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**RESOURCE UNIT TECHNICAL EVALUATION REPORT
- RE: MR ALAN SMITH OF
CAPE BRIDGEWATER HOLIDAY CAMP**

Issue: of 30 April 1995
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RESOURCE UNIT TECHNICAL EVALUATION REPORT

Mr. Alan Smith of Cape Bridgewater Holiday Camp

30 April 1995

Introduction

This document is DMR Group Inc.'s (Montreal, Canada) and Lane Telecommunications Pty Ltd's (Dulwich, South Australia) Technical Report on the Cape Bridgewater Holiday Camp COT case.

It is complete and final as it is. There is, however, an addendum which we may find it necessary to add during the next few weeks on billing, i.e. possible discrepancies in Smith's Telecom bills.

To establish the context for our technical evaluation, we preface it with our positions on three specific details in Telecom's Service History. This is followed by a statement about other documentation which has been provided by both parties. And we provide a characterisation of the level of service such a customer as Mr Smith could reasonably have expected.

Sections 1 and 2 itemise problems with Telecom's service to the Cape Bridgewater Holiday Camp in the period from February 1988 to October 1994. There were several different problems, sometimes more than one at a time, with several different causes. These are summarised in the Timeline at the end of the Introduction. They include:

- congestion
- low capacity
- exchange fault
- transmission equipment (RCM) faults
- calls wrongly directed to RVA (Recorded Voice Announcement)
- sundry reports with "no fault found" at the time
- Telecom testing
- programming error
- uncompleted 008 calls
- others.

Section 3 addresses the issue of problems with CPE (Customer Premises Equipment). It is not always clear to the customer where to draw the line between CPE and proper Telecom responsibilities, and Telecom did not succeed in making it clear to Mr Smith.

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Sections 4 and 5 are an impact assessment and summary. We have ascertained that there were times when the service provided by Telecom to Mr Smith, quite aside from problems with CPE, fell below a reasonable level. These times ranged in duration from years in some cases, to 18 months in one case, to an estimated 70 days in one case, to shorter times in other cases. These durations of poor service were, in our judgement, sufficiently severe to render Mr Smith's service from Telecom unreliable and deficient.

Cape Bridgewater Documentation

The "Fast Track" arbitration proceedings are "on documents and written submissions". More than 4,000 pages of documentation have been presented by both parties and examined by us. We have also visited the site. Not all of the documentation has real bearing on the question of whether or not there were faults with the service provided by Telecom. We reviewed but did not use Mr Smith's diaries (Telecom's examination of Mr Smith's diaries arrived in the week of 17 April 1995). Like Telecom, we separate the problems caused by Mr Smith's CPE from those in Telecom's service and concentrate only on the latter. A comprehensive log of Mr Smith's complaints does not appear to exist.

The Technical Report focuses only on the real faults which can now be determined with a sufficient degree of definiteness. We are not saying anything about other faults which may or may not have occurred but are not adequately documented. And unless pertinent documents have been withheld, it is our view that it will not be feasible for anyone to determine with certainty what other faults there might or might not have been.

One issue in the Cape Bridgewater case remains open, and we shall attempt to resolve it in the next few weeks, namely Mr Smith's complaints about billing problems.

Otherwise, the Technical Report on Cape Bridgewater is complete.

A key document is Telecom's Statutory Declaration of 12 December 1994. Without taking a position in regard to other parts of the document, we question three points raised in Telecom's Service History Statutory Declaration of 12 December 1994 [Ref B004].

"Bogus" Complaints

First, Telecom states that Mr Smith made "bogus" complaints [B004 p74, p78, Appendix 4, p10]. What they mean is his calls in June 1993 from Linton to test Telecom's fault recording. As others have indicated (see Coopers and Lybrand Review of Telecom Australia's Difficult Network Fault Policies and Procedures, November 1993, p6) "Telecom did not have established, national, documented complaint handling procedures [...] up to November 1992," and "documented complaint handling procedures were not fully implemented between November 1992 and October 1993." Furthermore, [p7] "fault handling procedures were deficient." Smith's June 1993 calls from Linton were, as he has stated, to test Telecom's fault reporting procedures, because people who had been unable to reach him told him that Telecom did not appear to be doing anything when they reported problems. We find Smith's tests in this instance to be unlikely to effect any useful results, but the term "bogus" does not apply.

There were occasions when Mr Smith mistook problems with his own CPE for Telecom faults, but this is a normal occurrence in the operation of any multi-vendor system, which the end-to-end telephone system increasingly is. Telecom takes pains to separate these CPE problems from the legitimate faults, which they acknowledge.

None of the faults covered in our Technical Report and attributed to Telecom is either "bogus" or CPE. We concur with Telecom that there were CPE faults, as discussed in Section 3 of the Technical report.

Professional Service

Second, Telecom asserts that its employees always provided "professional" service "in good faith." While we do not find deliberate malfeasance on the part of the Telecom employees who serviced the Cape Bridgewater facilities, we do find Telecom's approach to fault reporting novel but less than adequate. Before December 1992, Telecom says it "tailored" fault reporting [Ref B004, p33 "Telecom treated complaints from Smith professionally by responding with a reporting processes [sic] tailored to meet his complaints."] After December 1992, Telecom says (p78) that "Smith's complaint reporting arrangements were upgraded." Considering that it took Telecom too long to diagnose and correct certain network faults (as indicated in the technical report), we find that Telecom's performance was not always adequate.

A well-disciplined maintenance team would retain customer complaints until they were resolved and clearly distinguish them from all other discussions with the customer, and Telecom did not always do this. Because they found certain faults difficult to replicate or to find, Telecom cleared them as non-existent with "No Fault Found." Telecom's approach at Cape Bridgewater, though well-meaning, if sometimes also condescending, was often more casual than professional. Telecom's actions in Cape Bridgewater appear to be aimed at level of effort more than level of service.

Care In Service Provision

Third, Telecom does not cite any examples of Telecom carelessness, but we find this to be a matter of interpretation in the instances of Telecom wrongly directing calls to Recorded Voice Announcement (2.3), testing causing lost calls (2.5), software faults (2.6), programming errors (2.12), and possibly others.

Service Level

At issue is whether or not the level of service provided to Mr Smith of Cape Bridgewater Holiday Camp by Telstra (Telecom) was the level the customer could reasonably have expected.

To make that determination, we first pose the question: What should the level of service have been, i.e., what could a Telecom customer expect in such a country area during the period covered by Mr Smith's claim?

Our Technical Report covers time periods as follows:

1. February, 1988 to 21 August 1991
2. After 21 August 1991 (to October 1994).

The expected service level before about 1991 was not defined in unequivocal, measurable terms, but was described by customer and regulator alike as "reasonable." There are service level indicators in the tariffs (e.g. Telecom Standard Conditions and Charges and TELSTRA BCS (Basic Carriage Service) Tariff Manual).

After 1991, the Telecommunications Act 1991 (ref. AUSTEL 1992/1993 Annual Report p 161) will have been in effect. It includes among its objectives:

"ensuring that the carriers achieve the highest possible levels of accountability and responsiveness to customer and community needs," and

"promoting the development of other sectors of the Australian economy through the commercial supply of a full range of modern telecommunications services at the lowest possible prices."

The principle of universality (Ref AUSTEL's 1992/1993 Annual report), as an objective, was in effect in Australia before 1991 (called the "community service obligation") and remains in effect. (Some 93% of rural households had telephones, versus 95% overall.):

"It is the Parliament's intention that all people in Australia, wherever they reside or carry on business, will continue to have reasonable access, on an equitable basis, to standard telephone services and payphones."

Starting in 1990, AUSTEL set (and continues to set) the technical standards for eligible services, for networks operated by carriers and for customer equipment and customer cabling. AUSTEL is also to set network end-to-end performance standards, but during the periods covered, performance parameters for telephone network service were being identified, and work was proceeding to quantify performance levels against those parameters, according to AUSTEL's 1992/1993 annual report, so no easy-to-apply fine measurement of service level is at hand.

Telecom's own Network Management Philosophy (issued 9 December 1994 and addressing "Telecom's performance against the defined standards for key network performance [...] over the period 1982 to the present." [p 5]) gives several indications of what is meant by average network availability on a national basis, i.e. percent of calls completed except when the called party is truly on the phone. For example, national network loss from July 1991 to March 1993 did not exceed 2.5% (except on Christmas Day), and from April 1993 it almost never exceeded 1.5% [p 22]. Local call loss percentages are even lower.

How did the service level provided by Telecom to Mr Smith during the periods measure up?

Mr Smith's claim is based on his complaints made during the period that Telecom was, effectively, failing to fulfil its universal service obligations and was providing an inadequate quality of standard telephone service. His complaints have been made in terms like:

- phones do not ring when [holiday camp] customers call
- [holiday camp] customers receive a "busy" tone when phones are not engaged
- calls placed to the holiday camp "drop out"
- recorded voice announcements inform callers that phones are disconnected when they are not.

✓ Telecom recorded and responded to Mr. Smith's complaints in a variety of ways. But Mr Smith did not express his satisfaction--in fact, in his claim of June 1994, he refers [p 3] to "the continuing problems that I am experiencing" and states that "my phone service is still operating at a totally deficient level." The alleged faults were not rectified up to the time of the claim.

Telecom, as the sole universal service carrier for Australia (both before and after the Telecommunications Act), has no alternative but to "ensure that a standard telephone service is reasonably accessible to all people in Australia on an equitable basis." This spirit is confirmed by Telecom in the letter to Mr Smith of 1 September 1992: "Should this investigation identify any faults in the Telecom component of your service they will be rectified in accordance with normal practice." And again in Telecom's letter to Mr Smith of 18 September 1992: "We believe that the quality of your telephone service can be guaranteed and although it would be impossible to suggest that there would never be a service problem we could see no reason why this should be a factor in your business endeavours." And again in Telecom's letter to Mr Smith of 25 May 1993: "Telecom Australia endeavours to provide at all times the telecommunications services in respect of which a customer has made application..." (Copies of the letters are attached.)

We have reviewed the specific faults reported, based exclusively on the sources of information listed at the end of the Technical Report. Were they Telecom's faults? Whether they were Telecom's faults or not, what action did Telecom take to rectify them, (or refer them to others, if they were not Telecom's faults), and in what timeframes? Was there appropriate management of network operations, fault logging, and network monitoring? Was the customer appropriately handled, considering the intensity and long duration of his complaint?

Our investigations of the documentation and the site focused only on the technical issues which might have affected the level of service, which we take to include:

- design of the network--i.e., was the network correctly configured and was the design (and capacity planning) process sufficient to give a reasonable level of service?

- selection, installation and on-going maintenance of network equipment, or replacement of obsolete equipment
- operation and monitoring of the network and services, which typically includes informing subscribers in advance of outages, if any, due to equipment change-out or maintenance
- keeping track of usage of the network for billing purposes
- dealing with client fault reports--recording them, rectifying them, documenting diagnostic and corrective measures, verifying that the customer has not continued to experience the reported problems, and escalating them as appropriate, until they are resolved.

We conclude that the Cape Bridgewater Holiday Camp experienced genuine technical difficulties--i.e., service deficiencies--which were not promptly diagnosed correctly by Telecom. These are covered in the Technical Report.

Customers expect world class service from telephone companies, and Telecom takes this expectation into account, as pointed out in its Network Management Philosophy [p 4]. Telephone companies provide services which are reliable and consistent enough, even fail-safe, to be counted upon in emergencies. Customers' expectations of affordable telephones which always work are reasonable expectations.

Customers of public telephone services can also reasonably expect telephone companies to fix reported faults (or explain non-faults to the customer's satisfaction), not to clear them with a "NFF" (no fault found), as Telecom frequently did, even if they found the reported faults difficult to replicate and difficult to diagnose. The process of explanation to the customer (or the lack of it) is a crucial component of fault report management, and therefore of reasonable service as a whole. The fact that events have led to a protracted dispute suggests to us that this process may have been inadequate in the early period. Once an incomplete report-response pattern becomes entrenched, the criterion of "reasonable service level" becomes difficult to satisfy.

It is in neither the network operator's nor the customer's interest for the customer to engage in network diagnostics of his own. Circumstances which lead to customers diagnosing the network themselves, instead of relying on the telephone company or the regulator to do it, can be said to be symptoms of an inadequate level of service or a frustrated or possibly irrational customer. Customers do not generally have the financial resources or the technical expertise to diagnose networks, as Mr Smith has attempted to do.

A reasonable level of telephone service requires that the network operator fix reported (and unreported) faults promptly. This principle is factored in to the tariffs. If they are not faults in the telephone system, society's expectations of the network operator behave the operator to resolve them by passing them on, explicitly and officially, to the liable parties, which may include the customer in cases of the incorrect use of equipment or misinterpretation of circumstances (e.g., if a customer dialled a wrong number and reported that the phone at the number he intended to call did not ring).

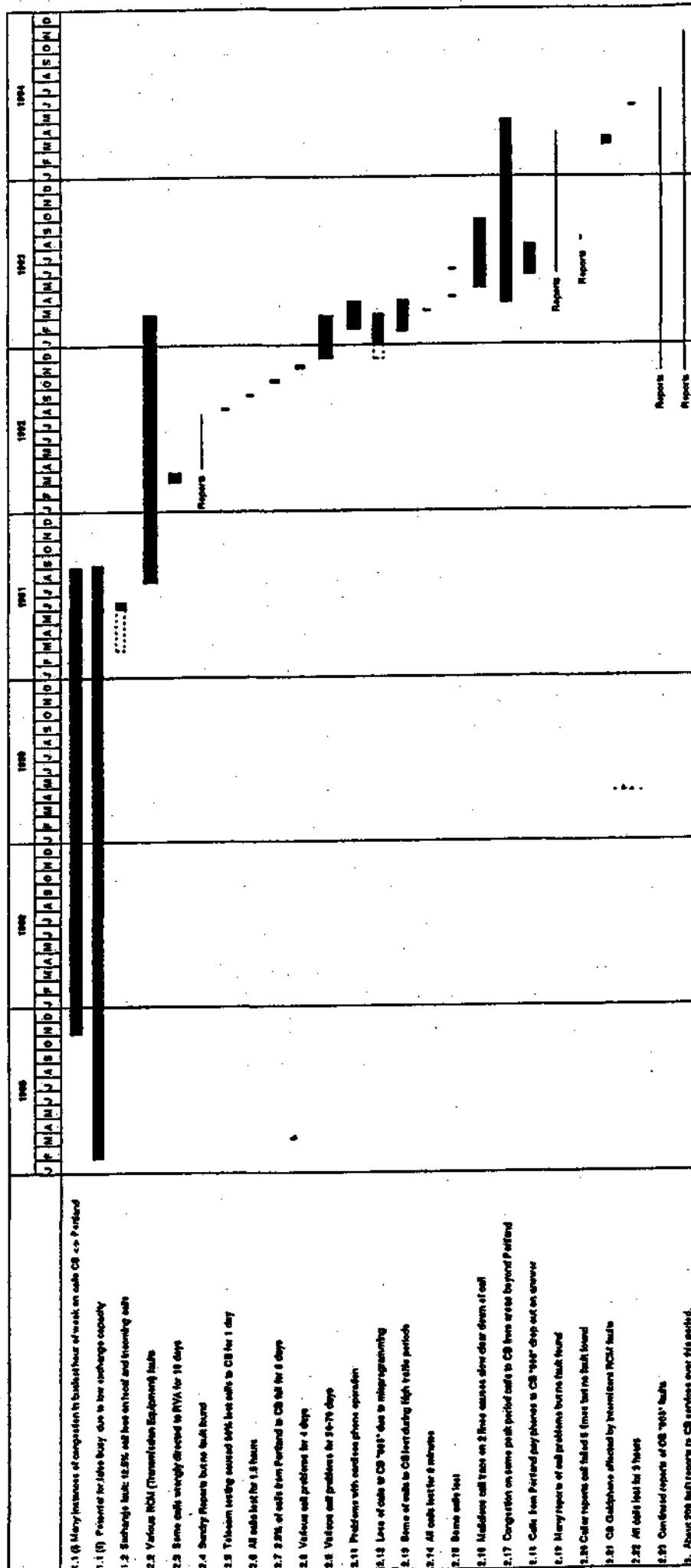
The types of faults reported do not easily fall into definite categories. In some cases more than one fault may have been involved. And the further back in history we look, the more we have to rely on phrases like "potential," or "could well explain," or "were likely to cause," etc.

As shown in the Technical Report, there were faults caused by congestion and under-dimensioning, equipment problems, software problems, incorrect data entered, faulty data change control, and lightning. Telecom diagnostics sometimes concluded that there were no faults (NFF) in cases when there were faults. Since the customer was generally not satisfied throughout a period of more than six years, it appears that it often took Telecom too long to resolve faults. 7

In summary, some hundreds of faults were reported by this customer. Some of these reports were made when the customer misunderstood or incorrectly used non-Telecom devices. But many were based on insufficient network facilities or network equipment which was not working.

MR ALAN SMITH
CAPE BRIDGEWATER HOLIDAY CAMP

TIMELINE OF PERIOD IN WHICH FAULT IS IMPACTED AND REPORTS WERE MADE



LEOBND
Period of Impact of Fault
Reported Fault
Probable Period of Impact of Fault

NOTES TO TIMELINE

RE: MR ALAN SMITH

General Note: A block on the Timeline does not necessarily imply that the fault was continuous for the whole period.

- 1.1 (i) Many instances in the busiest hour of the week where probability of congestion exceeded 12% on calls between CB and other locations.
- (ii) CB RAX exchange could only handle max 8 calls to customers connected to it at any one time. 66 customers were connected to it by 1991.
- 1.2 Switch fault found June 28: believed to have been a "hard" fault for 2-3 days but may have been intermittent from March 1991. 12.5% of all local and incoming calls lost during "hard" period.
- 2.2 Range of problems with RCM over this period.
- 2.3 At least 33% of all calls from Melbourne and interstate to CB directed to RVA for at least 16 days.
- 2.5 90% of callers to CBHC received busy or congestion tone.
- 2.6 Exchange software fault Portland AXE.
- 2.7 Exchange hardware fault Portland ARF.
- 2.8 Various calling problems for 4 days due to RCM equipment damage by lightning strike (November 1992).
- 2.9 Various calling problems due to RCM faults for 50-70 days (December 1992 - February 1993).
- 2.11 Some problems may have been due to intrinsic operational limitations of these units.
- 2.12 Calls misdirected by Telecom to fax machine during January and up to 8/2/93.
- 2.13 Not known when this condition commenced (several reports over February and March).
- 2.15 Faults in Warrnambool, Heywood and Sebastopol exchanges.
- 2.16 Mr Smith denies being briefed on MCT or its effects on slow clear-down of calls, thus behaviour consistent with real faults was observed.
- 2.17 Regular congestion confirmed on peak periods on Wednesdays and Sunday evenings.
- 2.18 Confirmed 18/6 - 8/8/93. Could have begun earlier.
- 2.19 Reports included busy, RVA received, one burst of ring, short calls.
- 2.20 5 calls from Daylesford caller to CB received dead line.
- 2.21 Effect on Goldphone 8 March - 19 March 1994 (intermittent no dialtone).
- 2.22 All CB traffic lost due to programming error at Portland AXE.

↓ Scope of Report

↓ This Technical Report covers incidents and events potentially affecting the telephone services provided to the Cape Bridgewater Holiday Camp during the period February 1988 to August 1994. It is based on a review and analysis of all the source information, itemised under "Sources of Information". It focuses on the real technical difficulties experienced by Cape Bridgewater Holiday Camp during the period in question, which we deem to be within the normal realm of Telephone Companies' responsibilities. It does not go into detail about the mis-operation or incorrect understanding of the customer premises equipment (CPE), where these would normally be considered the responsibility of the customer.

1. Period - February 1988 To 21 August 1991

The significance of this period is that it covers the time from take-up of CBHC services with Exchange Configuration 'A' until this configuration was changed on 21 August 1991. Services were provided from a Rural Automatic Exchange (RAX) connected to the Portland ARF exchange.

