Welcome to the Open House for the Proposed Genesee Generating Station Units 4 & 5

Capital Power

Genesee Generating Station Units 4 & 5

Project Overview

Capital Power is proposing to build the Genesee Generating Station Units 4 and 5 (the Project), a combined cycle natural gas-fired generation facility. Key Project features:

- Two identical combined cycle generating units which could together achieve a combined gross capacity of up to 1,050 MW.
- The Project will be adjacent to the existing Genesee Generating Station (GGS), and will be constructed on a 'brownfield' site (i.e. previously disturbed) and will utilize existing infrastructure (i.e. substation, transmission and water intake/discharge structures).
- Each generating unit consists of a natural gas-fired turbine, a heat recovery steam generator, a steam turbine and an electrical generator.
- Construction of Unit 4 and Unit 5 will occur in two phases. The in-service date for both units is anticipated in the 2017–2020 range.
- Capital Power anticipates submitting regulatory applications for the Project by late 2013 or early 2014.
- Separate applications will be made to the Alberta Utilities Commission (AUC) and Alberta Environment and Sustainable Resource Development (ESRD).

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Proposed Plant Rendering

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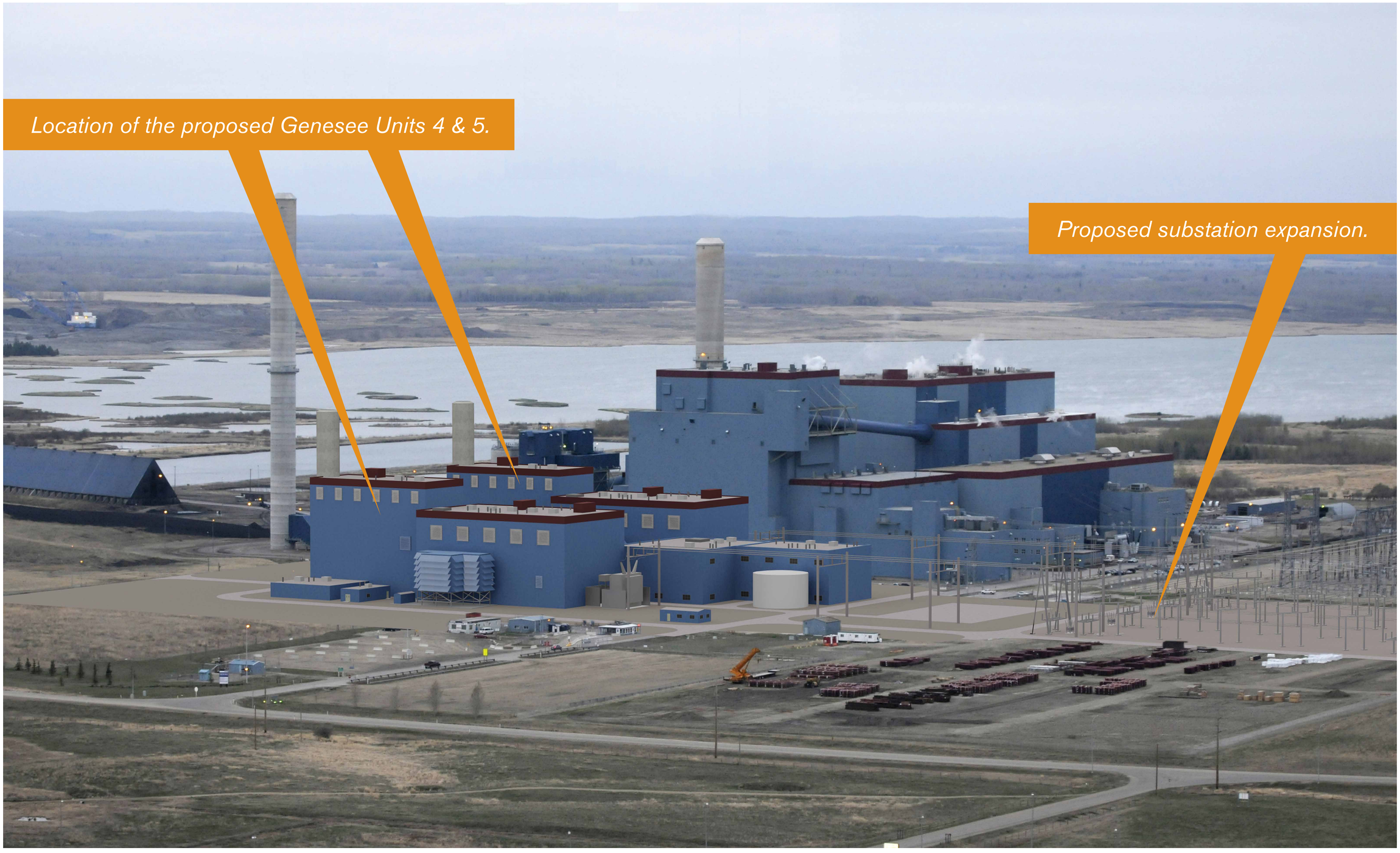

Genesee Generating Station Units 4 & 5

Genesee Local Area & Location of GGS Units 4 & 5

Genesee Generating Station Units 4 & 5

Seeking Your Input – Participant Involvement Process

Capital Power is committed to sharing information on the Project and receiving input from neighbours and stakeholders. A goal with this open house is to provide an opportunity for stakeholders to meet Project team members and ask questions of technical specialists.

The consultation process is designed to meet the requirements of AUC Rule 007, and includes a number of opportunities for information sharing and dialogue:

- Project information mailed to local landowners and other stakeholders.
- Project information on Capital Power's website (www.capitalpower.com).
- Open houses to discuss the Project directly with project team members.
- An opportunity for all interested stakeholders to provide comments to Capital Power by phone, e-mail and mail, or in person.
- An additional Project open house is planned for the first half of 2014.
- An Aboriginal Engagement Program.

Capital Power will document stakeholder comments to ensure all questions and concerns are addressed.

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We Want To Hear From You

Capital Power values your input into the proposed Project. We have launched a participant involvement program to share information with stakeholders and obtain input on our proposal.

