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Attention: Brian Edmonds
Staff Officer
Government Flood Review Team

Brian.Edmonds@police.tas.gov.au

Dear Brian

Thank you for providing the opportunity for TasRail to provide information to the Flood Review Team in relation to the Kimberley Rail Bridge and other relevant matters.

Supplementary to this correspondence, please note that TasRail would be pleased to meet with members of the Flood Review Team to further discuss matters pertaining to rail infrastructure and the Company's response post the June 2016 flood event, and/or to provide further points of clarification.

Should you wish to avail of this opportunity, please don't hesitate to contact Jennifer.Jarvis@tasrail.com.au on telephone 6335 2603.

Yours sincerely



Damien White
Chief Executive Officer

Overview:

The Tasmanian Freight Rail Network was hit hard by the June 2016 flood event. All rail freight operations were suspended from the early hours of Monday 6 June until it was safe to fully assess the damage and prioritise repairs.

Rail Infrastructure had been damaged at 65 different locations, including five rail bridges. Sections of track and formation had been washed away at numerous locations and there had been landslips at various locations across the Western, South and Melba Lines. Water inundation was a concern in many areas particularly the Fingal region, and Launceston through to the Northern Midlands. The issue was compounded by continuing rainfall in many areas.

By far, the most serious damage was to the heritage listed Kimberley Rail Bridge where one span and the western embankment washed away, severing the critically important rail link to the major ports of Devonport and Burnie. Some 97 per cent of all container movements in and out of Tasmania are through these ports, of which 68 per cent is hauled with rail.

The damage to the Kimberley Rail Bridge is attributed to the sheer force of water raging through the Mersey River at the peak of the flood, combined with an excessive amount of logs and debris that had amassed at the bridge, restricting the flow of water.

It is a matter of public record that an adjoining span of the Kimberley Rail Bridge collapsed as a consequence of the 1970's floods, but recent inspection of the infrastructure confirmed the integrity of that historic repair which did not fail in the 2016 flood event.

As soon as it was safe to do so, TasRail crews and contractors were deployed in numbers across the rail network and worked tirelessly to progressively re-open major freight rail lines. The restoration work was prioritised in line with customer priorities and the repair timeframes.

Expert consultants were quickly engaged to ensure the design of infrastructure repair was robust and compliant with appropriate Standards as well as Statutory, Legislative and Regulatory requirements. In the case of the Kimberley Rail Bridge, a number of improvements to specifically reduce the risk profile of future failure were incorporated into the design options. Appropriate approvals were sought and received from Heritage Tasmania, and TasRail ensured that it engaged with key stakeholders throughout the process.

The co-operation between State and Local Government authorities in the aftermath of the flood event was supportive and this helped to facilitate the responsiveness of the clean-up, repair and restoration program from TasRail's perspective.

In parallel with restoration of the South Line, TasRail worked to establish a temporary intermodal facility at Conara. This enabled freight to be railed to/from Brighton to Conara, with freight transferred to truck to/from Conara and the North West Ports. It meant an additional 120 B-Doubles per day on the Midland and Bass Highway but the initiative ensured the disruption to business and industry was minimised and with the support of the road industry, freight flows were able to be restored within a fortnight. TasRail also engaged road freight contractors to haul customer freight between Fingal and Railton and Rosebery and Burnie until such time as the rail links could be restored to safe condition.

The Kimberley Rail Bridge re-opened on 21 Jul 2016, heralding the restoration of the full complement of rail freight services across the network.

Throughout the period, TasRail maintained communications with its customers, Police and Emergency Services, neighbouring Councils, adjacent landowners and the State Government's Flood Task Force.

Where TasRail required access to private property in order to undertake track and infrastructure repairs, TasRail consulted with landowners and agreed mutually acceptable Access and Remediation Plans, rather than enforce its right to enter the land as is provided in the *Rail Infrastructure Act 2007*. Such consultation was done in a sensitive and respectful manner, with TasRail ensuring any damage that occurred as a direct result of the access was made good to the landowners' satisfaction, and at TasRail's cost.

Kimberley Rail Bridge

- As a consequence of the June 6 flood event, a 15-metre span and the western embankment of the Kimberley Rail Bridge washed away, severing the strategically important rail link that connects the rest of the network to the major North West ports. The damage is attributed to the sheer force of water raging through the Mersey River at the peak of the flood, combined with an excessive amount of logs/debris that had amassed at the bridge, restricting the flow of water.
- A structure on the bridge was replaced following the 1970 floods, but this was not the same span that failed in the June 2016 flood. TasRail is not aware of any reports or recommendations in relation to the bridge post the 1970 repairs, noting that ownership of the State's railway has changed multiple times during the 47 years since that particular flood event.
- Given the critical importance of the Kimberley Rail Link to business and industry in the State, TasRail immediately progressed urgent repair of the rail bridge by engaging expert consultants to provide advice on appropriate repair options. Three options were proposed as follows:
 1. Repair the damage with the installation of a new, longer span, a new piled abutment and the reconstruction of the embankment to current Standard; and
 2. Repair the damage and re-use the existing span on a new abutment;
 3. Construct a new bridge parallel to the existing structure.

