[redacted]

Response to the ACCC's request for further information on Telstra's Band 2 ULLS undertaking made pursuant to s152BT of the *Trade Practices Act* dated 16 December 2008

Response to information request (1) and (2)

The ACCC requested the following information from Telstra:

1) *The total length of trenches installed in Band 2 exchange service areas (ESAs) for main and distribution cables broken down according to whether the trench required breaking the following surface barriers: concrete, asphalt, brick pavers, kerbing, turf or another type of barrier not specified in the TEA model, for the time period starting when copper pairs were initially installed in a Band 2 ESA to the current time.*

2) *The dollar amount of the actual contractor costs or equivalent internal costs where the work was conducted by Telstra, of breaking and re-instating different surface barriers for the purpose of installing main or distribution cables in Band 2 ESAs incurred by Telstra for the time period starting from when Telstra initially installed copper pairs in a Band 2 ESA to the current time.*

   For the avoidance of doubt, when responding to this question and question one, the ACCC requests information on initial investment outlay only (i.e. to address a green fields situation or where cables were installed to meet additional capacity requirements), not operations and maintenance costs.

Telstra has sourced data related to trenching, break-out and reinstatement of surface barriers, and conduit placement from its contractor management systems. Two types of data were sourced:

1. payments made to external contractors; and
2. reimbursements made to local councils for reinstatement work they insist on completing with their own workforce.

The payment data covers the period October 2000 to January 2009[1]. [redacted] Payment records were extracted for the Schedule of Rates (**SoR**) items specified in the TEA model (as taken from the current set of Access &Associated Services (**A&AS**) contracts), relating to break-out and reinstatement where the activity was located in a Band 2 ESA. In some cases, SoR codes changed over the time period analysed. In these cases, Telstra mapped old codes to the A&AS codes for similar or the same contracted works. Telstra also mapped the council work activities for which Telstra paid reimbursements to the similar or same A&AS SoR codes. While the payments for these items can be identified as Band 2, they do not specify whether the work is in the main network or the distribution network.

In relation to question 1, Telstra has sourced data related to the total length of trenching and conduit placement activities from its contractor management systems, summarised in Table 1. Some payment records indicate that the work was undertaken on a quote basis, in which case there are no SoR codes recorded so the nature and quantities of work activities cannot be

[1] The payment data is sourced from Telstra's contractor management systems which were established to support new contracts commencing October 2000. [redacted] Therefore it is possible that not all of the relevant payment data has been captured for that nine month phase in period. In view of the size of the dataset from July 2001 onward, it can be assumed that the impact of any omitted data in that period is negligible.

[redacted]

[redacted]

accurately identified. These records of work undertaken on a quote basis, which represent [redacted] of the total spend for trenching and conduit placement, and break-out and reinstatement, were excluded. Telstra's sourced records of trench lengths are not differentiated on the basis of the surface barriers specified in the ACCC's request (e.g. concrete, asphalt etc). Instead, Telstra's trenching and conduit placement work activities are broken into the categories "Trench-Road Crossing", "Trench – Other", "Boring – Under Roads" and "Boring – Footpaths/Drives" as set out below". Break-out and reinstatement activities are assigned to separate SoR codes.

Table 1. Trench & Conduit in Band 2 ESAs October 2000 to January 2009

Trench & Conduit	Length (m)
Trench-Road Crossing	[redacted]
Trench-Other	[redacted]
Boring-Under Roads	[redacted]
Boring-Footpaths/Drives	[redacted]
Total	[redacted]

In relation to question 2, Telstra has sourced data related to break-out and reinstatement of surface barriers from its contractor management systems, summarised in Table 2. These sources cover all breakout work and all identifiable reinstatement work required by Telstra from October 2000 to January 2009. Approximately [redacted] of all reinstatement activity is not identifiable by type due to the works being put to a generalised work activity code. Data prior to this period is not available largely due to the fact that this work was carried out internally and the quantities of breakout and reinstatement activities were not recorded. The break-out and reinstatement items measure the activity in square metres (except for kerbing which is measured in metres).

