

24 February 2021

Clive Stott  
9 Alpine Crescent  
Grindelwald TAS 7277

Dear Mr Stott,

### **Right to Information Request 2 November 2016**

I refer to your original request pursuant to the *Right to Information Act 2009* ("RTI Act") received by Hydro Tasmania on 2 November 2016 and the final decision on external review made by the Ombudsman on 18 February 2021.

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

#### **1. Your Request**

Your request was for copies from Hydro Tasmania's databases, emails, diary entries, reports, notes, photography, pertaining to:

- i. What the ROVs found when looking for the subsea fault:
  - a. If the cable was buried in the area of the fault and if it was still bundled.
  - b. If the cable bundle was still in the charted position it had been originally laid.
- ii. Why it took so long for the lie-De Re to locate the cable, and
- iii. The fault.
- iv. The damage observed and over what length when the bundled cable was brought to the surface.
- v. If there was only one visible tear or if there was other visible damage to the cable/s.
- vi. What prompted those on the lie de Re to start looking for the fault at the southern end.
- vii. The observed cause of the fault.
- viii. Siemens Win-TDC control and protection report
- ix. How much cable was sent away for forensic analysis

- x. The result of the forensic analysis.
- xi. The actual cause of the fault.

(Collectively “the Request”).

## **2. External Review Decision**

2.1. In accordance with the Ombudsman’s decision, I have attached the information to which you are entitled. As stated in the initial decision letter sent to you on 8 March 2017:

- Documents A, B, C and D are responsive to item i;
- Document E is responsive to item i.a, iv, v and vii;
- Documents F and G are responsive to item ix.

Remaining redactions in the documents are in accordance with the Ombudsman’s decision.

2.2. Regarding item iii of the Request, Hydro Tasmania will contact you before 19 March 2021 to discuss the nature of the information you seek. As noted in previous correspondence and in the Ombudsman’s decision, a search of our files found some 9,264 documents related to ‘the fault’ and this part of the Request as originally stated would require an unreasonable diversion of resources. Hydro Tasmania hopes to be able to consult with you to refine this part of the Request to a more precise description of the kind of documents you are interested in. To this end, I request that you confirm your current contact number by return email.

2.3. Hydro Tasmania appreciates your agreement to the redactions of some of the personal information of our employees and external personnel.

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

Yours sincerely,



Laura Harle  
Graduate Legal Counsel  
t 6240 2813  
e [laura.harle@hydro.com.au](mailto:laura.harle@hydro.com.au)

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**From:** Prajit Parameswar  
**Sent:** Thursday, 21 January 2016 9:36 AM  
**To:** Gerard Flack; [REDACTED]  
**Cc:** James Pirie  
**Subject:** FW: File note - 19Jan16 (BPL)

Hi,

Please see below file note for 19 January 2016.

I have had a further discussion with Mark today, a file note for which, I will send through this morning [REDACTED]

Regards,

**Prajit Parameswar** | Manager Operational Contracts  
CPA, MPAS, MBus



p + [REDACTED] | m [REDACTED]  
e Prajit.parameswar@hydro.com.au  
w www.hydro.com.au  
4 Elizabeth Street, Hobart TAS 7000

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**From:** Naomi Allchin  
**Sent:** Thursday, 21 January 2016 9:22 AM  
**To:** Prajit Parameswar  
**Subject:** RE: File note - 19Jan16 (BPL)

Agree [REDACTED]

**Naomi Allchin** (nee Watts) | Corporate Solicitor | Hydro Tasmania

p [REDACTED] | f + [REDACTED] | m + [REDACTED]

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**From:** Prajit Parameswar  
**Sent:** Wednesday, 20 January 2016 9:36 AM  
**To:** Naomi Allchin  
**Subject:** File note - 19Jan16 (BPL)

Hi [REDACTED]

There was very little information [REDACTED] Please respond [REDACTED]

**20 January 2016 – [REDACTED] – 4.00pm ([REDACTED] returned my 3.30pm call)**

What date/time does the Ile De Re leave the port of Geelong?

