

7 March 2016

Mr Nicholas Clark
27 Paterson Street
Launceston TAS 7250

Dear Mr Clark,

Right to Information Request 4 February 2016

I refer to your request pursuant to the Right to Information Act 2009 (RTI Act) received on 4 February 2016 by Hydro Tasmania.

I am authorised to make decisions on behalf of Hydro Tasmania in respect of applications for information under the RTI Act.

1. Your Request

As agreed with you in our telephone conversation and confirmed by reply email, the information being provided to you is in relation to only the export of energy over Basslink.

Your request was therefore by agreement limited to the following:

The information sought relates to Hydro Tasmania's consideration of the water/energy situation and the risk assessment of the export of electricity over Basslink in the face of dry conditions in 2015.

2. Determination and Reasons for Determination of Request

I have undertaken a search of the information held by Hydro Tasmania to locate any records that may be relevant to the Request and have determined as follows:-

2.1 Information relevant to the Request

The information I have determined which can be released to you that is responsive to your request is included in Annexes A and B.

We would be happy to discuss with you any part of the information in the annexures which you may need further clarification of. The decisions to export across Basslink are not made lightly. Exports were reduced as soon as low inflows commenced in the latter part of September 2015. This can be seen from the tables and graphs provided.

The decision to bring the CCGT back on-line as soon as possible supports the immediate action of the business to the low inflows. A redacted copy of an internal memorandum specific to Hydro Tasmania's considerations in bringing the CCGT back on-line is provided in Appendix B. The redactions are primarily price sensitive information which could harm the business' competitive position if disclosed.

3. Information provided

Both Annexure A and B relate to Hydro Tasmania's consideration of the water/energy situation and the risk assessment of the export of electricity over Basslink in the face of dry conditions in 2015.

4. Information withheld

I have made the decision to not release certain information:

- The names of officers and contact details have been redacted as that is not information relevant to the request and officer details are also protected by the Privacy Act. Hydro Tasmania has received verbal advice from the Ombudsman's Office that names and details of officers of Hydro Tasmania are not "information" under the RTI Act.
- Information which is exempt under Section 38 of the RTI Act has been withheld;
- As required under Section 33 of the RTI Act, I considered the Public Interest Test assessment criteria under the Schedule to the RTI Act in regards to the information ultimately withheld pursuant to section 38 and have determined that it was not in the public interest as a whole to disclose the withheld information.

The reasons for the determination are:

- that the release of the information would not contribute to the debate on the matter;
- the information would not inform the request about the reasons for a decision;
- that the disclosure may have a substantial adverse effect on the management by Hydro Tasmania of its staff;
- that the disclosure may have adverse effects upon the industrial relations of Hydro Tasmania;
- the disclosure would prejudice the ability of Hydro Tasmania to obtain similar contract enquiries in the future;
- the disclosure would not provide the contextual information to aid in the understanding of Hydro Tasmania's decisions;
- disclosure would harm the business and financial interests of Hydro Tasmania;
- the information is related to the business affairs of Hydro Tasmania and if released would cause harm to the competitive position of the corporation.

5. Review of Rights

You are entitled under Section 43 of the RTI Act to apply for a review of the decision made under Parts 2 or 4 of the determination.

Any request for such a review should be made in writing within twenty (20) working days of receiving this letter and addressed to:

Mr S Davy
Chief Executive Officer
Hydro Tasmania
4 Elizabeth Street
HOBART TAS 7000

Should you have any questions on the information provided please contact the undersigned.

This request is now considered closed.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Alan W. Evans', with a large, sweeping flourish extending to the left.

Alan W. Evans
Right to Information Officer & Corporation Secretary
Hydro Tasmania
t 03 6230 5300
e alan.evans@hydro.com.au
f 03 6231 421

Annexure A

Hydro Tasmania bids in the market at half hourly intervals each day.

There is no specific risk assessment for each half hourly dispatch. It is a business as usual process that involves extensive modelling of energy supply and market risk.

This analysis is done using sophisticated tools. The result of the analysis is complex and is something which a non Subject Matter Expert would not readily be able to interpret. It is also information that if released, would expose the Corporation to competitive disadvantage.

