

VICTORIA

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Auditor-General  
of Victoria

**SPECIAL REPORT No. 53**

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**VICTORIA'S  
MULTI-AGENCY APPROACH  
TO EMERGENCY SERVICES**

**A focus on public safety**

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*Ordered by the Legislative Assembly to be printed*

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The President  
The Speaker

Parliament House  
Melbourne Vic. 3002

Sir

Under the provisions of section 16 of the *Audit Act* 1994, I transmit the Auditor-General's Special Report No. 53 - "Victoria's multi-agency approach to emergency services: A focus on public safety".

Yours faithfully

C.A. BARAGWANATH  
*Auditor-General*

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# Foreword

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This Report documents the results of an audit examination of a major government project involving development and implementation of a multi-agency computerised calltaking and dispatch system under an outsourcing arrangement with Intergraph, a private sector entity.

Calltaking and dispatch functions constitute critical early tasks in the emergency response process. As such, the timeliness and quality of the manner in which the functions are performed directly influence the effectiveness of the State's overall emergency response capability.

While the Report does identify that some problems in the early years of the project have been experienced and many important tasks still need to be addressed by the Bureau of Emergency Services Telecommunications (BEST), this position needs to be considered against the more substantive issue that Intergraph's system exhibits many highly advanced features and clear leading edge qualities.

In fact, I consider that the most significant message conveyed by this Report, in terms of the interests and welfare of the community, is that, under a lean but competent management unit within BEST, very positive progress has been made in resolving the initial problems.

A framework has now been established for the State to build on the tasks completed to date and to have in place an emergency response infrastructure which has the confidence of the community and is recognised for its advanced attributes both nationally and internationally.

C.A. BARAGWANATH  
*Auditor-General*

# **Part 1**

## **Executive summary**

# Part 1.1

## Overall audit conclusion

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**1.1.1** BEST's chief executive officer has described the Government's actions currently underway in Victoria involving the development and operation of a multi-agency computerised calltaking and dispatch system *"as probably the most significant public safety project in Australia at this point in time"*. This view is shared by audit.

**1.1.2** There is no doubt, in audit opinion, that the system developed by Intergraph, the contractor appointed by the Government in 1995, exhibits many technologically advanced features. This system would, if performing to its absolute potential, provide the State with a centralised emergency response capability clearly superior in terms of functionality and reliability to the individual systems previously operated by the emergency service organisations.

**1.1.3** It needs to be recognised that because of a general absence of well-defined performance measures within most of the organisations prior to development of Intergraph's system, the contract with Intergraph specifically provided for a two stage review process for performance measures. This approach, according to Intergraph, was intended to enable new performance measures to be determined on a realistic basis and it considers its performance should be assessed against revised measures.

**1.1.4** Up to this point in time, Intergraph's calltaking and dispatch system has not operated to its full potential. In this regard, extensive delays have occurred in the commissioning of the system in respect of the Metropolitan Fire and Emergency Services Board and the Country Fire Authority, and there have been concerns with Intergraph's ability to meet the required level of performance agreed from time to time with the 4 emergency service organisations who were parties to the 1995 contract. The circumstances which have given rise to these organisational concerns are presented in Parts 6 and 7 of this Report. The withholding of significant moneys by the organisations from monthly service charges due to Intergraph, because of this under-performance, has been a common occurrence.

**1.1.5** Also, some of the organisations have found it necessary to initially incur additional costs, such as the continued employment of communications staff previously made redundant, arising particularly from the delays experienced in commissioning of the system, and to subsequently negotiate with Intergraph for the recovery of such costs.





**1.1.6** In 1994, the former Public Bodies Review Committee, whose recommendations were the genesis for the Government's decision to introduce a centralised multi-agency emergency response system, predicted significant savings of between \$46 million and \$111 million over a 7 year period from operation of an integrated system. To date, no significant cost savings have been generated by the participating organisations from their involvement with the outsourcing arrangements with Intergraph. The lack of any significant inroad made to date in the achievement of cost savings can be mainly attributed to the problems outlined in this Report which have been experienced in the early implementation of the system.

**1.1.7** In terms of potential savings within Victoria Police, the most significant contributor to maximising the efficiency and effectiveness of Victoria Police under the new multi-agency system will be implementation of a mobile data network. Under such a network, information can be electronically transmitted between emergency crews and communications centres. According to Victoria Police, the availability of a network is likely, when finalised, to lead to generation of additional annual revenue of at least \$3 million, over and above cost savings and a more effective response capability. It will be very critical that BEST ensures, through its strategic management processes, that the latest estimated date for operation of a mobile data network within Victoria Police, which is now early in the year 2000, is ultimately achieved.

**1.1.8** It is important to give recognition to the various tasks completed by BEST to date. It has made sound progress in implementing the recommendations put forward in 1994 by the Public Bodies Review Committee. In addition, the small departmental unit within BEST has performed its vital overseeing role in a competent manner, notwithstanding the fact it has been faced with the somewhat daunting task of managing a wide range of highly-complex responsibilities with minimal in-house resources. In addition, the unit has been required to co-ordinate and integrate the quite different requirements and approaches to calltaking and dispatch issues within each of the emergency service organisations.

**1.1.9** Nevertheless, substantial work is still required by BEST and the emergency service organisations if the benefits expected by the Government from this major outsourcing arrangement are to be fully realised. In fact, it will be difficult for BEST to claim that it has achieved ongoing effectiveness in discharging the major responsibilities assigned to it by the Government until it has fully met the evaluative criteria identified by audit in Part 4 of this Report. Currently, audit considers that none of these criteria have been fully satisfied. This criteria need to be taken into account by BEST in the formulation and management of its future strategic plans and should form the basis of its periodic reporting to the Parliament as an important element of its accountability obligations.

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**1.1.10** The major initial task of BEST at the time of its formation in 1994 involved the selection of a private sector party to develop and implement the multi-agency system. It was very frustrating and disruptive to audit that, despite numerous requests, long delays, extending over many months, were experienced in obtaining key information from BEST which was necessary to substantiate decisions reached by it in the selection process. In addition, detailed documentation to support a consultant's overhead presentation to a meeting of the ministerial steering committee (when the decision to recommend Intergraph was made) was finalised some 6 months after the selection of Intergraph and certain important documentation relating to the evaluation process could not be produced for audit examination. Also of concern was the failure of BEST to finalise probity checks of Intergraph prior to signing of the multi-agency contract.

**1.1.11** While audit does not suggest that the appointment of Intergraph, which submitted the lower bid, was an inappropriate decision, important aspects of the final, and most critical, stage of the evaluation process were considered to be highly deficient and the quality of documentation, much of which was held by consultants engaged by BEST, fell far short of that expected for such a major outsourcing arrangement.

**1.1.12** It is absolutely critical that public sector agencies, when making extensive use of consultants in the management of outsourcing arrangements with the private sector, recognise that all key management information to support decision-making is maintained in a structured manner to provide proper public accountability and is readily available for external audit scrutiny.

**1.1.13** Finally, given the significance of BEST's responsibilities and its important future challenges, it is vital that the departmental unit supporting BEST is adequately resourced and operates in harmony with a well co-ordinated ministerial steering committee.

**1.1.14** BEST, through its ongoing strategic liaison with the emergency service organisations and Intergraph, is progressively resolving the various difficulties encountered to date. If Intergraph's performance can be elevated, particularly in terms of timeliness of dispatch tasks, the benefits envisaged from the system should become increasingly evident. In time, under the direction of BEST, Victoria should have in place an emergency response infrastructure regarded nationally and internationally as clearly leading edge.

# Part 1.2

## Summary of major audit findings

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### THE PERFORMANCE OF BEST TO DATE

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- Under BEST, the Government has established a highly structured framework for overseeing and monitoring strategic and other management issues associated with Intergraph's multi-agency calltaking and dispatch system.  
*Paras 4.14 to 4.23*
- BEST needs to direct greater emphasis to the quality of its overall strategic planning and to regular reporting to the Parliament and the community of progress against planned performance targets.  
*Paras 4.24 to 4.33*
- Based on its achievements to date, BEST is well advanced in implementing the recommendations put forward by the former Public Bodies Review Committee in 1994.  
*Paras 4.34 to 4.36*
- Substantial work is still required by BEST in order that the State can be in a position to fully capitalise on the benefits anticipated in 1994 from a multi-agency calltaking and dispatch system.  
*Paras 4.39 to 4.45*
- While savings over a 7 year period of between \$46 million and \$111 million were identified by the former Public Bodies Review Committee, to date, the various participating emergency service organisations have not generated any significant cost savings from their involvement with the outsourced multi-agency system operated by Intergraph.  
*Paras 4.46 to 4.48*
- BEST's future strategic oversight of implementation of Intergraph's calltaking and dispatch system needs to focus on ensuring that productivity savings from the system are maximised and services provided by Intergraph are consistently in line with its contractual responsibilities.  
*Paras 4.49 to 4.55*



**THE PERFORMANCE OF BEST TO DATE - continued**

- Terms of reference of BEST’s ministerial steering committee were expanded in April 1997 to emphasise the committee’s key advisory role to the Government and achievement of continuous improvement in the delivery of emergency response services.  
*Paras 4.56 to 4.58*
- Provided the various difficulties encountered to date are fully resolved by BEST, Victoria should, in time, have in place an emergency response infrastructure regarded both nationally and internationally as leading edge.  
*Paras 4.59 to 4.65*

**SELECTION OF THE SUCCESSFUL BIDDER**

- Significant difficulties and delays of up to 8 months were encountered by audit in gaining access to documentation and information considered by audit to be of direct relevance to the process followed by BEST in the selection of the successful contractor.  
*Paras 5.8 to 5.14*
- An analysis of the cost and benefits of outsourcing the multi-agency calltaking and dispatch system did not occur until around 6 months after the selection process had commenced.  
*Paras 5.28 to 5.31*
- Shortlisted bidders were not advised of the potential impact of BEST’s emerging concerns at the contents of the contract between the Metropolitan Ambulance Service and Intergraph and the difficulties likely to be experienced in integrating the Service’s system with the multi-agency system.  
*Paras 5.35 to 5.43*
- While audit does not suggest that the appointment of Intergraph, which submitted the lower bid of the 2 final bidders, was an inappropriate decision, a soundly documented management trail was clearly lacking in that detailed documentation supporting key aspects was prepared after the final decision was made and certain critical documentation could not be produced for audit examination.  
*Paras 5.58 to 5.66*
- BEST did not finalise probity checks of Intergraph prior to signing of the contract.  
*Para. 5.68*

**COMMISSIONING AT VICTORIA POLICE  
AND THE VICTORIA STATE EMERGENCY SERVICE**

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**Victoria Police**

- Because of the absolute imperative for Victoria Police to have in place in 1995 centralised communication facilities at the time of its move to a new Melbourne location at the World Trade Centre, all parties were faced with the daunting task of accomplishing system commissioning within less than 9 months.

*Paras 6.8 to 6.16*

- Intergraph was unable to meet the level of performance for the total time to dispatch measure initially expected of it under the contract and could subsequently progress only partially along a monthly performance improvement program involving substantially lower levels of required performance.

*Paras 6.23 to 6.32*

- To its credit, Intergraph has consistently met the performance measure of 5 seconds set for the answering of calls.

*Paras 6.33 to 6.34*

- Victoria Police withheld moneys totalling \$1 170 000 (subsequently paid) from its monthly service charges payable to Intergraph during the period September 1995 to August 1996 because of the contractor's failure to meet the required level of performance for the total time to dispatch measure.

*Paras 6.35 to 6.42*

- All 3 parties, BEST, Victoria Police and Intergraph need to ensure that useful and accurate management information is consistently generated in the manner envisaged under the contract.

*Paras 6.43 to 6.55*

- Victoria Police estimates that the availability of a mobile data network is likely to generate additional annual revenue of at least \$3 million, over and above cost savings and a more effective emergency response capability within the organisation.

*Paras 6.56 to 6.65*

- Several important internal management issues require attention by Victoria Police in order for it to be in a position to derive maximum benefit from the multi-agency system.

*Paras 6.66 to 6.67*

**COMMISSIONING AT VICTORIA POLICE**

**AND THE VICTORIA STATE EMERGENCY SERVICE - *continued***

**Page 75**

**Victoria State Emergency Service**

- Based on views formally expressed by the Victoria State Emergency Service to BEST, operation of the multi-agency system in respect of the Service proceeded at a time when significant reservations were held by the Service, the user of the system, and therefore the most important party in the process.

*Paras 6.71 to 6.77*

- Problems experienced by the Service since the September 1995 commissioning of the system were viewed seriously by the organisation and in December 1996 it requested BEST to facilitate a full system review which is yet to be finalised.

*Paras 6.78 to 6.82*

**EMERGENCY SERVICE ORGANISATIONS NOT YET COMMISSIONED**

**Page 95**

**Metropolitan Fire and Emergency Services Board**

- The target commissioning date of 1 May 1996 stipulated within the contract for operation of the multi-agency system at the Metropolitan Fire and Emergency Services Board was not met and commissioning is not expected to occur until 2 years later on 1 July 1998.

*Paras 7.8 to 7.11*

- Intergraph has been unable to meet the required level of performance initially expected of it for the dispatch of fire units following a call from the public, or to consistently achieve a subsequently reduced level of performance agreed with the Board for this activity.

*Paras 7.13 to 7.33*

- An amount of \$220 000 withheld by the Board from monthly service charges due to Intergraph because of under-performance was subsequently forfeited by the contractor and the Board was forced to incur additional costs of around \$420 000 to continue employment of staff at its former communications centre up to early September 1996.

*Paras 7.34 to 7.44*

- Intergraph has installed new data transfer software to overcome the problems experienced from a critical failure in the communication link between the Intergraph system and the Board's Firecom system, which occurred at the time of the January 1997 fires within the area of the Dandenong Ranges.

*Paras 7.49 to 7.52*

**EMERGENCY SERVICE****ORGANISATIONS NOT YET COMMISSIONED - continued****Page 95****Metropolitan Fire and Emergency Services Board - continued**

- The Board has found it necessary to use its Firecom system, in addition to other operational purposes, for the generation of management information suitable for its strategic and operational decision-making.

*Paras 7.56 to 7.58*

- The Board and the Metropolitan Ambulance Service are collectively developing the concept of co-responses for time-critical medical emergencies, and the multi-agency nature of Intergraph's system is seen to provide the ideal platform upon which to implement co-responses for pre-determined emergencies.

*Paras 7.63 to 7.68***Country Fire Authority**

- The target commissioning date of 1 July 1996 stipulated within the contract for operation of the multi-agency system at the Country Fire Authority was not met and commissioning is now not expected to occur until at least April 1998, after the 1997-98 fire danger season.

*Paras 7.69 to 7.71*

- For a variety of reasons, including Intergraph's performance, commissioning of the system has been deferred 5 times since July 1996.

*Paras 7.72 to 7.92*

- Because of the continual postponement of system commissioning, the Authority was forced to meet costs amounting to \$700 000 that otherwise would not have been incurred and, based on legal advice, it has determined to recover \$456 000 from Intergraph.

*Paras 7.93 to 7.98***IMPLEMENTATION OF A MOBILE DATA NETWORK****Page 117**

- The development of a mobile data network as a means of electronically transmitting data between emergency service crews and communications centres represents an important final phase of the Government's multi-agency emergency communication system.

*Paras 8.7 to 8.13*

- Reviews arranged by both BEST and Victoria Police have identified a wide range of benefits which would be derived from implementation of a mobile data network.

*Paras 8.14 to 8.26*

- Given the significant potential benefits of a mobile data network to the State's emergency service organisations, it is imperative that BEST finalises the selection of a supplier and implementation of a network as a matter of urgency.

*Paras 8.27 to 8.36*

**ISSUES RELATING TO  
TELSTRA AND 000, THE NATIONAL EMERGENCY NUMBER**

- Telstra plays a critical role in the State's emergency communication process in that, after gathering pertinent information from a 000 caller, Telstra transmits the call to Intergraph for handling of calltaking and dispatch functions on behalf of the appropriate organisation.  
*Paras 9.7 to 9.11*
- Based on information provided by BEST, Telstra received around 2.5 million 000 calls in Victoria during the 1996 calendar year.  
*Paras 9.15 to 9.17*
- To its credit, BEST has been a key player within the telecommunications industry in highlighting several problems associated with the national emergency calltaking function.  
*Paras 9.18 to 9.21*
- A significant shortcoming in the current arrangements has been the unsuitability of the use of 3 zero digits for the national emergency number which gives rise to a high incidence of accidental mis-dialling of other frequently used numbers prefixed by the digits 0 and 00.  
*Paras 9.22 to 9.29*
- Of the estimated 9 million non-emergency calls received nationally through 000, about half are considered to be due to accidental mis-dialling and the balance attributable to nuisance or hoax calls.  
*Para. 9.25*
- Because the availability to the public of many emergency numbers can create confusion as to the most appropriate number to call, the phasing out of the 3 emergency service access numbers, 11440 (Ambulance), 11441 (Fire) and 11444 (Police), introduced in Victoria in the early 1980s, should be regarded as a high priority.  
*Paras 9.30 to 9.34*
- The extent of reliance placed on Telstra's emergency information database for the effective dispatch of emergency services and, in turn, the public's protection, reinforces the importance of BEST continuing to seek resolution on a number of issues relating to the database.  
*Paras 9.35 to 9.39*
- BEST should strive to promote through the relevant national organisation, the Australian Communications Authority, the advantages of having in place a single point of management for all elements of emergency procedures.  
*Paras 9.42 to 9.43*
- BEST expects to be directing increasing attention to monitoring the impact of the deregulated telecommunications industry on the State's emergency service organisations and, where necessary, promoting and protecting the interests of those organisations and the Victorian community.  
*Paras 9.44 to 9.49*



**OTHER MANAGEMENT ISSUES**

- It will be important for BEST to establish a target completion date for the planned pilot study dealing with potential expansion of calltaking and dispatch services into rural Victoria so that it is in a position to formulate appropriate recommendations to the Government within a reasonable timeframe.

