

SCHEDULE B

KEY PRINCIPLES OF QUANTITATIVE EVALUATION METHODOLOGY FOR SMALL DISTRIBUTION-CONNECTED (SDC) TENDERS

1. ABSTRACT:

The purpose of this document is to describe the financial evaluation methodology that will be used in the CFT to determine the optimum portfolio of up to 50 MVA of maximum power output of small distribution-connected (SDC) projects (the Optimal SDC Portfolio), for delivery over a 25 year term, commencing in 2010.

Each project will be evaluated individually to determine its adjusted bid price (ABP), representing the delivered unit cost of energy to the Lower Mainland. SDC projects will be selected, subject to certain constraints, on the basis of lowest ABP, and will be recommended for award of EPA(s).

2. ADJUSTED BID PRICE FOR SDC TENDERS:

This section describes how the ABP is calculated for SDC tenders for the purpose of tender evaluation.

- Step 1 – The starting point is the project's Bid Price (BP).
- Step 2 - The next step is to determine the Plant Gate Price, which is the price of electricity before the interconnection/transmission adjustment.
- Step 3 - The final step is applying the interconnection/transmission adjustment to the Plant Gate Price to determine the ABP.

The ABP reflects the \$/MWh cost of energy delivered to the Lower Mainland.

If a project is in the Optimum SDC Portfolio, the bidder of that project will be awarded an EPA (SDC) containing the BP as tendered. The maximum power output will be based on the information provided in the preliminary interconnection study application.

The ABP is used strictly for evaluation purposes only. The BP, after adjustments as specified in the EPA (SDC), is used to determine the payments made under the EPA (SDC).

The determination of the ABP is as follows:

Step 1: Bid Price

Bid Price – The BP is the price per MWh tendered by a bidder. The BP is tendered in January 2006 dollars (the Base Year), and will be subject to annual escalation as specified in the EPA (SDC).

Step 2: Plant Gate Price

The following sections describe adjustments to the bid price to calculate the Plant Gate Price.

Green Credit – \$2.00/MWh will be deducted from the BP (which improves competitiveness) for bidders who have elected in their tenders to take the Green Option in the EPA (SDC). See the EPA (SDC) term sheet set out in Schedule D for further details on the Green Option.

Plant Gate Price – The BP, less the Green Credit.

Step 3: Adjusted Bid Price

The following section describes the interconnection/transmission adjustment to the Plant Gate Price to calculate the ABP.

Interconnection/Transmission Adjustment – A \$/MWh adjustment to the Plant Gate Price to reflect (1) project-specific impacts relating to interconnection and transmission impacts up to the bulk transmission system, and (2) transmission impacts on the bulk transmission system. The Interconnection/Transmission Adjustment is comprised of the following:

Interconnection Network Upgrades – A project-specific \$/MWh value will be added to the Plant Gate Price to reflect the financial impact to BC Hydro as a result of any network upgrade cost of the project being borne by BC Hydro. The \$/MWh value will be calculated by levelizing the network upgrade cost over the EPA term, and then dividing that value by the project’s deemed annual energy, determined by applying a 50% capacity factor to the maximum power output (assuming a unity power factor). This adjustment excludes network upgrade impacts on the bulk transmission system.

Interconnection Losses – A project-specific \$/MWh value will be added to the Plant Gate Price to reflect the financial impact to BC Hydro of increases (+) or decreases (-) in energy losses in the local area where the generation is sited. This adjustment excludes transmission loss impacts on the bulk transmission system.

Bulk Transmission - A \$/MWh value will be added to the Plant Gate Price to reflect the system average reinforcement and transmission loss impacts to BC Hydro of delivering energy from the nearest upstream bulk transmission substation to the Lower Mainland. The \$/MWh adjustment will be based on regional values provided in a table.

Adjusted Bid Price – The Plant Gate Price plus the Interconnection/Transmission Adjustment.

3. OPTIMAL SDC PORTFOLIO:

This section describes how the Optimal SDC Portfolio, not exceeding 50 MVA of maximum power output in aggregate, is determined.

All qualified SDC tenders will be assembled for ranking purposes, subject to these constraints:

- each tender in the portfolio must conform in all material respects with the CFT requirements (Qualification Constraint),
- the aggregate maximum power output in a portfolio must not exceed 50 MVA of maximum power output (Upper MVA Constraint),
- the aggregate maximum power output in a portfolio must be comprised of a minimum of 50% “BC Clean Electricity” (Clean Electricity Constraint),

- BC Hydro must confirm that the construction schedule for interconnection and network upgrades, if any, required in respect of each project is consistent with the COD required under the EPA (I/NU Development Constraint), and
- BC Hydro will have a discretion to establish, after tenders are submitted and with regard to the range and distribution of ABPs of qualified tenders, an Upper MVA constraint that is lower than 50 MVA. This discretion enables BC Hydro to avoid selection of a tender that, due to its maximum power output, fits within the 50 MVA Upper MVA Constraint, but which has an excessive cost, taking the range and distribution of tendered prices as a market indicator.

Each SDC project will be ranked on its ABP, and the Optimal SDC Portfolio will consist of those projects with the lowest ABP that (1) cumulatively have a maximum power output of less than or equal to the Upper MVA Constraint, and (2) cumulatively have a maximum power output of clean electricity projects of more than or equal to 50% of the total cumulative maximum power output of the portfolio.

Each tender in the Optimal SDC Portfolio will be recommended for award of an EPA (SDC).

4. ADDITIONAL SDC PORTFOLIO:

This section describes how BC Hydro may award additional EPAs in respect of SDC tenders not included in the Optimal SDC Portfolio. This will enable BC Hydro, in its discretion, to resolve any aggregate MVA underrun in SDC tender awards resulting from the Optimal SDC Portfolio falling below the target of 50 MVA of maximum power output due to project sizing – the “lumpiness problem”. In resolving the lumpiness problem, BC Hydro is also able to take the benefit of further well-priced tenders, which may not fit within the Optimal SDC Portfolio, due to the Upper MVA Constraint.

