British Columbia Utilities Commission
Sixth Floor - 900 Howe Street
Vancouver, BC
V6Z 2N3
Attention: Mr. Robert J. Pellatt, Commission Secretary
Dear Sir:

## Re: Terasen Gas Inc. ("Terasen Gas") <br> Application for Approval of Transactions with respect to Southern Crossing Pipeline ("SCP") and Inland Pacific Connector ("IPC") Commission Staff Request

Terasen Gas submitted to the British Columbia Utilities Commission (the "Commission"), its application for approval of certain transactions with respect to SCP and IPC on June 1, 2005. Subsequently, Commission staff requested that Terasen Gas submit a copy of a prior application it had submitted on December 5, 2002, which was referenced in the June 1, 2005 submission. The December 5, 2002 Application was submitted in a Confidential manner, in recognition of the sensitive commercial nature of the arrangements with third parties, as set out in that application. Accordingly, Commission staff also asked Terasen Gas to identify any portions of the December 5, 2002 submission that should continue to be kept confidential, in the event the Commission distributed that document to stakeholders.

Attached is an electronic copy of the December 5, 2002 Application in its entirety. Terasen Gas has discussed the Commission request with Northwest Natural Gas Company ("NWN"), party to an agreement included in the December 5, 2002 Application. Terasen Gas and NWN are in agreement that, although it was justified to have the application kept confidential when filed, as approximately three years have passed the commercial sensitivity has diminished. As a result, Terasen Gas submits that it does not require any portions of the December 5, 2002 submission to be kept confidential.

We trust the Commission finds this in order. Should you have any questions with respect to this application, please contact Tom Loski at (604) 592-7464.

Yours truly,

## TERASEN GAS INC.

## Original signed by Tom Loski

For: Scott A. Thomson

# BC Gas Utility Lta. 

16705 Fraser Highway
Surrey, British Columbia
V3S $2 \times 7$

## BCGAS" CONFIDENTIAL

British Columbia Utilities Commission
$6^{\text {th }}$ Floor, 900 Howe Street
Vancouver, B. C.
V6Z 2N3

Attn: Mr. R. J. Pellatt, Commission Secretary
Dear Sirs/Madams:

## Re: Consent to Termination of the PG\&E Southern Crossing Pipeline Transport and Peaking Agreements effective January 1, 2003 and associated arrangements

BC Gas Utility Ltd. ("BC Gas") proposes to terminate the existing PG\&E Southern Crossing transport and peaking contracts effective January 1,.2003 and to enter into a new firm transportation service agreement with Northwest Natural Gas Company ("NWN") effective November 1, 2004. In addition, BC Gas also proposes to take assignment of $53,500 \mathrm{MMcf} / \mathrm{d}$ of Nova/ANG capacity from PG\&E effective January 1, 2003, with reassignment of 47,500 MMcf/d to NWN effective November 1, 2004.

Attached is the full proposal, including attachment of supporting economic analysis. BC Gas is seeking approval of the arrangements summarized in paragraphs 1 to 10 of the executive summary in the proposal. BC Gas requests BCUC consent as early as possible.

Copies of the proposed agreements between BC Gas, PG\&E and NWN are also attached. In recognition of the commercial nature of these agreements, $B C$ Gas requests that they be kept confidential.

Yours truly,

D. D. Kellmann
'Director, Financial Development Services
DDK/KBM
Attach.

## CONFIDENTIAL

## Proposed Southern Crossing Transportation Agreements

## Executive Summary

BCGUL and BCGI have put in place arrangements whereby existing Southern Crossing Pipeline (SCP) capacity will be used to provide NW Natural with firm transportation service from Yahk to Huntingdon beginning November 2004. The service will be provided using SCP capacity that is currently contracted by PG\&E Energy Trading Canada (PG\&E). The arrangements will reduce BC Gas's exposure to $\mathrm{PG} \& \mathrm{E}^{\prime} \mathrm{s}$ current financial situation, capitalise on the marketing and development efforts of the Inland Pacific Connector project and increase the value of the SCP capacity with a net benefit accruing to BC Gas's customers.

BCGUL is seeking approval for the proposed arrangements:

1. BCGUL and PG\&E agree to terminate the existing PG\&E SCP Transportation Agreement and the PG\&E Peaking Gas Agreement effective January 1, 2003. BCGUL will then have control of the SCP capacity.
2. BCGUL will take assignment of 53.5 mmcfd of TCPL (Nova/ANG) capacity from PG\&E effective January 1, 2003 allowing BCGUL to access the full direct gas flow path from the Alberta supply hub to the Huntingdon market hub.
3. As part of 1 and 2 above BCGUL will make an ongoing payment to PG\&E in recognition of the early release of the SCP capacity to BCGUL and the assignment of PG\&Es' TCPL capacity to BCGUL. This payment will be to the sole benefit of PG\&E Energy Trading.
4. BCGUL will hold the SCP and TCPL capacity for the period from January 1, 2003 to November 1, 2004 and will optimize the value of the capacity by meeting the potential peaking needs of its core customers and by mitigating the capacity with buy and sell transactions and assignments with third party shippers over that time frame.
5. BCGI has held discussions ancl executed a letter agreement with Northwest Natural Gas Company ("NWN") whereby NWN will contract with BCGI for 46.5 MMcfd of firm transportation service using SCP capacity released by PG\&E, effective November 01, 2004 to match the transport capacity requirements NWN requested in response to the Inland Pacific Connector Project ("IPC") open season. As part of these arrangements, BCGI has committed to release NWN from any ongoing obligations to contract for capacity on IPC.
6. BCGI has reached agreement with PG\&E and NWN to make BCGUL the counterparty for the transactions outlined above. BCGUL and NWN will enter into a 16 year firm transportation agreement utilizing 46.5 MMcfd of the Southern Crossing capacity and take assignment of 47.5 MMcfd of the TCPL capacity effective November 1,2004 . The demand charges paid by NWN significantly exceed the current SCP tolls paid by PG\&E, and also locks the value in long term. In the short to medium term, the demand
charges exceed the current market value of the capacity, however they do reflect the costs NWN would have expected to pay as an IPC Shipper.
7. In consideration of 5 and 6 above, BCGUL shareholders be allowed recovery of IPC development and marketing costs in the event that the project does not proceed or is indefinitely deferred. The marketing and development efforts carried out to date on IPC by BCGI, has resulted in a significant long term value for BCGUL customers, as evidenced by the arrangements negotiated with NWN. With the transfer of NWN from being an anchor tenant on IPC to contracting for existing SCP capacity, BCGUL shareholders are now at increased risk that IPC will be further deferred or cancelled. BCGUL's intent is to begin recovery of IPC costs in 2006 if the project has not proceeded.
8. BCGUL will continue to hold the remaining 6.0 MMcfd of TCPL and SCP capacity currently held by PG\&E after November 1, 2004 either to serve the needs of core market customers or to be marketed to third parties.
9. BCGUL will put in place alternate peaking gas arrangements as required to replace the PG\&E Peaking Gas Agreement, to the benefit of the core market customers effective November 2004. BCGUL has undertaken analysis on peaking options and has determined that Mist storage expansion capacity available November 2004 to be offered on a long term basis appears to be the best replacement for the peaking contract. BC Gas will enter into discussions with NWN early in 2003.
10. In recognition of the additional value that will be delivered by the NW Natural arrangements, BCGUL and BCGI also agree the following:

