

## Optus Submission

### **1. An assessment of the mobile phone reception in Murphy's Creek, Spring Bluff and Postman's Ridge in the State of Queensland?**

Optus has limited 2G and 3G mobile coverage in the areas primarily due to the difficult terrain as can be seen in the attached diagram (Attachment 1).

Optus' Thuraya satellite mobile phone service allows calls across Australia within line of sight to the Thuraya satellite. This coverage was unaffected by the flood.

### **2. Information about why proper mobile phone and/telephone coverage had not been provided to the regions identified in (1) as at 10 January 2011.**

As at 31 December 2010, Optus' mobile network reaches approximately 97% of the Australian population. Decisions by Optus to deploy mobile network infrastructure involve complex commercial investment decisions taking into account the costs of deployment, the population that might gain access to competitive services if Optus was to deploy mobile network infrastructure, technical issues such as the difficulty of deploying infrastructure in particular areas and competing investment opportunities.

Decisions to provide additional infrastructure in the flood affected area need to balance the costs of the provision of mobile coverage in a difficult geographical location with the small additional population covered in this sparsely populated rural area.

Optus provides fixed line telephony services using its own Hybrid Fibre Coaxial (HFC) infrastructure in limited metropolitan areas in the eastern states of Australia. Optus does not have HFC infrastructure within the regions identified in (1).

### **3. Any matters preventing comprehensive coverage being implemented before the next flood season in 2011/2012.**

Optus has currently placed a temporary 2G (GSM) mobile base station at Murphy's Creek and has committed to leaving this in place until a permanent site can be built. The temporary mobile base station will provide limited coverage to the central area of Murphy's Creek.

The timing of the development of a permanent site at Murphy's Creek will be impacted by:

- (a) the length of time taken to find a suitable location that will enable improved mobile phone coverage to the area;
- (b) the time taken to find a parcel of land in that area owned by a landowner willing to enter into a commercial lease with Optus;
- (c) the length of time taken to get an Impact Assessable Development Application approved by the Council, and
- (d) the length of time required to complete the physical site construction, installation and commissioning work.

The deployment of additional infrastructure is required as no existing suitable towers exist for co-location. This means that a new site will not fall within the definition of 'Low Impact' as defined in

the *Telecommunications (Low-Impact Facilities) Determination 1997, Amendment No 1 of 1999*. As a result the development of a non-low-impact 'Greenfield Site', such as the present case, delays of between 12 to 18 months are likely.

Optus is currently deploying a new base station, called 'Helidon Central', that will provide improved 3G coverage in the Helidon and Postman's Ridge areas. This is currently due for completion by the end of 2011. It should be noted that the development at this site requires both a Ministerial approval for the trustee of the Crown Land to enter into a lease under the *Lands Act 1994 (Qld)* and the approval of a Code Assessable Development Application by the relevant Council.

Optus is considering the provision of further sites in the area, including Mt Sylvia, as part of a broader review of our coverage plans for rural communities. Once Optus has built the new mobile base station at Murphy's Creek and Helidon Central, Optus will re-assess the need for a specific mobile base station to cover Spring Bluff.

#### **4 The role of Optus in the provision of communication infrastructure or services in flood affected areas.**

Where Optus has existing communication infrastructure within a flood affected area, Optus considers it an absolute priority that we work to maintain that communications infrastructure to enable vital communications services to continue in the face of natural disasters such as floods. However, Optus is a private telecommunications company and is not obliged to provide communications infrastructure or services in any particular areas within Australia. In operating its telecommunications business, Optus' seeks to provide choice to Australian consumers within the boundaries of a commercial business.

Where Optus does have infrastructure in flood affected areas it is important that Optus has access to reliable flood mapping data to ensure that mobile base stations and transmission hubs are located in areas which are not prone to floods. At present this is not always possible.

#### **5 The role of Optus in delivering warning messages throughout the state, and in particular in the Lockyer Valley in relation to the 2010/2011 flood season.**

Optus has always maintained a willingness to work with all authorities in relation to assisting where it can in the dissemination of information during times of natural disasters even though Optus does not have either a legislative or contractual obligation to deliver warning messages. Optus was not requested by the State or Local Governments or Emergency Services to broadcast any warning messages throughout the State, and in particular the Lockyer Valley.

#### **6. The name of Optus employees with responsibility for the information in paragraphs one to five above.**

Ken Roberts (State Manager, Mobile Network Deployment)  
Noel Jarrett (Director, Fixed Core Engineering)  
Paul Viciulis (Manager Business Recovery)

#### **7. What measures were taken by Optus to mitigate any damage to Optus owned communication infrastructure or services in flood affected areas in Queensland in 2010/2011.**

Optus has in place a range of procedures to assist in mitigating the affects of flooding.