1.1 Potential Source of 'False Busy' during period February 1988 to 21 August 1991

- (i) Many instances of congestion in the busiest hour of the week on calls between Cape Bridgewater and Portland: congestion on the Inter Exchange Junctions

The following is an extract from the Telecom document produced by the Commercial and Consumer Office of Customer Affairs, 'General Information Document ref 1, An Introduction to Telecommunications in Australia, Issue 9 December 1994', which we find describes network dimensioning as it was performed during the period from 1987:

"6.4 Network Dimensioning Principles

"Dimensioning is the process of determining the quantity of equipment needed for a particular traffic volume. Dimensioning is a major activity in network design, and is required when an entirely new telecommunications facility is being planned or when an extension to existing equipment is required.

"Dimensioning is carried out in accordance with the following principles

"Time Horizon:

"Network dimensioning is aimed at ensuring that the next network enhancement is able to handle traffic for the busiest season in the year following the year of installation.

"Traffic Base:

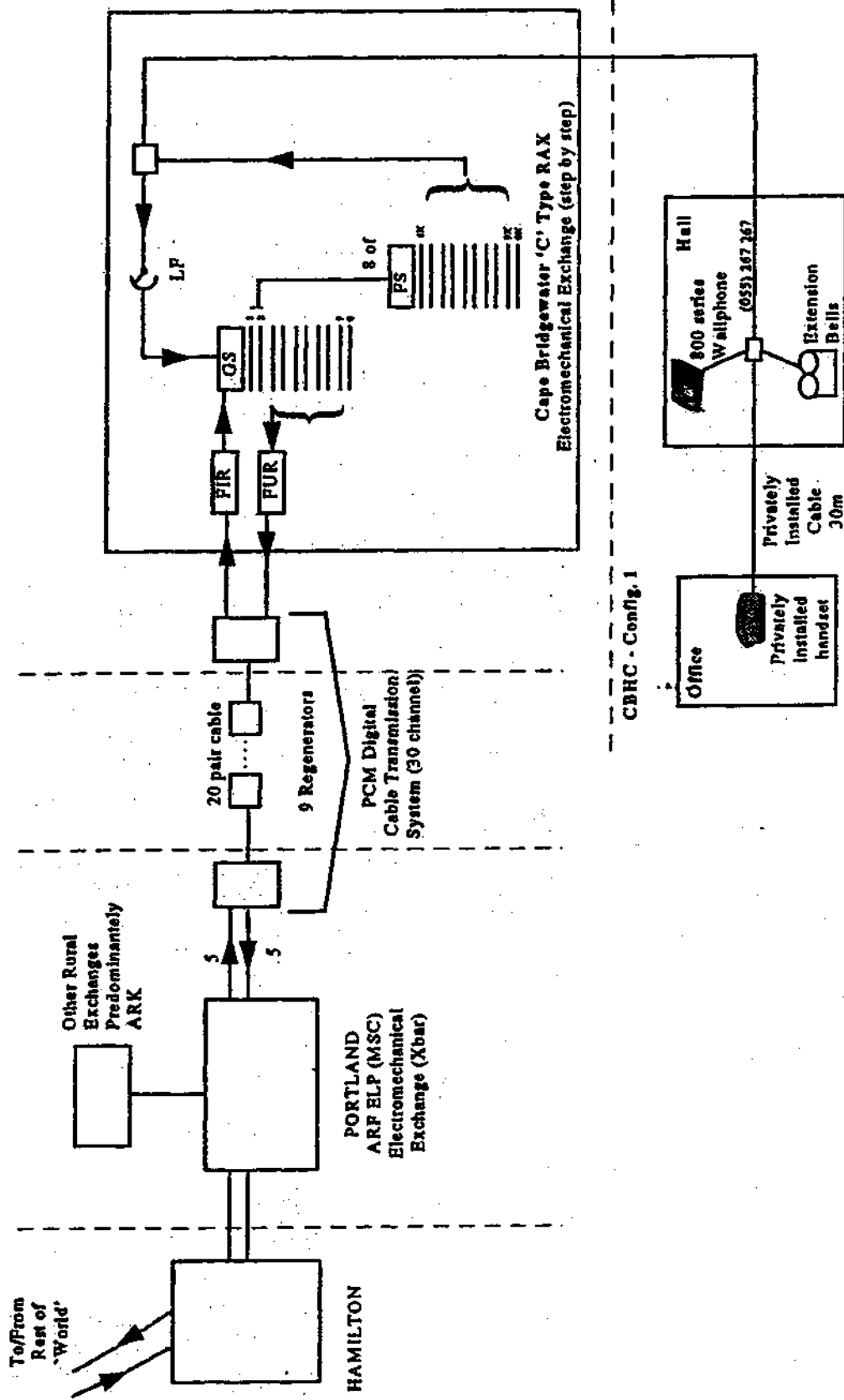
"As traffic is of a random nature it is necessary to obtain a standard specification for traffic value for use in network dimensioning. This is known as the traffic base. Two measures are used.

"The first, the Rubas, is defined as the busiest 50 half-hour periods in a 7-day week.

"The second is the *peak weekly reading* * (weekly busiest), or maximum traffic intensity observed within the week and is specified for key routes. Weekly Busiest excludes special events such as Christmas and days on which "spot specials" such as one-off STD and ISD price discounts, are offered."

(* D Read - bold/italics)

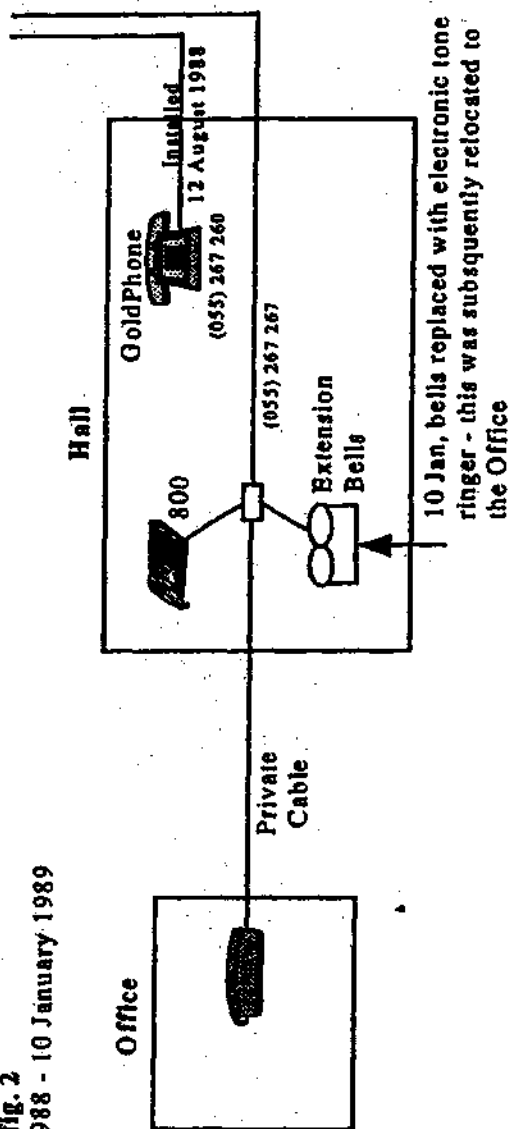
CONFIGURATION AT FEBRUARY 1988 - 'A'



CHANGES TO CPE CONFIGURATION AT CBHC SITE

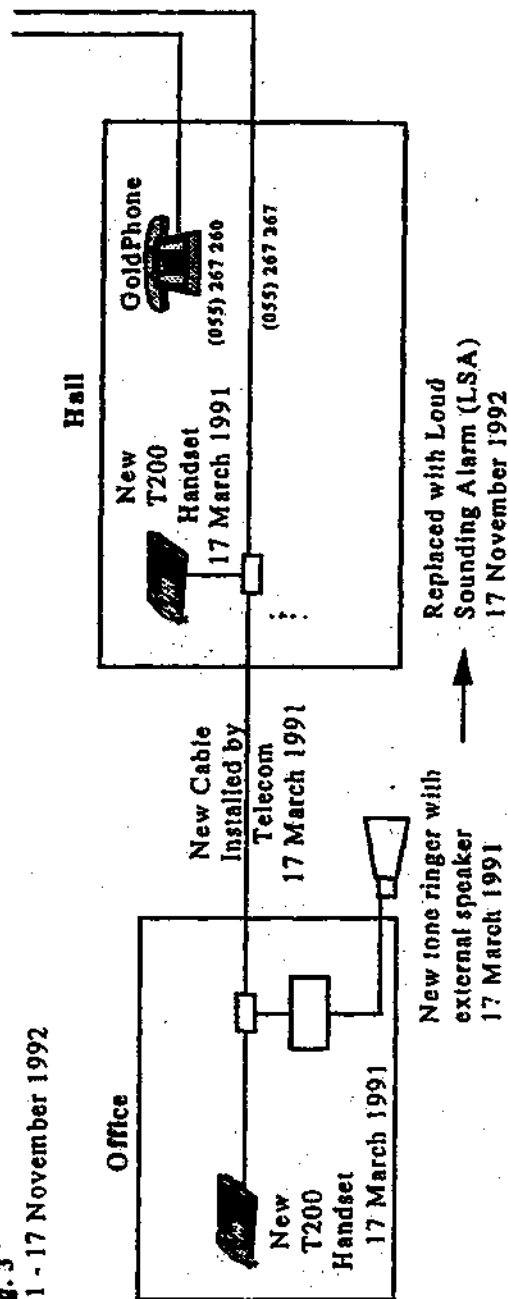
CBHC Config. 2

12 August 1988 - 10 January 1989



CBHC Config. 3

17 March 1991 - 17 November 1992



der0121

"6.5 Design Grade of Service

"Telecommunications networks are designed and dimensioned in line with the principles described above to carry the forecast traffic at a prescribed Grade of Service.

"The Design Grade of Service for individual routes needs to be chosen in order to make decisions about the amount of equipment required to carry the offered traffic. In choosing a particular numerical value for the design Grade of Service for Different situations, a number of factors are taken into account. The main ones are:

- customer service,
- safety margins necessary to cover errors in traffic estimates
- unforeseen overloads
- equipment costs.

"The Design Grade of Service chosen in any particular situation represents a compromise between these several competing requirements and will generally be better than the prescribed Grade of Service."

There were reported periods of congestion on calls into the Cape Bridgewater RAX acknowledged by Telecom: Telecom Minute of 12/5/92, ref. Telecom Australia B004 Appendix file 5/1, "Congestion between Cape Bridgewater and Portland had been prevalent as only five junctions available. This situation was to be upgraded with the cutover of Cape Bridgewater RAX to an RCM [remote customer multiplexer] parented back to Portland AXE 104," and

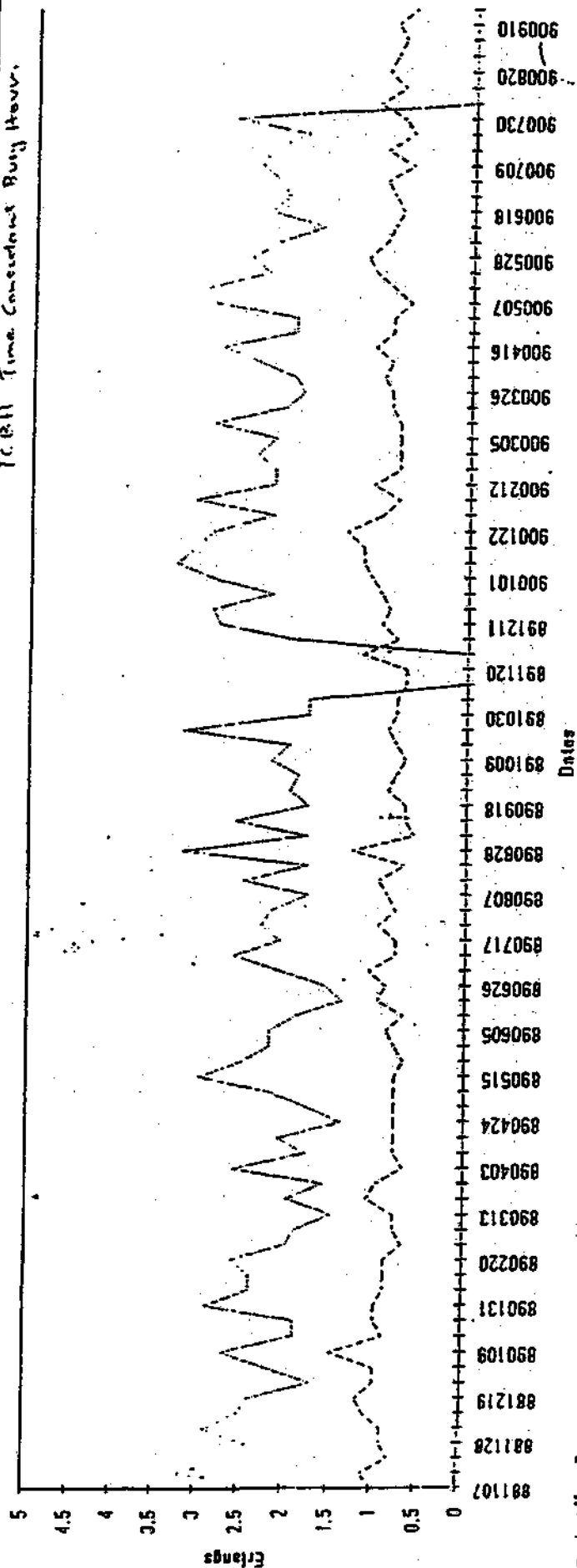
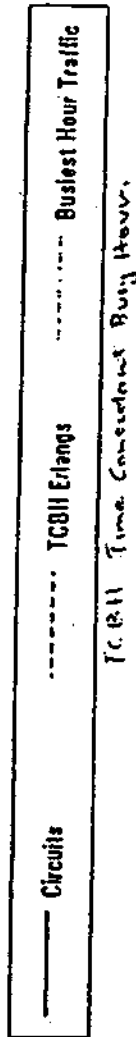
Reference (B004 Appendix 5/6), to the traffic profiles (graphs - see page), pooling the weekly busiest hour traffic. These indicate that there were many instances measured in the period 7/11/88 to 10/9/90 where traffic Portland to CB exceeded 3.0E, i.e. the probability of congestion was the order of 12% with an average of 2.4E, i.e. probability of congestion is 6% (the reasonable level would be 1% to 2%). These graphs also show similar congestion in the CB to Portland direction.

Whilst the graphs only cover the period November 1988 to September 1990, the traffic profiles would indicate continuance of this situation right up until the exchange replacement (21 August 1991) and potentially a trend of higher congestion as the number of customer were increased from 50 to 66.

The busy hour generally occurred during early evening (7 - 8.30pm). Maintenance Testing (TRT - Traffic Route Testing) from remote locations did not detect this condition (ref: TRT test results B004 Appendix 5/8 test period March 1988 to July 1991) as the tests were conducted during the time 1200 - 1800 which is outside the busiest period.

Conversely, traffic outside the busiest hour (order of 1.0E or less) would receive a satisfactory grade of service on these routes (probability of congestion less than 1% on the junctions between CB and Portland).

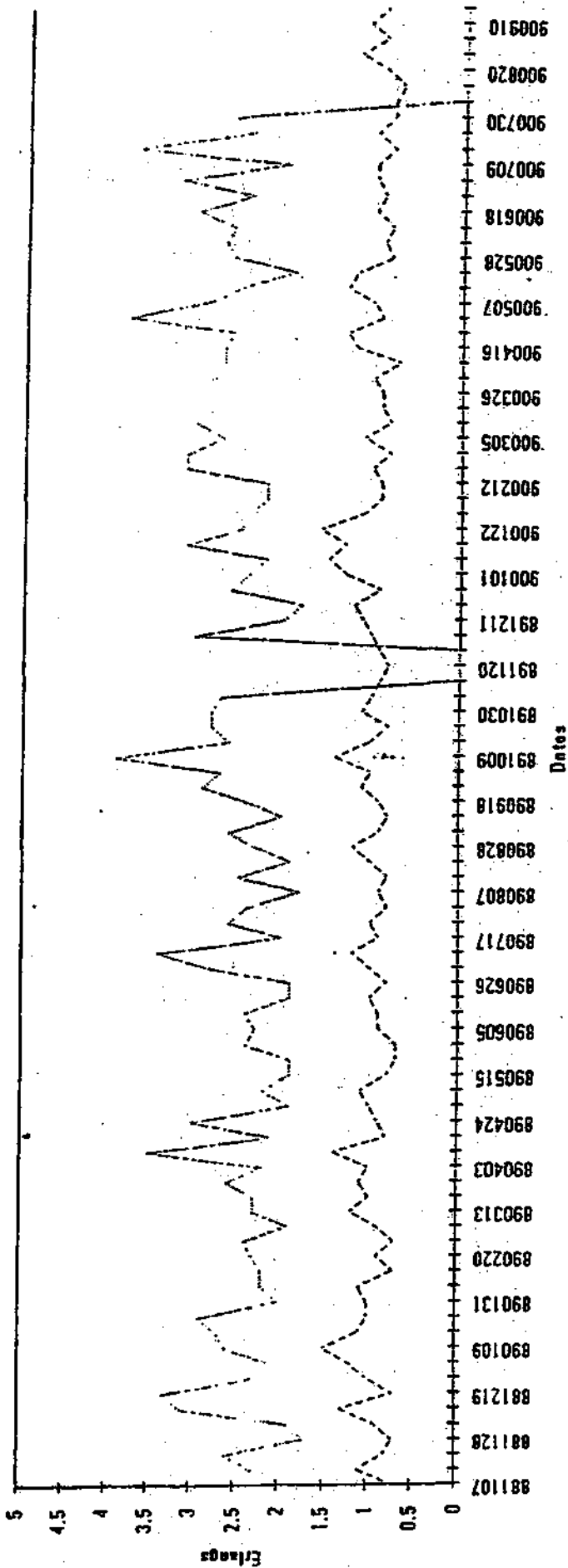
T PORC CBWR Y1 PORTLAND TO CB.



OLDPORC.XLS Chart 1

T CBWR PORC X1

CB TO PORTLAND



Busiest Hour Traffic - The traffic in the busiest single hour for that week.

Ref New 0010.5

1.3 Customer Access Network (CAN) Testing

During this period, when complaints were made, Mr Smith's CAN and CPE were tested and/or changed (including replacement of private cable), with NFF (no fault found) being generally reported with "no subsequent action being required," though we observe that in Telecom's Network Management Philosophy of 9 December 1994 "effective network management relies on the detection of patterns of incidents which identify a probable network abnormality. It may take time for information about a number of incidents to accumulate to allow a problem to be traced and corrected." And Telecom's briefing paper B004, 12/12/94, page 80 in reference to Mr Smith states of Non-standard faults (NSF) "details held in service plus records/scratch pad records." In any case, it would appear, as detailed above, that the problems were predominantly in the network (exchange, IEN). Testing was not highlighting these conditions, as it was generally conducted out of the busy periods. However, reading of the exchange congestion meters (which was regularly performed) should (and did) highlight the situation. During this period 12 fault calls were logged on the Telecom fault report system, although there appear to be several not logged (e.g. 5th, 14th August 1991 - refer B004/5 sections 23, 24).

2. Period Post 21 August 1991

The significance of 21 August 1991 is that the exchange configuration was changed (to configuration 'B'), that is, 'individual derived services via an RCM unit to the Portland new AXE exchange'.

- 2.1 This should (and did) relieve the link congestion problem Portland to CB. However, subsequently, congestion may have occurred in other links (refer to 2.17).

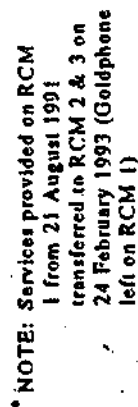
2.2 Various RCM (Transmission Equipment) Faults

There were consistent problems with the RCM system. Mr Smith's services were carried on RCM No 1 until 24 February 1994. This system had a track record of problems, and the RCM system components were the subject of several design corrections (Work Specifications). These issues were likely to cause a range of problems (as reported) over the period August 1991 to February 1993 (a period of 18 months) when Mr Smith's services were transferred off RCM 1 and service improved. Specific problems caused are covered in later paragraphs (ref: 2.8, 2.9, 2.21).

2.3 Some Calls Wrongly Directed to Recorded Voice Announcement (RVA) for 16 Days, March 1992

In response to complaints from Mr Smith and others from CB, Telecom checking indicated that due to a data entry error on the Melbourne Windsor Trunk exchange (MELU) all calls through this exchange to CB (at least 33% of Melbourne and interstate traffic) were directed to RVA for at least 16 days and possibly longer.

