

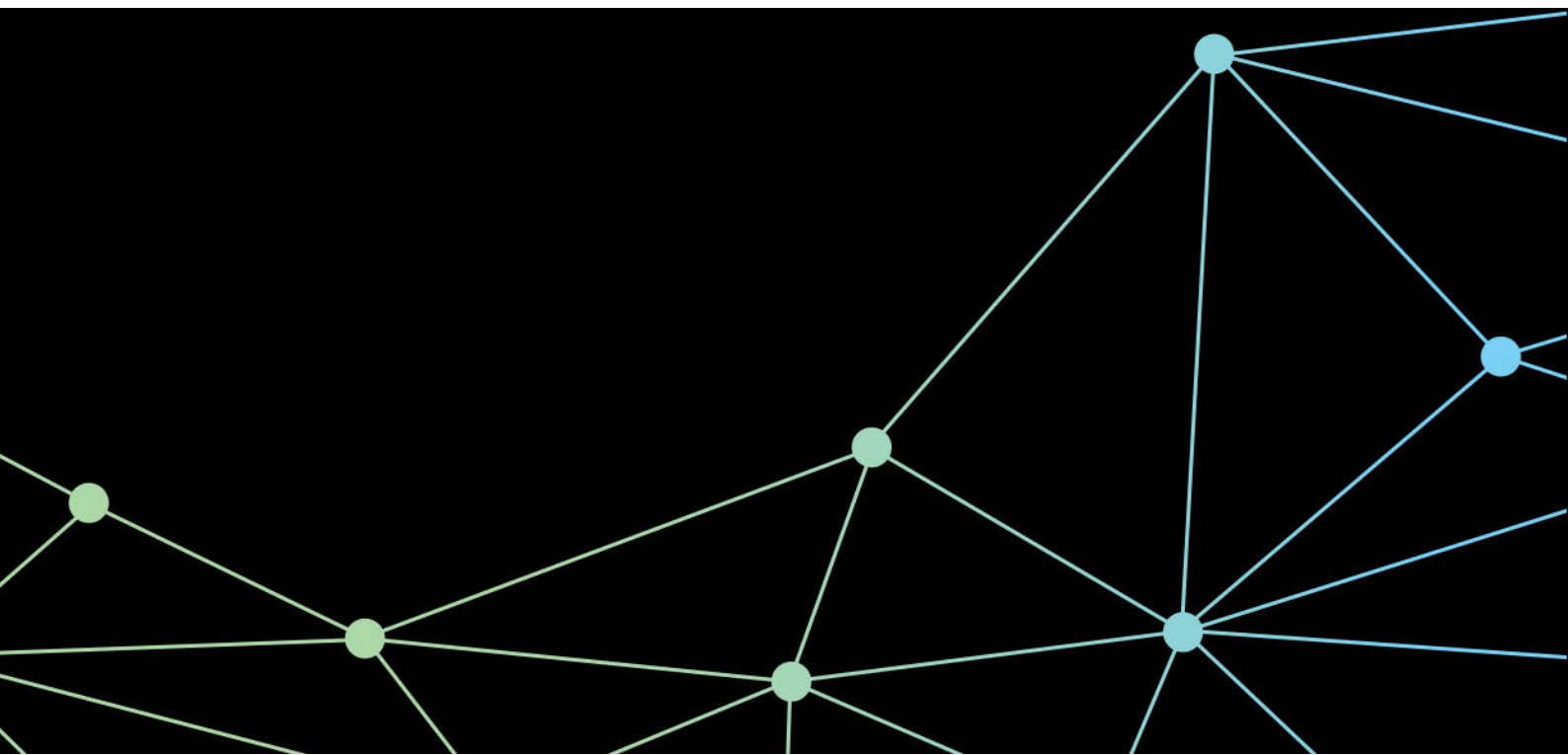


Australian Government

**Department of Infrastructure, Transport,
Regional Development, Communications and the Arts**

Submission to the NSW Independent Flood Inquiry

1 July 2022



© Commonwealth of Australia 2022

Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia (referred to below as the Commonwealth).

Disclaimer

The material contained in this publication is made available on the understanding that the Commonwealth is not providing professional advice, and that users exercise their own skill and care with respect to its use, and seek independent advice if necessary.

The Commonwealth makes no representations or warranties as to the contents or accuracy of the information contained in this publication. To the extent permitted by law, the Commonwealth disclaims liability to any person or organisation in respect of anything done, or omitted to be done, in reliance upon information contained in this publication.

Creative Commons licence

With the exception of (a) the Coat of Arms; and (b) the Department of Infrastructure, Transport, Regional Development and Communications photos and graphics; copyright in this publication is licensed under a Creative Commons Attribution 4.0 Australia Licence.

Creative Commons Attribution 4.0 Australia Licence is a standard form licence agreement that allows you to copy, communicate and adapt this publication provided that you attribute the work to the Commonwealth and abide by the other licence terms.

Further information on the licence terms is available from <https://creativecommons.org/licenses/by/4.0/>

This publication should be attributed in the following way: © Commonwealth of Australia 2022

Use of the Coat of Arms

The Department of the Prime Minister and Cabinet sets the terms under which the Coat of Arms is used. Please refer to the Commonwealth Coat of Arms - Information and Guidelines publication available at <http://www.pmc.gov.au>.

