



Australia Tower Network Pty Ltd
ABN 59 643 875 165
PO Box 321, Lindfield, NSW 2070

admin@atn.site
www.atn.site

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Grahame O'Leary
Director
Regional Mobile Infrastructure Inquiry
Mobiles, Transmission and Consumer Branch
Australian Competition and Consumer Commission
Email: Grahame.oleary@acc.gov.au

CC: rmii@acc.gov.au

Dear Grahame,

ATN submission to the ACCC Regional Mobile Infrastructure Inquiry

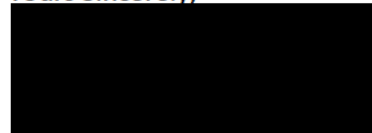
Thank you for inviting Australia Tower Network Pty Ltd ACN 643 875 165 (ATN) to participate in the ACCC Regional Mobile Infrastructure Inquiry.

ATN is a significant strategic investor in digital infrastructure with a national portfolio of over 4,300 sites and more than \$1B of wireless sites in rural and regional Australia. ATN is currently building over 200 new sites in rural, regional and blackspot areas, representing an investment of \$150M - \$200M to enhance Australia's digital intensity and support 5G deployment beyond Australia's major cities.

The divestment of tower infrastructure by Telstra, Optus and TPG during the past 18 months has introduced substantial market efficiencies that will facilitate and encourage further infrastructure investment to support MNOs.

ATN appreciates the opportunity to submit on this topic and look forward to working with the ACCC on this, and many other matters in the future.

Yours Sincerely,



Jason Horley
Executive Director, Property and Customer Engagement
Australia Tower Network Pty Ltd

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B. ATN Background

The ATN Group manages and markets a portfolio of over 4,300 sites providing telecommunications tower infrastructure for wireless network operators. The ATN Group employs approximately 250 people to support administration and operation of the portfolio, with dedicated teams that provide services to support customers in all aspects of telecommunications tower infrastructure operations including sales, colocation management, engineering, property management, site maintenance, site acquisition, town planning, EME, solution designs and management of physical site builds.

For consistency of interpretation within this paper, references to:

- **ATN Group**, means ATN and Axicom being operated as a single combined entity administering a portfolio of over 4,300 wireless sites. This is the current and intended long-term mode of operation for the business.
- **ATN**, means Australia Tower Network Pty Ltd, being the business that was formed by Singtel in April 2021 as a special purpose vehicle to facilitate the sell down of a majority stake in the Singtel owned, Optus wireless site (tower and rooftop) portfolio. The original ATN portfolio comprises 1,512 tower sites, 800 rooftops and an agreement to build a further 565 new sites where Optus will be the anchor tenant.

Axicom, means Axicom Pty Ltd, which had a portfolio prior to acquisition by the ATN Group in April 2022, that consisted of 1,800 tower sites and 60 rooftops.

This business has a 22-year history in tower infrastructure management, having been initially formed in Australia by Crown Castle International (USA) in April 2001 when Optus sold 712 2G towers to Crown Castle Pty Ltd. Shortly after the first Optus tower sale, Vodafone also sold 669 towers to Crown Castle. Following those initial acquisitions in 2001, Crown Castle purchased various smaller tower portfolios from Hutchison, Vodafone, Aussie Broadband, Agile (Internode), Southern Cross and various independent tower owners.

Crown Castle International (USA) divested the Australian business in 2015 to a consortium led by Macquarie Infrastructure and Real Assets (MIRA) and the company was renamed Axicom Pty Ltd.

AustralianSuper acquired a 70% stake in ATN from Singtel in November 2021. Shortly thereafter, Axicom was acquired by the ATN Group in April 2022. The Axicom acquisition through the ATN Group was primarily funded by AustralianSuper and consequently the respective ownership interests were modified such that AustralianSuper's shareholding in the ATN Group increased to 82% and Singtel's ownership declined to 18%.

Within the ATN Group, Axicom is a mature tower infrastructure operator and accordingly most commercial arrangements and carrier site licences are held by Axicom, with a range of commercial agreements in place with MNOs having links dating back to earlier MAA agreements – sometimes from when Axicom originally acquired the towers from an MNO. These agreements have been progressively amended or comprehensively updated to cater for the evolving capital budget requirements and rapidly changing on-structure technology needs of MNOs operating modern wireless networks.

