[redacted]

On 23 August 2007, I, [redacted], of 242 Exhibition Street, Melbourne in the State of Victoria, [redacted], state as follows:

1 The information in this statement is confidential to Telstra Corporation Limited ("**Telstra**"). I have prepared this statement on the basis that the information in it will remain confidential and that the information will only be disclosed in accordance with the terms and conditions agreed with Telstra and the recipient of the information.

Summary

2 I have been asked to provide a statement on:

(a) how Telstra estimates the length of a transmission route for network planning purposes; and

(b) in my experience whether the shortest road distance between two network locations is a reasonable estimate of the length of a transmission route between those network locations.

3 In my experience as a Network Planner in Telstra and based on the manner in which network installations and expansions are undertaken as described below, in the absence of unusual circumstances, it is a reasonable approximation to make an estimate of the length of an optical fibre cable between a capital city and a regional centre by calculating the shortest road distance between the centre of those locations.

Background

4 I am the [redacted]

5 [redacted]

[redacted]

6 In my role as a Network Planner, I prepare network planning proposals and projects to meet future capacity requirements for regional and inter-capital optical fibre transmission networks deployed and operated by Telstra.

Telstra's optical fibre transmission networks

7 Telstra's transmission network is built using optical fibre, supplemented by microwave radio links. It provides long distance transmission between capital cities ("inter-capital transmission"), between capital cities and regional areas ("capital-regional transmission") and between regional centers ("intra-regional transmission").

8 New network installations or network expansions are done generally with optical fibre.

Estimating the distance of a transmission route for network planning purposes

9 In my role as a Network Planner, I prepare planning proposals and projects for network installations and expansions for network routes between one location and another location. The network planning role includes the selection of the transmission equipment sites to be included in each transmission system. These sites are located in Telstra exchange buildings in the relevant capital city or regional town. As part of the development of network planning proposals, I am responsible for preparing and approving the planned route taken by the optical fibre in the network.

10 Network planning and design can take place in a number of stages:

(a) An **initial budgetary estimate** is made by the Network Planner of the likely cost of building a transmission network between two network locations, based on an initial route plan;

(b) A **desktop study** may be undertaken by a network designer that takes into account available information on local conditions and more detailed technical data to obtain a more accurate estimate of the likely cost of building a transmission network;

(c) A **consultancy study** may be undertaken by a network designer when required for more complex or higher cost projects. The designer would undertake further research on local conditions and detailed technical issues including on-site assessment of the proposed cable route and network sites for the purpose of more accurately estimating the likely cost of building a transmission network; and

(d) Finally, a **detailed design** is prepared by a network designer of the transmission network which will be used by Telstra's contractors to build the transmission network.

11 The stages in the order described above are intended to provide a progressively more accurate prediction of the likely cost of building a transmission network. However, it is not always necessary for network planning and design to go through each stage. It can sometimes be appropriate to skip one stage and move to the next stage.

12 For the purposes of an **initial budgetary estimate**, the initial route plan for a completely new route is usually based on a review of a map of the proposed network area. It is usual to base an initial estimate on the most direct road distance between the two network locations. This is because:

(a) Obtaining access to install an optical fibre cable is most likely to be readily achievable in or beside an existing road corridor, minimizing the need to extensively cross private land;

(b) The logistics of transporting people, materials and equipment to the cable route is simpler and less expensive;

(c) The existence of an adjacent road generally makes the task of maintaining the optical fibre cable logistically simpler and less expensive; and

(d) The cities and towns in which Telstra's exchange sites are located are connected by the road network. In general, roads have developed historically to either minimize the traveling distance between locations and/or to avoid geographically challenging routes, for example very steep grades. Similar considerations apply to selecting a cable route.

13 The distance of the most direct route is usually calculated using commercially available road maps in either hard copy or electronic form and making any adjustments to take account of readily available information about local conditions.

14 I am responsible for the planning activities which identify network capacity requirements and justify and obtain approval for funding. Network planning culminates in the issue of a Planning Brief which initiates the **design phases.** In these stages, a design team reviews the Planning Brief and prepares detailed designs and cost analyses. The design phases include an investigation of the proposed network route plan, such as an analysis of the logistics and cost of the route plan and whether there is any native title or other property access issues.

15 The design phases may involve the initial route plan set out in the Planning Brief by the Network Planner being altered, either in full or in part, depending on the relative costs for installation and maintenance of the network.

16 All things being equal, I have found that the shortest road distance between two network locations is generally the transmission route that has the lowest cost. In practice, the actual transmission route will not always follow the shortest road distance. Sometimes, the transmission route will deviate from the road because a shorter (off-road) route is available and easily accessible. On the other hand, the transmission route can also sometimes deviate from the road or follow a more indirect road in order to avoid certain geographic features (such as rocky terrain, a river or hill) which would increase the cost of installation. Accordingly, the actual length of a transmission route can be shorter or longer than the shortest road distance. Nevertheless, the shortest road distance will usually serve as a reasonable approximation of the distance of a transmission route for initial plans and budgetary estimates. I am not aware of any reasons why the shortest road distance would be a biased estimate of the actual length of a transmission network.

17 In my role as a Network Planner I am responsible for approving the Planning Brief for network installation or expansion projects, or for higher cost projects, approval of the Planning Brief for submission to more senior Telstra management for approval. These Planning Briefs are then progressed through the design phases as described above.

Telstra records of optical fibre networks

18 Data in relation to Telstra's inter-exchange optical fibre networks is collected by Telstra on central databases [redacted] These databases are used by Telstra staff for the purposes of network planning and expansion, project design and operations and maintenance and contain data in relation to the transmission network, including the length of cable segments in place from one network location to another network location.

19 The actual distance of an existing optical fibre cable between a capital city and a regional centre can be calculated by:

(a) adding up the lengths recorded in [redacted] of all the many segments of cable in the database in place between these locations; or

(b) loading [redacted] data into a commercially available tool such as MapInfo and using the measurement tools present in MapInfo to estimate fibre distance.

20 However, the above processes are not a straightforward exercise as the identification in [redacted] and addition of all the cable segments between two locations that are some distance apart involves a time consuming operation of the databases and tools. In addition, the accuracy of the data is not accurate for all routes and requires a skilled operator to identify which data is inaccurate and seek alternative sources of information.

21 In the performance of my planning duties, if I were asked to rapidly estimate what the length of an existing regional transmission route is, and if [redacted] data was not available in the timeframe, my answer would usually be based on the shortest road distance between the relevant network locations plus some adjustments to take account of readily available information about local conditions.

22 For proposed new routes which have no pre-existing data present in the [redacted] databases, it is usual to base initial planning estimates on the shortest road distance between the relevant network locations in the manner described in my statement.

DATED: 23 August 2007

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[redacted]