*Paras 10.10 to 10.17*

- In view of the potential impact of the coming date change to the year 2000 on the various interactive components of the computerised calltaking and dispatch system, it is critical that each emergency service organisation acts diligently, under BEST's overview, to address the relevant risks.

*Paras 10.18 to 10.29*



**□ RESPONSE** provided by Secretary to the Department of Justice

*It is pleasing to note that the Auditor-General has recognised that the Intergraph computer-assisted calltaking and dispatch system (CAD) is a technologically advanced system and that it offers the capability to substantially improve the ability of the emergency service organisations to respond to incidents.*

*It is also noted that the Auditor-General does not dispute the selection of Intergraph as the appropriate supplier of the system.*

*The system is bringing a new era in telecommunications capability to the Victorian emergency services organisations. A number of the emergency services are now experiencing the benefits envisaged when the Government made the decision to establish shared emergency services computer-assisted calltaking and dispatch system.*

*The CAD system has established a "fail-safe" back-up that was not previously available to the emergency services. It has also established a telecommunications infrastructure and technological capability that will be the basis on which further development, such as mobile data and automatic vehicle location systems, can now be established.*

*It is disappointing that the Report does not fully convey to the Parliament and the community the substantial improvement that has been achieved in the communications supporting, for instance, Victoria Police and the Metropolitan Ambulance Service. By any measure there has been major progress in these areas, providing a foundation for implementing further sophisticated systems that will maintain Victoria's position as a world leader in emergency calltaking, resource dispatch and resource management.*

*It is disappointing that the performance audit focuses on the problems experienced in implementation rather than on the achievements. The Report inadequately recognises the challenges faced in introducing leading edge technological change of the kind inherent in this project. The organisational and cultural change in the emergency services and retraining of staff that is required to effectively exploit the potential of the CAD system has not been addressed in the Report.*

**Savings/productivity improvements**

*It is strongly disputed that no savings have been achieved through the implementation of the CAD system. Audit has taken no account of the investment costs that would have been incurred by Victoria Police, the State Emergency Service, the Metropolitan Ambulance Service, the Metropolitan Fire and Emergency Services Board and the Country Fire Authority in either replacing outdated and poorly functioning systems or in upgrading the capability of existing systems. The productivity improvements that have already been made by the emergency services, or those that will be harvested in the future are also not recognised.*

*The gains that have already been made through improved inter-agency collaboration in responding to emergency incidents have also gone unrecognised, as has the potential of achieving even more in this area.*

□ **RESPONSE** provided by Secretary to the Department of Justice - continued

**Customer Specified Service Standards (CSSS)**

*A reader of the Report may be led to believe that the response capability of Victoria's emergency services has been compromised in some manner through the implementation of the CAD system. This is not correct.*

*In setting the customer specified service standards (CSSS) for the initial project brief, the emergency services set demanding time standards to be met by the successful bidder. These initial time standards, although well intentioned, were not reliably benchmarked against previous performance and they have proved not to be the most appropriate performance measure. The emphasis on speed of processing calls needs to be balanced against acquiring adequate quality information from callers, so that emergency services can provide the most appropriate response in a manner that is safe for the community and the emergency service workers.*

*The manner in which the Report discusses this issue may mislead the reader, as it does not communicate the full facts that underlie the issue. The Parliament and the community should be aware that the modification of the CSSSs by the emergency services organisations is largely driven by the need for adequate and accurate information, and the contract with Intergraph specifically provided for this to occur by negotiation between the parties.*

**Mobile data capability**

*The Report has commented on the delays to the introduction of mobile data capability for the emergency services organisations. The development of a well-researched business plan and functional requirements specification for mobile data functionality for all the emergency services organisations is underway. It is important that this is undertaken collaboratively to avoid a fragmented approach and to reap the cost and functional benefits of a shared common system, with the most up-to-date technology.*

**Conduct of the audit**

*I note that at various points in the Report audit acknowledges the professionalism, skill and commitment of the BEST team. On behalf of the team I wish to thank audit for this recognition.*

*However, I am concerned that the audit has been drawn out and extremely distracting to the BEST team. It has been a major distraction for the team, impeding the further implementation of the project.*

**Conclusion**

*The Victorian community is now being, and will continue to be, well served by the Government's initiative to establish the shared emergency services telecommunications system. The implementation problems that have been identified in the Report are typical of the development and implementation of such a complex and technologically advanced system. The addition of mobile data and automatic vehicle location capabilities will further enhance performance of the system.*



**□ RESPONSE** provided by Chairman of the Ministerial Steering Committee

*In March 1994, Cabinet created the Ministerial Steering Committee for Emergency Services Telecommunications. The Committee has been given the responsibility by Cabinet to overview the implementation of the emergency response computer-aided calltaking and dispatch project for Victoria's Emergency Service Organisations which the chief executive officer BEST has described as "probably the most significant public safety project in Australia at this point in time", a view supported in this Report by audit.*

*The Committee has brought a new approach to the provision of telecommunication services for the Emergency Service Organisations through the development of public/private sector partnerships in the delivery of telecommunications services. The Committee has shown strong leadership and direction in meeting and conquering a wide range of cultural and organisation changes which the BEST computer-aided calltaking and dispatch project has identified as being required in order to fully capture the benefit that will flow from the Government's significant investment in telecommunications for the Emergency Service Organisations.*

*In providing this note on behalf of the Committee I totally support the comments made by the Secretary to the Department of Justice in his response to this Report.*

*In addition, I wish to make the following additional comments in support of the comments made by the Secretary.*

*One of the major achievements of BEST has been the creation of a focus on the level of performance being delivered from the Intergraph system to meet performance standards based on timeliness and quality not seen before in the public safety environment in Australia. The introduction of these standards has seen a level of public accountability not previously associated with the delivery of the calltaking and dispatch component of the emergency response function. BEST, the Emergency Service Organisations and Intergraph now have a wealth of information that can be used to continually refine these performance standards to suit the operational and business needs of the organisations. The Committee is concerned, however, that the ability to refine these performance standards in accordance with the provisions of the contract between the Emergency Service Organisations and Intergraph has not been understood by audit. The Committee through its Executive Unit has continually provided this advice to audit for the past 10 months.*

*The Committee is also concerned with audit's comments regarding the process used to select Intergraph. The Committee employed consultants with the relevant experience to design and implement a selection process that was fair and equitable to all bidders and to provide the Committee with technical, commercial and legal advice on the selection process. BEST also established a process through which the Emergency Service Organisations had the opportunity to have strong input to, and ownership of, the selection process. It is disappointing to see Audit make critical comments on this process which was managed with the highest level of professional conduct which resulted in a decision that audit has endorsed. It is worth noting that the former State Tender Board also endorsed the selection of Intergraph in December 1994 on the basis of the documentation submitted to it.*

*It needs to be clearly said that the Committee at all times felt that it was being adequately supported and briefed by its Executive Unit and its consultants and was always in a position to make decisions and recommendations at key points in the selection process.*

□ **RESPONSE** provided by Chairman of the Ministerial Steering Committee - continued

*Audit has made comment regarding access to documentation to support the selection process. In the past 10 months, audit has had continuous and open access to all members of BEST, including members of the Committee, its consultants and all documentation held on the respective files of BEST and its consultants.*

*The Committee has a number of concerns about the conduct of the audit including the consultation process with BEST, the Emergency Service Organisations and Intergraph which has consumed massive amounts of time, much of which has been required to explain the scope and complexity of the project to audit. This has diverted the limited resources of all parties and in particular those of BEST from the progression of the project for an unreasonable period of time. Advice provided by BEST and its consultants on various matters, such as the absence of any impact of the \$12 million ambit compensation claim by Intergraph, has been continually ignored by audit without explanation.*

*While the Committee has expressed concerns about the conduct of the audit process, the resulting endorsement by the Auditor-General of the selection of Intergraph and the quality and sophistication of the Intergraph computer-aided calltaking and dispatch system is welcomed by the Committee as the system will provide the solid foundation for the expansion of other telecommunication services required by the Emergency Service Organisations.*

*The Committee recognises that while it has made considerable progress against the Terms of Reference given to it by Cabinet, which has been clearly spelt out in the Secretary's response, there is still a significant amount of work to be done to ensure the delivery of quality cost-effective telecommunication services to the Emergency Service Organisations by a range of private sector service providers which can be measured against national and international standards.*

□ **RESPONSE** provided by Chief Commissioner of Victoria Police

*Victoria Police have strong concerns regarding 2 broad aspects of the Report where audit appear to have failed to understand the basis on which the project was established.*

*Firstly, the Report has failed to appreciate that the implementation of the CAD services project involved 4 integrated phases. The Auditor-General has drawn conclusions based on his observations of implementation of only the first phase in isolation, but has compared them against the business case and expectations of the total project.*

*Victoria Police has always acknowledged that the commissioning time frame for the CAD was ambitious and that both Intergraph and Victoria Police would be on a learning curve relating to the operation of the new technology and the service delivery arrangements involved. The initial commissioning was a key milestone in Phase One of the project, not the completion of the establishment of a communications service.*

*It should be noted that the full gains expected by Victoria Police from adoption of this CAD service were in terms of productivity and service improvement resulting from the future changes to business practice reliant upon the adoption of Mobile Data Technology in Phase Four of the CAD initiative.*

□ **RESPONSE** provided by Chief Commissioner of Victoria Police - continued

*It is also of importance to Victoria Police that the Report reflect an understanding of the business case which underpinned the decision to proceed with CAD technology as an enabler of other business process reforms which continue to be business priorities for the Force. The productivity gains anticipated by Victoria Police have always been dependent upon completion of the 4 phases of the project. As a result, it is misleading to suggest that the CAD service has failed to meet productivity objectives at this early stage.*

*Secondly, audit has failed to appreciate that the overall project applied an entirely new generation of technology and processes. Hence, there were no previous benchmarks on which to set the Customer Specified Service Standards (CSSS). As such, it was always understood that the CSSS would continuously be reviewed and would evolve following the commissioning date in late 1995. This was reflected in the renegotiation of interim performance standards in response to the continuous improvement program developed in collaboration with Intergraph from early 1996, and to reflect ongoing developments in policing practice. It should be appreciated that this process of change will be ongoing as part of continuous improvement, as technology developments and work practice reforms offer new opportunities for service improvement.*

*Victoria Police is disappointed at the apparent lack of understanding of the normal business and managerial processes involved in any major developmental partnership including recognition of the complexities of the new calltaking and dispatch service industry in Victoria. Victoria Police, BEST and IPS acknowledge that a number of business issues remained outstanding at the time of original commissioning of the CAD system in September 1995. Mechanisms were in place to progress those matters in the months following September, as actual operational experience of all stakeholders increased. Accordingly, the transition to the new CAD system in September 1995 was achieved with minimal disruption to operational Police services, a fact which should reflect positively upon Victoria Police, Intergraph (IPS) and BEST.*

*The Report particularly lacks consideration of:*

- the issue that there were no benchmarks with a CAD system in a comparable context and that these needed to be adjusted by agreement during the initial period of operation;*
- the understanding that the agreed CSSS would be refined on the basis of system performance within the context of a new approach to a calltaking and dispatch service;*
- the collaborative working relationship now in place with Intergraph;*
- new work practices which continue to evolve as part of a Victoria Police commitment to BPR, which relies upon the anticipated introduction of a mobile data network; and*
- anticipated changes in technology which form part of future phases of the project (e.g. AVL and MDT).*

□ **RESPONSE** provided by Chief Commissioner of Victoria Police - continued

*The Report also fails to address the complexities to be addressed at contract commencement by all parties to the contract, given that the business relationship reflected in the contract represented a new business venture for all stakeholders, including Intergraph. It is the view of Victoria Police that these issues are continuing to be addressed through a co-operative working relationship with BEST and Intergraph as service provider.*

*As acknowledged by audit, the project was subject to a time-line imperative regarding the required relocation of Victoria Police to the World Trade Centre. The commissioning of the system and service at the World Trade Centre on 5 September 1995 represented a significant achievement and should reflect positively upon Victoria Police, BEST and Intergraph.*

□ **RESPONSE** provided by President, Metropolitan Fire and Emergency Services Board

*The Metropolitan Fire and Emergency Services Board (MFESB) acknowledges that there have been some problems in the implementation of the Intergraph computer-aided dispatch system for this fire service. However, audit has either chosen to not recognise or has not understood the total scope of the BEST CAD project and complexities of the technology being introduced for the multi-agency aspect of the project. The potential for problems such as those encountered will always exist with the introduction of new technology, however, the successful resolution of these problems has been managed professionally by MFESB staff in conjunction with Intergraph and BEST. It must be acknowledged that significant improvement in service delivery has been experienced from the time of going live in July 1996.*

*Recent experience with regard to service delivery standards provides the Board with a substantial level of comfort in accepting Intergraph's assurances that the change to the Windows NT environment will ensure that all standards are constantly met or exceeded.*

*The MFESB is particularly concerned that little recognition or attention has been paid by the Auditor-General to the very positive enhancements to service standards that are encapsulated in the 3rd Deed of Variation. The Board views the establishment of service standards for both multi-agency incidents and the dispatch of additional equipment as significant steps in ensuring optimal service delivery.*

*Likewise, the Board is perturbed that little acknowledgment is afforded for the negotiation, as part of the 3rd Deed, of the provision of the software and hardware associated with the delivery of Emergency Medical Response at no cost to the Board or that the delivery of such service would not have been possible without an integrated system.*



**□ RESPONSE** provided by Chairman, Country Fire Authority

**Implementation of multi-agency calltaking and dispatch system**

*The CFA accepts the auditor's report on the CFA as being factually correct. However it is important to make the following explanatory comments.*

*The CFA is administratively and operationally complex and it is not surprising that IPS has taken some time to appreciate the interface issues which arise between the CFA and the CAD system. The decisions to defer CFA cutting over to the CAD system have been made jointly by the CFA and IPS in a co-operative and responsible manner.*

*The CFA acknowledges audit's view of the success of the implementation of CFA's interim CAD facility, but wishes to stress the operational advantages that will result from the implementation of the IPS CAD system.*

*Audit's comment about there being no financial saving to the CFA with the introduction of IPS CAD is noted. However, this comment can be misconstrued because the CFA will gain significant functionality and avoid significant capital cost by being part of the multi-agency system. It is obvious that without such a system the CFA would have incurred significantly increased recurrent expenditure in the future.*

*The CFA area of operation incorporates Melbourne suburbs with well-established road maps through to outer metropolitan growth corridors where road maps are in a constant state of development. Originally, the CFA identified the accuracy of the mapbase as being an issue which would influence the decision to cut over to IPS. Due to the significant improvement of the Land Victoria mapbase, this is no longer an issue and the CFA is confident that the 95 per cent accuracy will meet its emergency requirements.*

*I am of the very strong view that without the co-ordination and professional advice provided by BEST, the introduction of a multi-agency call taking and dispatch facility would not have occurred.*

**□ RESPONSE** provided by Director, Victoria State Emergency Service

*I refer to audit's comments which described the performance of the system as far as the Victoria State Emergency Service is concerned. I found the comments fair and reasonable, and they reflect the true situation.*

**□ Comments** provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd

*In reviewing the Report, I was disappointed to find a number of key areas where the Office of the Auditor General (audit) has not been informed of, or has overlooked, the actual circumstances underpinning observations made in the Report.*

*Of fundamental concern to IBV is the apparent lack of understanding by audit of the review process built into the Master Service Contract (MSC) in relation to the Customer Specified Service Standards (CSSS) for each of the Emergency Service Organisations, (the Customers). This IBV concern has been previously communicated to audit.*

*Due to the lack of performance data on which to establish CSSS at the time of contract preparation, the original Schedule 17 measures were included, but made subject to a 2 stage review process. This enabled the contracting parties to execute the MSC in the required timeframe by providing a mechanism for subsequent review and agreement to be reached over the CSSS performance measures to be applied in respect of the Customers.*



□ *Comments provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd - continued*

*It is the lack of adequate acknowledgment of this contracted, 2 stage review process that is of most concern to IBV. Audit makes repeated references, critical of IBV, in relation to a supposed degradation of service, on the false and misleading premise that IBV should be performing in accordance with the original Schedule 17 CSSS measures. This is clearly not the case.*

***Background to Schedule 17 to the MSC***

*Throughout the Report, audit makes reference to ongoing performance relative to Schedule 17 as included in the executed version of the MSC. This represents a misunderstanding of the nature of the original Schedule 17, which states:*

*"The performance requirements identified in exhibit 2 [of the Schedule] have been derived using a combination of standards contained in the RFP, Customer perceptions, estimates, measurements of the Customers' current performance and expectations of performance improvements based on migrating to a private sector CAD service.*

*"The performance requirements identified in exhibit 2 will be reviewed following system design and agreed prior to commissioning for each Customer. The intent of the review is to ensure the agreed performance requirements are consistent with the objectives of:*

- meeting the operational performance requirements of the Customer; and*
- providing a quality service to the public."*

*The Schedule goes further to provide for a 2 stage audit of the performance as a basis for agreeing the CSSS, with one review to be conducted prior to Commissioning and a second review 3 months after Commissioning.*

*The above contract provisions reflect the greenfield nature of this contract. At the time of contract negotiations, IBV raised concerns over the proposed CSSS to be included in Schedule 17 and, on the basis that the proposed measures were purely quantitative and information on the then current performance of the Customers was non-existent, IBV declined to sign Schedule 17.*

*Agreement to sign was only reached following the raising of IBV's concerns at a meeting held on 19 May 1995 which was attended by Messrs Spring (BEST), Douglas (Treasury), and McDonald (CCVV). At this meeting it was agreed, for reasons of expediency, to leave the proposed Schedule 17 performance measures in the contract, but provide for the review process (outlined above) to determine realistic and objective measures. The first of these reviews was to be completed prior to live operation of the system commencing. Had the Customers complied with the review requirements of the signed contract, this would have occurred. It needs to be stressed that it was never the intention to measure IBV's performance against the original CSSS as contained in Schedule 17. Performance was only to be measured against the renegotiated CSSS. This position is further supported by correspondence from Senior Officers in VICPOL. IBV is able to make available to audit copies of correspondence in support of the above statements.*