Table 2. Break-out and Reinstatement in Band 2 ESAs October 2000 to January 2009

	Area sq.m		Cost	
Type	Break-out	Reinstate	Break-out	Reinstate
Concrete (< 75 mm thick)		[redacted]		[redacted]
Concrete (75 to 100 mm thick)		[redacted]		[redacted]
Concrete (100 to 150 mm thick)		[redacted]		[redacted]
Reinforced (< 100 mm thick)		[redacted]		[redacted]
Reinforced (100 to 150 mm thick)		[redacted]		[redacted]
Reinforced (150 to 200mm thick)		[redacted]		[redacted]
Concrete (Undefined thickness)		[redacted]		[redacted]
Concrete Total		[redacted]		[redacted]
Asphalt (25 mm thick)		[redacted]		[redacted]
Asphalt (50 mm thick)		[redacted]		[redacted]
Asphalt (75 mm thick)		[redacted]		[redacted]
Asphalt (Undefined thickness)		[redacted]		[redacted]
Asphalt Total		[redacted]		[redacted]
Total Pavement (concrete and asphalt)	[redacted]	[redacted]	[redacted]	[redacted]
Pavers	[redacted]	[redacted]	[redacted]	[redacted]
Kerb (in metres)		[redacted]		[redacted]
Turf		[redacted]		[redacted]
Unknown reinstatement type		[redacted]		[redacted]
Total (excluding Kerb)	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

[redacted]

Note: Numbers are subject to rounding.

Submissions

If the ACCC's intention is to use this data to reflect historical activities for breakout, reinstatement and placement in the TEA model, then some assumptions and simple data conversions need to be undertaken.[2]

First, the ratios of concrete and asphalt can be derived for the breakout and reinstatement activities. While the payment records distinguish between different types of reinstatement activities, they do not distinguish between different types of break-out activities. However as the reinstatement would necessarily have been undertaken on a "like-for-like" basis, it could be assumed that the ratios for different breakout activities are the same as the ratios for different reinstatement activities. The fact that the total quantity of break-out over the time period matches closely to the total quantity of reinstatement in the data supports this assumption. The small differences in quantities are likely to be due to the lag between project completion date and payment date.

Table 3 contains ratios calculated using the reinstatement quantities in Table 2.

Table 3. Ratios for Developing Composite Breakout and Reinstatement Costs for Concrete and Asphalt

Description	Percent Applicable
Concrete (< 75 mm thick)	[redacted]
Concrete (75 to 100 mm thick)	[redacted]
Concrete (100 to 150 mm thick)	[redacted]
Reinforced (< 100 mm thick)	[redacted]
Reinforced (100 to 150 mm thick)	[redacted]
Reinforced (150 to 200mm thick)	[redacted]
Total	[redacted]

Asphalt (25 mm thick)	[redacted]
Asphalt (50 mm thick)	[redacted]
Asphalt (75 mm thick)	[redacted]
Total	[redacted]

Note: Undefined thickness is excluded from these ratios.

Second, the ratios for conduit placement can be derived. This requires several steps of calculation.

[2] Telstra considers that the TEA model inputs should reflect the efficient, forward-looking costs of a new entrant, not historical costs, as set out in Telstra's response to the ACCC's draft decision.

[redacted]

[redacted]

Step 1: The amount of trenching and conduit placement activities in linear metres is taken from Table 1.

Step 2: The **Trench-Other** category in Table 1 can be divided into **Trench-Turf** and **Trench-Footpaths/Drives,** making it consistent with the structure in the TEA model, by calculations identified below. The linear length of **Trench-Footpaths/Drives** is calculated using the data in Table 2 by

- adding the total amount of reinstatement in pavement ([redacted]) and reinstatement in pavers ([redacted]) which equals [redacted]
- converting the total into linear metres, assuming an average trench width of [redacted], by dividing [redacted] which equals [redacted]
- adding the amount of reinstatement of kerbs ([redacted]), which equals [redacted]
- and subtracting the length of Trench-Road Crossing ([redacted]), which equals [redacted]

The linear length of **Trench-Turf** is calculated by subtracting the linear length of **Trench-Footpaths/Drives** ([redacted]) from the linear length of **Trench-Other** ([redacted]) from Table 1, which equals [redacted] Table 4 summarises the resulting linear lengths of conduit placement activities.