Given the varied requirements of the ATN Group's customer base over time, the pricing arrangements have been developed to consider more than simply the tower rental for that location. The overall fees that a customer pays are influenced by a number of additional factors including:

- the price set during the initial sale of the assets.
- Rent-free periods on certain licences.
- Contributions made or requested to upgrade the structural capacity of towers to support significant additions of new equipment.
- Embedding charges that would normally apply for additional equipment into modified licence term extensions at fixed escalators.
- Re-balancing rents, escalators and licence terms.
- Take-or-pay agreements on new colocation sites to secure average portfolio cost reduction through higher utilisation (volume) commitments.
- Application of portfolio or geographic based pricing to increase administrative simplicity.
- Payment of above-market ground rents to retain sites deemed critical to certain MNOs.
- Extension of tower heights or ground lease areas by the tower owner to accommodate new customers or improved services being provided from the site.
- Agreements to replace old sites with new sites under certain situations.
- Various rights to passively share certain infrastructure such as cabins, headframes and backhaul.
- Reciprocal agreements (e.g. MNO FAA deals) based on securing access to a competitor MNO's sites in return for granting access to their own portfolio assets.

The ATN Group's objective is to maximise utilisation of its infrastructure for all potential wireless operators. To support this strategy the ATN Group provides an end-to-end site leasing solution to customers, which includes the following services:

- 1) Advanced engineering services provided by specialist tower and rooftop engineers to maximise utilisation of structures by customers before a need arises to strengthen or extend towers.
- 2) Dedicated telecommunications infrastructure specialist property professionals to assist with securing adequate lease space for a carrier equipment such as shelters or cabinets, the connection of mains power and implementing arrangements for ongoing 24/7 site access.
- 3) NATA accredited RF engineering specialists to support increasingly complex EME compliance requirements.
- 4) Dedicated sales, application assessment and customer service teams to rapidly support all the processes required for installation of equipment on ATN Group sites.
- 5) Site Management Centre for efficient management of site access and safety when anybody enters an ATN Group site.
- 6) Teams who project manage the construction of new sites for customers.

1. Overview of ATN Operations and Customers

ATN Group is an independent tower provider that owns over 4,300 towers located throughout Australia. The business services a broad range of tenants ranging from the major MNOs to smaller wireless internet service providers, government networks, emergency service operators, mining, agricultural and industrial service providers.

The tower infrastructure predominantly supports RF antenna equipment designed to provide services to MNOs and other wireless operators, however there are also microwave dishes for point-to-point network transmission links and a range of other items (such as meteorological equipment, cameras, environmental measuring devices and other equipment) that require stable positions in locations that are typically more secure and elevated than the surroundings.

Prior to its recent acquisition, the Axicom portfolio had an overall portfolio tenancy ratio of 2.50x, whereas the ATN portfolio had a ratio of 1.62x. Consequently, the ATN Group is now focused on increasing tower utilisation by developing further opportunities for other MNOs and alternate tenants to regain tenancy ratios that exceed 2.50x across the combined portfolio.

ATN Group Tower Portfolio Occupancy Ratios					
	TOWER SITES BY GEOGRAPHY				
	1_MC	2_IR	3_OR	4_R	5_VR
ATN Group	2.43x	2.09x	1.72x	1.49x	1.80x
<i>ATN</i>	<i>1.96x</i>	<i>1.54x</i>	<i>1.46x</i>	<i>1.25x</i>	<i>1.05x</i>
<i>Axicom</i>	<i>2.60x</i>	<i>2.79x</i>	<i>2.17x</i>	<i>1.98x</i>	<i>4.80x</i>

Note: Ratios displayed above exclude rooftop sites

Table 1 - ATN Group Tenancy Ratios by ABS Remoteness Zones: Metro Cities (MC), Inner Regional (IR), Outer Regional (OR), Remote (R) and Very Remote (VR)

[c-i-c] [c-i-c]

The ATN Group is open to building digital infrastructure, including towers, for all interested parties including MNOs, governments, wireless carriers and private network operators.

The indicative new site location categories are outlined in Figure 5. Additional project volumes are indicated in the chart (i.e. 599 sites) because there is a level of site attrition where some potential projects are abandoned during the initial acquisition phases. Although other MNOs and tenants may express interest to occupy certain of these sites, the business case for rollout is typically based upon commitments from the anchor tenant.