The intention at this stage is for the vessel to leave the port on 23 January 2016.

What is the latest time our Investigator needs to be at the vessel before departure?

[REDACTED], there may be some inductions, etc to be done. I will confirm this with you.

OK. Has BPL organised port clearances for [REDACTED]

Investigator)?

I can find out. I am not dealing with these matters.

I will send you an email with these queries, can you please respond asap.

MS:

I will try and respond by tomorrow, at this stage.

PP:

What caused the schedule extension of 30 days?

MS:

## Logistics. Securing services of people and equipment

•

Did the vessel take ROV footage?

Yes.

**END**

Regards,

**Prajit Parameswar** | Manager Operational Contracts  
CPA, MPAS, MBus

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**From:** [REDACTED]  
**Sent:** Monday, 25 January 2016 9:03 PM  
**To:** [REDACTED]  
**Cc:** Gerard Flack; Naomi Allchin  
**Subject:** Update Before I go Out of Range  
**Attachments:** 2015-B3-5.pdf

Good Evening [REDACTED],

I thought I should send this email before I lose phone signal rendering email useless. You will know that we left the dock around 16.30 hours and we are now well at sea. There is a lot of movement at present. Just a couple of things that may be of importance.

- For whatever reason there are no [REDACTED] on the ship.
- There was twelve hours of footage taken when the ship passed over the faulted area. That footage revealed nothing other than the cable seems to be providing enhanced living conditions for local flora and fauna, [REDACTED].
- The program [REDACTED]. On this trip [REDACTED] is to uncover the fault [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Regards,

[REDACTED]  
Director – Cable Systems Engineering  
PO Box 1473, CRONULLA NSW 2230



m: [REDACTED] | f: [REDACTED]

| [www.cablesystemsengineering.com.au](http://www.cablesystemsengineering.com.au)

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**From:** [REDACTED]  
**Sent:** Wednesday, 27 January 2016 7:42 PM  
**To:** Gerard Flack; Andrew Oosterkamp; Stephen Davy; Stephen Bendeich; Prajit Parameswar  
**Cc:** Naomi Allchin; James Pirie  
**Subject:** FW: First Two Days  
**Attachments:** Investigator Report 25 Jan.docx; Investigator Report 26 Jan.docx

Hi,

FYI – please see reports attached from our Investigator.

I also had a phone call from [REDACTED] this afternoon (per his below email - he can get reception on his Telstra number on the bridge of the ship).

Information was as follows:

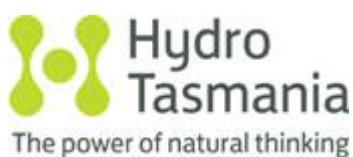
**4:57pm 27Jan16 File-note:**

- He doesn't believe the BPL schedule has been updated. (he asked for it but said it appears to not be a priority out on the ship)
- He believes the schedule was an estimate only anyway (as it had some deficiencies). Appears to be changing anyway as they are having delays in locating the fault.
- Fault is only narrowed to an 800m section (500m north of the joint to 300m south of the joint)
- They have tried numerous methods to locate the exact location of the fault (ie within the 800m section)
- Various tones were used on the tone generator but has not been effective
- The experts on board are not willing to state it is the joint as yet
- There is nothing visual down there indicating a disturbance (a reef has grown over the cable trench due to the warmth)
- They may use a "Thumper" to inject hundreds of Amps to make the fault easier to detect
- This needs work to set up the "Thumper" on shore
- The Thumper may cause more damage to the cable but it will be easier to locate the fault
- Depends on how long it's on for as to whether it makes forensics on the cable harder to perform later or cause more damage (ie carbonisation along the cable)
- The "Thumper technique is also used on shore (ie [REDACTED] is familiar with this technique)
- The tone generator used 200mA. Thumping will take this to an injection of a few hundred Amps potentially
- They have surveyed all around the cable and there is no evidence of any 3rd party damage or disturbance for the 4km surveyed (ie significant distance either side of the fault area)
- Thumping was not envisaged originally, but it's looking like it will now be needed.