**Intelligent
Work Centre
(states number)**



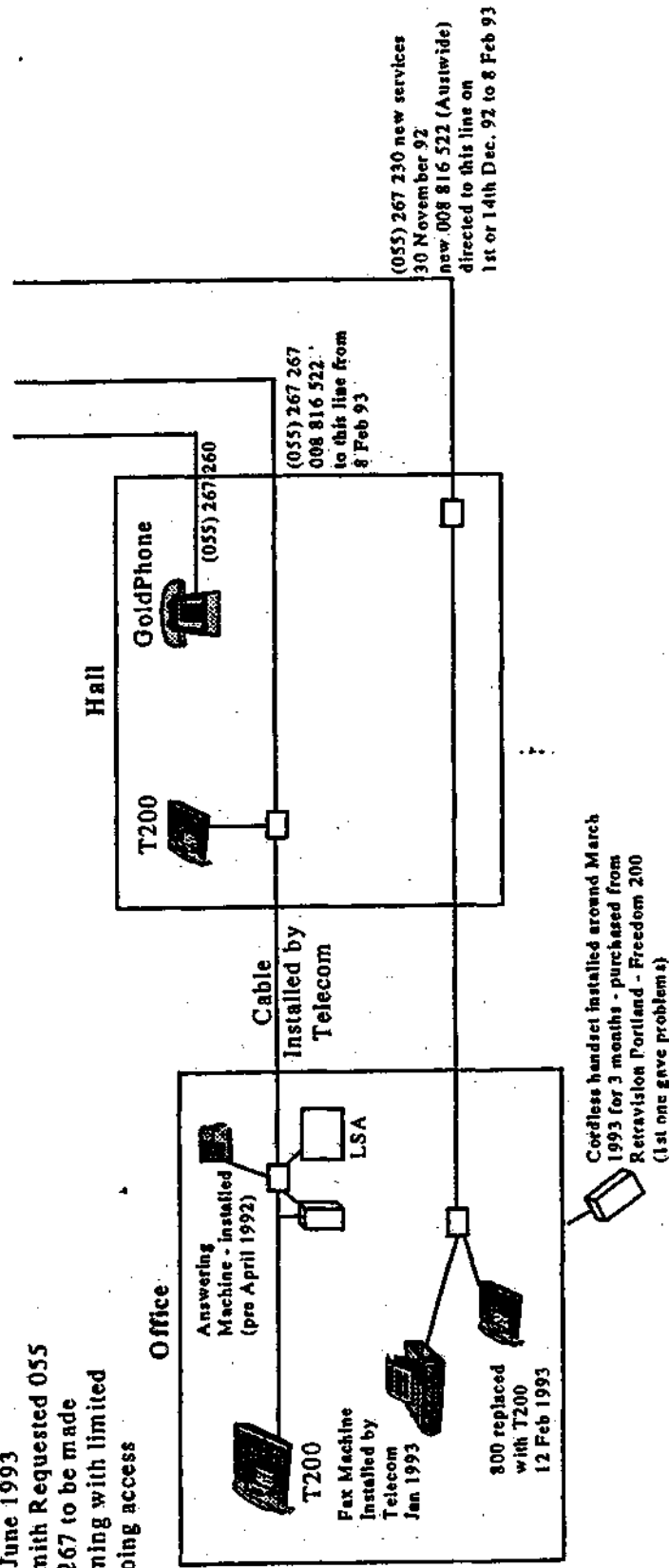
CHANGES TO CPE CONFIGURATION AT CBHC SITE

CBHC Config. 4

30 November 1992 - 1 December 1992 - 8 February - 12 February 1993

At 3 June 1993

A. Smith Requested 055
267 267 to be made
incoming with limited
outgoing access



dmr0221a

- c) July 1992, caller reported receiving RVA on calling Smith from Station Pier. NFF after considerable network testing, and no attributable source subsequently detected.

2.5 Telecom Testing Caused 90% Lost Calls to Cape Bridgewater for One Day - 2 August 1992

Telecom National Network Investigation (NNI) section testing locked up all circuits from Hamilton to Portland for approximately one day (Sunday). This would have provided congestion/busy to 90% of callers to CBHC.

2.6 All Calls Lost for 1.5 Hours Due to Software Fault in Portland AXE - Blocked all Circuits, Hamilton to Portland - 28 September 1992

All calls to and from CB were blocked (congestion/busy) for the order of 1.5 hours. Callers to CBHC received No Progress: 2 complaints relating to CBHC were reported during this period.

2.7 2.5% of Calls from Portland to Cape Bridgewater Failed for Five Days due to a Register Fault and Congestion on the Portland Exchange; 7 October 1992

One of the 40 registers in the Portland ARF Minor Switching Centre was faulty for five days (2 - 7 October). The effects were:

- (i) 1 in 40 (2.5%) of calls originating from the ARF and ARK exchanges on Portland would fail (incorrect wrong number, RVA, etc). Therefore 2.5% of Portland area traffic to CBHC was affected.
- (ii) In an endeavour to locate the fault (and the 'MELU' fault in 2.3 above), in a letter of 23 November 1992 from Mr D Lucas, Area Manager - Special Products:

"Congestion could have been experienced by callers due to a combination of the two faults indicated above and the volume of test calls being generated by Telecom to locate faults. I understand that some of your customers expressed this condition as 'getting busy tone' when you were not using the telephones."

2.8 RCM 1 Failure due to Lightning Strike 21 November 1992 Affected Service for Four Days

A lightning strike on 21 November damaged the Cape Bridgewater RCM equipment: Telecom received 22 customer complaints from CB customers for No dial tone, No ring received, noisy. No complaint was identified from CBHC, however RCM 1 was affected, and this was the unit CBHC services were on. The condition affected services for 4 days, before restorative action was taken, which may have been less than successful, refer 2.9.

2.9 Various Call Problems for 50-70 Days

Network 'reception' breaks during STD calls - (reported 6 January 1993 - fault occurred two-to-three weeks prior to this).

Believed to be network problems (ref B004 1/4), and occurring in RCM 1 - RCM 1 was reporting a large number of degraded minutes--i.e., minutes in which error ratio is worse than 1 in 10^{-6} (ref B004 1/4 internal letter of 12 July 1993 reporting on this matter).

Problems had been occurring for some time (such as, clicking, breaks in transmission, and callers not getting through). Mr Smith's services (with the exception of the Goldphone) were transferred to RCM systems 2 and 3 on 24 February 1993. Mr Smith's services were affected for at least 50 days (probably 70 days) whilst the RCM problems were tracked down. Telecom initially investigated CAN with NFF, but subsequent investigations 'revealed 4 problems with the CB RCM' - i.e., it was a network problem (refer to the copies of correspondence dated 12 July 1993, and further system difficulties occurring early in 1994 - 2.21.).

Telecom Pair Gains Support expert group (E-mail of 5/3/93 from RM) found on RCM 1:

"Major problem, faulty termination of resistors on bearer block protection" - this is believed to be protection against lightning strikes, and the problem could have been in place since the repair due to the strike of 21 November, and "another (problem) caused by non modification to channel cards" - that is, modification to correct design faults (as detailed in Work Specifications) had not been carried out.

It is understood Telecom issued "mandatory" Work Specifications in 1991 to correct design fault conditions relating to:

- false answering of calls - False Ring Trip
- loss of speech during calls - VF drop out

In the letter of 12 July 1993 to Stockdale and Morris, reference is made to (DM) degraded minutes (minutes in which error ratio is worse than 1 in 10^6), ('ES') error seconds (seconds in which errors were detected in the Cyclic Redundancy Check character sent with each frame). The system, particularly RCM 1, was registering high levels of ES and DM. A test on the 2 March 1993, run overnight on RCM 1, resulted in: Portland to CB 43,500 ES - i.e. for a 12 hour test period, essentially every second was errored and also 405 degraded minutes were recorded. CB to Portland direction, 246 ES, no DM.

Suggestions are made by Telecom employees, for example:

"In my opinion ES only cause problems when digital data is transmitted, and have no effect on voice services, and DM have only a minimal effect on voice services and may cause an occasional audible click", ref Witness statement of Mr Leonard Banks, para 8, dated 12 December 1994.

The signalling system which sets-up the call and supervises calls, including answer received and call clearing, is (as explained to us by Telecom personnel) transmitted in the channel associated with the service, and is transmitted as a data signal: therefore as indicated above, high levels of ES or DMs could markedly effect the call set up, answer and clearing sequence.

2.10 Three Numbers in Ballarat Received No Call Progress (NOP) when Calling CBHC - 2 February 1993

Fault was subsequently found in the callers PABX equipment at Ballarat (not CBHC).

2.11 Problems With Cordless Phone Operation, February and March 1993

To enable reception of calls whilst Mr Smith was moving around the camp site, a cordless handset system was installed on line 055 267 267: during the period it was connected there were situations where the operation of this unit caused difficulties, for example:

- 19 February 1993 - reported 'problems with Telecom (sic) cordless phone - the switch was not operating correctly preventing the phone from ringing' (the unit was obtained from a Retravision outlet, not from Telecom).
- The unit as installed (by Mr Smith) did not provide full coverage of the site (these units intrinsically have coverage limitations). Consequently, if calls were taken on the cordless unit and the handset was moved out of range of the base system, the call may not be correctly cleared down, leaving the service in an apparent 'off hook' situation.

The units (it is believed 2 types were used) were trialed for some 3 months and then removed.



To Manager
Warrnambool COG
[REDACTED]
Subject Portland to Cape
Bridgewater RCM System.

From [REDACTED]
Pair Gains Support

File XS132

Date 12th July 1993.

National Switching Support
(Melb)

9th Floor
25 Colins St
Melbourne 3000
Australia

[REDACTED]
[REDACTED]
[REDACTED]

C.C. Manager Network Investigations Att. D. Stockdale
Manager Commercial Network Support Att. R. Morris.

PORTLAND - CAPE BRIDGEWATER RCM SYSTEM

At the request of [REDACTED] Manager, Warrnambool COG. (CPE), NSS-Melbourne, Pair Gain Support Section, visited Portland exchange on 2nd March '93, to investigate problems reported on the Portland - Cape Bridgewater RCM system.

Initial reports where of a vocal customer at Cape Bridgewater complaining of VF cut-offs in one direction. The customer had been transferred off system 1, onto systems 2 and 3 on the 24th February '93, and had experienced no further problems. Investigations revealed that system 1 was running a large number of degraded minutes (DM) and errored seconds (ES) in the Portland to Cape Bridgewater direction, these errors could have caused the VF cut-off problem.

Initial error counter readings:-

Portland to Cape Bridgewater direction:-

	System 1	System 2	System 3
SES	0	0	0
DM	45993	3342	2
ES	65535	65535	87

Cape Bridgewater to Portland direction:-

	System 1	System 2	System 3
SES	0	0	0
DM	1	1	0
ES	246	751	23

At this stage we had no idea over what period of time these errors had accumulated.

Attempts to test the inground repeaters using the "trios" system where unsuccessful as the strapping records could not be located.

Other faults identified with the Cape Bridgewater installation where:-

- the presence of 500Hz. noise on all customer lines at -58 dBm causing minor noise problems.

- 0,01
- cable ducts into both the cross connect cabinet and the concrete hut were sealed allowing the ingress of moisture, which could affect the error counts detailed above.
 - the alarm system on all three RCM systems had not been programmed. This would have prevented any local alarms being extended back to Portland.

→ The bearer performance was monitored overnight and revealed that system 1, in the Portland to Cape Bridgewater direction, accumulated approximately 450 DM's and 43500ES's while systems 2 and 3 recorded no errors in either direction.

→ A problem with the installation of the enhanced lightning protection modules in the IDS block at Cape Bridgewater was discovered. After this problem was rectified and the bearer monitored overnight, no DM's or ES's were recorded. II

All the SE boards used in the Portland - Cape Bridgewater RCM system have now been modified to eliminate the 500Hz. noise problem. SE boards installed in the Portland - Alcoa RCM system were also modified to eliminate a 500Hz. noise problem on cut over.

The problem of sealing the cable ducts has since been rectified by the local lines staff.

NSS-Melbourne has continued to monitor the Portland - Cape Bridgewater bearers since the 3rd March '93. In the period from the 3rd March '93, to the 17th March '93, the errors on all three bearers have been minimal.

ie:- Portland to Cape Bridgewater direction:- system 1, 4 ES
- system 2, 3 ES
- system 3, 0 ES

Cape Bridgewater to Portland direction:- system 1, 1 ES
- system 2, 1 ES
- system 3, 3 ES

[REDACTED]
[REDACTED]
for Supervising Engineer, National Switching Support - Melbourne.

2.23 Continued Reports of Cape Bridgewater 008 Faults - Conflict re: Charged Calls and Answered Calls

Throughout the period of operation of the 008 816 522 service (December 92 to present) there have been continued reportings from CBHC (or callers to CBHC) of:

- calls not received (answered) but charged
- caller receiving RVA
- 'call but line dead'

It is difficult to attribute these conditions over the period of occurrences to specific events or faults. In considering these complaints, an explanation of the operation of 008 services may assist (ref: to Configuration 'B').

When a 008 XXXX XXXX number is called from anywhere in Australia, the call is directed to an Intelligent Network Centre (INC) which is dedicated to processing "Intelligent Network Services" such as 008, 1800, 13 type services. In the case of 008 services, the INC:

- analyses the 008 code and translates it to the required destination code - i.e. CBHC, to 055 267 267
- sets up the call to the required service from the INC
- supervises the call, and cost accounts the call for billing.

3. Other Sources of Problems

It should be noted that during the period December 1992 to October 1994 the order of 225 fault reports were made concerning the CBHC services, as recorded by Telecom. Notwithstanding the above documented faults and problems, there were problems quite evidently caused by mis-operation or understanding of the CPE.

Issues relate to:

- the answering machine answering calls automatically with tone after 30 seconds of ring (around mid April 1992);
- handsets occasionally being left off-hook for extended periods (Mr Smith has stated this only occurred on one or two occasions);
- interaction of the cordless handset (period of 3 months, early 1993) causing a range of problems, as detailed;

- a range of callers making 'test calls' on behalf of CBHC confusing the real operational picture during the later parts of 1994 (Mr Smith believes these tests would not have caused confusion).

4. Impact Assessment

An assessment of the impact of faults on the CBHC telephone service is made here, based on the criterion of whether the particular fault did or did not cause the level of service to drop below a reasonable level.

1.1 (i) Over the order of three years, the probability of congestion due to network dimensioning during the busiest hour of the week was around 12% in many instances, and around 6% on average during that busiest hour. 1-2% would be normal.

ASSESSMENT - Service was less than reasonable.

1.1(ii) Capacity of 8 locally terminated calls for up to 66 customer services may have been reasonable network dimensioning for the area at the time, although the limited capacity may well have contributed to the congestion (false busies) reported. In the absence of other explanations for the false busies, a reasonable expectation would have been that the capacity should have been increased within a shorter period than 3½ years.

ASSESSMENT - Service was less than reasonable.

1.2 A hardware fault affecting an average 12.5% of all local to local and incoming traffic was detected, and persisted for at least 2 - 3 days. While such a fault can be expected to happen, reasonable service relates to the time taken to return the service to normal. For this degree of service loss, a reasonable expectation would be repair within less than 2 days.

ASSESSMENT - Service was less than reasonable.

2.2 Problems with RCM 1.

These problems continued with RCM 1 for 18 months. For a range of problems (ultimately attributable specifically to one of three parallel systems, each servicing different customers) to persist for 18 months is deemed unreasonable.

ASSESSMENT - Service was less than reasonable.

2.3 A reasonable expectation of service would be that errors of this type (data entry) would be quickly detected through confirmation testing or checking at or immediately after the data entry, with traffic impact of much less than 16 days.

ASSESSMENT - Service was less than reasonable.

2.4 Reports related to a small number of calls incorrectly receiving RVA. Since considerable network testing was done on at least one of these calls, with NFF and no subsequent similar pattern of reports, reasonable service may have been achieved if appropriate advice was given to the customers, and the fault remained 'open' and not cleared.

ASSESSMENT - Indeterminate

2.5 Testing by the group within Telecom who were responsible for the investigation of the most complex network faults (NNI) caused severe lockup of circuits and therefore congestion for 1 day.

The lockups were accidental and avoidable.

A reasonable expectation would be that if and when testing is necessary, it does not cause major detriment to general service provision, and, test teams (eg. NNI) understand and monitor the impact of their testing.

ASSESSMENT - Service was less than reasonable.

2.6 Software fault for about 1½ hours. As all service was lost for this period:

ASSESSMENT - Service was less than reasonable.

2.7 2.5% of the traffic from the Portland area to CB failed for 5 days, due to 1 of 40 shared devices in the Portland exchange failing. Based on Mr. Smith's estimate on another matter, less than 40% of CBHC incoming traffic originates from this area. Therefore on average, less than 1% of total traffic to CBHC was affected.

ASSESSMENT - Service was on the margin between reasonable and less than reasonable.

2.8 RCM 1 failure due to lightning damage. Lightning damage to communications equipment would be expected from time to time in this area. Reasonable service relates to the time taken to return the service to normal. A reasonable expectation would be repair within less than the 4 days actually taken.

ASSESSMENT - Service was less than reasonable.

2.9 Evidence of problems with services on RCM 1 had been sufficient to cause Telecom to move the CBHC services away from RCM 1 to RCM 2 and 3. Later when the RCM equipment was examined by Melbourne staff, evidence of severe error levels had accumulated on the counters in the transmission equipment (particularly RCM 1). After corrective action, these severe error levels were no longer accumulating.

2.22 All services for CBHC were lost for 3 hours due to an exchange data programming error. Such major impact due to an operational error is deemed a less than reasonable level of service.

ASSESSMENT - Service was less than reasonable.

2.23 Continued reports of 008 faults up to the present. As the level of disruption to overall CBHC service is not clear, and fault causes have not been diagnosed, a reasonable expectation is that these faults would remain "open".

ASSESSMENT - Indeterminate.

3. About 200 fault reports were made over December 1992 to October 1994. Specific assessment of these reports other than where covered above, has not been attempted.

5 Summary

CBHC telephone services have suffered considerable technical difficulties during the period in question. Telecom, certainly initially fully concentrated on the CAN/CPE elements, and if they were 'intact', faults would be treated as NFF (No Fault Found). As can be seen from the above, faults did exist that affected the CBHC services, causing service to fall below a reasonable level and apart from CPE problems, most of these faults or problems were in the Inter Exchange Network.

Sources of Information

The information provided in this report has been derived and interpreted from the following documents:

- Smith - Letter of Claim (SM1)
- Smith - George Close Report dated 5/7/94 (SM8)
- Smith - George Close Report dated August 1994 (SM9)
- Smith - Telecom Defence Witness Statements
- Smith - Telecom Defence B004 Service History
- Smith - Telecom Defence B004 Appendix File 1
- Smith - Telecom Defence B004 Appendix File 2
- Smith - Telecom Defence B004 Appendix File 3
- Smith - Telecom Defence B004 Appendix File 4
- Smith - Telecom Defence B004 Appendix File 5
- Smith - Telecom Australia - Ref 1 Statutory Declaration of Ross Marshall. Ref 2 An Introduction to Telecommunications in Australia. Ref 3 Telecom Australia's Network Philosophy. Ref 4 Glossary of Terms
- Smith - FOI Material 19 December 1994 (SM44)
- Smith - George Close & Associates Report 20 January 1995 - Reply to Telecom's Defence (SM50)
- Smith - Samples of FOI Telecom Documents (SM49)
- Smith - Appendix C Additional evidence (SM48)
- Smith - Summary of TF200 Report (SM47)
- Smith - Bell Canada International Inc. Further information (SM46)
- Smith - Additional information (SM45)

CHECK WITH MY
COPY - NOTE HERE MY
CHAIN 13 DOCUMENTS
NOT ADDRESSED

? MISSING

A site visit was conducted on Wednesday 4th April 1995 covering:

- inspection of the Cape Bridgewater RCM exchange
- inspection of the CPE at the Cape Bridgewater Holiday Camp
- inspection of the exchange equipment at Portland (RCM, AXE 104, ARF)
- discussions with Mr Alan Smith, accompanied by Mr Peter Gamble of Telecom Australia.