Contact by phone or e-mail:

Toll Free: (Alberta) 1-866-348-3946

Local: 780-848-8474

Fax: 780-392-5124

publicconsultation@capitalpower.com

Contact by mail:

Genesee Units 4 & 5

Capital Power Corporation

12th Floor EPCOR Tower

10423 101 Street NW

Edmonton, AB T5H 0E9

Website:

www.capitalpower.com

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Capital Power in the Community

Capital Power is committed to being a good neighbour in Leduc County, with a special focus in the Genesee area. Some examples of Capital Power's activities in the local community include:

- Support for local groups and activities:
  - Warburg Canada Day
  - First Aid Training
  - Genesee Agriculture Society
  - Annual support for local community halls and cemeteries
- Opportunities for direct engagement and dialogue:
  - Plant Tour (Fall 2012, Fall 2013)
  - Reclamation and Mine Tour (on-going)
  - Community Advisory Task Group (CATG)
  - Regular engagement with the Leduc County and the Village of Warburg
  - Genesee Connection newsletter
  - Project specific consultation and dialogue

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A Sound Environmental Option for New Power Generation in Alberta

- Advanced combined cycle natural gas-fired turbine technology provides greater efficiency and will help Alberta continue to reduce greenhouse gas emissions. The facility will meet Alberta's air emission standards and performance expectations.
- The facility will use advanced emission-control technology, significantly reducing emissions such as nitrogen oxides (NO_x).
- The facility will be constructed on a 'brownfield' (i.e. previously disturbed) site and will utilize existing infrastructure (i.e. substation, transmission and water intake/discharge structures).
- No additional diversion of water from the North Saskatchewan River is required for the Project beyond the volumes already permitted under the current licences issued by ESRD for the existing Genesee Generating Station.

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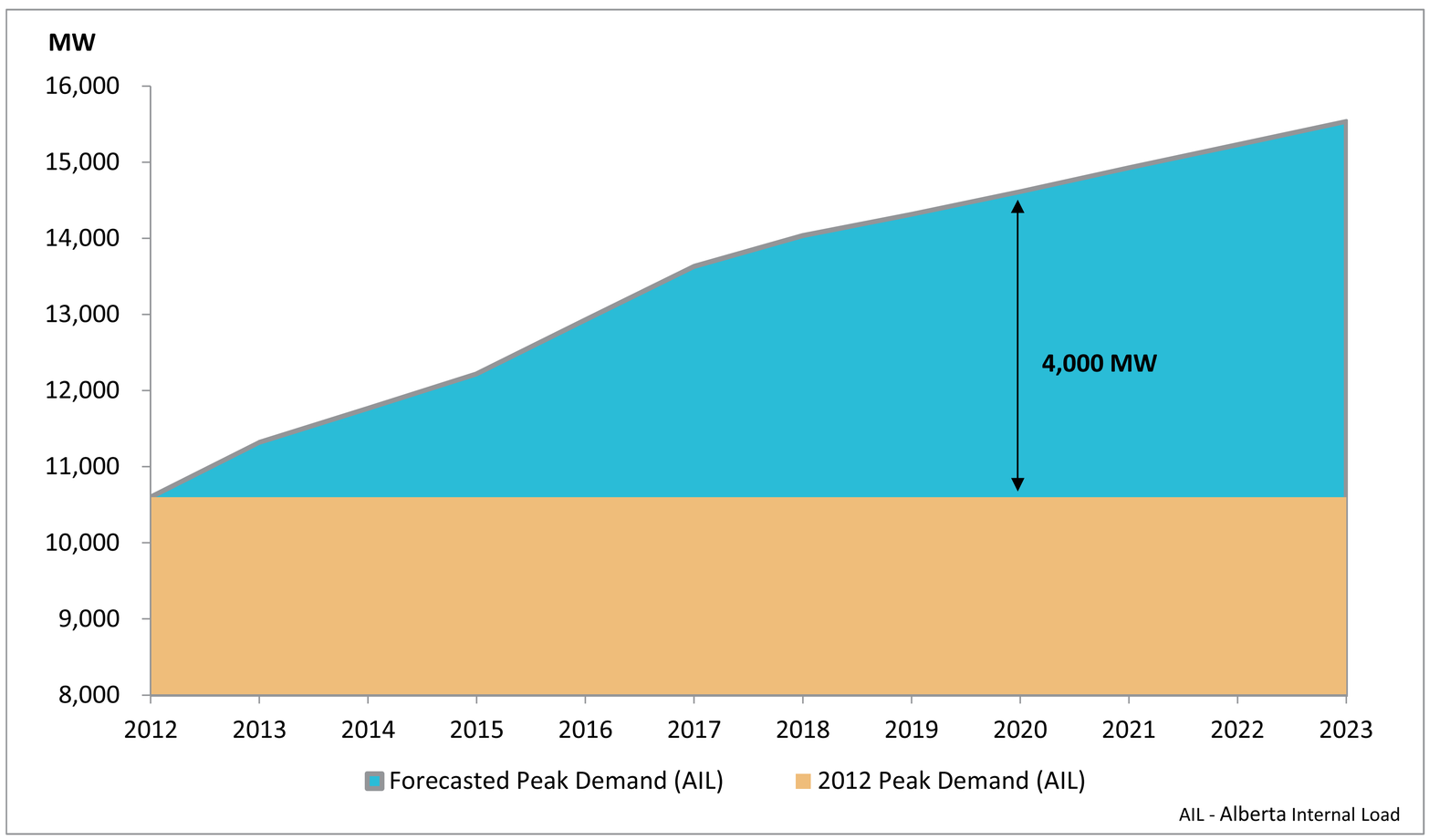
Helping Meet Alberta's Power Generation Needs

The Project is being developed to meet anticipated increases in Alberta's power requirements arising both from continued economic growth in the province and from the expected retirement of existing coal generating units in the 2020 timeframe.

According to the Alberta Electric System Operator, peak demand will grow from 10,600 MW to 14,600 MW by 2020 or by an average of 500 MW per year.

Situated in central Alberta, the Project is close to existing transmission infrastructure, as well as important electrical load centres such as Edmonton and outlying industrial areas.

Using an abundant fuel such as natural gas, this facility will provide a reliable, clean and efficient alternative for new generation in Alberta.



