



Clean Power Call

BC Transmission Corporation & BC Hydro

Joint Information Session

July 8, 2008

Agenda

| | | |
|---------------|---|---------------|
| 1:30pm | Welcome & Introduction | Rohan Soulsby |
| 1:40pm | Transmission Interconnection Process I | Ryan Hefflick |
| 2:10pm | Transmission Interconnection Process II | Calin Surdu |
| 2:40pm | Distribution Interconnection Process | Laila Bassim |
| 3:10pm | BREAK | |
| 3:25pm | Studies Overview and Data Requirements | Robert Pan |
| 3:55pm | Wind Interconnection Requirements | Steven Pai |
| 4:20pm | Key Dates and Reminders | Bryan Corns |
| 4:30pm | Wrap-up & Thank-You | Bryan Corns |

Introduction

BCTC:

Market Operations and Development

Rohan Soulsby – Director, Market Operations and Development

Bryan Corns – Manager Interconnections

Ryan Heflick – Client Services Manager

Calin Surdu – Client Services Manager

Lorrie MacGregor – Client Services Manager

Jason Rennie – Client Services Manager

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 and Transmission Services

Laila Bassim – Specialist Engineer

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)

Purpose

Further to BC Hydro's morning session, which provided an overview of the Clean Power Call RFP, the registration process and timeline, BCTC's afternoon session will provide general technical information required by applicants in order to participate in the Clean Power Call

Important Dates to Remember:

October 17, 2008

- Initial Interconnection Request Submission

November 17, 2008

- Complete Interconnection Application Submission

Second Workshop:

September 15, 2008

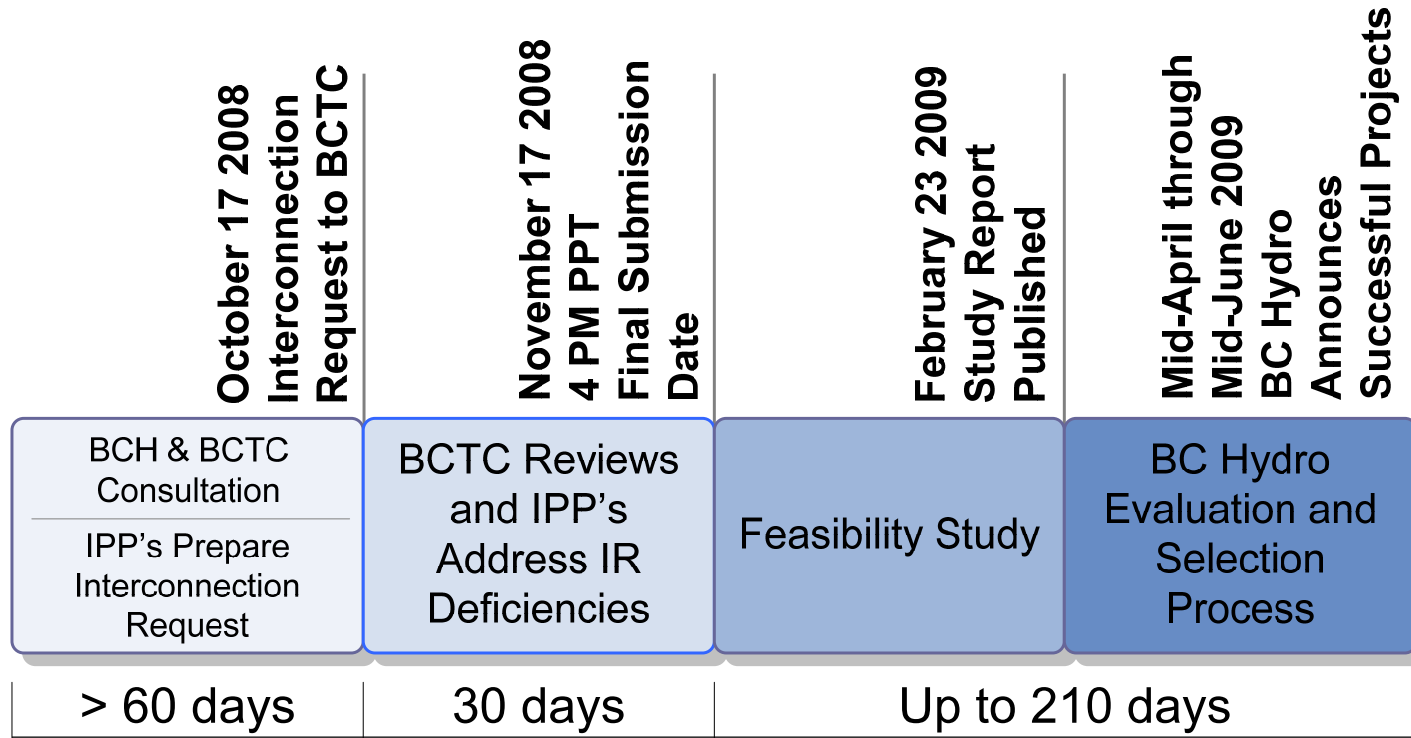
- Time and location to be announced, all participants in this July workshop will be notified
- Limited to Proponents registered in Clean Power Call and their Consultants
- More detailed discussion on Interconnection Request submissions