ATTACHMENT ONE

**THREE LETTERS FROM TELECOM
TO MR ALAN SMITH**

25 May, 1993

Mr Alan Smith
Cape Bridgewater Holiday Camp
RMB 4408
CAPE BRIDGEWATER VIC 3306

Dear Alan

Telecom Australia endeavours to provide at all times the telecommunications services in respect of which a customer has made application, however, Telecom does not guarantee continuous provision of, or fault free, telecommunications services. Faults do occur in the network from time to time and we work to correct any faults as soon as possible after they are reported.

On the basis of tests carried out to date, and current measures of network performance, indications are that the performance of the Cape Bridgewater RCM (to which Cape Bridgewater Holiday Camp telephone service is connected) is up to network standards. Given the recent experiences described by yourself, further investigations including rigorous testing will be carried out.

A further statement will be made upon completion of these investigations.

Yours sincerely

Rosanne Pittard
Rosanne Pittard
General Manager
Commercial Vic/Tas



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Telecom Australia

Telecom Commercial
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Glen Waverley 3150

Postal Address
PO Box 356
Glen Waverley 3150

Tel: (03) 550 7330
Fax: (03) 562 1926

18 September 1992

Mr Alan Smith
Cape Bridgewater Holiday Camp
RMB 4408
CAPE BRIDGEWATER 3304

Dear Mr Smith

Thank you for your letter of 10 September 1992 regarding the quality of your telephone service at Cape Bridgewater.

May we assure you that Telecom is committed to providing a quality service for all our customers and this commitment is supported by a technical organisation capable of responding quickly and efficiently to a service difficulty should there be a need.

✓ We believe that the quality of your telephone service can be guaranteed and although it ✓
would be impossible to suggest that there would never be a service problem we could see no reason why this should be a factor in your business endeavours.

Should you still be concerned about the ability of Telecom to provide a reliable service may we offer the services of our Area Manager, Mr Mark Ross (telephone: (053) 370 211) of myself (telephone: (03) 550 7330) as a contact should you wish to discuss any current or future issues.

Yours sincerely

Bob Beard
Service Manager
Telecom Commercial Vic/Tas

ID: BB180901



Australia's Telecom
Proudly supporting Australia's
Olympic team 1992

Australian and Overseas
Telecommunications Corporation
Limited

A.C.N. 051 775 556

Postal Address
PO Box 356
Glen Waverley 3150

1 September 1992

Mr Alan Smith
Cape Bridgewater Holiday Camp
RMB 4408
CAPE BRIDGEWATER 3306

Dear Alan

We have not had the pleasure of meeting. However I have been briefed on the matters relating to the standard of your telephone service and recent communications between Telecom and yourself. Let me first assure you that we in Telecom are committed to ensure that the service provided to all customers is of the highest possible standard.

I understand that since our recent tests on your service were completed you or your representative met with senior Telecom managers from our National and Corporate offices. I also understand that at that meeting you expressed concerns that your service was not operating at required levels of performance and sought an undertaking that action would be taken to rectify this situation.

Whilst our recent tests indicate that your service is now performing to normal network standards, I am initiating a further detailed study of all the elements of your service and the tests which have been conducted. The aim of this study is to confirm the standard of service you currently receive and to check that there are in fact no ongoing problems. This testing could also involve an additional check of the communications equipment at your premises, if you agree. I anticipate that this study will be completed by early October and I will be happy to discuss the results with you then, should you so desire. Should this investigation identify any faults in the Telecom component of your service they will be rectified in accordance with normal practice.

Let me close by assuring you that I am personally committed to resolving this matter and I am available at any time to discuss your concerns and explore opportunities to resolve our differences. I can be contacted on (03) 550 7500, should you wish to raise any further matters with me.

Rosanne Pittard
Rosanne Pittard
General Manager
Telecom Commercial Vic/Tas

ID: RP010902

I, Alan Smith

of Cape Bridgewater Holiday Camp
Portland

in the State of Victoria
do solemnly and

sincerely declare

THAT Approximately 5-7 days prior to June 3 1993, I had a phone call from Telecom Network Investigation Unit. This call was to establish an appointment/time for two investigating officers, from this department, to meet me at Cape Bridgewater Holiday Camp. June 3 1993 was the nominated day, mid afternoon. It was mentioned by one of these officers, because of the continued phone complaints by myself and others, Telecom was connecting a monitoring device, to establish why these complaints were in abundance. "AT NO TIME" was it explained by this officer, that the testing machine would be a device where by those operating this machine could listen to my phone conversations. Had I been informed of such, I would have warned my Single Club members, people ringing my business, that for a period of time while my phone service was being viewed, our conversations could very well be listened to. My own personal conversations, would then have been carried out from the Gold Phone, 267 260. I have presented this information here, Statutory Declaration, as I was asked by David Read Lane Telecommunications Pty Ltd on the 5 April 1995, was I aware of this MCT equipment on my line.

AND I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of an Act of the Parliament of Victoria rendering persons making a false declaration punishable for wilful and corrupt perjury.

DECLARED at Portland in the
State of Victoria this 7th
day of April One thousand
nine hundred Ninety Five.

Before me

Co. Justice

Alan Smith 1/24/95

Exhibit 5
DMR & Lanes
Final Report

TELSTRA'S + my COPY

TELECOMMUNICATIONS INDUSTRY OMBUDSMAN
- FAST TRACK ARBITRATION

3

RESOURCE UNIT TECHNICAL EVALUATION REPORT
- RE: MR ALAN SMITH OF
CAPE BRIDGEWATER HOLIDAY CAMP

Issue: of 30 April 1995
Prepared by: Mr David Read and Mr Paul Howell



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RESOURCE UNIT TECHNICAL EVALUATION REPORT

Mr. Alan Smith of Cape Bridgewater Holiday Camp

30 April 1995

Introduction

This document is DMR Group Inc.'s (Montreal, Canada) and Lane Telecommunications Pty Ltd's (Dulwich, South Australia) Technical Report on the Cape Bridgewater Holiday Camp COT case.

It is complete and final as it is.

To establish the context for our technical evaluation, we preface it with our positions on three specific details in Telecom's Service History. This is followed by a statement about other documentation which has been provided by both parties. And we provide a characterisation of the level of service which a customer such as Mr Smith could reasonably have expected.

Sections 1 and 2 itemise problems with Telecom's service to the Cape Bridgewater Holiday Camp in the period from February 1988 to October 1994. There were several different problems, sometimes more than one at a time, with several different causes. These are summarised in the Timeline at the end of the Introduction. They include:

- congestion
- low capacity
- exchange fault
- transmission equipment (RCM) faults
- calls wrongly directed to RVA (Recorded Voice Announcement)
- sundry reports with "no fault found" at the time
- Telecom testing
- programming error
- uncompleted 008 calls
- others.

Section 3 addresses the issue of problems with CPE (Customer Premises Equipment). It is not always clear to the customer where to draw the line between CPE and proper Telecom responsibilities, and Telecom did not succeed in making it clear to Mr Smith.

M34180

None of the faults covered in our Technical Report and attributed to Telecom is either "bogus" or CPE. We concur with Telecom that there were CPE faults, as discussed in Section 3 of the Technical Report.

Professional Service

Second, Telecom asserts that its employees always provided "professional" service "in good faith." While we do not find deliberate malfeasance on the part of the Telecom employees who serviced the Cape Bridgewater facilities, we do find Telecom's approach to fault reporting novel but less than adequate. Before December 1992, Telecom says it "tailored" fault reporting [Ref B004, p33 "Telecom treated complaints from Smith professionally by responding with a reporting processes [sic] tailored to meet his complaints."] After December 1992, Telecom says (p78) that "Smith's complaint reporting arrangements were upgraded." Considering that it took Telecom too long to diagnose and correct certain network faults (as indicated in the Technical Report), we find that Telecom's performance was not always adequate.

A well-disciplined maintenance team would retain customer complaints until they were resolved and clearly distinguish them from all other discussions with the customer, and Telecom did not always do this. Because they found certain faults difficult to replicate or to find, Telecom cleared them as non-existent with "No Fault Found." Telecom's approach at Cape Bridgewater, though well-meaning, if sometimes also condescending, was often more casual than professional. Telecom's actions in Cape Bridgewater appear to be aimed at level of effort more than level of service.

Care In Service Provision

Third, Telecom does not cite any examples of Telecom carelessness, but we find this to be a matter of interpretation in the instances of Telecom wrongly directing calls to Recorded Voice Announcement (2.3), testing causing lost calls (2.5), software faults (2.6), programming errors (2.12), and possibly others.

Service Level

At issue is whether or not the level of service provided to Mr Smith of Cape Bridgewater Holiday Camp by Telstra (Telecom) was the level the customer could reasonably have expected.

To make that determination, we first pose the question: What should the level of service have been, i.e., what could a Telecom customer expect in such a country area during the period covered by Mr Smith's claim?

Our Technical Report covers time periods as follows:

1. February, 1988 to 21 August 1991
2. After 21 August 1991 (to October 1994).

M34182

The expected service level before about 1991 was not defined in unequivocal, measurable terms, but was described by customer and regulator alike as "reasonable." There are service level indicators in the tariffs (e.g. Telecom Standard Conditions and Charges and TELSTRA BCS (Basic Carriage Service) Tariff Manual).

After 1991, the Telecommunications Act 1991 (ref. AUSTEL 1992/1993 Annual Report p 161) will have been in effect. It includes among its objectives:

"ensuring that the carriers achieve the highest possible levels of accountability and responsiveness to customer and community needs," and

"promoting the development of other sectors of the Australian economy through the commercial supply of a full range of modern telecommunications services at the lowest possible prices."

The principle of universality (Ref AUSTEL's 1992/1993 Annual Report p 168), as an objective, was in effect in Australia before 1991 (called the "community service obligation") and remains in effect. (Some 93% of rural households had telephones, versus 95% overall.):

"It is the Parliament's intention that all people in Australia, wherever they reside or carry on business, will continue to have reasonable access, on an equitable basis, to standard telephone services and payphones."

Starting in 1990, AUSTEL set (and continues to set) the technical standards for eligible services, for networks operated by carriers and for customer equipment and customer cabling. AUSTEL is also to set network end-to-end performance standards, but during the periods covered, performance parameters for telephone network service were being identified, and work was proceeding to quantify performance levels against those parameters, according to AUSTEL's 1992/1993 Annual Report, so no easy-to-apply fine measurement of service level is at hand.

Telecom's own Network Management Philosophy (issued 9 December 1994 and addressing "Telecom's performance against the defined standards for key network performance [...] over the period 1982 to the present." [p 5]) gives several indications of what is meant by average network availability on a national basis, i.e. percent of calls completed except when the called party is truly on the phone. For example, national network loss from July 1991 to March 1993 did not exceed 2.5% (except on Christmas Day), and from April 1993 it almost never exceeded 1.5% [p 22]. Local call loss percentages are even lower.

How did the service level provided by Telecom to Mr Smith during the periods measure up?

Mr Smith's claim is based on his complaints made during the period that Telecom was, effectively, failing to fulfil its universal service obligations and was providing an inadequate quality of standard telephone service. His complaints have been made in terms like:

- phones do not ring when [holiday camp] customers call

M34183

- [holiday camp] customers receive a "busy" tone when phones are not engaged
- calls placed to the holiday camp "drop out"
- recorded voice announcements inform callers that phones are disconnected when they are not.

Telecom recorded and responded to Mr. Smith's complaints in a variety of ways. But Mr Smith did not express his satisfaction--in fact, in his claim of June 1994, he refers [p 3] to "the continuing problems that I am experiencing" and states that "my phone service is still operating at a totally deficient level." The alleged faults were not rectified up to the time of the claim.

Telecom, as the sole universal service carrier for Australia (both before and after the Telecommunications Act), has no alternative but to "ensure that a standard telephone service is reasonably accessible to all people in Australia on an equitable basis." This spirit is confirmed by Telecom in the letter to Mr Smith of 1 September 1992: "Should this investigation identify any faults in the Telecom component of your service they will be rectified in accordance with normal practice." And again in Telecom's letter to Mr Smith of 18 September 1992: "We believe that the quality of your telephone service can be guaranteed and although it would be impossible to suggest that there would never be a service problem we could see no reason why this should be a factor in your business endeavours." And again in Telecom's letter to Mr Smith of 25 May 1993: "Telecom Australia endeavours to provide at all times the telecommunications services in respect of which a customer has made application..." (Copies of the letters are attached.)

We have reviewed the specific faults reported, based exclusively on the sources of information listed at the end of the Technical Report. Were they Telecom's faults? Whether they were Telecom's faults or not, what action did Telecom take to rectify them, (or refer them to others, if they were not Telecom's faults), and in what timeframes? Was there appropriate management of network operations, fault logging, and network monitoring? Was the customer appropriately handled, considering the intensity and long duration of his complaint?

Our investigations of the documentation and the site focused only on the technical issues which might have affected the level of service, which we take to include:

- design of the network--i.e., was the network correctly configured and was the design (and capacity planning) process sufficient to give a reasonable level of service?
- selection, installation and on-going maintenance of network equipment, or replacement of obsolete equipment
- operation and monitoring of the network and services, which typically includes informing subscribers in advance of outages, if any, due to equipment change-out or maintenance
- keeping track of usage of the network for billing purposes

M34184

50 EXAMPLES FOR DISCUSSION PURPOSES WITH COMMANDER A BOWLES
(In no particular order)

1. Beer allegedly found in Alan's Telephone by Telstra
2. Brighton CIB / Rundell incorrect statement to TIO Alan under investigation for criminal damage
3. An alleged phone call to Dr Hughes's wife at 2am in the mornin
4. Withholding of information by FHCA from DMR and Lanes
5. Alan's submission not assessed properly (documents withheld)
6. Dr Hughes made final award based on incomplete information
7. NEAT and BCI testing falsely recorded as taking place at the same time
8. MCT equipment on line and yet test calls reported as connecting with only 50 seconds between (MCT creates a 90-second gap between calls)
9. Lanes logo removed from their report onto a joint DMR and Lanes logo
10. DMR signed Report when Lanes compiled 90% of report
11. Joblin's psychiatric report based on false information provided by Telstra
12. Telstra withheld information from Joblin
13. Joblin statutory declaration not signed yet pre signed by Telstra's lawyers
14. Hughes admission that not enough time had been allowed to complete my arbitration correctly yet deliberated on my claim regardless
15. Arbitration meetings attended by Telstra and the arbitrator without COT representatives present
16. Arbitration procedural documents not passed to all parties
17. Telstra's admission to TIO that they withheld at least 40-50% of Alan's documents until after the arbitrator had handed down his award
18. Telstra FOI documents altered between Alan's first and second viewing of the information contained therein
19. Telstra withholding at least 24,000 documents until twelve days after they had submitted their defence.
20. Alan forced to agree to Telstra's arbitration liaison officer not to supply further FOI documents to the Federal Police investigation
21. Arbitrator aware that Telstra was not complying with rules regarding provision of documents to COTs under the agreed Arbitration Agreement
22. Telstra advised AUSTEL in writing they would address the billing faults raised in Alan's claim in their arbitration defence and then didn't
23. Technical Unit ordered by FHCA not to address the billing issues
24. FHCA incorrectly insisting to the TIO Alan left the billing issues until it was too late to address during his arbitration
25. Different versions of the Technical Evaluation Report being sent to the arbitrator and Alan

26. TIO's refusal to address unlawful way in which arbitration was conducted
27. TIO misled politicians when addressing Alan's arbitration
28. Arbitrator pressured into finalising Alan's arbitration by TIO and Minter Ellison, when he knew documents were still not being supplied to Alan
29. Arbitrator confirms in letter to the TIO 'of procedural difficulties' experienced in Alan's arbitration but doesn't advise Alan what they were
30. Telstra's inappropriate use of legal professional privilege
31. Relevant documents supplied by Telstra to Alan six months too late
32. 'Can of Worms' issue
33. Whistleblower comment to the Senate 'stop the COT's at all cost'
34. BCI's Gerald Kealey saying he visited Portland when he didn't
35. Dr Hughes's concerns about the outcome of making a 'full and frank disclosure of the facts' surrounding Alan's arbitration to Mr James, the President of the Institute of Arbitrators
36. Gerald Kealey letter provided to Senate to stop investigation into Alan's complaints – did Telstra actually write this letter themselves?
37. Billing faults continued after 'completion' of Alan's arbitration
38. New exchange not programmed for 267 numbers – fault lasted for 8 months, not the 14 days as documented in Telstra arbitration defence
39. Questions about independence of the award (comments like 'do we want to say this' on draft of award)
40. Deficiencies in the Verification Tests SVT (Cape Bridgewater) yet still used by Telstra as defence documents
41. Lock-up problems diagnosed as being caused by a build up of heat and then Telstra reporting it was 'wet and sticky' beer found in Smith's TF 200 telephone that had caused this lock-up fault
42. Hughes basing part of award on incorrect tourism stats
43. AUSTEL states RVA / Heywood fault was for probably 8 months yet Telstra stated in their arbitration defence the fault lasted for only 5 days
44. Briefcase documents confirm Telstra lied in settlement December 1992
45. Alan's list of telephone faults withheld from DMR and Lanes by FHCA
46. Lanes were supposed to only assist, not prepare the final report
47. Rundell leaving out relevant information from the financial report aware this left his report incomplete
48. Possible illegal diversion of incoming calls
49. Wrongly advising the Senate re BCI impracticable tests at Cape Bridgewater
50. Who's handwriting is it that appears on a number of pages in the arbitrators draft award advising him what to and what not to state in his final award?

- dealing with client fault reports--recording them, rectifying them, documenting diagnostic and corrective measures, verifying that the customer has not continued to experience the reported problems, and escalating them as appropriate, until they are resolved.

We conclude that the Cape Bridgewater Holiday Camp experienced genuine technical difficulties--i.e., service deficiencies--which were not promptly diagnosed correctly by Telecom. These are covered in the Technical Report.

Customers expect world class service from telephone companies, and Telecom takes this expectation into account, as pointed out in its Network Management Philosophy [p 4]. Telephone companies provide services which are reliable and consistent enough, even fail-safe, to be counted upon in emergencies. Customers' expectations of affordable telephones which always work are reasonable expectations.

Customers of public telephone services can also reasonably expect telephone companies to fix reported faults (or explain non-faults to the customer's satisfaction), not to clear them with a "NFF" (no fault found), as Telecom frequently did, even if they found the reported faults difficult to replicate and difficult to diagnose. The process of explanation to the customer (or the lack of it) is a crucial component of fault report management, and therefore of reasonable service as a whole. The fact that events have led to a protracted dispute suggests to us that this process may have been inadequate in the early period. Once an incomplete report-response pattern becomes entrenched, the criterion of "reasonable service level" becomes difficult to satisfy.

It is in neither the network operator's nor the customer's interest for the customer to engage in network diagnostics of his own. Circumstances which lead to customers diagnosing the network themselves, instead of relying on the telephone company or the regulator to do it, can be said to be symptoms of an inadequate level of service or a frustrated or possibly irrational customer. Customers do not generally have the financial resources or the technical expertise to diagnose networks, as Mr Smith has attempted to do.

A reasonable level of telephone service requires that the network operator fix reported (and unreported) faults promptly. This principle is factored in to the tariffs. If they are not faults in the telephone system, the network operator can resolve them by passing them on, explicitly and officially, to the liable parties, which may include the customer in cases of the incorrect use of equipment or misinterpretation of circumstances (e.g., if a customer dialled a wrong number and reported that the phone at the number he intended to call did not ring).

The types of faults reported do not easily fall into definite categories. In some cases more than one fault may have been involved. And the further back in history we look, the more we have to rely on phrases like "potential," or "could well explain," or "were likely to cause," etc.