Table of Contents

1. Introduction	4
2. Role of the Department	4
3. Telecommunications	5
Relevant programs administered by the Department	5
Mobile Network Hardening Program	5
Sky Muster Satellite Service Deployment Program	6
Temporary Telecommunications Infrastructure Program	6
Community Awareness and Coordination Program	6
Sector engagement mechanisms	7
Communications Sector Group	7
Protocol for Notification of Major Service Disruptions	8
Telecommunications Act 1997	9
Assistance requests during disasters or other emergencies	9
Designated Disaster Plans	10
Schedule 3 – Carriers’ Powers and Immunities	10
Contracts for delivery of Public Interest Telecommunications Service	10
Public Interest Telecommunications Services – statute	12
Financial hardship - Telecommunications Consumer Protections (TCP) Code	13
Telecommunications Data Sharing	14
Industry-Developed Information Sharing Guidelines	14
Telco Data Standards Working Group	15
Telecommunication outages during the 2022 NSW flood event	15
Summary of outages reported to the Department	15
Deployment of temporary facilities	16
Barriers to deploying temporary facilities	17
Regional Telecommunications Review 2021	17
4. Road and Rail	18
The Road and Rail Supply Chain Resilience Review	18
5. Concluding Comments	19
Attachment A – Timeline of reported telecommunications outages during the 2022 NSW flood event	20

1. Introduction

The Commonwealth Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the Department) welcomes the opportunity to provide a submission to the 2022 NSW Independent Flood Inquiry (the Inquiry).

While the Department has broad responsibilities regarding the built environment, this submission intends to specifically address paragraph 2(d) of the Inquiry's Terms of Reference on the provision of essential services with a focus on the provision of telecommunications services as well as road and rail supply chain resilience. This is due to the pronounced impact the flooding event had on telecommunications services and supply chains in New South Wales, and the vital role telecommunications and supply chains play more generally in facilitating emergency preparedness, response, and recovery efforts before, during, and after a disaster event.

In considering our submission, it is important to note the Department does not have an operational role with respect to responding or recovering from natural disasters. The Department does, however, have policy and program responsibilities covering telecommunications and is currently undertaking a review of road and rail supply chain resilience at the national level. The purpose of this submission is to outline these responsibilities, as well as to explain relevant policies, projects, programs, and legislation for the Inquiry's awareness.

In addition, this submission also seeks to provide the Inquiry with information regarding telecommunications outages reported to the Department by telecommunications carriers throughout the NSW flood event. This information is intended to assist the Inquiry in understanding both the cause(s) and scale of these outages and to help inform any findings or recommendations regarding the provision of telecommunications services.

This submission is structured into three sections:

- [Section 2](#) provides a broad overview of the Department's role with respect to its national policy and program responsibilities for enhancing infrastructure disaster resilience.
- [Section 3](#) is focused on telecommunications, and details relevant projects, legislative provisions, and other work being progressed by the Department that may be of interest. Telecommunication outage information shared with the Department is also provided in this section.
- [Section 4](#) focuses on road and rail, including work being done under the Road and Rail Supply Chain Resilience Review, the impact of recent flooding events on road and rail, and other resilience initiatives currently being undertaken.

2. Role of the Department

As outlined in the Department's 2021-22 Corporate Plan, the Department's work connects and enriches every Australian community, underpins our economy and society, and empowers our regions through the provision of strategic policy advice to government, delivery of fit-for-purpose regulation, programs, projects and services for infrastructure, transport, communications and the arts sector.¹ The Department's roles across five key areas of responsibility are outlined below:

¹ The Department's 2021-22 Corporate Plan is available online at:

<https://www.infrastructure.gov.au/sites/default/files/documents/ditrdc-corporate-plan-2021-22.pdf>

- **Transport connectivity:** Supporting an efficient, sustainable, safe and accessible transport system and supporting jobs through infrastructure investment.
- **Regional development:** Improving living standards and facilitating economic growth in cities and regions, including northern Australia.
- **Creativity and culture:** Supporting sustainable and inclusive creative and cultural sectors, and protecting and promoting Australian content and culture.
- **Communications connectivity:** Enabling people in Australia to connect to effective, safe communications services and enabling investment in communications technologies for inclusiveness and sustainable economic growth.
- **Territories:** Providing governance frameworks and services to support communities in the territories.

Of most relevance to this Inquiry, the Department is responsible for providing strategic policy advice, delivering programs, and administering legislation on matters relevant to the resilience of telecommunications, roads and rail infrastructure. The Department seeks to work collaboratively with its stakeholders, including industry stakeholders and other government agencies at both the federal (i.e. the Department of Home Affairs and the National Recovery and Resilience Agency) and state levels (i.e. Resilience NSW and the NSW Telco Authority), in fulfilling this role.

It is important to note that the Department's role does not, however, extend into the emergency response and/or recovery stages of a disaster. Emergency response and recovery matters are managed by the respective emergency service organisations in accordance with established state or territory emergency management arrangements (such as the NSW Telecommunications Services Functional Area Supporting Plan, for example), or the private sector (for example, restoration of telecommunications networks).

Specific areas of work within the Department's remit across telecommunications and road and rail supply chain resilience that may be of interest to the Inquiry are detailed throughout the remainder of this submission.

3. Telecommunications

Relevant programs administered by the Department

The Department administers four programs that are targeted towards enhancing telecommunications resilience within Australia. A brief description of these programs is provided below for the Inquiry's awareness.

Mobile Network Hardening Program

The Mobile Network Hardening Program (MNHP) is providing funding to increase the resilience of regional and remote mobile networks and related infrastructure against bushfires and other natural disasters. Under stage 1 of MNHP, \$13.2 million in funding has been awarded to extend battery back-up power to at least 12 hours at 467 macro cell base stations funded through Rounds 1 and 2 of the Mobile Black Spot Program (MBSP). Since Round 3 of the MBSP, all funded macrocell base stations have been required to include 12 hours of battery backup. As at 23 May 2022, over 99 per cent of the stage 1 upgrades are complete, with the remaining sites expected to be finished in 2022.

Sky Muster Satellite Service Deployment Program

This program is providing \$7.0m in grant funding to NBN Co for the deployment of NBN Sky Muster satellite services at evacuation centres and emergency service depots across Australia, at locations nominated by state and territory governments. Funding will cover the initial installation cost as well as the operating cost of these satellite services for three years.

