Post Flood Review Status

Status on the recommendations from the Post-Flood Systems Debrief

The NSW Department of Planning and Environment - Water (DPE Water) is committed to continual improvement. We have taken steps to address the recommendations of the debrief following the rain event on the weekend of 20 and 21 March 2021.

Background

We experienced some degraded data and systems services during the rain event on the weekend of 20 and 21 March 2021. A post incident debrief with the lead water agencies reported on the lessons learnt and made recommendations to improve future responses to incidents.

The outage was found to be caused by the combination of several factors occurring at the same time. This included increased demand for system access and data, significantly straining WaterNSW ICT systems located within the NSW Department of Planning and Environment ICT environment. There were also some network connection issues.

It was found that the ICT systems held up to the event and that staff performed well in a challenging situation, but areas for improvement were identified. The post-flood systems debrief report made 8 recommendations which are being carried out by the department. These are summarised below.

Recommendation		Status
1	Implement an Incident Management Framework	The department has set up an improved Incident Management Framework and processes and staff have been trained on these. The framework defines the processes and procedures to rapidly bring together and coordinate functions to respond to incidents including IT across the department, WaterNSW and the Natural Resource Access Regulator. The purpose of the framework is to have in place a proactive approach to collect, collate, interpret, and disseminate information that will deliver a coordinated response to incidents and shorten the response time to any incident.
2	Enable a cross agency ICT expert group that can convene during incidents to work on problems and expedite solutions.	
3	The department should adopt a philosophy and standard operating practice of activating a suitably sized and resourced incident management team to adopt a “forward posture” for predicted or proximate events that could bring about the need for a coordinated response within the department because of an event or incident.	

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4	DPE's ICT environment does not appear to have a robust and tested IT Disaster Recovery Plan for the relevant water systems that includes a system of classifying network incidents and specifying the level of response required. DPE Water should work with DPE ICT using DPE's risk framework & tools, to develop this network incident classification system and link it to the DPE Water Incident Management Framework.	Infrastructure Disaster recovery has been completed on the main Hydstra monitoring systems with an update to be completed 2023. Water NSW has documented application-level disaster recovery. A separate Real Time Data site is set up for operating critical flood reports during critical incidents. DPE Water has invested in and implemented real-time tools to monitor network uptime.
5	DPE ICT needs to develop a common understanding of the customers that are dependent on its ICT network and their vulnerabilities to disruptions. This information needs to be integrated within the new network incident classification system and link to the DPE Water Incident Management Framework.	An ICT Schedule to the Roles and Responsibilities Agreement between DPE Water, WaterNSW and NRAR defines the roles and responsibilities for technology applications, infrastructure and support lines. In 2022 DPE Water completed a current state assessment of the existing technology applications, services, customers and system owners. The DPE Cluster is implementing an uplifted technology Service Support model planned for 2023 and will deliver improved incident reporting and resolution.
6	DPE Management need to be briefed on the status and vulnerabilities of the DPE ICT network including critical customers and third parties that may be reliant on the network.	DPE Water has identified "Crown Jewel' systems as critical pieces of infrastructure including the 'Water Monitoring System' that provides Real Time Data. 'Crown Jewel' status means a high level of assurance that cyber security, operational, business continuity, and disaster recovery requirements are met and appropriately documented.
7	DPE ICT need to resolve how they will provide ICT network response support after hours for systems where there are customers who have a high reliance on the availability and performance of DPE Water hosted IT infrastructure and applications to undertake operational activities and reporting.	An ICT Schedule to the Roles and Responsibilities Agreement between DPE Water, WaterNSW and NRAR defines the roles and responsibilities for technology applications, infrastructure and support lines. The ICT Schedule also defines the process for reporting incidents with target service levels for changes, and incident respond and resolution times. The DPE Cluster is implementing an uplifted technology service support model planned for 2023 and will deliver improved incident reporting and resolution.

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8	Manly Hydraulics Laboratory (MHL) data services should be considered in the above activities, planning, and preparedness, noting they are currently operating separately from DPE ICT operations (mix of AWS and dependency on Department of Customer Service (DCS) ICT).	Work is underway to transition MHL to the DPE ICT environment to enable higher level of technical support, assurance and enterprise grade support to strengthen operational support and incident processes Activities include a focus on a cyber and security overseen by a DPE Cyber Uplift Working Group.