M34185

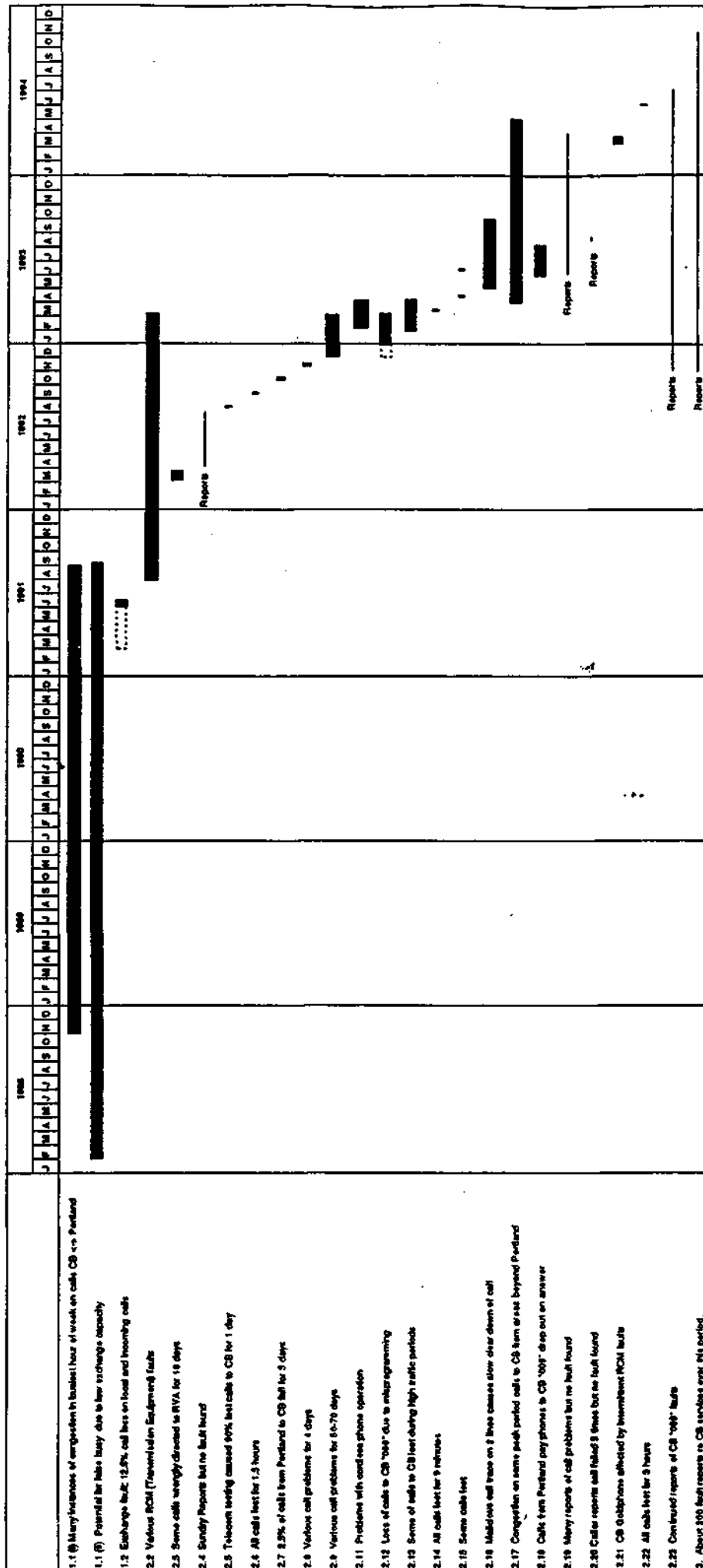
As shown in the Technical Report, there were faults caused by congestion and under-dimensioning, equipment problems, software problems, incorrect data entered, faulty data change control, and lightning. Telecom diagnostics sometimes concluded that there were no faults (NFF) in cases when there were faults. Since the customer was generally not satisfied throughout a period of more than six years, it often took Telecom too long to resolve faults.

In summary, hundreds of faults were reported by this customer. Some of these reports were made when the customer misunderstood or incorrectly used non-Telecom devices. But many were based on insufficient network facilities or network equipment which was not working.

M34186

MIR ALAN SMITH
CAPE BRIDGEWATER HOLIDAY CAMP

TIMELINE OF PERIOD IN WHICH FAULTS IMPACTED AND REPORTS WERE MADE



M34187

NOTES AND INFORMATION: Refer to "Notes to Timelines"

Smith's Claims Dated June 1984

Latest Telecommunications 2800/995

NOTES TO TIMELINE

RE: MR ALAN SMITH

General Note: A block on the Timeline does not necessarily imply that the fault was continuous for the whole period.

- 1.1 (i) Many instances in the busiest hour of the week where probability of congestion exceeded 12% on calls between CB and other locations.
- (ii) CB RAX exchange could only handle max 8 calls to customers connected to it at any one time. 66 customers were connected to it by 1991.
- 1.2 Switch fault found June 28: believed to have been a "hard" fault for 2-3 days but may have been intermittent from March 1991. 12.5% of all local and incoming calls lost during "hard" period.
- 2.2 Range of problems with RCM over this period.
- 2.3 At least 33% of all calls from Melbourne and interstate to CB directed to RVA for at least 16 days.
- 2.5 90% of callers to CBHC received busy or congestion tone.
- 2.6 Exchange software fault Portland AXE.
- 2.7 Exchange hardware fault Portland ARF.
- 2.8 Various calling problems for 4 days due to RCM equipment damage by lightning strike (November 1992).
- 2.9 Various calling problems due to RCM faults for 50-70 days (December 1992 - February 1993).
- 2.11 Some problems may have been due to intrinsic operational limitations of these units.
- 2.12 Calls misdirected by Telecom to fax machine during January and up to 8/2/93.
- 2.13 Not known when this condition commenced (several reports over February and March).
- 2.15 Faults in Warrnambool, Heywood and Sebastopol exchanges.
- 2.16 Mr Smith denies being briefed on MCT or its effects on slow clear-down of calls, thus behaviour consistent with real faults was observed.
- 2.17 Regular congestion confirmed on peak periods on Wednesdays and Sunday evenings.
- 2.18 Confirmed 18/6 - 8/8/93. Could have begun earlier.
- 2.19 Reports included busy, RVA received, one burst of ring, short calls.
- 2.20 5 calls from Daylesford caller to CB received dead line.
- 2.21 Effect on Goldphone 8 March - 19 March 1994 (intermittent no dialtone).
- 2.22 All CB traffic lost due to programming error at Portland AXE.

M34188

Scope of Report

This Technical Report covers incidents and events potentially affecting the telephone services provided to the Cape Bridgewater Holiday Camp during the period February 1988 to October 1994. It is based on a review and analysis of all the source information, itemised under "Sources of Information". It focuses on the real technical difficulties experienced by Cape Bridgewater Holiday Camp during the period in question, which we consider to be within the normal realm of Telephone Companies' responsibilities. It does not go into detail about the mis-operation or incorrect understanding of the customer premises equipment (CPE), where these would normally be considered the responsibility of the customer.

M34189

1. Period - February 1988 To 21 August 1991

The significance of this period is that it covers the time from take-up of CBHC services with Exchange Configuration 'A' until this configuration was changed on 21 August 1991. Services were provided from a Rural Automatic Exchange (RAX) connected to the Portland ARF exchange.

1.1 Potential Source of 'False Busy' during period February 1988 to 21 August 1991

- (i) Many instances of congestion in the busiest hour of the week on calls between Cape Bridgewater and Portland: congestion on the Inter Exchange Junctions

The following is an extract from the Telecom document produced by the Commercial and Consumer Office of Customer Affairs, 'General Information Document REF 1, An Introduction to Telecommunications in Australia, Issue 9 December 1994', which we find describes network dimensioning as it was performed during the period from 1987:

"6.4 Network Dimensioning Principles

"Dimensioning is the process of determining the quantity of equipment needed for a particular traffic volume. Dimensioning is a major activity in network design, and is required when an entirely new telecommunications facility is being planned or when an extension to existing equipment is required.

"Dimensioning is carried out in accordance with the following principles

"Time Horizon:

"Network dimensioning is aimed at ensuring that the next network enhancement is able to handle traffic for the busiest season in the year following the year of installation.

"Traffic Base:

"As traffic is of a random nature it is necessary to obtain a standard specification for traffic value for use in network dimensioning. This is known as the traffic base. Two measures are used.

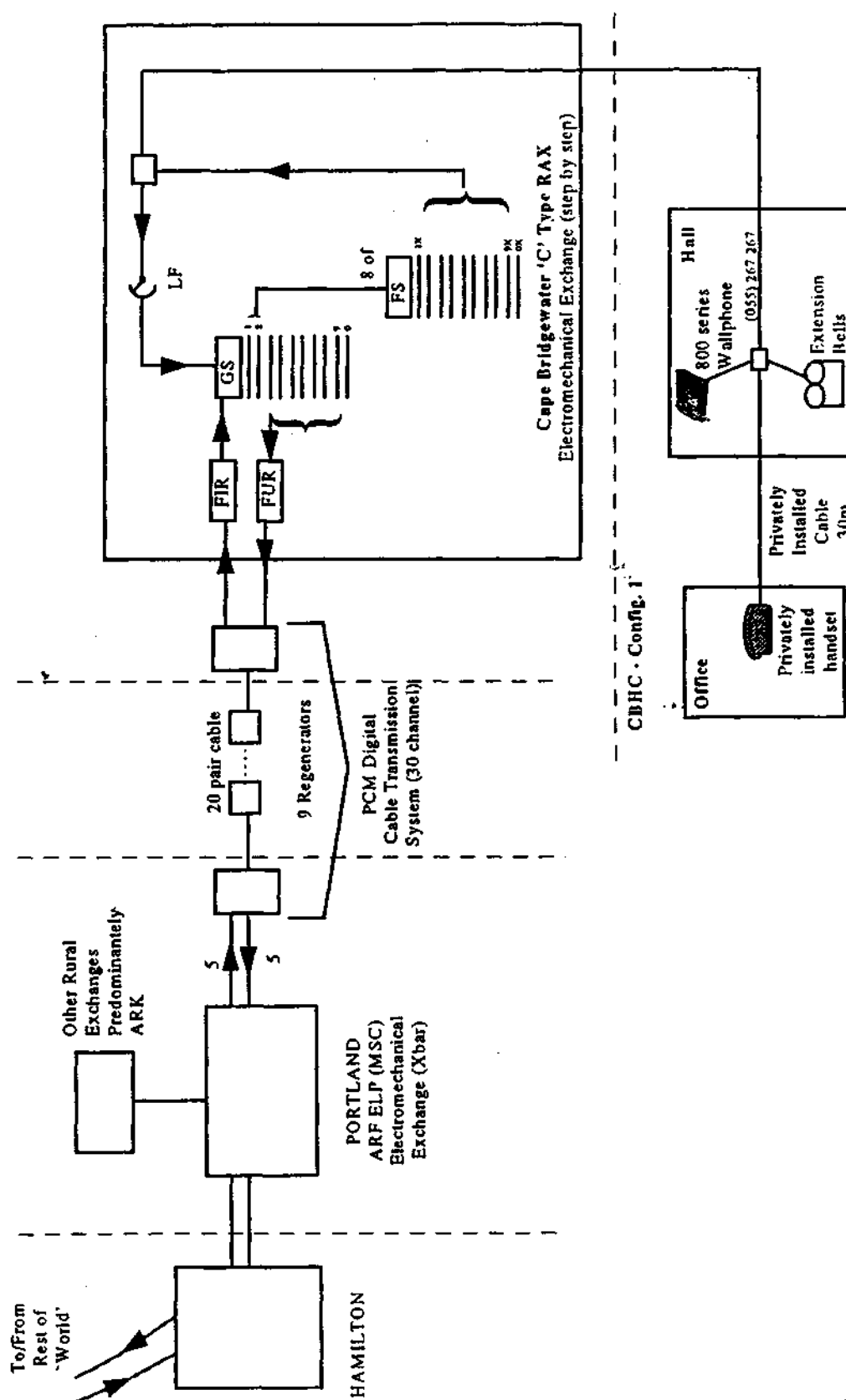
"The first, the Rubas, is defined as the busiest 50 half-hour periods in a 7-day week.

"The second is the *peak weekly reading* * (weekly busiest), or maximum traffic intensity observed within the week and is specified for key routes. Weekly Busiest excludes special events such as Christmas and days on which "spot specials" such as one-off STD and ISD price discounts, are offered."

(* D Read - bold/italics)

M34190

CONFIGURATION AT FEBRUARY 1988 - 'A'



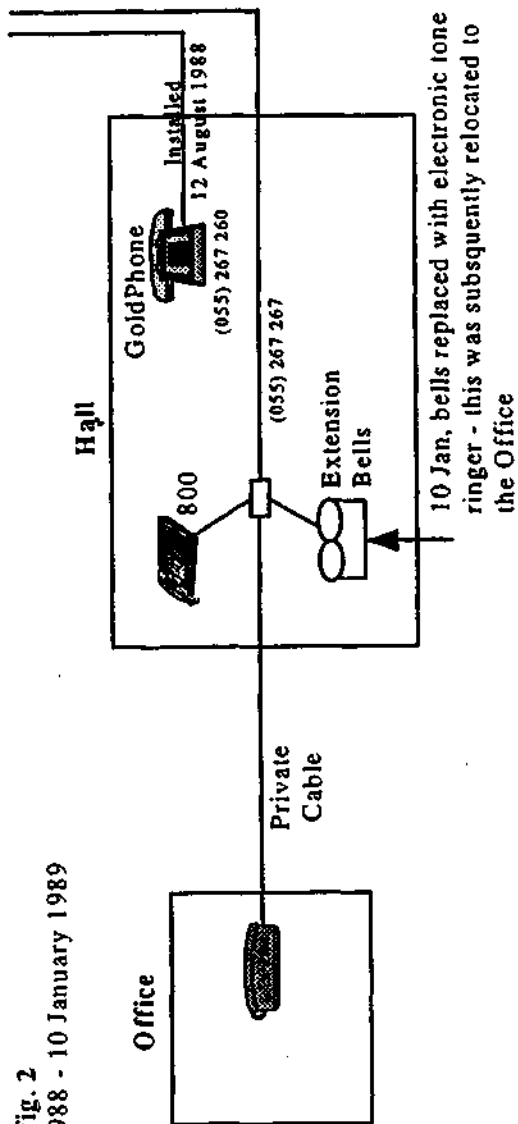
dmr0219

M34191

CHANGES TO CPE CONFIGURATION AT CBHC SITE

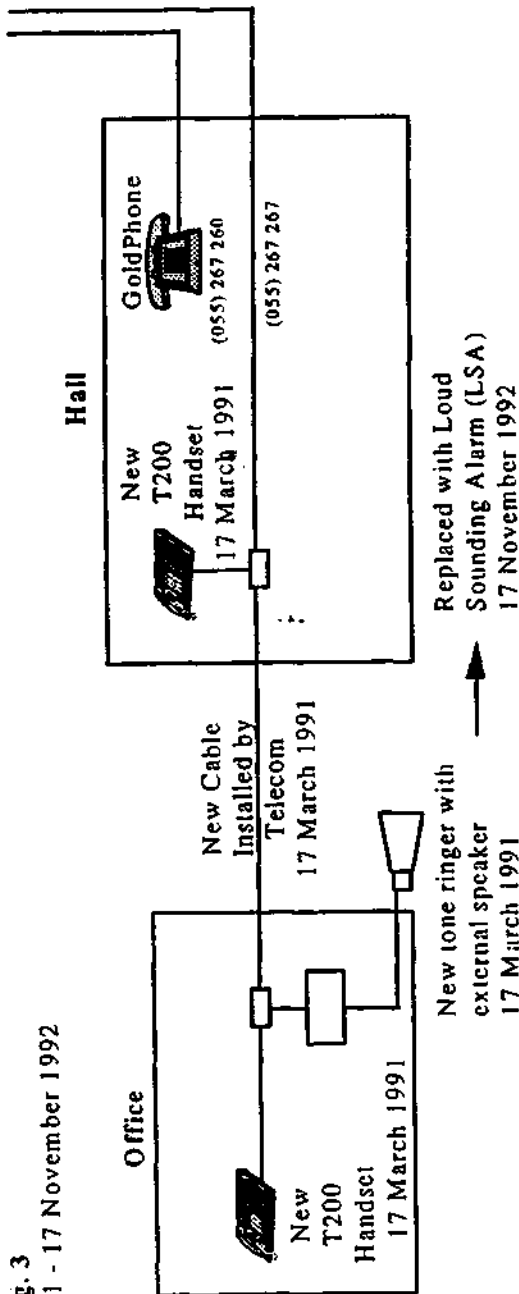
CBHC Config. 2

12 August 1988 - 10 January 1989



CBHC Config. 3

17 March 1991 - 17 November 1992



M34192

dmr0221

"6.5 Design Grade of Service

"Telecommunications networks are designed and dimensioned in line with the principles described above to carry the forecast traffic at a prescribed Grade of Service.

"The Design Grade of Service for individual routes needs to be chosen in order to make decisions about the amount of equipment required to carry the offered traffic. In choosing a particular numerical value for the design Grade of Service for different situations, a number of factors are taken into account. The main ones are:

- customer service,
- safety margins necessary to cover errors in traffic estimates
- unforeseen overloads
- equipment costs.

"The Design Grade of Service chosen in any particular situation represents a compromise between these several competing requirements and will generally be better than the prescribed Grade of Service."

There were reported periods of congestion on calls into the Cape Bridgewater RAX acknowledged by Telecom: Telecom Minute of 12/5/92, ref. Telecom Australia B004 Appendix 5/1, "Congestion between Cape Bridgewater and Portland had been prevalent as only five junctions available. This situation was to be upgraded with the cutover of Cape Bridgewater RAX to an RCM [remote customer multiplexer] parented back to Portland AXE 104," and

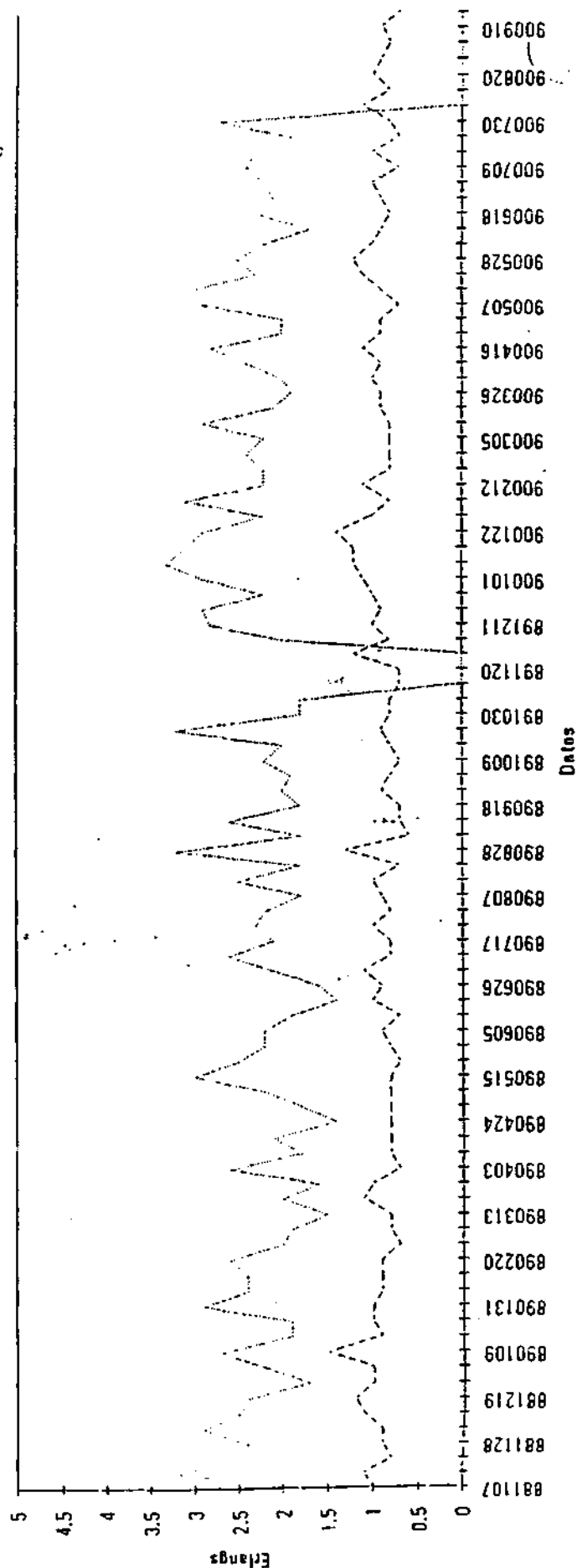
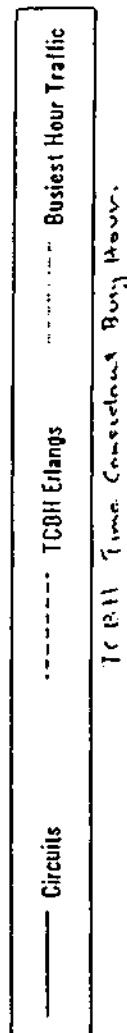
Reference (B004 Appendix 5/6), to the traffic profiles (graphs - see pages 15 and 16), pooling the weekly busiest hour traffic. These indicate that there were many instances measured in the period 7/11/88 to 10/9/90 where traffic Portland to CB exceeded 3.0E, i.e. the probability of congestion was the order of 12% with an average of 2.4E, i.e. probability of congestion is 6% (the reasonable level would be 1% to 2%). These graphs also show similar congestion in the CB to Portland direction.