- BCGI has no ongoing rights or obligations with respect to the SCP capacity released by PG\&E effective January 1, 2003; and
- BCGUL will accept assignment from BCGI of any SCP capacity that BC Hydro may put to BCGI in the period November 1, 2004 to October 31, 2010.

There is no new capital investment associated with these arrangements, however BC Gas Utility is expected to realise a minimum increase in net revenues associated with the SCP capacity of $\$ 2.7$ million per annum beginning in 2004. The net present value of these arrangements to BCGUL is expected to be between $\$ 20$ to $\$ 35$ million based on the fixed revenue streams contracted and accounting for BCGI recovery of IPC development costs. The proposed transactions are in the interest of BCGUL and its customers in maximising current and future value and reducing the risk of non recovery of SCP revenues.

## Discussion

## 1. Southern Crossing Pipeline Project

### 1.1 Description

BCGUL first applied to the BCUC for a CPCN for the Southern Crossing Pipeline Project in May 1997. Following a public hearing, the BCUC denied the application, however allowed BCGUL to reapply if it could put in place arrangements to help mitigate the cost to the core customers. In particular the BCUC proposed that BCGUL work with BC Hydro to realise any synergies between BC Hydro's thermal generation requirements and the new pipeline proposal.

Subsequently, BCGUL began discussions with BC Hydro, and also held an open season offering qualified parties to bid for firm transportation service from Yahk to Huntingdon. As a result BCGUL was able to put in place long term transport arrangements and matching peaking gas agreements with both BC Hydro and PG\&E Energy Trading Canada, each for capacity of 52.5 mmcfd . In total, the third party contract capacity of 105 mmcfd resulted in annual revenue of $\$ 7.2$ million per year for 10 years with unilateral shipper renewal rights for up to another 10 years.

Before agreeing to put these arrangements in place, BC Hydro required BCGI to accept an option that would allow BC Hydro to put the capacity to BCGI for the remaining period in the primary term (ie up to October 31, 2010) if it decided it no longer required the capacity.

BCGUL re-applied for a CPCN in December 1998, and after a second public hearing process, the BCUC granted the CPCN in May 1999. In the decision, the CPCN was approved based on SCP offering the highest benefits to ratepayers over the long run in part helped by the provision of firm third party revenues of $\$ 7.2$ million provided by BC Hydro and PG\&E.

### 1.2 Current Valuation of SCP Capacity

SCP capacity has provided significant value to core customers over the last two years primarily during the winter of $2000 / 01$. Although commodity prices remain strong the net value of pipeline capacity in both the cash market and forward markets do not recover costs. Limited cost recovery on pipeline assets in the forward markets is the case on most North American transport today. This is due to reduced demand in the consumption regions and a corresponding reduced supply position in the producing regions resulting in tight supply/demand but with under-utilized or non-constrained pipeline capacity. The value of pipeline capacity will improve when regional and N.A. demand recovers due to economic recovery or strong weather related demand.

The SCP capacity held by the current SCP shippers is backed up with TCPL capacity to provide access to AECO sourced supplies. When evaluating the benefit of SCP capacity the inclusion of matching TCPL capacity is required to determine the value of delivering AECO priced gas to the Sumas market. The forward markets today provide about $85 \%$ recovery of SCP/TCPL demand charges on an annual basis. As comparison, the forward markets provide about $80 \%$ recovery of WEI T-South long haul capacity (see attachment 2 for detailed calculations). As T-South capacity is not trading at full value on forward markets many counterparties decided to not re-contract some or all of their T-South capacity in September. The shippers who continue to hold T-South capacity including BCGUL have
determined that holding capacity provides pricing diversity and protection from another price disconnect in the market in the future. Conversely, producers and marketers who hold capacity gain the opportunity to garner the premiums that will accrue in later years on the pipelines.

If BCGUL were to attempt to market the PG\&E capacity today due to PG\&E default in the absence of having gone through the analysis, costs and marketing of IPC, BCGUL would not be able to capture the value that NWN has agreed to provide. Based on today's market BCGUL would be fortunate to find an SCP shipper willing to pay the existing SCP tolls of $\$ 0.188 / \mathrm{GJ}$ let alone the $\$ 0.43 / \$ 0.53 / \mathrm{GJ}$ NWN has agreed to compensate for IPC long term. NWN will pay these tolls because it was in agreement that new infrastructure is needed into the region to meet future demand and that the risk of another Sumas price disconnect is high until added capacity is in place. Without the IPC development and marketing efforts, BCGUL would not have created any of the $\$ 20-\$ 30$ million NPV it is looking at today.

## 2. Northwest Natural Gas Company

### 2.1 Description

NW Natural ("NWN") is a natural gas distribution company based in Portland Oregon, serving approximately 520,000 customers. The company accesses approximately 105 mmcfd of their firm gas requirements at the Sumas market hub, and have been seeking to put in place firm upstream transportation arrangements to connect back to the supply areas. They recently put in place an arrangement with a third party for T-South capacity, and expected the Inland Pacific Connector project to provide them with firm transportation back to Alberta supply for the remainder of their requirements.

BCGI has had active discussions with NWN with respect to the Inland Pacific Connector project, and NWN submitted a bidding commitment to contract for Yahk to Huntingdon firm transportation service on IPC during the Open Season in May 2001. When the IPC project was deferred from 2003 to 2004, NWN continued to support the project, and put in place short term arrangements to bridge the gap. They are now seeking to put in place transport arrangements for 2004 and beyond.

