



# Bioenergy Call Phase I

## BC Transmission Corporation & BC Hydro

### Joint Information Session

February 20, 2008

# Agenda

1:30pm	Welcome & Introduction	Bryan Corns
1:40pm	Transmission Interconnection Process	Bryan Corns
2:45pm	Distribution Interconnection Process	Laila Bassim
<b>3:15pm</b>	<b>BREAK</b>	
3:30pm	Studies Overview and Data Requirements	Robert Pan
4:55pm	Wrap-up & Thank-You	Bryan Corns

# Introduction

## BCTC:

### Market Operations

Janet Fraser – Manager Market Operations

Bryan Corns – Manager Interconnections

Jim Ko – Market Operations Project Manager

Brenda Ambrosi – Customer Services Manager

### System Planning and Performance Assessment

Robert Pan – Interconnections Planning Manager

Steven Pai – Chief Planning Engineer

## BC Hydro:

### Generator Interconnection & Transmission Services

Laila Bassim – Specialist Engineer

### Power Acquisition

Jim Scouras – Manager Major Power Calls

# BC Transmission Corporation (BCTC)

- Provincial Crown Corporation that was incorporated May 2, 2003
- Responsibilities:
  - plan, operate, maintain, and manage BC Hydro's high-voltage electric transmission system
  - provide wholesale transmission services
  - provide interconnection services
  - provide open, non-discriminatory access to eligible customers for transfer capability by administering the Open Access Transmission Tariff (OATT)
- Operates under the Transmission Corporation Act
- Regulated by the British Columbia Utilities Commission (BCUC)

# Open Access Transmission Tariff (OATT)

- Defines the rates, terms and conditions of transmission and Interconnection services
- Two interconnection tariffs govern the procedures for interconnection to the BC transmission system
  - **Standard Generator Interconnection Procedure (SGIP)**
  - **Competitive Electricity Acquisition Process (CEAP)**

# Open Access Transmission Tariff (OATT)

## Standard Generator Interconnection Procedures (SGIP)

- Attachment M of OATT
- Structured procedure with defined "steps" and requirements in each step
- Generators must meet all the requirements in each step before proceeding to the next step
- Interconnection Queue is structured on First-Come First-Serve principle

# Open Access Transmission Tariff (OATT)

## Competitive Electricity Acquisition Process (CEAP)

- Attachment P of OATT
- Approved by BCUC in July 2007
- Modifies SGIP to allow for competitive BC Hydro Calls for Power
- All projects entering the call for power will have the same date / time stamp in the interconnection queue
- With a common queue position all projects are treated the same

## Important Dates to Remember:

**March 7, 2008**

- Interconnection Request Submission

**April 7, 2008**

- Interconnection Application Submission



# Transmission or Distribution Customer?

- **Rule of Thumb:**

- Distribution voltages are 35 Kilovolts and lower
- Transmission voltages are greater than 35 Kilovolts
- If your project is 15 Megawatts or greater you will most likely connect to the Transmission System
- Projects less than 15 Megawatts can connect to either the Transmission or Distribution System
- Projects less than 5 Megawatts should connect to the Distribution System

# Outline

1. **What Independent Power Producers Need To Do**
2. **Interconnection Process**
3. **SGIP Overview**
4. **CEAP Overview**
5. **What BCTC Will Do For You**
6. **Timeline Reminder**
7. **Q & A**

# What Independent Power Producers Need To Do (Transmission Interconnected Projects)

## Important Information:

- **Site Control**
  - Ownership / Lease / Right to Develop the property
  - Option to Purchase or Lease
  - Business arrangement with entity that has Site Control
- **Control of Point of Interconnection**
  - The owner of the Point of Interconnection must submit the Interconnection Request
  - A business arrangement with the owner of the POI is acceptable

# What Independent Power Producers Need To Do (Transmission Interconnected Projects)

## Important Information:

- **Point of Interconnection**
  - The POI is key to the Interconnection Process
- **Plant Capacity**
  - Size of the project in Megawatts
  - Remember the option for a one time increase in capacity
- **Plant Configuration**
  - Configuration of the project
  - One-line diagrams

# What Independent Power Producers Need To Do (Transmission Interconnected Projects)

## Important Information:

- **Material Change**
  - **Under the SGIP Tariff a material change between or within a study will result in loss of queue position. To avoid this you must:**
    - **Ensure that your Plant Capacity is sufficiently large to cover your one time capacity increase under the terms of the RFP**
    - **Ensure that your Point of Interconnection is finalized**