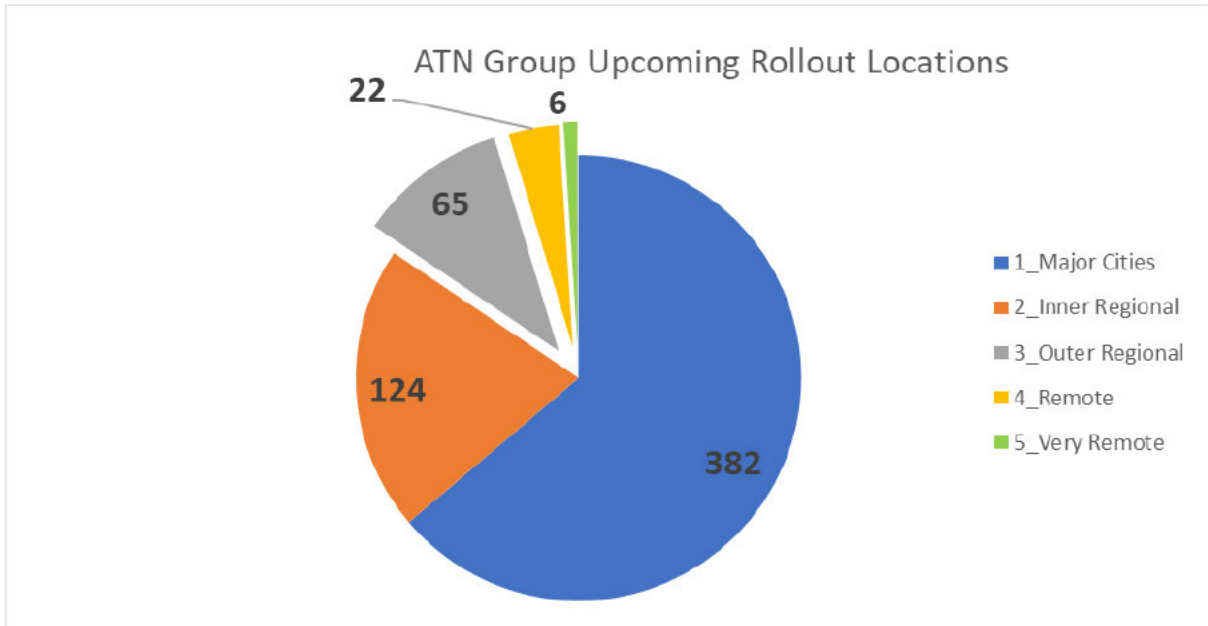


Figure 1 - ATN Group - Contracted New Build Rollout Program Locations (ABS Remoteness Categories)

The nature of the ATN Group’s operation is such that it is well placed to support major rollout initiatives by its MNO customers. Existing MNO site upgrades and incremental expansions are comparatively straightforward to manage when working collaboratively with MNOs.

In a hypothetical scenario where a new wireless network provider chooses to commence operations in Australia and elects to install its equipment on the ATN Group’s infrastructure portfolio, it would be possible for the ATN Group to resource its workforce, scale its operations and complete structural upgrades (on the sites requiring upgrades) to accommodate additional MNO loads across large parts of its portfolio in reasonably brisk timeframes.

C. Responses to ACCC Questions

1. What are the typical costs incurred in providing telecommunications towers and associated infrastructure? Can you quantify these costs by providing examples?

We have detailed the average capital costs to build passive tower and rooftop infrastructure in Figure 6 below. In summary, the typical capital costs to establish new sites (excluding active equipment, backhaul and shelters) in rural areas is between [c-i-c] [c-i-c].

Site establishment costs can vary considerably depending on the particular customer requirements at the site and its required location. Sites are selected through a rigorous Site Acquisition, Environmental & Design (SAED) process which assists with determining the complexity of the build including the Site Make Ready (SMR) costs such as solution design, location (mobilisation), foundation requirements, access tracks, and power runs. Ongoing costs are impacted by annual rent, rental escalations, landowner requirements under the lease and the costs of routine tower inspections and maintenance.

The following information provides an outline of the steps involved with establishing telecommunications towers and associated infrastructure. Each of these steps can be a significant cost item and helps explain why there are also typically long timeframes involved.

Design and planning for deployment of towers involves a comprehensive range of activities with costs impacted by the type of landowner involved (government, corporate or private), any potential native title matters, along with the complexity of town planning approval, regulatory or other compliance application and approval processes.

In addition to material supply costs (towers, steel, technical equipment, shelters etc.), during construction stages there are often substantial costs incurred to mobilise heavy equipment and the towers themselves to sites. Tower site construction takes days and weeks to complete, meaning for locations outside metropolitan areas there are accommodation and allowance costs while workforce personnel are away from home.

Connecting and establishing mains power to a new tower location normally involves underground trenching or establishment of new aerial links. At remote site locations, trenching costs can be substantial – including the costs of managing approval processes to run cables across third party, government, and native title land. In locations where MNO mains power requirements exceed existing grid capability – which can be common for remote and regional locations – there are often substantial energy infrastructure contributions payable to power distributors to upgrade supply.

[c-i-c] [c-i-c]

2. What costs are involved (for example, in setting up and maintaining) business practices and systems needed to support the provision of access to towers and associated infrastructure?

Management of a portfolio comprising 4,300 sites requires a substantial workforce to actively manage this critical infrastructure and ensure it remains fit for purpose. Cost that are involved with setting up and maintaining the business are outlined below.

The administrative effort involved with managing tenants, repairs, collection of rent and payment of disbursements for works, overseeing renovations/refurbishments and the costs of maintaining administrative records for accounting and taxation requirements is substantial. For a commercial infrastructure portfolio, there are additional obligations to ensure safety and compliance with various laws/regulations.

As infrastructure supporting communications, there are security obligations and the engineering standards are typically more stringent than certain other applications, leading to increased costs. Furthermore, the record-keeping and additional administrative effort associated with documenting and maintaining records impose further effort on suppliers and the organisation itself – leading to higher costs.