BCTC will accept Interconnection Requests for the Clean Power Call following the September workshop

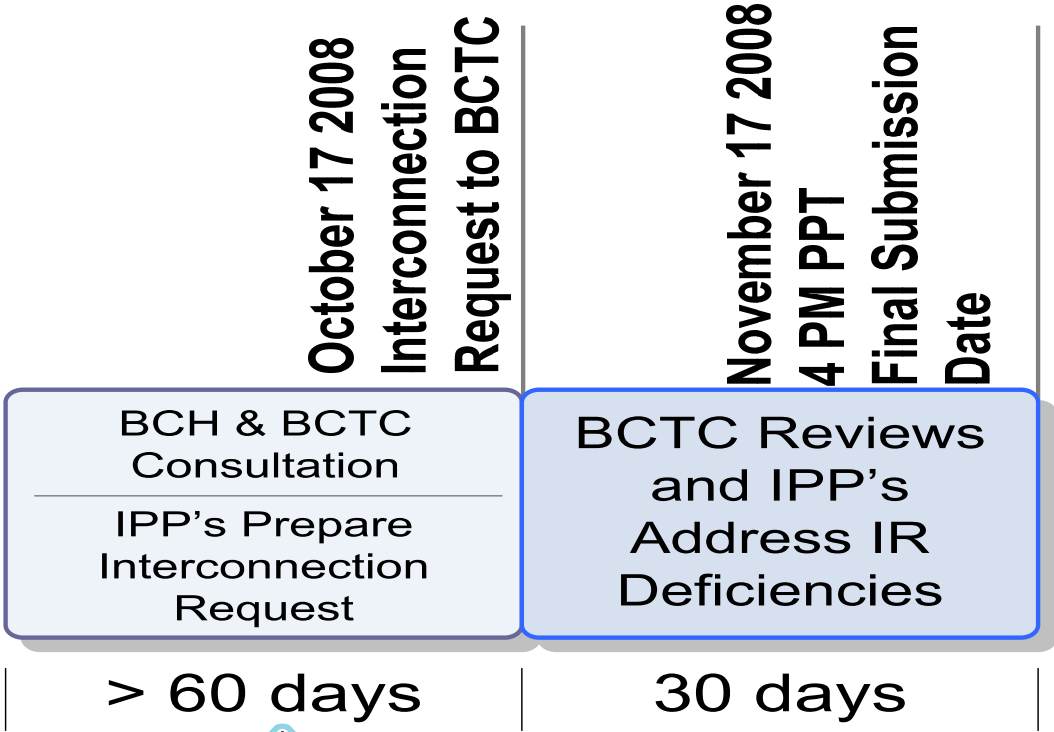
Transmission Interconnection Process I

Ryan Hefflick

CPC Interconnection Process



CPC Interconnection Process: IR Submission



The Key to a Valid Transmission IR Submission: What Must You Do to be Successful?