Consideration was also given to the inclusion of extra culverts but this was deemed unsuitable.

Option one was selected as the optimal solution because it provides a number of improvements:

- The length of the new span was increased by five metres (25 per cent increase) increasing the whole of the bridge span to 80.6 metres.
 - The new abutment being capable of supporting any additional, adjacent bridge spans that may be required in the future;
 - The new abutment is piled;
 - The reconstructed embankment is reinforced and compacted to current Standards;
 - Rock armour has been placed on the restored embankment
- All of the above improvements have not only improved water flow but also provide the capacity required to support the potential construction of future additional bridge spans if deemed an appropriate longer term solution (*subject to the outcome of hydrology studies and the availability of capital funding*). Importantly, the construction of additional spans would ultimately facilitate the removal of the earthwork embankment that is a source of concern to the adjacent private landowner.
 - Alternatively, should the Flood Review Team recommend funding be made available for the construction of a new rail bridge, the permanent heritage listing and fate of the existing bridge will need to be addressed. If the outcome is a new rail bridge constructed adjacent to the existing Kimberley Rail Bridge, the merit of aligning the bridge spans of the new with the existing structure would need to be considered, and assessed. Funding for demolition of the existing structure would also need to be committed.
 - Notwithstanding the above, TasRail maintains that the feasibility work to scope, design and cost a longer term solution must be informed by hydrology assessments that model a range of flood scenarios and water levels at the Kimberley Rail Bridge. To this end, TasRail has made good its commitment to commission these hydrology studies, awarding a tender to Pitt and Sherry in late December 2016. The associated survey works have now been completed and water flow data established. The information has been computer modelled with analysis of the outcomes now underway. TasRail expects to receive the final report for its consideration by end March 2017. TasRail intends to share the findings of the report with key stakeholders including local landowners, Local Government and the Flood Review Team.
 - Since restoration of the Kimberley Rail Bridge on 21 July, TasRail has continued to make improvements at this location including installation of rock armour at the eastern embankment, and the removal of specific large trees and root balls from the upstream side of the river.

Emu River Rail Bridge

- The Emu River Rail Bridge was adversely affected by the build-up of a massive pile of third party debris including an estimated 8 tonnes/7,500 cubic metres of logs and the adjacent BP-owned fuel bridge that had been substantially damaged in the floodwaters and was resting against the rail bridge. Concerns about the consequential release of contaminants from the fuel bridge initially hindered the clean-up process, but it was important that TasRail identified and managed all risks associated with the task in a safe and appropriate manner and in consultation with the Burnie City Council, BP and the Environment Protection Authority (EPA).
- Removal of the debris required the sourcing and hire of a 160 tonne crane with a log grab. Due to fuel contamination issues, the logs had to be carefully removed, transported and stockpiled at a secure site pending approval from the Environment Protection Authority for managed disposal (incineration) that was undertaken at TasRail cost.
- Repairs to the Emu River Rail Bridge included stabilisation of the abutment and formation using 100 cubic metres of fines concrete, and replacement of the rock armour protection.
- The accountabilities as to which party is responsible for clearing third party debris from the waterway remain unclear and it is fair to say that the lack of clarity had potential to slow the clean-up process of the Emu River Rail Bridge. However, it should be acknowledged that in the interests of public safety and concern, TasRail elected to get on with clearing the mass of logs and other debris at its cost. There was however a 48 hour delay in commencing the clean-up due to the need to engage with BP to understand and quantify the contamination and to co-ordinate removal of the remnants of the fuel bridge.
- TasRail notes the comments made in several of the public submissions to the Flood Review alleging that old bridge pylons under the Emu River Rail Bridge likely increased choke points under the structure and exacerbated the build-up of debris at this bridge. TasRail is not aware of any data to support this view, but nonetheless has proactively taken steps to ensure the work to scope the options for removal and/or minimisation of these redundant pylons is included in its Asset Maintenance Plan, although no timeframe for the work has yet been determined.