Regardless of whether the work is performed in-house, or specialist service providers are engaged, the broad range of activities required to manage the portfolio are resource intensive.

The ATN Group performs many of the activities required to manage a co-location business and involves a workforce of approximately 250 people.

The business practises, processes, software/platform subscriptions and systems used to administer all aspects of operating the portfolio are significant costs, however it is important to recognise the system automations and process streamlining associated with use of those platforms are essentially tools to generate efficiency gains for the activities outlined above, compared to historically more workforce-intensive manual approaches.

Assessment of MNO equipment modifications has implications for structural capacity of a tower and other tenants on the same tower. MNO equipment adds or changes involving an increase to load requires detailed engineering assessment, with potential requirements to structurally upgrade or replace certain elements, sometimes involving the entire tower, and often also the tower foundation. The nature of these costs (and who pays for changes) depends on the commercial agreement in place with the tenant requiring the modification.

Although tower locations are generally static, the ATN Group must also manage a 2-3% p.a. portfolio relocation program. When a property landlord wishes to redevelop or no longer supports the operation of telecommunications infrastructure from a site, there are significant relocation and make good costs associated with finding acceptable substitute locations. Responsibility for these costs falls between the landlord, the ATN Group and occupying MNOs depending on a range of commercial parameters.

Where a viable nearby alternate tower location cannot be secured to provide comparable coverage using a single replacement site, there are cases where multiple sites may be required to maintain equivalent network performance for MNOs.

3. What costs are involved in accessing land required for the establishment and operation of telecommunications tower infrastructure? Do these fees differ depending on the owner of the land (for example, public v private ownership)?

The costs of accessing land depend on a range of circumstances. Long term contracts are established at points in time based on the commercial dynamics that applied at those times so there

can be high degrees of variability. For example, there can be cases where ground rents could be high at a particularly crucial location. Similarly, there may have been some urgency at the time of securing a site at a key location that resulted in a higher ground rent being accepted as an exception.

There are also portfolio cost differences between states, regardless of whether the landlords are public or private. Most public owners engage valuers to determine initial applicable rents.

ATN Group endeavours to accommodate customer equipment wholly within its leased premise compounds, however there are locations where that is not possible, or customers prefer to enter direct lease arrangements with landlords and consequently a different ground rental payment structure applies.

[c-i-c] [c-i-c]

4. What are the typical commercial arrangements for access to towers and associated infrastructure?

There are no “typical” commercial arrangements. Fundamentally, the commercial arrangements in operation by the industry at different points in time have defined the cost structures applicable to those eras. Deals structured with MNOs when they originally sold towers are sometimes still applicable, and a range of other piecemeal arrangements to support MNO rollout activities (e.g. initial 3G, 4G and 5G rollouts) have led to bespoke agreements which often continue to apply.

Historically:

- MNO Facilities Access Agreements (FAA) arrangements dating back to and before the original Facilities Access Code regime in place between Telstra, Optus and Vodafone (TPG) essentially worked on an average cost-neutral sharing principle. Those arrangements involved a one-time capital contribution equivalent to 1/3 the cost of a typical site establishment (at the time), along with an ongoing ground rent contribution for site locations where MNOs occupied space within the access-provider’s compound, rather than securing tenure directly from the landlord.
- The MNOs generally deployed similar equipment and had similar technological requirements. Where standard equipment configurations deviated, there was a component price list. Pricing applied uniformly throughout Australia and annual cost escalation was typically discussed between MNOs annually but was not always applied.
- Where the towers did not have adequate structural capacity to support more access-seeker equipment, it was the access-seeker’s expense to upgrade or replace the structure.
- Axicom (formerly Crown Castle) commenced operations in Australia from 2000 and introduced a similar pricing principle to that above, however where the MNO access arrangements were granted on an annual basis, Crown Castle granted certainty of access for terms of 15-20 years that were originally aligned with MNO spectrum licences. The tenancy arrangements comprised an anchor licence that applied for a standard installation, with incremental charges for additional equipment and application assessment fees to cover the costs of reviewing applications and performing required structural analyses and site assessments. The pricing regime was zoned for metro, regional and remote areas. Standard annual escalation rates were applied. Taller tower structures also included additional rate charges for higher elevations.

- Where towers did not have adequate structural capacity to support more equipment, Axicom offered structural upgrade contribution incentives that would lower cost to MNOs.

In recent years, the complexity of 4G and 5G have significantly increased the amount of additional equipment that needs to be positioned closer to the antennas on the structures. The rapid introduction of various ancillary components being installed on towers that would otherwise need to be individually assessed and priced (sometimes over 50 components per tower site), has contributed to an industry desire for pricing models that are intended to be simpler, and which more transparently recognise the structural load impact from additional MNO equipment.