# What Independent Power Producers Need To Do (Transmission Interconnected Projects)

Provide to BCTC by **March 7, 2008:**



Interconnection Request Form

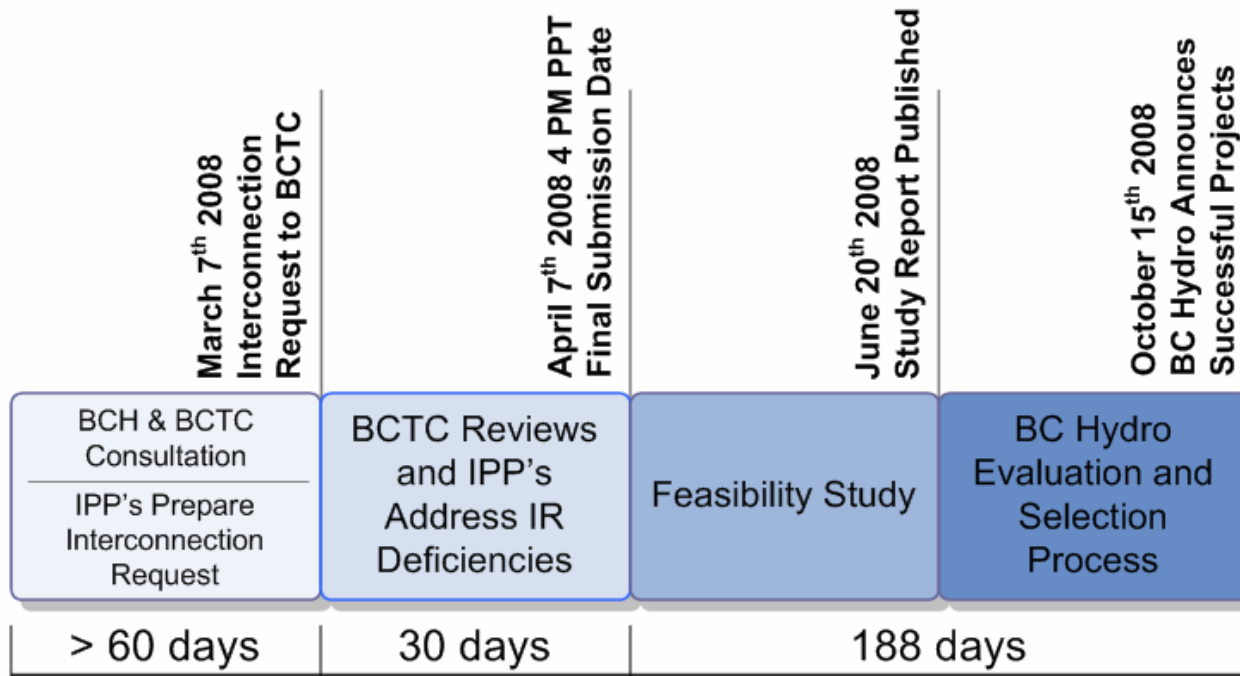
# What Independent Power Producers Need To Do (Transmission Interconnected Projects)

Provide to BCTC by **April 7, 2008**:

- Completed Interconnection Request Form
- Signed Feasibility Study Agreement
- Cheque for \$30,000
- Proof of Site Control

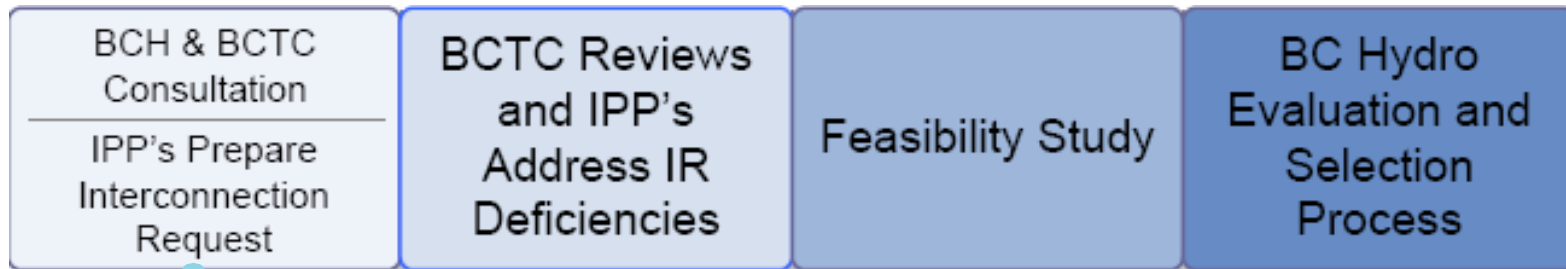
# Interconnection Process

## CEAP Process (Bioenergy Phase I)





# Interconnection Process



# Interconnection Process

## Work to date

- **BCTC has been in discussions with BC Hydro for the past several months**
- **Discussions have included;**
  - **Coordinating BC Hydro's requirements within BCTC's CEAP Tariff**
  - **Incorporating interconnection requirements within Request For Proposals (RFP) document**
  - **Discussing timelines and scope of RFP**
  - **Discussing possible special studies following Feasibility Study**

