

UNDERTAKING J3.1

Undertaking

To provide information on constrained on and constrained off operations for 2005, 2006 and 2007.

Response

Please see Table 1 below.

Table 1: Breakdown of CMSC Constrained On and Off Payments for the Regulated Assets^{1,2}

line	Element	2005 ³	2006	2007
1.	Constrained On Quantity (GWh)	196.3	176.4	191.5
2.	Constrained Off Quantity (GWh)	345.6	337.8	235.0
3.	Constrained On Revenue (\$M)	4.0	2.7	2.5
4.	Constrained Off Revenue (\$M)	8.4	5.2	4.2
5.	Total Revenue (\$M)	12.4	7.9	6.7

The discussion below addresses the majority of CMSC payments which are from the Beck complex.

¹ Numbers may not add due to rounding.

² CMSCs associated with energy account for between 87% and 98% of all CMSC revenue amounts indicated in Ex. G1-T1-S1, page 15, line 1. The remaining revenues in each of the three years are associated with manual charges (for example, a one time metering charge worth \$1 million that was reconciled in 2007), operating reserve CMSCs and local market power debits. These minor amounts are onerous to track and break out separately and are not included in the table above. Operating reserve CMSCs are separately addressed by the Ancillary Service Variance Account associated with the operating reserve ancillary service.

³ 2005 covers January to December.

1 Constrained off situations (the majority of CMSCs) can result in wasted or inefficient use
2 of water as the generator is dispatched to a level *below* its maximum efficiency point or
3 may result in spill losses.

4
5 It is possible that some of the water associated with the lost production during
6 constrained off situations can be returned to storage for use at another time, if storage is
7 available and if it can be accommodated within the daily water plan. Practically, during
8 the on-peak hours, storage is extremely limited and market timelines restrict OPG's
9 ability to react to constraints. During the off-peak hours, water can be pumped back into
10 the Sir Adam Beck PGS reservoir but this action results in additional pumping costs at
11 potentially uneconomic market prices. In all of these situations, the salvage operation
12 results in lost operational efficiencies for the entire Beck complex which are not
13 recoverable through CMSC payments or the water variance account. Further, the
14 payment that OPG receives may be less than OPG would otherwise have received for
15 the same water, had the water been used when OPG wanted to use it.

16
17 Constrained on situations typically require inefficient use of the hydroelectric generating
18 units *above* the point of maximum efficiency or the inefficient operation of the Sir Adam
19 Beck PGS when additional water needs to be withdrawn from storage. While it is true
20 that OPG receives the difference between its offer price and HOEP, in these situations
21 the payment may be less than OPG would otherwise have received for the same water,
22 had the water been used when OPG wanted to use it. In addition, similar to the
23 constrained off situation, the lost production associated with this inefficient operation is
24 not recovered through the water variance account and if the CMSC value is less than the
25 regulated rate, OPG will not recover its full costs.