Simpler pricing models reduce administrative burden for both MNOs and tower companies. Consequently, more recent MNO deals agreed between the ATN Group and MNOs utilise Effective Sail Area (ESA) pricing methodologies that link rental cost to the amount of structural load consumed within a particular rented aperture or stratum. Although there is an intention to migrate all portfolios to ESA pricing regimes, there are still legacy contracts from other arrangements that continue to be administered.

5. What role do specialist entities such as land aggregators, both commercial and government, play in acquiring access to land or the sites of towers?

There are different types of 'land aggregators' providing a range of roles. The ATN Group is a specialist large-scale infrastructure provider that has aggregated land to service the telecommunications industry through consolidated management of infrastructure required by operators of radiocommunications equipment.

Apart from the benefits of operating with a different capital and funding structure compared to MNOs, infrastructure aggregators such as ATN Group offer wireless network operators (MNOs, Wireless ISPs, businesses, etc.) a single point of contact enabling simplified mechanisms for gaining access to telecommunications-specific infrastructure at multiple locations. The result of this aggregation for operators is improved speed-to-market, reduced complexity for rollout activities, and reduced passive infrastructure management overhead for non-core costs.

Within the telecommunications industry, there are other 'land aggregators' with business models that involve seeking to secure rights from landowners to control parcels of land already being rented by MNOs and tower operators such as the ATN Group for commercial gain. There are additionally some entities acting as landlord advocates, who operate through success fees dependent on securing additional income streams from MNOs and tower companies. Although these types of businesses may be beneficial for some landowners, they are a potentially inflationary contribution to operating costs of MNOs and tower companies.

6. Are there any other considerations that contribute to/determine these commercial and other fee arrangements for access to towers and other infrastructure?

Fundamentally, tower infrastructure is managed based on recovering costs over longer-term timeframes in return for an upfront outlay of capital. Pricing is essentially determined across the entire portfolio.

The key underlying price determinants are a function of the cost of acquiring the portfolio and operating it – where cost is comprised of portfolio administration, building new sites, upgrading or replacing existing sites to retain existing tenants and also accommodating new tenants.

After factoring the above cost-related elements, a tower company will assess its recurring costs such as cost of capital, ground rental, employee costs and site maintenance to determine an acceptable rate of return on its investments through the rental fees charged to tenants.

7. What other matters do providers of towers and associated infrastructure consider in deciding to provide towers and/or provide access to towers?

The ATN Group welcomes and proactively supports all tenants and prospective users of its towers and infrastructure. The business has typically offered existing customers and prospective tenants a service whereby it can provide the upfront capital and manage all the required activities to establish tower infrastructure at locations which are required by customers. That upfront capital and rollout management service is still used by MNOs and tenants on the ATN Group portfolio.

Securing locations and installing new towers is capital-intensive, time-consuming and sometimes sensitive for communities, therefore these activities are normally undertaken in response to customer demand for a particular location.

8. Are current commercial arrangements for access to mobile towers and associated infrastructure effective? If not, why and what could be done to improve their effectiveness?

As a tower company, the path to success is maximising portfolio utilisation (from co-location on passive tower infrastructure). This requires the tower company to provide a compelling value proposition to customers by offering the best wireless real estate sites with a service package that enables customers to have 24x7 access to sites and the ability to use them in a way that meets the local needs of their networks. Tower companies have a significant incentive to ensure co-location is the preferred method to building out networks.

Our experience and the global trend to divest towers is evidence that MNOs are sufficiently comfortable transacting with specialist tower companies to help further their network objectives in an industry known to be rapidly evolving.

The ATN Group believes its agreements with its customers are sufficiently effective, particularly when recognising the complexity and capital-intensive nature of the infrastructure. Current commercial arrangements are not as complex as some industries experience.

9. Are current regulatory arrangements for access effective? If not, why and what could be done to improve their effectiveness?

ATN has already provided a submission on this topic in response to the ACCC review of corporate control percentages for s. 581ZH under the *Telecommunications Act 1997 (Cth)*.

10. Has the recent divestiture of tower infrastructure by MNOs impacted on the effectiveness of current commercial and regulatory arrangements? Please provide details and examples.

ATN has already provided a submission on this topic in response to the ACCC review of corporate control percentages for s. 581ZH under the *Telecommunications Act 1997 (Cth)*.

11. What costs do providers of towers and associated infrastructure incur in providing active and/or passive mobile infrastructure? Can you quantify these costs?

The ATN Group currently provides passive infrastructure which is limited to the tower, its foundation, earthing systems and security fencing. For ATN sites, we also typically take responsibility for the power supply to the site's fuse-box. Other passive infrastructure on sites, such as shelters, headframes and backup power supplies are normally provided by the MNOs or other occupants.

Please refer to our Question 2 response for details about the nature of passive costs.