**End.**

Regards,

[REDACTED] | Manager Spot Market and Operations  
BEng



p [REDACTED] | f [REDACTED] | m [REDACTED]  
e [REDACTED]  
w [www.hydro.com.au](http://www.hydro.com.au)  
4 Elizabeth Street, Hobart TAS 7000

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**From:** Naomi Allchin  
**Sent:** Wednesday, 27 January 2016 4:21 PM  
**To:** [REDACTED]  
**Subject:** RE: First Two Days

Thanks [REDACTED]

Confirmed.

Naomi Allchin (nee Watts) | Corporate Solicitor | Hydro Tasmania

p [REDACTED] | f + [REDACTED] | m [REDACTED]

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**From:** [REDACTED]  
**Sent:** Wednesday, 27 January 2016 4:06 PM  
**To:** Naomi Allchin  
**Subject:** Fwd: First Two Days

FYI:

[REDACTED].

Please confirm [REDACTED].

Cheers.

Sent from my iPhone

Begin forwarded message:

**From:** [REDACTED]  
**Date:** 27 January 2016 3:51:43 pm AEDT  
**To:** [REDACTED]  
**Subject:** First Two Days

Good Afternoon [REDACTED]

I am on the deck with my computer and I can get two bars on my phone, so I thought I would take the opportunity to send an email with reports from Monday and Tuesday to make sure that what I have done is sufficient. I have changed the format a little and tidied it up. Obviously I cannot send the photos, they will have to be sent on a memory stick via mail when I return.

Regards,

[REDACTED]  
Director – Cable Systems Engineering

---

**From:** [REDACTED]  
**Sent:** Tuesday, 8 March 2016 6:48 PM  
**To:** Stephen Davy; Gerard Flack; Stephen Bendeich; James Pirie; Prajit Parameswar  
**Cc:** Naomi Allchin  
**Subject:** File-notes for phone calls with Investigator on 5, 6 & 7 March 2016

Hi,

Please see below file-notes for 5, 6 & 7 March attached as follows.

**Phone call with Investigator [REDACTED] at 6.58pm on 7 March 2016**

- More jetting and dredging [REDACTED] to [REDACTED]
- [REDACTED]
- Approx. 1 day of dredging remaining . [REDACTED]

[REDACTED]

END

**Phone Call to Investigator [REDACTED] at 6.15pm on 6 March**

- The vessel has undertaken approx. 6km of dredging.
- [REDACTED]
- [REDACTED] explained that [REDACTED] dredging did not show a visual of the fault. The visuals were quite clear.
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

END

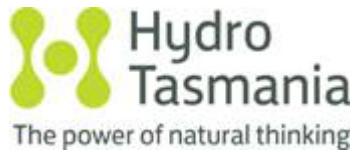
**Phone call with Investigator [REDACTED] 6.32pm 5 March 2016**

- Dredging [REDACTED] northwards – [REDACTED]
- Boat was just drifting last night and nothing done until after 10am when it was decided to put the ROV in to do the dredging.
- [REDACTED]

END

Regards,

[REDACTED] | Manager Spot Market and Operations  
BEng



[REDACTED] | f [REDACTED] | m [REDACTED]  
e [REDACTED]  
w [www.hydro.com.au](http://www.hydro.com.au)  
4 Elizabeth Street, Hobart TAS 7000

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## Basslink High Voltage Cable Recovery & Repair from 20 December 2015 Failure