Source: AESO 2012 Long-term Outlook

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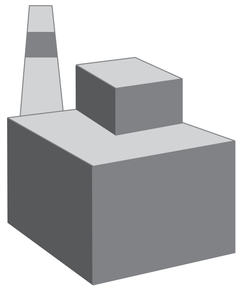
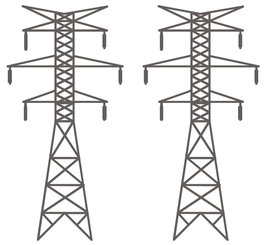
Alberta Power Market Overview



Generation

ATCO Power
Capital Power Corporation
Cogeneration Plants
ENMAX Energy
TransAlta
Wind Turbines

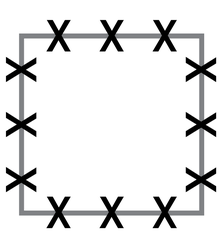
Generating facilities convert various forms of energy into electric power



Transmission

ATCO Electric
AltaLink
ENMAX Power (Calgary)
EPCOR (Edmonton)

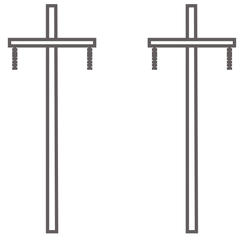
Transmission lines connect the power produced at generating facilities to substations



Substations

ATCO Electric
AltaLink
ENMAX Power (Calgary)
EPCOR (Edmonton)

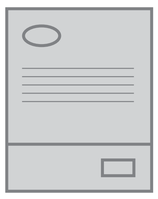
Substations are connection points between transmission and distribution systems



Distribution

ATCO Electric
FortisAlberta
ENMAX Power (Calgary)
EPCOR (Edmonton)
Rural Electrification Associations

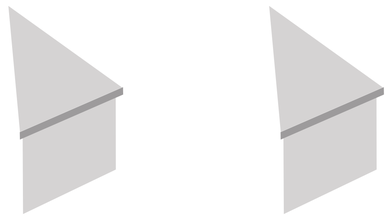
Distribution lines carry electricity to homes, farms and businesses



Retailers & Regulated Providers

The provider of your energy services will depend on whether you choose regulated service or a contract from a competitive retailer. Visit www.ucahelps.alberta.ca

Retailers give consumers a choice of electricity service providers



You

Electricity is delivered to homes, farms and businesses

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Genesee Generating Station Units 4 & 5

Capital Power – Alberta Experience and Commitment

Capital Power is one of Alberta's largest and most experienced power generation companies, in terms of both building and operating energy facilities. Capital Power is listed on the Toronto Stock Exchange under 'CPX.'

We currently own over 1,900 MW of power generation (coal, natural gas and wind) in Alberta.

In late 2012, we announced the acquisition of a 50% interest in the Shepard Energy Centre (800 MW gas-fired facility) under construction by Enmax in Calgary.

Capital Power's recent construction expertise includes the completion of the Keephills 3 Generating Station on Lake Wabamun and wind power facilities in Alberta, British Columbia and Ontario.

In December 2012, we commenced operations of Alberta's largest wind farm, the 150 MW Halkirk Wind Operation.

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Genesee – A History of Power Generation

The existing Genesee Generating Station has over 30 years of history, with construction at the site beginning in 1983.

Unit #2 was commissioned in 1989, before Unit #1, which was commissioned in 1994.

Unit #3 was commissioned in 2005 and is jointly owned by Capital Power and TransAlta.

The combined maximum capacity of the three generating units at Genesee is 1,266 megawatts.

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Building on the Existing GGS Lands

The Project would be located entirely within the boundaries of the existing Genesee Generating Station (GGS) and would be sited adjacent to Genesee Unit 3. The GGS is located 50 kilometres west of Edmonton (Section 25, Township 50, Range 3 west of the 5th Meridian).

Construction would occur on about five hectares (14 acres). All of the land is owned by Capital Power. Previously used as a construction laydown area for Genesee Unit 3, the facility location is considered a ‘brownfield’ site.

Construction site of the proposed Project

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Advanced Combined Cycle Gas Turbine Technology

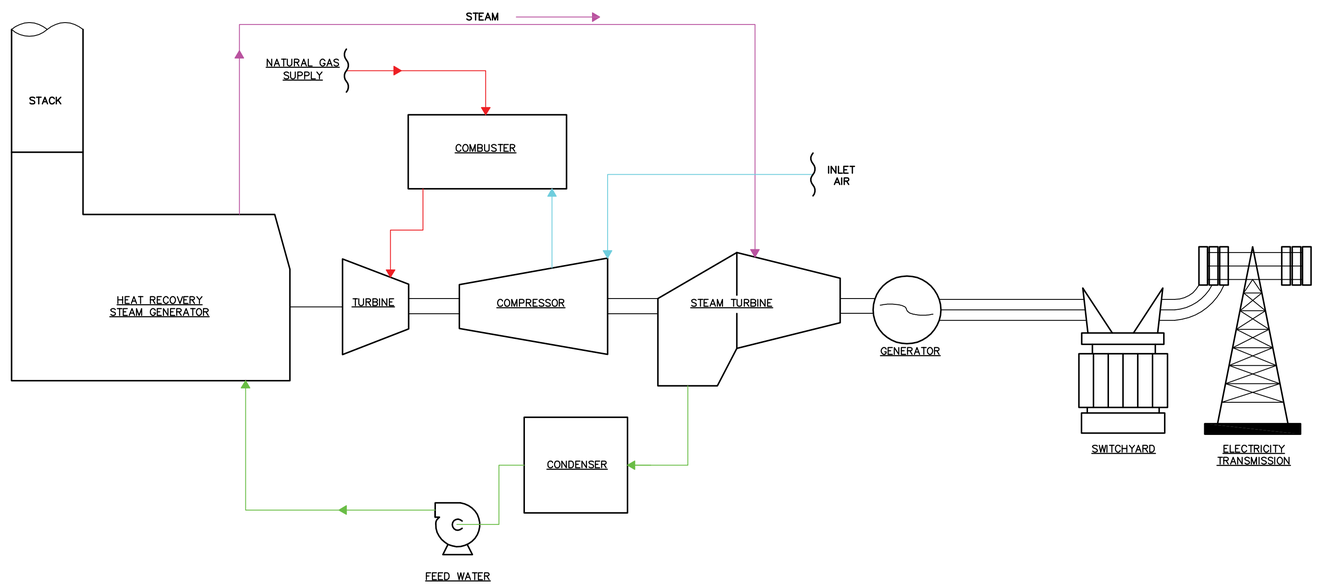
Capital Power is proposing to utilize advanced combined cycle natural gas-fired turbine technology (CCGT) for the Project.