12. How does the cost of providing new, or upgrading existing, mobile tower (both active and passive) infrastructure impact the decision to invest in infrastructure that can be used to supply mobile telecommunications and other radiocommunications services?

The ATN Group believes this question is most appropriately answered by MNOs, however it is noteworthy that all three major Australian MNOs have divested substantial ownership portions of their tower infrastructure portfolios and shifted to operational models that now effectively outsource the high upfront capital costs associated with establishing or upgrading mobile tower infrastructure.

It is a significant investment decision challenge to fund the deployment of new wireless sites to meet wireless traffic demand growth. These issues are exacerbated in regional locations where population densities are typically low, but upgrades are required for specific reasons such as holiday traffic and other transient events.

Although upfront costs of mobile infrastructure are significant, recurring costs also substantially impact mobile infrastructure investment decisions. Upfront costs include building the tower, connection to a power supply, provision of site access (for example an access track), security, shelters for electronics, provision of active equipment and network transmission links. From an ongoing perspective, the cost of ground rental, maintenance, structural upgrades (including tower strengthening) all factor into lifecycle total cost, including ultimately the costs of decommissioning and replacement at end-of-life.

The ATN Group operates a business with a different yield curve profile for returns on capital expenditure investment compared to MNO businesses. When the ATN Group builds a tower rather than an MNO, the ATN Group requires a stable income stream for long periods to recover its cost outlays. This relationship enables MNOs to primarily focus their capital works budgets towards generating investment returns in shorter time periods through their core revenue generating activities.

13. How does the cost of access to mobile towers impact the decision to provide access to mobile telecommunications and other radiocommunications services?

The ATN Group believes this question is most appropriately answered by MNOs, however as with any other rental or operational costs, the ATN Group expects MNOs require lowest possible costs to maximise the positive impact of their capital investment budgets for delivery of the services they offer.

One of the benefits of carriers using tower companies is the ability to avoid the higher upfront capital costs associated with the tower build and instead pay an ongoing rental stream that more closely aligns with their customer revenues.

14. Are there additional costs specific to rural, regional, remote or peri-urban areas?

Rural, regional and remote tower sites are more expensive to establish and maintain for all parties involved, since scale operations occur in higher density environments. Additional costs in rural and remote areas include:

- Often these sites are constructed to cover wider areas, requiring taller towers or towers on hilltops, resulting in increased build costs (more expensive towers, bigger foundations, more complex excavation etc)
- Building and maintaining access tracks which may be further from public roads
- Deploying and maintaining sufficient power to the site
- Greater mobilisation costs for all phases of the site lifecycle from build, upgrade, maintenance, and replacement
- Security (to prevent trespass and theft)

15. What are the implications of MNOs divesting their tower assets on the current commercial and other fee arrangements for access to towers? How have these changed as a result of the divestment of tower assets by MNOs? Do you expect these to further change in the future and why?

The primary investors behind the recent acquisitions of tower portfolios are focused on reliable long term income streams from stable asset classes. Where previously the ACCC implemented a compulsory Facilities Access Code industry infrastructure sharing regime to ensure appropriate access to MNO assets by other users and prescribe minimum service level standards for administration of sharing processes, incoming tower company operators have a financial incentive to maximise utilisation of their infrastructure by all potential wireless operators.

The benefits for industry are derived from tower company operating incentives aligning well with operator requirements for quicker application assessment processes, structural innovations to hold more equipment and from tower companies endeavouring to proactively support positioning of more customer equipment where they desire on towers.

As a consequence of the longer-term investment horizons of the tower company shareholders, there is also an opportunity for tower companies to develop more new tower site build projects, with the result being further coverage and network capacity being made available.

MNO upgrades at existing tower locations are not impacted by the divestment because the key infrastructure is already there, meaning the divestment does not change 5G rollout programs. If anything, the dedicated ATN Group workforce can review and process structural upgrade and equipment modification assessments more quickly than what might have been able to under the previous co-location processes.

Structural upgrades on MNO-owned towers were originally a matter MNOs had to address and fund, however these are now managed by the ATN Group and other tower companies. Where previously these matters may have been a cost impediment for MNOs, that would have reduced the reach of allocated MNO 5G CAPEX budgets, the arrangements in place with the ATN Group and other tower companies potentially improve budget outcomes.

The existing arrangements for customers have not changed following the ATN Group formation, and the ATN Group will work with its customers where needed to deliver varied arrangements to address the combined portfolio.

The ATN Group intends to continue expanding the products and services it offers and is investing to become a leading host provider of digital infrastructure for Australia. Ongoing product development is being planned to enhance choice and offerings for MNOs and other stakeholders.

16. "How has the recent divestment of tower infrastructure by MNOs impacted:

(i) the scope of access offered

Across the telecommunications industry, the recent tower infrastructure divestments have introduced a significant number of sites that are expected to now be more actively promoted for use by wireless operators to co-locate or upgrade their existing services.