### Hydro Tasmania Project Investigator Daily Checklist

<b>Date/time</b>	Sunday 27 <sup>th</sup> March, 2016. 2230 hours
<b>Project Investigator</b>	[REDACTED]
<b>Weather</b>	<p>0800 hours' wind from the SW at 22~27 knots. Seas rough. Temperature 13°C. Cloudy sky with good visibility. Position 40° 13" 3' S and 146° 52" 3' E. In Autotrack mode.</p> <p>1200 hours' wind from the SW at 17~21 knots. Seas rough. Temperature 16°C. Partly cloudy sky with good visibility. Position 40° 13" 3' S and 146° 52" 3' E. In Autotrack mode.</p> <p>1600 hours' wind from the South at 17~21 knots. Seas rough. Temperature 16°C. Partly cloudy sky with good visibility. Position 40° 13" 2' S and 146° 52" 2' E. In Autotrack mode.</p> <p>2000 hours' wind from the West at 22~33 knots. Seas rough. Temperature 15°C. Partly cloudy sky with good visibility. Position 40° 13" 2' S and 146° 52" 3' E. In Autotrack mode.</p>
<b>Cable Location</b>	KP199.325
<b>Vessel Location</b>	KP199.325 working back along the cable.
<b>Fault Location</b>	When TDR tested from KP199.325 there was a clear indication that fault lay a further 79 metres North.
<b>Daily Activities Planned</b>	Continue to retrieve and cut up cable lengths until fault is reached.
<b>Daily Activities Completed</b>	<p>Cable retrieval continued throughout the morning.</p> <p>Fault brought on board early afternoon.</p> <p>Continued retrieval and cutting cable to clear water ingress.</p>
<b>Schedule Variations</b>	<p>No schedule issued. Cable must continue to be cut back until water ingress is cleared.</p> <p>Once this is achieved a Megger and HV DC withstand test can be completed. Cable will then be capped and lowered back down in readiness for jointing.</p> <p>Weather continues to play a significant role in dictating work priorities.</p>

	Going forward it will play an extremely important role in the jointing program as picking suitable windows of calm/suitable weather will become more difficult as time rolls on.
<b>Issues / Risks to Hydro Tasmania</b>	The biggest risk in restoring supply appears to be finding weather conditions that will allow the necessary jointing work to take place.  A risk to be considered going forward was the LIRA test results and the anomaly at the location around 45 metres from the Tasmanian coast. It is likely that this will require ongoing monitoring.
<b>Communication / Escalation to Hydro Tasmania</b>	Queried whether it is OK to comply with Joska's request that copies of all photos taken on board be provided to him.
<b>Testing Results / Data</b>	TDR testing from KP199.325 indicates fault a further 79 metres.
<b>Repair Records</b>	N/A
<b>Has the Project Investigator been provided access to all required information?</b>	Yes.  Access to all parts of the ship is unrestricted which allows me to make my own assessments.
<b>Self-observations</b>	
Investigator adhered to all PPE requirements:  Comments / Actions taken:	Yes  Following requirements indicated by signage at the various locations around the ship.
Investigator adhered to all general safety requirements:  Comments / Actions taken:	Yes  Personal awareness of potential hazards around the vessel. I feel quite comfortable about my own safety.
Investigator considered his/her own fatigue and wellbeing?  Comments / Actions taken:	Yes  No problems.
General Safety Observations:  (Self & Others)	Some of the behaviours occurring on board would not be satisfactory on any worksite in mainland Australia. Such things as adherence to PPE recommendations, smoking whilst working, refuelling of portable equipment in the vicinity of other equipment in operation, climbing on or over equipment, etc.  The standards set on the ship seem to be a bit lower than expected, however by no means the worst I have seen.

### Comments and attachments:

I checked on work progress at 0130 hours this morning and found that instead of cutting, the crew were in the process of moving the cut lengths off the deck area and storing them near cable bin no. 2. I watched them for a little while expecting them to start cutting again but by 0200 hours they had stopped work.

They told me that they would not re-commence until 0700 hours.

I had also ran into Bill earlier in the night and he told me they would do another TDR in the morning. He did not mention anything about them stopping at any particular point to wait for that though.

By 0700 hours, 8 metre length no's 135 and 136 were on board and ready to cut. After cutting length 136 another TDR test was undertaken. Both TDR instruments agreed that the fault was a further 79 metres away.

According to my calculation, length no. 136 is 96 metres into the earlier predicted 170 metre distance from the fault.