The NBN Sky Muster satellite services will provide telecommunications redundancy for locations nominated by States and Territories during any potential future telecommunications outage. These services can provide internet access via satellite connection for up to 50 simultaneous users for a standard satellite installation, with large satellite installations being able to support up to 100 simultaneous users and including additional power resiliency.

The Department has been working collaboratively with Resilience NSW throughout the course of this program, with Resilience NSW coordinating with NSW SES, NSW RFS and local governments to nominate suitable locations for an NBN Sky Muster satellite service. To date, Resilience NSW has identified around 330 locations for an NBN Sky Muster satellite service installation. The installation of these satellite services is currently ongoing, and is expected to be completed before the 2022-23 high risk weather season.

Temporary Telecommunications Infrastructure Program

The Australian Government allocated \$10 million for a grants program to enable telecommunications carriers to purchase portable communications facilities. Facilities being procured by telecommunications carriers under this grant program include:

- Portable satellite fly-away kits
- Cell and repeater trailers
- Cells on Wheels
- Portable generators
- Satellite Cells on Trailers
- Road Muster trucks
- Hybrid Power Cubes

These temporary facilities can be positioned in disaster-affected areas to rapidly restore telecommunications coverage. While these facilities are not all necessarily stationed by telecommunications carriers on a permanent basis in NSW, their portable nature does enable them to be relocated to NSW if required.

A number of temporary facilities funded under this program were ready and deployed to disaster-affected areas throughout NSW. Further information on temporary facilities deployed in NSW during the 2022 flood event, including those funded under STAND, is discussed below.

Community Awareness and Coordination Program

As part of the STAND package, a \$2.1 million public communication program is being rolled out to better inform the community about the need to prepare for the possibility of a telecommunication outage in a natural disaster. Market research commissioned by the Department under this program in 2020² found that:

- Many Australians over-estimate their knowledge with regards to how telecommunications work, and

² Further information on the market research, including the research report, can be found at this link:

<https://www.infrastructure.gov.au/media-technology-communications/phone/communications-emergencies/market-research>.

were not able to explain the implications of a telecommunications outage.

- Many Australians have high expectations of the resilience and recovery of telecommunication services in a natural disaster.
- In preparing for or during a natural disaster, state and territory emergency service websites and apps are the most trusted sources of information.
- Regional and rural residents are generally better prepared for telecommunications outages in a natural disaster and better understand the flow on effects of these outages.
- Travellers and tourists from metropolitan areas to regional and rural areas are generally unprepared for a natural disaster while travelling, including from a telecommunications perspective.
- Overall, residents and travellers generally share the same concerns about losing telecommunications during a natural disaster, with the most common concerns being access to information, being able to call for help and contacting friends and family.

Following the finalisation of the market research, the Department produced a range of resources in consultation with emergency service organisations and the telecommunications industry. These resources include a series of animations, fact sheets, social tiles, gif files, postcards and other resources,³ and have been used by Resilience NSW.

Sector engagement mechanisms

Various mechanisms through which the Department engages with the telecommunications sector on critical infrastructure resilience matters are outlined below, for the awareness of the Inquiry.

Communications Sector Group

The Communications Sector Group (CSG) is one of eight groups established under the Trusted Information Sharing Network (TISN) by the Australian Government. The TISN is Australia's primary national engagement mechanism for business-government information sharing and resilience building initiatives for owners and operators of critical infrastructure, and enables sensitive information to be shared in a secure environment. The CSG's membership consists of relevant Commonwealth, State and Territory agencies as well as major telecommunications carriers, broadcasters, infrastructure providers and data centre operators. NSW is represented by the NSW Telco Authority on the CSG.

While the TISN arrangements as a whole are managed by the Cyber and Infrastructure Security Centre within the Department of Home Affairs, the CSG receives secretariat support from the Department of Infrastructure, Regional Development, Transport, and Communications.

The CSG met on five occasions during 2021. In the lead up to the 2021/22 disaster season, CSG members received an update from the Bureau of Meteorology on 10 December 2021 regarding its seasonal outlook for the period between December 2021 and April 2022 to ensure they were aware of the potential risks and could prepare accordingly. This update indicated that Australia was in a La Niña event, with above average rainfall forecast along Australia's East Coast increasing the likelihood of flooding.

A post-disaster season meeting of the CSG was held on 4 May 2022, where participants – including state and territory emergency service organisations and telecommunications carriers – were invited to reflect on what worked well and what the challenges were. While this meeting was not specifically focused on the NSW flood

³ Many of these resources are publicly accessible on the Department's website at this link: <https://www.infrastructure.gov.au/media-technology-communications/phone/communications-emergencies-natural-disasters/resources>

event, common issues raised by telecommunications carriers in responding to disasters included outages in power being the primary cause of telecommunications outages, as well as difficulty accessing infrastructure sites to undertake initial damage assessments and repairs.

Protocol for Notification of Major Service Disruptions

The Protocol for Notification of Major Service Disruption (the Protocol) sets out how the Department will liaise with industry and the Minister for Communications in the event of a major disruption to services in the communications sector. The Protocol takes an ‘all hazards’ approach – that is, it applies where there is a major service outage regardless of the cause.

A major service disruption is defined as a large scale loss of connectivity from any point in a communications network that supports or delivers services to businesses and consumers. The disruption may occur due to inclement weather, natural or man-made disasters, equipment failure or other factors beyond the service provider’s control. Providers are encouraged to report major service disruptions that:

- are unexpected and not a scheduled outage;
- cannot be resolved within a very short period of time;
- impact services delivered to a significant number of consumers be it a community or municipality;
- Impact a large geographic area or region;
- impact key government facilities, infrastructure and essential services;
- impact national security, economic security, or public health and safety; and/or
- are likely to generate media coverage.