The downturn in the North American economy, the credit crunch in the energy market, and the deferral and/or cancellation of many planned power generation projects has also resulted in decision to further defer IPC until 2005. At the same time, PG\&E's financial situation presents an opportunity to use existing SCP capacity to serve NW Natural's requirements.

With these arrangements, BCGI will forego future revenue that would have accrued to IPC and loss of an anchor tenant may also result in further deferral of the in-service date of IPC. As a result BCGUL (and BCGI) are requesting recovery of the IPC development costs in the event the decision is made to terminate the project.

### 2.2 NW Natural Contractual Arrangements

BCGUL will enter into a transportation agreement with NWN for firm non-recallable and noncurtailable capacity from Yahk to Huntingdon upon accepting transfer of the arrangements put in place by BCGI. The principal terms are as follows:

- 16 year term from November 2004 to October 2020
- Contract Capacity of $\mathbf{4 6 . 5 \mathrm { mm } c f d}$
- Annual demand charges

$$
\begin{array}{ll}
- & \text { Contract Years 1-6 }
\end{array} \$ 7.3 \text { million (approximately } \$ 0.43 / \mathrm{mcf} \text { ) }
$$

- In the event that Southern Crossing is expanded and the Inland Pacific Connector project proceeds, the demand charges are increased to match IPC tolls, up to an agreed cap (initially $\$ 0.53 / \mathrm{mcf}$, and then $\$ 0.61 / \mathrm{mcf}$ in 2010)
- Permanent assignment of 47.5 mmcfd of TCPL ANG/NOVA capacity

The NWN transport agreement provides for firm transportation using the SCP capacity released by PG\&E. As BCGUL will not retain any curtailment rights, BCGUL will have to put in place, as required, alternate peaking arrangements (Refer to Attachment 4.)

As discussed in section 1.2, the demand charges that NWN have agreed to pay over the long term exceed the current market valuation of the TCPL/SCP transportation path. The charges do however reflect a discount to the tolls NWN was expecting to pay as an IPC shipper, assuming the market supported the need for incremental capacity. The ability to realise a market premium is directly related to the marketing and development efforts of IPC.

## 3. PG\&E Energy Trading, Canada

### 3.1 Description

PG\&E Energy Trading, Canada is a subsidiary of PG\&E National Energy Group ("NEG"), an integrated energy company with operations that include power generation and development, natural gas transmission and wholesale energy marketing and trading in North America. PG\&E National Energy Group's parent company PG\&E Corp also owns Pacific Gas and Electric Company, the electric and gas utility serving Northern and central California. The utility was one of the early casualties of the California "Energy Crisis", and although still operating, declared bankruptcy in late 2001.

NEG has not been immune from the current financial crisis being experienced by many of the major North American integrated energy companies such as Mirant, Williams, and El Paso. Although NEG's Pacific Gas Transmission asset remains a viable asset, its exposure to merchant generation and energy trading has brought the group to the brink of bankruptcy.

At the time the SCP agreements were executed, PG\&E Corp had investment grade credit. Over the last few months this has deteriorated quickly, and in November NEG began to default on its debt repayments. This raises serious concerns as to the security of the revenue stream from PG\&E and the potential negative consequences of a failure by PG\&E on BCGUL and its customers.

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S&P rating history
PG&E Corp.
(Note: NEG had not been ring fenced at the time of the SCP agreements)
May/97: A
Dec 13/00: A (CW negative)
Jan 4/01: BBB- (CW negative) (by thls time, NEG had been "ring-fenced"
from PG&E Corp.)
Jan 16/01: CC (CW negative)
PG&E Energy Trading Holding (i.e. PG&E NEG)
Jan 12/01: BBB+
Aug 31/02: BB+ (creditwatch negative)
Oct 11/02: B- (creditwatch negative)
Nov 14/02: D (has defaulted)
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If PG\&E defaults on its obligations to BCGUL, it will cease to pay the $\$ 3.6$ million per year in demand charges and BCGUL's customers will be at risk for the subsequent shortfall in revenue. BCGUL would take steps to mitigate the negative impact on a day to day and a long term basis but these efforts could be frustrated by the lack of upstream transportation capacity as PG\&E holds the TransCanada Pipelines (TCPL) capacity back to the Alberta supply hub. In the event of a PG\&E bankruptcy, BCGUL's access to the SCP capacity and the TCPL capacity may also be hampered by the actions of other creditors or the receiver such that mitigation of the revenue shortfall is not possible.

To mitigate this risk, BC Gas has negotiated with PG\&E to take back the SCP capacity and the associated upstream TCPL capracity so that it is available to contract long term to NWN. Although NWN does not require the capacity until November 2004, BCGUL believes that it is prudent to take the capacity effective immediately. BCGUL will then implement a mitigation plan to offset any lost revenues until November 2004. (See Attachment 1).

### 3.2 Determination of PG\&E Termination Payments

BCGUL initially negotiated an annual fee to pay PG\&E for releasing the SCP capacity and assigning the associated TCPL capacity as of November 2004. As events unfolded, it was decided that the BCGUL should acquire the capacity as soon as was practicable to avoid any chance that a PG\&E bankruptcy could put the NW Natural arrangements at risk. Subsequently the payments were reduced in recognition of the current market value of the SCP and TCPL capacity between January 1, 2003 and November 1, 2004.

| Contract Years (beginning Nov 2004) | Initial Payment | SCP <br> Adjustment | TCPL Adjustment | Net Payment |
| :---: | :---: | :---: | :---: | :---: |
| Years 1-6 | \$1,200,000 | (\$225,000) | (\$150,000) | \$825,000 |
| Years 7-16 | \$520,000 | (\$225,000) | (\$150,000) | \$145,000 |
| PV @ Jan 1, 2002 (7\% discount factor) |  |  | \$4.2 million |  |
| PV @ Jan 1, 2002 (15\% discount factor) |  |  | \$2.8 million |  |

PG\&E also requested the ability to monetise the payment stream, at their option, using a $15 \%$ discount factor. As BCGUL's marginal cost of debt is much less than $15 \%$, if PG\&E
exercises this option there will be an additional net benefit flowing back to BCGUL customers.