$96 + 79 = 175$  metres which is pretty consistent with the earlier number.

I quizzed Max on why the plastic sheeting and air conditioning ducts had been taken away and he replied that they were only testing the system – he said they will use it to condition the space they will create on the hanger deck for jointing.

Cable retrieval and cutting progressed throughout the morning although for some reason they began cutting at lengths other than 8 metres.

Lengths were as follows:

Lengths 138 & 139 were cut at 0840 hours – length 8 metres each.

Length 140 was cut at 0920 hours – length 11.5 metres.

Length 141 was cut at 1045 hours – length 11.5 metres.

Length 142 was cut at 1130 hours – length 11.5 metres.

Length 143 – time of cut not noted – length 8 metres.

Length 144 – time of cut not noted – length 9 metres.

Length 145 – time of cut not noted – length 9 metres.

Length 146 was cut at 1400 hours – length 11.5 metres. This length contained the fault at approximately its mid-point.

In the length just prior to this, [REDACTED] (crew operations officer) spotted a small dark mark on the outside of the cable but it looked just like some bitumen that had leaked through the yarns to me. It was dismissed after a few photos and work continued – Again this just highlighted to me that no-one involved really knew what they were looking for.

The fault was spotted by myself at 1200 hours just coming up out of the water and stopping short of the cable chute. One more cable cut was required before it could be brought on board. A photo of it coming out of the water is attached – it is quite difficult to spot unless you know what to look for.



Photo 1. Fault coming aboard indicated by bulges in the outer serving (arrowed)

The fault had bulged the armour wires in two places close together but had not broken or fused them as I would normally expect to see in land cable fault. Thinking about this however, it is probably to be expected in a submarine environment with such a good earth surrounding the cable. I'm certain that beneath the main bulge in the armour wires there will be a sizable hole burnt right through to the conductor. The fault began to ooze burnt compound once it was on board.

After the fault was eventually brought on board and many photos taken a further two lengths were cut before a sample was taken to check for water ingress. This test failed – the papers from nearest to the conductor bubbled vigorously when placed in the hot (135 °C) paraffin wax. Max immediately made a call to cut a further 30 metres of cable.

Photos of the fault attached below.



Photo 2. Main bulge at fault and secondary bulge nearby oozing compound.



Photo 3. Fault position viewed from top.



Photo 4. Side view of fault.



Photo 5. Fault from underneath



Photo 6. Secondary bulge oozing compound

I noticed on lengths 142 and 143 that the conductor had pulled back into the cable a little (or more correctly the armour, sheathing and some of the insulating papers had slid over the conductor. I had not noticed this on any lengths before and it made me suspicious that these lengths could have been part of a factory joint where I would expect the whole construction would not be as tight as that made on cable making machinery.

I attempted to check to see if there was any outside diameter variation on these lengths compared to others and there was only just a millimetre or so in it – well within the normal manufacturing tolerance range I would expect.

Photos attached below.



Photo 7. Cable end - length 143



Photo 8. Cable end - length 142

Lengths continued to be cut after the fault in an effort to clear the water that had obviously flowed along the conductor.

The following is a list of lengths cut beyond the fault:

Length 147 – 7 metres

Length 148 -8 metres

Length 149 – 1 meter – taken for water ingress test and failed.

Length 150 – 9.5 metres

Length 151 – 0 meters - I believe taken for a further potential water test.

Length 152 – 10 metres

Length 153 – 10 metres

Length 154 – 10 metres

Length 155 – 10 metres

Length 156 – 10.5 metres

Length 157 – 9 metres

Length 158 – unknown (suspected to be another 1 meter sample for water ingress test)

Length 159 – 10 metres

Length 160 – 10 metres

Length 161 – 10 metres

Length 162 – 10 metres

Length 163 – 10 metres

Length 164 – 10 metres – this length was cut at 2300 hours and sent off for moisture testing.

It also looked as if they were going to conduct a TDR test at around this time – I suspect to get an indication of where the next joint lies, as in the worst case, that's where the water could get to!

