over 10 Years of Hunting on Genesee Lands

Capital Power is pleased to continue working with Hunting for Tomorrow. The 2015 hunting program continued to include primitive weapons such as black powder rifles, crossbows, shotguns with slugs and bow hunting.

In October, local resident Jason Mills was thrilled to be given permission to test his hunting skills in the area, and ended up being the first (known hunter) to bag an elk on Genesee lands.

"It was the best hunting experience I've ever had," exclaimed Jason. "I can't even describe how exciting it was to be that close to an elk and have it come to me."

Those who wish to hunt on Genesee lands must register through Hunting for Tomorrow. As part of the program, hunters are asked follow-up info is sought by hunters about the kinds of animals they saw while in the field, which is valuable in managing overall land use.

Visit [www.huntingfortomorrow.com](http://www.huntingfortomorrow.com) for more info or to apply to hunt at Genesee.

### PUBLIC COAL SALES

Many people use coal as an economical source of fuel for heating their homes or greenhouses. Public coal sales are available at Genesee Station by appointment only on Saturday mornings. Please contact Lorne or Sharon Lawrence (780-991-1774, 780-991-0551) to book an appointment.

The coal is sold in "mini bulk" bags containing a minimum of one tonne of coal at a cost of \$50 including GST per bag. The lump coal is screened and is approximately three inches in size and larger.



## 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. Genesee continues to operate below maximum levels set for ambient air quality and stack approval limits.

## Spruce Tree Tour

The Genesee Land Management and Mine team recently took a trip to Fawcett (northwest of Edmonton) to visit Vanderwell Contracting's Spruce Plantations to gather ideas about planting and management practices that can be implemented as part of the Genesee Mine reforestation plan.

For many years, Vanderwell's (owner of a sawmill at Slave Lake) have established spruce tree farms on their land, a long term program to guarantee an ongoing supply of timber for long term operations.

Capital Power's commitment to reforestation in reclaimed areas is a high priority for the company.

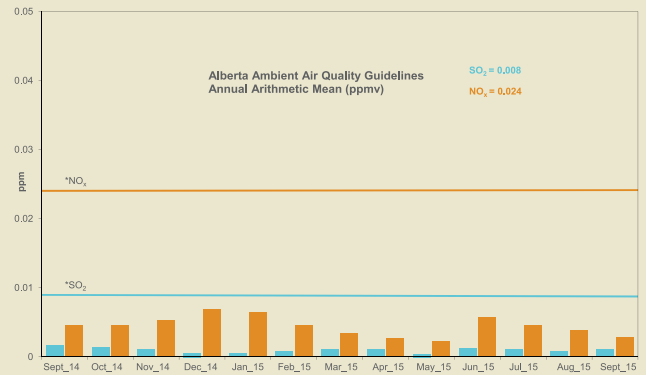


**Amelie Poitras (Environmental Technician, Westmoreland Coal), Jennifer Tkachuk (Project Coordinator, Land Management), Con Dermott (Forestry Consultant, Vanderwell Contracting), George Greenhough, Land Services Manager.**

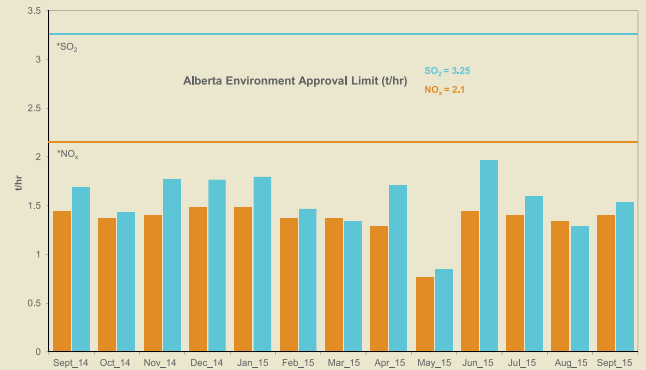
## What's Important to You?

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

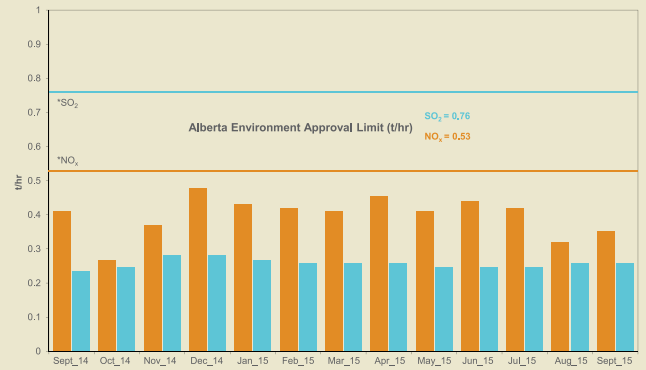
### AMBIENT AIR EMISSIONS



### G1/2 EMISSION LEVELS



### G3 EMISSION LEVELS



**\*Sulphur Dioxide (SO<sub>2</sub>):** a strong smelling, colourless gas that is formed by the combustion of fossil fuels. In high concentrations, SO<sub>2</sub> is known to be harmful to vegetation and human health. SO<sub>2</sub> is soluble in water and excessive levels can lead to sulfuric acid deposition or acid rain.

**Nitrogen Oxides (NO<sub>x</sub>):** the term used to describe NO (nitrogen oxide), NO<sub>2</sub> (nitrogen dioxide) and other nitrogen oxides. The major sources of man-made NO<sub>x</sub> are high-temperature combustion processes, such as those occurring in automobiles and power plants. When concentration is high, NO<sub>x</sub> is of concern because it contributes to ground-level ozone or smog. Genesee 3 approval limits are based on a 720 hour rolling average.

**Note:** All results are converted to reference standard conditions so as to be comparable to other coal fired plants in Alberta and elsewhere, and are dry concentrations corrected to 50% excess air; ppm: parts per million. An example of the quantity of Sulfur Dioxide and Nitrogen Oxides measured at ambient air sites in parts per million would be equal to approximately 1/100th of a grain of salt per breath of air. G3 has separate approval limits from G1 and G2 for its stack emissions. G3 approval limits are in terms of a mass emission rate (i.e. tonnes per hour). To be consistent for all units, we have shown G1 and G2 emissions and limits in tonnes /hour as well.

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EDMONTON, AB T5H 0E9



## 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 Consultation  
**780-848-8474**  
**PublicConsultation@capitalpower.com**

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

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

Capital Power Website  
**www.capitalpower.com**



## Careers

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

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