## 4. BC Hydro SCP Capacity

BC Hydro contracted for SCP on the basis of its expected requirements for Burrard Thermal and two gas fired generation projects on Vancouver Island proposed to be in service by 2002. One of these plants is in service; however the second has now been delayed pending a review by the BCUC, and the approval of the associated gas pipeline (Georgia Strait Crossing). At this point, it is expected that the earliest that these projects could be in service is third quarter 2006 if at all. The new Energy Policy announced by the BC Government on November 25, also puts in question the long term operation of the Burrard Thermal plant.

These developments increase the risk that BC Hydro may opt to put the SCP capacity to BCGI before the end of the primary term and as early as November 2004. In this event, BCGUL is in the best position to mitigate lost revenues from the capacity by using it to help service the firm and peaking requirements of its customers or through buy and sell transactions and assignments with third party shippers.

An analysis of this risk is included in Attachment 2. Although recovery would vary significantly from year to year it is expected that over the remaining period in the primary term (eg Nov 2004 to 2010), BCGUL would on average fully recover the demand charges that it would have otherwise received from BC Hydro. Based on today's relatively weak basis differentials calculated from current forwards, BCGUL would still recover $\$ 2.6$ million of the $\$ 3.6$ million it otherwise would expect to recover from BC Hydro.

If BCGUL is able to replace T-South long haul capacity with SCP(BCH) and TCPL capacity in the core portfolio, core customer:s will have a positive benefit. These two flow paths are showing the same net value today and are expected to move in concert as market differentials change. The added benefits of AECO sourcing versus Station\#2 for the core portfolio include better diversity, reduced pressure at Station\#2 and more contracting options that when combined provide considerable additional upside.

Any potential annual deficit will more than be made up by the increased revenue that will be obtained from the NWN firm service arrangements (Refer to Attachment 3).

## 5. Inland Pacific Connector

BC Gas has been developing the Inland Pacific Connector project as a solution to the constrained market place at Sumas/Huntingdon. NWN has been an active supporter of IPC, and made a binding commitment to contract for IPC capacity during the Open Season process in May 2001.

Spent and committed IPC development costs to the end of 2002 amount to approximately $\$ 5.0$ million. Planned expenditures to April 2003 increase this amount to $\$ 5.6$ million to complete the current stage of development. At this point, these costs are being accrued in a separate account and have not been included in BCGUL's revenue requirements.

The current proposed in-service date for the project is November 2005, however without NWN as an anchor tenant, it is expected this will be deferred at least to November 2006. It
is proposed that in the event the project does not proceed by 2006, that BCGI be allowed to recover these development costs in recognition of the following factors:

- Development and marketing of IPC help to increase the market value of long term SCP Capacity
- NWN being available to contract for the PG\&E as a result of its support of IPC
- Release of NWN from any and all obligations to contract for capacity on IPC


## 6. Financial Impacts

The net benefits that would flow to BCGUL's customers are summarised in the proforma shown in Attachment 3. In the Base Case it is expected that the net revenues will increase by at least $\$ 2.6$ million per annum over the current arrangements, and the net NPV of the arrangements are in excess of $\$ 20$ million depending on the degree IPC development costs are recovered.

BCGUL customers will realize very significant long term financial benefits over the projected benefits of the existing SCP arrangements. This is a direct result of the development work on the IPC projects and assignment of the NWN IPC commitment to the available SCP capacity. It is reasonable that BCGUL shareholders recover the IPC development costs as a result of this value transfer. BCGUL shareholders have increased the risk that IPC will be delayed or even cancelled as a result of this value transfer to BCGUL customers.

## Attachment 1

## Mitigation of SCP and TCPL Capacity to Nov 2004

In order to ensure that BCGUL will be able to complete the assignment of $46,500 \mathrm{MMcf} / \mathrm{d}$ of the PG\&E SCP transportation capacity to Northwest Natural effective November 01, 2004 BCGUL will take back all of the PG\&E transport and peaking capacity effective January 01, 2003. BCGUL proposes to assume assignment of both the SCP and Nova/ANG transport contracts as temporary replacement of the PG\&E peaking obligations for the period January 2003 to October 2004. Effective November 2004, BCGUL will replace the peaking contract with new peaking assets designed to minimize overall costs for core customers.

## Cost/Benefit of capacity for core customers for the period January 2003 through October 2004:

The table below shows that the incremental demand charges and forecast mitigation revenues over the period Jan 03 through Oct 04 . The $\$ 14.7$ million of added Demand charges are forecast to be recovered within $\$ 1.3$ million based on the PG\&E credit, current forward basis spreads and improved peaking call price. In a high demand, highly volatile price period the incremental benefits would be much higher. Summary calculations are attached for each cost component identified below.

| Summary of TCPL/SCP asset <br> October 04 |  |
| :--- | :--- |
| TCPL Demalue charges | $\$ 8,160,469$ |
| SCP Demand charges | $\$ 6,600,000$ |
| PGE early termination credit | $\$(3,000,000)$ |
| TCPL (AECO - Kingsgate spread) | $\$(7,497,368)$ |
| SCP (Station\#2 - Sumas spread) | $\$(2,027,094)$ |
| Improved peaking call price | $\$(910,610)$ |
| Net market valuation | $\$ \mathbf{1 , 3 2 5 , 3 9 7}$ |

The TCPL and SCP T-south spreads are highly volatile with actual recovery dependant on market conditions that generate the spreads at the time. BCGUL plans to mitigate the risks of mitigation recovery by locking in a portion of forward value prior to the period start. BCGUL will utilize both the SCP and TCPL capacity as core portfolio assets and as such will optimize the peaking call price as peaking demand is required for core, including optimizing the available mitigation when not required for core customers.

BCGUL proposes to add the SCP capacity mitigation recovery including all profit revenues from flows on the assigned SCP capacity as well as revenues generated on the associated TSouth as part of the current SCP margin recovery account. BC Gas proposes to create a new and separate gas supply incentive plan to account for recovery of the assigned Nova/ANG capacity directed to maximize recovery of this capacity prior to re-assignment to a third party November 2004. BCGUL proposes sharing of $5 \%$ of all mitigation net recoveries up to $\$ 0.5$ million BCGUL sharing and then $1.25 \%$ sharing thereafter over the assignment period. For example, the forecast $\$ 7.5$ million mitigation recovery from the table above would generate $\$ 0.375$ million in BCGUL sharing over the period. This incentive
proposal is consistent with the mechanism under the existing GSMIP program and will not result in BCGUL ability to prioritize Nova/ANG recovery to BCGU's benefit and will continue to reward BCGUL to reduce cost for core customers overall.