□ *Comments provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd - continued*

***Implementation of the review process***

*The 2 stage review process detailed in Schedule 17 and summarised above, did not occur in the timeframe envisaged in the MSC. For Police, as audit highlights, the benchmark review conducted by KPMG was not signed off by the agency until 4 March 1996, some 6 months after Commissioning. Both CFA and MAS breached the MSC by refusing to allow a benchmark audit of their old systems.*

*Following the findings of the KPMG benchmark audit, Police and IBV agreed to amend the CSSS, with a new base established for August 1996, thereafter followed by a 4 month tightening in the August CSSS measures. While IBV was working toward the revised CSSS, there was an acknowledgment by both parties that the scheduled improvement in quantitative performance would only be achieved at the expense of the quality of service being provided.*

*In light of this, and in the interests of ensuring the public enjoyed the best service possible, it was mutually agreed that the CSSS would be frozen at the August 1996 level. Accordingly, IBV believe it to be both erroneous and misleading of audit to measure IBV's performance in regard to Police against anything other than the agreed CSSS set in August 1996.*

*It is notable that IBV has continued to deliver a service complying with the August 1996 level. It is also notable that these CSSS benchmarks represent a very significant improvement in the performance of calltaking and dispatch services being enjoyed by Police, over that previously available from the D-24 communications and control room run by Police. This is evidenced by the independent KPMG study. In these circumstances, there is no foundation to the claim by audit that IBV is contributing to the extension in total response times for Victoria Police.*

*The above position has been determined based on the first review of CSSS required under the MSC. Victoria Police and IBV are working to finalise a review of Schedules 16 and 17 which is designed to introduce an element of qualitative performance assessment within the MSC. This initiative constitutes the second review outlined in Schedule 17.*

***Withholding of moneys by Victoria Police***

*Audit has asserted that withholding of significant moneys due to IBV because of non-performance has been a common occurrence. Again, this assertion is a misrepresentation by audit of the underlying facts.*

*Victoria Police withheld funds during the initial period of the contract. These withholdings were not attributed to non-performance by IBV, but rather due to a lack of agreed CSSS and information to verify performance. The lack of agreed CSSS is detailed above. It is arguable that there was no right of withholding in the absence of the reviews of Schedule 17 provided for under the contract.*

*The second factor contributing to the decision by Victoria Police to withhold moneys was the lack of management information. While addressed in more detail later in this response, it is sufficient to say that the standard reports contracted for by the Customers were capable of being provided by IBV.*

□ *Comments provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd - continued*

*Notwithstanding this, it is an inappropriate conclusion to contend that moneys were held for non-performance, particularly given that performance has proven to be well in excess of that benchmarked for the pre-existing D-24 facility. It is noteworthy that once the above issues were resolved all funds previously withheld by Police were released to IBV.*

***Production of management information***

*Audit has raised the issue of adequacy of management information generated from CAD, asserting that IBV has not met its contracted responsibilities in this regard. This observation is incorrect.*

*The Customers originally contracted to receive reports in a particular format from the CAD system. It was clear upon Commissioning that these reports were insufficient to meet their needs. This is not an issue which IBV could have foreseen at contract signing and effectively represents a Customers' issue. IBV was able to produce the standard reports requested, and thus meet the contracted responsibilities, contrary to audit's assertion. The Customers in fact asked that the production of these reports be ceased. Again, IBV is able to produce documentary evidence in support of this fact.*

*In an attempt to overcome this problem and improve the partnering relationship with the Customers, IBV, at some considerable expense, developed a significantly better management information system than the standard product specified under the contract. This was presented to the Customers as an additional cost option, which was subsequently declined. Consequently, IBV ceased development of this option.*

***Training***

*IBV is similarly concerned at the criticism contained in the Report about operator training. The criticism seems to be mainly supported by the review undertaken by Victoria Police. It is notable that the Customers have been appraised of the training program throughout and have been encouraged to provide input in any areas of concern. IBV staff were employed at the previous D24 communications centre for a period in excess of one month on live operations prior to commissioning. The initial IBV training plan was derived from VICPOL training material.*

*The overall "Training Plan" per Section 39.0 of the MSC was approved by the Customer General Manager prior to the Commissioning of the SECC-VPC. Further, IBV's approach to training is covered in the ISO9001 quality accreditation granted to IBV. It is notable that IBV have sustained performance levels consistent with the agreed CSSS, which would suggest that criticism of the training by audit is unfounded.*

*Notwithstanding this, IBV seeks to continually refine training to meet the needs of the Customers. To this end, we have supplied Victoria Police with the following information to seek continual improvement in the qualitative performance of our operators:*

- *20 February 1997 - A Draft IPS Training Competency Standard;*
- *28 February 1997 - A Draft Calltaker Induction Training Package; and*
- *28 April 1997 - A Draft Dispatcher Training Package.*



**□ Comments** provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd -  
*continued*

*On 13 May 1997, despite having received no formal feedback on the above drafts, IBV sought formal involvement of Victoria Police trainers to provide input to our training.*

*On 1 July 1997, Victoria Police submitted a "Review of Intergraph Training Program - June 1997" in response to the above. IBV was concerned with the findings of this Review for the following reasons:*

- The Victoria Police assessment was measured against recently adopted Victoria Police competency based standards. This is an inappropriate measure;*
- Only 5% of calltaker and dispatch training material provided was reviewed by Victoria Police;*
- The Review failed to provide any feedback on IBV competency standards, nor the content of the material; and*
- The Review recommended inclusion of topics in the training material without any detail of the implications of such inclusion.*

*The audit observation appears to be based on a cursory review of IBV's training methods without having acknowledged the fact that IBV has developed its training in full consultation with the Customers, including Victoria Police. Throughout the training development, the Customers have had the opportunity, and indeed have been encouraged, to provide input to the training program to ensure IBV continues to meet performance stipulated in the agreed CSSS.*

*Audit is incorrect in stating that IBV has refused to co-operate on issues surrounding calltaker training. As noted in the preceding paragraphs, IBV's training plan has been based on significant input from VICPOL, and further, IBV has adopted a continuous improvement program culminating, in the November 1997 Training Review.*

***MFESB commissioning delays***

*IBV notes audit's comments in relation to commissioning of the MFESB and CFA onto the CAD system. Notwithstanding this aspect, IBV views the narrative provided by audit as unbalanced. Discussions with MFESB since receipt of the draft sections of the Report have confirmed a number of factual errors contained therein, which I understand will be corrected by the MFESB.*

*The performance issues which IBV and the MFESB have worked through in determining the negotiated Deed under which IBV is currently operating are complex. In acknowledging the performance levels are not those which were originally included in the contract, I would balance this by highlighting that IBV has provided sustained service delivery since July 1996 and is achieving performance levels only marginally below the targets for Commissioning and substantially above the negotiated major failure levels.*

□ *Comments provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd - continued*

***January 1997 fires - Dandenong Ranges***

*The audit synopsis of events surrounding the January 1997 fires ignores a number of important facts that have been previously communicated to audit. I reiterate these in anticipation that this oversight will be corrected.*

*The inference that the CAD system failed during the January 1997 fires is erroneous. The CAD system performed flawlessly during this period. Indeed, the CAD system was operational at all times during this period, and further, eased pressure by taking the overflow CFA calls and control of CFA/MFESB vehicles in the mutual aid areas using the BEST radio channel #7.*

*The failure that occurred was that of a joint communication link between MFESB Headquarters and SECC-Tally Ho. However, audit's allegation that the failure between the IBV system and Firecom "arose because of new data transfer software under trial by Intergraph ..." is factually incorrect.*

*Audit is advised that Schedule 16 to the MSC contains the peak levels of traffic declared by the MFESB in its system specification. The Data Transfer Server (DTS) was tested with other components of the MFESB system during the acceptance test phase. It was built to the specifications prescribed by the Customer User Requirements and the peak activity levels declared in Schedule 16. The link could not cope with the very significant increase in communications generated by events on the day, with activity significantly exceeding the Schedule 16 declared activity peaks. This failure did not impact the CAD service from IBV as calls were still able to be received and resources dispatched.*

*It is well documented that the MFESB had to operate in a manual mode from Eastern Hill Operations Centre on 21 January 1997 due to the failure to accurately specify the capacity of the joint communications link, which prevented event data being available at MFESB Headquarters via Firecom in real time. This impacted on resource planning by MFESB.*

*Consequently, IPS has since upgraded the capacity of the DTS link to double that of the January 1997 activity levels and has installed a read-only terminal at Eastern Hill. Our approach has been to work co-operatively with the Customers to overcome any deficiencies in the Customer User Requirements due to the under scoping of peak activity levels.*



**□ Comments** provided by the Managing Director, Intergraph BEST (Vic) Pty Ltd -  
*continued*

**CFA commissioning**

*The CFA is not receiving CAD services due to a number of issues of both a technical and business workflow nature. However, it is both premature and misleading to speculate over the reasons surrounding the decision not to continue live operations of the system to support CFA while this is the subject of a separate, independent investigation by BEST. Notwithstanding this investigation, it is fact that insufficient weight has been given to the quality of the CAD Map and provision of Customer deliverables by audit. It is emphasised that the quality of the CAD Map is the responsibility of Land Victoria rather than IBV. Section 49.2.3(e) of the MSC states:*

*"Intergraph will not be responsible for any failure to comply with its obligations under the Transaction Documents where the failure is caused by inaccurate or unreliable data supplied to Intergraph by OGDC [Land Victoria] or delay or non supply of data by OGDC [Land Victoria] provided Intergraph has exercised reasonable care in loading that data onto the CAD system and in identifying errors and inaccuracies in that data".*

*An independent investigation into the CFA commissioning issues is currently being conducted. It is also necessary to consider the status of the Customer user requirement documents. Failure to finalise this document prior to development has had the consequence that it was, and remains, a high risk issue in achieving commissioning*

**Year 2000 compliance**

*The CAD system is year 2000 certified as a stand alone system. The key risk in respect of year 2000 is the interfacing components of the system to the in-house systems of the Customers. IBV are working with the Customers to minimise this risk.*

# **Part 2**

## **Background**

.....

**2.1** The use of a computerised calltaking and dispatch system in the public safety environment has become an increasing worldwide trend over the last decade. Furthermore, the move towards a multi-agency system which services a number of separate emergency service organisations from one system has occurred at an increasing rate, especially in the United States of America and Canada.

**2.2** In Victoria, up until late 1995, each emergency service organisation had developed and implemented an individual calltaking and dispatch system, engineered to serve its own individual requirements, within its own communication centre and operated by its own service personnel. However, the scope for introducing a multi-agency system has been discussed for a number of years with a joint emergency services working group established in September 1991 to consider the introduction of a multi-agency calltaking and dispatch system.

**2.3** The working group operated for a number of years but was unable to achieve any substantive progress and each emergency service organisation continued to operate its own calltaking and dispatch system.



*The multi-agency nature of many incidents requiring Victoria's emergency service organisations.*

## REVIEW BY THE PUBLIC BODIES REVIEW COMMITTEE

**2.4** Given the lack of progress made by the working group, Parliament's former Public Bodies Review Committee commenced a review of the operations of the then Metropolitan Fire Brigades Board in February 1993. Although the review focused on the Board, the Committee was able to identify and recommend actions to improve the quality and cost of service delivery by all emergency services in Victoria.



**2.5** The Committee's interim and final reports, released in October 1993 and February 1994 respectively, included within their recommendations the implementation of a multi-agency system. The reports identified that significant cost savings ranging from \$46 million to \$111 million over a 7 year period could be achieved through the implementation of a multi-agency system.

**2.6** Specifically, the following 3 recommendations were relevant to the establishment of a multi-agency system:

1. Establishment of a multi-agency system under the control of the Minister for Police and Emergency Services to implement the following minimum services to Victoria Police and other emergency services:
  - Call receipt and dispatch facilities at 3 common sites throughout Victoria, with 000 being the prime emergency response number;
  - A central database facility;
  - Geographic Information Systems;
  - Call Line Identification;
  - Automatic Vehicle Location; and
  - Mobile Data Terminals.
2. The cost of a Bureau of Emergency Services Telecommunications centre be recovered through user charges.
3. The Bureau of Emergency Services Telecommunications centre extend its services as a commercial venture to smaller government agencies which could not develop such a dedicated system.

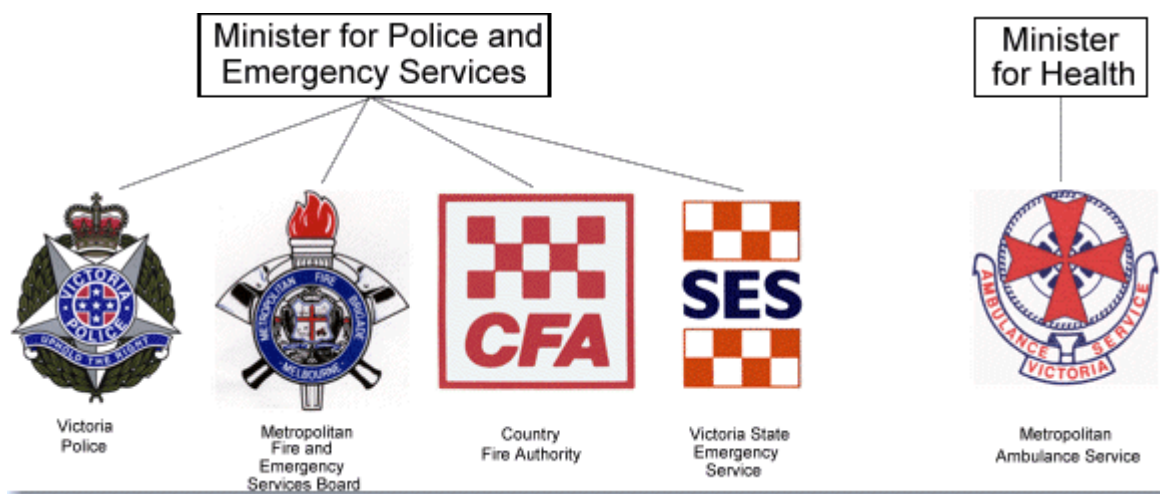
<b>ESTABLISHMENT OF BEST</b>
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**2.7** As a result of the recommendations contained within the Committee's report, the Victorian Government in March 1994 established a Ministerial Steering Committee supported by a Unit within the Department of Justice which are collectively known as the Bureau of Emergency Services Telecommunications (BEST). Responsibility was assigned to BEST for the development and implementation of a shared computerised calltaking and dispatch service for all Victorian emergency service organisations.

**2.8** The multi-agency system was to provide calltaking and dispatch services to the following emergency service organisations:

- Victoria Police;
- Metropolitan Fire and Emergency Services Board (formerly the Metropolitan Fire Brigade Board);
- Country Fire Authority;
- Victoria State Emergency Service; and
- Metropolitan Ambulance Service.

**CHART 2A  
VICTORIA'S EMERGENCY SERVICE ORGANISATIONS**



**2.9** As indicated in the preceding chart, with the exception of the Metropolitan Ambulance Service, which is a responsibility of the Minister for Health, the emergency service organisations are the responsibility of the Minister for Police and Emergency Services.

**2.10** The broad scope of the BEST project was to provide computerised calltaking and dispatch services to the State's emergency service organisations on a multi-agency basis. The system was to cover approximately 3 million people living in an area covering some 15 000 square kilometres in and around the Melbourne metropolitan area, with expansion to rural Victoria to be considered subsequent to the successful implementation of the system in the metropolitan and surrounding areas.

**MULTI-AGENCY COMPUTERISED CALLTAKING AND DISPATCH SYSTEM**

**2.11** The multi-agency calltaking and dispatch system presently under implementation by BEST is the first of its type to be built, owned and operated by a private sector service provider employing civilian staff to provide the calltaking and dispatch functions that were traditionally provided by each of the emergency service organisations.

**2.12** The system provides the lifeline by which members of the public requiring emergency services communicate with the relevant emergency service organisation. The quality of emergency services provided to the public is also impacted by the computerised calltaking and dispatch system which endeavours to:

- improve response times and effectively co-ordinate emergency service resources, particularly for multi-agency events;
- dispatch the nearest available and most appropriately equipped emergency service vehicle;
- allow effective management of an emergency service event through the allocation of an appropriate level of emergency service resources; and
- improve the safety of emergency service officers responding to an event.

**2.13** Around the same time as the Public Bodies Review Committee was recommending a multi-agency communications and dispatch facility, the Metropolitan Ambulance Service had appointed Intergraph as the preferred supplier and operator of a computerised calltaking and dispatch facility for the Service. This decision was endorsed by the Government only on the condition that the Service gave a commitment that its new system would be able to fully integrate into joint facilities of other emergency service organisations, irrespective of the eventual supplier of these Statewide facilities.

**2.14** Audit investigation at the Metropolitan Ambulance Service, as outlined in the Auditor-General's April 1997 Special Report No. 49 *Metropolitan Ambulance Service: Contractual and outsourcing practices*, commented on the fact that the contractual relationship between the Service and Intergraph did not readily allow for such integration.

**2.15** In May 1995, subsequent to a process of evaluating potential suppliers by a consultant appointed by BEST, the State's emergency service organisations entered into a 7 year contract with Intergraph to build, own and operate a computerised calltaking and dispatch system. Service charges paid to Intergraph under provisions of the contract up to 31 August 1997 totalled around \$42 million.

**2.16** The system has progressively replaced calltaking and dispatch services previously undertaken through communication centres separately maintained by each emergency service organisation.

**2.17** The multi-agency contract with Intergraph details performance measures against which the performance of Intergraph can be measured. It is generally recognised that this initiative represented the first time in the world that such measures were utilised to measure the performance of an emergency communications provider.

**2.18** The contract also provides that where Intergraph was unable to meet the performance measures, which mainly related to call answering speeds and total time to dispatch emergency vehicles, the relevant emergency service organisation was able to withhold 10 per cent of the monthly service charge payable to Intergraph. These amounts were refundable to Intergraph as soon as the performance measures were met.