Table 4. Amended Trench & Conduit in Band 2 ESAs October 2000 to January 2009

Trench & Conduit	Length (m)	Ratios
Trench-Road Crossing	[redacted]	[redacted]
Trench-Turf	[redacted]	[redacted]
Trench-Footpaths/Drives	[redacted]	[redacted]
Boring-Under Roads	[redacted]	[redacted]
Boring-Footpaths/Drives	[redacted]	[redacted]
Total	[redacted]	100%

Third, the ratios for reinstatement activities can be derived by undertaking the following steps using the data in Table 2 and Table 4.

Step 1: the linear length of concrete reinstatement is calculated by dividing the total area of concrete reinstatement ([redacted]) by the average width of trenches ([redacted]), which equals [redacted]

Step 2: the linear length of asphalt reinstatement is calculated by dividing the total area of asphalt reinstatement ([redacted]) by the average width of trenches ([redacted]) which equals [redacted]

Step 3: the linear length of pavers reinstatement is calculated by dividing the total area of pavers reinstatement ([redacted]) by the average width of trenches ([redacted]), which equals [redacted]

[3] Examination of the output from the TEA model reveals that more than [redacted] of conduit is placed in a trench sized for 1 conduit (See Appendix 2 for the summary of conduit required in TEA). The trench width required for placing 1 conduit is [redacted] (See Confidential Category 2 Access Network Modelling Costing Information, p. 23).

[redacted]

[redacted]

Step 4: the linear length of turf reinstatement is calculated by dividing the total area of turf reinstatement [redacted] by the average width of trenches [redacted] which equals [redacted]

Step 5: the linear length of unknown reinstatement is calculated by dividing the total area of unknown reinstatement [redacted] by the average width of trenches [redacted], which equals [redacted]

Step 6: the linear length of trench requiring no reinstatement is calculated by subtracting the sum of the linear length of turf reinstatement [redacted] and the linear length of unknown reinstatement type [redacted] from the linear length of trenching in turf [redacted], which equals [redacted]

The results of these calculations are summarised in the table below.

Table 5. Amended Reinstatement in Band 2 ESAs October 2000 to January 2009

Description	Length (m)	Trenching Turf	Trenching Roads, Footpaths, Drives
Concrete	[redacted]	[redacted]	[redacted]
Asphalt	[redacted]	[redacted]	[redacted]
Pavers	[redacted]	[redacted]	[redacted]
Kerb	[redacted]	[redacted]	[redacted]
Turf	[redacted]	[redacted]	[redacted]
No activity required	[redacted]	[redacted]	[redacted]
Unknown reinstatement type	[redacted]	[redacted]	[redacted]
Total	[redacted]		

Replacing the ratios used in the TEA model v1.3 with the ratios as calculated above results in an increase in the Band 2 cost per SIO per month from $46.54 to $58.00.

Table 6. Comparison of TEA model output

	Original	Updated	Difference	% Diff
Ducts and Pipes – Main	$5.86	$7.26	$1.41	24.1%
Ducts and Pipes – Dist	$20.97	$31.03	$10.05	47.9%
ULLS Network Cost	$46.54	$58.00	$11.46	24.6%

Notes:

- The same ratios were applied to each density region, as this split was not discernable from the data
- The same ratios were applied to each conduit configuration due to the small samples in some categories

[redacted]

Response to information request (3)

The ACCC requested the following information from Telstra:

> 3) *Information on the average age of both the main cables and distribution cables in Band 2 ESAs, in light of the above comments made by Donald McGauchie.*

Telstra's financial records do not record the age of all Telstra's assets over time. Once an asset has reached the end of its accounting life, it is fully written out of Telstra's accounts and no records of it are retained. Without a financial record of the existence of an asset, it is not possible to calculate the age of that asset.