Whilst the graphs only cover the period November 1988 to September 1990, the traffic profiles would indicate continuance of this situation right up until the exchange replacement (21 August 1991) and potentially a trend of higher congestion as the number of customer were increased from 50 to 66.

The busy hour generally occurred during early evening (7 - 8.30pm). Maintenance Testing (TRT - Traffic Route Testing) from remote locations did not detect this condition (ref: TRT test results B004 Appendix 5/8 test period March 1988 to July 1991) as the tests were conducted during the time 1200 - 1800 which is outside the busiest period.

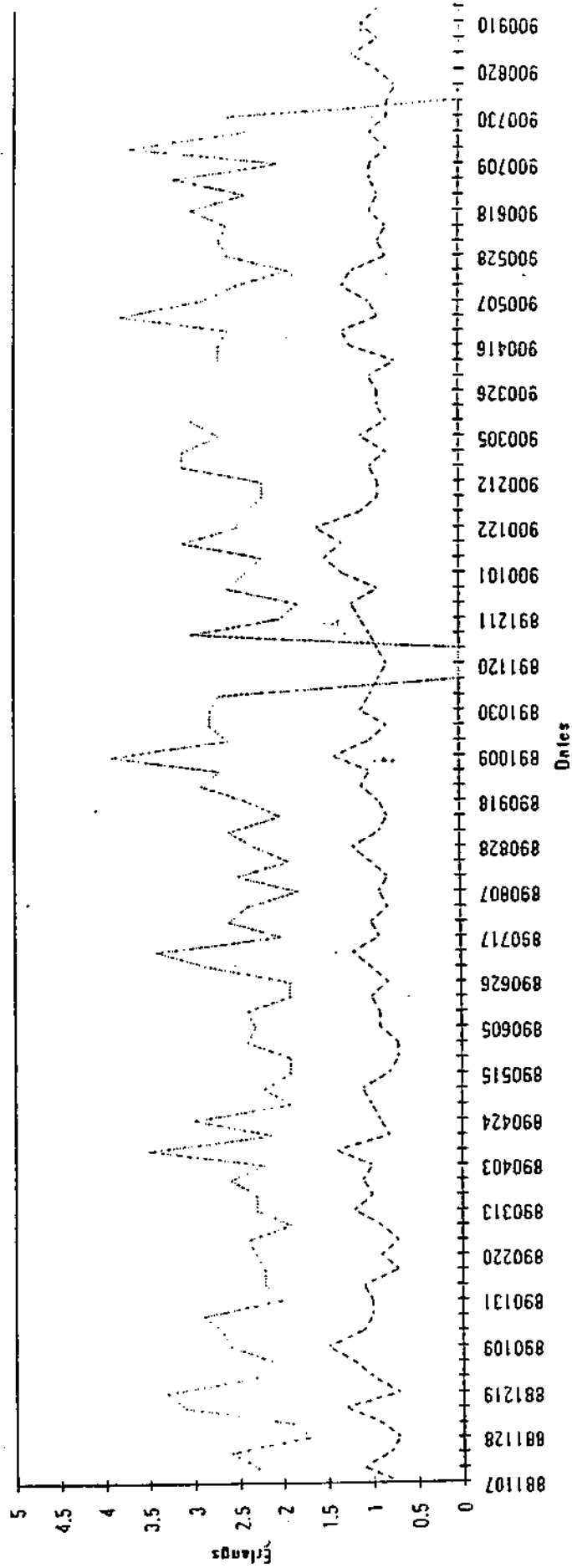
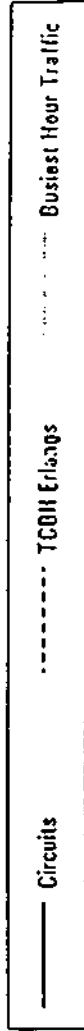
M34193

TPORC CBWR Y1 PORTLAND TO CR.



Busiest Hour Traffic: The traffic in the single busiest hour for that week

T CBWR PORC X1 CB TO PORTLAND



Busiest Hour Traffic - The traffic in the busiest single hour for that week

134195

Ref New 001015

Conversely, traffic outside the busiest hour (order of 1.0E or less) would receive a satisfactory grade of service on these routes (probability of congestion less than 1% on the junctions between CB and Portland).

- (ii) Potential for false busy due to low exchange capacity: congestion within the CB Exchange

The Cape Bridgewater RAX exchange was very old technology designed in the 1950's for very low calling rate areas, for example (based on the unit having 8 Final Selectors) the following are the maximum calls that could be handled irrespective of the number of services connected (of which there were 66 in 1991) or junctions provided;

- a total of 8 locally terminated calls from any source at the one time
- if there were, say, four local to local calls in progress, then only four calls to local numbers could be handled from outside the area at the same time.

These situations (i) and (ii) could well explain many of the 'False Busies' occurring right through the 3½ years of this configuration, in particular during the July/early August period 1991. These situations would not eliminate the possibility of intermittent other causes of faults.

1.2 Exchange fault: 12.5% call loss on local and incoming calls

On the 4th of March 1991 Mr Smith reported Not Receiving Ring. According to the "impromptu Telecom survey," three out of nine Cape Bridgewater customers indicated that they were experiencing similar problems, but 'inspection did not identify any problems'. "No fault found" (NFF) was therefore reported.

Up to 28 June 1991, several complaints of Wrong Nos, Busy, No Progress, No Ring Received problems by Cape Bridgewater services. On 28 June 1991, one of the eight final selectors was found to be faulty. This would effect on average:

- 12.5% of all local to local traffic;
- 12.5% of all incoming to Cape Bridgewater traffic.

The duration is not clear but is believed by Telecom to be of the order of only 2 to 3 days; however, the fault could have occurred intermittently for some weeks prior, before becoming a hard fault (and therefore explain earlier difficulties reported over the preceding months).

M34196

1.3 Customer Access Network (CAN) Testing

During this period, when complaints were made, Mr Smith's CAN and CPE were tested and/or changed (including replacement of private cable), with NFF (no fault found) being generally reported with "no subsequent action being required," though we observe that in Telecom's Network Management Philosophy of 9 December 1994 [p 8] "effective network management relies on the detection of patterns of incidents which identify a probable network abnormality. It may take time for information about a number of incidents to accumulate to allow a problem to be traced and corrected." And Telecom's briefing paper B004, 12/12/94, page 80 in reference to Mr Smith states of Non-standard faults (NSF) "details held in service plus records/scratch pad records." In any case, it would appear, as detailed above, that the problems were predominantly in the network (exchange, IEN). Testing was not highlighting these conditions, as it was generally conducted out of the busy periods. However, reading of the exchange congestion meters (which was regularly performed) should (and did) highlight the situation. During this period 12 fault calls were logged on the Telecom fault report system, although there appear to be several not logged (e.g. 14th August 1991 - refer B004/5 sections 23, 24).

2. Period Post 21 August 1991

The significance of 21 August 1991 is that the exchange configuration was changed (to configuration 'B'), that is, 'individual derived services via an RCM unit to the Portland new AXE exchange'.

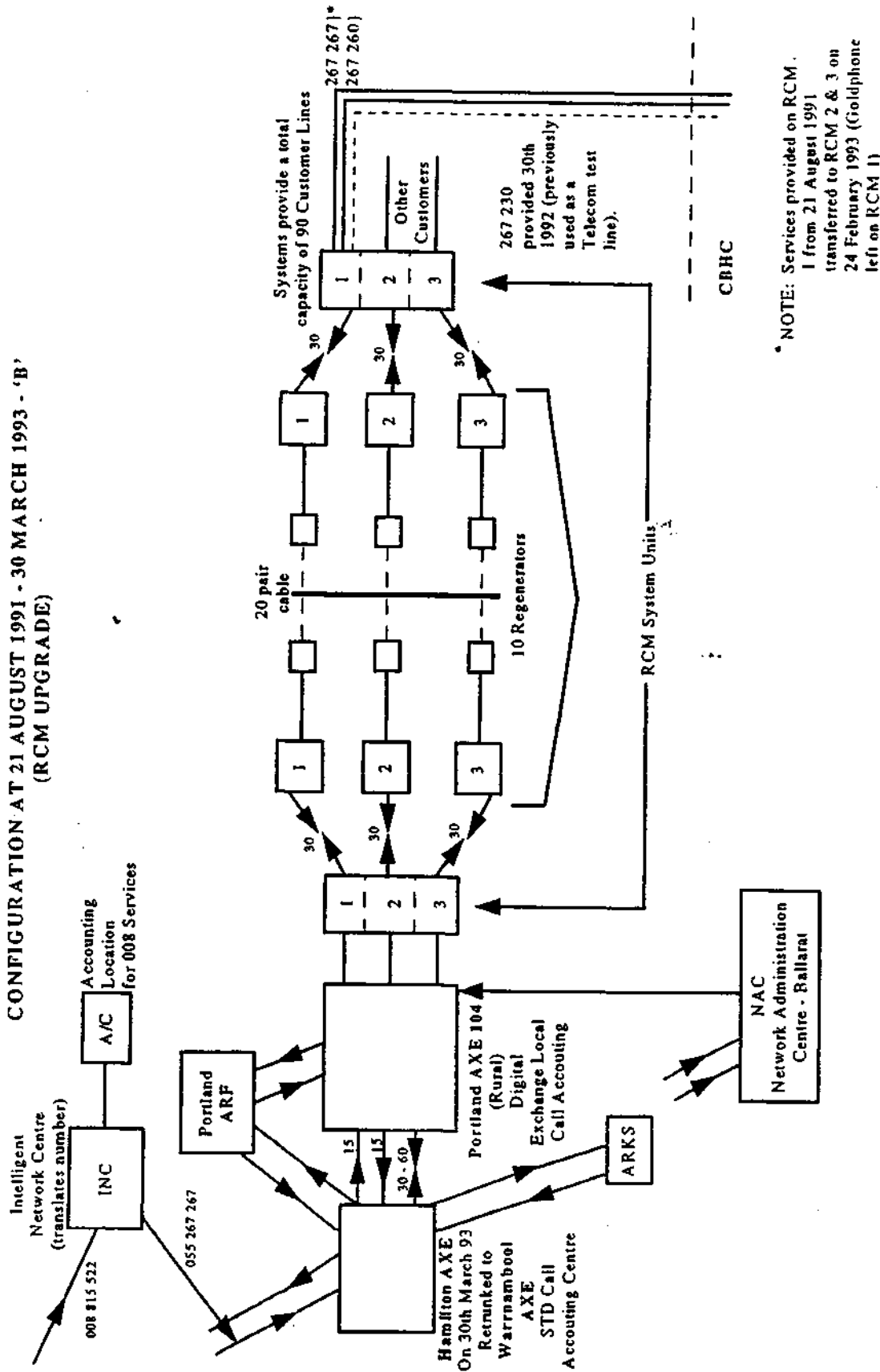
- 2.1 This should (and did) relieve the link congestion problem Portland to CB. However, subsequently, congestion may have occurred in other links (refer to 2.17).

2.2 Various RCM (Transmission Equipment) Faults

There were consistent problems with the RCM system. Mr Smith's services were carried on RCM No 1 until 24 February 1993. This system had a track record of problems, and the RCM system components were the subject of several design corrections (Work Specifications). These issues were likely to cause a range of problems (as reported) over the period August 1991 to February 1993 (a period of 18 months) when Mr Smith's services were transferred off RCM 1 and service improved. Specific problems caused are covered in later paragraphs (ref: 2.8, 2.9, 2.21).

M34197

CONFIGURATION AT 21 AUGUST 1991 - 30 MARCH 1993 - 'B'
(RCM UPGRADE)



* NOTE: Services provided on RCM.
1 from 21 August 1991
transferred to RCM 2 & 3 on
24 February 1993 (Goldphone
left on RCM 1)

dmr0220

M34198

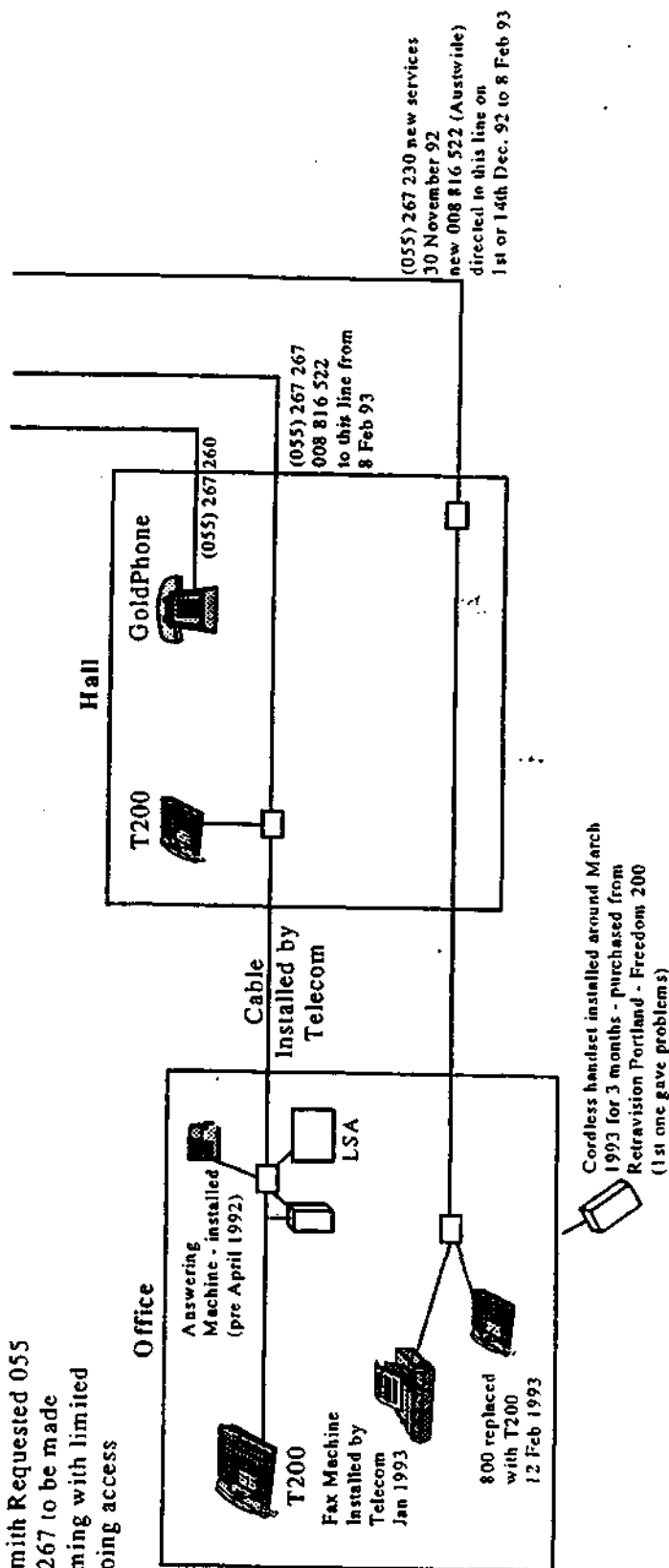
CHANGES TO CPE CONFIGURATION AT CBHC SITE

CBHC Config. 4

30 November 1992 - 1 December 1992 - 8 February - 12 February 1993

At 3 June 1993

A. Smith Requested 055
267 267 to be made
incoming with limited
outgoing access



M34199

MR Group Inc and
Lane Telecommunications Pty Ltd

2.3 Some Calls Wrongly Directed to Recorded Voice Announcement (RVA) for 16 Days, March 1992

In response to complaints from Mr Smith and others from CB, Telecom checking indicated that due to a data entry error on the Melbourne Windsor Trunk exchange (MELU) all calls through this exchange to CB (at least 33% of Melbourne and interstate traffic) were directed to RVA for at least 16 days and possibly longer.

There are some inconsistent statements on this situation:

Ref: Mr D Lucas, Area Manager - Special Products letter to Mr A Smith
23 November 1992.

"This fault affected incoming STD calls from Melbourne to CB for a period of up to 3 weeks prior to fault being fixed. The maximum impact on your incoming STD calls from Melbourne would have been up to 50%."

Ref: Telecom Australia B004 Alan Smith - CBHC Services History [p 18]

"Whilst it was initially thought that the problem may have existed for a 6 week period, subsequent investigations confirmed its existence for a total of 16 days (refer witness statement of Hew MacIntosh and David Stockdale)."

and

"However, it is estimated that the MELU problem would have resulted in 33% of callers from Melbourne (or passing through Melbourne e.g. from South Australia) to all customers in the 055 267 XXX number range receiving RVA."

The Telecom report further suggests "callers could have reached CBHC by adopting one of the following methods,"

- a) 'redialling' (with no comment that the probability of failure was again at least 33%)
- b) "contacting an operator" - i.e. STD has been ineffective.

Mr Smith's estimate of call distribution is that 60% of calls to CBHC originate from the affected areas, all of which had a 33% probability of failure. This in effect failed at least 20% of CBHC business traffic with mis-direction to RVA for the period of the fault. The number of callers who may never have redialled is unknown.

M34200

2.4 Sundry Reports, April - July 1992, but NFF (Summary Only)

- a) 16th April 1992, callers from Melbourne Greyhound Bus Terminal in Melbourne receiving RVA - NFF.
- b) April 1992, Mr Smith 'missing calls' - found that if the answering machine was 'plugged in but not in answering mode' the telephone would ring only for 30 seconds and then receive a burst of tone from the answering machine (rather than ring out to 90 seconds). It is likely that this situation was causing call-in difficulties during this period. i.e. incorrect operation of the answering machine could have caused caller difficulties.
- c) July 1992, caller reported receiving RVA on calling Smith from Station Pier. NFF after considerable network testing, and no attributable source subsequently detected.

2.5 Telecom Testing Caused 90% Lost Calls to Cape Bridgewater for One Day - 2 August 1992

Telecom National Network Investigation (NNI) section testing locked up all circuits from Hamilton to Portland for approximately one day (Sunday). This would have provided congestion/busy to 90% of callers to CBHC.

2.6 All Calls Lost for 1.5 Hours Due to Software Fault in Portland AXE - Blocked all Circuits, Hamilton to Portland - 28 September 1992

All calls to and from CB were blocked (congestion/busy) for the order of 1.5 hours. Callers to CBHC received No Progress: 2 complaints relating to CBHC were reported during this period.

2.7 2.5% of Calls from Portland to Cape Bridgewater Failed for Five Days due to a Register Fault and Congestion on the Portland Exchange, 7 October 1992

One of the 40 registers in the Portland ARF Minor Switching Centre was faulty for five days (2 - 7 October). The effects were:

- (i) 1 in 40 (2.5%) of calls originating from the ARF and ARK exchanges on Portland would fail (incorrect wrong number, RVA, etc). Therefore 2.5% of Portland area traffic to CBHC was affected.
- (ii) In an endeavour to locate the fault (and the 'MELU' fault in 2.3 above), in a letter of 23 November 1992 from Mr D Lucas, Area Manager - Special Products:

M34201

"Congestion could have been experienced by callers due to a combination of the two faults indicated above and the volume of test calls being generated by Telecom to locate faults. I understand that some of your customers expressed this condition as 'getting busy tone' when you were not using the telephone."