# **Part 3**

## **Conduct of the audit**

**AUDIT OBJECTIVES**

**3.1** The principal objective of the audit was to ascertain the overall efficiency and effectiveness of the operations of the Bureau of Emergency Services Telecommunications (BEST) in overseeing and directing implementation of the multi-agency calltaking and dispatch system. Specific attention was directed to determining:

- whether the processes adopted by BEST in the identification, selection, development and implementation of the multi-agency system provided adequate accountability to Parliament and the public and contributed to the achievement of public safety benefits for Victorians as a whole;
- the impact of the system on the operational performance and quality of service provided to the public by the State’s emergency service organisations; and
- the effectiveness with which BEST was performing its ongoing role of managing the system, particularly in relation to the implementation of appropriate monitoring mechanisms for overseeing management of the contract by the emergency service organisations and Intergraph.

**SCOPE OF AUDIT**

**3.2** The audit placed emphasis on the structure established by BEST to provide for the selection of an appropriate supplier of a communications system and the effective implementation of the system (including the extent of involvement by emergency service organisations in the selection and implementation processes to ensure their operational needs were satisfied).

**3.3** To address these matters, the scope of the audit included examination of:

- relevant Acts of Parliament;
- central agency guidelines related to outsourcing, tendering and contract development and management;
- government policy in relation to the multi-agency calltaking and dispatch system;
- documentation and files held by BEST, its consultants and the emergency service organisations;
- policies, guidelines, contracts and procedures established by BEST and the emergency service organisations in respect to the development and management of the multi-agency system;
- the structure established by BEST to monitor and evaluate system development, implementation and operation; and
- the framework established to ensure all relevant 000 calls to Telstra are directed to the relevant Intergraph communication centre.

**3.4** In addition, the audit included an evaluation of the implementation process and, where relevant, system performance at each of the following emergency service organisations:

- Victoria Police;
- Metropolitan Fire and Emergency Services Board;
- Country Fire Authority; and
- Victoria State Emergency Service.

**3.5** It is emphasised that other aspects of the operations of the 4 organisations were not subject to examination under this performance audit.

**3.6** A detailed audit analysis of the Intergraph communication system's implementation and performance was also undertaken at the Metropolitan Ambulance Service as part of a separate performance audit. The results of this analysis were presented in the Auditor-General's Special Report No. 50 *Metropolitan Ambulance Service: Fulfilling a vital community need*, which was presented to the Parliament in November 1997.

**3.7** The audit was performed in accordance with Australian Auditing Standards applicable to performance audits and, accordingly, included such tests and other procedures necessary in the circumstances.

## SPECIALIST ASSISTANCE

**3.8** Specialist advice was provided to audit by Mr G. Schomburgk and Mr D. Grady of Lanes Telecommunications Pty Ltd. The advice covered:

- the adequacy of processes to control telephone calls for emergency assistance received by Telstra and the forwarding of these calls to Intergraph; and
- the subsequent processing of these calls through the Intergraph system.

**3.9** Advice was also received from Mr M. Power of Bovis McLachlan in relation to issues associated with the contract between the State and Intergraph.

## IMPETUS FOR THE AUDIT

**3.10** The delivery of emergency services is a key function of government and its agencies. A critical factor impacting on the delivery of these services is the effectiveness of communication systems operating to receive and respond to calls for emergency assistance. Accordingly, any major developments to these systems, such as implementation of the computerised calltaking and dispatch system, are of major importance to the Victorian community.

**3.11** It was therefore considered desirable for a performance audit to be undertaken with particular emphasis to be placed on the strategic processes adopted by BEST to select a private sector service provider and the operational impact of the new multi-agency system on the State's emergency service organisations.



**3.12** The decision to undertake the performance audit of BEST was endorsed by the Parliament's Public Accounts and Estimates Committee in March 1996 following consultation with the Committee by the Auditor-General on annual performance audit planning, as required by the *Audit Act* 1994.

<b>ASSISTANCE PROVIDED TO AUDIT</b>
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**3.13** The chief executive officer of BEST, the deputy chief executive officer and BEST support staff provided significant support and assistance to audit.

**3.14** The management and staff of the various organisations involved in the implementation of the calltaking and dispatch system across the State's emergency services, namely, Victoria Police, Metropolitan Ambulance Service, Metropolitan Fire and Emergency Services Board, the Country Fire Authority and the Victorian State Emergency Services, also provided significant support and assistance to audit.

**3.15** In addition, Intergraph was very helpful to audit in relation to examination of matters concerning its calltaking and dispatch functions.

**3.16** Audit wishes to acknowledge the contribution that the above assistance made to the preparation of material for this Report.

# **Part 4**

**The performance  
of BEST to date**



## OVERVIEW

**4.1** In March 1994, the Government established the Bureau of Emergency Services Telecommunications (BEST), comprising a ministerial steering committee and a small organisational unit within the Department of Justice, to be responsible for overseeing the development and implementation of a multi-agency emergency calltaking and dispatch system within the State. As part of its management hierarchy, BEST reports to the Minister for Police and Emergency Services.

**4.2** From April 1997, the ambit of BEST's strategic activities was expanded through a widening of the terms of reference of the ministerial steering committee to reflect the operational phase of the project and to place emphasis on achievement of continuous improvement in the delivery of emergency response services.

**4.3** The bulk of BEST's activities to date has been focused on selection of a private sector service provider (Intergraph was subsequently appointed in December 1994) and on achieving the commissioning of Intergraph's system in respect of Victoria Police, the State Emergency Service, the Metropolitan Fire and Emergency Services Board, the Country Fire Authority and the Metropolitan Ambulance Service. While it is recognised that it has been necessary for BEST to place an automatic emphasis on these areas, it will be important for it to direct greater attention to its wider strategic planning.

**4.4** The various matters addressed in this Report illustrate that several problem areas have been encountered to date, particularly in terms of extensive delays in commissioning of the system at the Metropolitan Fire and Emergency Services Board and the Country Fire Authority and concerns, to varying degrees, over Intergraph's performance in the 4 organisations covered in this Report. These factors accentuate the importance of a more structured approach by BEST in its future strategic planning.

**4.5** It is appropriate to give recognition to the various tasks completed by BEST to date in response to recommendations made in 1994 by the former Public Bodies Review Committee. It is also necessary to acknowledge the valuable management role fulfilled by the small departmental unit within BEST. This unit has been faced with the somewhat daunting task of managing a wide range of highly complex responsibilities with minimal in-house resources.

**4.6** However, substantial work is still required by BEST in order that the State can be in a position to maximise the benefits earlier envisaged from the multi-agency calltaking and dispatch system. Audit considers that BEST needs to reach a position under which it can demonstrate that the various evaluative criteria identified by audit in this Part have been fully satisfied before a totally favourable assessment can be made of its effectiveness in discharging the major responsibilities assigned to it by the Government.

**4.7** The Public Bodies Review Committee predicted that an integrated calltaking and dispatch system would generate overall savings, over a 7 year period, of between \$46 million and \$111 million, depending on the size of the system.



**OVERVIEW** - *continued*

**4.8** A common message conveyed to audit by management within all of the participating emergency service organisations was that they had not yet generated any significant cost savings from their involvement with the outsourced multi-agency communications system operated by Intergraph. In fact, some of the organisations have found it necessary to initially incur additional costs, such as costs associated with the continued employment of communications staff previously made redundant because of delays experienced in commissioning of the system, and to subsequently negotiate with Intergraph for the recovery of such costs.

**4.9** The most significant contributor to maximising efficiency gains, from the viewpoint of Victoria Police, will be the implementation of a mobile data network. Victoria Police estimates that, when finalised, this element of BEST's responsibilities is likely to lead to generation of additional annual revenue of at least \$3 million.

**4.10** Whether savings of the dimension earlier projected by the Public Bodies Review Committee will ultimately be achieved, or even exceeded, cannot be determined at this point in time. What is clear is that BEST's future strategic oversight of the implementation of the calltaking and dispatch system, incorporating operation of a mobile data network, has to be focused on ensuring that anticipated productivity savings from the system are maximised and the services provided by Intergraph are consistently in line with its contractual responsibilities.

**4.11** There is no doubt, in audit's view, that Intergraph's system, with its technologically advanced features would, if performing to its absolute potential, provide the State with a centralised emergency response capability superior in terms of reliability and functionality to the individual systems previously operated by the emergency service organisations.

**4.12** However, up to this point in time, the system clearly has not operated to its full potential. BEST, through its ongoing strategic liaison with the emergency service organisations and Intergraph, is progressively resolving the various difficulties encountered to date. If Intergraph's performance can be elevated, particularly in terms of timeliness in dispatch tasks, to the levels initially stipulated under the contract, the benefits envisaged from the system should become increasingly evident.

**4.13** In time, under the direction of BEST and drawing on the advanced technical qualities of Intergraph's system, Victoria should have in place an emergency response infrastructure regarded both nationally and internationally as leading edge.

## STRUCTURE AND ROLE OF BEST

**4.14** As mentioned in the introductory paragraphs of this Report, an interim report by the former Public Bodies Review Committee of the Parliament in October 1993 (and the Committee's final report of February 1994) recommended, among other matters, that joint calltaking and dispatch facilities be established for all emergency service organisations under the overall control of the Minister for Police and Emergency Services. The Committee also recommended that an independent body, reporting directly to the Minister, be established to provide those facilities.

**4.15** In March 1994, the Government established a steering committee known as the Ministerial Steering Committee for Emergency Services Telecommunications and an organisational unit within the Department of Justice which were to be responsible for the development and implementation of a shared computerised calltaking and dispatch system and associated services for the State's emergency service organisations. The steering committee and the departmental unit are collectively known as the Bureau of Emergency Services Telecommunications (BEST).

**4.16** For the 3 years up to April 1997, the steering committee comprised 8 members made up of 3 private sector representatives, the chief executive officers of the 4 major emergency service organisations and a representative of the Minister for Finance. The focus of the committee up to April 1997 was principally directed towards the design of a multi-agency computerised calltaking and dispatch system and management of the process relating to the selection of a private sector service provider to develop and operate the system. As mentioned elsewhere in this Report, a contract was subsequently awarded to Intergraph in May 1995.

**4.17** From April 1997, the Government determined to increase the steering committee's membership from 8 to 14 and widen its terms of reference. Such action was designed to reflect the advancement of BEST's activities into the post-development and implementation phases of the multi-agency communications system as well as the emerging significance of the need for continuous improvement in the delivery of emergency services to the community.



**4.18** Table 4A outlines the initial and revised membership and terms of reference of the steering committee.

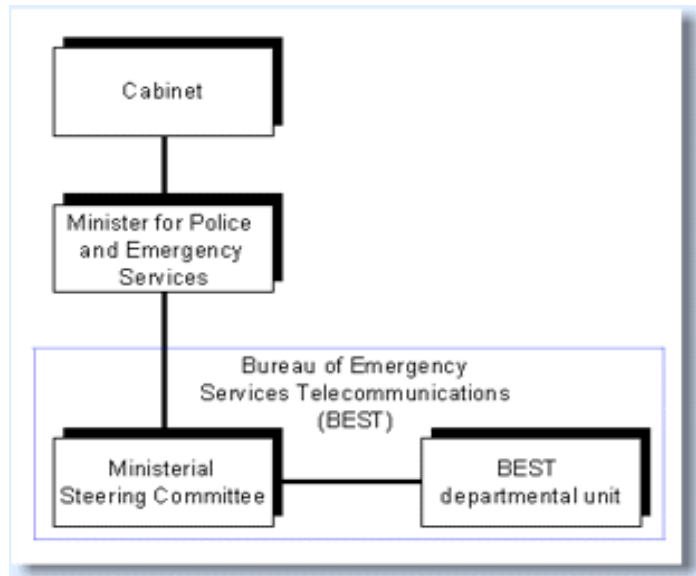
**TABLE 4A  
MEMBERSHIP AND TERMS OF REFERENCE OF THE MINISTERIAL STEERING  
COMMITTEE**

<i>Initial membership (8 members)</i>	<i>Revised membership from April 1997 (14 members)</i>
<ul style="list-style-type: none"> <li>• 3 members of the private sector (one of whom is chairman)</li> <li>• Chief executive officers of the 4 major emergency service organisations, namely:                             <ul style="list-style-type: none"> <li>• Chief Commissioner of Police</li> <li>• President, Metropolitan Fire and Emergency Services Board</li> <li>• Chairman, Country Fire Authority</li> <li>• Chief Executive, Metropolitan Ambulance Service</li> </ul> </li> <li>• Representative of the Minister for Finance</li> </ul>	<p>Existing membership expanded to also encompass:</p> <ul style="list-style-type: none"> <li>• Representative of the Treasurer</li> <li>• Representative of the Minister for Multi-media</li> <li>• Deputy Secretary (Justice Operations) of the Department of Justice</li> <li>• Chief Executive Officer of BEST</li> <li>• Representative of the Minister for Health</li> <li>• Representative of the Minister for Conservation and Land Management</li> </ul>
<i>Initial terms of reference</i>	<i>Revised terms of reference</i>
<ul style="list-style-type: none"> <li>• Provide advice through the Chairman of the Committee to the Minister for Police and Emergency Services on emergency services telecommunications.</li> <li>• Oversee and direct the development and implementation of the shared communication facility for the emergency service organisations.</li> <li>• Achieve maximum possible private sector participation in the financing, establishment, maintenance and operation of the new computerised calltaking and dispatch facility and service.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide advice to the Government on the development and use of telecommunication services by the emergency service organisations to achieve continuous improvement in the efficient and cost-effective delivery of emergency response services.</li> <li>• Provide advice to emergency service organisations (and such other organisations as approved by the Minister for Police and Emergency Services) and to co-ordinate the acquisition by such organisations of reliable, cost-effective and operationally efficient telecommunication services, including the provision of computerised calltaking and dispatch services and related services, the introduction of enhanced service delivery mechanisms and maximising the participation of the private sector in the delivery of these services.</li> <li>• Secure and enhance the effectiveness of emergency response services in a deregulated telecommunications environment.</li> </ul>

**4.19** In meeting the responsibilities derived from its terms of reference, BEST is ultimately accountable to the Government through the Minister for Police and Emergency Services who, as the responsible Minister under the Government’s Infrastructure Investment Policy for Victoria, has overall responsibility for the project.

**4.20** Chart 4B depicts the management hierarchy in place for BEST.

**CHART 4B  
BEST MANAGEMENT HIERARCHY**



**4.21** BEST advised audit that its high-level accountability arrangements are further accentuated by the fact that the Minister attends most meetings of the steering committee. In addition, the Premier attends certain meetings and recently determined to personally receive calltaking and dispatch data relating to Intergraph’s performance on a monthly basis.



**4.22** Notwithstanding the magnitude of its responsibilities, the BEST departmental unit has operated until recently as a very small unit consisting of just 6 officers (2 executive officers and a staff of 4). To support its full-time resources, BEST has made extensive use of private sector consultants for the provision of technical and legal expertise. In recognition of the increasing management demands arising from the April 1997 expansion of terms of reference, the establishment of the unit was recently increased to cover the appointment by BEST of a customer service manager at each of the 2 communication centres operated by Intergraph which are located at the World Trade Centre and at the Tally Ho Centre at Burwood.

**4.23** In summary, the Government has put in place a highly-structured framework, involving many parties, for overseeing and monitoring the various strategic and management issues associated with the operation by Intergraph of its multi-agency calltaking and dispatch system on behalf of the State's emergency service organisations.

### NEED FOR GREATER EMPHASIS ON OVERALL STRATEGIC PLANNING

**4.24** The major initial task facing the steering committee at the time of its formation in March 1994 involved, in accordance with its terms of reference, the selection of a private sector party to develop and implement, under contract, the multi-agency computerised calltaking and dispatch system. In other words, this task automatically became the committee's priority function (audit comment on the committee's management of the selection process, which includes criticism of certain elements of this process, is presented in Part 5 of this Report).

**4.25** The *request for proposal* document issued by BEST to prospective contractors in July 1994 incorporated 4 discrete development phases for implementation of the computerised calltaking and dispatch system. These 4 phases are summarised below.

- *Phase 1* - commissioning of the system in respect of Victoria Police and the State Emergency Service by 5 September 1995 (commissioning occurred by this date just 9 months after signing of a Deed of Understanding in December 1994 by the Government and Intergraph which preceded formal signing of the contract in May 1995). As explained in Part 6 of this Report, this stringent commissioning deadline was necessary to ensure centralised communication facilities were available to Victoria Police at its new location at the World Trade Centre before November 1995;
- *Phase 2* - to investigate the possibility of the appointed contractor assuming responsibility from Telstra for operation of the 000 national emergency number. Issues relating to Telstra and the 000 national emergency number are discussed in Part 9 of this Report;
- *Phase 3* - commissioning of the multi-agency system in respect of the Metropolitan Fire and Emergency Services Board and the Country Fire Authority from 1 May 1996 and 1 July 1996 respectively (refer to Part 7 for relevant audit comment); and
- *Phase 4* - the staged introduction of additional technology such as a mobile data network and an automatic vehicle location facility. The status of action relating to this phase is discussed in Part 8 of this Report.

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**4.26** BEST advised audit that, although an overall initial plan was drafted covering implementation of the above 4 phases, this plan was not updated to reflect the progressive status of action occurring under each phase. In effect, BEST has operated to date in the absence of an overall strategic plan. It informed audit that the bulk of its activities, since selection of a contractor, has been directed towards achievement of tasks associated with the commissioning of Intergraph's system in respect of the 4 emergency service organisations identified in phases 1 and 3.

**4.27** In addition, BEST indicated that it has always operated with a project orientation and clear project plans from commencement of the computerised calltaking and dispatch service provider selection process and later with the implementation of the 4 phases of the project. Its project orientation operated within a policy framework established by the terms of reference given to it by Cabinet.

**4.28** BEST also advised audit that its strategic attention has been focused towards progressive implementation of the recommendations of the former Public Bodies Review Committee and it has evaluated its ongoing performance in terms of the extent to which such recommendations have been subsequently implemented.