## Attachment 2 - <br> Mitigation of BC Hydro SCP Capacity

BC Hydro has a put option on the SCP contracts back to BCGI with 13 months notice to the next renewal date effective every' November 01. For example, the earliest BC Hydro could put the capacity back to BCGI is November 2004 with notice required by September 30, 2003. If BC Hydro exercises the put BCGUL wants confirmation it can take assignment of the contracts from BCGI and that BCGI has the option to assign the SCP contracts to BCGUL to meet firm customer requirements. BCGUL will then re-assign the capacity to a third party or maintain the capacity within the core portfolio based on optimizing return on assets. If maintained in the core portfolio BCGUL will continue to assume peaking supply sourcing back to AECO and will mitigate the capacity for the remaining year.

Although the SCP capacity would achieve benefits on its own it is likely that BCGUL would match any BC Hydro put-back with corresponding Nova/ANG capacity to achieve the AECO sourcing liquidity and price benefits that SCP provides opportunity for. Based on the current forward market, the mitigation and peaking benefits available to BCGUL to recover the costs of the BC Hydro SCP capacity $\$ 7.4$ million of the total $\$ 8.8$ million SCP and TCPL transport demand charges. In a cold winter BCGUL would achieve close to $200 \%$ recovery and the minimum recovery in a warm winter would be $50 \%$ of demand costs. Over time BCGUL expects to recover close to full costs of the capacity as illustrated in the table below.

| Summary of TCPL/SCP asset value to replace BCH peaking |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Current forwards | cold winter | warm winter |
| Demand charges | \$ (8,834,249) | \$ (8,834,249) | S (8,834,249) |
| Net forecast basis recovery | \$ 6,453,035 | \$ 19,911,000 | \$ 6,000,000 |
| Improved peaking call price | \$ 1,312,004 | \$ 3,491,399 |  |
| Net market valuation | \$ $(1,069,210)$ | \$ 14,568,150 | \$ (2,834,249) |
| Percentage of occurrence | 50\% | 10\% | 40\% |
| Weighted average | (211,489.35) |  |  |

BCGUL will also have the option to utilize the 53.5 MMCF/d of SCP/TCPL contracts as a baseload supply option versus the peaking option outlined above. This may be added to the portfolio as baseload sourcing but would likely in the initial years displace T-South capacity that would then be assigned to other parties or turned back to Westcoast. The economics of displacing T-South with SCP/TCPL in 2004 are almost equivalent in value and are summarized on the table below. The benefits of reducing BCGUL requirements at Station\#2 would be an additional benefit to core customers in addition to adding increased security of supply in the portfolio.

| Comparison of T-South and TCPL/SCP Value |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Demand |  | basis value | profit/(loss) |
| T-South | \$ | 6,196,524 | \$ | 4,848,843 | \$ (1,347,680) |
| SCP/TCPL | \$ | 8,834,249 | \$ | 7,478,432 | \$ $(1,355,817)$ |

The cost details are attached.

## Attachment 3 - Financial Implications

The net benefits accruing to BCGUL's customers are shown in the attached proforma for different scenarios. In all scenarios, the transactions between BCGUL, PG\&E and NWN are put in place, effectively allowing BCGUL to lock in the value of the long term firm transportation service agreement with NWN.

In the Base Case (Scenario 1), BC Hydro also remains a SCP transport customer until the end of its renewal rights, October 2019. The base case also assumes IPC does not proceed before 2020.

Scenario 2 is a "worst case" scenario where BC Hydro puts the SCP capacity back to BCGUL, and BCGUL is only able to partially mitigate the loss of the SCP revenue over the primary term. In this scenario, the Inland Pacific Connector project would not proceed, as the market does not value the capacity sufficiently. It is expected that BC Hydro would only "put" the capacity if the existing agreements were at a premium to the market. In this case, it is unlikely that BC Hydro or PG\&E would have renewed the capacity beyond the primary term, and the total capacity would have been returned to BCGUL in 2010. The added benefit of the NWN contract is that it locks in value until 2020. In this scenario it is assumed that the current forward market value as described in Attachment 2 is representative of the value of the capacity up to 2020.

Scenario 3 is the same case as Scenario 2, except that the mitigation value of the BC Hydro capacity that is put back to BCGUL is based on the weighted average value estimated in Attachment 2. This scenario is still very conservative as it is using current market information for 2004/05 to value the capacity to 2020.

Scenario 3 is a "best case" scenario where the Inland Pacific Connector project is put in service 2006, with corresponding increases in revenues from the Inland Pacific Connector. In this scenario, BC Hydro would be expected to keep the value its SCP capacity as it is at a discount to the expected IPC costs.

The results are summarised in the table below. These cashflows are calculated as the net incremental benefits these proposed arrangements would deliver, relative to a scenario where the current arrangements with PG\&E and BC Hydro stay in place. Note that in Scenarios 1 and 2, BCGI would be seeking to recover its Inland Pacific Connector costs from the additional revenues generated by the NWN contract beginning in 2006. The NPV calculations here assumes that BCGI would be allowed to recover the full costs.

Net SCP Firm Transport Benefits

| $\$$ thousands | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| :--- | :---: | :---: | :---: | :---: |
| Annual Revenues Y1-2 | $\$ 2,685$ | $\$ 1,125$ | $\$ 2,451$ | $\$ 2,685$ |
| Annual Revenues Y2-6 | $\$ 2,685$ |  | $\$ 2,451$ | $\$ 4,382$ |
| Annual Revenues Y7-16 | $\$ 4,000$ |  | $\$ 5,248$ | $\$ 5,357$ |
| NPV @ 10\% |  |  | $\$ 28,875$ | $\$ 34,700$ |
|  |  |  |  |  |
| Recovery of IPC Development Costs | $\$ 5,600$ | $\$ 5,600$ | $\$ 5,600$ | N/A |
| NPV after IPC Cost Recovery | $\$ 20,000$ | $\$ 21,900$ | $\$ 22,275$ |  |

## Attachment 4 - Peaking Replacement effective November 2004

BCGUL has completed analysis on potential peaking option replacement for the SCP peaking arrangements that will be terminated on November 01, 2004. Based on core requirements the most economic option appears to be replacement with Mist storage expansion capacity. By contracting Mist expansion capacity BCGUL will be receive a number of long term advantages compared to the existing SCP peaking arrangements including:

1. Providing for sponsorship of incremental physical storage capacity into the region.
2. Peaking supplies that will on average be at or lower than the cost estimated for the SCP peaking and providing significant protection from extremely high day prices.
3. Added flexibility that storage provides on an intra-day basis.
4. Added benefits of not affecting the day market at Kingsgate or Sumas on call days.
5. Ability to contract long term storage capacity ( $5-15$ years) at today's market prices providing long term cost protection and diversity for core customers.