Hydro Tasmania makes daily decisions around how much energy it is willing to generate at what price, based around many inputs including its contract position, existing storage position, on-island generation and future expectations on inflows and price. During December 2015 this commercial / risk trade-off resulted in the export of 9.4 GWh at an average price of \$210/MWh. The commercial / supply risk trade-off considers individual generators (and storages) as well as a total portfolio of generation capability. The risk equation considered the potential for a 60 day Basslink outage. There was no way of predicting that an outage would occur on 20 December 2015.

The onset of the current dry spell commenced in the latter part of September 2015 (Table 3 - Central Plateau Rainfall) without warning and very severely (refer to figure 1 in the publicly available Energy Supply Plan and the System Yield Graph 1 below.) Hydro Tasmania's initial response to this was to increase the volume of imports from Victoria via the Basslink cable. This did not mean it would not respond to high spot market prices when they occurred. Hydro Tasmania is a commercial business and is charged with achieving a sustained commercial rate of return that maximises value for the State under the GBE Act.

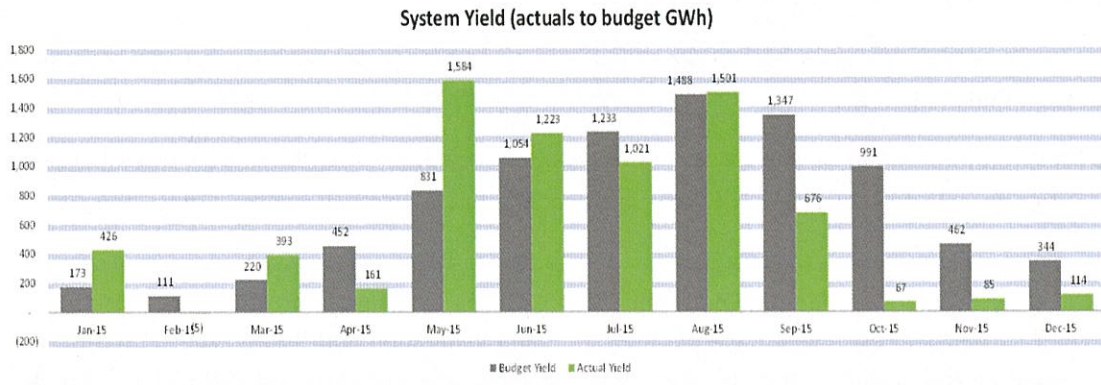
With reference to Table 1, this change in behaviour is clearly seen in the October and November import levels.

	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sept 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016
Basslink Export @ Loy Yang (GWh)	7.9	3.3	16.7	104.3	165.4	122.7	180.6	91.2	1	0	9.4	0
Basslink Import @ Tas RRN (GWh)	-242.1	-304.1	-234.1	-52.2	-42.7	-84.6	-23.6	-119.5	-321.5	-325.4	-192.2	0
Basslink Net Flow (sum) (GWh)	-234.3	-300.9	-217.4	52.1	122.7	38.1	156.9	-28.2	-320.5	-325.4	-182.9	0