**4.29** Factors such as the breadth and complexity of BEST's responsibilities and the fact that its ambit of activity directly impacts on a large number of parties reinforce the importance of BEST operating, at all times, in accordance with a structured strategic planning framework.

**4.30** It is fair to say that a project of such dimension as development and implementation of an outsourced multi-agency emergency communications system would rarely be managed without some emerging problems. However, the various matters addressed in this Report illustrate that several problem areas have been encountered to date particularly in terms of extensive delays in commissioning of the system at the Metropolitan Fire and Emergency Services Board and the Country Fire Authority and concerns, to varying degrees, in all organisations over Intergraph's performance.

**4.31** The extent of problems experienced to date accentuates the need for a structured approach by BEST to strategic planning in its overseeing role with clear identification of all tasks, adequate recognition of the interests of key stakeholders, specification of priorities and establishment of timeframes.

**4.32** Towards the end of the audit, BEST advised that it is in the early stages of directing attention to its forward planning processes by identifying key future directions and tasks for the purpose of consolidation into a strategic planning document.

**4.33** Clearly, it will be important for BEST to ensure that, from this point on, the management of its significant responsibilities is founded on periodic strategic plans and that progress against performance targets specified in such plans is regularly reported to the Parliament and the community.

**ASSESSMENT OF BEST'S PERFORMANCE TO DATE**

**4.34** As previously mentioned, BEST has determined to assess its overall effectiveness through comparison of achievements against recommendations made by the Public Bodies Review Committee dealing with the benefits of having a multi-agency emergency communications system within the State.

**4.35** Table 4C outlines the Committee's 3 recommendations incorporated in its 1994 report to Parliament dealing with a multi-agency system for the State and BEST's assessment of the extent of its achievements to date under each recommendation, as advised to audit.

**TABLE 4C  
BEST'S ASSESSMENT OF ITS ACHIEVEMENTS TO DATE IN RESPECT OF THE  
PUBLIC BODIES REVIEW COMMITTEE'S 1994 RECOMMENDATIONS**

<i>Recommendations of the Committee</i>	<i>BEST's assessment of its achievements to date</i>
<p>1. Establishment of a joint communications and dispatch facility under the control of the Minister for Police and Emergency Services to implement the following minimum services for Victoria Police and the other emergency services:</p> <ul style="list-style-type: none"> <li>• Call receipt and dispatch facilities at 3 common sites throughout Victoria with 000 as the prime emergency response number</li> <li>• A central database facility</li> <li>• Geographic Information System</li> <li>• Call Line Identification</li> <li>• Automatic Vehicle Location</li> <li>• Mobile Data Terminals</li> </ul>	<p>Such a facility has been established for Victoria Police and the State Emergency Service under the overall control of the Minister.</p> <p>Emergency response call receipt and dispatch functions are performed at 2 communication centres established by Intergraph at the Victoria Police Centre and Tally Ho.</p> <p>Consultants have questioned the need for a third centre in country Victoria. A final recommendation to Government will be made following a trial of the communication system in south-west Victoria.</p> <p>000 is promoted as the prime emergency response number and BEST, through the National Emergency Call-taking Working Group, has been successful in having the new Telecommunications Act support the establishment of a single emergency response number for Australia.</p> <p>Intergraph's computerised calltaking and dispatch system is the central database facility.</p> <p>A Geographic Information System, in the form of a map database, is incorporated within Intergraph's computerised calltaking and dispatch system.</p> <p>Call Line Identification is provided to the 2 established communication centres.</p> <p>An automatic vehicle location facility has been provided for the Metropolitan Ambulance Service. The other emergency service organisations have indicated the facility is not a high priority relevant to their present business needs.</p> <p>BEST is currently preparing a proposal to seek Government approval to proceed with the provision of a mobile data network to the emergency service organisations through use of a private sector service provider.</p>
<p>2. The cost of a joint communications centre be recovered through user charges</p>	<p>While the 2 joint communications centres are operated by Intergraph, the emergency service organisations fund the operation of BEST.</p>



**TABLE 4C**  
**BEST'S ASSESSMENT OF ITS ACHIEVEMENTS TO DATE IN RESPECT OF THE**  
**PUBLIC BODIES REVIEW COMMITTEE'S 1994 RECOMMENDATIONS - *continued***

<p>3. Extension of the services of a joint communications centre as a commercial venture to smaller government agencies which could not develop such a dedicated system.</p>	<p>The State Emergency Service is a user of Intergraph's computerised calltaking and dispatch service.</p> <p>Victoria Police anticipates that, under the proposed outsourcing of its Traffic Camera Office/Enforcement Management Unit, the appointed service provider will utilise Intergraph and BEST to provide a computerised calltaking and dispatch service and a mobile data service.</p> <p>Also, BEST and Intergraph are currently finalising negotiations with the Department of Education to provide computerised calltaking and dispatch services to the Department's Office of Emergency Management.</p>
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**4.36** Based on its achievements to date, BEST believes it is well advanced in implementing and addressing the 3 recommendations put forward by the Public Bodies Review Committee.

**4.37** It is also appropriate to recognise (more detailed comment is provided in Part 6 of this Report) that commissioning of the computerised calltaking and dispatch system for Victoria Police and, in turn, the State Emergency Service was achieved within a very tight timeframe of around only 9 months. Such a stringent timeframe applied because of the absolute imperative that Victoria Police had access to centralised communication facilities when it transferred from its former Russell Street Complex to the World Trade Centre. BEST was also requested by Victoria Police to manage the relocation of its radio infrastructure to its new premises and the construction of the Police Operations Centre at the new location.

**4.38** In addition, BEST has embarked upon several initiatives to address particular strategic and operational issues relevant to its area of responsibility, including:

- promotion of a team approach between the key players, namely Intergraph, municipal councils and LANDVICTORIA (within the Department of Natural Resources and Environment), to the critical tasks associated with maintaining the currency and accuracy of the map database underpinning Intergraph's system;
- establishment of a special working group comprising the chief finance officers of the 4 major emergency service organisations to disseminate information and obtain agreement on financial issues;
- initiation of the formation of the National Emergency Calltaking Working Group and the National Telephone Task Force to explore opportunities to enhance the 000 national emergency calltaking function; and
- promotion, in conjunction with other States, of the adoption of national performance standards governing the provision of emergency services.



**4.39** While it is appropriate to give recognition to the various tasks completed by BEST to date, substantial work is still required by it in order that the State can be in a position to maximise the benefits anticipated in March 1994, at the time of BEST's formation, from a calltaking and dispatch system operating on behalf of the emergency service organisations.

**4.40** In audit opinion, any evaluation conducted during the latter half of 1997 to determine the effectiveness of BEST's performance to date would need to take into account the criteria set out in Table 4D below, in addition to an assessment of the extent of achievement of the recommendations formulated by the Public Bodies Review Committee.

**TABLE 4D  
CRITERIA FOR EVALUATING THE STRATEGIC PERFORMANCE OF BEST**

<b>1</b>	Implementation of a fully documented and transparent process for the selection of a private sector contractor to build, own and operate a multi-agency communications system.
<b>2</b>	Intergraph's system commissioned in all emergency service organisations by the targeted deadlines.
<b>3</b>	Timely integration of the Intergraph system operating under the initial contract for the Metropolitan Ambulance Service with the system operating at the remaining emergency service organisations.
<b>4</b>	Intergraph's calltaking and dispatch functions undertaken on behalf of all emergency service organisations equivalent to, or in excess of, the respective performance measures stipulated in the contract.
<b>5</b>	The production by Intergraph of regular management information, in line with its contractual obligations, which adequately meets the strategic and operational decision-making needs of the emergency service organisations.
<b>6</b>	Co-operative professional relationships in place between Intergraph and the emergency service organisations.
<b>7</b>	Few, if any, circumstances giving rise to the withholding of monthly service charges or the incurrance of additional costs by the emergency service organisations as a result of concerns with Intergraph's performance.
<b>8</b>	Clear progress in the implementation of a mobile data network, incorporating the installation of mobile data terminals, at each of the emergency service organisations.
<b>9</b>	Early signs of savings generated by the emergency service organisations from their experiences as recipients of calltaking and dispatch services from Intergraph under the outsourcing arrangement.

**4.41** Based on the matters addressed in subsequent Parts of this Report, audit considers that to date none of the above criteria have been fully satisfied.

**4.42** In making this comment, audit does not wish to understate the valuable role fulfilled by the small departmental unit within BEST which has been faced with the somewhat daunting task of managing a wide range of highly-complex responsibilities with minimal in-house resources. In addition, the unit has been required to co-ordinate and integrate the quite different requirements and approaches to calltaking and dispatch issues within each of the emergency service organisations.

**4.43** The unit's overall tasks have also been made more difficult by the general absence of well-defined calltaking and dispatch performance measures within most of the organisations prior to development of the Intergraph system.

**4.44** The purpose of drawing attention to the above criteria is to demonstrate the nature of action still required in order that the benefits expected by the Government from this major outsourcing arrangement can be fully realised.

**4.45** In addition, because several of the criteria directly involve factors associated with management by the emergency service organisations of the contract with Intergraph, the soundness of BEST's strategic oversight will be critical to attaining a satisfactory outcome in all instances. In fact, until such a situation is reached, it will be difficult for BEST to claim that it has achieved maximum effectiveness in discharging the major responsibilities assigned to it by the Government.

#### **NON-REALISATION TO DATE OF ANTICIPATED GAINS**

**4.46** The February 1994 Report to Parliament by the Public Bodies Review Committee predicted that an integrated calltaking and dispatch system would generate overall savings, over a 7 year period, of between \$46 million and \$111 million, depending on the size of the system.

**4.47** A common message conveyed to audit by management within all of the participating emergency service organisations was that they had not yet generated any significant cost savings from their involvement with the outsourced multi-agency communications system operated by Intergraph. In fact, the Metropolitan Fire and Emergency Services Board and the Country Fire Authority have found it necessary to initially incur additional costs, such as the continued staffing of communication positions previously made redundant, arising particularly from delays experienced in commissioning of the system, and to subsequently negotiate with Intergraph for the recovery of such costs.

**4.48** BEST advised audit that it has not yet undertaken specific action to ascertain whether or not there has been any significant savings and productivity gains generated to date by the emergency service organisations, as earlier envisaged by the Public Bodies Review Committee. Nevertheless, BEST indicated to audit that some productivity savings and performance improvements would certainly have been achieved under the new system.



**4.49** On the subject of potential savings within Victoria Police, audit has identified in later Parts of this Report that the most significant future contributor to maximising the efficiency and effectiveness of Victoria Police under the new multi-agency system will be implementation of a mobile data network. According to Victoria Police, this aspect of BEST's responsibilities is likely, when finalised, to lead to generation of additional annual revenue of at least \$3 million. Also, Intergraph has viewed the importance of a mobile data network to the calltaking and dispatch facility operated by it on behalf of Victoria Police as equivalent to "*the fourth wheel on a motor car*".

**4.50** The latest projected date for operation of a mobile data network within Victoria Police is early in the year 2000. It will therefore be very critical that BEST ensures, through its strategic management processes, that this latest milestone is ultimately achieved.

**4.51** BEST also believes that the calltaking and dispatch project has put in place state-of-the-art communications infrastructure with the potential to achieve significant productivity gains. It expressed the view to audit that actual realisation of these gains may now take many years as the project is still in a transitional mode between its developmental and operational phases.

**4.52** In addition, BEST views the achievement of savings to be primarily the responsibility of each emergency service organisation in the context of their business improvement processes. It considers that realisation of the system's full potential, in terms of productivity and efficiency enhancements, will clearly require each emergency service organisation to understand and exploit the service provided by Intergraph to the maximum.

**4.53** It is evident from the matters addressed in Parts 6 and 7 of this Report that the lack of any significant inroad made to date in the achievement of cost savings can be mainly attributed to the many problems which have been experienced in the implementation of the system. Paramount among these problems has been an inability by Intergraph to meet performance levels expected of it which has been the main reason for several contractual disputes between the individual emergency service organisations and the contractor.

**4.54** Audit considers that there is little doubt that the Intergraph system exhibits technologically advanced characteristics and that effective implementation of the system should lead to sizeable efficiency gains and productivity enhancements within the emergency service organisations and particularly within Victoria Police.

**4.55** Whether savings of the dimension projected by the Public Bodies Review Committee in 1994 will ultimately be achieved, or even exceeded, cannot be determined at this point in time. What is clear is that BEST's future strategic oversight of the implementation of the calltaking and dispatch system, incorporating operation of a mobile data network, has to be focused on ensuring that anticipated productivity savings from the system are maximised and the services provided by Intergraph are consistently in line with its contractual responsibilities.

## BEST'S FUTURE DIRECTION

**4.56** The future strategic direction for BEST was articulated by the Government in April 1997 through expansion of the ministerial steering committee's terms of reference. As identified earlier in this Part of the Report, the amended terms of reference for the committee reflect the advancement of BEST's activities into the operational phase of the project. In addition, emphasis has been placed on the committee's key advisory role to the Government and on achievement of continuous improvement in the delivery of emergency response services.

**4.57** In an earlier paragraph, audit emphasised the need for a structured approach by BEST to strategic planning with clear identification of all tasks, adequate recognition of the interests of key stakeholders, specification of priorities and establishment of timeframes. It was also mentioned that BEST was in the early stages of directing attention to its forward planning processes by identifying key future directions and tasks for consolidation into a strategic planning document.

**4.58** Building on its past strategic and operational initiatives, BEST informed audit that it is currently addressing, or intends to address, a number of issues paramount to continuous improvement in the efficient and cost-effective operation of the system, including:

### *“Project implementation*

- *Continue the implementation of the remaining phases of the BEST CAD Project i.e. the provision of computer aided calltaking and dispatch services to the Country Fire Authority and emergency service organisations in country Victoria and the delivery of a mobile data service to the emergency service organisations.*

### *Delivery of Calltaking and Dispatch Services*

- *Develop a detailed understanding of the demography of the users of the emergency number(s) in order to target education programs, messages and problem solving towards those who have a problem or are at risk.*
- *Promote the separation and management of emergency and non-emergency calls through the introduction of structured calltaking techniques modelled on the AMPDS/ProQA system.*
- *Investigate the introduction of multi agency calltaking and dispatch to determine whether this is operationally feasible and delivers a benefit to the community through reduced response times and quality of service delivered.*

### *Advances in public safety telecommunications*

- *Monitor and research the development of advances in communications technology in relation to public safety and provide advice to the emergency service organisations.*



*Policy development*

- *Support the continuing development and operation of the National Emergency Calltaking Working Group (NECWG) and the Australasian CADComm Users Group (ACCUG) in order to bring a national and Australasian focus to the delivery of the emergency response calltaking and dispatch service through the efficient and effective operation of public safety communication centres.*
- *Promote the need through NECWG and ACCUG for the provision of location information directly associated with mobile telephone numbers by the Emergency Call Person as defined in the Telecommunications Act 1997.*
- *Promote the need through NECWG for the preservation and protection of radio spectrum for the emergency service organisations.*
- *Monitor the impact of the deregulated telecommunications industry on the emergency service organisations and where necessary the promotion and protection of the interests of the organisations and the community.*
- *Monitor policy issues and developing trends in public safety telecommunications relative to community needs.*

*Performance Standards*

- *Effectively develop networks at a national and international level between organisations, which have responsibility for, and a common interest in public safety telecommunications, computer aided calltaking and dispatch and the management of public safety Communications Centres in order to develop performance standards for these functions.*
- *Benchmark the delivery of computerised calltaking and dispatch services by Intergraph against other public safety communication centres and contribute to the development of national service standards by the Australasian CAD Communication User Group.*

*CADMap*

- *Continually update the accuracy of the CADMap by working with the suppliers of its source data and matching update frequencies to the specific needs of the emergency service organisations.*
- *Support Land Victoria in its efforts to increase the number of users of the State Digital Road Network to lower the cost of maintenance of the network to the emergency service organisations.*
- *In conjunction with the “Emergency Call Person”, explore the opportunity to either match or replace the State Digital Road Network with the Calling Line Identification database in order to increase the accuracy and reduce the time associated with the address verification process.*

*Community education*

- *Develop and implement education programs to increase community understanding of the operation of the national emergency number(s) within Victoria.*

*Financial management*

- *Introduce the principle of “user pays” into the services delivered through BEST to the emergency service organisations to identify the true cost of delivery of these services.*
- *Develop the ability to identify the cost of delivery of the calltaking and dispatch service across a range of categories in order to be able to identify initiatives to reduce the cost of service delivery.”*

**4.59** Earlier in this Part, audit identified, in Table 4D, 9 evaluative criteria which essentially constitute a framework for determining the effectiveness or otherwise of BEST’s managerial performance. Apart from the criterion relating to the selection of a private sector contractor, a process now finalised, the remaining 8 criteria are directly relevant to progressively assessing the quality of BEST’s future performance. In fact, as also previously mentioned, the soundness of BEST’s ongoing strategic management will be critical to achieving a satisfactory outcome under all 8 criteria.

**4.60** Audit considers therefore that it would be desirable for BEST to ensure that the 8 evaluative criteria are taken into account in the formulation and management of its future strategic plans. In addition, its progressive performance against each of the criteria should be periodically communicated to the Parliament as an important element of its accountability obligations.

**4.61** Given the significance of BEST’s responsibilities and its important future challenges, it is vital that the departmental unit supporting BEST is adequately resourced and operates in harmony with a well co-ordinated ministerial steering committee. In this regard, audit is pleased to acknowledge the high calibre of the chief executive officer of BEST and his deputy who have carried the major burden to date in progressing the system. At the same time, they have been confronted with the significant responsibility of having to minimise the adverse consequences of a number of significant problems which have emanated from management of the contract with Intergraph.

**4.62** Finally, the chief executive officer of BEST has described the development and operation of the computerised calltaking and dispatch system “... *as probably the most significant public safety project in Australia at this point in time*”, a view supported by audit.

**4.63** There is no doubt, in audit’s view, that Intergraph’s system, with its technologically advanced features would, if performing to its absolute potential, provide the State with a centralised emergency response capability superior in terms of reliability and functionality to the individual systems previously operated by the emergency service organisations.