On receipt of a notification, the Department may take any of the following actions depending on the nature and severity of the outage:

- advise the office of the Minister for Communications;
- share the reports with the National Situation Room at the Department of Home Affairs;
- share the reports with relevant state and territory agencies;
- seek further updates or information as appropriate.

Under the Protocol, notifications should ideally include the following information:

- the cause and nature of the disruption;
- when the disruption commenced;
- the area(s) affected;
- the type of infrastructure and services disrupted;
- the estimated number of customers affected;
- the expected timeframe for the network/service being brought back to operation, and any temporary service arrangements if applicable;
- government agencies and other organisations engaged; and
- any other information relevant to the disruption that government may need to be aware of.

It is important to note that reporting under the Protocol, including regarding the information shared with the Department, is voluntary. It also does not replace any existing mandatory or voluntary reporting requirements, including but not limited to, reporting requirements to relevant Commonwealth agencies, state and/or territory agencies (e.g. the NSW Telco Authority).

The Department received a number of notifications under the Protocol from Telstra, NBN Co, Optus and TPG Telecom throughout the 2022 NSW flood event. A summary of these outage reports is provided below.

Telecommunications Act 1997

The Commonwealth has the ability to legislate in relation to telecommunications under Section 51 of the Australian Constitution. The primary mechanism through which the Commonwealth regulates telecommunications is the [Telecommunications Act 1997](#) (the Act). The Act is administered by the Department, and so the Department is uniquely positioned to provide advice to the Inquiry on the Act with respect to its relevance in disasters and other emergencies.

Of note, the Act contains several provisions that can assist state and territory governments with regards to their roles in preparing for, responding to, or recovering from natural disasters. These provisions are identified in this section for the Inquiry's awareness.

It is important to note, however, that while legislative powers may be used to compel telecommunications carriers to undertake certain activities, these are seldom used in practice. Productive and collaborative relationships between the telecommunications carriers and emergency service organisations have largely facilitated cooperation during disaster events to date (with the sector-wide approach taken by the NSW Telco Authority being one example). As far as the Department is aware, telecommunications carriers generally act on assistance requests from government voluntarily.

Assistance requests during disasters or other emergencies

Under subsection 313(4A) of the Act, telecommunications carriers are required to give Commonwealth, state and territory officers and authorities such help as it is reasonably necessary in preparing for, responding to, and recovering from emergencies in the following circumstances:

- if a national emergency declaration made by the Governor-General under the *National Emergency Declaration Act 2020* is in force;
- if a state of emergency has been declared by, or with the approval of, a Minister of a state or territory under the law of the state or territory; or
- if a declaration has been made by the Commonwealth Minister with responsibility for communications that an emergency exists under subsection 313(4D) of the Act.

During the 2022 NSW flood event, NSW state officers or authorities were able to request assistance from telecommunications carriers under the Act as a result of the National Emergency Declaration which came into effect on 11 March 2022.⁴ Telecommunications carriers would have been required to comply with these requests for assistance under the Act, provided the requests were reasonable and necessary. Requests for assistance must be on a 'no profit, no loss' basis, which means that recompense may need to be provided to carriers for assistance.

Reasonable and necessary assistance is dependent on the circumstances of the disaster or emergency. It may include, but is not limited to, the deployment of temporary facilities at certain locations or the sending of emergency alerts or messages.

The Department is not aware of whether any requests for assistance made by NSW officers or authorities (e.g. the NSW Telco Authority) to telecommunications carriers were made in reference to this legal obligation during the 2022 NSW flood event. Notably the NSW Telco Authority is itself a carrier, and thus requests can also be made to it for assistance.

⁴ The National Emergency Declaration is in force until 11 June 2022. The declaration is accessible at this link: <https://www.legislation.gov.au/Details/F2022L00312>

Designated Disaster Plans

Division 4 of the Act deals with ‘designated disaster plans’. Under subsection 344 of the Act, a designated disaster plan means a plan that:

- a) is for coping with disasters and/or civil emergencies; and
- b) is prepared by the Commonwealth, a state or a territory.

Subsection 345 of the Act enables the Commonwealth Minister with responsibility for communications to impose a licence condition on telecommunications carriers to require carriers to comply with one (or more) designated disaster plans. Licence conditions on telecommunications carriers are mandatory and enforced by the Australian Communications and Media Authority (ACMA). Telecommunications carriers which breach their licence conditions may be subject to penalties under Part 31 of the Act.

Subsection 346(A) of the Act further specifies that telecommunications carriers are not liable for any damages caused by an action done in good faith in complying with a designated disaster plan.

While Division 4 of the Act has existed since 1997, to date no such licence conditions requiring compliance with a designated disaster plan have been created. A licence condition requiring compliance with a designated disaster plan that is enforced by ACMA would likely lead to greater adherence with the specified disaster plan(s) on matters relevant to mitigating, preparing for, responding to, and recovering from telecommunications outages, should this be determined to be necessary and/or desirable. This would also provide telecommunications carriers with certain legal protections in undertaking activities in complying with a designated disaster plan.

The Department has provided an information session in relation to ‘reasonable and necessary assistance’ and ‘designated disaster plans’ through the CSG membership for the last two years, and will continue to do so.

Schedule 3 – Carriers’ Powers and Immunities

Schedule 3 of the Act provides telecommunications carriers with certain powers and immunities from state and territory legislation. These powers and immunities include the ability to inspect, maintain, and install certain facilities.

Relevant to planning and responding to natural hazards, the powers provided in Schedule 3 of the Act allows telecommunication carriers to give a notice to a landowner to enter and inspect land, and to do anything on the land that is necessary and desirable including, for example, felling and lopping trees, removing vegetation and undergrowth.

Schedule 3 also allows carriers to install temporary telecommunication facilities in specified circumstances, including in an emergency, without state or territory approvals. In most cases, a notice should be given to the landowner however circumstances are provided in Schedule 3 where a notice is not required. These circumstances include where activities need to be carried out without delay to protect: the integrity of a telecommunications network or facility; the health or safety of persons; the environment; property; or the maintenance of an adequate level of service.