The table below summarizes the costs of SCP peaking vs Mist storage assuming 5 days of peaking requirement in one year. BCGUL has assumed both conservative price volatility that excludes the volatility experienced in the winter of 200/01 as well as historical price volatility based on the average of the last 5 years. In both cases the SCP peaking is at a higher cost.

| Comparison of SCP and Mist Storage peaking (5 days of call) <br> Conservative price volatility |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Demand | Commodity |  | Mitigation |  | Net costs |  |
| SCP | $\begin{aligned} & \$ \\ & \$ \end{aligned}$ | \$ | 4,162,520 | \$ | - | \$ | 4,162,520 |
| Mist | 3,838,863 | \$ | 6,264,000 | \$ | 6,200,145 | \$ | 3,902,718 |
| Difference |  |  |  |  |  | \$ | 259,802 |
| Historical 5 year price volatility |  |  |  |  |  |  |  |
|  | Demand |  | mmodity |  | gation |  | costs |
| SCP | $\begin{aligned} & \$ \\ & \$ \end{aligned}$ | \$ | 5,430,105 | \$ | - | \$ | 5,430,105 |
| Mist | 3,838,863 | \$ | 6,264,000 | \$ | 6,200,145 |  | 3,902,718 |
| Difference |  |  |  |  |  | \$ | 1,527,387 |

Detailed economic cost assumptions and analysis to support this table are on the following 3 tables.

## ATTACHMENT 3

Table 1-Scenario 1-Base Case
Summary of Financial Impacts (2004 onwards)


## New SCP Arrangements



Net Financial Impact

| SCP Firm Transport Value with NWN Contrac Existing PG\&E and BCH Revenues | $\$ 9,885$ $\$ 7.200$ | $\begin{array}{r}\$ 9,885 \\ \$ 7,200 \\ \hline\end{array}$ | \$9,885 $\mathbf{\$ 7 , 2 0 0}$ | \$9,885 $\$ 7,200$ | $\begin{array}{r}\$ 9,885 \\ \$ 7.200 \\ \hline\end{array}$ | \$9,885 $\$ 7.200$ | $\$ 13,600$ $\$ 9.600$ | $\$ 13,600$ $\$ 9.600$ | $\$ 13,600$ $\$ 9.600$ | $\$ 13,600$ $\$ 9.600$ | $\$ 13,600$ $\$ 9,600$ | \$13,600 | \$13,600 | \$13,600 | \$13,600 | \$13,600 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net Financial Impact | \$2,685 | \$2,685 | \$2,685 | \$2,685 | \$2,685 | \$2,685 | \$4,000 | \$4,000 | \$4,000 | \$ $\$ 4,000$ | \$ \$4,000 | \$ $\$ 4,000$ | \$9,600 | \$9,600 | \$9,600 | \$9,600 |
| (Net NPV @ 10\% | \$25,566 |  |  |  |  |  |  |  |  |  |  |  | \$4,000 | \$4,000 | \$4,000 | \$4,000 |

## ATTACHMENT 3

Table 2 - Scenario 2: BC Hydro puts SCP Capacity to BCGUL in 2004, Mitigation based on Current Market Forwards for 04/05
Summary of Financial Impacts (2004 onwards)


Current SCP Firm Transport Revenues

| PG\&E Demand Chairges | $\$ 3,600$ | $\$ 3,600$ | $\$ 3,600$ | $\$ 3,600$ | $\$ 3,600$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| BC Hydro Annual Demand Charges | $\$ 3,600$ | $\$ 3,600$ | $\$ 3,600$ | $\$ 3,600$ | $\$ 3,600$ |
| SCP Mitigation Revenue | $\$ 0$ | $\$ 0$ | $\$ 0$ | $\$ 0$ | $\$ 0$ |
| Total SCP Firm Transport Revenues | $\$ 7,200$ | $\$ 7,200$ | $\$ 7,200$ | $\$ 7,200$ | $\$ 7,200$ |
| NPV © 10\% | $\$ 49,394$ |  |  |  |  |
|  |  |  |  |  |  |
| Assumptions |  |  |  |  |  |
| 1. PG\&E remains a going concern and continue to perform under the existing contracts |  |  |  |  |  |
| 2. PG\&E and BC Hydro do not exercise their renewal rights and release the capacity in October 2010 |  |  |  |  |  |
| 3. Total mitigation revenue post 2004 is based on today's forward market for contract year Nov 04/05 |  |  |  |  |  |