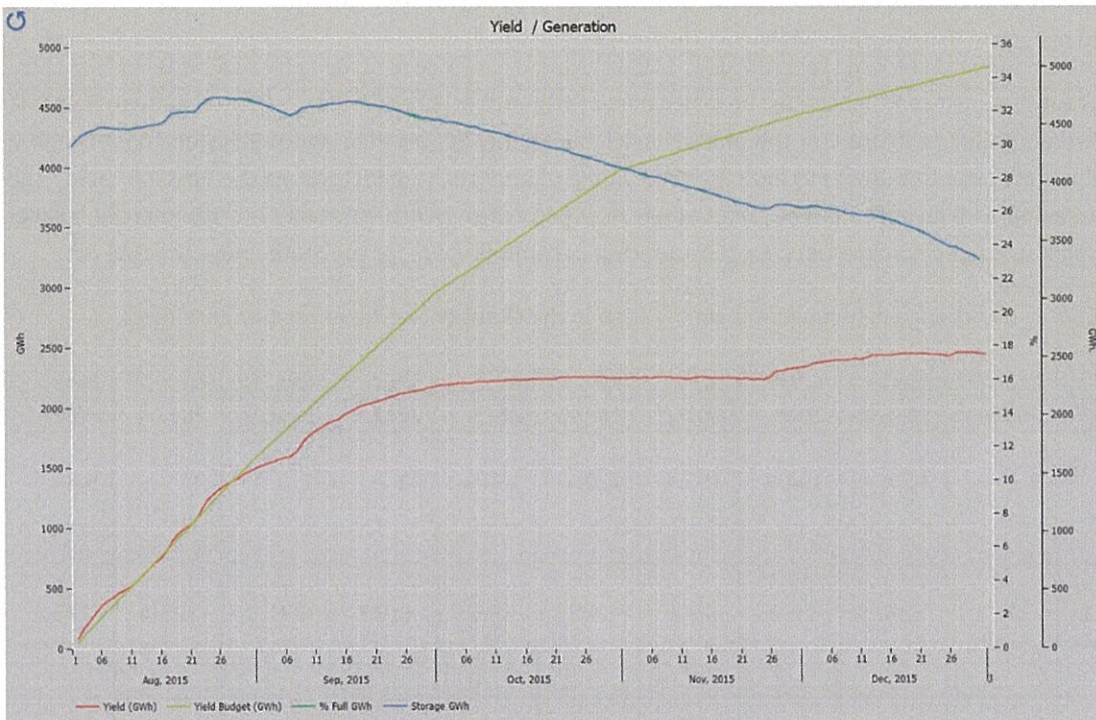
Table 1: Import/Export History

By early December 2015 a commercial decision to generate with the Tamar Valley Power Station CCGT unit over the period 20 January to 30 April 2016 improved the forward energy supply forecast by 443 GWh, see Annexure B. One of the fundamental reasons for making this commercial decision was to provide more flexibility to generate at high spot prices in order to manage financial risk. This was the most economic choice available to Hydro Tasmania based on the best information available at the time.

- The volume of export in December 2015 was only 9.4 GWh and the price received was \$210/MWh. Import was maximised until Basslink went down on 20 December 2015.
- The volume of energy produced by the CCGT during the period 20 Jan–30 Apr 2016 was forecast to be 443 GWh (this forecast has been achieved so far)



Graph 1



Graph 2

As yield decreased over September 2015 (Graph 2 red line) hydro generation decreased and imports were maximised across Basslink, see table 2 below.

Table 3 shows the rainfall decreasing in mid to late September 2015.

Table 2 – Daily Hydro generation, export and import

Date	Basslink	Basslink
	Export @ Loy Yang (GWh)	Import @ Tas RRN (GWh)
1-Sep-15	6.1	0.0
2-Sep-15	6.0	-1.5
3-Sep-15	8.0	-0.9
4-Sep-15	10.6	0.0
5-Sep-15	8.1	0.0
6-Sep-15	2.6	-1.0
7-Sep-15	2.9	-2.9
8-Sep-15	5.1	-1.6
9-Sep-15	7.5	-1.1
10-Sep-15	8.7	0.0
11-Sep-15	1.4	-4.0
12-Sep-15	0.0	-6.1
13-Sep-15	0.0	-10.6
14-Sep-15	0.4	-7.8
15-Sep-15	0.9	-6.0
16-Sep-15	0.6	-6.6
17-Sep-15	1.9	-3.4
18-Sep-15	2.8	-2.8
19-Sep-15	1.8	-2.7
20-Sep-15	0.5	-8.2
21-Sep-15	1.1	-6.3
22-Sep-15	1.6	-3.7
23-Sep-15	3.4	-2.5
24-Sep-15	4.3	-2.5
25-Sep-15	2.4	-2.7
26-Sep-15	0.5	-6.3
27-Sep-15	0.1	-9.1
28-Sep-15	0.7	-5.3
29-Sep-15	0.5	-7.6
30-Sep-15	0.5	-6.2
1-Oct-15	0.0	-10.7
2-Oct-15	0.0	-10.7
3-Oct-15	0.0	-10.8
4-Oct-15	0.1	-9.4
5-Oct-15	0.6	-8.6
6-Oct-15	0.3	-8.4
7-Oct-15	0.0	-10.8
8-Oct-15	0.0	-10.3