The CCGT process begins with a natural gas turbine generator which produces power and exhaust heat when in operation.

The exhaust heat creates steam in a heat recovery steam generator which drives a steam turbine generator. As a ‘combined’ process, the gas turbine and steam turbine together generate power with greater efficiency and lower emissions.

The Project is proposed as two identical combined cycle systems which could achieve a combined gross capacity of up to 1,050 MW. Each generating unit consists of a natural gas-fired turbine generator and a heat recovery steam generator, and a steam turbine generator.

NATURAL GAS COMBINED CYCLE POWER PLANT



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Construction Schedule

Pending a successful outcome of the regulatory review, we anticipate construction to begin in late 2014 or early 2015.

Prior to construction, we will apply to Leduc County for building and other development permits.

Construction of the first phase of the Project is expected to take three years, with the second phase taking an additional year to complete.

Since the Project will be located on a ‘brownfield site’, minimal site preparation activities are required.

The on-site construction employment will occur over a three to four year period, creating approximately 1,200 person-years of employment.

At peak construction, there will be about 850 people working on the Project. During operations, 25 to 30 full-time positions will be required.

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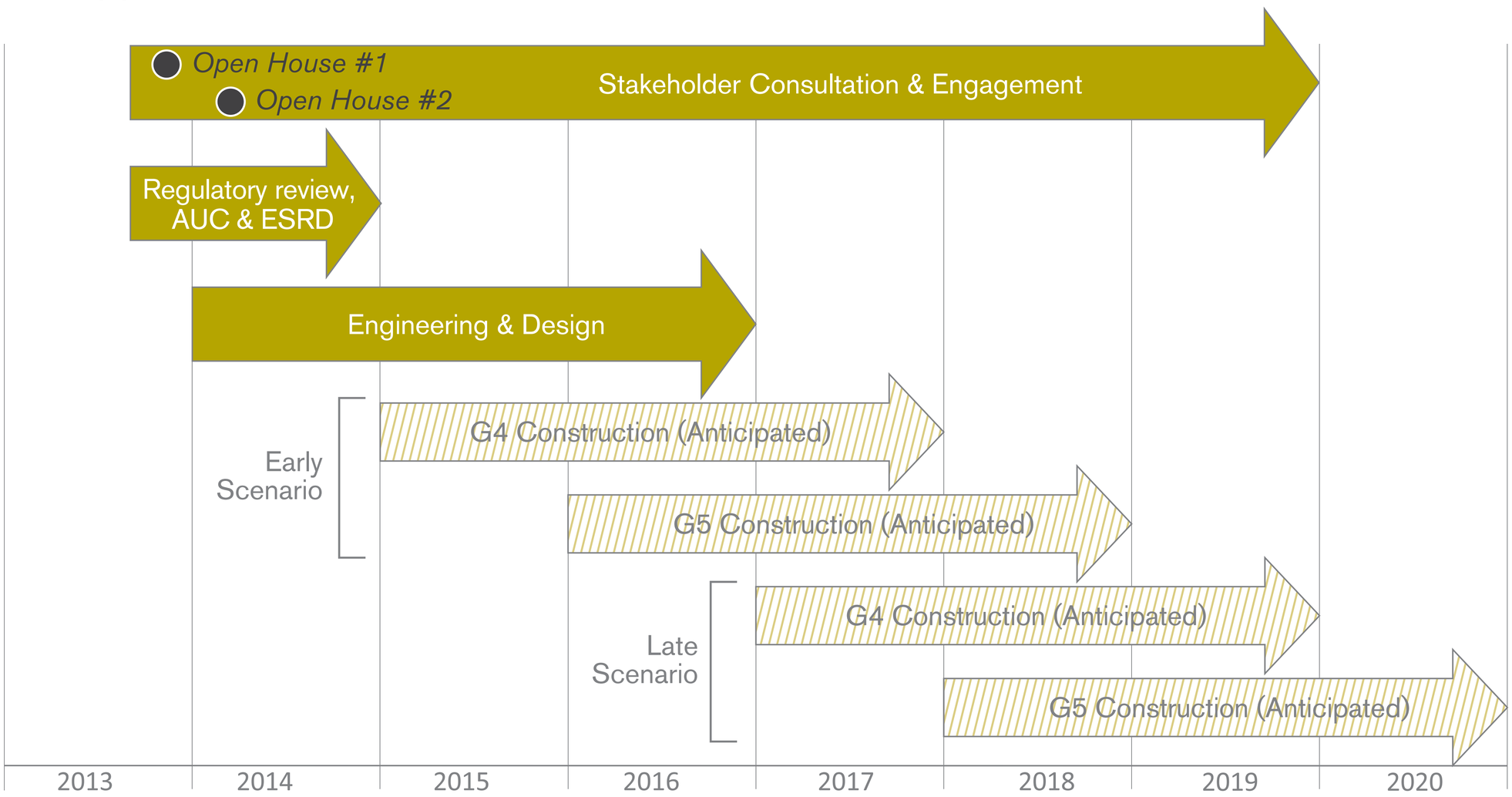
Proposed Schedule

Capital Power anticipates submitting regulatory applications for the Project by late 2013 or early 2014. The construction schedule will be determined based on the outcome of the regulatory process and an assessment of market conditions.

Separate applications will be made to the Alberta Utilities Commission (AUC) and Alberta Environment and Sustainable Resource Development (ESRD). Capital Power has also engaged the Canadian Environmental Assessment Agency (CEAA) which will determine if a Federal environmental assessment is required.

ESRD has already determined that an Environmental Impact Assessment (EIA) report is not required for the Project and that environmental matters can be dealt with effectively in the EPEA approval application.



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Environmental Studies

Capital Power is working with Stantec and Golder Associates to conduct studies to assess potential effects of the proposed Project on air, noise and water. Studies have included:

- Air emission modeling (Stantec)
- Noise impact assessment (Stantec)
- Thermal modeling of Cooling Pond (Golder)

Stantec

We're active members of the communities we serve. That's why at Stantec, we always design with community in mind.

The Stantec community unites more than 13,000 specialists working in over 200 locations. We collaborate across disciplines and industries to make buildings, infrastructure, and energy and resource projects happen. Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of community, creativity, and client relationships.