| NW Natural SCP Firm Transportation Agreement |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Toll (CA\$\$ per mef) | $\$ 0.43$ | \$0.43 | 30.43 | \$0.43 | \$0.43 | \$0.43 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 |
| Contract Capacity (mmcfd) | 46.5 | 46.5 | 46.5 | 48.5 | 46.5 | 46.5 | 46.5 | 46.5 | 48.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 |
| Firm Transport Revenues |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| INWN Annual Demand Charges | \$7,298 | \$7,298 | \$7,298 | \$7,298 | \$7,298 | \$7,298 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 |
| IPG\&E Termination Payment | (\$825) | (\$825) | (\$825) | (\$825) | (\$825) | (\$825) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (8145) |
| [Net NW Natural Revenue | \$6,473 | \$6,473 | \$6,473 | \$6,473 | \$6,473 | \$6,473 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 |
| NPV @ 10\% | \$58,890 |  |  |  |  |  |  |  |  |  |  |  | \$6, |  | \$8,05 | 56,00 |
| Other Revenues / CostsFactors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BC Hydro Capacity Mitigation Revenue | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 | \$2,600 |
| IValue of remaining 6 mmcfd SCP Capacity | \$297 | \$297 | $\underline{\$ 297}$ | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 | \$297 |
| Net Other | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,697 | \$2,887 | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,897 | \$2,897 |
| NPV@10\% | \$22,666 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Adiust for New Peaking Arrangements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total SCP Firm Transport Revenues | \$9,370 | \$9,370 | \$9,370 | \$9,370 | \$9,370 | \$9,370 | \$11,748 | \$11,748 | \$11,748 | \$11,748 | \$11,748 | \$11,748 | \$11,748 | \$11,748 | \$11,748 | \$11,748 |
| Adjust for Replacement of Peaking Arrangem، | (\$600) | (\$8600) | (\$600) | (\$600) | (\$600) | (\$600) | $\underline{(\$ 600)}$ | $\xrightarrow{(\$ 800)}$ | (\$600) | (\$600) | (\$600) | ( 81600 ) | ( 5600 ) | (\$600) | (\$800) | (\$600) |
| SCP Firm Transport Value | \$8,770 | \$8,770 | \$8,770 | \$8,770 | \$8,770 | \$8,770 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 |
| NPV ¢ 10\% | \$76,862 |  |  |  |  |  |  |  |  |  |  |  |  |  | \$1,188 | 1,14 |
| Assumptions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. BC Hydro puts back SCP Capacity in 2004 and BCGUL mitigates the capacity based on today's forward market for 2004/05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Remaining 6 mmctd is valued at today's forward market for 2004./05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Net cost of new peaking arrangements for 46.5 mmcfd is valued at $\$ 600 \mathrm{k}$ per annum 16. Inland Pacific Connector does not proceed before 2020 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net Financial Impact |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SCP Firm Transport Value with NWN Contrac | \$8,770 | \$8,770 | \$8,770 | \$8,770 | \$8,770 | \$8,770 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,448 | \$11,148 | \$11,148 | \$11,148 | \$11,148 | \$11,148 |
| Existing PG\&E and BCH Revenues | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$5,200 | \$5,200 | \$5,200 | \$5,200 | \$5,200 | \$5,200 | \$5.200 | \$5,200 | \$5,200 | \$5,200 |
| Net Financial Impact | \$1,570 | \$1,570 | \$1,570 | \$1,570 | \$1,570 | \$1,570 | \$5,948 | \$5,948 | \$5,948 | \$5,948 | \$5,948 | \$5,948 | \$5,948 | \$5,948 | \$5,948 | \$5,948 |
| Net NPV @ 10\% | \$27,468 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \$5,94 |

## ATTACHMENT 3

Table 3 - Scenario 3: BC Hydro puts SCP Capacity to BCGUL in 2004, Mitigation based on Wt'd Average Value in Attachment 2
Summary of Financial Impacts (2004 onwards)

| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Contract Year | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010111 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | $2016 / 17$ | 2017/18 | 2018/19 | 2019/20 |


| PG\&E Demand Charges | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BC Hydro Annual Demand Charges | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 |  |  |  |  |  |  |  |  |  |  |
| SCP Mitigation Revenue | \$0 | \$0 | S0 | \$0 | \$0 | \$0 | \$6.780 | \$6.780 | \$56.780 | \$6,780 | \$6,780 | \$6,780 | \$6.780 | \$6,780 | \$6,780 | \$6,780 |
| Total SCP Firm Transport Revenues | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7.200 | \$7,200 | \$6,780 | \$6,780 | \$6,780 | \$6,780 | \$6,780 | \$6,780 | \$6,780 | \$6,780 | \$6,780 | \$6,780 |
| NPV © 10\% | \$54,874 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Assumptions <br> 1. PG\&E remains a going concern and continue to perform under the existing contracts <br> 2. PG\&E and BC Hydro do not exercise their renewal rights and release the capacity in October 2010 <br> 3. Total mitigation revenue post 2004 is based on today's forward market for contract year Nov 04/05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| WW Natural SCP Firm Transportation Aqreement |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jnit Toll (CA\$ per mcf) | \$0.43 | \$0.43 | \$0.43 | \$0.43 | \$0.43 | \$0.43 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.53 |
| Ontract Capacity (mmcfd) | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| INWN Annual Demand Charges | \$7,298 | \$7,298 | \$7,298 | \$7,298 | \$7,298 | \$7,298 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$8,995 |
| JPG\&E Termination Payment | (5825) | (\$825) | (\$825) | (\$825) | (\$825) | (\$825) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) | (\$145) |
| Net NW Natural Revenue | \$6,473 | \$6,473 | \$6.473 | \$6,473 | \$6,473 | \$6,473 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 | \$8,850 |
| NPV @ $10 \%$ | \$58,890 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Other Revenues / CostsFactors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BC Mydro Capacity Mitigation Revenue | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 | \$3,390 |
| Value of remaining 6 mmefd SCP Capacity | \$387 | \$387 | \$387 | \$387 | \$387 | \$387 | \$387 | \$387 | \$397 | \$387 | \$387 | \$387 | \$387 | \$387 | \$387 | \$387 |
| Net Other | \$3,777 | \$3.777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3,777 | \$3.777 | \$3.777 |
| NPV @ 10\% | \$29,554 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Adiust for New Peaking. Arrangements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total SCP Firm Transport Revenues | \$10,251 | \$10,251 | \$10,251 | \$10,251 | \$10,251 | \$10,251 | \$12,628 | \$12,628 | \$12,628 | \$12,628 | \$12,628 | \$12,628 | \$12,628 | \$12,628 | \$12,628 | \$12,628 |
| Adjust for Replacement of Peaking Arrangem: | (\$600) | (\$600) | (\$600) | (\$600) | (\$600) | (\$600) | ( 818000 | (\$800) | (\$600) | (\$600) | (\$600) | (\$600) | (\$600) | ( $\$ 8600)$ | (\$600) | (\$600) |
| ISCP Firm Transport Value | \$9,651 | \$9,651 | \$9,651 | \$9,651 | \$9,651 | \$9,651 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,028 |
| XPV © 10\% | \$83,749 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| issumptions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. BC Hydro puts back SCP Capacity in 2004 and BCGUL mitigates the capacity based on today's forward market for 2004/0 <br> 1. Remaining 6 mmcfd is valued at today's forward market for $2004 . / 05$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Net cost of new peaking arrangements for 46.5 mmcfd is valued at $\$ 600 \mathrm{k}$ per annum 6. Inland Pacific Connector does not proceed before 2020 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net Financial Impact |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SCP Firm Transport Value with NWN Contrac | \$9,651 | \$9,651 | \$9,651 | 59,651 | \$9,651 | 39,651 | 512,028 | \$12.028 | \$12,028 | \$12,026 | \$12,028 | \$12,028 | \$12,028 | \$12,028 | \$12,02B | \$12,028 |
| Existing PGSE and BCH Revenues | \$7,200 | \$7,200 | \$7,200 | \$7.200 | \$7,200 | \$7.200 | 56,780 | \$6.780 | \$56.780 | \$6.780 | \$6,780 | \$6,780 | \$ 56.780 | \$6.780 | + 56,780 | \$56,780 |
| Net Financial Impact | \$2,451 | \$2,451 | \$2,451 | \$2.451 | \$2.451 | \$2,451 | \$5,248 | \$5.248 | \$5,248 | \$5,248 | \$5,248 | \$5,248 | \$5,248 | \$5,248 | \$5,248 | \$5,248 |
| Net NPV [8) $10 \%$ | \$28,875 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## ATTACHMENT 3