Contracts for delivery of Public Interest Telecommunications Service

The Department also manages significant contracts with Telstra for the delivery of ‘public interest telecommunications services’ under Part 2 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*. There are three public interest services particularly relevant to the Inquiry, being the provision of:

- standard telephone services, for which Telstra receives \$230 million per annum (ex. GST);
- public payphones, for which Telstra receives \$40 million per annum (ex GST); and
- the emergency call Triple Zero service, for which Telstra receives \$20 million per annum (ex GST), plus additional funding for agreed upgrades and enhancements.

Given the nature of these services and their importance to the community, there are high expectations on Telstra as to their delivery, including in disaster situations such as those recently experienced in northern NSW.

Telstra historically delivered most voice services over its copper network, but now uses a mix of networks, including NBN fixed line networks, Telstra's residual copper network and other platforms such as wireless in limited cases in regional and remote areas. Subject to the location of any natural disaster, Telstra may be dependent on NBN Co for service delivery and network restoration (i.e. Telstra provides a large number of voice services using the NBN fixed line network). In other instances, Telstra will be responsible for the underlying network and service delivery.

Telstra's service delivery obligations under the contract are based on those in the law, which are discussed below. In general terms, where faults occur, the default is that Telstra should restore the service within a specified timeframe or offer an interim or alternative service. However, if extreme weather conditions or natural disasters cause mass outages of services beyond Telstra's reasonable control, Telstra may declare a 'mass service disruption' (MSD). In these situations, the usual regulatory and contractual timeframes for restoration of voice and payphone faults are temporarily suspended. During recent NSW floods Telstra issued a number of relevant MSDs⁵, due to heavy rain and flooding impacting northern NSW as well as other parts of the state.

- [20220225-NSW-E-C-P-NORTHERN NSW AND EXTENSION](#) (active from 25 February to 15 May 2022 – with Telstra estimating impact to approximately 4,050 services)
- [20220330-NSW-E-C-P-NORTHERN NSW AND EXTENSION](#) (active from 30 March to 29 May 2022 – with Telstra estimating impact to approximately 2,500 services)
- [20220408-NSW-E-C-P-SYDNEY METROPOLITAN AND SURROUNDING AREA AND EXTENSION](#) (active from 8 April to 22 May 2022 – with Telstra estimating impact to approximately 2,450 services),
- [20220303-NSW-E-C-P-HAWKESBURY AND SURROUNDING AREA AND EXTENSION](#) (active from 3 March to 8 April 2022 – with Telstra estimating impact to approximately 500 services).

However, the focus still remains on restoring services as quickly as possible, via interim and permanent solutions, with a requirement that Telstra not rely on MSDs for longer than is necessary. Once an MSD ends the usual timeframes for repair and connection apply, however where premises cannot be occupied due to flood damage there may be no request for services or other exemptions, for example relating to workplace health and safety may apply.

In some instances, public payphones (which now offer free national calling) may remain available during natural disasters as a back-up where other services are out. However, like all telecommunications infrastructure, payphones and related infrastructure may be directly impacted by natural disasters or related events, such as loss of power. Accordingly, it may be useful for communities know where payphones continue to work can be accessed safely or they are out of action and/or out of reach. The Department will seek to work with Telstra on the feasibility and merits of providing such information.

Telstra, in its role as the Emergency Call Person for the Triple Zero Emergency Call Service (ECS) has both a disruption protocol and incident notification framework in place to guide immediate actions in the event of a

⁵ Telstra maintains a detailed register of MSDs available at www.telstra.com.au/consumer-advice/customer-service/mass-service-disruption

disruption to the ECS. Telstra also maintains several levels of redundancy across both its network and with all the state-based Emergency Service Organisations (ESOs) to help ensure calls to Triple Zero can continue to connect between the Telstra and the relevant ESO (police, fire or ambulance service) to the greatest extent possible.

The Department seeks to work closely with Telstra in relation to the services provided under the contracts in relation to disasters. This includes:

- discussing Telstra’s planning and preparation for the disaster season,
- monitoring weather and disaster impacts and MSDs,
- monitoring work to restore services, including long term recovery of voice and payphone services, and
- discussing lessons learnt from past events, and possible improvements for the future.

The timely provision of relevant information is central to this work.

The Department will continue to monitor the provision of services in the area under the contract as premises are re-occupied or replaced.

The statutory requirements underpinning these contractual arrangements are explained further below

By contrast, mobile services are provided on a commercial basis and their provisioning is fundamentally subject to the disaster arrangements discussed here.

Public Interest Telecommunications Services – statute

As noted above, Part 2 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* provides for the delivery of ‘public interest telecommunications services’, currently delivered under contract by Telstra. The key services are provision of standard telephone services, public payphones, and the emergency call Triple Zero service.

Telstra’s contractual obligations are based on those set out in the statute and related subordinate legislation. Telstra has a general obligation to provide and maintain standard telephone services and payphones, including restoring these to services, subject to relevant exemptions.

Under the Customer Service Guarantee (CSG), Telstra is subject to fault restoration timeframes, ranging from one to three business days, pending on the geographical location, in normal circumstances. Where these timeframes cannot be met, Telstra will generally seek to offer and provide interim or alternative services (such as mobile or satellite phones). However, that may not always prove practical or feasible in disaster situations, such as where mobile networks are impacted, or if there are access issues that prevent or limit delivery of equipment to customers.

If there are mass outages of services beyond Telstra’s reasonable control, such as due to natural disasters or extreme weather conditions, Telstra may declare a ‘mass service disruption’ (MSD). In these situations, the usual regulatory and contractual timeframes for restoration of voice and payphone faults are temporarily suspended. Telstra must either notify its customers directly or publish a public notice specifying the range of services affected. As noted above, a number of MSDs were declared by Telstra due to NSW floods.