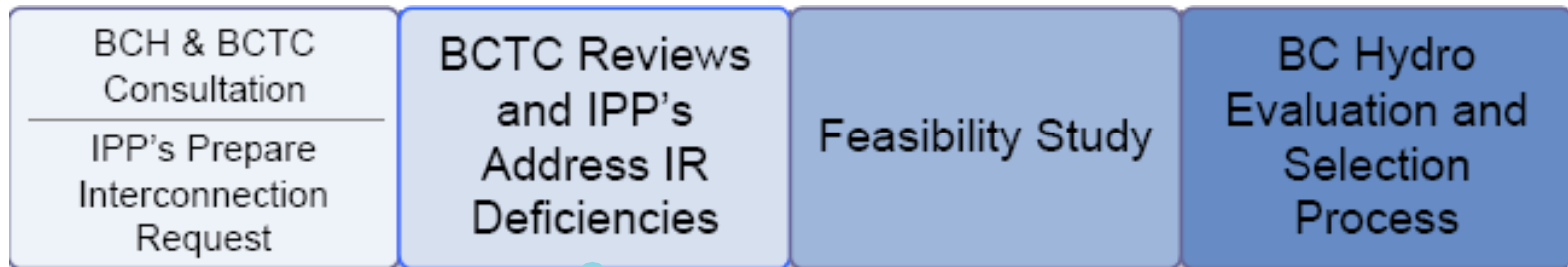
# Interconnection Process - Interconnection Request

- **For CEAP an electronic Interconnection Request form replaces Appendix 1 of the SGIP**
  - **Easier to fill out by the Proponent**
  - **Easier to use by the Planning Engineers**
  - **Data checking macros are included**
  - **Data is geared to the Feasibility Study**
  - **Deficiencies can be highlighted on the form**
  - **Filed with BCUC and awaiting regulatory approval**

## Interconnection Process - IR

- **BCTC will accept Transmission Interconnection Requests for the Bioenergy Call, Phase 1, RFP immediately**
  - For Transmission Interconnections, you must provide the BCTC IR to BCTC by **March 7, 2008** or your project will not proceed
  - For Distribution Interconnections, you follow a separate BC Hydro timetable
- **The Interconnection Request must be signed and sealed by a Professional Engineer licensed in BC**
  - Requirement of the Engineering Act of BC

# Interconnection Process - IR



## Interconnection Process - IR

- **Provide 1 hardcopy of the Interconnection Request form, signed and stamped by a Professional Engineer, along with an electronic copy**
- **BCTC will review the IR within 5 Business Days and identify deficiencies that need to be corrected**
  - **Deficiencies will be highlighted on the IR form**
- **The Independent Power Producer will have 10 Business Days to correct these deficiencies**

## Interconnection Process - IR

- **For Transmission Interconnections, the following information must be provided by 4:00 PM on April 7, 2008**
  - Completed Interconnection Request form
  - Signed Feasibility Study Agreement
  - \$30,000 deposit
    - \$15,000 Application Deposit
    - \$15,000 Feasibility Study Deposit
  - Proof of Site Control
- **Distribution Interconnections have a separate timetable**

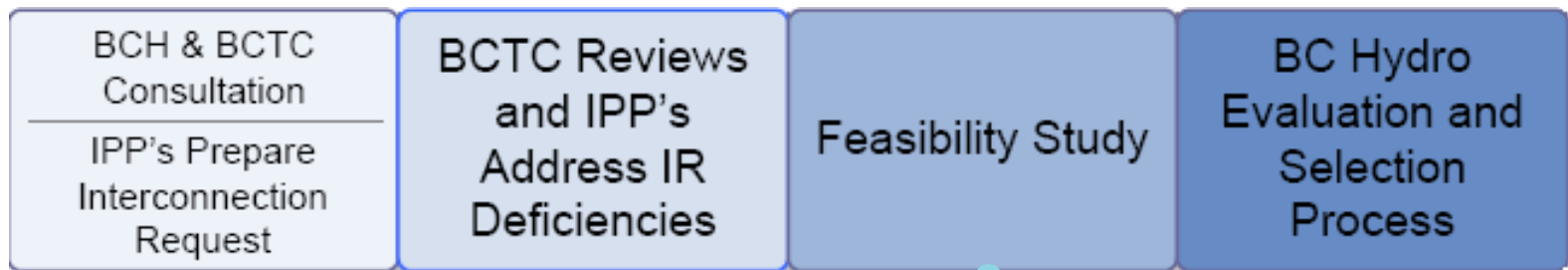
## Interconnection Process - IR

- If by **4:00 PM on April 7, 2008** the Interconnection Request is incomplete or any of the other required documents or deposit is absent, your application will be deemed withdrawn and you will not be allowed to proceed in this RFP