Submissions

The Donald McGauchie comments referred to by the ACCC were quoted in Ovum's submission to the ACCC:[4]

> *By the early part of this century, over 30 per cent of the copper pairs in the Australian network were more than 30 years old, with more than 5 per cent pre-dating 1950.*

It is likely that this comment was based on a Telstra submission to the Productivity Commission, which stated:[5]

> *More than 50 per cent of the copper pairs in the Australian CAN are over 20 years old, more than 30 per cent are over 30 years old and nearly 10 per cent predate 1950.*

To respond to the ACCC's information request, Telstra has investigated with Telstra's relevant employees what analysis was used to support the above statements. In the time available and given the time elapsed, the analysis has not yet been located. That said,, the relevant employees have opinions of the likely methodology used to support those statements.

The likely methodology involves collating a time series of CAN SIOs and calculating what proportion of SIOs at the latest point in the time series existed at a particular point in time. For example, to establish that:

- more than 5 per cent and nearly 10 per cent of copper pairs pre-dated 1950, the number of SIOs at the beginning of 1950 (794,594) was likely divided by the number of SIOs in 1999 (9,760,000), which equals 8.1%;
- more than 30 per cent of copper pairs are over 30 years old, the number of SIOs at the beginning of 1969 (2,511,231) was likely divided by the number of SIOs in 1999 (9,760,000), which equals 25.7%
- more than 50 per cent of copper pairs are over 20 years old, the number of SIOs at the beginning of 1979 (4,449,468) was likely divided by the number of SIOs in 1999 (9,760,000), which equals 45.6%; and,

[4] Ovum, *Review of the Economic Principles, Capital Cost and Expense Calculations of the TEA Cost Model*, 6 August 2008, page 21

[5] Telstra, *Productivity Commission's Draft Report on Telecommunications Competition Regulation*, July 2001, page 21

[redacted]

While such an approach would support the broad submissions that were made to the Productivity Commission, the current context is extremely different. Given the limitations of Telstra's financial records, it would be inappropriate, for the following reasons, to use the results of such an analysis for the purpose of costing Telstra's network and setting prices based on those costs.

First, the analysis takes no account of the fact that customers that purchased SIOs in, say 1950, are likely to have disconnected from Telstra's network by 1999. Thus, the SIOs that are purchased in 1999 might be supplied using newer copper pair assets than the SIOs purchased in 1950. The analysis would, therefore, overstate the age of assets in use today.

Second, in any case, the analysis takes no account of the fact that the copper pair assets used to supply customers in the past (for example in 1950) are likely to either have been retired or are no longer in use (that is, they have reached the end of their useful lives). In the current context, a calculation of the age of assets would need to be based on the assets currently in use. The analysis above, which implicitly includes assets that might have been retired or are otherwise no longer in use, would overstate the age of assets in use today.

Third, the analysis is based on all SIOs, not just those in band 2 and relevant to Telstra's undertaking.

Fourth, the analysis is based on the historical age of assets, which is subject to historical circumstances. However, in the current context, forward-looking, economic asset lives are relevant, which are subject to future technological, economic, and market circumstances that are likely to be very different to what has happened in the past.

[redacted]

Response to information request (4)

The ACCC requested the following information from Telstra:

> 4) *Information on what constitutes 'entrance facility costs', including what the costs recover, who pays the costs, and the quantum of the costs, as referred to in the document 'Telstra's Efficient Access Model – Model Documentation, 3 March 2008' at p. 45 submitted in support of the Undertaking.*

Telstra provided information as to what constitutes entrance facility costs in its response to the ACCC's Draft Decision, in section E.3.3. Telstra incurs these costs and their quantum can be read from the TEA model (columns BJ to BN in the *Results Main-Costs* worksheet).

Telstra also notes the submission of Adam Internet, Chime and Agile dated 19 January 2009 in which those access seekers state:

In Adam Internet, Chime and Agile's submission, the view that entrance facility costs should not be included in Telstra's network costs was made on the basis that they were recovered via TEBA charges paid by access seekers. The access seekers now confirm that TEBA charges do not state that they include components for costs associated with the equipment Telstra has called entrance facility costs. As such and as long as these charges are not recovered elsewhere, it is reasonable that a portion of entrance facility costs be recovered via services, including the ULLS, that utilise Telstra's network.