Financial hardship - Telecommunications Consumer Protections (TCP) Code

The Telecommunications Consumer Protections (TCP) Code requires all providers to have a financial hardship policy. The TCP Code is 'registered' by the ACMA under Part 6 of the Telecommunications Act, therefore, the ACMA can take action in relation to compliance with the Code.

The application of financial hardship policies can become important to consumers in the wake of natural disasters, including where employment and businesses are disrupted. Consumers can request financial assistance from their provider which may include, for example, temporarily postponing or deferring payments. Telecommunications providers often make announcements about specific and/or general support offered in the event of natural disasters.⁶

Under the TCP Code, all providers are required to publish their financial hardship policy on their website, including guidance on how to apply for assistance. Applications for assistance must be assessed in a fair and timely manner.

In accordance with Chapter 7 of the TCP Code, providers must offer the following:

1. A minimum of three spend control options to help keep residential and small business customers connected including:
 - Transferring the Customer to a Pre-Paid Service;
 - Restriction of service, in respect of overall or specific services;
 - Transferring the Customer to a contract which includes hard caps or Shaping; or
 - Low cost interim options until the Customer can continue with original payments.

2. A minimum of three of the below options for suitable financial arrangements:
 - Temporarily postponing or deferring payments (for a longer period than would typically be offered to Customers requesting an extension outside of Financial Hardship arrangements);
 - Agreeing on an alternative arrangement, plan, or contract, including discussing Pre-Paid Services;
 - Discounting or waiving of debt;
 - Waiving late payment fees;
 - Waiving cancellation fees; or
 - Incentives for making payments, for example payment matching.

Many providers also offer a simple option for a customer to 'pause' their payment for a month.

Chapter 7 of the TCP Code requires providers to suspend credit management action while an arrangement under a financial hardship policy is in place, while Chapter 6 contains strict rules on how and when a provider can restrict, suspend or disconnect a service for credit and/or debt management reasons.

⁶ Telcos Offering Assistance To Flood-Affected Customers, 3 March 2022: www.canstarblue.com.au/phone/telco-flood-assistance-2022/; Disaster relief and assistance for our New South Wales customers (Telstra News), 21 March 2022: www.exchange.telstra.com.au/disaster-relief-and-assistance-for-our-new-south-wales-customers/; and Customers impacted by floods in QLD & NSW, last updated 31 March 2022: www.optus.com.au/for-you/support/answer?id=20170

Telecommunications Data Sharing

Data from telecommunications carriers is required to enable effective emergency planning, response, and recovery efforts at the Commonwealth, state, territory and local government levels. Without such data, it is not possible for governments to identify the risks posed to telecommunications infrastructure from natural hazards, or the importance of such infrastructure assets on a carrier's overall network or ability to provide services to a given area.

This was acknowledged by the Royal Commission into National Natural Disaster Arrangements, which identified that the lack of information on critical infrastructure assets (such as telecommunications) meant that "state and territory governments may not be able to make informed decisions on which assets require priority protection or restoration during a natural disaster".⁷

The Department takes an active interest in telecommunications data sharing matters given its importance for informing emergency management efforts, with the Department commenting on information sharing guidelines developed by the telecommunications industry and participating on the Telco Data Standards Working Group. Further detail on these two elements is outlined below.

The Department notes that it does seem a matter of common sense that ESOs have access to the location of telecommunications assets. However, we note that there have been questions about the secure storage of the information that might be provided by carriers. The Department would recommend two principles to the Inquiry, that (1) ESOs have access to the information that they need to most effectively do their jobs, and (2) that information about infrastructure be appropriately be protected. The Department recommends consultation with the Commonwealth security agencies, including the Department of Home Affairs, in this regard.

Industry-Developed Information Sharing Guidelines

The Communications Alliance – the peak body for the telecommunications industry – developed the '*Telecommunications – Facilities Information Sharing Guideline*' (the Guidelines) following the completion of the Royal Commission into National Natural Disaster Arrangements and the NSW Bushfire Inquiry in 2020.⁸ The purpose of the Guidelines, which were released in May 2021, is to facilitate the sharing of standardised data on infrastructure assets between the telecommunications industry with stakeholders in government and the energy sector.

Guidelines enforceability

Data to be shared by telecommunications carriers under the Guidelines is split into the 'minimum facility data sharing information set' and an 'additional information set'. It is important to note, however, that the sharing of either information set is optional and unenforceable as compliance with the Guideline – which has no legal recognition under the Act – is not mandatory.

In the Department's submission on the draft Guidelines to the Communications Alliance, the Department recommended that the Communications Alliance register the Guidelines as an industry code in accordance with Part 6 of the Act. Registering the Guidelines as an industry code would enable ACMA to issue directions

⁷ Pg. 238 of the Royal Commission's final report, which is accessible at this website:

<https://naturaldisaster.royalcommission.gov.au/publications/royal-commission-national-natural-disaster-arrangements-report>

⁸ The Guidelines are accessible at this website:

https://www.commsalliance.com.au/_data/assets/pdf_file/0005/76649/G665_2021_Final.pdf

to participants of the industry code, and to issue formal warnings to participants in the event an industry code is breached.

While the Department's recommendation was not taken up by the Communications Alliance with respect to the Guidelines, this matter could be re-visited should the Inquiry identify a clear need. Of note, ACMA is able to request the development of industry codes under subsection 118(1) of the Act. If such a request (or the resulting industry code) is not complied with, ACMA is able to create an industry standard. Alternatively, ACMA can be directed to develop an industry standard by the Commonwealth Minister with responsibility for communications.

It may also be possible for any such data sharing requirements to be included in a Designated Disaster Plan as described elsewhere in this submission.