# Interconnection Process - Feasibility Study



# Interconnection Process - Feasibility Study

- **At 4:01 PM on April 7, 2008**
  - All Transmission and Distribution Interconnection projects that have complete applications will be assigned an Interconnection Queue position with a common date / time stamp, which ensures all projects are treated the same during the studies and evaluation.
  - The Feasibility Study begins with the development of study cases that all projects within the RFP will use.

# Interconnection Process - Feasibility Study

- **Feasibility Studies will be performed for both Transmission and Distribution Interconnections**
  - **Transmission Interconnection projects will be studied solely by BCTC**
  - **Distribution Interconnection projects will be studied by:**
    - **BC Hydro for the interconnection and distribution related issues; and**
    - **BCTC for Transmission and Transmission / Distribution interface issues**

# Interconnection Process - Feasibility Study

- **The Feasibility Study will include the following studies;**
  - **Power Flow Analysis**
    - Determines if there are any overloads or voltage problems caused by the project
  - **Short Circuit Analysis**
    - Determines if any equipment requires replacement due to increased fault levels

# Interconnection Process - Feasibility Study

- **The Feasibility Study will deliver:**
  - **A list of Facilities required to interconnect the Independent Power Producer to the Transmission System**
  - **A non-binding good faith cost estimate for the Interconnection Facilities**
  - **A non-binding good faith time estimate to construct the Facilities**

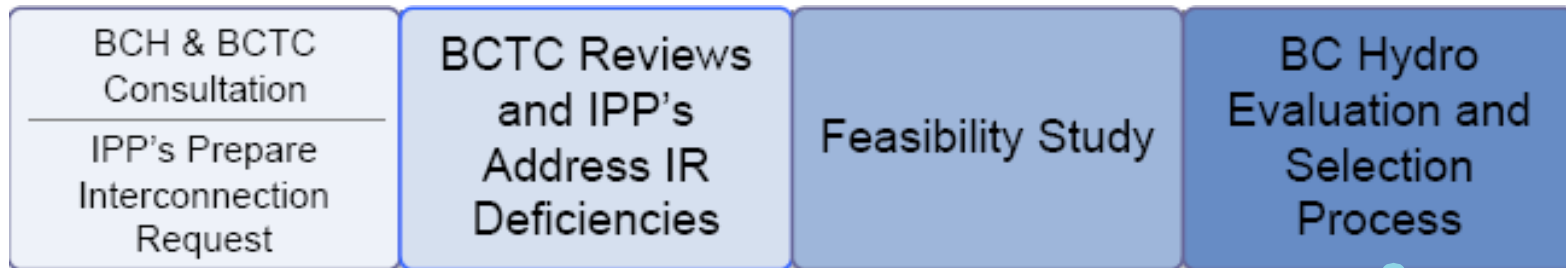
# Interconnection Process - Feasibility Study

- **Non Binding Good Faith Estimate?**
  - **The Feasibility Study has a very limited scope which is defined by the Tariff plus the 10 week study timeline**
  - **More detailed analysis in later studies may identify further facility requirements**

# Interconnection Process - Feasibility Study

- **The Feasibility Study will be:**
  - **Delivered to the Independent Power Producer on June 20, 2008**
  - **Delivered to BC Hydro on June 20, 2008**
  - **Posted on the BCTC website on July 4, 2008**
    - **Corporate information will be removed from posted report**