**4.64** However, up to this point in time, the system clearly has not operated to its full potential. BEST, through its ongoing strategic liaison with the emergency service organisations and Intergraph, is progressively resolving the various difficulties encountered to date. If Intergraph’s performance can be elevated, particularly in terms of timeliness of dispatch tasks, the benefits envisaged from the system should become increasingly evident.

**4.65** In time, under the direction of BEST and drawing on the advanced technical qualities of Intergraph’s system, Victoria should have in place an emergency response infrastructure regarded both nationally and internationally as leading edge.



# **Part 5**

## **Selection of the successful bidder**

## OVERVIEW

**5.1** In undertaking this important phase of the audit involving selection of the successful bidder for a major contract involving a multi-agency calltaking and dispatch facility, there was an audit expectation that there would be a properly documented management trail confirming the transparency of the processes utilised and providing defensibility of the final decision to appoint Intergraph.

**5.2** While audit does not suggest that the appointment of Intergraph, which submitted the lower bid, was an inappropriate decision, it found that a soundly documented management trail was clearly lacking within BEST. Long delays were experienced by audit in obtaining documentation and information, detailed documentation supporting key aspects was prepared after the final decision was made and certain critical documentation was not produced for audit examination.

**5.3** Furthermore, the remaining bidder for the contract made allowance in the submitted bid for costs associated with the Metropolitan Ambulance Service system, whereas such costs were initially excluded from the Intergraph bid and were not disclosed to BEST until the day after Intergraph had been recommended as the preferred bidder. However, this matter was taken into account during the final approval process.

**5.4** Also of concern was the failure of BEST to finalise probity checks of the successful bidder prior to signing of the multi-agency contract.

**5.5** The overall quality of documentation relating to the third (and final) evaluation stage available to audit fell far short of that expected for a such a major outsourcing arrangement. In addition, much of the documentation was held by consultants engaged by BEST.

**5.6** Audit considers that it is absolutely critical that public sector agencies, when making extensive use of consultants in the management of outsourcing arrangements with the private sector, recognise that all key management information to support decision-making is maintained in a structured manner to provide proper public accountability. It is also important to ensure that a complete documentary trail is maintained within the public sector agency and is readily available for external audit scrutiny.

**5.7** Based upon the audit experience with this major contract, it is recommended that the Government further strengthens its outsourcing arrangements by requiring agencies to formulate specific objectives relating to probity during the selection processes and on an ongoing basis during the term of contracts

**DIFFICULTIES EXPERIENCED BY AUDIT IN OBTAINING RELEVANT INFORMATION TO SUPPORT THE SELECTION PROCESS**

**5.8** The use of calltaking and dispatch systems is of critical importance to the effective operation of the State's emergency services. Accordingly, it would be expected that all processes and decisions concerning the critical initial phase of selection of a private sector provider to supply and operate a centralised system would be fully supported by detailed and readily available documentation.

**5.9** As mentioned in Part 4 of this Report, BEST has placed extensive reliance on private sector consultants to date and, in particular, on an overall project consultant who was appointed to carry out major tasks during all stages of the tendering and evaluation processes. These processes culminated in the appointment of Intergraph in December 1994 to supply and operate the multi-agency system.

**5.10** Under the terms and conditions of appointment, the project consultant was responsible for maintaining all records on behalf of BEST and providing key advice pertaining to the evaluation of prospective contractors and selection of the preferred contractor.

**5.11** A striking characteristic of this performance audit was the significant difficulties and delays encountered in gaining access to documentation and information considered by audit to be of direct relevance to the process followed by BEST in the selection of the successful contractor.

**5.12** In this regard, significant delays covering many months were experienced by audit in obtaining relevant information on the evaluation and selection process, particularly in respect of information prepared and retained by the project consultant. Specific delays in receipt by audit of requested information included:

- On 5 May 1997, BEST agreed to prepare and provide a chronology of dates and supporting documentation which substantiated all key decisions taken by it during this phase of its project. This information was not provided until 29 August 1997, as, according to BEST's chief executive officer, BEST had to wait for over 2 months for the Department of Justice to approve the release of the material;
- Information relating to the project consultant's commercial analysis of the 2 shortlisted bids, requested by audit on 19 August 1997, was not received until 2 October 1997; and
- Details of the presentation by the project consultant and associated information used by the ministerial steering committee in selecting the successful bidder were requested on 6 February 1997. After initial advice that this information had been misplaced and subsequent numerous requests from audit, a copy of the presentation was made available to audit over 8 months later on 29 October 1997.

**5.13** It is absolutely critical that public sector agencies, when making extensive use of consultants in the management of outsourcing arrangements with the private sector, recognise that all key management information to support decision-making is maintained in a structured manner and readily available for external audit scrutiny.

5.14 It was in the above environment that audit analysed BEST's management of the processes leading to selection of a private sector party to develop and operate a multi-agency calltaking and dispatch system.

## IMPLICATIONS OF THE METROPOLITAN AMBULANCE SERVICE CONTRACT WITH INTERGRAPH

5.15 The development and implementation of new communications facilities was identified as a strategic priority by the Metropolitan Ambulance Service shortly after the appointment of its former chief executive officer in April 1993.

5.16 My April 1997 Special Report No. 49, *Metropolitan Ambulance Service: Contractual and outsourcing practices*, outlined the circumstances under which the Metropolitan Ambulance Service entered into a contract with Intergraph in March 1994 relating to development of a new communications system. Through a variation to the contract, the Service entered into an outsourcing arrangement under which Intergraph not only supplied but owned and operated the communications system.

5.17 The April 1997 Report also indicated that the Service had continued with its communication strategy notwithstanding the fact that the former Public Bodies Review Committee, in its October 1993 interim report, recommended the implementation of a multi-agency calltaking and dispatch facility for the State's emergency services.

5.18 On 23 December 1993, following representations by the Service, Cabinet approved the purchase of the Intergraph system by the Service on the basis that the arrangement was to be considered an interim measure pending the development of a multi-agency system. The purchase was also conditional on the Service providing a commitment that the then proposed Intergraph system was capable of integration into a multi-agency system for all emergency service organisations, irrespective of the party eventually selected to supply the multi-agency system. In addition, Cabinet stipulated that the chief executive officer of BEST was to be a member of the Service's Computer Aided Dispatch Steering Committee.

5.19 As indicated in my April 1997 Special Report No. 49, certain of the conditions relating to the integration of the system were not included in the Service's final contract with Intergraph. In fact, in response to concerns raised by the ministerial steering committee on the adequacy of the contract's provisions for integration (following its assessment of the contract variation to accommodate outsourcing of the system), the Service's former chief executive officer advised the committee in November 1994 that:

- "Under the Service's contract, Intergraph are not obliged to effect the integration of their CAD system to another supplier under BEST"; and
- "It is my view that it is the responsibility of the BEST negotiating team to:
  - a) reach agreement with Intergraph with respect to use of their equipment by a competitor CAD supplier; and
  - b) provide for the integration of the Intergraph system as part of BEST, whether immediate or some years subsequent".

**5.20** The April 1997 Report also outlined the main ramification of the advice provided by the Service's former chief executive officer to the ministerial steering committee in that "... if Intergraph was not subsequently awarded the contract for the Statewide emergency communications system, the Government, through early termination of the contract, faced a substantial compensation claim from Intergraph. Alternatively, the Service would have to operate its system independently of the Statewide facility. The magnitude of the compensation claim was assessed at more than \$12 million in a commercial analysis dated June 1995 undertaken by consultants on behalf of the Bureau of Emergency Services Telecommunications".

**5.21** The potential compensation of \$12 million payable to Intergraph as a result of the identified deficiencies in the Service's contract constituted a major factor impacting, from a global government perspective, the overall selection process for the multi-agency system. In this regard, BEST advised audit that this aspect of the process was taken into account at government level when assessing the recommendation submitted by BEST for Intergraph to be appointed as the preferred supplier.

**5.22** When endorsing the Service's proposal to enter into a contract with Intergraph prior to development of the multi-agency system, the Government stipulated that the Service would be required to cover any costs associated with the integration of its system into the multi-agency facility. BEST has advised audit that, when all integration tasks have been completed (latest time target is early 1998), it intends seeking reimbursement from the Service of any associated costs.

<b>BEST'S SELECTION PROCESS FOR THE MULTI-AGENCY SYSTEM</b>
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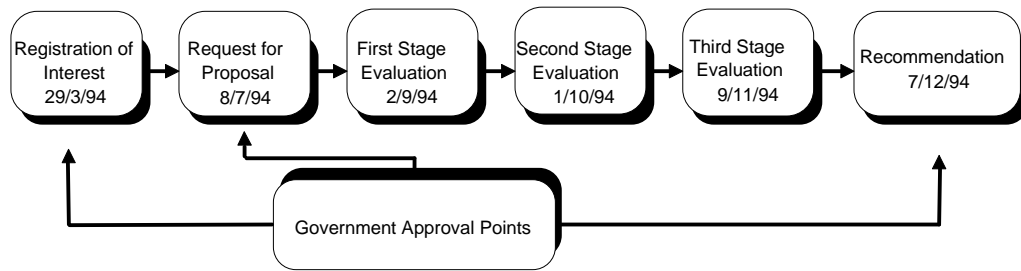
**5.23** On 29 March 1994, the Department of Justice advertised for registrations of interest to supply, install, maintain, operate and/or own a computerised calltaking and dispatch system facility to service the communications requirements of Victoria's emergency service organisations.

**5.24** During evaluation of the registrations of interest, the Treasurer announced that both ownership and operation of the multi-agency system would be outsourced in accordance with the build/own/operate criteria outlined in the Government's *Infrastructure Investment Policy*. This announcement meant that BEST and its consultants were required to redesign the selection process from one dealing with a system purchase to one suited for operation of the system under an outsourcing arrangement.

**5.25** Responses were subsequently received from 14 interested parties, of which 7 were considered by BEST to have conformed with the requirements of the advertisement. Following an initial evaluation, 5 of the parties were invited to submit more detailed proposals.

**5.26** Detailed proposals subsequently received by BEST were evaluated in a number of stages as required under the Government's *Infrastructure Investment Policy*. The stages used by BEST are outlined in Chart 5A.

**CHART 5A**  
**STAGES USED BY BEST IN THE SELECTION PROCESS**



**5.27** Ultimately, in December 1994, Intergraph was recommended as the preferred supplier and operator of the multi-agency system. A contract was subsequently signed with Intergraph in June 1995.

### Initiation of the multi-agency calltaking and dispatch project

**5.28** The Victorian Government *Contracting Out Guidelines*, May 1993, set out the procedures which should be undertaken prior to any decision on outsourcing. In the case of BEST's multi-agency system, such procedures were to include:

- obtaining a detailed knowledge of the operational environment of the emergency service organisations and the strategic role of calltaking and dispatch functions within these organisations;
- involving emergency service management in the evaluation of the proposed outsourcing;
- evaluating improvement opportunities likely under an outsourcing arrangement;
- assessing the internal capabilities of the emergency service organisations to manage the calltaking and dispatch process as an in-house function;
- preparing a detailed cost and benefit analysis; and
- developing a justification to support the outsourcing of the calltaking and dispatch function.

**5.29** Notwithstanding the importance of the above factors, there was limited documentation available to audit to indicate that the established procedures had been followed prior to the invitation for registration of interests issued by the Department of Justice. Of particular concern was the fact that an analysis of the costs and benefits of outsourcing did not occur until late September 1994, some 6 months after the selection process had commenced.



**5.30** Audit considers that the failure to complete the required procedures in the initial stages of the outsourcing arrangement contributed to:

- the absence upfront to BEST of specific details concerning the cost of current calltaking and dispatch activities within emergency service organisations for use as a key factor in assessing bids by the private sector;
- the unavailability of reliable workload and performance data in respect of the emergency service organisations necessary to assist bidders in offering accurate estimates of service charges under the outsourced arrangements;
- a commitment to outsource without the opportunity to consider the ramifications for service delivery by the emergency service organisations; and
- the lack of a basis for an ongoing analysis of benefits achieved by emergency service organisations under the outsourced arrangements.

**5.31** The above factors have adversely impacted on particular aspects of BEST's selection process and have led to problems experienced with the ongoing management of the contract.

### **Registration of interest**

**5.32** As previously referred to, on 29 March 1994 the Department of Justice advertised for registrations of interest for the supply of a computerised calltaking and dispatch system facility. Responses were subsequently received from 14 interested parties with 7 judged as conforming with the requirements set by the Department.

**5.33** The 7 responses were separately evaluated by:

- a team comprising representatives of BEST, the emergency service organisations, Department of the Treasury and Finance, Department of Human Services and the project consultant;
- the project consultant who was required to specifically evaluate the technology offered by the 7 parties; and
- a technical specialist appointed by BEST to provide independent quality assurance on the evaluation process and the conformity of the responses to the requirements of the registration of interest.

**5.34** Each of these 3 evaluations recommended the same shortlist of 5 potential suppliers of the system which, after consideration, was accepted by BEST.

### **Request for proposal**

**5.35** Request for proposal documents are designed to assist external parties to submit proposals which fully address project specifications and generate sufficient information to allow proper assessment.

**5.36** Extensive work was undertaken by BEST to incorporate the requirements of the Government and emergency service organisations into the specifications of the multi-agency computerised calltaking and dispatch system for incorporation into the request for proposal. Audit was advised that, initially, this work was undertaken in the belief that it related to procurement of a system to be operated by either BEST or the emergency service organisations. The Treasurer's announcement to outsource operation of the system necessitated the request for proposal to be rewritten to reflect this changed requirement and to include additional criteria for assessing the commercial viability and management capabilities of potential suppliers as owner/operators of the system.

**5.37** The request for proposal was approved by Cabinet on 27 June 1994 and was issued to shortlisted bidders on 8 July 1994 with a return date of 2 September 1994.

**5.38** In relation to the separate contract entered into by the Metropolitan Ambulance Service with Intergraph, the request for proposal advised that:

*“The Victorian Government has determined that the MAS CAD [Metropolitan Ambulance Service computerised calltaking and dispatch system] service will become part of the overall CAD service to be provided by the consortium selected through this RFP [request for proposal]. The selected consortium will therefore be required to assume the responsibility for operating the MAS CAD system at a date agreed by BEST, MAS and the consortium which will be no later than 5 September 1995 ...”.*

**5.39** In addition, the request for proposal included advice to prospective bidders in respect of the existing contract between the Metropolitan Ambulance Service and Intergraph that, *“As an interim measure and until such time as a date is agreed, a contract for the management and operation of the MAS CAD has been entered into with Intergraph Corporation by MAS”.*

**5.40** At the time, the contract between the Metropolitan Ambulance Service and Intergraph could have been assessed as *“an interim measure”*. However, as BEST became progressively aware of concerns at the contents of the contract and the resultant difficulties likely to be experienced with the operation and integration of the Service's system with the multi-agency system, the categorisation of the arrangement as one of an interim nature became increasingly doubtful.

**5.41** According to BEST, it did not become aware of the contents of the contract, between the Service and Intergraph until it was informed by its legal advisers on 3 August 1994 when they stated that:

*“Our main concern is that the agreement may not permit BEST to appoint another consortium (i.e. a competitor of Intergraph) to operate the Intergraph System following either novation of the Intergraph system or the termination of Intergraph's contract to operate the Intergraph System”.*

**5.42** These circumstances were subsequently confirmed by comments made by Intergraph representatives during negotiations with BEST in November 1994 that Intergraph would allow the Service or its nominee to operate the system but definitely not a competitor of Intergraph.

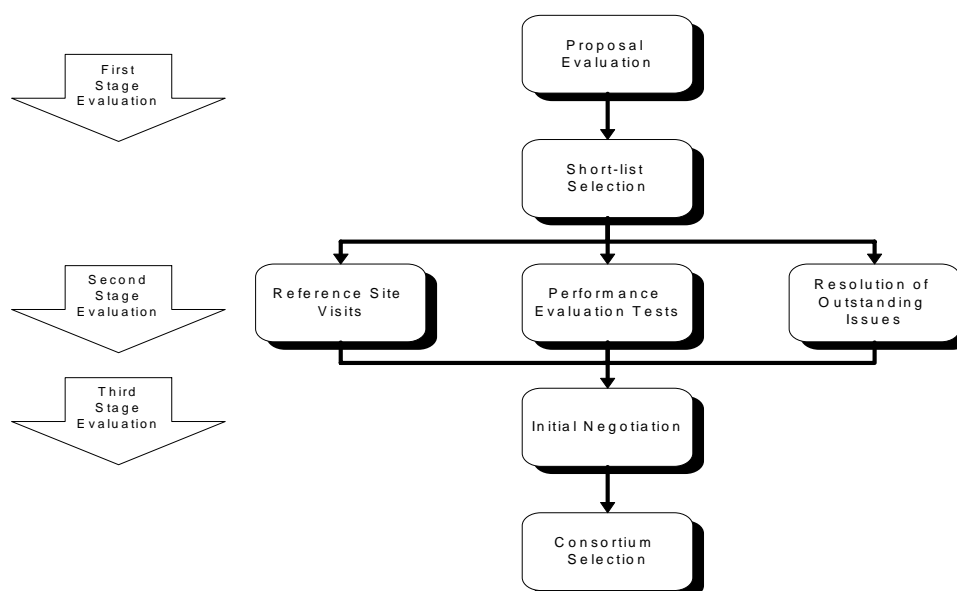


**5.43** Audit is of the opinion that the shortlisted bidders should have been advised of the potential impact of this development as soon as possible and, in any event, before the due date for submission of their proposals. Such action would have been necessary to ensure that they were fully aware of the situation and able to modify their submissions as necessary.

### Evaluation of submissions

**5.44** Four bidders responded to the request for proposal by the closing date, 2 September 1994 with the remaining bidder advising it would not be submitting a proposal. As outlined in Chart 5B, evaluation of these submissions was undertaken in 3 stages.