I did not witness the TDR test due to the late hour but I heard hearsay the next morning from Bill that it could not clearly pick up an indication of the joints.

This agrees with my experience with TDR equipment in that unless the fault is a dead short to earth or an open circuit, it is very difficult to see on a TDR trace. The fact that both the factory and field joints are effectively a reinstatement of all components of the cable (very close to the original cable dimensions) suggests that there should not be any significant impedance change for the pulse to see.

I tried to get an accurate KP point for the fault from the crew on the bridge earlier in the evening and was told I should check with Joska. I suspect that many people have been told not to provide information to me directly.

Joska and Gabriel were pre-occupied fitting heatshrink caps to the ends of many of the cut cable lengths all evening and he was not approachable at all. I do not understand what they thought they were doing as fitting caps over wet serving will do nothing at all in terms of sealing!

I very much get the cold shoulder from Joska whenever I seem him about – he always gives the impression he is in a rush to do something or get somewhere and is getting harder and harder to corner for a chat.

\_\_\_\_\_

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**From:** Malcolm Eccles [REDACTED]  
**Sent:** Thursday, 28 April 2016 2:12 PM  
**To:** Andrew Catchpole  
**Cc:** Gerard Flack  
**Subject:** FW: Cable forensic testing - notification of our expert [DLAP-AUMatters.FID731166]

Dear Andrew

Unfortunately, I only received your email of 19 April 2016 (below) on 21 April 2016 as it went into my junk folder.

I was unable to respond earlier due to my travel commitments.

In any event, I have already communicated with you on several points raised in the email.

For completeness, below is BPL's response to the questions raised by HT.

I have copied Gerard Flack.

Malcolm

---

**From:** Andrew Catchpole [REDACTED]  
**Sent:** Tuesday, 19 April 2016 5:33 PM  
**To:** Malcolm Eccles  
**Cc:** Andrew Catchpole; Jeneane Thomas  
**Subject:** Cable forensic testing - notification of our expert

Dear Malcolm

Further to my email of yesterday regarding testing I now confirm that the name of our cable expert, who will attend the testing with Gerard in Milan is [REDACTED] of DNV GL Energy.

Our comments and requests for clarification in respect to the Failure Examination Procedure and Statement of Work which were provided to us on 8 April 2016 so far are as follows:

1. The Statement of Work makes reference to an independent third party examination of samples of failed and un-failed cable and sets out a scope of works for Prysmian to conduct materials tests as requested and provide analytical test services. The Failure Examination Procedure refers to Prysmian providing "Materials Laboratory activities and personnel performing forensic analysis tests". In previous correspondence, Hydro Tasmania expressed its concern about Prysmian performing testing of the damaged cable and that it would be more appropriate that examination and testing was carried out by an independent agency. BPL confirmed that the cable failure investigation would take place at CESI in Milan, an independent facility. However the Statement of Work and Failure Examination Procedure provided to us do not appear consistent with BPL's previous advice. Please advise what examination and tests BPL proposes

be done by CESI and what examination and tests are to be done by Prysmian, if any and why CESI will not perform that test.

As previously advised, Cable Consulting International Limited ("CCI") will lead the cable failure inspection and investigation on BPL's behalf. CESI will be providing the testing facilities and personnel to support the examination of the cable. Prysmian will be providing a cable jointing supervisor and two cable jointers to undertake the cable dissection work. You have been provided with the communications protocol for the cable failure inspection and investigation.

2. The Statement of Work refers to an "independent third party cable expert". We were advised last week that the BPL Investigator (referred to in the Failure Examination Procedure) will be [REDACTED] of CCI. Is the reference to the independent third party cable expert in the Statement of Work also a reference to [REDACTED] of CCI? If not, please advise who will be the independent third party cable expert for BPL.