### *Minor facilities*

In relation to minor facilities, such as transmission hubs and mobile base stations, Optus, where possible, locates these above the designated flood zone. However, this sometimes proves difficult because:

- (a) in the Brisbane CBD communications rooms in high-rise buildings are nearly always located in basement areas which may be prone to flooding; and
- (b) in relation to mobile base stations the location of these facilities is largely dependent on planning regulations which often require base stations to have low visual impact. This means by necessity they may have to be located in more flood prone areas.

For the transmission hubs which were affected in Brisbane (where the whole building was affected by flooding) Optus was able to restore services to the building by the time the building was re-opened.

Of the mobile base stations in the flood affected areas of Brisbane only 6 were affected directly by flooding, and services were not materially affected because Optus had over-lapping mobile coverage.

### *Exchange facilities*

As mentioned above, subject to external requirements, Optus has built its exchange facilities and controlled environment vaults in areas which are not prone to flooding. Optus can confirm that none of its Brisbane exchanges or coastal controlled environment vaults were affected by flooding and remained fully operational.

### *Inter-office fibre (IOF) between Brisbane and Toowoomba*

IOF infrastructure between Brisbane and Toowoomba was damaged as a result of the flood. Part of the infrastructure is suspended on Ergon Energy power poles and some of those poles were swept away and one section was buried in a trench underneath Sandy Creek which was also swept away as a result of the force of the flood waters. However, because Optus has in place a diverse transmission path between Brisbane and Sydney the services between Brisbane and Toowoomba were not materially affected.

### *Hybrid Fibre Co-axial (HFC Network)*

HFC is used by Optus to deliver local telephone services, high speed data and cable television in areas of Ipswich and Brisbane. Damage to the HFC network was primarily directed at the pole mounted power supply in the Ipswich and Brisbane flood areas. Optus' mitigation to ensure services were not affected was to mount the power supply at a level approximately three (3) meters high on the poles, however, as a result of the sheer level of the flood waters a number of these power supplies were submerged and therefore needed to be replaced.

**8. Whether there were any significant interruptions to Optus owned or controlled communication services in any particular flood affected areas in Queensland in 2010/2011 and if so :**

- (i) **Where those interruptions occurred.**

The HFC services in Ipswich and Brisbane were affected. The mobile network experienced some coverage issues in the Brisbane Valley and the Lockyer Valley principally because of mains power supply failure.

**(ii) How did Optus become aware of those interruptions.**

Optus has a fully monitored network with an alarm system for all faults and network failures located at its Network Management Centre at Macquarie Park in Sydney where all restoration activities are planned. The Network Management Centre detected the faults.

**(iii) How long after the interruption occurred did Optus become aware of this.**

The Optus monitoring and alarm system generally captures alarm recognition within a very short period of time after the incident has occurred, usually within minutes.

**(iv) How long the interruption lasted.**

There was no interruption to the Optus IOF services because of the diversity in the network. Service interruptions in mobile services were minimal because overlapping coverage from Mobile base stations maintained coverage in the areas even as power supplies became compromised.

Coverage remained affected in the Brisbane Valley and Lockyer Valley for 24 hours.

Optus' HFC services were affected and Optus ability to restore power to the service was dictated by the time the flood waters took to recede (generally, within 48 hours of the water receding HFC services were restored). During this period Optus proactively contacted customers in the flood affected area to confirm whether services were available in their homes.

Where CBD buildings were affected by flood waters, the majority of Optus services were restored once mains power was re-connected. For those buildings that were water damaged Optus restored services by the time the buildings were deemed fit for reoccupation.

**9. What worked well in providing communication services during the 2010/2011 flood event in Queensland.**

The architecture of the Optus network offered robustness and diversity which allowed for minimal interruptions to core communication services during the flood. During the flood Optus made significant commitments of both its human resources and hardware into the affected areas. This included:

- (a) Distribution of pre-paid handsets with credit to people who had lost access to telecommunication services irrespective of which telecommunications provided their contracted service.
- (b) Provision of satellite phone services to assist emergency services in their rescue and recovery efforts.
- (c) Establishing a portable internet kiosk and customer service trailer to provide free communication services and charging of mobile phones.
- (d) Assisting Kids helpline to maintain vital phone services when their premises could not be accessed due to the floods.

- (e) deploying additional resources into Queensland to keep the network operational, this included deployment of back-up generators, arranging for access to Optus restricted areas, and prioritizing the mobile network capacity in affected areas for voice calls and SMS as needed.

Further information about these activities are provided in Optus' submission to the Commission.

**10. What did not work well and could be improved for the wet season of 2011/2012 and other future wet seasons.**

The most significant issue for the Optus network was ensuring a reliable mains power supply was maintained. Optus is currently reviewing the need to provide extended battery back-up and permanent back-up generators in critical mobile sites across its network.