2.8 RCM 1 Failure due to Lightning Strike 21 November 1992 Affected Service for Four Days

A lightning strike on 21 November damaged the Cape Bridgewater RCM equipment: Telecom received 22 customer complaints from CB customers for No dial tone, No ring received, noisy. No complaint was identified from CBHC, however RCM 1 was affected, and this was the unit CBHC services were on. The condition affected services for 4 days, before restorative action was taken, which may have been less than successful, refer 2.9.

2.9 Various Call Problems for 50-70 Days

Network 'reception' breaks during STD calls - (reported 6 January 1993 - fault occurred two-to-three weeks prior to this).

Believed to be network problems (ref B004 1/4), and occurring in RCM 1 - RCM 1 was reporting a large number of degraded minutes--i.e., minutes in which error ratio is worse than 1 in 10^{-6} (ref B004 1/4 internal letter of 12 July 1993 reporting on this matter).

Problems had been occurring for some time (such as, clicking, breaks in transmission, and callers not getting through). Mr Smith's services (with the exception of the Goldphone) were transferred to RCM systems 2 and 3 on 24 February 1993. Mr Smith's services were affected for at least 50 days (probably 70 days) whilst the RCM problems were tracked down. Telecom initially investigated CAN with NFF, but subsequent investigations 'revealed 4 problems with the CB RCM' - i.e., it was a network problem (refer to the copies of correspondence dated 12 July 1993, and further system difficulties occurring early in 1994 - 2.21.).

Telecom Pair Gains Support expert group (E-mail of 5/3/93 from RM) found on RCM 1:

"Major problem, faulty termination of resistors on bearer block protection" - this is believed to be protection against lightning strikes, and the problem could have been in place since the repair due to the strike of 21 November, and "another (problem) caused by non modification to channel cards" - that is, modification to correct design faults (as detailed in Work Specifications) had not been carried out.

M34202

It is understood Telecom issued "mandatory" Work Specifications in 1991 to correct design fault conditions relating to:

- false answering of calls - False Ring Trip
- loss of speech during calls - VF drop out

In the letter of 12 July 1993 copied to Stockdale and Morris, reference is made to (DM) degraded minutes (minutes in which error ratio is worse than 1 in 10^6), ('ES') error seconds (seconds in which errors were detected in the Cyclic Redundancy Check character sent with each frame). The system, particularly RCM 1, was registering high levels of ES and DM. A test on the 2 March 1993, run overnight on RCM 1, resulted in: Portland to CB 43,500 ES - i.e. for a 12 hour test period, essentially every second was errored and also 450 degraded minutes were recorded. CB to Portland direction, 246 ES, 1 DM.

Suggestions are made by Telecom employees, for example:

"In my opinion ES only cause problems when digital data is transmitted, and have no effect on voice services, and DM have only a minimal effect on voice services and may cause an occasional audible click", ref Witness statement of Mr Leonard Banks, para 8, dated 12 December 1994.

The signalling system which sets-up the call and supervises calls, including answer received and call clearing, is (as explained to us by Telecom personnel) transmitted in the channel associated with the service, and is transmitted as a data signal: therefore as indicated above, high levels of ES or DMs could markedly effect the call set up, answer and clearing sequence.

2.10 Three Numbers in Ballarat Received No Call Progress (NOP) when Calling CBHC - 2 February 1993

Fault was subsequently found in the caller's PABX equipment at Ballarat (not CBHC).

2.11 Problems With Cordless Phone Operation, February and March 1993

To enable reception of calls whilst Mr Smith was moving around the camp site, a cordless handset system was installed on line 055 267 267: during the period it was connected there were situations where the operation of this unit caused difficulties, for example:

- 19 February 1993 - reported 'problems with Telecom (sic) cordless phone - the switch was not operating correctly preventing the phone from ringing' (the unit was obtained from a Retravision outlet, not from Telecom).

M34203

0702

Telecom
 AUSTRALIA

To: Manager
 Warrnambool COG
 [REDACTED]

From: [REDACTED]
 Pair Gains Support

Subject: Portland to Cape
 Bridgewater RCM System.

File: XS13/2.

Date: 12th July 1993.

 National Switching Support
 (Melb)

 9th Floor
 35 Coleridge St
 Melbourne 3000
 Australia

C.C. Manager Network Investigations Att. D. Stockdale
 Manager Commercial Network Support Att. R. Morris.

PORTLAND - CAPE BRIDGEWATER RCM SYSTEM

At the request of [REDACTED] Manager, Warrnambool COG. (CPE), NSS-Melbourne, Pair Gain Support Section, visited Portland exchange on 2nd March '93, to investigate problems reported on the Portland - Cape Bridgewater RCM system.

Initial reports where of a vocal customer at Cape Bridgewater complaining of VF cut-offs in one direction. The customer had been transferred off system 1, onto systems 2 and 3 on the 24th February '93, and had experienced no further problems. Investigations revealed that system 1 was running a large number of degraded minutes (DM) and errored seconds (ES) in the Portland to Cape Bridgewater direction, these errors could have caused the VF cut-off problem. ...

Initial error counter readings:-

Portland to Cape Bridgewater direction:-

	System 1	System 2	System 3
SES	0	0	0
DM	45993	3342	2
ES	65535	65535	87

Cape Bridgewater to Portland direction:-

	System 1	System 2	System 3
SES	0	0	0
DM	1	1	0
ES	246	751	23

At this stage we had no idea over what period of time these errors had accumulated.

Attempts to test the inground repeaters using the "trios" system where unsuccessful as the strapping records could not be located.

Other faults identified with the Cape Bridgewater installation where:-

- the presence of 500Hz. noise on all customer lines at -58 dBm causing minor noise problems.

M34204

-
- cable ducts into both the cross connect cabinet and the concrete hut which were sealed allowing the ingress of moisture, which could affect the error counters detailed above.
 - the alarm system on all three RCM systems had not been programmed. This would have prevented any local alarms being extended back to Portland.

The bearer performance was monitored overnight and revealed that system 1, in the Portland to Cape Bridgewater direction, accumulated approximately 450 DM's and 43500 ES's while systems 2 and 3 recorded no errors in either direction.

→ A problem with the installation of the enhanced lightning protection modules in the IDS block at Cape Bridgewater was discovered. After this problem was rectified and the bearer monitored overnight, no DM's or ES's were recorded. II


All the SE boards used in the Portland - Cape Bridgewater RCM system have now been modified to eliminate the 500Hz. noise problem. SE boards installed in the Portland - Alcoa RCM system were also modified to eliminate a 500Hz. noise problem on cut over.

The problem of sealing the cable ducts has since been rectified by the local lines staff.

NSS-Melbourne has continued to monitor the Portland - Cape Bridgewater bearers since the 3rd March '93. In the period from the 3rd March '93, to the 17th March '93, the errors on all three bearers have been minimal.

ie:- Portland to Cape Bridgewater direction:- system 1, 4 ES
- system 2, 3 ES
- system 3, 0 ES

Cape Bridgewater to Portland direction:- system 1, 1 ES
- system 2, 1 ES
- system 3, 3 ES


for Supervising Engineer, National Switching Support - Melbourne.

6

M34205

- The unit as installed (by Mr Smith) did not provide full coverage of the site (these units intrinsically have coverage limitations). Consequently, if calls were taken on the cordless unit and the handset was moved out of range of the base system, the call may not be correctly cleared down, leaving the service in an apparent 'off hook' situation.

The units (it is believed 2 types were used) were trialed for some 3 months and then removed.

2.12 Loss of Calls to Cape Bridgewater 008 Due to Programming Error by Telecom

On 1 December 1992, Telecom provided CBHC with a 008 service, in theory to be directed to the main business number 055 267 267. In fact, the 008 service was directed to the 055 267 230 line. During January (the actual dates are not clear) a facsimile machine was installed on 055 267 230. There were then complaints received on the 008 service (ref: G Close Report, Section 18, Telecom e-mail of 8/2/93 "caller tried several times from Werribee on the 008 number and got electrical noise"). It is believed the 'noise' was the facsimile machine answering the call and trying to establish fax to fax connection, as would be expected. It would appear that the 008 service was incorrectly directed to 055 267 230, and was redirected to 055 267 267 by Telecom some time after the facsimile was installed. Test calls after this were successful. (ref: G Close Report, Section 18, e-mail of 8/2/93 - 'I have arranged to have the digit translation on 008 816 522 changed from 055 267 230 to 055 267 267 to avoid I/C calls on the 008 line going to the fax machine').

2.13 Some calls to Cape Bridgewater Lost During High Traffic Periods

Incoming Calls ring once, on pick up receive dial tone - 25 March 1993.
(Several reports over February and March)

For some time Wornambool AXE was under-provided with call supervision devices ('CL-blocks'), causing calls to drop out after one burst of ring during high traffic periods through this exchange. This affected calls sourced from this area, which is estimated to be in the order of 10% of CBHC traffic, although only some of the 10% would have been lost, and then only during high traffic periods. This was a 'known' problem and had been occurring for some time, (but it is 'not known when condition commenced').

Telecom indicates (ref B004 1/41):

"The fault was due to insufficient software blocks (CL'c) (sic) at WBOX which was corrected by 30 March 1993". WBOX is the Wornambool exchange.

2.14 All Calls Lost for Nine Minutes

Cape Bridgewater Exchange - Off Air for Short Duration on 29 March 1993

M34206

All CB services off the air for 9 minutes due to a software fault in the Portland AXE exchange.

2.15 Period 3rd April - 5 June 1993 - Network Faults Causing a Range of Problems
Some Calls Lost

- 3 April 1993 - CBHC has difficulties calling Heywood, fault found in Warmambool - Heywood exchanges affecting all callers to Heywood ('line signalling failures on circuits between the Warmambool AXE and Heywood ARK exchange - ref B004 Service History, p58).
- 5 June 1993 - Callers from Sebastopol having difficulty calling CBHC - fault in Sebastopol exchange, "which would have resulted in customers calling STD destinations from Sebastopol intermittently experiencing 'no progress'". (ref - B004 Services History, p59).

2.16 Malicious Call Trace (MCT) on Two Lines Causes Slow Cleardown of Calls:
MCT was placed on 267 267 and 267 230 - 26 May 93

The MCT provides a Calling Line Identification (CLI) facility for calls originating from modern exchanges and a 'last party release' facility for calls from older exchanges; in the latter case it (MCT) effectively removes the protection of an incorrect hang-up. The effects are covered in the witness statement of Mr David Stockdale of 8 December 1994.

- (i) Telephone 'dead' for a period of 1.5 minutes after hang up.

"17. During NNI's second investigation of Mr Smith's service, we inadvertently caused a fault ourselves as part of implemented testing procedures. This fault arose from the use of the 'malicious call trace' facility ('MCT'), that was placed on Mr Smith's service at the Portland Exchange in an attempt to ensure more detailed data relating to Mr Smith's incoming calls. The additional information (specifically Calling Party number information) was required so that we could more accurately match possible problem calls against his fault reports. Mr Smith knew this form of testing was being undertaken, as we had discussed it with him.* During the period that malicious call tracing was in place, when Mr Smith received calls from exchanges that can only provide limited detail regarding the A party number and hung up his telephone, there was a 90 second period after he hung up that the Exchange controlling the call believed that his call was not over. (Limited call details can occur for exchange technologies such as step by step. This is known as Partial Calling Line Identification, Partial CLI). As a result, if parties attempted to call Mr Smith within this 90 second period, they would not be able to do so. Likewise, if Mr Smith attempted to make calls during this 90 second period, his phone would appear to be 'dead' with no dial tone.

M34207

"18. This fault is likely to have had only a marginal effect on Mr Smith's telephone service and was possible only between late May 1993 and early August 1993. The customer whose complaint alerted us to the problem was calling from Horsham."

- * Mr Smith disagrees that any such discussion took place, and denies that he had any knowledge of the MCT facility being implemented or its potential effects. (Statement made at visit to CBHC on 4 April 1995). However, a statutory declaration made by Mr Smith on 7 April 1995 indicates that Mr Smith does not have a clear understanding of the MCT facility (copy attached). No Telecom letter to him informing him about MCT has been seen.

- (ii) If the Telephone (at CBHC) is incorrectly hung up, the call 'continues'.

On 9 August 1993, a 008 call is recorded as 132 minutes duration (and so charged?) whilst the actual conversation appeared to be for only 15 minutes - that is, the caller cleared after 15 minutes - this, as stated below, was probably because the handset at CBHC was not replaced properly. Normally calls are under 'A' (calling party control) and on 'A' hang up the call would have cleared (charging stopped). However the MCT facility overrode this normal situation. Again, Mr Stockdale:

"19. The party calling from Horsham who alerted us to the MCT problem reported that they had a telephone discussion with Mr Smith which lasted for about fifteen minutes. However, the SMART 10 line event monitoring records suggested that the call in question lasted for two hours. Mr Smith believes this is evidence that the network has serious problems. My belief is that Mr Smith did not hang up his phone after the call was completed and therefore the SMART 10 equipment did not record his call as ending until the phone was later hung up. I base this belief on the testing conducted as a result of the discovery of the side effect of using MCT, as well as analysis of CCS7 data for the period that the MCT facility was in use."

MCT removed from 267 267 on 19 August 1993, and from 267 230 on 9 September 1993.

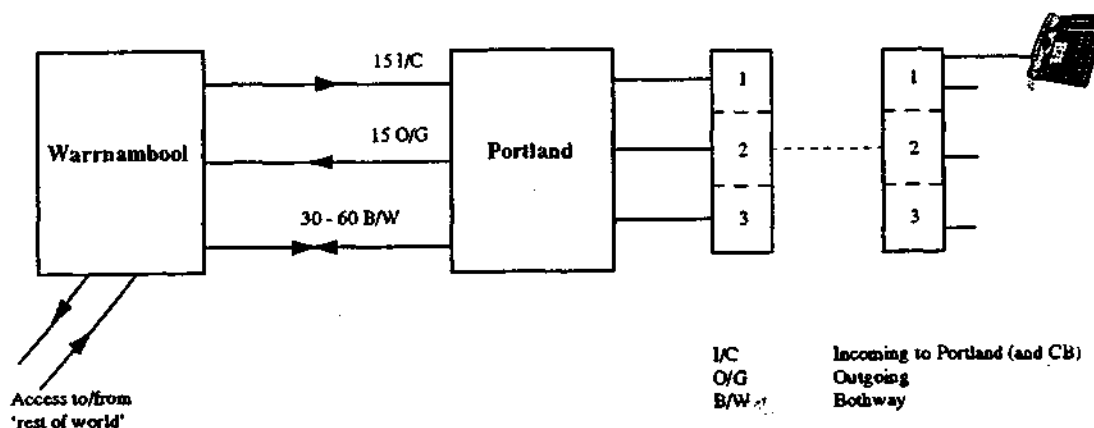
- 2.17 Congestion on some Peak Period Calls to Cape Bridgewater from Areas Beyond Portland. Warrnambool to Portland Exchange - potential cause of 'false busy' - 30 March 1993 to April 1994

On 30 March 1993, Portland was retrunked/connected to the Warrnambool exchange rather than Hamilton. This meant all STD calls to CB came via Warrnambool to Portland. It would appear the route Warrnambool to Portland was under dimensioned (ref B004 History pages 60, 61).

M34208

It was confirmed that callers to Smith from Melbourne were receiving 'false busy', - callers were receiving congestion. Telecom's Network Operations group confirmed that there had been regular occurrences of network congestion during peak periods on Wednesdays and Sunday evenings. Corrected 6 April 1994 by 'increasing the route capacity by 30%' (the Z route was increased from 30 to 60 ccts - ref G Close report, Section 18, copy of e-mail of April 6). Potentially this route had been under dimensioned for some 12 months - investigation indicated the route change was as follows:

At 30 March 1993



The I/C and O/G routes 'overflow' to the B/W route: that is, if all 15 circuits in the given route are busy, then a free circuit is sought in the B/W route.

On 6 April 1994 the B/W route was increased by 30 circuits to a total of 60. This would indicate a 50% increase rather than 30% (based on the assumption that the 50% of the B/W circuits are available for overflow in a given direction).

2.18 Calls from Portland Payphones to Cape Bridgewater 008 Drop Out on Answer - 18 June - 8 August, 1993

Fault reported from CBHC on 18 June, 1993 - subsequently "discovered that calls from coin operated pay phones connected to the Portland AXE 104 would drop out on answer when calling 008 number. Incorrect charging analysis data at Portland AXE 104 (PORX) was discovered to be responsible for this condition" (ref B004 Service History p59). Duration of condition is not known, but corrected on 8 August 1993. Only affected calls to CBHC 008 number from payphones in Portland area (order of 20 payphones) and calls from the Goldphones to 008 numbers.

M34209

2.19 Many Reports of Call Problems but No Fault Found Period June 93 to March 94

Many fault reports were submitted detailing "busy" (BSY), RVA received, one burst of ring occurrences and recordings of short duration calls. Testing was performed, NFF. There are instances of BSY being reported and call data indicating that in fact that was the case - the line was genuinely busy.

2.20 Caller Reports Call Failed Five Times but No Fault Found, Receiving 'Dead' Line, 17 August 1993

A caller from Daylesford received a 'dead line' on five different occasions on calling CBHC and was finally connected by the Telecom 1100 operator. Call data indicated each of the five calls had a 'conversation time' of less than 20 seconds with the 'calling party hanging up'. Subsequent testing did not identify any problems.

2.21 Cape Bridgewater Goldphone Affected by Intermittent RCM Faults - Potentially Caused by a Further Lightning Strike on 8 March 1994

Difficulties had been experienced by the local Telecom staff in detection of intermittent faults on the RCM systems, notably system 1, although issues subsequently discovered potentially affected the alarming of all systems. The issues are covered in the following reference, letter of 24 March 1994, from David Polson, Technical Manager (pages following). The only service adversely affected with regard to CBHC was the Goldphone - this was removed from RCM 1 on the 19th of March 1994 "as a precaution because ongoing investigation had not yet discovered the intermittent no dial tone fault" (ref: Mr Ross Anderson's Witness Statement, para 28).

2.22 All Calls Lost for Three Hours: Cape Bridgewater Exchange (RCM) Off the Air - 25 May 1994

Some 13 complaints related to callers to Cape Bridgewater receiving RVA or NOP (ref B004, History p61): "An investigation into the complaints discovered that the code required to transmit calls to 055 267 XXX [i.e. CB] number was inadvertently deleted during data changes at Portland AXE 104. The data change in question occurred at 4.30pm on 25 May 1994 and was remedied on the same day at 7.35pm."

In effect all Cape Bridgewater was Off the Air for some 3 hours.

M34210

2.23 Continued Reports of Cape Bridgewater 008 Faults - Conflict re: Charged Calls and Answered Calls

Throughout the period of operation of the 008 816 522 service (December 92 to present) there have been continued reportings from CBHC (or callers to CBHC) of:

- calls not received (answered) but charged
- caller receiving RVA
- 'call but line dead'

It is difficult to attribute these conditions over the period of occurrences to specific events or faults. In considering these complaints, an explanation of the operation of 008 services may assist: (ref: to Configuration 'B').

When a 008 XXX XXX number is called from anywhere in Australia, the call is directed to an Intelligent Network Centre (INC) which is dedicated to processing "Intelligent Network Services" such as 008, 1800, 13 type services. In the case of 008 services, the INC:

- analyses the 008 code and translates it to the required destination code - i.e. CBHC, to 055 267 267
- sets up the call to the required service from the INC
- supervises the call, and cost accounts the call for billing.

3. Other Sources of Problems

It should be noted that during the period December 1992 to October 1994 the order of 225 fault reports were made concerning the CBHC services, as recorded by Telecom. Notwithstanding the above documented faults and problems, there were problems quite evidently caused by mis-operation or misunderstanding of the CPE.

Issues relate to:

- the answering machine answering calls automatically with tone after 30 seconds of ring (around mid April 1992);
- handsets occasionally being left off-hook for extended periods (Mr Smith has stated this only occurred on one or two occasions);
- interaction of the cordless handset (period of 3 months, early 1993) causing a range of problems, as detailed;

M34211

- a range of callers making 'test calls' on behalf of CBHC confusing the real operational picture during the later parts of 1994 (Mr Smith believes these tests would not have caused confusion).