Golder Associates

Established in 1960, Golder is a global, employee-owned organisation driven by our purpose to engineer earth's development while preserving earth's integrity. We help our clients find sustainable solutions to the challenges society faces today including extraction of finite resources, energy and water supply and management, waste management, urbanisation, and climate change. We do this by providing a wide range of independent consulting, design and construction services to our clients in our specialist areas of earth, environment and energy.

With Golder, clients gain the advantage of working with highly skilled engineers, scientists, project managers, and other technical specialists who are committed to helping them succeed by embedding sustainable development principles and practices in their projects. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organisations in the world.

We serve our clients as a globally connected community that shares knowledge to find the answers to technical issues requiring innovative approaches.

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Other Environmental Elements

Vegetation

As a ‘brownfield site’, bare groundcover dominates the Project site with some sparse agronomic species cover found on the eastern half of the site.

Wildlife

Given the high level of existing industrial activity and previous disturbance of the proposed Project area, the land in the immediate vicinity of the Project is considered to have low habitat value for wildlife.

Fish, Fish Habitat and Aquatic Species

Given the comparatively small net reduction in volume of discharge anticipated to be released back to the North Saskatchewan River (NSR), changes to fish and fish habitat are not expected.

Predicted instream concentrations in the NSR downstream of the cooling pond blowdown outfall meet or exceed ESRD’s Water Quality Objectives for the NSR.

Results from thermal and water quality modeling show no potential effects to fish in the cooling pond or within the NSR.

Construction and operation of the Project are also not expected to lead to any changes to aquatic species, including fish, since no physical changes are expected to the existing NSR intake/outfall.

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Air Emissions

The Project will use the most advanced gas and steam turbine technology commercially available and meets, or exceeds, the Clean Air Strategic Alliance's (CASA) standards and Alberta's Ambient Air Quality Objectives and Guidelines, as well as performance expectations for air emissions for the Alberta electricity sector.

Selective catalytic reduction (SCR) will be installed for controlling NO_x emissions from the generating units.

Additionally, dry low NO_x burners on the gas turbines and adequate stack heights will be implemented to reduce air emissions.

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Water Use

The Project will use water from the existing cooling pond, which draws water from the North Saskatchewan River (NSR). No additional diversion of water from the NSR is required for the Project beyond the volumes already permitted under the current licences issued by Alberta Environment and Sustainable Development (ESRD) for the existing GGS.

- Cooling water for the steam turbines will be sourced from the existing cooling pond by extension of the inlet canal.
- All other water requirements for equipment cooling and cycle make-up will also be met by the cooling pond.
- The proposed Project makes effective use of the existing GGS infrastructure, specifically utilization of the existing river water intake, pumphouse, cooling pond, and point-of-discharge to the NSR. These synergies will reduce any potential environmental effects.
- Marginal changes in the cooling pond water temperature (slightly higher) are anticipated, which will result in a reduction of discharge back to the NSR due to increased evaporative losses from the cooling pond.

Photos of the intake and outfall structures for GGS. No changes are proposed to this infrastructure for the Project.

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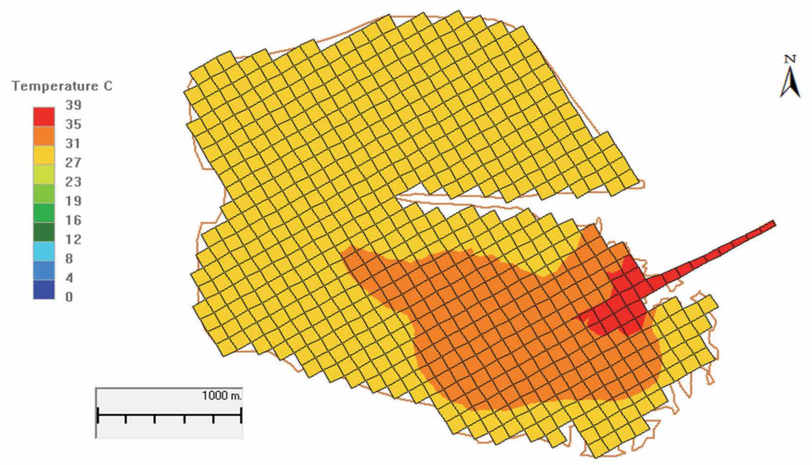
GGS Units 4 & 5 and Cooling Pond

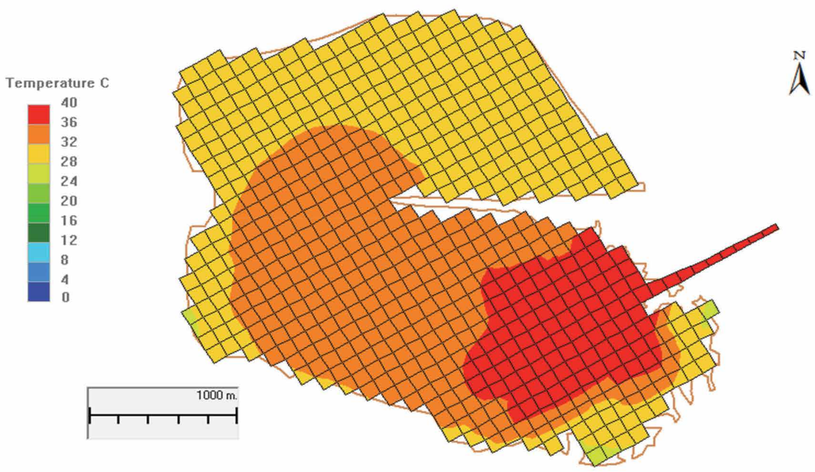
Genesee Generating Station Units 4 & 5

Water Quality

Simulated Distribution of Genesee Cooling Pond Water Temperature for the Existing Case (July 11, 2012) Condition



Simulated Distribution of Genesee Cooling Pond Water Temperature for the Base Case (July 11, 2012) Condition



Predicted Annual Evaporation Rates

	Annual Evaporation (Mm^3)		
	Existing Case	**Base Case**	**Difference**
2009	15.5	18.4	2.9
2010	15.1	17.7	2.6
2011	15.3	19.9	4.6
2012	14.2	17.2	3.0

Predicted hourly temperature at two locations in the cooling pond under existing and base case conditions:

	Existing Case (°C)	**Base Case (°C)**	**Difference (°C)**
Temperature at the Condenser Inlet			
Maximum	29.96	31	1.04
Average	14.3	15	0.7
99th Percentile	27.6	28.8	1.2
Temperature at Blowdown			
Maximum	32	34	2
Average	14.3	15.1	0.8
99th Percentile	28.4	30	1.6

Dates when Existing Case Inlet T> 29.8: July 11 and 12, 2012 (for couple of hours between 5 to 8 pm)

Dates when Base Case Inlet T> 29.8: July 8 to July 13, 2012 (for few hours between 2 to 11 pm); Aug 7, 2012 (at 5pm and 9 pm)

Predicted average daily temperature at two locations in the cooling pond under existing and base case conditions:

	Existing Case (°C)	**Base Case (°C)**	**Difference (°C)**
Temperature at the Condenser Inlet			
Maximum	28.8	29.9	1.1
Average	14.3	15	0.7
99th Percentile	27.2	28.3	1.1
Temperature at Blowdown			
Maximum	29.7	31.2	1.5
Average	14.3	15.1	0.8
99th Percentile	28	29.5	1.5

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Water Quality

Predicted In-stream Concentrations in the North Saskatchewan River Downstream of the Blowdown Outfall Compared to NSR Water Quality Objectives

Parameter	Units	NSR Water Quality Objectives[e]			NSR Upstream of GGS	GGS Blowdown WQ			Predicted Instream Concentrations[e]		
		Condition[f]	50th Percentile[c]	95th Percentile[d]		Existing Case	Base Case (TDS limit of 370 ppm)	Base Case (TDS limit of 250 ppm)	Existing Case	Base Case (TDS limit of 370 ppm)	Base Case (TDS limit of 250 ppm)
Total Dissolved Soilds	mg/L	IC	196	235	230	292	373	280	231	232	231
		OW	186	248							
Calcium	mg/L	IC	46	53	44.3	45	60	53	44	44	44
		OW	42	46							
Chloride	mg/L	IC	0.7	2.6	2	3.4	3.8	2.4	2.0	2.0	2.0
		OW	0.8	2.4							
Magnesium	mg/L	IC	-	-	14.4	26	30	21	15	15	15
		OW	-	-							
Barium	mg/L	IC	-	-	0.0735	0.12	0.14	0.12	0.074	0.074	0.074
		OW	-	-							
Sodium	mg/L	IC	-	-	5	37	42	22	5.4	5.4	5.3
		OW	-	-							
Sulphate	mg/L	IC	45	52	42.2	137	155	93	43	44	43
		OW	38	48							
Fluoride	mg/L	IC	0.12	0.21	**0.122**	0.31	**0.35**	**0.23**	0.12	0.12	0.12
		OW	0.12	0.19							

(a) Based on NSWA (2010) Reach C downstream of the Brazeau River confluence to Devon.

(b) IC = ice covered; OW = open water.

(c) Using the 50th percentile statistic as an objective means at least half of future measurements should be below this value; and there should be no statistically significant, increasing trend detected in the analysis of future, long-term monitoring data.

(d) Using the 95th percentile statistic as an objective means at least 95% of future measurements should be below this value; and there should be no statistically significant increasing trend detected in the analysis of future, long-term monitoring data.

(e) calculated based on the minimum 7-day, 1 in 10 year flow (7Q10) for the NSR

" - " symbol indicates no applicable guideline, no applicable objective or no available data.

Bold numbers indicate concentration exceeds Chronic Guideline

References:

AEP (Alberta Environmental Protection). 1995. Water Quality Based Effluent Limits Procedures Manual.

CCME (Canadian Council of Ministers of the Environment). 1999. (with updates to 2011). Canadian Environmental Quality Guidelines. Winnipeg, MN.

Health Canada. 2008. Summary of Guidelines for Canadian Drinking Water Quality. Prepared by the Federal-Provincial Subcommittee on Drinking Water of the Federal-Provincial-Territorial Committee on Environmental and Occupational Health.

NSWA (North Saskatchewan Watershed Alliance). 2010. Proposed Site-Specific Water Quality Objectives for the Mainstem of the North Saskatchewan River. Edmonton, Alberta. Available online: http://www.nswa.ab.ca/userfiles/NSWA2010-proposed-site-specific-water-quality-objectives.pdf