For Transmission Interconnections, you must provide the following to BCTC by **October 17, 2008:**



Interconnection Request Form

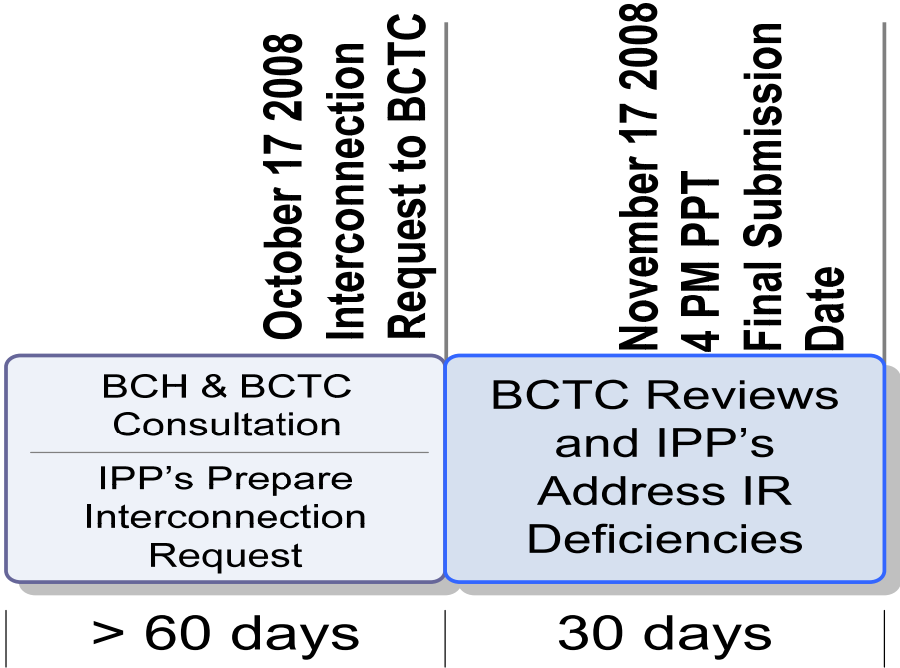
Provide 1 hardcopy of the Interconnection Request form, signed and stamped by a Professional Engineer, along with an electronic copy



Cheque for \$15,000

BCTC will start accepting Transmission Interconnection Requests (IR) for the CPC following BCTC's September 15, 2008 Interconnection Workshop

CPC Interconnection Process: Deficiency Review & Final Submission



The Key to a Valid Transmission IR Submission: What Must You Do to be Successful?

For Transmission Interconnections, you must provide the following to BCTC by **November 17, 2008**:

- Completed Interconnection Request
- Signed Feasibility Study Agreement
- Second Cheque for \$15,000
- Proof of Site Control (Optional)

The Key to a Valid Transmission IR Submission: Keys to Success

- **Begin working on completing the IR data form – Today**
- **Seek the assistance of a qualified Engineering Services provider**
 - The Interconnection Request must be signed and sealed by a Professional Engineer licensed in BC (Requirement of the Engineering Act of BC)
 - Better chance of “getting it right” the first time

The Key to a Valid Transmission IR Submission: Keys to Success

- **Point of Interconnection (POI)**
 - The POI is key to the Interconnection Process
 - The POI must be a clear and specific point on the existing BC Transmission System
 - Control of POI
 - » The owner of the POI **must** submit the IR

The Key to a Valid Transmission IR Submission: Keys to Success

- **Plant Capacity**

- Ultimate size of the project in Megawatts
- Consistent with future bid to BCH
- Remember to account for any options for a one time increase in capacity

- **Plant Configuration**

- Configuration of the project
- One-line diagrams

The Key to a Valid Transmission IR Submission: Keys to Success

- **Demonstration of Site Control**
 - Ownership / Lease / Right to Develop the property
 - Option to Purchase or Lease
 - Business arrangement with entity that has Site Control
 - Optional at Feasibility Study stage
 - Required prior to System Impact Study

The Keys to a Valid Transmission IR Submission: Keys to Success

- **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

Final Reminders – What you need to do Checklist

You must provide to BCTC by:

October 17, 2008

- **Interconnection Request Form**
- **Cheque for \$15,000**

November 17, 2008

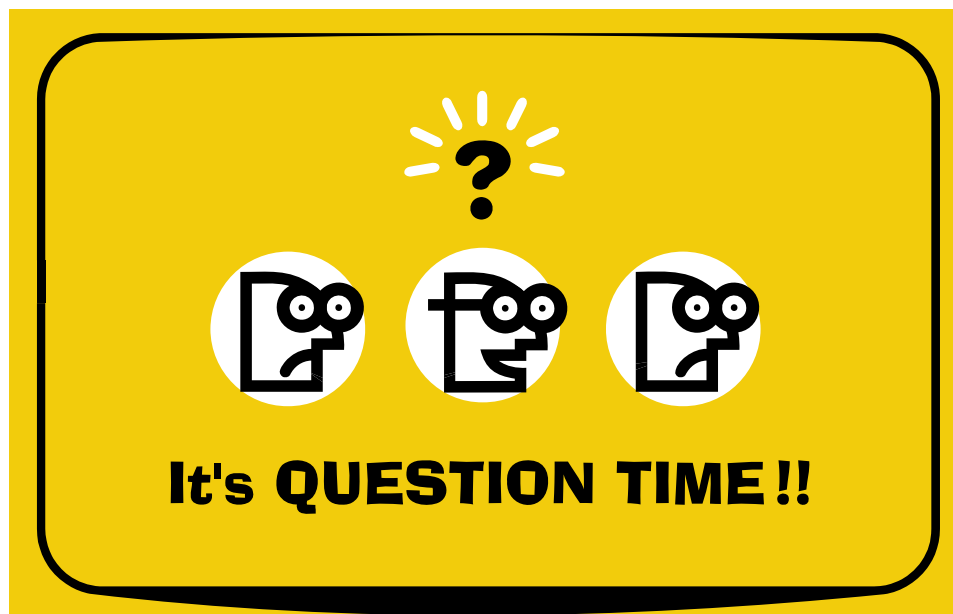
- **Valid Interconnection Request Form**
- **Signed Feasibility Study Agreement**
- **Cheque for \$15,000**
- **Demonstration of Site Control (Optional)**

Final Reminders

- If by **4:00 PM on November 17, 2008** the Interconnection Request is incomplete or any of the other required documents or deposit is absent, your application will be withdrawn and you will not be permitted to proceed in the Clean Power Call