Telco Data Standards Working Group

During emergencies, requests for data held by telecommunications carriers may come from multiple agencies or organisations in the same jurisdiction with the same data being requested in different formats. This duplication increases the workload required for telecommunications carriers to share this data, which can impede emergency response efforts.

The 'Telco Data Standards Working Group' was established to address this issue and is led by NSW Spatial Services. This cross-jurisdictional working group, which the Department participates on, seeks to develop shared, nationally consistent data definitions and requirements. The Working Group also seeks to develop a standard data sharing agreement that governments at all levels can use when seeking data from telecommunications carriers.

The Working Group is actively considering matters such as those described above regarding industry-developed information sharing guidelines, and whether there are any opportunities for telecommunications infrastructure data to be held by one department or agency, which can distribute or provide access to jurisdictions.

Telecommunication outages during the 2022 NSW flood event

Summary of outages reported to the Department

Throughout the NSW flood event the Department received outage reports from telecommunications carriers under the Protocol. The first outage reports in NSW were received by the Department on 28 February 2022, with the final outage report being received on 1 April 2022.⁹

Peak outages in NSW occurred between 1 and 9 March 2022 for each of the telecommunications carriers, with carriers reporting:

- NBN Co: 134 sites offline (on 9 March) and 79,490¹⁰ customers impacted (on 6 March 2022)

⁹ This should not be taken to mean that all telecommunications outages were necessarily resolved by 1 April 2022, but rather that telecommunications carriers did not consider any outages after this date as constituting a 'major service disruption'.

¹⁰ Note that one 'customer' does not necessarily equate to a single person (for example, households may be considered to be 'one' customer).

- Approximately 56,000 NBN customers impacted in NSW between 2 March and 7 March was caused by a failure in the Woodburn site. This site was managed by a third party, and was restored on 7 March 2022.
- Telstra: 58 mobile sites offline (on 3 March 2022) and 6,224 fixed line customers impacted (on 5 March 2022).
- Optus: 44 sites impacted (on 1 March 2022).

TPG Telecom did not distinguish between NSW and Qld sites in its outage reports, but reported a combined peak of 68 sites offline on 7 March 2022.

A timeline of outages reported to the Department from each carriers is available at [Attachment A](#).

Outage notifications were shared by the Department with the NSW Telco Authority, the Telecommunications Functional Area, and the National Situation Room in accordance with the Protocol to inform emergency response/recovery efforts.

The primary cause of outages was reported to be failures in mains power, with some reported incidents of direct damage to physical infrastructure (for example, flood waters washing away fibre-optic cables or network assets being inundated). Telecommunications outages resulted in some communities being isolated and unable to contact Triple Zero services throughout the flood event. The Department is aware of media reports indicating that telecommunications outages may have also:

- hindered the coordination of rescue activities;
- prevented communities from receiving evacuation orders or emergency warnings;
- impeded recovery efforts such as by preventing impacted communities from accessing websites and applying for assistance payments; and
- resulted in the loss of EFTPOS, meaning that impacted communities were essentially 'cash only' economies for the duration of the outage – meaning those without cash would be unable to purchase essential items such as food, water or fuel.

While the Department has not independently confirmed these impacts, these reported impacts would appear to mirror those experienced in the 2019/20 Black Summer Bushfires as identified by the Royal Commission into National Natural Disaster Arrangements.

Deployment of temporary facilities

The deployment of temporary facilities is one way that telecommunications carriers can provide coverage in the aftermath of a disaster and where physical damage to infrastructure has occurred. Deployments in NSW that the Department is aware of are identified in Table 1 below.¹¹

Table 1: Temporary facilities deployed by telecommunications carriers in NSW

Telstra	<ul style="list-style-type: none"> ● Two Satellite Cells on Wheels (SATCOWs) were deployed to the communities of Woodburn and Uki to provide temporary coverage. ● Telstra deployed a Cell on Wheels (COW) to Mullumbimby on 21 March 2022, following a fire at a Telstra 5G tower on 18 March 2022.
NBN Co	<ul style="list-style-type: none"> ● Three NBN Road Muster trucks (STAND funded) were deployed to various locations in Ballina, Lismore, Wardell, Woodburn, South Golden Beach and Mullumbimby.

¹¹ Note that telecommunications carriers are not required to report the deployment of temporary facilities to the Department, and so Table 1 is not necessarily representative of all deployments made by carriers.

	<ul style="list-style-type: none"> • Four Fly-Away Satellite Kits (STAND funded) were deployed to Coffs Harbour, Coraki, Ballina, Broadwater, South Golden Beach, and Evans Head. • There were 4 activations across 3 NBN Hybrid Power Cubes in NSW (STAND funded) between 1 February and 18 March 2022.
Optus	<ul style="list-style-type: none"> • Optus deployed two Satellite Cells on Trailers (SATCATs) to Lismore and Ballina North, both in NSW. • Optus deployed a number of portable generators to its sites in NSW across the disaster event in response to widespread power outages.
TPG	<ul style="list-style-type: none"> • Portable generators were deployed.

Barriers to deploying temporary facilities

Telecommunications carriers have advised the Department that while they often receive a number of requests to deploy temporary facilities in a disaster event where outages are being experienced, typically there are often a number of barriers preventing them from doing so. These barriers are identified below for the Inquiry's awareness.

- **Availability:** There are limited numbers of temporary facilities available to address specific requirements at all locations, including for supporting emergency service organisations and community connectivity.
- **Site access:** Most temporary facilities need to be deployed using roadways, which can be challenging following a natural disaster (e.g. due to fallen trees, floodwater etc.).
- **Limited coverage:** Temporary facilities can provide services when permanent facilities are compromised, however generally temporary solutions have less capacity than permanent facilities – with coverage being more limited due to technical and physical limitations (e.g. due to height limitations).
- **Time to set up:** Temporary facilities may take some time to set up and connect depending on the solution deployed, and so service restoration is generally not instantaneous (where the solution does not involve refuelling a generator at a permanent facility).
- **Deploying following a disaster, not before:** Deploying temporary facilities prior to a disaster event creates a substantial risk that the temporary facility will be damaged/destroyed by the disaster.
- **Interference:** Some temporary facilities may interfere with regular services (for example, deploying a SATCOW to areas with overlapping coverage from a COW or permanent facility will disrupt mobile communications to the area and areas where there is overlapping coverage).

