



Network & Technology  
Fundamental Planning

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**Procedure**

**Document No: TAF0001-366515**

**Measure of TEA Model Efficiency**

**ULLS Band 2 – Version 2**

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## 1. PURPOSE

The purpose of the study is to assess the efficiency of the TEA Network Model design relative to the existing Telstra Network and the ACCC Model design through comparing the quantities of actual plant deployed in the Telstra Network, those modelled in the TEA Network Model and those modelled in the ACCC Model.

## 2. SCOPE

The scope of this study is restricted to

- ULLS Band 2 ESA's
- TEA Model V1.2
- ACCC Model V1.1<sup>1</sup>

## 3. METHODOLOGY

The section below outlines the methodology used to assess the efficiency of the TEA model.

For each ESA,

1. Measure Telstra's CPR2 Inventory records using each of the metrics defined in Section 3.1 of this document.
2. Measure the TEA model and ACCC model output using each of the metrics defined in Section 3.1 of this document.
3. Compare the TEA, ACCC and Inventory version of each measure to determine the efficiency gain using the following formula:

$$efficiency(\%) = \frac{Inventory - TEA}{Inventory} \times 100(\%)$$

To determine the efficiency gain of the TEA model over the ACCC model, use the following formula:

$$efficiency(\%) = \frac{ACCC - TEA}{ACCC} \times 100(\%)$$

### 3.1. ESA Base Metrics

The following metrics are used to assess the existing network.

Metric	Definition	Unit of Measure
Trench km	Sum of distances between structure points	km
Manholes	Count of Manholes	Manholes
Pits	Count of Pits	Pits
Copper Cable Sheath km	Total length of copper cable sheath sections	s.km

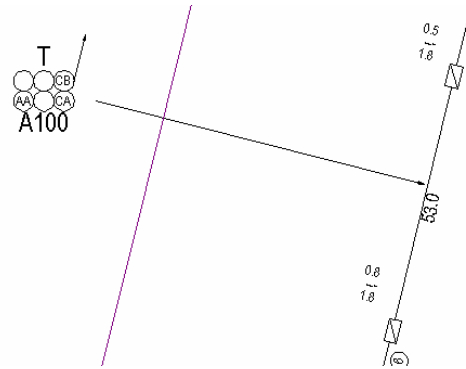
<sup>1</sup> The ACCC model was corrected by following the instructions provided in the "Response to Telstra's letter - 18 Feb 09.pdf". This included the re-running of *Access Code.xls* and the copying and pasting of the results into the *Can.xls* workbook.



### 3.2. Example (Part of Network)

The following example illustrates the calculation of the metrics defined above.

c8:M1-1800 1800 CPIUT MB (AA)  
c5:M1-1800 1800 CPIUT MB (CA)  
c17:M801-1200 400 CPIUT MB (CB)  
c3006:AAR-AAS/1-24 24F/- SMOF FNPEHJ (CB)  
CBN CABLE (CB)



For between the two manholes shown above:

- Trench km =  $53/1000 = 0.053\text{km}$
- Manholes = 2
- Pits = 0
- Copper Cable Sheath Km =  $3 \times 0.053\text{km} = 0.159 \text{ s.km}$

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## 4. RESULTS

The following table provides a summary of the measures from both the TEA model and the CPR2 Inventory system as well as the calculated efficiency of the TEA model for each of the metrics defined above.

<b>Metric</b>	<b>TEA Measure</b>	<b>Inventory Measure</b>	<b>Efficiency</b>
Trench km	111,516	170,291	34.5%
Manholes	28,320	168,933	83.2%
Pits	3,057,743	3,860,630	20.8%
Copper Cable Sheath km	162,276	375,482	56.8%

## 5. ADDITIONAL RESULTS

The following table provides a summary of the measures from the TEA model and the ACCC model. The efficiency of the TEA model is calculated relative to the ACCC model for the applicable metrics.

<b>Metric</b>	<b>TEA Measure</b>	<b>ACCC Measure</b>	<b>Efficiency Over ACCC</b>
Trench km (Distribution Only)	99,893	118,442	15.7%
Trench km (Total)	111,516	122,031	8.6%
Pits and Manholes	3,086,063	1,662,508	-85.6%
Copper Cable Sheath km (Distribution Only)	137,677	236,316	41.7%
Copper Cable Sheath km (Total)	162,276	275,809	41.2%
Fibre Sheath km (Total)	3,662	92,058	96.0%

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## 6. DEFINITIONS

The following words, acronyms and abbreviations are referred to in this document.

<b>Term</b>	<b>Definition</b>
TEA model	Telstra Efficient Access Model
ACCC model	Model commissioned by the ACCC
ESA	Exchange Service Area
CPR2	Cable Plant Records version 2. Telstra's geospatial inventory database for all external plant.