**Submission to Tasmanian Flood Review**

Submitted by: Mark & Shirley Irving

**Introduction and Context**

We have a property at …………….. in Weegena. With a 1.2KM frontage to the Mersey river we have suffered damage and loss from the flood event in January 2011 and the more severe flood event of June 2016 (significant damage and loss from this event).

Whilst only a small property and small scale farmer we have:

* Lost over 200 large rolls of silage.
* Lost over 50 oaten bales.
* Lost over 3km of wallaby proof fencing.
* Lost assorted irrigation pipework and equipment
* Lost storage sheds and outbuildings.
* Damage to farm machinery.
* All riverfront paddocks were severely eroded with considerable replacement of topsoil with vast quantities of river sand and rocks.
* Some paddocks have reduced in size and the river now cuts through previous Lucerne paddocks (reducing future productivity).
* Had an internal road system significantly eroded with some sections completed removed and part of the new river course. This is a legal ‘right of way’ for our neighbour so we are left to deal with how this can be reinstated without further reducing the size and economic viability of our irrigated paddocks.
* And, most importantly, we lost the only practical access to our property as the bridge at Kellys Cage Road was washed away completely. This is the only road into our property (and two neighbour’s properties). This has significantly impacted recovery as we are unable to obtain quotes for refencing, earthworks, etc. and have been unable to access the disaster relief that was offered in the wake of the flood event (as recovery teams cannot access our farm).

The direct costs to re-establish the farm to the same condition it was in pre-flood is approximately $200K. In addition to this there will be a minimum of 1 full year with no income from the property as restoration work cannot be completed without the Kellys Cage Road bridge being re-built (approximate timeline for this is Jan/Feb 2017 some 7-8 months from the flood event). The overall economic impact to our small property is thus likely to be near $270k+

**Summary of Issues**

We have several concerns we would like the flood review inquiry to investigate:

1. **Hydro Tasmania – Profit versus Community safety – is the balance right?** Are the management practices adopted by Hydro Tasmania designed to maximise the income from Basslink at the cost of increased risk/costs to primary producers and the general community?
2. **Hydro Tasmania –** **Status of Disaster Planning**. What plans do HT have to mitigate the impact of notified severe weather events and were these followed?
3. **Hydro Tasmania – Cloud Seeding**. Did this contribute to the scale of the flood event?
4. **Department of Primary Industries, Parks, Water and Environment (DPIPWE) – status of river reserve management practices**. What are the formal river management practices and how has funding or other constraints impacted DPIPWE’s ability to manage the river reserves. How has the state of the river reserves contributed to the flood impact?

Our further detail, questions and perspective of the above concerns are noted below:

1. **Hydro Tasmania (HT) – Corporate focus and Incentives.**

The real question here is whether the opening of the Basslink cable has altered the corporate priorities, strategy and focus of HT and whether this change in focus has altered dam management practices to the risk and detriment of other stakeholders. Questions to ask and issues to investigate include:

* Is one of the key corporate performance measures the maximisation of revenue from selling excess power into the National Electricity Market (NEM)?
* Are HT executives remunerated either directly or indirectly for maximising revenue and, in particular, for maximising revenue through the NEM? Alternatively, do HT executives receive incentives to maximise Dam levels?
* If the answers to the above are yes it would be reasonable to assume that the corporate strategy would be to maintain Dam Levels as high as possible at any stage of the year in order to take advantage of pricing opportunities within the NEM. Does HT have a documented strategy or policy for managing dam levels and/or are there historical records of dam levels and dam management practices pre 2006 and post 2006 that may identify changed practices?
* Is it a co-incidence that Dam levels were at maximum level in early June 2016 (after the driest spring and summer on record) in order to take advantage of the recommissioning of Basslink following a 6 month outage?