9-Oct-15	0.0	-9.8
10-Oct-15	0.0	-10.8
11-Oct-15	0.0	-10.1
12-Oct-15	0.0	-10.8
13-Oct-15	0.0	-10.6
14-Oct-15	0.0	-9.0
15-Oct-15	0.1	-9.5
16-Oct-15	0.0	-10.4
17-Oct-15	0.0	-10.9
18-Oct-15	0.0	-10.7
19-Oct-15	0.0	-10.9
20-Oct-15	0.0	-11.0
21-Oct-15	0.0	-10.9
22-Oct-15	0.0	-10.7
23-Oct-15	0.0	-10.2
24-Oct-15	0.0	-11.0
25-Oct-15	0.0	-11.0
26-Oct-15	0.0	-10.8
27-Oct-15	0.0	-10.9
28-Oct-15	0.0	-10.9
29-Oct-15	0.0	-9.2
30-Oct-15	0.0	-10.7
31-Oct-15	0.0	-11.0
1-Nov-15	0.0	-11.0
2-Nov-15	0.0	-10.9
3-Nov-15	0.0	-11.0
4-Nov-15	0.0	-10.9
5-Nov-15	0.0	-10.9
6-Nov-15	0.0	-10.9
7-Nov-15	0.0	-11.0
8-Nov-15	0.0	-11.0
9-Nov-15	0.0	-11.0
10-Nov-15	0.0	-10.9
11-Nov-15	0.0	-11.0
12-Nov-15	0.0	-11.0
13-Nov-15	0.0	-11.0
14-Nov-15	0.0	-11.0
15-Nov-15	0.0	-11.0
16-Nov-15	0.0	-11.1
17-Nov-15	0.0	-11.0
18-Nov-15	0.0	-10.0
19-Nov-15	0.0	-9.3
20-Nov-15	0.0	-10.9
21-Nov-15	0.0	-10.9
22-Nov-15	0.0	-11.0
23-Nov-15	0.0	-11.0
24-Nov-15	0.0	-10.9

25-Nov-15	0.0	-10.2
26-Nov-15	0.0	-10.9
27-Nov-15	0.0	-10.9
28-Nov-15	0.0	-10.9
29-Nov-15	0.0	-11.0
30-Nov-15	0.0	-10.8
1-Dec-15	0.0	-10.8
2-Dec-15	0.0	-11.0
3-Dec-15	0.0	-10.9
4-Dec-15	0.0	-10.5
5-Dec-15	0.0	-11.0
6-Dec-15	0.0	-11.0
7-Dec-15	0.0	-10.1
8-Dec-15	0.0	-10.3
9-Dec-15	0.0	-10.8
10-Dec-15	0.0	-10.9
11-Dec-15	0.0	-11.0
12-Dec-15	0.0	-11.0
13-Dec-15	0.0	-11.0
14-Dec-15	0.0	-10.4
15-Dec-15	0.0	-10.0
16-Dec-15	0.9	-7.7
17-Dec-15	4.5	-5.0
18-Dec-15	2.9	-6.1
19-Dec-15	1.0	-7.4
20-Dec-15	0.0	-5.3
21-Dec-15	0.0	0.0
22-Dec-15	0.0	0.0
23-Dec-15	0.0	0.0
24-Dec-15	0.0	0.0
25-Dec-15	0.0	0.0
26-Dec-15	0.0	0.0
27-Dec-15	0.0	0.0
28-Dec-15	0.0	0.0
29-Dec-15	0.0	0.0
30-Dec-15	0.0	0.0
31-Dec-15	0.0	0.0

Table 3

Station: Lake St Clair National Park Number: 96071 Opened: 1989 Now: Open
 Lat: 42.12° S Lon: 146.18° E Elevation: 742 m [Details](#)

Show in table... ▾ Key: Units = mm 12.3 = Not quality controlled. ↓ = Part of accumulated total
 28.0 Move mouse over rainfall total to view the period of accumulation.