Table 4 - Scenario 4-Inland Pacific Connector proceeds in 2006
Summary of Financial Impacts (2004 onwards)

| Year | ${ }^{1}$ | 2 | 3 | ${ }_{2007108}^{4}$ | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Contract Year | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 |
| Current SCP Firm Transport Revenues |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PG\&E Demand Charges | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 |
| BC Hydro Annual Demand Charges | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 |
| SCP Mitigation Revenue | 㗉 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | S0 | \$0 | \$0 | \$0 | S0 | \$0 |
| Total SCP Firm Transport Revenues | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 |
| NPV © 10\% | \$64,655 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Assumptions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. PG\&E remains a going concern and continue to periorm under the existing contracts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. PG\&E and BC Hydro exercise their renewal rights and hold the capacity until October 2020 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Annual Demand Charges increase | ilion after | e expriy | the primar | term in O | ober 2020 |  |  |  |  |  |  |  |  |  |  |  |

New SCP Arrangements

| NW Natural SCP Firm Transportation Agreement |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Toll (CA\$ per mef) | \$0.43 | \$0.43 | \$0.53 | \$0.53 | \$0.53 | \$0.53 | \$0.61 | \$0.61 | \$0.61 | \$0.61 | \$0.61 | \$0.61 | \$0.61 | \$0.61 | \$0.61 | \$0.6 $\dagger$ |
| Contract Capacity (mmcfd) | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5 | 46.5\\| |
| Firm Transport Revenues |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NWN Annual Demand Charges | \$7,298 | \$7,298 | \$8,995 | \$8,995 | \$8,995 | \$8,995 | \$10,353 | \$10,353 | \$10,353 | \$10,353 | \$10,353 | \$10,353 | \$10,353 | \$10,353 | \$10,353 | \$10,353 |
| PG\&E Termination Payment | (\$825) | (\$825) | (\$825) | (\$825) | (\$825) | (5825) | (\$145) | (\$145) | (\$145) | (\$145) | (\$ $\$ 145$ ) | (\$145) | (\$145] | (\$145) | (\$145) | (\$145) |
| Net NW Natural Revenue | \$6,473 | \$6,473 | \$8,170 | \$8,170 | \$8,170 | \$8,170 | \$10,208 | \$10,208 | \$10,208 | \$10,208 | \$10,208 | \$10,208 | \$10,208 | \$10,208 | \$10,20日 | \$10,208 |
| NPV @ 10\% | \$68,045 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Other Revenues / Costsfactors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BC Mydro Capacity Mitigation Revenue | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$3,600 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 | \$4,800 |
| value of remaining 6 mmcfd SCP Capacity | \$411 | \$411 | \$411 | \$411 | \$411 | \$411 | \$549 | \$549 | \$549 | \$549 | \$549 | \$549 | \$549 | \$549 | \$549 | \$549 |
| Net Other | \$4,011 | \$4,011 | \$4,011 | \$4,011 | \$4,011 | \$4,011 | \$5,349 | \$5,349 | \$5,349 | \$5,348 | \$5,349 | \$5,349 | \$5,349 | \$5,349 | \$5,349 | \$5,349 |
| NPV @ 10\% | \$36,022 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Adiust for Now Peaking Arrangements |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total SCP Firm Transport Revenues | \$10,485 | \$10,485 | \$12,182 | \$12,182 | \$12,182 | \$12,182 | \$15,557 | \$15,557 | \$15.557 | \$15,557 | \$15,557 | \$15,557 | \$15,557 | \$15,557 | \$15,557 | \$15,557 |
| Adjust for Replacement of Peaking Arrangem | ( $\$ 6000)$ | (\$600) | (\$600) | (\$600) | (\$600) | (\$600) | (\$6600) | (\$600) | (\$600) | ( 86000 | ( 56600 | (\$600) | (\$600) | (\$600) | (\$600) | (\$600) |
| SCP Firm Transport Value | \$9,885 | \$9.885 | \$11.582 | \$11.582 | \$11,582 | \$11,582 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 |
| NPV © 10\% | \$99,373 |  |  |  |  |  |  |  |  |  |  |  |  | 14,05 |  | \$14,057 |
| Assumptions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. BC Hydro excersices their full renewal rights and hold the capacity until October 2020 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. BC Hydro Annual Demand Charges increase to $\$ 4.800$ milion after the expriy of the primary term in October 2020. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Remaining 6 mmcfd is valued at today's forward market for 2004./05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Net cost of new peaking arrangements for 46.5 mmcfd is valued at $\$ 600 \mathrm{k}$ per annum |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. Inland Pacific Connector proceeds in 2006 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| SCP Firm Transport Value with NWN Contrat | \$9,885 | \$9,885 | \$11,582 | \$14.582 | \$11,582 | \$11,582 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 | \$14,957 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Existing PG\&E and BCH Revenues | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$7,200 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 | \$9,600 |
| Net Financial Impact NPV \& 10\% | \$ \$2,685 | \$2,685 | \$4,382 | \$4,382 | \$4,382 | \$4,382 | \$5,357 | \$5,357 | \$5,357 | \$5,357 | \$5,357 | \$5,357 | \$5,357 | \$5,357 | \$5,357 | \$5,357 |