***The core issue at stake here is to identify whether HT internal strategies, incentives and practices are designed to maximise the revenue for HT without concern or consideration for the additional risk (and thus cost) this places on the primary production sector and the general community.***

Whilst I do not have access to the detailed records that I am sure are available from HT or the Bureau of Meteorology (BOM), I have been able perform some basic research that indicates:

* The downstream Dam’s/Power stations on the Mersey river system seem to have been completed by 1972.
* The Basslink cable and thus access to the NEM for HT was commissioned on 29th April 2006.
* Between 1972 and April 2006, BOM flood records[[1]](#footnote-1) for the Mersey note:
	+ 17th July 1996 – Minor flooding of Mersey (and Others)
	+ 14th August 1996 – Minor flooding of Mersey (and others)
	+ 11th Sept 1996 minor flooding in upper reaches of Mersey (and others)
	+ Between 24th and 28th August 2003 – minor flooding to middle parts of Mersey (and others).
	+ 21st to 25th October 2005 – Moderate flooding to Upper and Middle reaches of Mersey (and others)
* From April 2006 to October 2016:
	+ 12th to 15th July 2009 – moderate flooding to Mersey (and others).
	+ 22nd Aug 2009 – Minor flooding to middle and lower reaches of Mersey
	+ 24th Aug 2009 Moderate flooding to lower reaches of Mersey
	+ 4th Sept 2010 – Minor flooding in Mersey (and others)
	+ 7th to 11th December 2010 – Moderate flooding in Mersey (middle) with widespread minor flooding in lower reaches
	+ Jan 2011 – Major flooding for Mersey (and Others). *This event caused bridge damage and losses on our farm.*
	+ 21st to 23rd June 2011 – Minor flooding Mersey with Major/minor flooding in other basins.
	+ June 2016 – Major (record) flooding to Mersey (and others).

So, in summary, in the 34 years from 1972 to 2006 (before Basslink) the Mersey experienced 4 minor and 1 moderate flood events whilst in the 10 years since the Basslink there have been 2 Major, 2 Moderate and 3 Minor flood events.

It would seem from our perspective that this statistically significant increase in **flood occurrence and severity** is more than a coincidence and reflects the outcome of a change in dam management practices following HT’s participation in the NEM.

1. **Hydro Tasmania - Disaster Planning**

**The issue here is what documented processes and practices do HT have in place to try to mitigate the impact of high rainfall events?** It would seem to be an obvious and common sense approach to reduce dam water levels in advance of a severe weather event in order to ‘buffer’ some of the run-off and thus reduce the river peak.

In the specific case of the 2016 weather event there were several days’ notice of a severe East Coast Low pressure system that had caused substantial damage and flooding right up the Australian east coast. A responsible and prudent custodian would surely have implemented any ‘Disaster Plans’ to attempt to mitigate the impact of this event on the Tasmanian community?

**A secondary question would be, if HT does not have any documented Disaster plans to cover these eventualities – then why not??**

In regard to whether HT has a duty of care to external stakeholders such as primary produces and the general community – my very firm view is that they do have other obligations apart from profit. They also need to ensure that their infrastructure, which harvests water from public lands, is used in a responsible way to manage water for community benefit.

This includes maintaining environmental flows as well as providing some form of ‘buffer’ for forecasted major weather events. And this is the key issue here. If this was a totally unexpected event that dumped torrential rain they could say it ‘was an act of god’. However, there were many days of warning and they could have increased flows out of the dams in anticipation of the event.

HT’s actions (or inactions) have a direct impact on the homes, livelihoods and most importantly, safety of a large community that uses and co-exists within Tasmania’s many river systems. HT’s duty of care to these stakeholders needs to be reflected formally within their corporate strategy and documents and practically implemented via Dam Management, Disaster Management and other policies.

1. **Hydro Tasmania – Cloud Seeding**

It was reported in the press[[2]](#footnote-2) that HT carried out cloud seeding ‘just north of the Great Lake’ and ‘targeting the upper Derwent catchment’ on the same day flood warnings were in place for the North of Tasmania.