# Interconnection Process – Evaluation & Selection





# Interconnection Process - BC Hydro Evaluation

- **BC Hydro may request special studies to assist it in its evaluation**

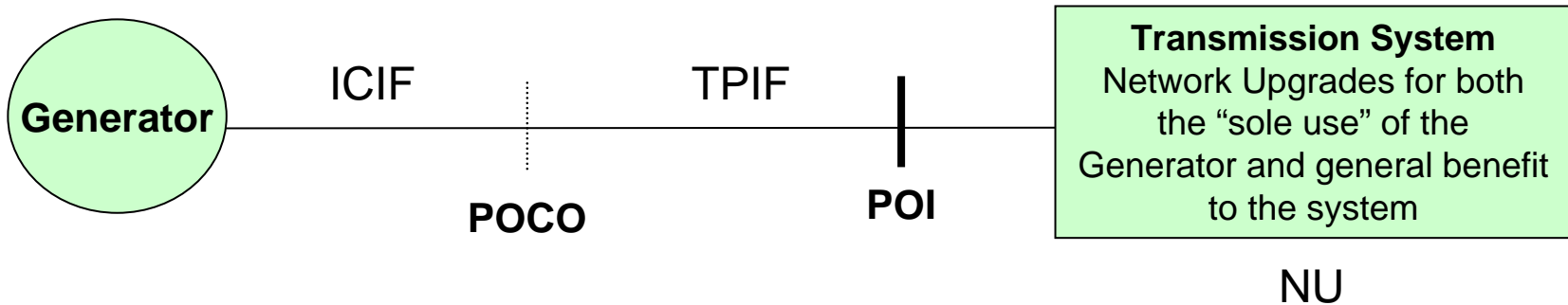
## Interconnection Process - BC Hydro Selection

- **Projects that are not selected will be deemed withdrawn from the Interconnection Queue**
- **Projects that are selected will:**
  - **Move from CEAP to the SGIP process**
  - **Be tendered a Combined Study Agreement**
- **BCTC will hold a workshop for selected projects to discuss the next phase of the interconnection process**

## Interconnection Process – Cost Responsibility

- **The Independent Power Producer will pay all study costs related to the Interconnection Studies.**
  - **Interconnection Feasibility Study**
  - **Interconnection Impact Study**
  - **Interconnection Facility Study**
- **BCTC only charges actual costs**

# Interconnection Process – Cost Responsibility



## Key Terms:

- Interconnection Customer Interconnection Facilities (ICIF)
- Point of Change of Ownership (POCO)
- Transmission Provider Interconnection Facilities (TPIF)
- Point of Interconnection (POI)
- Network Upgrades (NU)

# Interconnection Process – Cost Responsibility

- **Interconnection Customer Interconnection Facilities (ICIF)**
  - Built, owned and funded by the Customer
- **Transmission Provider Interconnection Facilities (TPIF)**
  - Built by BCTC
  - Owned by BC Hydro
  - Funded by the Customer
- **Network Upgrades (NU)**
  - Built and Funded by BCTC
  - Owned by BC Hydro
  - Covered by a Security posted by the Customer or BC Hydro

## SGIP - Overview

- **High level overview of SGIP is necessary to provide background for the CEAP process**
- **CEAP is in effect up to the selection of successful projects**
- **Successful projects will move into the SGIP process**

# SGIP - Overview

**The general framework of the interconnection process is as follows:**

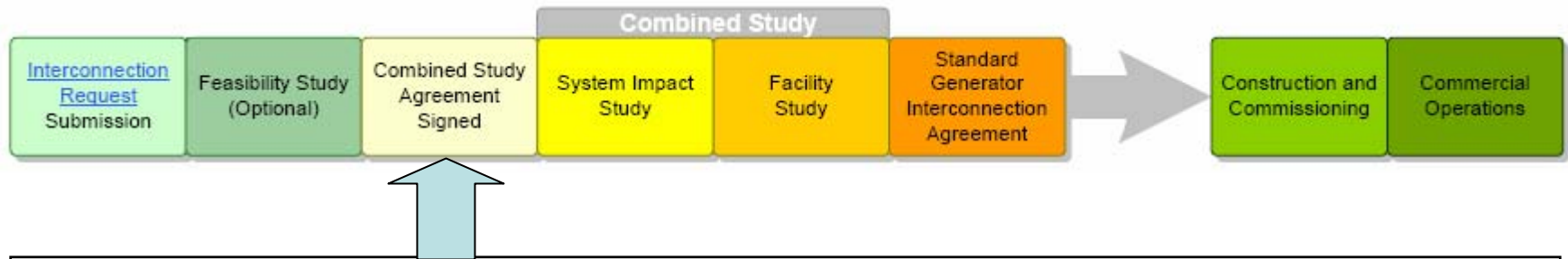
- Interconnection Request (IR)
- Feasibility Study
- Interconnection System Impact Study
- Interconnection Facilities Study
- Standard Generator Interconnection Agreement
- Design, Construction and Commissioning
- Commercial Operation