4. Impact Assessment

An assessment of the impact of faults on the CBHC telephone service is made here, based on the criterion of whether the particular fault did or did not cause the level of service to drop below a reasonable level.

1.1 (i) Over the order of three years, the probability of congestion due to network dimensioning during the busiest hour of the week was around 12% in many instances, and around 6% on average during that busiest hour. 1-2% would be normal.

ASSESSMENT - Service was less than reasonable.

1.1(ii) Capacity of 8 locally terminated calls for up to 66 customer services may have been reasonable network dimensioning for the area at the time, although the limited capacity may well have contributed to the congestion (false busies) reported. In the absence of other explanations for the false busies, a reasonable expectation would have been that the capacity should have been increased within a shorter period than 3½ years.

ASSESSMENT - Service was less than reasonable.

1.2 A hardware fault affecting an average 12.5% of all local to local and incoming traffic was detected, and persisted for at least 2 - 3 days. While such a fault can be expected to happen, reasonable service relates to the time taken to return the service to normal. For this degree of service loss, a reasonable expectation would be repair within less than 2 days.

ASSESSMENT - Service was less than reasonable.

2.2 Problems with RCM 1.

These problems continued with RCM 1 for 18 months. For a range of problems (ultimately attributable specifically to one of three parallel systems, each servicing different customers) to persist for 18 months is deemed unreasonable.

ASSESSMENT - Service was less than reasonable.

2.3 A reasonable expectation of service would be that errors of this type (data entry) would be quickly detected through confirmation testing or checking at or immediately after the data entry, with traffic impact of much less than 16 days.

ASSESSMENT - Service was less than reasonable.

M34212

2.4 Reports related to a small number of calls incorrectly receiving RVA. Since considerable network testing was done on at least one of these calls, with NFF and no subsequent similar pattern of reports, reasonable service may have been achieved if appropriate advice was given to the customers, and the fault remained 'open' and not cleared.

ASSESSMENT - Indeterminate

2.5 Testing by the group within Telecom who were responsible for the investigation of the most complex network faults (NNI) caused severe lockup of circuits and therefore congestion for 1 day.

The lockups were accidental and avoidable.

A reasonable expectation would be that if and when testing is necessary, it does not cause major detriment to general service provision, and, test teams (eg. NNI) understand and monitor the impact of their testing.

ASSESSMENT - Service was less than reasonable.

2.6 Software fault for about 1½ hours. As all service was lost for this period.

ASSESSMENT - Service was less than reasonable.

2.7 2.5% of the traffic from the Portland area to CB failed for 5 days, due to 1 of 40 shared devices in the Portland exchange failing. Based on Mr. Smith's estimate on another matter, less than 40% of CBHC incoming traffic originates from this area. Therefore on average, less than 1% of total traffic to CBHC was affected.

ASSESSMENT - Service was on the margin between reasonable and less than reasonable.

2.8 RCM 1 failure due to lightning damage. Lightning damage to communications equipment would be expected from time to time in this area. Reasonable service relates to the time taken to return the service to normal. A reasonable expectation would be repair within less than the 4 days actually taken.

ASSESSMENT - Service was less than reasonable.

2.9 Evidence of problems with services on RCM 1 had been sufficient to cause Telecom to move the CBHC services away from RCM 1 to RCM 2 and 3. Later when the RCM equipment was examined by Melbourne staff, evidence of severe error levels had accumulated on the counters in the transmission equipment (particularly RCM 1). After corrective action, these severe error levels were no longer accumulating.

M34213

A reasonable expectation would have been that given the poor quality of service on RCM 1, the diagnosis of its fault(s) would have been achieved in less than the 50 -70 days it took before the CBHC services were moved off RCM 1, and any work specifications associated with design faults would have been performed at the earliest possible time (ie. 1991 rather than 2 years later).

ASSESSMENT - Service was less than reasonable.

2.11 Problems with the cordless phone were not strictly a responsibility of Telecom, although local Telecom staff appeared to be involved in the operation of the units in an endeavour to assist Mr Smith.

ASSESSMENT - Cordless unit(s) caused a level of problems during a 3 month period which were "outside" Telecom's area of responsibility.

2.12 Incorrect programming by Telecom meant that callers to the CBHC 008 service were actually connected to a fax machine from some time in the January - February 1993 period. It appears that the 008 service had worked for some time before the fax machine was connected (ie from December 1, 1992 to some time in January 1993), without the error being detected but, at the time of connection of the fax machine, the error became obvious.

It is unclear how long the diagnosis took after the fax machine was connected, and it is also unclear who was responsible for testing that the services were working correctly when the fax machine was installed.

ASSESSMENT - Indeterminate

2.13 Some calls to CB from Warrnambool area were lost during high traffic periods due to incorrect dimensioning at the Warrnambool exchange. It is not possible to be definitive on the actual impact. As there was a known solution to this problem, a reasonable expectation would be that the fault was detected and corrected as soon as it began to have a significant impact on calls. It is not clear when this point was reached.

ASSESSMENT - Indeterminate.

2.14 All services were lost for 9 minutes due to an exchange software fault. A reasonable expectation would be that the whole exchange would not go "off the air" at all.

ASSESSMENT - Service was less than reasonable, although only to a minor extent.

2.15(a) 3 April 1993 - All calls to Heywood were affected by line signalling failure on circuits to Heywood exchange.

ASSESSMENT - Service was less than reasonable.

M34214

2.15(b) 5 June 1993 - Intermittent "no progress" on calls from Sebastopol to STD destinations. As CB is remote from Sebastopol, and traffic from Sebastopol to CB would normally be small, this condition would not reduce the overall level of service to CBHC to "less than reasonable" provided it was not present for more than a few days.

ASSESSMENT - A reasonable level of service was provided.

2.16 Use of the MCT facility was not understood by Mr Smith, thus some call symptoms occurred which appeared to be real faults.

Reasonable service would have included explaining to Mr Smith's full satisfaction the function of this test facility. This apparently did not happen.

ASSESSMENT - Service was less than reasonable.

2.17 Some peak period congestion occurred over a period of 12 months. It is unclear how significant the level of congestion was.

ASSESSMENT - Indeterminate.

2.18 June-August 1993. No pay phones in Portland areas could call 008 services (including CB) for seven weeks. As this was a fault with quite specific symptoms, a reasonable expectation would be that such a fault would be corrected in less than the time actually taken.

ASSESSMENT - Service was less than reasonable.

2.19 In these report cases, no fault was found. A reasonable expectation, particularly considering the previous history of the CBHC services, would be that either the cause would ultimately be found and explained, or the faults would remain "open" ie. not cleared or completed. It appears that neither of these outcomes occurred. Nevertheless, it is unclear what the impact on the CBHC services was.

ASSESSMENT - Indeterminate.

2.20 This fault appeared to be confined to a single occasion (though affecting 5 call attempts). A reasonable expectation would be that this fault remained "open".

ASSESSMENT - Indeterminate.

2.21 Intermittent effects on the Goldphone resulted in it being removed from RCM 1 11 days after the potential cause (lightening strike damage to RCM1). At the time of removal, the actual equipment fault had not been found, although testing was continuing.

This seems to have been a reasonable action and timescale under the circumstances.

ASSESSMENT - A reasonable level of service was provided.

M34215

To

From

David Polson
Technical Manager

Subject

Cape Bridgewater RCM's

Date

24 March 1994

File

Attention

Consumer CAN Design and
Construction Tas/Vic
CAN Technologies

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Australia

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K00942

Following a request from Service Delivery for assistance at Cape Bridgewater late on 19-3-94 I arrived at Portland early Sunday morning on the 20-3-94. There was a problem with RCM system no 1 between Portland and Cape Bridgewater the previous day. Ongoing problems were experienced by customers since 8-3-94 on RCM number 1. The problems were normally of a very short duration and had often cleared by the time staff arrived on site.

It appeared that the line system was intermittently failing for short periods of time (15 seconds or so) and then coming back up. The systems are all on copper bearers with 10 regenerators on them. The RCM's are fitted with auto power feed restart cards, and the alarms are inputted to AMS. Occasionally on a failure the channel cards would loose their programming and flash. No alarm indication is given for this. The SCU fail light at Cape Bridgewater and AIS at Portland would also be up, although this was not consistent for a long period of time. The SCU and all common cards had previously been changed by local staff.

We were able to duplicate the SCU fail light coming up with a short bearer break on a test model, and was assumed we were experiencing intermittent line system failure on the system. The original installation was for 2 RCM's with 9 regenerators and supervisory filters for each direction of transmission. When a third system was required, considerable difficulty was experienced in getting the third system working, to such an extent that an additional regen was installed between locations 8 & 9.

With a suspect line system we proceeded to do a trios test when all traffic was off, after having advised Network Management. We could not see any regens. Suspecting faulty supervisory pairs a regen was opened and pairs tested, only to find the regen housings were connected to pairs 5 & 6 and the terminal supervisory connected to pairs 11 & 12. This explained our failure to find any regenerators. With this changed at the terminals to pairs 5 & 6 we could see all regens except the extra one installed between 8 & 9. On investigating this cause the supervisory pairs at this location were on pairs 11 & 12. This was rectified enabling the testing of each regenerator. If the line system failed we should now be able to localise the fault. The original

M34217

acceptance test results show filter testing at Portland (location 00) and Cape Bridgewater (location 10). In our testing no reading was obtained at 00 and the reading for location 10 was the regenerator and not the Cape Bridgewater terminal as shown on the test sheets. RCM terminal regenerators do not have the TX and Rx monitor points extended for supervisory filter purposes. All of this added to the difficulties in identifying the fault with the supervisory system.

It must be noted that the faulty supervisory system does NOT effect the bearer performance but is used as a maintenance tool if the line system is faulty.

During the Sunday and Monday that I was in attendance the system did not fail, although it was out of service for short periods (approx 1-2 minutes) for trials testing.

With further investigation it appeared one of our problems may be more temperature related, as when the remote end was not opened for some time, that appeared to be when we had the failures. This would also explain why no failures occurred when I was there with the door open for a large proportion of the time on Sunday and Monday. Another SCU was obtained and installed in system 1 on 23-3-94. The unit replaced has obviously been repaired and may indeed be suspect. Further testing will be done on this unit, especially with elevated temperatures.

Additional testing has confirmed that the replaced SCU was indeed faulty. No other problems have been experienced since the SCU was replaced on the 23-3 94

Danid Polson- CAN Technology - Ballarat

Ross Anderson - Service Delivery - Portland

M34218

Sources of Information

The information provided in this report has been derived and interpreted from the following documents:

- Smith - Letter of Claim (SM1)
- Smith - George Close Report dated 5/7/94 (SM8)
- Smith - George Close Report dated August 1994 (SM9)
- Smith - FOI Material 1994 (SM44)
- Smith - George Close & Associates Report 20 January 1995 - Reply to Telecom's Defence (SM50)
- Smith - Samples of FOI Telecom Documents (SM49)
- Smith - Appendix C Additional evidence (SM48)
- Smith - Summary of TF200 Report (SM47)
- Smith - Bell Canada International Inc. Further information (SM46)
- Smith - Assessment Submission (SM2)
 - 1-200
 - 200 - 400
 - 400 - 600
 - 600 - 800
 - 800 - 1,000
 - 1,000 - 1,289
 - 2,001 - 2,158
- Smith - Reply 18 January 1995 (SM53)
- Smith - Reply - Brief Summary January 1995
- Smith - Further Examples of Additional Evidence Two Volumes (SM16)
- Smith - Further FOI Material (SM17)
- Smith - Cape Bridgewater Par 1 & 2 (SM 20 & 21)
- Smith - Additional information (SM45)
- Smith - Telecom Defence Witness Statements
- Smith - Telecom Defence B004 Service History
- Smith - Telecom Defence B004 Appendix File 1
- Smith - Telecom Defence B004 Appendix File 2
- Smith - Telecom Defence B004 Appendix File 3
- Smith - Telecom Defence B004 Appendix File 4
- Smith - Telecom Defence B004 Appendix File 5
- Smith - Telecom Australia - Ref 1 Statutory Declaration of Ross Marshall. Ref 2 An Introduction to Telecommunications in Australia. Ref 3 Telecom Australia's Network Philosophy. Ref 4 Glossary of Terms
- Smith - Telecom Defence Principal Submission
- Smith - Telecom Defence Legal Submission
- Smith - Telecom Supplement to Defence Documents

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A site visit was conducted on Wednesday 4th April 1995 covering:

- inspection of the Cape Bridgewater RCM exchange
- inspection of the CPE at the Cape Bridgewater Holiday Camp
- inspection of the exchange equipment at Portland (RCM, AXE 104, ARF)
- discussions with Mr Alan Smith, accompanied by Mr Peter Gamble of Telecom Australia.

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DEFINITIONS OF ACRONYMS USED IN THIS REPORT

ARF, ARK	Electromechanical exchanges with pooled central control (registers) of 'crossbar type' provided by Ericsson.
AXE	Programmed controlled telephone exchange (generally digital) supplied by Ericsson
CAN	Customer Access Network - covers the reticulation from the exchange to the customer's premises first socket point
CB	Cape Bridgewater
CBHC	Cape Bridgewater Holiday Camp
CLI	Calling Line Identification
CPE	Customer Premises Equipment - covers the telephone cabling, and equipment (telephones, answering machines, facsimile) connected within the customer premises. May be provided by Telecom or purchased and connected by others so long as the equipment carries an AUSTEL permit to connect to PSTN.
E	Erlang - measure of telephone traffic: for example if at a given instant a traffic route of 10 circuits has 5 calls in progress, it is carrying at that instant '5E'.
IEN	Interlinking Exchange Network
INC	Intelligent Network Center--handles 008 and billing
MCT	Malicious Call Trace
NFF	No Fault Found - Telecom report code if a fault was reported but testing did not indicate a hard or specific fault. This covers instances where Telecom uses the phrase: "Investigation by Telecom with no problem being located or subsequent action being required."
NNI	National Network Investigation - 'NNI is the final point of referral In Telecom for the investigation of suspected network problems'
NOP	No (call) Progress - caller receives dial tone, dials number but does not receive any other tones and the call fails
PABX	Private Automatic Branch Exchange, similar to a Telecom Exchange installed on a customer's premise.
PSTN	Public Switched Telephone Network - consists of Exchanges and IEN
RAX	Rural Automatic Exchange - an electro mechanical exchange of the step by step (S x S) type which utilises successive stages of selection in a rotary hunt based on the dialled digits
RCM	Remote Customer Multiplexer - a system that enables customer telephone services to be carried over derived circuits - for example over a cable carrier system. An RCM of the type used at CB has a 30 customer capacity per system, each with a dedicated line over the cable carrier systems to the parent exchange
RVA	Recorded Voice Announcement--an information message, usually provided to give basic information in situations where a call attempt cannot be completed.
STD	Subscriber Trunk Dialling--calls designated as toll calls with fixed rates per call, type and distance.
TCBH	Time Consistent Busy Hour (of telephone traffic)
TRT	Traffic Route Testers--a system that enables technicians to simulate calls on the network and conduct network investigations.

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ATTACHMENT ONE

**THREE LETTERS FROM TELECOM
TO MR ALAN SMITH**

M34222

Postal Address
PO Box 356
Glen Waverley 3150

1 September 1992

Mr Alan Smith
Cape Bridgewater Holiday Camp
RMB 4408
CAPE BRIDGEWATER 3306

Dear Alan

We have not had the pleasure of meeting. However I have been briefed on the matters relating to the standard of your telephone service and recent communications between Telecom and yourself. Let me first assure you that we in Telecom are committed to ensure that the service provided to all customers is of the highest possible standard.

I understand that since our recent tests on your service were completed you or your representative met with senior Telecom managers from our National and Corporate offices. I also understand that at that meeting you expressed concerns that your service was not operating at required levels of performance and sought an undertaking that action would be taken to rectify this situation.

Whilst our recent tests indicate that your service is now performing to normal network standards, I am initiating a further detailed study of all the elements of your service and the tests which have been conducted. The aim of this study is to confirm the standard of service you currently receive and to check that there are in fact no ongoing problems. This testing could also involve an additional check of the communications equipment at your premises, if you agree. I anticipate that this study will be completed by early October and I will be happy to discuss the results with you then, should you so desire. Should this investigation identify any faults in the Telecom component of your service they will be rectified in accordance with normal practice.

Let me close by assuring you that I am personally committed to resolving this matter and I am available at any time to discuss your concerns and explore opportunities to resolve our differences. I can be contacted on (03) 550 7500, should you wish to raise any further matters with me.

Rosanne Pittard
Rosanne Pittard
General Manager
Telecom Commercial Vic/Tas

ID: RP010902

M34223



01:
Telecom Australia

Telecom Commercial
540 Springvale Rd
Glen Waverley 3150

Postal Address
PO Box 356
Glen Waverley 3150

Tel: (03) 550 7330
Fax: (03) 562 1926

18 September 1992

Mr Alan Smith
Cape Bridgewater Holiday Camp
RMB 4408
CAPE BRIDGEWATER 3304

Dear Mr Smith

Thank you for your letter of 10 September 1992 regarding the quality of your telephone service at Cape Bridgewater.

May we assure you that Telecom is committed to providing a quality service for all our customers and this commitment is supported by a technical organisation capable of responding quickly and efficiently to a service difficulty should there be a need.

✓ We believe that the quality of your telephone service can be guaranteed and although it ✓
would be impossible to suggest that there would never be a service problem we could see no reason why this should be a factor in your business endeavours.

Should you still be concerned about the ability of Telecom to provide a reliable service may we offer the services of our Area Manager, Mr Mark Ross (telephone: (053) 370 211) of myself (telephone: (03) 550 7330) as a contact should you wish to discuss any current or future issues.

Yours sincerely

Bob Beard
Service Manager
Telecom Commercial Vic/Tas

ID: BB180901

M34224



Australia's Telecom
proudly supporting Australia's
Olympic team 1992

Australian and Overseas
Telecommunications Corporation
Limited

A.C.N. 051 775 556

25 May, 1993

Mr Alan Smith
Cape Bridgewater Holiday Camp
RMB 4408
CAPE BRIDGEWATER VIC 3306

Dear Alan

Telecom Australia endeavours to provide at all times the telecommunications services in respect of which a customer has made application, however, Telecom does not guarantee continuous provision of, or fault free, telecommunications services. Faults do occur in the network from time to time and we work to correct any faults as soon as possible after they are reported.

On the basis of tests carried out to date, and current measures of network performance, indications are that the performance of the Cape Bridgewater RCM (to which Cape Bridgewater Holiday Camp telephone service is connected) is up to network standards. Given the recent experiences described by yourself, further investigations including rigorous testing will be carried out.

A further statement will be made upon completion of these investigations.

Yours sincerely

Rosanne Pittard
Rosanne Pittard
General Manager
Commercial Vic/Tas

M34225

ATTACHMENT TWO

**MR ALAN SMITH'S SOLEMN DECLARATION
ON TELECOM'S "MONITORING DEVICE"**

M34226

I, Alan Smith

of Cape Bridgewater Holiday Camp
Portland

in the State of Victoria
do solemnly and

sincerely declare

THAT Approximately 5-7 days prior to June 3 1993, I had a phone call from Telecom Network Investigation Unit. This call was to establish an appointment/time for two investigating officers, from this department, to meet me at Cape Bridgewater Holiday Camp. June 3 1993 was the nominated day, mid afternoon. It was mentioned by one of these officers, because of the continued phone complaints by myself and others, Telecom was connecting a monitoring device, to establish why these complaints were in abundance. "AT NO TIME" was it explained by this officer, that the testing machine would be a device where by those operating this machine could listen to my phone conversations. Had I been informed of such, I would have warned my Single Club members, people ringing my business, that for a period of time while my phone service was being viewed, our conversations could very well be listened to. My own personal conversations, would then have been carried out from the Gold Phone, 267 260. I have presented this information here, Statutory Declaration, as I was asked by David Read Lane Telecommunications Pty Ltd on the 5 April 1995, was I aware of this MCT equipment on my line.

AND I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of an Act of the Parliament of Victoria rendering persons making a false declaration punishable for wilful and corrupt perjury.

DECLARED at Portland in the
State of Victoria this 7th
day of April One thousand
nine hundred Ninety Five

Before me [Signature] Great Royal of 1995
[Signature]

[Signature]