**CHART 5B  
STEPS IN THE EVALUATION PROCESS**



**5.45** In accordance with the Government’s Infrastructure Investment Policy, each submission was evaluated against the following criteria supported by agreed weightings assigned to each category:

- capability of the consortium to deliver the total project;
- financial viability of the service charge;
- acceptability of financial arrangements;
- acceptability of the maintenance and operation proposal;
- demonstrated performance and reliability of computerised calltaking and dispatch system technology;
- risk profile;

- level of public liability accepted by the consortium;
- proposed costs versus current cost of operation; and
- consortium viability.

**5.46** Seven expert evaluation teams were assembled from a pool of nominated representatives from each emergency service organisation, Department of Treasury and Finance, BEST, the project consultant and other specialised consultants. Each team was allocated the responsibility of evaluating each proposal against one or more of the selection criteria.

**5.47** During the first evaluation stage, an initial ranking of bidders was determined after which the 2 highest ranked parties withdrew from the bidding process on the basis that they could not achieve the required functionality within the time frame.

**5.48** The second stage evaluation of the 2 remaining bidders, Intergraph and another party, involved the following actions by the evaluation teams:

- confirmation of bidder capabilities by visiting selected customer sites in the United States of America and Canada, and visiting the corporate headquarters of each bidder;
- a performance evaluation test to validate the claimed functionality within each proposal and to assess the capability of the company to operate the system under operating conditions which would be experienced within the emergency service organisation;
- reassessment of the 2 proposals in light of new information received since the stage one evaluation process; and
- specifically addressing commercial and financial matters arising from the stage one evaluation process.

**5.49** The weighted evaluation scores in respect of the above factors for both bidders proved to be so close that the project consultant made the following recommendation to BEST: *“The difference in prices between the two companies for phases 1 & 3 is now less than 10%. This is not considered to be a material difference, and should not be the principal determiner of the preferred company. The ability to deliver and manage the project with the better technical solution should be the principal selection criteria. Only if the companies are closely matched in their service delivery should selection be decided upon the basis of lowest price”*.

**5.50** As recorded in the minutes of the ministerial steering committee on 9 November 1994, the project consultant presented the results of the second stage evaluation and concluded that it *“... could not make a recommendation on a CAD Consortium at the end of the second stage of the evaluation process because the strengths and weaknesses of the two Consortia effectively cancelled each other out and therefore there was no clear differentiation between the two proposals. Whilst a recommendation could be made on the basis of the technical evaluation, further work needed to be done on the financial and commercial issues”*.

**5.51** The further work identified by the project consultant was undertaken during the third and final stage of the evaluation process.

**5.52** As an overall comment, audit considered that the documentation supporting the first and second evaluation stages of the selection process was well compiled.

### Third (and final) evaluation stage

**5.53** At a meeting on 16 November 1994, the Minister for Police and Emergency Services, the Minister for Finance and the Treasurer decided to continue the negotiation process with the 2 bidders into a third stage to allow further time to consider outstanding commercial and financial issues.

**5.54** As part of this evaluation stage, BEST presented draft contracts for negotiation purposes to each bidder. This action signalled the beginning of intense contractual and commercial negotiations between BEST and the bidders. Major areas negotiated at this point included:

- the Government's right to "step in" and take control in the case of major default ;
- financing of the computerised calltaking and dispatch system;
- service charge escalation;
- tax rulings;
- sharing of productivity gains;
- employee numbers;
- industrial relations;
- interface with Intergraph's system operating in respect of the Metropolitan Ambulance Service; and
- capital costs associated with the system at the Metropolitan Ambulance Service.

### Process relating to the selection of the preferred bidder

#### *Appointment by the Government of Intergraph as the preferred bidder*

**5.55** At its meeting on 7 December 1994, BEST received and considered the recommendation of its project consultant for the preferred bidder. Following discussion and clarification of a number of issues, the ministerial steering committee unanimously determined, at the meeting, the following recommendation be made to the Government:

*"Intergraph is the preferred supplier.*

*Proceed with Intergraph provided they immediately agree to:*

- *provide Intergraph USA corporate overview and technical assistance;*
- *address fire service specific requirements;*
- *address lack of BOO [Build/own/operate] experience.*

*... at their cost".*



**5.56** The above recommendation was forwarded by BEST to the responsible Ministers for approval. After 3 meetings between the Ministers, BEST and the project consultant, where further negotiations were held with both bidders, approval was given on 22 December 1994 to “Proceed with Intergraph as the preferred supplier”.

**5.57** The final service charges of each bidder at the time of ministerial approval were as shown in Table 5C.

**TABLE 5C  
FINAL SERVICE CHARGES OF BIDDERS**

Service charge	A\$ million	
	Intergraph	Other bidder
Annualised	\$24.9	\$26.4
Total 7 year contract term	\$174.3	\$184.8

*Inadequate documentation to support the final selection decision*

**5.58** Following a request to BEST by audit to examine the documentation substantiating the recommendation submitted to the Committee for recommendation of Intergraph as the preferred contractor, BEST advised audit that a slide presentation without supporting explanatory documentation was made by the project consultant to members of the ministerial steering committee at its meeting of 7 December 1994.

**5.59** As mentioned in an earlier paragraph, the above request by audit was made on 6 February 1997, at an early stage of the audit. After initial advice that this information had been misplaced and subsequent numerous requests, a copy of the presentation was eventually made available to audit over 8 months later on 29 October 1997.

**5.60** Audit had been provided with early drafts of the project consultant’s report, “Recommendation for the supplier of computer aided dispatch services to the State of Victoria”, dated December 1994, but which was not finalised and forwarded to BEST until 16 June 1995, some 6 months after the decision to recommend Intergraph was made. It was found that these early drafts were incomplete in that they did not contain an executive summary, a recommendation or details of the commercial analysis of the 2 final bids, even though these 3 sections would have been highly relevant to the decision making process.

**5.61** In addition, while detailed analysis and scoring against the selection criteria were applied in the first and second stages of the evaluation, there was no evidence available to audit to indicate that a similar objective approach had been adopted for the final evaluation stage.



**5.62** Despite numerous requests from audit extending over several months, BEST was unable to provide key information relating to the following elements of the final selection stage:

- minutes and working papers of the evaluation team involved in the assessment of the merits of the commercial arrangements under the respective bids; and
- comparison of bids in terms of assessment against the 9 key selection criteria referred to in an earlier paragraph within this Part of the Report.

**5.62** In addition, at the time of the decision to recommend Intergraph, the ministerial steering committee was not made aware by the project consultant of 2 critical aspects impacting on the comparability of the 2 bids. These aspects related to:

- The costs of \$7 million over the term of the multi-agency contract to be charged by Intergraph for operating the computerised calltaking and dispatch system for the Metropolitan Ambulance Service. These costs were not reflected in the Intergraph bid considered by the committee but were eventually included in the final quantification of Intergraph's service charges over the term of the contract when ministerial approval was given for Intergraph's appointment. In contrast, the proposal considered by the committee from the other bidder took into account that bidder's assessment of the costs of assuming control and ownership of the Service's system and integrating the system into the multi-agency system. Accordingly, the 2 bids were not then comparable; and
- Compensation was payable to Intergraph for any additional costs arising from a government decision to place its industrial relations framework under Federal award coverage.

**5.64** The relevant information associated with these 2 matters was provided to BEST and the project consultant by Intergraph after the ministerial steering committee determined to recommend Intergraph as the preferred contractor.

**5.65** In response to audit on questions relating to the adequacy of documentation to support the project consultant's slide presentation, BEST advised that it regarded the process of ongoing debriefings to the respective chief executive officers of emergency service organisations by their own staff during the period leading up to the selection of Intergraph as sufficient to provide all members of the ministerial steering committee with the necessary information to make a decision.

**5.66** In audit opinion, the decision to select Intergraph was not supported by adequate documentation at the time the decision was made. This comment is not to suggest that an incorrect decision was in fact reached in the appointment of Intergraph. However, in view of the significance of the contract, it would be expected that a sound management trail and complete supporting documentation would be available for audit examination to justify such a decision.

## Probity issues

**5.67** Audit expected to find that BEST had developed a probity regime incorporating probity milestones and codes of conduct for the bidding process in general to ensure that a fair and equitable selection process was employed and that the State's interests were protected. Such a regime is necessary to demonstrate the integrity of the selection process and would incorporate probity assessments in respect of the selection process and the bidders. In addition, sound business practice would include ongoing probity assessments in respect of the bidder over the life of the contract.

**5.68** Audit examination in this area identified some unsatisfactory aspects of the manner in which probity matters were managed by BEST. In particular, audit found that:

- The contract between the Metropolitan Ambulance Service and Intergraph was not reviewed by BEST as part of its probity assessment procedures. Audit is of the view that, if the contract had been reviewed prior to the commencement of the BEST selection process, the problems encountered by BEST after becoming aware of the implications of the above contract for integration of the Service's into the multi-agency system may have been avoided or, at least, addressed earlier;
- While BEST engaged the services of a probity consultant in February 1995 (after the selection of Intergraph) to undertake a probity check into the Intergraph parent company and its Australian subsidiaries, including directors, the consultant formally reported the results of this check to BEST on 14 July 1995, one month after the signing of the contract.

The consultant's covering letter to BEST included the comment that, "*it will be fair to say that Intergraph personnel have not been fully co-operative during the course of these probity investigations. Without any statutory powers and the natural leverage of dealing with a bidder or Preferred Applicant, it has been extremely difficult to obtain the necessary information to complete these inquiries*".

While the consultant concluded that, "*... there were no immediate, critical issues from a probity viewpoint that would prevent the BEST CAD project proceeding to its planned conclusion*", the above extract from the consultant's letter reinforces the importance of carrying out probity checks prior to any government commitment to engage a contractor for very large projects.

In other words, for probity checks to be relevant and useful in assisting the commitment of taxpayers' funds, it is important that the results of such checks are available to government and considered prior to the formal signing of contractual documentation with the appointed contractor; and

- BEST's probity consultant recommended that, "*... the issues raised in this report, particularly those of an ongoing financial nature, be regularly monitored by a responsible officer of BEST*".

With respect to the consultant's recommendation as to the need for ongoing monitoring, BEST, in negotiating the contract with Intergraph, omitted the inclusion of fundamental periodic probity requirements for Intergraph to demonstrate corporate performance and governance.

In the circumstances, it has been necessary for BEST to institute an arrangement involving it accessing relevant corporate information pertaining to the ongoing operations of Intergraph, both in Australia and the United States of America. If the appropriate provisions had been embodied within the contract, Intergraph would have been obligated to periodically provide such information to BEST.

**5.69** The Government's *Outsourcing and Contract Management Guidelines* which were introduced in December 1995 (and therefore were not applicable to the processes followed by BEST) outline general principles which should be followed to ensure probity. The Department of Treasury and Finance considers that adherence to the methodology contained in the Guidelines should ensure probity. The Department's March 1997 document, *Procedural Integrity and Process Auditing in Privatisations and Contracting Out* provides guidance on the role of the probity auditor in ensuring equity in the process and that procedural fairness is accorded to all participants. Audit regards it as critical for the Government to continue to strengthen its outsourcing arrangements by requiring agencies to formulate specific objectives relating to probity during the selection processes and on an ongoing basis during the term of contracts.

**5.70** Based on the issues identified by audit in the above paragraphs, adequate attention should be given by government to ensuring that probity requirements and associated investigations are sufficiently robust to enable the defensibility of government decisions in respect of major contracts.

## CONTRACT WITH INTERGRAPH

**5.71** The contract with Intergraph was signed by the Minister for Police and Emergency Services (on behalf of the Victoria Police and the State Emergency Service), the Metropolitan Fire and Emergency Services Board, the Country Fire Authority and the Metropolitan Ambulance Service on 7 June 1995.

**5.72** Under the provisions of the contract, Victoria's emergency service organisations have entered into performance-based agreements with Intergraph for the provision of high quality, stable and flexible calltaking and dispatch services on a continuous basis over an initial 7 year period. These agreements provide for the transfer of certain risks to Intergraph, including those relating to service availability and operational performance. However, a number of risks have been retained by the State, including exposure to certain cost variations and claims by participating organisations against Intergraph to the extent that these claims exceed a pre-determined monetary level.



**5.73** To ensure the ongoing availability of this critical multi-agency communication service, the State has retained a right to step-in and gain ownership and/or operational control of the calltaking and dispatch system in certain special circumstances, including where:

- a major service default by Intergraph has occurred and is not rectified;
- major changes in government policy occur in relation to calltaking and dispatch of emergency services; and
- the contract term expires.

**5.74** The chief executive officer of BEST, in the role of Customer General Manager under the contract, acts as the agent for the emergency service organisations in all matters arising in relation to the project, including the authority to do anything the organisations or the Customer General Manager is empowered to do in accordance with the contractual conditions.



# **Part 6**

## **Commissioning at Victoria Police and State Emergency Service**

## OVERVIEW

**6.1** A very tight timeframe of around only 9 months commencing in January 1995 was set for commissioning of Intergraph's calltaking and dispatch system at Victoria Police and the State Emergency service. This position arose primarily because of the then impending move of Victoria Police to the World Trade Centre and the absolute necessity for this vital emergency service organisation to have in place centralised communication facilities at its new location before November 1995, the stipulated date for vacant possession of its former headquarters.

**6.2** Formal commissioning of the system occurred in respect of both organisations by the targeted date of September 1995. However, more than 2 years after this commissioning date, both Victoria Police and the State Emergency Service are still yet to fully realise the benefits expected from implementation of the system. This situation can be attributed, in part, to the pressures associated with meeting an extremely stringent commissioning deadline but mainly to major concerns in both organisations with Intergraph's performance.

**6.3** Because of the general absence of well defined performance measures, the contract provided for 2 reviews of the measures, one prior to and the other 3 months after commissioning. Nevertheless, with regard to Victoria Police, Intergraph was unable to meet the agreed level of performance for the total time to dispatch measure initially expected of it under the contract and could subsequently progress only partially along a monthly performance improvement program, involving substantially lower levels of required performance, which was specifically devised to give it an opportunity to gradually improve the timeliness of its dispatching tasks. Under arrangements which appeared to be favourable to Intergraph, moneys in excess of \$1 million progressively withheld by Victoria Police for under-performance were repaid to Intergraph and the contractor has been fully remunerated in accordance with the terms of the contract since September 1996.

**6.4** To its credit, Intergraph has consistently met the performance target set under the contract for the answering of calls by its calltakers.

**6.5** Both Victoria Police and the State Emergency Service have not yet generated any significant savings directly from operation of Intergraph's system.

**6.6** The most significant future contributor to maximising the efficiency and effectiveness of Victoria Police in meeting the essential needs of the community will be implementation of a mobile data network. This aspect of BEST's responsibilities in the development of a multi-agency communication system for the State is likely, according to Victoria Police, to lead to additional annual revenue of at least \$3 million. Also, Intergraph has viewed the importance of a mobile data network to the calltaking and dispatch facility operated by it on behalf of Victoria Police as equivalent to "*the fourth wheel on a motor car*".

**6.7** The latest projected date for operation of a mobile data network within Victoria Police is by early in the year 2000. It will therefore be very critical that BEST ensures, through its strategic management processes, that this latest milestone is definitely achieved.

**VICTORIA POLICE**

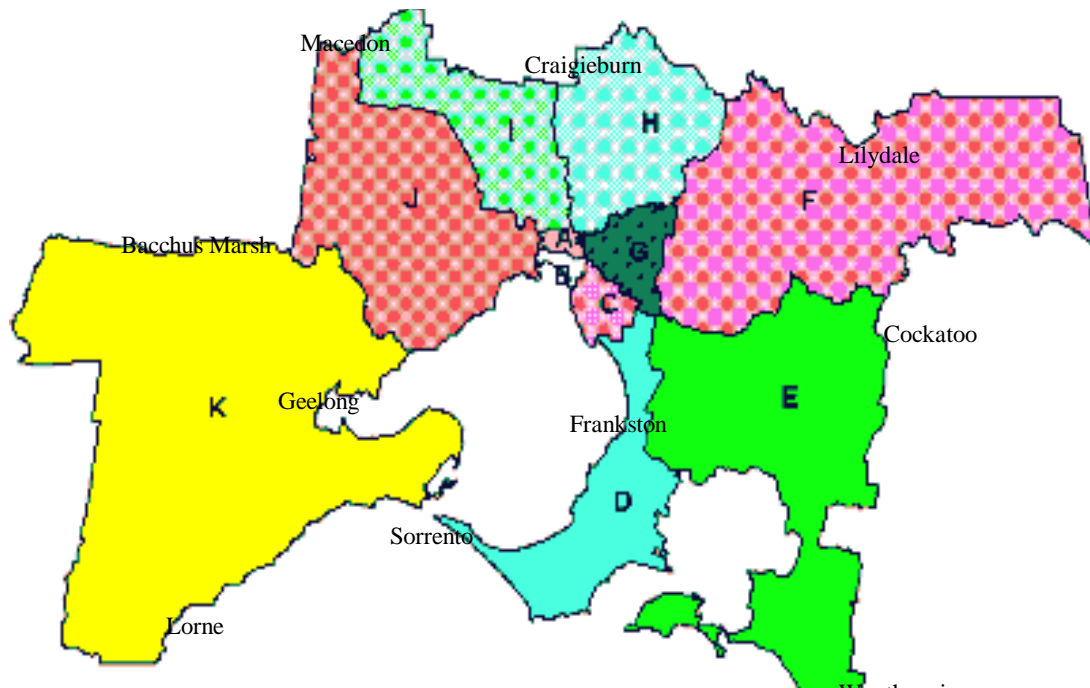


*Victoria Police provides a vital emergency service to the public of Victoria.*

**Commissioning of the system**

**6.8** As indicated in Part 2 of this Report, a commissioning date of 5 September 1995 for operation of Intergraph's computerised calltaking and dispatch system at Victoria Police was stipulated within the contract. The operational area of the system covers Victoria Police Districts A-K which are shown below in Chart 6A.

**CHART 6A  
OPERATIONAL AREA OF THE INTERGRAPH  
SYSTEM IN RELATION TO VICTORIA POLICE AND THE STATE EMERGENCY SERVICE**



**6.9** Under the terms of the contract, commissioning of the system within each emergency service organisation is dependent upon Intergraph demonstrating, inter alia, that it is capable of achieving the performance measures specified in respect of the particular organisation.