BC Hydro will reserve the right to select and award one or more EPAs in respect of additional SDC tenders (Additional SDC Portfolio) in addition to the tenders comprised in the Optimal SDC Portfolio. If BC Hydro exercises this discretion, it will apply the portfolio assembly constraints and selection methodology described above to the remaining pool of SDC tenders, except that it will first establish a further aggregate maximum power output limit (Additional Upper MVA Constraint) to be applied in lieu of the Upper MVA Constraint.

Consider the following example of 20 projects tendered into the SDC call:

Terminology and acronyms:

Bid Price	BP	(\$/MWh)
Green Credit	GC	(\$/MWh)
Plant Gate Price	PGP	(\$/MWh)
Interconnection/Transmission Adjustment		
Interconnection NU	INU	(\$/MWh)
Interconnection Losses	IL	(\$/MWh)
Bulk Transmission	BT	(\$/MWh)
Adjusted Bid Price	ABP	(\$/MWh)
Maximum power output	MPO	(MVA)
Clean Electricity	Clean	(MVA)

Summary table showing application of adjustments to twenty tendered Bid Prices, leading to twenty Adjusted Bid Prices in the ABP column.

	BP	GC	PGP	INU	IL	BT	ABP	MPO	Clean
A	55.0	-2.0	53.0	3.0	-1.0	7.0	62.0	1.1	1.1
B	65.0	0.0	65.0	6.0	1.0	7.0	79.0	7.1	7.1
C	60.0	-2.0	58.0	2.0	0.0	7.0	67.0	2.0	2.0
D	51.6	-2.0	49.6	1.0	-2.0	4.0	52.6	5.5	0.0
E	68.0	-2.0	66.0	0.0	3.0	-2.0	67.0	5.0	0.0
F	57.8	0.0	57.8	2.0	-0.3	7.0	66.5	3.8	3.8
G	61.5	-2.0	59.5	3.0	2.2	-2.0	62.7	8.3	0.0
H	58.0	-2.0	56.0	1.0	0.0	6.0	63.0	4.0	4.0
I	50.8	0.0	50.8	0.0	4.0	9.0	63.8	3.3	3.3
J	67.9	-2.0	65.9	6.0	-2.0	4.0	73.9	3.0	0.0
K	54.7	-2.0	52.7	5.0	-1.0	7.0	63.7	6.2	0.0
L	63.0	0.0	63.0	0.0	-5.0	0.0	58.0	3.7	3.7
M	57.0	0.0	57.0	7.0	3.0	-2.0	65.0	6.5	6.5
N	47.2	-2.0	45.2	3.0	-1.0	7.0	54.2	7.3	0.0
O	68.3	0.0	68.3	1.0	2.0	-2.0	69.3	9.5	0.0
P	53.2	0.0	53.2	4.0	4.0	6.0	67.2	2.2	2.2
Q	61.0	-2.0	59.0	0.0	0.0	9.0	68.0	1.1	1.1
R	59.9	0.0	59.9	4.0	-1.5	11.0	73.4	4.7	4.7
S	62.1	-2.0	60.1	6.0	1.5	-2.0	65.6	7.0	0.0
T	51.4	-2.0	49.4	2.0	2.7	0.0	54.1	2.0	2.0

After ranking on ABP, the tenders are now ready for the portfolio assembly process.

	ABP	MPO	Clean	Cumul MPO	Cumul Clean	% Clean
D	52.6	5.5	0.0	5.5	0.0	0.00%
T	54.1	2.0	2.0	7.5	2.0	26.67%
N	54.2	7.3	0.0	14.8	2.0	13.51%
L	58.0	3.7	3.7	18.5	5.7	30.81%
A	62.0	1.1	1.1	19.6	6.8	34.69%
G	62.7	8.3	0.0	27.9	6.8	24.37%
H	63.0	4.0	4.0	31.9	10.8	33.86%
K	63.7	6.2	0.0	38.1	10.8	28.35%
I	63.8	3.3	3.3	41.4	14.1	34.06%
M	65.0	6.5	6.5	47.9	20.6	43.01%
S	65.6	7.0	0.0	54.9	20.6	37.52%
F	66.5	3.8	3.8	58.7	24.4	41.57%
C	67.0	2.0	2.0	60.7	26.4	43.49%
E	67.0	5.0	0.0	65.7	26.4	40.18%
P	67.2	2.2	2.2	67.9	28.6	42.12%
Q	68.0	1.1	1.1	69.0	29.7	43.04%

O	69.3	9.5	0.0	78.5	29.7	37.83%
R	73.4	4.7	4.7	83.2	34.4	41.35%
J	73.9	3.0	0.0	86.2	34.4	39.91%
B	79.0	7.1	7.1	93.3	41.5	44.48%

The Optimum NFE Portfolio is determined to be comprised of the following eleven tenders:

	ABP	MPO	Clean
D	52.6	5.5	0.0
T	54.1	2.0	2.0
N	54.2	7.3	0.0
L	58.0	3.7	3.7
A	62.0	1.1	1.1
G	62.7	8.3	0.0
H	63.0	4.0	4.0
I	63.8	3.3	3.3
M	65.0	6.5	6.5
F	66.5	3.8	3.8
C	67.0	2.0	2.0
Total		47.5	26.4

Note that in the above example, it was necessary to first exclude project K, and then exclude project S (ie. the non-clean projects with the highest ABPs that would otherwise have satisfied the Upper MVA Constraint) to achieve the 50% Clean Electricity Constraint.