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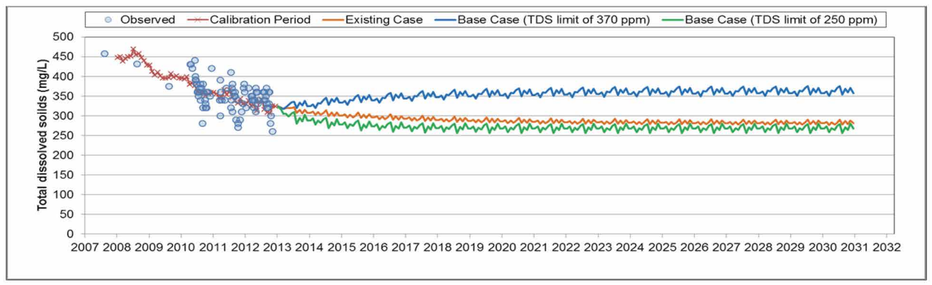
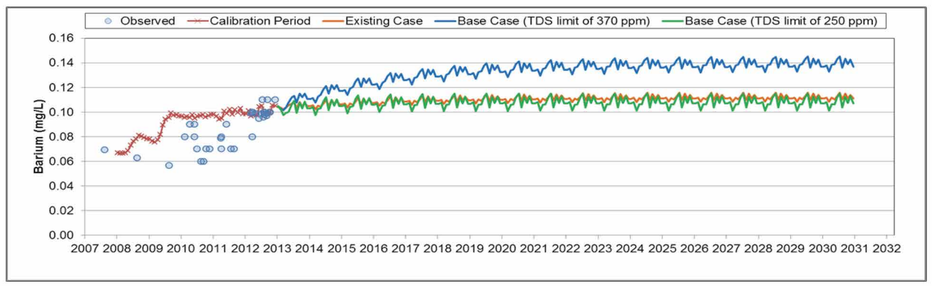
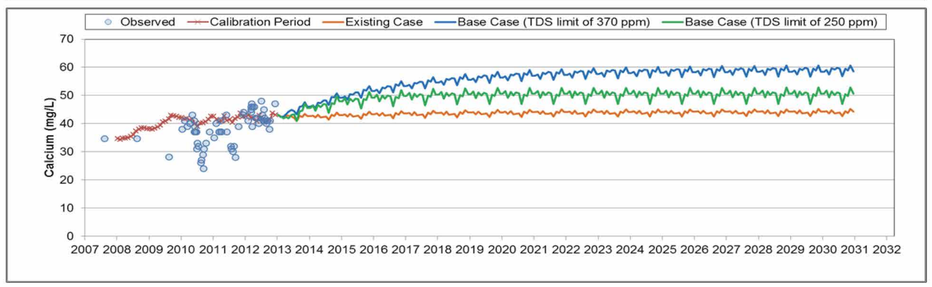
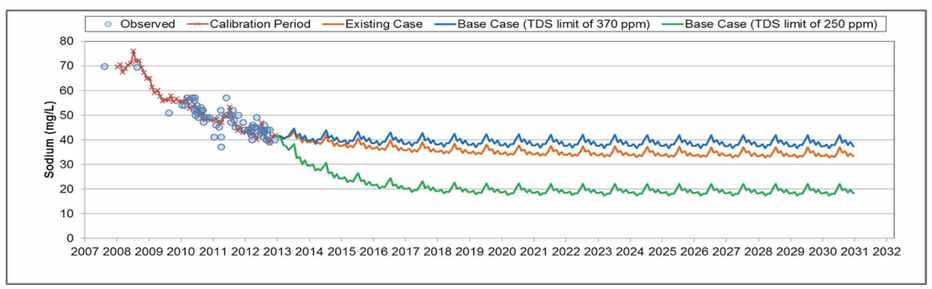
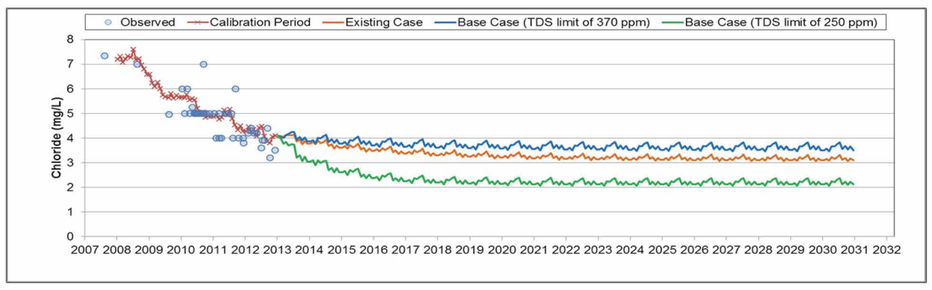
Water Quality