In general, while temporary facilities provide an important adaptive capacity in enabling telecommunications carriers to address outages in a responsive manner, there are limitations. Fixed infrastructure upgrades, such as battery backups, therefore also provide an important complementary role in enhancing overall telecommunications resilience. It is also the case that if the carriers anticipate or are advised that an area may be subject to evacuation order that they may not deploy facilities.

Regional Telecommunications Review 2021

Regional Telecommunication Reviews are statutory reviews undertaken every three years to assess the adequacy of telecommunications services in regional Australia. The 2021 Review emphasised the importance of robust telecommunications in disaster situations and in disaster recovery. It recommended investment in

building telecommunications resilience; better coordination between telecommunication providers, energy companies and emergency services; as well as standards of maintenance and preparation for emergency situations. The response to the recommendations is a matter for the incoming Government.

4. Road and Rail

Flooding poses a significant risk to Australia's road and rail supply chains. This reflects the potential for flooding events to cover an extremely large geographic footprint across multiple jurisdictions, resulting in widespread disruptions and knock-on effects across the supply chain network.

The most pronounced impact of flooding on road and rail freight routes is that flooding causes temporary inundation and closure of roads and rail lines, resulting in delays and disruptions to freight flows. This was experienced most recently in the 2022 NSW floods which saw supermarkets forced to close several stores in Northern NSW and apply purchase limits on essential commodities due to floodwaters inundating routes into towns and preventing freight from delivering goods.

Flooding can also cause physical damage to infrastructure, including bridges, tunnels, retaining walls and electricity substations. Specialised repairs are required in some scenarios, causing prolonged disruptions should the road or rail infrastructure be badly damaged, noting ballasted rail tracks and unsealed roads are more sensitive to damage and disruption from floods compared to sealed roads. High velocity floodwaters can cause significant washout of road and rail segments, resulting in disruptions to the network in any flood event. While sealed roads are less vulnerable to becoming impassable, they are vulnerable to prolonged saturation in flood events, which can damage pavement foundations and result in longer road closures. The potential for coastal inundation of supply chain assets should also be acknowledged. This is particularly relevant for road and rail routes in low lying geographies carrying significant volumes of freight to ports.

Climate change is projected to result in more intense downpours and rising sea levels. This is will likely influence the future frequency and severity of riverine, coastal and rainfall flooding, meaning a historic 1% Annual Exceedance Potential event may have a greater chance of occurring.

The Road and Rail Supply Chain Resilience Review

All Australians depend on strong and resilient supply chains. The impacts of COVID-19, natural disasters and a growing freight task have shown the increasing importance of Australian on-land supply chains, and their critical importance to the national economy, and the lives and livelihoods of Australians. Understanding which supply chains are of national importance, the risks they face, and how government and industry can work to mitigate these risks is essential to ensure supply chains remain resilient and fit-for-purpose now and in the future.

To action this, the Department, through the Bureau of Infrastructure and Transport Research Economics (BITRE) is leading a review into the resilience of Australian road and rail supply chains. The review will:

- Define and determine key risks to critical supply routes – routes that transport large quantities of freight or are critical to supply of essential goods or services across Australia;
- Identify key risks to critical supply routes in the short, medium and long term — including weather events or natural disasters, limited alternative routes, and limited and difficult to access alternative transport modes;
- Assess the potential vulnerabilities in critical supply routes;

- Complete a stocktake of recent relevant work by government and industry intended to identify and mitigate Australian domestic road and rail supply chain risks;
- Identify data generation, capture and use requirements necessary to assess, inform best practice and improve road and rail supply chain resilience;
- Determine the critical routes at highest risk of failure; and
- Develop and present pragmatic options for governments to mitigate or address risks to critical road and rail supply chains, in alignment with the Government-agreed framework to identify and mitigate critical supply chain risks.

The focus of the review is on Australia's road and rail infrastructure and linked infrastructure. Matters such as international supply chain vulnerability, costs of freight, the transport workforce and critical inputs to the transport sector are outside the scope of the review.

There are also a range of broader initiatives, the outcomes of which will lift road and rail supply chain resilience. These include Infrastructure Australia's [Australian Infrastructure Plan 2021](#) and [A Pathway to Infrastructure Resilience](#); the [National Climate Resilience and Adaptation Strategy 2021-2025](#), and the work of the Australian Climate Service, among others.

5. Concluding Comments

The Department once again would like to thank the Inquiry for the opportunity to provide a submission. As indicated throughout our submission, the Department is well aware of how critical telecommunications, road and rail infrastructure are before, during, and after a disaster event, and is progressing work across a number of areas aimed at enhancing the resilience of infrastructure to natural hazards.

It is important to note, however, that it is not possible for any infrastructure – including telecommunications, roads and rail infrastructure – to ever be 100 per cent resilient to natural or artificial hazards. Nevertheless, there is always scope for lessons to be learnt following any disaster to increase the overall collective resilience of our infrastructure for future events. In this respect, we trust that the information provided in this submission will help inform the findings and/or recommendations of the Inquiry.

The Department would welcome the opportunity to discuss any matters outlined in this submission if requested by the Inquiry. The first point of contact in the Department is Tristan Kathage, Assistant Secretary of the Telecommunications Market Policy Branch. Tristan can be contacted on _____ or via _____

Attachment A – Timeline of reported telecommunications outages during the 2022 NSW flood event

Based on information reported to the Department between 26 February – 18 March 2022.

North-East New South Wales