Furthermore, the tower companies are likely to process applications more quickly than mandated timeframes.

(ii) the terms and conditions of access, and

Contractual arrangements in place prior to acquisition will continue to their current expiry date and will be renegotiated in line with current business processes.

(iii) the commercial and other fee arrangements for access."

Contractual arrangements in place prior to acquisition will continue to their current expiry date and will be renegotiated in line with current business processes.

17. How does the cost of providing mobile towers and associated infrastructure affect the provision of greater mobile coverage?

All three MNOs have established networks that provide coverage to most of Australia's populated areas. All three MNOs also proactively invest certain portions of their capital works budgets towards incremental coverage growth in areas of regional Australia. Lower upfront costs of establishing mobile towers and associated infrastructure would enable any given capital works budget to generate benefit across more sites.

The ATN Group operates with different investment timeframes compared to MNOs. When the ATN Group builds a tower and rents space for use by an MNO rather than an MNO needing to outlay for the establishment of a new tower, the MNOs can better focus their capital works budgets towards upgrading more of their existing portfolio with newer active equipment (e.g. 5G technologies) for improved customer performance outcomes, whether for coverage or capacity.

18. What kinds of measures would promote improved mobile coverage?

Remote locations usually do not have significant land rent impost, and lower ongoing operating costs improve financial investment business cases. However, the larger costs arise from initial construction and establishment of the power and network transmission links. From the ATN Group's perspective, cost relief for high establishment and operating costs would improve investment metrics.

MNOs still face an investment situation where the higher operating costs associated with operating and maintaining remote sites are less financially attractive. Once those aspects are addressed, MNOs would still find that the lower network utilisation and payload associated with

remote/regional sites would mean they are servicing fewer customers per dollar compared to busier network sites that also require investment.

In effect, the level of subsidisation (whether government, community or enterprise) to attract investment from both MNOs and the ATN Group ideally needs to be established at levels that properly compensate for the diversion of capital to underutilised locations – i.e. to maintain equivalent margins.

19. To what extent will the matters raised in the consultation paper impact, or be impacted by, the extension of 5G coverage?

The driver for 5G from an MNO perspective is improved operating efficiency. The expansion of 5G coverage in Australia appears to be following the same rollout pattern as 4G, where MNOs prioritise 5G deployment to areas of high network demand and then progressively expand to lower network demand sites within their capital budget allowances.

Where originally MNOs managed the portion of their portfolios involving tower infrastructure using internal resources and had to allocate funding to resolve issues such as structural upgrades to hold more equipment or manage processes to gain permission for new tower sites, the divestment of MNO tower portfolios has shifted those costs and responsibilities to tower companies.

By shifting the above costs and responsibilities to tower companies, MNOs can focus their investment on active equipment, therefore enabling more existing sites to be upgraded to 5G capability. Given tower companies fund the (high) upfront capital costs to build towers, the MNOs have more capital to expand regional coverage.

20. How are consumers impacted by a lack of mobile coverage? What are the impacts for indigenous people in regional and remote areas?

Answers to these impacts are best provided by people living in unserved or underserved areas.

The ATN Group is committed to working with MNOs, councils, governments, and impacted communities, in order to deliver the infrastructure that will support better service coverage and choice for all Australians.

Australia's society predominantly lives and operates in a digitally connected world that has good access to fast and reliable communications allowing businesses to transact, communities to be alerted about dangers or issues and for individuals to socially interact with friends and family. Lack of mobile coverage inhibits those communication channels, with consumers ultimately being impacted to various degrees.

For members of the community (including indigenous people) in locations that do not have mobile coverage and who wish to engage, communicate, or interact with society, the absence of mobile coverage or other means of real-time communication beyond their remote locations will be an impediment to participation.

21. In what areas could mobile coverage be improved?

Australia has a vast landmass and accordingly MNO network coverage or performance comparisons with other countries can be misleading. Australia's MNOs do a great job providing mobile telecommunication services for the nation and each performs well for the services they deliver.

To identify the areas for coverage improvement, Australia needs to have a clear view of the performance requirements of mobile networks across all communities. The networks need to

provide both coverage and adequate capacity, with the resilience to meet future needs, particularly in a society facing accelerating digitalisation.

While these needs can often be commercially provisioned in our cities and urban areas, the greater challenges exist in rural and regional areas. These locations stand to benefit considerably from automation and digital services. We draw attention to the recent report from the Commonwealth Government titled Growing Australia¹ and estimated annual benefits to Australian farmers from effective digital adoption.

World leading 5G wireless networks can deliver not only superior education, health and connectivity outcomes, but can be a major driver of productivity especially as we transition to a carbon neutral future.

1

https://www.aph.gov.au/Parliamentary_Business/Committees/House/Former_Committees/Standing_Committee_on_Agriculture_and_Water_Resources/Agriculturegrowth/Report

D. Emergency Roaming

22. What are the benefits to the general public from the provision of temporary mobile roaming during emergencies? Are there any potential detriments?