Yes, it is a reference to [REDACTED] and [REDACTED] of CCI. [REDACTED] will be leading the cable failure inspection and investigation with assistance from [REDACTED]. They have been engaged to conduct the cable failure inspection and investigation. The purpose of the inspection and investigation is to gather factual information on features present within the cable samples which will be provided to BPL, Hydro Tasmania and FM Global.

3. It was confirmed by BPL in a meeting in Hobart last week that the cable provided to CCI (we assume meaning sent to CESI's facility) for testing is the faulted section of cable, the 2 sections of cable immediately adjacent to the faulted section in each direction (4 in total) and 2 sections of good cable (recovered cable with no water ingress). We understand that the cable lengths were somewhat irregular around the fault location with the faulted section itself being 11 meters, the two sections immediately prior to the faulted section (to the south) as totalling 18 meters and the two sections immediately after the faulted section as totalling 22 meters. We understand that one of the two sections of good cable will be dissected first, to establish a base line position before dissecting the damaged cable. Please confirm our understanding is correct and the precise identification numbers for the un-failed sections and failed sections which BPL proposes to test.

You have been provided with a list of the samples. As you will be aware, the samples understood to have been sent to CESI in a large wooden crate for investigation include:

- VICT – 146, 11.5m sample containing the fault
- VICT – 163, 10m sample (remote unfailed sample)
- VICT – 125, 9m sample (remote unfailed sample)

There are some other samples contained within the crate which will be identified by the sample reference numbers applied when unpacked.

It is CCI's intention, as per the Failure Examination Statement of Work and Basslink KP199.256 Failure Examination Procedure, to firstly examine a 2m section from the centre of the unfailed samples (Samples: VICT-125 and VICT-146). At least one of the unfailed samples will be fully examined before work commences on Sample VICT-146 containing the failure site. It is envisaged that the second unfailed sample will be inspected while the piece containing the failure sample is undergoing radiographic examination.

4. Is there a plan to dissect the second good section of cable or the 4 sections of cable adjacent to the faulted section or is that subject to the outcome of other tests conducted?

The dissection of the other samples will depend on what is found during the investigation. For example if the fault path is found to stray beyond the end of sample VICT-146 then the adjacent sample will also be dissected.

5. Has BPL considered that one of the lengths of good cable be fitted with termination, and that length of cable be subjected to either:
  - (a) a conventional Tan Delta (Power Factor) measurement and normal power frequency together with a heating current with a test voltage not less than 20kv and the results of that test compared with the original results of the test made on the cable at time of manufacture; or
  - (b) a Frequency Domain Spectroscopy (Dielectric Frequency Response) FDS/DFR test with a voltage between 140 - 1400 v frequency of 1Mz to 1kHz with a heating cycle carried out with Tan Delta Results at 50Hz compared with the original Tan Delta Results at the time of manufacture.

The objectives of the investigation at CESI are limited to visual examinations of the failure samples to determine the fault path and any evidence of incipient electrical activity that may assist in the determination of the root cause of the fault. Can HT please detail the reasoning behind wanting to conduct the suggested tests and how these will aid drawing conclusions on the root cause of the failure?

6. It may be that the above type of test is the condition test which BPL referred to in discussions in Hobart last week. If so, please confirm.  
No, the above tests are not the type of tests which I referred to in the discussions in Hobart.
7. The Failure Examination Procedure states that the BPL Investigator will produce a report on that failure. Please confirm that this report will be provided to Hydro Tasmania within 24 hours of its receipt by BPL.

CCI have been instructed to prepare a status report on the failure which will be factual and set out:

- a. The tests conducted or carried out;
- b. Their factual observations;
- c. Results of testing;
- d. Any photos.

This report will be provided to Hydro Tasmania as soon as reasonably possible. CCI's report will be a factual report. CCI's report on items b and c above (namely, CCI's observations and the results of testing) will not contain CCI's opinion or interpretation of such observations and test results.

8. Please confirm that Hydro Tasmania will be provided with all notes, measurements, photographs, video footage and data taken during or arising from the examination and testing at the CESI facility or any other facility within 24 hours of its receipt by BPL, its independent third party expert or the BPL Investigator.