# SGIP - Process



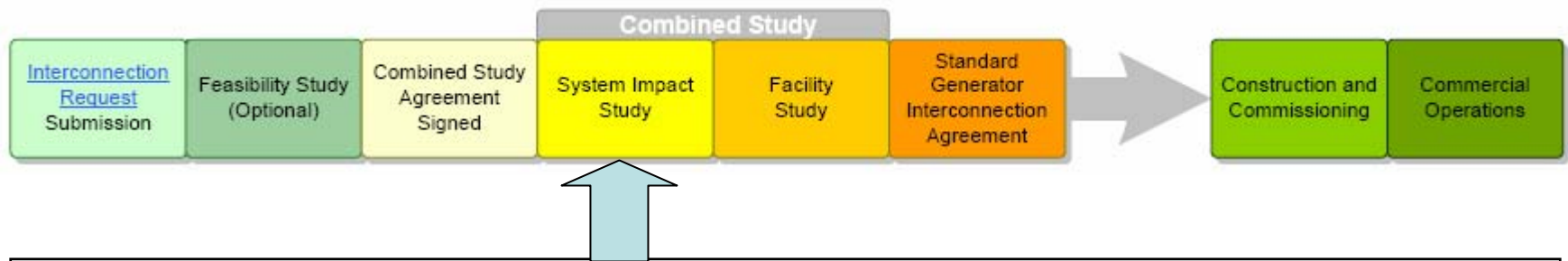


# SGIP – Combined Study Agreement



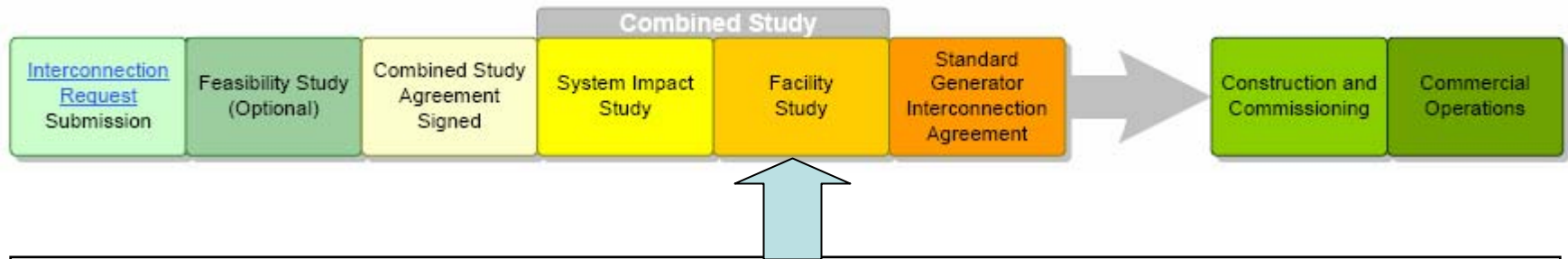
- The CEAP process covers the first two steps in SGIP
- Following Feasibility Study BCTC will tender a Combined Study Agreement
- This must be signed within 30 calendar days

# SGIP – System Impact Study



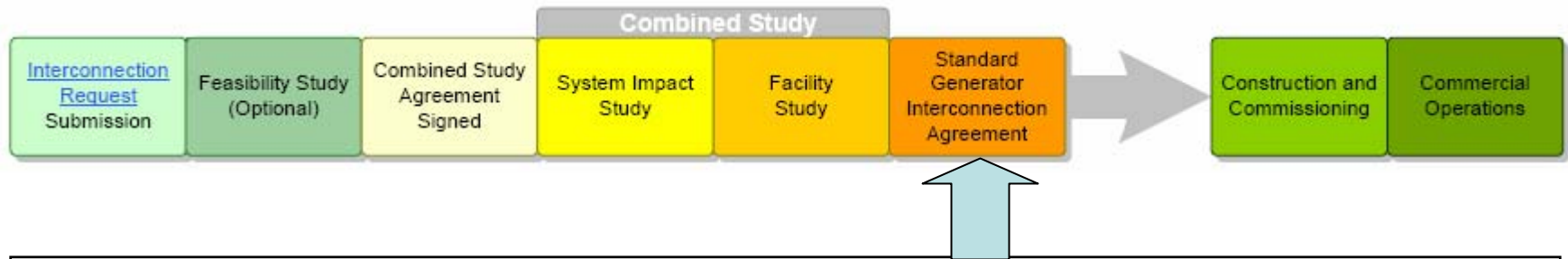
- Executed Combined Study Agreement
- \$75,000 study deposit
- GIES data spreadsheet with data completed for Combined Studies
- 90 Calendar Days to complete study