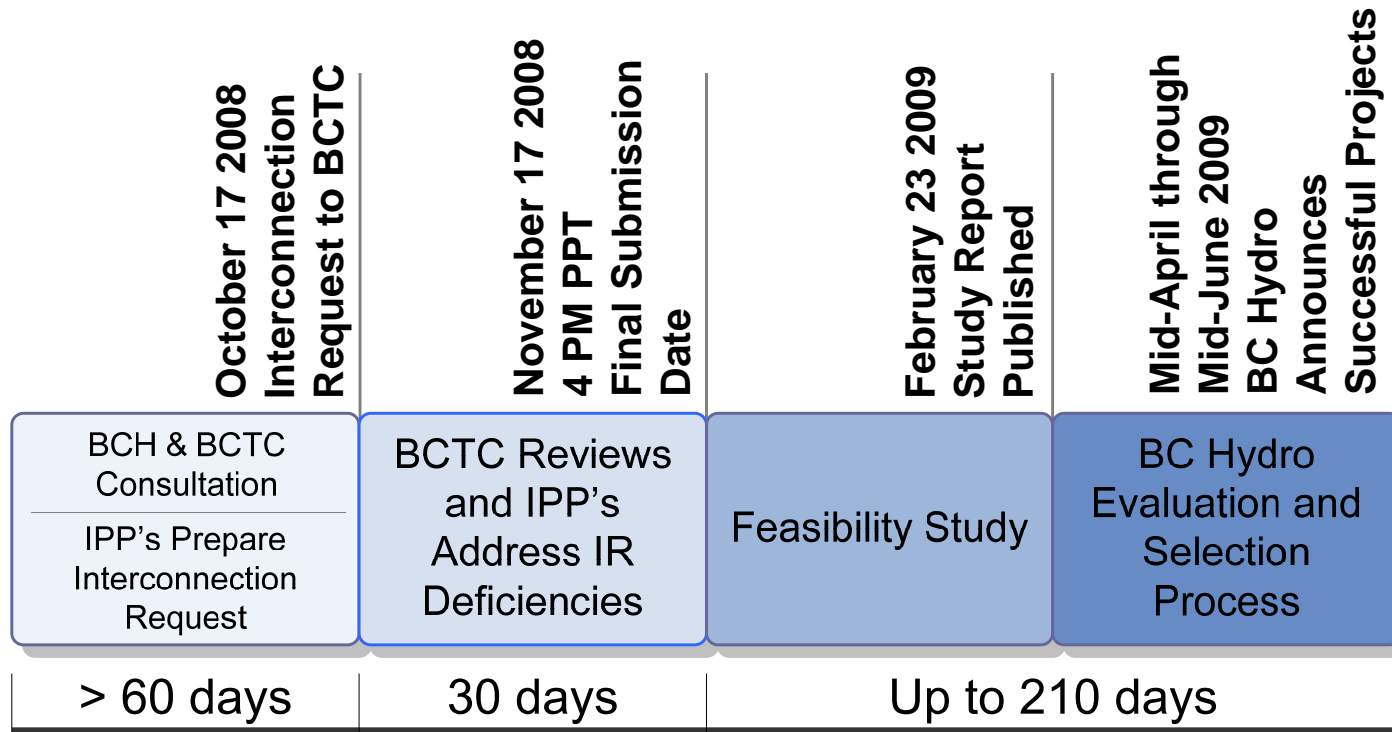
Questions



Transmission Interconnection Process II

Calin Surdu

Interconnection Process - Feasibility Study



Interconnection Process - Feasibility Study

- **At 4:01 PM on November 17, 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 generation interconnection queue is located on the BCTC website <http://www.bctc.com/interconnectionqueue.aspx>
 - The Feasibility Study begins with the development of study base cases that all projects within the RFP will use.



Generator Interconnection Queue Details

Please Select the Queue View: **Interconnection Request Queue Listing**

Last Updated on: Wednesday, July 02, 2008 12:30 AM

| Queue Ilo. | Date IR Received | Project ID | Status of IR | Plant Size (Max. Summer MW) | Plant Size (Max. Winter MW) | Technology / Fuel Type | Operating Region | POI | Projected In-service Date | Requested Service | Studies Available | Additional Information |
|--------------------------|------------------------|------------|-----------------|-----------------------------|-----------------------------|------------------------|-------------------|-------------------------------|---------------------------|-------------------|---------------------|------------------------------|
| 1 | 6/19/2007 12:00:00 AM | 15 | IFS in Progress | 90 | 90 | Hydro | Northern Interior | GMS Substation | 01/09/2017 | NRIS | JIS | View Details |
| 2 | 11/15/2007 12:00:00 AM | 17 | IIS in Progress | 10 | 10 | Hydro | Lower Mainland | Ruskin substation | 31/03/2012 | NRIS | | View Details |
| 3 | 12/3/2007 12:00:00 AM | 18 | IIS in Progress | 40 | 40 | Hydro | Lower Mainland | Cheakamus Generating Station | 08/04/2012 | NRIS | | View Details |
| 4 | 1/21/2008 12:00:00 AM | 19 | FES in Progress | 140 | 140 | Hydro | Lower Mainland | 2L2 | 17/01/2009 | NRIS/ERIS | | View Details |
| 5 | 2/21/2008 12:00:00 AM | 20 | FES in Progress | 1000 | 1000 | Hydro | | Mica Generating Station | 31/10/2013 | NRIS | | View Details |
| 6 | 2/28/2008 12:00:00 AM | 21 | FES in Progress | 530 | 530 | Hydro | | Revelstoke Generating Station | 31/10/2015 | NRIS | | View Details |
| 7 | 4/2/2008 12:00:00 AM | 22 | FES Pending | 28 | 28 | Hydro | | BR2 Generating Station | 01/06/2010 | NRIS | | View Details |
| Show IRs | 4/7/2008 12:00:00 AM | CEAP | | | | | | | | | | |
| UR | 5/2/2008 12:00:00 AM | 40 | Under Review | 123 | 123 | Wind | | 1L251 | 31/07/2012 | NRIS | | View Details |
| 9 | 5/26/2008 12:00:00 AM | 41 | FES Pending | 17 | 1 | Hydro | | 60L210 | 16/11/2011 | NRIS | | View Details |