The Mersey catchment directly abuts the Upper Derwent catchment. Cloud seeding is not an exact or precise activity and I would think a responsible and prudent person would acknowledge the potential for additional ‘collateral’ rainfall in adjacent areas – particularly for a more severe weather system as this was.

The fact that HT decided to cloud seed to attempt to increase rainfall off a known, severe, weather system further supports the earlier propositions that a strong profit motive was driving HT’s behaviour. It would seem to be extremely cavalier to contemplate generating additional rainfall when flood warnings were in place – particularly when those warnings related to catchments directly adjacent to the targeted area.

Whilst I have not been able to obtain any statistics of rainfall at Lake MacKenzie (or other Mersey Catchments areas) to compare with other locations and to contrast with other weather events, there were reports in the days following the flood that the differences in rainfall between lower ground stations and within the catchment area (100-140mm versus 300-450mm) was approximately double what is typically reported. This, again, is perhaps something that can be investigated as it is probable that HT’s default position will be to contend that the cloud seeding operation was precise and could have had no impact on neighbouring catchments……

The multiple questions this issue generates are:

* **What policy framework exists** within HT **to prudently and responsibly** manage the cloud seeding operation?
* Does this policy framework take into consideration the **risks associated with high dam levels in neighbouring catchments and the forecast severity** of the weather event targeted? (if not why not).
* Were any policy or management frameworks followed or was it just ‘**lets give this a go as we want to get ALL our dams full’?**
* What scientific evidence underpins the HT cloud seeding program and in particular, what does the evidence suggest about the nature of cloud seeding in regard to the precision of predicting the impact on rainfall within a given geographical area. Of particular interest here is evidence supporting the accuracy of cloud seeding in more severe weather systems. **Have HT been conducting a ‘spray and pray’ approach or are their activities supported by robust science?**
1. **DPIPWE – Management Plans**

A third contributor to the scale of damage within the Mersey river system is the poor management practices of DPIPWE. As a property owner of river-front land we are made fully aware that it is not our place to manage the river reserve. In fact, If I understand this correctly, we can be liable if we interfere with vegetation within this area.

Within our section of the Mersey, debris (logs, etc.) have accumulated around stands of Willow. These trees can withstand the floods and serve to created greater log jams which divert river flows and contribute to more severe erosion and cases (such as on our block) where considerable cropping land is now part of an expanded river plain.

DPIPWE seem to lack the vision, will or resources to effectively manage the riverbank and the riverbed to mitigate erosion and provide protection from elevated flood levels. However, rather than delegating some responsibility to land owners who have a strong financial and emotional interest in preserving the status quo we are not allowed (let alone empowered) to provide our resources to work in conjunction with DPIPWE to improve the situation.

I note that some 5 months from the flood event we have had no contact from DPIPWE. Not even an assessment of the damage. With the new course of the Mersey river through our block, erosion continues to worsen day by day – so what are we supposed to do about it?

So the final question/issue are:

* DPIPWE has the responsibility to manage the rivers but what **plans and resources** does it have to enable this task to be effectively discharged?
* **How are rivers managed to best cope with flood events?.** This includes ensuring not just the health of the riverbanks but also keeping the river channels maintained with periodic clean-up of log jams and debris.
* **What plans are in place to clean up and restore rivers to prevent erosion after a flood event?**
* **If government does not want (or claims it cannot) fund this correctly then we need to propose a greater role for landowners and primary produces in this critical function**. Perhaps a joint responsibility with some DPIPWE financial support and using the machinery, local knowledge and resources of the primary producers would deliver a more pro-active management regime for our river systems?. **For such a critical function it is simply not good enough to partly fund and partly perform the role, leave it at that, disempower other stakeholders and hope for the best……**
1. http://www.bom.gov.au/tas/flood/flood\_history/flood\_history.shtml [↑](#footnote-ref-1)
2. <http://www.abc.net.au/news/2016-06-10/cloud-seeding-carried-out-over-tasmanian-catchment-before-floods/7499226> [↑](#footnote-ref-2)