It is important to recognise that all mobile devices are designed to connect a call to emergency services through any available mobile network. Accordingly, the provision of temporary mobile roaming offers an ability for discretionary (i.e. not life-threatening) communication during service disruptions to a customer's default MNO.

This functionality will be beneficial for customers of an affected MNO – with many anecdotal reasons why this may be sensible – however mobile networks are currently generally only dimensioned with enough capacity to appropriately service their existing customer bases, and potentially some level of moderate surge capacity.

Unless the base stations of all MNOs in high-risk areas are appropriately dimensioned for maximum possible capacity demand, an increased number of devices all accessing an available network site may generate substantial congestion and degrade service on the remaining MNO network(s) that were not already impacted – potentially resulting in deteriorated service for all users, not just the users displaced from the originally service-impacted MNO.

Network slicing and customer prioritisation, to preserve capacity headroom for existing MNO customers may be a potential solution, however the viability of such approaches would require each of the MNOs to expend capital to substantially over-dimensioning capacity in their networks for non-customers to utilise.

Where these approaches are being contemplated, at some stage increased site-densification would also be required, with network dimensioning and physical spacing of base stations being designed such that all MNOs have the network capacity to be able to service the maximum likely device usage in an area for disaster levels (i.e. beyond their customer bases), rather than current MNO customer/consumer-based engineering thresholds.

23. What are the benefits to emergency service personnel and organisations from the provision of temporary mobile roaming during emergencies?

Where emergency service personnel wish to limit traffic and potential congestion on emergency service communication channels for essential communications, it may be preferable for them to utilise consumer MNO services for lower priority communications.

Subject to the caveat (noted above at our response to Question 22) about emergency calls already routing through any available mobile network, there may also be circumstances where communication between emergency service personnel and members of the public is required and the ability for such communication to be transmitted through consumer MNO services is the best course. Clearly, those communications could not occur in a scenario where a required MNO is offline, therefore requiring services to all be routed through remaining operational MNOs.

The management of excess capacity described in Question 22 will continue to be required.

24. What are the technical requirements to enable temporary mobile roaming during natural disasters and other emergencies?

This is most appropriately answered by MNOs.

25. Are there limitations (eg. capacity) to current technology and business processes that would impact the ability for MNOs to provide mobile roaming during natural disasters and emergencies?

This is most appropriately answered by MNOs.

26. Are there any likely impacts on quality of service if mobile roaming during emergency situations was enabled? What level of service should be enabled – voice, SMS, data?

This is most appropriately answered by MNOs, although it is highly probable there would be impacts and service limitations may be required.

27. What are the protocols for declaring a natural disaster or emergency? How is this communicated and co-ordinated with mobile network operators?

This is most appropriately answered by MNOs.

28. What alternative solutions (other than temporary mobile roaming) could be considered to improve network resilience during or after a natural disaster or other emergency?

Active solutions may involve maintaining a fleet of rapid deployment temporary mobile coverage and communication facilities that can be connected through satellite and operated by auxiliary power sources.

The ATN Group is open to discussions about developing and maintaining a fleet for this type of purpose, however the recent NSW and QLD flood events have demonstrated it is not always immediately possible to mobilise temporary equipment to required locations within required timeframes. Furthermore, there may be difficulties keeping the temporary equipment operating in some circumstances (e.g., refuelling generators when there are physical access impediments etc.).

In conjunction with contingency fleets, passive solutions may involve further upgrades to sites and additional network resilience steps to help ensure isolated mobile network sites may continue to operate for longer periods on battery supply.

For example, along with the recent extended battery power upgrades being installed by MNOs for regional sites, site-specific establishment of additional auxiliary power sources (appropriate for the location) and potentially alternate network transmission pathways (e.g. failover to microwave or satellite links) can further improve site resilience and support basic communication after the initial event has passed, thus allowing more time before physical access for MNO technicians to re-establish normal service is required.

The nature and likelihood of potential disaster will best inform further passive solutions. For example, additional vegetation clearance around key sites can help reduce fire risk to mobile facilities, or in low-lying areas further elevating equipment shelters that may be exposed to flooding would contribute to improved site resilience. Similarly, the use of underground power rather than an aerial supply to key sites may be beneficial in certain disaster scenarios.

29. What are the costs involved in providing temporary mobile roaming during emergencies?

This is most appropriately answered by MNOs.

30. To what extent can emerging technologies improve mobile coverage, including during times of emergencies such as a natural disaster?

In addition to the above, the widespread availability for consumers to access self-generated power supply units for mobile handsets – such as those campers may use (solar or hand-cranked) and further exploration of ways to temporarily power base station sites for basic communication, could lead to improved mobile coverage. Investigating how to better use LEO, mesh backhaul or similar pathways may offer some further opportunities.