Forth River Rail Bridge

- New Rail Bridges were constructed by TasRail at the Forth, Leven and Blythe Rivers in 2012/13 as part of the Rail Revitalisation Program along with the total refurbishment of the Don River Rail Bridge.
- The construction plans and design of each of these North West Rail Bridge projects were developed in compliance with Australian Engineering Standards and the Tasmanian Coastal Works Manual Guidelines. The plans and designs were subject to due process including submission of Development Applications (DA) to each of the respective Local Government Council and public consultation.
- The DA and design of the new Forth River Rail Bridge was subsequently approved by Council. TasRail can find no record of any persons raising concerns or objections to the positioning of the new bridge pylons at the time of the public consultation or DA approval process.
- In the case of the new Forth River Rail Bridge, it was determined that it be sited next to the original structure which remains subject to a permanent heritage listing. At the time of the project's public consultation process, there was strong community interest (supported by the Local Council) for the heritage listed structure to be retained, with proposals for it to be converted to a recreational pathway and cycleway. TasRail understands that there is still strong support for this to occur, but no party has yet secured the capital funding required to realise this goal. In the interim, the heritage listed structure remains a TasRail asset.

Redwater Creek Rail Bridge (Railton)

- TasRail notes the submission to the Flood Review Team by the Kentish Council, specifically its page 4 commentary about a perceived lack of commitment from TasRail to contribute to the upgrading of the rail bridge.
- TasRail acknowledges the Council has previously made representations to TasRail; the previous Labor State Government and the current Liberal State Government on the issue, but to date no capital funding has been made available for the requested upgrade.
- TasRail can however confirm that it has agreed to assess the options proposed by Kentish Council to increase the capacity of the bridge. TasRail is in discussion with Council representatives and has requested access to the hydrology studies/assessments that were used to inform their preferred proposal.
- TasRail's Track Engineer has recently inspected the site, and will assess the information provided by Council, but it must be acknowledged that TasRail does not have access to capital for implementation of any agreed solution.

Learnings from the June 2016 Flood:

- The investment in the upgrade of the Tasmanian Freight Rail Network by the Australian and Tasmanian Governments insulated much of the track and infrastructure from the devastating impact of the June 2016 flood event. Had this investment not taken place, there is no doubt the damage to rail assets would have been far more extensive.
- The resources required by TasRail to repair flood damage across the Tasmanian Freight Rail Network was ameliorated by the ready availability of TasRail's Capital Project Team and TasRail's strong relationships with the civil contracting industry that were working at the time to implement the Company's Infrastructure Investment Program. The ready access to engineering and project management skills, heavy equipment and machinery and rail knowledge greatly assisted the flood recovery task.
- TasRail's initiative to quickly establish an interim intermodal terminal at Conara minimised the impact of the flood to Tasmania's key industries and the freight market generally.
- TasRail supports comments made in a number of public submissions to the Flood Review Team about the need for improved communication and timeliness of Flood Warnings and Weather Alerts.
- TasRail agrees that there is a need for greater clarity and transparency about which statutory authority is accountable for the routine monitoring and clean-up of waterways. Similarly, TasRail recommends that such statutory authority should have a role in assessing developments proposed for known flood plains, such as tree plantations, residential housing, business enterprises/activities and the construction of flood levees on private land. This would help to ensure such developments are considered in the context of hydrology data and risk, including potential for up and downstream impacts.
- Consideration should also be given to extending the availability of Natural Disaster Funding by the Australian Government to all infrastructure asset owners impacted by flood events including State-Owned Companies, particularly where they are held responsible for the clean-up of third party debris in waterways.

Summary

- TasRail was established 1 December 2009 and since that time has ensured that its activities, its infrastructure upgrades and renewals are robust and compliant with all statutory, legislative and regulatory requirements as well as relevant Standards.
- TasRail acted responsibly in undertaking emergency flood repairs and restoration of rail infrastructure. The Company also ensured that it consulted with relevant stakeholders in a timely and sensitive manner.
- TasRail took action to progress the clean-up of debris and flood impacts at its own cost in the interests of public safety and community benefit, including in areas where it had no or unclear legal obligation to do so.
- TasRail estimates the damage bill from the flood event to total in the order of \$10 million. The net financial impact to TasRail of the June 2016 flood to TasRail was \$4 million for the 2015/16 financial year, but the full cost of the repair work as well as the provision of alternative freight solutions will not be brought to account until the 2016/17 financial year. TasRail continues to work with its insurers to progress its property damage claim, but it was not insured for the disruptions to business continuity.
- TasRail will continue to engage with key stakeholders about the future of the Kimberley Rail Bridge, particularly in relation to the outcome of the hydrology studies and potential longer term solutions.
- TasRail is supportive of the Flood Review initiative and remains available to provide further detail or clarification of matters covered in this submission if considered of assistance to the Flood Review Team.