# SGIP – Facility Study



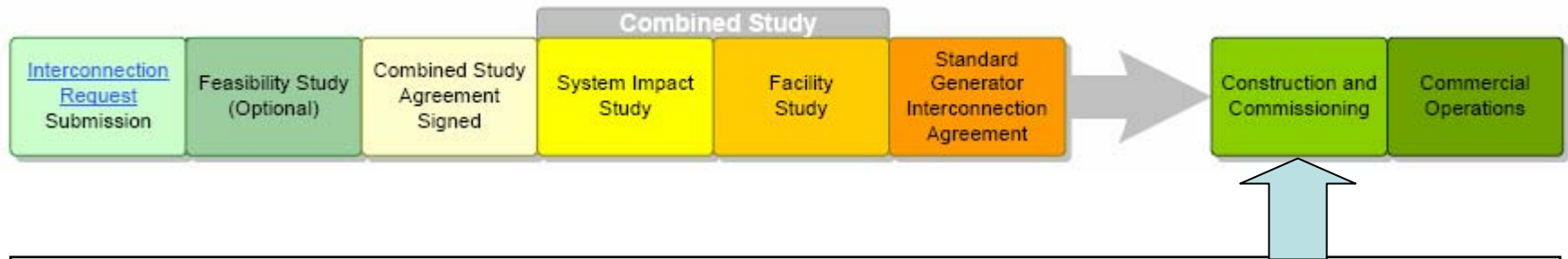
- **\$150,000 study deposit**
- **Additional data may be requested**
- **90 Calendar Days to complete for +/- 20% cost accuracy**
- **180 Calendar Days to complete for +/- 10% cost accuracy**

# SGIP – Standard Generator Interconnection Agreement



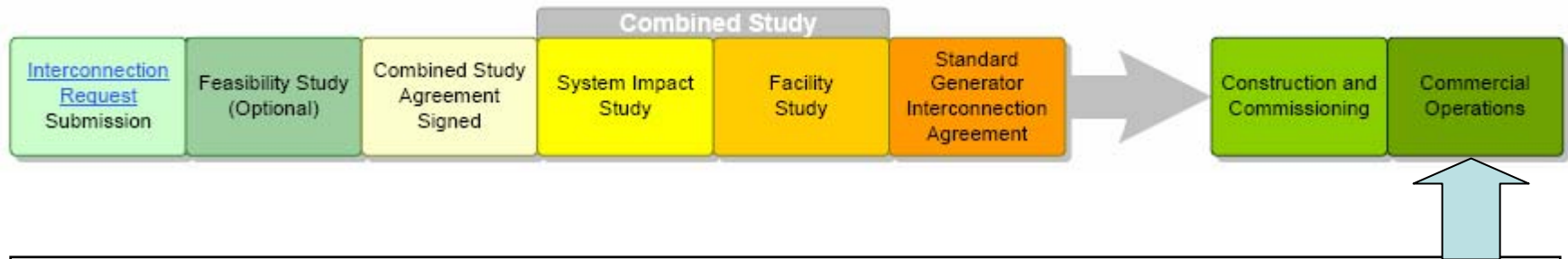
- **Following Facilities Study BCTC will tender a SGIA within 30 Calendar Days**
- **The SGIA must be signed and returned within 30 Calendar Days of receipt**
- **The SGIA combines the previous Facilities Agreement and Interconnections Agreement**

# SGIP – Construction and Commissioning



- **With a signed SGIA and required funding in place BCTC’s Asset Management Department will assign a Project Manager to oversee the design and construct the interconnection and network upgrades (if any).**
- **The Project Manager will ensure that the Generator and Interconnection Facilities are properly commissioned and tested.**

# SGIP – Commercial Operations



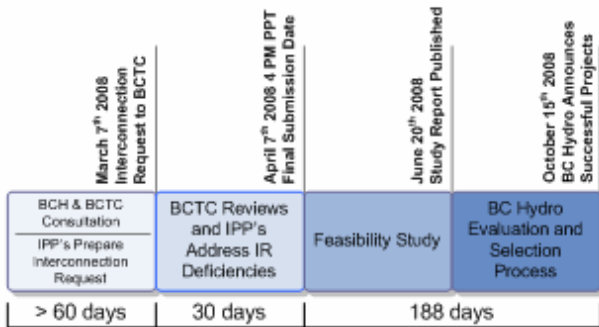
- **Once in Commercial Operation BCTC's Real Time Operations division will work with the Generator to implement schedules, coordinate outages and handle the day to day operational issues**
- **The SGIA covers the business relationship between BCTC and the Generator for the life of the project. Market Operations handles the business relationship with the customer.**

# Competitive Electricity Acquisition Process

- **Important Elements in the CEAP Tariff**
  - **A maximum of 210 calendar days between Interconnection Request submission date and project selection**
  - **No Scoping Meeting**
  - **The Feasibility Study is mandatory**
  - **BCTC will perform special studies as requested by BC Hydro to assist in the BC Hydro evaluation process**
  - **Following CEAP process the successful projects will follow the SGIP process timelines, starting with the Combined Study Agreement**