2015 ▾	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Graph												
1st	5.0	1.6	1.6	0	0	↓	0.2	20.0	0	0	1.0	7.2
2nd	3.6	0	3.6	↓	0	19.4	↓	7.6	0	0	2.6	13.4
3rd	0	0	0.6	16.2	18.4	2.0	26.0	28.4	1.2	15.8	2.6	↓
4th	16.0	2.8	0.4	0.4	0	0.4	6.0	10.6	0.2	0	4.2	↓
5th	0	0	28.4	0	22.8	0	0.4	23.4	2.2	0	0	5.4
6th	0	0	31.0	0	44.4	5.0	2.8	11.0	0	↓	↓	0
7th	0	0	1.4	0	36.8	9.8	0.2	0	1.4	↓	↓	0
8th	9.4	0	1.4	0	23.4	27.0	0	0	31.4	↓	↓	2.2
9th	17.4	0	4.6	0	19.0	50.4	0	0	↓	↓	↓	↓
10th	0.6	0	1.0	0	32.6	13.4	0.6	0	↓	10.0	3.0	8.4
11th	0	0	0	0	35.4	0.6	2.6	4.8	↓	0.2	0	6.4
12th	0	0.6	1.6	0.4	16.8	0	6.2	↓	2.6	0	2.6	31.2
13th	0	0	2.8	0.2	43.4	0.2	1.8	↓	0	↓	2.6	0.6
14th	21.6	4.8	0	0	15.8	0.2	4.8	↓	↓	2.2	1.0	0
15th	↓	2.4	17.4	0.8	3.8	4.0	0	8.6	↓	0	0.2	0
16th	13.4	0	0	↓	0.4	0	0.8	3.8	↓	10.6	0	0
17th	44.6	0	0	6.4	0.2	10.0	2.4	38.0	↓	0.2	0	0
18th	20.2	0	3.8	0	0.4	2.8	1.6	5.4	10.4	0.6	0	0
19th	3.2	0	2.8	13.8	0.4	↓	0.2	1.0	0.2	0	0.4	0
20th	0	0.2	20.8	1.6	3.0	0.6	0.2	0.2	0	0.2	↓	0
21st	↓	0	5.0	0	0.4	0.2	0	4.4	0	13.6	↓	↓
22nd	0.8	0	0	↓	0.6	0	7.6	11.8	0	0	↓	↓
23rd	5.2	0	6.4	↓	0	1.6	11.6	3.6	0	↓	10.8	6.8
24th	0	6.8	6.0	↓	0	↓	↓	1.8	0	↓	1.8	0
25th	6.2	0	0	0.4	0.4	↓	6.2	0	13.8	↓	4.8	0
26th	11.6	0.6	6.0	0	2.0	14.4	18.0	1.0	0	↓	33.8	13.6
27th	0.8	0.8	2.6	4.6	0.2	3.6	29.2	0	0	1.0	12.2	12.8
28th	0	0	6.0	0.4	3.6	0.6	11.4	1.2	0	0	2.0	0.4
29th	↓	↓	0.2	0	29.0	0.4	↓	8.2	0	0	0	0
30th	0.2	↓	4.4	0	7.4	0	↓	0.8	0	0	0.2	0
31st	0	↓	0	↓	20.0	↓	18.8	0	↓	0	↓	0
Highest Daily	44.6	6.8	31.0	13.8	44.4	50.4	29.2	38.0	31.4	15.8	33.8	31.2
Monthly Total	179.8	20.6	159.8	45.2	380.6	166.6	159.6	195.6	63.4	54.4	85.8	108.4

Annual total for 2015 = 1619.8 mm View all monthly data Plot year of daily data

Summary statistics for all years

Move mouse over highest daily rainfall to view dates.