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

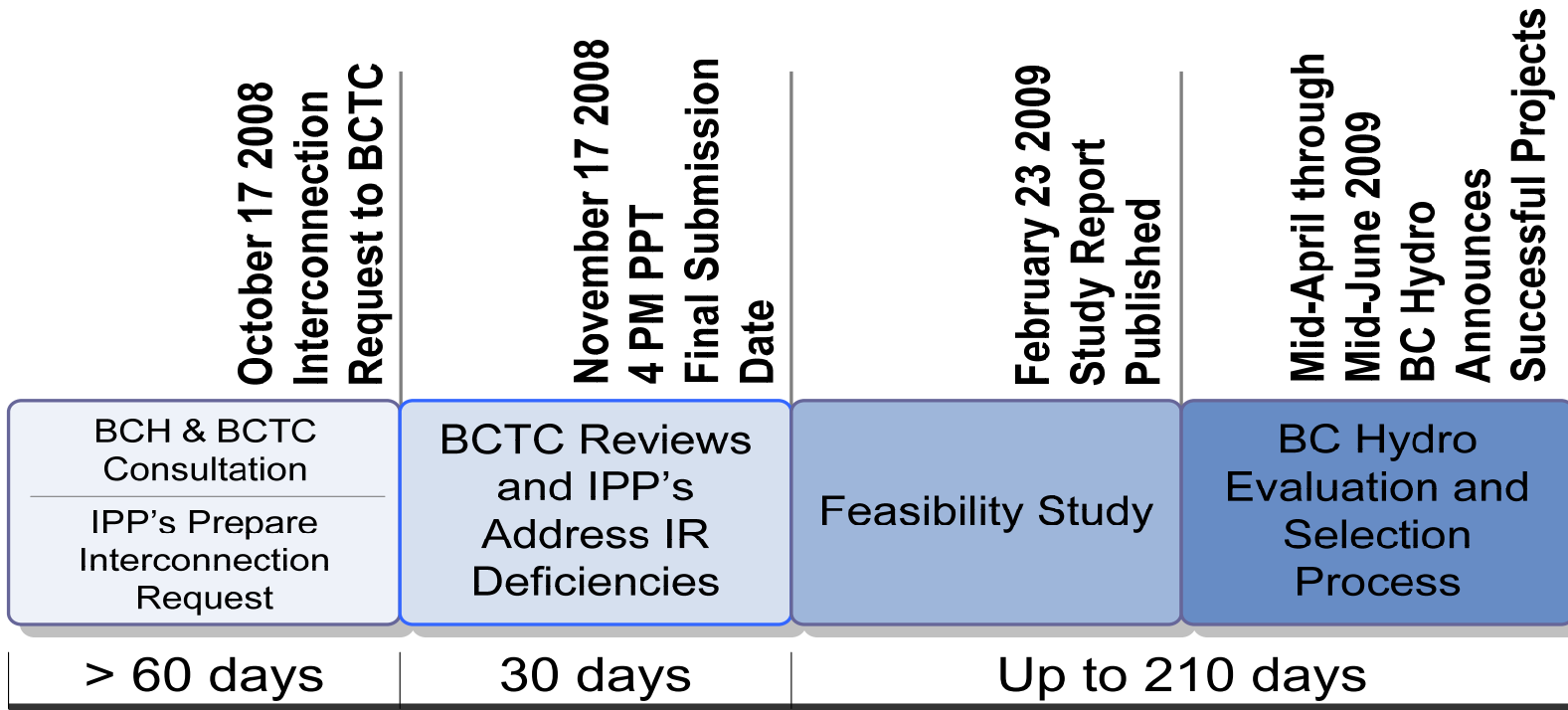
Interconnection Process - Feasibility Study

- **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

- **The Feasibility Study will be:**
 - **Delivered to the Independent Power Producer and BC Hydro on February 23, 2009**
 - **Posted on the BCTC website on March 9, 2009**
 - **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**