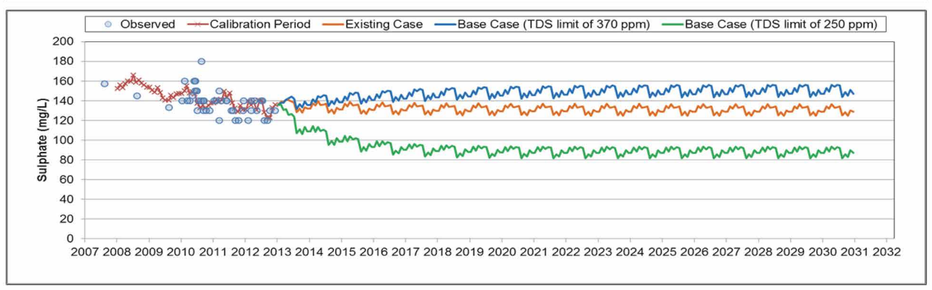


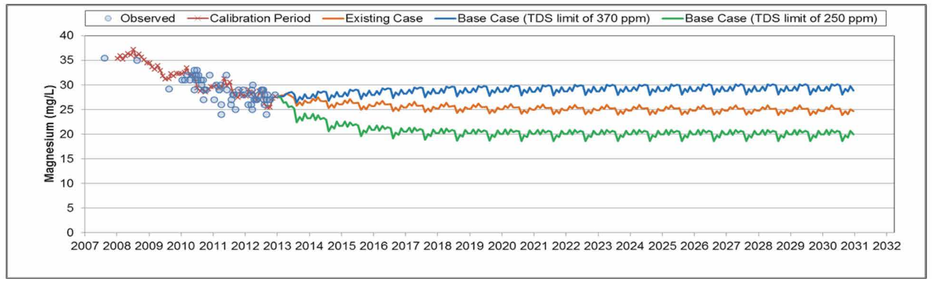


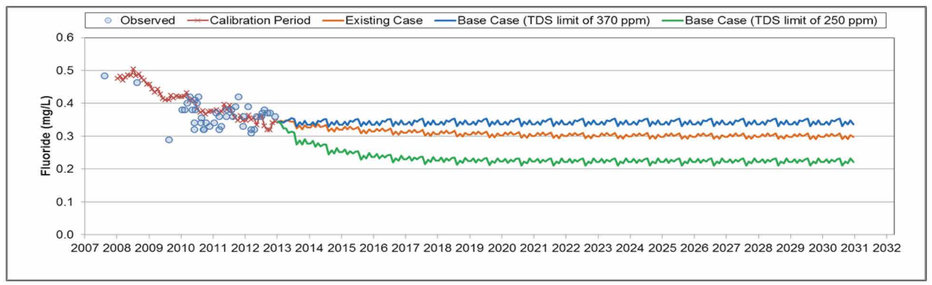












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Noise

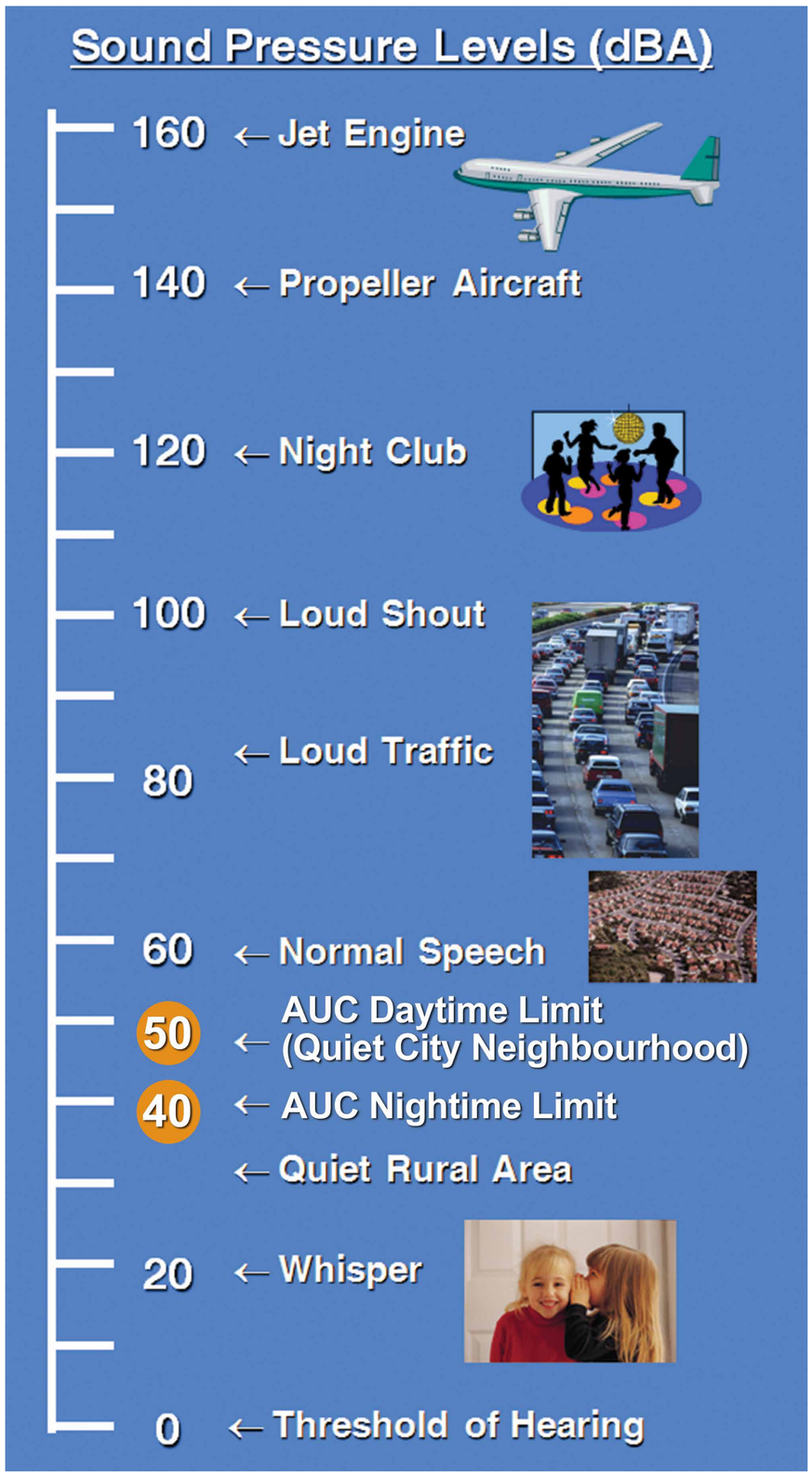
Total noise emissions from the Project will comply with the AUC's Rule 012 – Noise Control.

The Rule allows for the permissible sound levels at the most impacted dwelling(s) from the boundary of the facility property during summertime conditions to be:

- 40 dBA Leq nighttime
- 50 dBA Leq daytime

In addition, the Project will comply with any noise level restrictions required by the County of Leduc's noise bylaws and any noise conditions within the Development Permit issued by the County for the Project.

Acoustic treatment of the buildings and placement of silencers on the air intakes and exhaust stacks of the gas turbines are some of the options to mitigate sound generation from the power plant.



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Roads and Traffic

As the Project will be sited within the existing Genesee footprint, no new roads will need to be created, and no existing public roads will require closure.

Due to the Project being gas-fired, daily truck hauls will not be required to or from the site once operations commence.

Capital Power will work with Alberta Transportation and the County of Leduc to obtain all necessary permits required for use of local roads.

Highway 770 & 627 Intersection

Access to the Project site is off of Highway 770 which will be the main corridor for worker and material transportation during construction. Capital Power understands that the Highway 770 and 627 intersection is a safety concern for residents.

Capital Power has engaged Alberta Transportation, local MLAs and other local industry and will be working in partnership with Alberta Transportation to support change at the intersection.

Capital Power is committed to maintaining a safe travelling environment to our Genesee facility to minimize the possibility of future accidents involving our workers, contractors and neighbouring families.

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Genesee Generating Station Units 4 & 5

Supporting Infrastructure

Transmission and Substation

Electricity generated by the Project will be transmitted to the adjacent Genesee Substation, which will undergo a minor expansion as a result of the Project. No new transmission lines are required to transfer the energy from the Substation to the provincial power grid.

Pipeline

An underground natural gas pipeline will be developed for the Project and will be approximately 78 kilometres in length. The pipeline will connect to an existing high pressure line in the region and will require a separate regulatory approval process prior to construction.

Additional Infrastructure

This includes:

- Minor additional roads to be constructed;
- Cooling and fire protection water pump house and associated pipelines;
- Aqueous ammonia storage for the selective catalytic reduction (SCR) system; and
- Demineralized tankage and storage for process treated water.

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Genesee Licence Renewal – Background and Overview

Background and Process Overview

The *Environmental Protection and Enhancement Act (EPEA)* approval for the existing GGS (Units 1–3) is required to be renewed every ten years. The current approval expires February 1, 2015.

The EPEA approval documents the environmental parameters the Genesee site must operate within, such as the monitoring and reporting of air emissions, wastewater, waste management, soil and the biomonitoring program.

Capital Power anticipates submitting the renewal application to ESRD by late 2013 or early 2014. The renewal application must meet ESRD's *Guide to Content for Industrial Approval Applications: New, Renewal and Amendment*.

Updates and Proposed Revisions

Capital Power is proposing a number of revisions and updates to the existing EPEA approval. This includes:

- Clarification and update of approval conditions to reflect operational changes and technical improvements:
  - Addition of approved mercury control equipment as a site air emission source;
- Minor amendment to approval conditions when operating with natural gas;
- Clarification and update of definitions;
- Clarification and update of reporting requirements.

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Genesee Generating Station Units 4 & 5

Regional Setting