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	103.6	79.0	112.0	133.7	166.7	168.3	201.7	238.9	212.1	179.0	133.0	130.5
Median	92.6	74.8	117.9	124.9	152.8	161.5	184.8	212.8	212.5	155.8	128.2	123.5
Highest Daily	73.2	63.9	90.4	49.0	72.0	64.2	59.2	84.8	62.4	66.8	43.6	56.0



Internal memo

Private and confidential

To:	[REDACTED]	
From:	[REDACTED]	Ext no:
cc:		
Date:	4 December 2015	Pages: 4
Subject:	CCGT ECONOMIC ANALYSIS	
Status:	For Information	

Names removed under the privacy act

1. Background

1.1 Energy Injection

This paper provides an analysis of the current economic benefit of operating the CCGT for 3 months, from mid Jan 2016.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Disclosure is exempt under Section 38 of the *Right to Information Act 2009* – release of information would expose Hydro Tasmania exposed to competitive disadvantage

At this point in time, based on costs already committed the variable cost of operating the unit is [REDACTED]/MWh.

1.2 Economic Benefit

Hydro Tasmania is currently heavily reliant on Basslink imports to meet Tasmanian demand. In the absence of above average inflows over Q1 2016, Hydro Tasmania is expected to remain on full import at prices up to [REDACTED]/MWh for an extended period. This is necessary to mitigate supply risks associated with continued below average inflows, environmental and plant risks at specific storages and contingency events, such as loss of Basslink.

Under normal operating conditions, when the Tasmanian energy supply is in balance (supply in line with demand), the value of additional energy within the Tasmanian system is in line with the 'underlying' Victorian energy price (Flat Swap Capped contract rate) currently around [REDACTED]/MWh. This is well below the cost of CCGT generation.

However, record low inflows have resulted in a significant energy supply deficit, with Hydro Tasmania storages falling below prudent water management levels despite Basslink operating at close to full import capability for almost three months. Under this constrained energy supply position, energy is significantly more valuable in the Tasmanian system.

The economic benefits of 3 month operation of the CCGT, under current storage conditions are estimated as follows:

Short term scarcity premium

Hydro Tasmania is currently preserving water in majors storages at prices up to [REDACTED] reflecting the scarcity premium associated with the current limited supply. Operation of the CCGT under these conditions provides an injection of energy into the Tasmanian system. This can be used to reduce the volume of energy that must be imported via Basslink, currently occurring at prices up to [REDACTED]

A proportion of CCGT generation will be used to reduce Basslink import and a proportion will be 'injected' into storage to enable generation at a later stage (ie an "arbitrage" opportunity).

The estimated value of the energy components of CCGT generation assumes the energy will be utilised as follows:

[REDACTED]

Disclosure of information is exempt under Section 38 of the *Right to Information Act 2009* – release of information would expose Hydro Tasmania exposed to competitive disadvantage

Disclosure is exempt under Section 38 of the *Right to Information Act 2009* – release of information would expose Hydro Tasmania exposed to competitive disadvantage

[Redacted]

[Redacted]

[Redacted]

Potential upside to valuation

[Redacted]

[Redacted]

Disclosure is exempt under Section 38 of the *Right to Information Act 2009* – release of information would expose Hydro Tasmania exposed to competitive disadvantage

1. System Operation

Operation of the CCGT provides inertia and FCAS benefits to the Tasmanian system, reducing the demand on valuable water at critical storages (such as Gordon) used to provide FCAS services

2. Plant maintenance and risks

Operation of stations at low storage levels leads to increased maintenance and plant risks (eg runner wear at Poatina, vortices at Gordon). If the CCGT is operated then Storage levels will be higher and station utilisation lower than would otherwise be the case, leading to lower costs and risks at hydro stations

3. Environmental and Reputations Risks

Operation of stations at low storage level and high draw rates leads to significant environmental risks and impacts on recreational use at hydro storages.

[REDACTED]

[REDACTED] Operation of the CCGT is economic at current storage operating levels, with expected costs of [REDACTED]/MWh and expected benefits in excess of [REDACTED]/MWh for 3 months of operation. There are also considerable other economic benefits associated with operation of the CCGT that have outlined but not quantified.

Disclosure is exempt under Section 38 of the *Right to Information Act 2009* – release of information would expose Hydro Tasmania exposed to competitive disadvantage