Hydro Tasmania will be provided with the report referred to in item 7 above.

9. Will CESI be preparing a written report on any matter, in particular the condition of the cable? If so, please confirm any such report will be provided to Hydro Tasmania within 24 hours of its receipt by BPL, its independent third party expert or the BPL Investigator.

No.

10. The Failure Examination Procedure refers to possible retention of duplicate samples. Please confirm that no sample will be disposed without the consent of Hydro Tasmania.

You are aware that the testing is destructive testing.

We do not understand this request, can you please clarify.

11. Please advise the commencement time and precise location for Hydro Tasmania representatives to attend the examination.

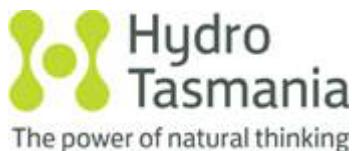
**This information has already been supplied to you.**

Should we have any further questions in relation to the procedure we will let you know immediately.

We look forward to your response by COB Thursday 21 April 2015. Please contact me directly if you wish to discuss.

Regards  
Andrew

**Andrew Catchpole | Director Strategy & Market Development**



p [REDACTED] | f [REDACTED] | m [REDACTED]

w [www.hydro.com.au](http://www.hydro.com.au)

4 Elizabeth Street, Hobart TAS 7000

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Your ref:  
Our Ref:

Date: Thursday, 21 April 2016

Senders Name:  
Senders Title:

Phone:  
Fax:  
Email  
Via:

Gerard Flack  
Director-Wholesale Energy Services  
Hydro Tasmania  
By email and fax: [REDACTED]

Dear Gerard

**Basslink Interconnector Outage - Cable Recovery, Preservation and Testing Procedures**

I refer to your letter of Friday, 8 April 2016 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

As set out in the draft Procedures I forwarded to you and as discussed with you last Friday, I confirm as follows:

- both faulted and non-faulted parts of the cable are intended to be tested;
- [REDACTED] will lead the cable failure investigation on [REDACTED]
- [REDACTED]
- [REDACTED]

I note that you have asked about:

- the sections of cable that have been secured for transit to the testing facility;
- how [REDACTED] to transport those sections of cable to the testing facility [REDACTED] an [REDACTED] and
- [REDACTED]

### **Cable Storage**

The recovered undersea cable is being stored in [REDACTED] containers at the [REDACTED] storage facility [REDACTED]

### **Transportation of the cable**

Shipping of the cable was undertaken by Basslink's shipping agent, [REDACTED]

The cable was packed into two wooden crates in the manner specified by [REDACTED] and under the oversight of the representatives of [REDACTED]. The two crates were then sent to [REDACTED]. [REDACTED]

[REDACTED] The two crates have since safely landed in [REDACTED] and are presently going through customs clearance.

The sections of the cable that were sent to the [REDACTED] testing facility are the damaged section, two pieces on either side of the damaged section and three 2 m lengths of retrieved cable that appeared undamaged.

The first crate will have the HVDC cable as follows:

#### **The fault snapshot**

- VICT-144, which is the cut number when the cable was cut (9m, which is the length of the cable piece)
- VICT-145 (9m)
- VICT-146 (11.5m) with the fault
- VICT-147 (7m)
- VICT-148 (8m)

Clean sections at either end of the 1.3 km of cable which was cut:

- VICT-004 (2m) – approximately 1 km away from fault.
- VICT-163 (2m) – part of one of the final 9m cuts.
- VICT-165 (1m) – final section that passed the water ingress test.

The second crate will have 2 pieces of metallic return cable.

**Attached** are some photos of the cable laid in the crate.

**Transport to [REDACTED] testing facility**

Our shipping agent has organised for its counterpart [REDACTED] to take delivery of the two crates from the [REDACTED] airport and deliver them to [REDACTED] testing facility.

[REDACTED]

[REDACTED]

[REDACTED]

Yours sincerely



**Mr Malcolm Eccles**  
Chief Executive Officer  
Basslink Pty Ltd