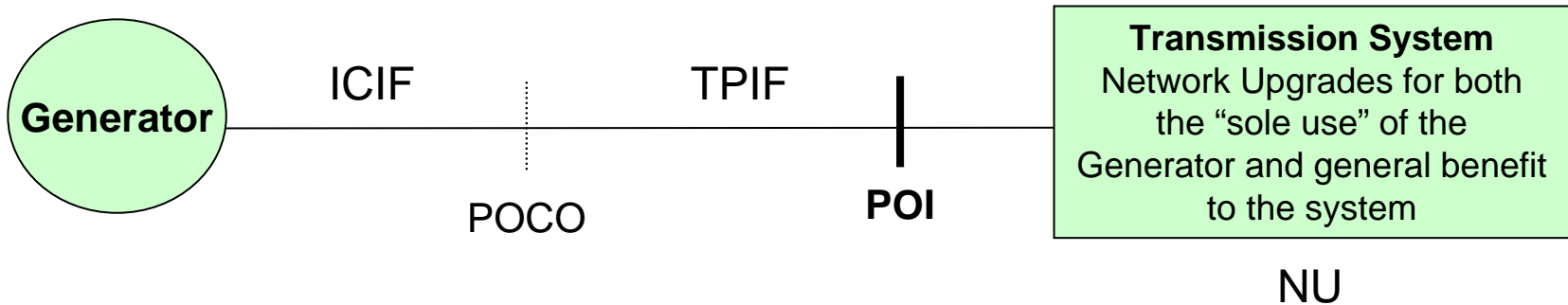
Interconnection Process - BC Hydro Selection

- **Projects that are not selected will be withdrawn from the Interconnection Queue**
- **Projects that are selected will:**
 - **Move from CEAP to the SGIP process**
 - **Be tendered a Combined Study Agreement**
- **BCTC may 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 (\$30,000 deposit)**
 - **Interconnection Impact Study (\$75,000 deposit)**
 - **Interconnection Facilities Study (\$150,000 deposit)**
- **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)

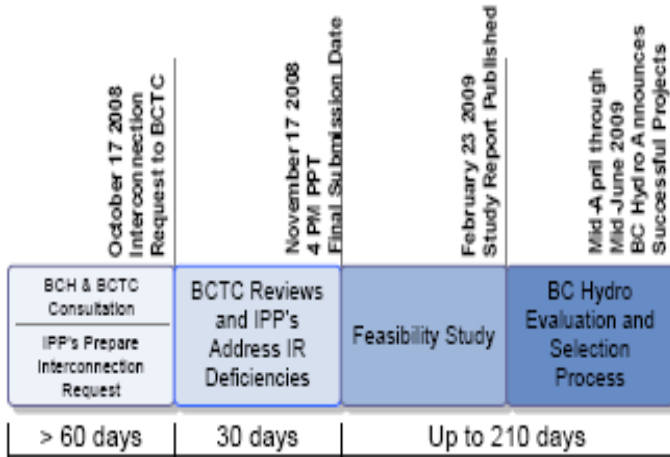
Interconnection Process – Cost Responsibility

- **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 pursuant to BC Hydro's RFP

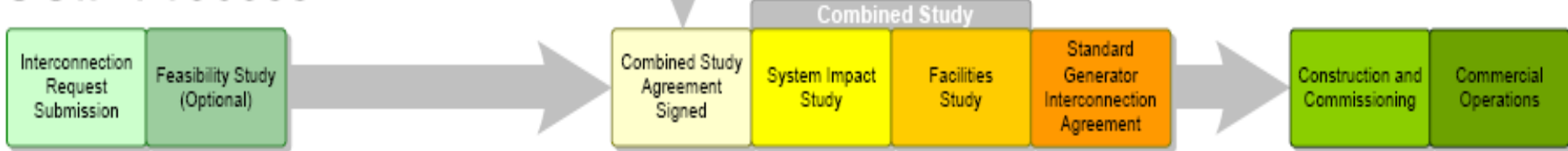
SGIP - Overview

- **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**

CEAP – Process



SGIP Process



What BCTC Will Do For You

- Review IR for completeness and work with Independent Power Producer to resolve deficiencies
 - **Up until November 17, 2008**
- Study individual Interconnection Requests via the Feasibility Study
 - **November 18, 2008 to February 22, 2009**
- Release Feasibility Study
 - **February 23, 2009**

What BCTC Does to Assist BC Hydro

- **Perform special studies for BC Hydro during its evaluation and selection process**
 - **February 24, 2009 up to June, 2009**

Questions