# CEAP – Process

## CEAP Process (Bioenergy Phase I)



## SGIP Process





## What BCTC Will Do For You

- Review IR for completeness and work with Independent Power Producer to resolve deficiencies
  - Up until **April 7, 2008**
- Study individual Interconnection Requests via the Feasibility Study
  - **April 8, 2008 to June 19, 2008**
- Release Feasibility Study
  - **June 20, 2008**

## What BCTC Will Do For You

- **Perform special studies for BC Hydro during its evaluation and selection process**
  - **June 21, 2008 to October 14, 2008**
- **Workshop for BC Hydro's selected Independent Power Producers**
  - **After October 15, 2008**

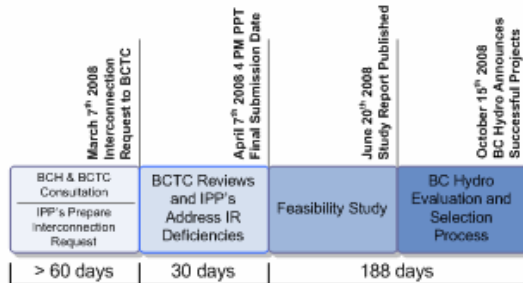
## BCTC's Commitment To You

- **Interconnections Group within Market Operations will provide overall Program Management during the Interconnection Process**
- **We will make the Interconnection Process as open and straightforward as possible**
- **As we move through the various stages of the Interconnection Process we will ensure these transitions are seamless**

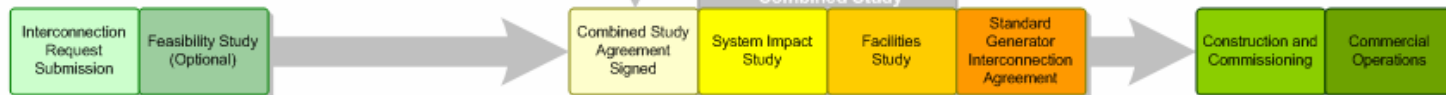
# BCTC's Commitment To You

## BCTC Market Operations Program Management

### CEAP Process (Bioenergy Phase I)



### SGIP Process



## Final Reminder – What you need to do (Transmission Interconnected Projects)

- **Ensure you have:**
  - **Site Control of the Property**
  - **Control of the Point of Interconnection**
- **Finalize:**
  - **Point of Interconnection**
  - **Plant Capacity**
  - **Plant Configuration**

# Final Reminder – What you need to do Checklist (Transmission Interconnected Projects)

Provide to BCTC by **March 7, 2008:**



**Interconnection Request Form**

# Final Reminder – What you need to do Checklist (Transmission Interconnected Projects)

Provide to BCTC by **April 7, 2008:**

- Completed Interconnection Request Form
- Signed Feasibility Study Agreement
- Cheque for \$30,000
- Proof of Site Control

# Contact Information (Transmission Interconnected Projects)

- **BCTC Website**
  - [http://www.bctc.com/generator\\_interconnection/](http://www.bctc.com/generator_interconnection/)
- **BCTC Interconnections Email**
  - [BCTC.Interconnection@bctc.com](mailto:BCTC.Interconnection@bctc.com)
- **Market Operations Interconnections Contacts**

- Bryan Corns	604-699-7368	<a href="mailto:Bryan.Corns@bctc.com">Bryan.Corns@bctc.com</a>
- Ryan Hefflick	604-699-7382	<a href="mailto:Ryan.Hefflick@bctc.com">Ryan.Hefflick@bctc.com</a>
- Calin Surdu	604-699-7513	<a href="mailto:Calin.Surdu@bctc.com">Calin.Surdu@bctc.com</a>



## Interconnection Request Submission Info (Transmission Interconnected Projects)

- **Obtain the Interconnection Request at:**  
[http://www.bctc.com/generator\\_interconnection/bchydro\\_ceap\\_processes/bioenergy\\_power\\_call/](http://www.bctc.com/generator_interconnection/bchydro_ceap_processes/bioenergy_power_call/)
- **Mail the completed IR to:**  
British Columbia Transmission Corporation  
Suite 1100, Four Bentall Centre  
1055 Dunsmuir Street  
Vancouver, BC V7X 1V5  
Attention: Interconnections Manager, Market Operations
- **Email the completed IR to:**  
[BCTC.Interconnection@bctc.com](mailto:BCTC.Interconnection@bctc.com)



# Questions