**6.10** The various tasks associated with the commissioning process in respect of Victoria Police commenced around January 1995 under the December 1994 Deed of Understanding entered into between the State and Intergraph, which was in place up to the signing of the contract in June 1995.

**6.11** Notwithstanding the complexity of the tasks, the system was formally commissioned to operate in less than 9 months by early September 1995, as targeted.

**6.12** The major factor which led to the setting of such a tight timeframe for the system's commissioning was the absolute need for Victoria Police to have in place a calltaking and dispatch system at its new location, the World Trade Centre in Melbourne, before 5 November 1995. This date had been established for vacant possession of the former headquarters of Victoria Police, at which the outdated and now-closed police communication centre, known as D24, was located. The headquarters were sold by the Government in November 1992 to a private sector party under a 3 year sale and leaseback arrangement.

**6.13** Clearly, for Victoria Police to move to a new location and not have available to it any centralised communication facilities for both handling emergency calls from the public and dispatching police vehicles was in no way a conceivable option.



**6.14** The accomplishment of system commissioning within such a short period was viewed by the parties, BEST, Intergraph and Victoria Police, as a significant achievement. According to Intergraph's own internal estimations, commissioning of a project of this nature would normally take around 2 years.

**6.15** Given that it would have been known in November 1992 that a maximum period of 3 years was available for planning the relocation of Victoria Police and development of a new communication system to replace D24, it was very surprising to find that less than 9 months had been allocated for system commissioning. Such a situation did not appear to be consistent with a soundly-based strategic approach at the macro level to the matter.

**6.16** Irrespective of the merits or otherwise of the influencing factors, there is no doubt that it would have been a daunting proposition for the parties responsible for meeting the commissioning deadline to be faced with such a demanding task. It was also clear to audit that the fact that a stringent deadline of less than 9 months simply had to be met has contributed to the current position under which the benefits envisaged from implementation of Intergraph's system are, 2 years after the commissioning date, yet to be fully realised by Victoria Police and the community.

### **Extent of achievement by Intergraph of specified performance standards**

**6.17** Performance measures to be used in the evaluation of Intergraph's performance were included in the contract.

**6.18** BEST advised audit that these performance measures were developed from a theoretical basis and were primarily quantitative in nature. It indicated that this approach was followed because, at the point of negotiating the measures, there was no equivalent position in place in respect of the former D24 communication centre. It was against this background, according to BEST, that the contract provided for 2 reviews of the measures: one prior to and the other 3 months after commissioning.

**6.19** The pre-commissioning review, which was undertaken in August 1995 sought to document the tasks performed at that time by the D24 system, describe the performance of the system and record times for certain stages within the calltaking and dispatch process relating to service standards. The review did not provide a minimum service level performance benchmark for Intergraph as envisaged under the relevant sections of the contract. The review neither endorsed or amended the performance standards outlined in the contract.

**6.20** Given that the review was undertaken as a pre-commissioning review, it was surprising to find that the results of the review were not finalised until some 6 months after commissioning, in February 1996. It was agreed by all parties (as documented in the report arising from the later post-commissioning review) that the ambitious timeframe for commissioning and the scope and complexity of the system implementation and operation, were the major reasons for the failure to complete the review prior to commissioning.

**6.21** The report of the post-commissioning review also indicated that as D24 “... had not operated to a rigorous performance standard, these negotiations broke new ground and led to a better understanding of service requirements and service delivery issues”.

**6.22** The 2 key performance measures agreed for use by Victoria Police to assess Intergraph’s performance are the *call answer* performance measure and the *total time to dispatch* performance measure.

*Performance by Intergraph against the “total time to dispatch” measure*

**6.23** The *total time to dispatch* performance measure covers the time elapsed from when a call is answered and prioritised by the calltaker to the point when a dispatcher (after receipt of relevant information from the calltaker) triggers an initial signal to a police unit.

**6.24** Table 6B provides relevant details of the *total time to dispatch* measure for priority 1, 2 and 3 calls which became operative from September 1995 following commissioning of the system.

**TABLE 6B  
TOTAL TIME TO DISPATCH PERFORMANCE MEASURES OPERATIVE  
FROM 5 SEPTEMBER 1995**

<i>Description</i>	<i>Measure (seconds)</i>	<i>Condition for minor default by Intergraph</i>	<i>Condition for major default by Intergraph</i>
<b>Priority 1 calls</b> Most serious matters that require urgent police attention	60	Measure not achieved in 90 per cent of cases	Measure not achieved in 70 per cent of cases
<b>Priority 2 calls</b> Serious incidents but not requiring the same level of urgency as Priority 1 calls	100	Measure not achieved in 90 per cent of cases	Measure not achieved in 70 per cent of cases
<b>Priority 3 calls</b> Incidents involving property where offenders are not present and do not require immediate police attention	340	Measure not achieved in 90 per cent of cases	Measure not achieved in 70 per cent of cases

Source: Master Service Contract.

**6.25** While representing one element of total response times, the extent of total time to dispatch influences the time an incident is conveyed to operational police.

**6.26** In the early months after commissioning, Intergraph, was unable to provide information on its performance to Victoria Police. In subsequent months, when performance information become available, it indicated that Intergraph was not meeting the performance measures set out in Table 6B. Under these circumstances, Victoria Police has withheld moneys from the contractor under the provisions of the contract.

**6.27** In April 1996, following discussions with Intergraph, Victoria Police formally advised the Chairman of the ministerial steering committee that it supported a proposal submitted by Intergraph for a revision of the performance measures. As part of this process, Victoria Police indicated it was prepared to allow Intergraph to progressively improve its performance in accordance with a graduated scale. The results of the pre-commissioning review, which, as already mentioned, were finalised in February 1996, assisted in the formulation and subsequent approval of the progressive scale.

**6.28** The scale agreed between the parties covered a 6 month period beginning in April 1996. It provided for a starting point significantly lower (almost 4 times longer, 60 seconds extended to 230 seconds, and applicable to 80 per cent of cases rather than 90 per cent, for priority 1 calls) than the level of performance expected of Intergraph under the contract, with incremental monthly improvements up to September 1996. The level of performance expected of Intergraph at the end of this period was still well below the earlier performance requirement stipulated under the contract (120 seconds in 85 per cent of cases compared with 60 seconds for 90 per cent).

**6.29** Notwithstanding the lowering of performance expected of Intergraph, the contractor was only able to perform at a level well below that envisaged by September 1996 under the improvement program agreed with Victoria Police. Following discussions between the parties, it was agreed that the level achieved as at 31 August 1996 would represent, on an interim basis, the required standard of performance by Intergraph, for the purposes of the contract, until completion of a major post-commissioning review planned to commence about that time (under the terms of the contract, this review should have commenced in December 1995, 3 months after commissioning). Intergraph has consistently maintained this level of performance since August 1996.

**6.30** Table 6C illustrates the extent to which performance expectations applicable to Intergraph covering total time to dispatch were lowered when compared with the position at the time of system commissioning.

**TABLE 6C**  
**EXTENT OF LOWERING OF INTERGRAPH'S PERFORMANCE EXPECTATIONS**  
**AGREED AS AT 31 AUGUST 1996**

<i>Calls</i>	<i>Performance requirement at date of commissioning (September 1995)</i>		<i>Agreed revised level of required performance (August 1996)</i>		<i>Extent of lowering of performance expectations</i>	
	<i>Measure (seconds)</i>	<i>Target (%)</i>	<i>Measure (seconds)</i>	<i>Target (%)</i>	<i>Measure (seconds)</i>	<i>Target (%)</i>
Priority 1	60	90	190	80	130↑	10↓
Priority 2	100	90	190	80	90↑	10↓
Priority 3	340	90	460	80	120↑	10↓

**6.31** The major post-commissioning review of performance measures involving BEST, Victoria Police and Intergraph, which commenced in September 1996, was not finalised until early in July 1997. At the date of preparation of this Report, Victoria Police had prepared a business process re-engineering strategy involving a project approach reporting through a tri-partite steering committee (consisting of Victoria Police, BEST and Intergraph), to develop revised performance measures which will address its concerns regarding both quantitative and qualitative service measures.

**6.32** In discussions with Victoria Police, audit was advised that the non-achievement by Intergraph of agreed levels of performance was considered to be disappointing from its viewpoint as the key user of services provided by the contractor. Nevertheless, it felt that, given the circumstances which prevailed in April 1996, the according of an opportunity to Intergraph to gradually improve its performance was the only viable option available if qualitative standards of police service to the community were not to be compromised. Such action was always considered to be consistent with the organisational view within Victoria Police that the performance measures outlined within the contract were to be subject to subsequent review.

*Performance by Intergraph against the 'call answer' measure*

**6.33** The *call answer* performance measure encompasses the time elapsed from when a call is registered with Intergraph to when the call is answered by the calltaker. This measure became operative from September 1995 following commissioning of the system.

**TABLE 6D  
THE CALL ANSWER PERFORMANCE MEASURES OPERATIVE  
FROM 5 SEPTEMBER 1995**

<i>Description</i>	<i>Measure (seconds)</i>	<i>Condition for minor default by Intergraph</i>	<i>Condition for major default by Intergraph</i>
Call answer	5	Measure not achieved in 99 per cent of cases	Measure not achieved in 95 per cent of cases

Source: Master Service Contract.

**6.34** In contrast to the position outlined in the preceding paragraph dealing with the dispatching function, Intergraph to its credit has consistently met the above performance measures from the time of commissioning. Information obtained by audit from Victoria Police shows that the current average *call answer* performance is around 4 seconds.

*Withholding of moneys*

**6.35** As mentioned in an earlier paragraph, Victoria Police began withholding moneys from Intergraph under the penalty provisions of the contract as from September 1995 because of the contractor's inability to meet the *total time to dispatch* performance measures set out in the contract. The amount withheld by Victoria Police represented 10 per cent of the fee of \$1.18 million payable each month by it to Intergraph.





**6.36** The terms of the contract provide that any fees withheld due to non-performance shall be paid to Intergraph when the required level of performance is met for any subsequent monthly period, i.e. Intergraph, on meeting its contractual obligations, would be entitled to receive payment for both the current period and retrospectively for past non-performing periods. In other words, this contractual provision means that no penalty accrues to Intergraph, other than delays in payments, for periodic under-performance, a position which audit considers to be significantly favourable to Intergraph.

**6.37** Audit found that Victoria Police withheld funds in excess of \$700 000 representing a retention of approximately \$118 000 a month over the period September 1995 to March 1996. Moneys totalling \$470 000 were also withheld during the period after March 1996 as a result of Intergraph failing to comply with the earlier described graduated scale of monthly performance agreed with Intergraph.

**6.38** As outlined in the earlier Table 6C, Intergraph's performance for *total time to dispatch* proved to be well below the already modified performance expectation anticipated under the graduated scale.

**6.39** Victoria Police, determined to release \$350 000 to Intergraph in June 1996, representing 50 per cent of moneys withheld to March 1996. This refund of funds was on the basis that Intergraph had submitted to it a strategy which outlined "... *the steps to be employed, as part of a Continuous Improvement Programme, for the application and attainment of Victoria Police CSSS [performance] Benchmarks at the Victoria Police Centre State Emergency Communication Centre in September 1996*". The balance of funds, \$820 000, was subsequently paid on various dates to Intergraph when Victoria Police was satisfied that Intergraph could consistently achieve the interim total time to dispatch requirement for priority 1 calls of 190 seconds in 80 per cent of cases, even though this level was well below the level of performance initially expected.

**6.40** All of the above decisions of Victoria Police in relation to the release of funds to Intergraph were reached in consultation with BEST in accordance with the contract.

**6.41** In summary, Intergraph was ultimately fully remunerated, and has since continued to be remunerated, in accordance with the monthly service charge outlined within the contract, even though its performance for *total time to dispatch* has never reached the expectations initially established under the contract or the modified performance requirement envisaged by Victoria Police under the later graduated scale of expected performance improvement.

**6.42** The above circumstances illustrate how, under decisions reached to date, the risks associated with non-performance have been solely borne by Victoria Police. In effect, Victoria Police has agreed to lower levels of performance expected by Intergraph and Intergraph has continued to be eligible to receive remuneration at the specified contractual levels.

**Requirement for Intergraph to produce management information reports**

**6.43** One of the customer user requirements set out in the contract assigned responsibility to Intergraph to produce a series of management information reports on a monthly basis for use by Victoria Police. The availability of such reports to Victoria Police was envisaged to be a key means of improving the quality of management information available to support its decision-making, a major benefit expected from the multi-agency calltaking and dispatch system.

*Absence of meaningful information to support decision-making*

**6.44** While management reports have been produced by Intergraph in accordance with its contractual responsibilities, it was evident from audit examination and discussions with Victoria Police that the reports fell far short of meeting basic management needs and, as such, have been basically regarded as less than useful for management decision-making purposes.

**6.45** It was also evident to audit that operational procedures followed within Victoria Police were not conducive to ensuring that all of the information necessary to produce complete and accurate performance data suitable for strategic decision-making was provided by Victoria Police to Intergraph. For example, the production of the management reports was intended to provide key information on operational police response times; times which in the past had been manually generated by Victoria Police.

**6.46** The response time is the time that elapses from the point when a dispatch call from Intergraph is received by a police vehicle to the time of its arrival at the scene of the reported incident. In order that Intergraph’s system can generate response time data, operational police must relay their status and time of arrival at the scene to an Intergraph operator. It was evident from the results of the post-commissioning review cited in an earlier paragraph and from discussions with Victoria Police that this information was not consistently relayed to Intergraph.

**6.47** The reasons identified for the above situation were:

- around 40 per cent of total calls from the public are still made to police stations and therefore occur outside of the system; and
- limitations in the capacity of its radio channels utilised to communicate between operational police and the Intergraph operator.

**6.48** Victoria Police has advised audit that, until such time as critical management information is generated by Intergraph from its system, it will continue with current internal manual procedures for the generation of the data.

*Special pilot project within metropolitan "J District"*

**6.49** The benefits of the availability to Victoria Police of complete management information were sharply illustrated from the results of a pilot project undertaken within the metropolitan "J District", which covers part of the western suburbs of Melbourne. This project, which involved careful planning by BEST, Intergraph and Victoria Police and operated for the whole of November 1996, was designed to trial a range of strategies relating to work practices followed by Victoria Police and Intergraph with the aim of improving customer service, operational safety and the management of scarce resources.

**6.50** A focus for assessing the effectiveness of these strategies, as part of the pilot project, was the production of key management reports which detailed operational activity to assist with operational decision making, business planning, performance reporting as well as response time data. A dedicated police channel was allocated to the District for the duration of the exercise to facilitate communications and all participating operational police were required to adhere to the procedures relating to the provision of information to and from Intergraph.

**6.51** Audit considered that, following the pilot project, Victoria Police and Intergraph were well placed to redefine the type of management information which needed to be produced in order to meet the strategic and operational requirements of Victoria Police. In other words, a valuable opportunity was available to determine the usefulness of the various management reports provided for within the contract and to formulate a revised suite of reports with an emphasis on quality rather than quantity. With such an approach, all parties, BEST, Intergraph and Victoria Police would at least have some confidence that there was a likelihood the contribution to improved resource management and enhanced public safety from the multi-agency calltaking and dispatch system, as initially envisaged, could be achieved.

**6.52** It can be seen that the potential benefits of the pilot project would be extensive. With this in mind, Victoria Police has indicated it is currently addressing the application of its recommendations across all metropolitan districts of Victoria Police and to the designation of necessary performance management information.

*Subsequent developments relating to provision of management information*

**6.53** Around the time of the pilot project, Intergraph had independently developed information management capabilities. Since that time, it has offered these capabilities to all of the State's emergency service organisations as a highly advanced management facility at a cost over and above the monthly service charge. Irrespective of the management value of these capabilities, it was not surprising to audit that Victoria Police has yet to take up Intergraph's offer. Clearly, until the core information needs of Victoria Police are adequately met on an ongoing basis under the terms of the contract, any consideration of the merits or otherwise of Intergraph's advanced management tools at an additional cost to the user would seem to be premature.



**6.54** Audit also found that, in very recent times, BEST, Victoria Police and Intergraph have reached agreement on the availability of a facility to Victoria Police under which it can download particular information from Intergraph for its internal analysis and use to support decision-making. A further option to periodically download Intergraph’s entire database is also under consideration within Victoria Police. As with the point made in the previous paragraph, such initiatives, irrespective of their underlying potential, should be viewed as subordinate to identifying and receiving in the first instance, under the terms of the contract, core information from Intergraph which satisfactorily meets the management needs of Victoria Police. In audit opinion, it is imperative that Victoria Police assesses the total costs and benefits of the various options available to it for the gathering of improved management information.

**6.55** In summary, there is little doubt that, after 2 years since the commissioning of the system, the strategic priority of BEST and the other 2 parties has to be firmly directed towards ensuring that useful and accurate information for Victoria Police is consistently generated in the manner provided for under the terms of the contract. If such an outcome is now deemed to be impracticable, audit considers that BEST, in representing Victoria Police, has a responsibility to successfully renegotiate the relevant contractual conditions with Intergraph.

*Development of a mobile data network*

**6.56** As mentioned later in Part 8 of this Report, the development of a mobile data network, under which mobile data terminals would be located within emergency service vehicles of all emergency service organisations, constitutes the most critical action necessary to achieve maximum benefits from a multi-agency computerised calltaking and dispatch system.

**6.57** While the development of a mobile data network represented the final phase of key tasks identified by BEST for implementation of the multi-agency system, a specific time target was not established for completion of this phase.

**6.58** The contractual obligation of Intergraph in relation to the mobile data network was to establish the relevant interfaces with the calltaking and dispatch functions of the multi-agency system. Such interfaces would provide, as and when required in the future, the link between these functions and the mobile data network.

**6.59** Because of a lack of progress to date in the implementation of a mobile data network within Victoria Police (and the other emergency service organisations), Intergraph has not yet been requested to undertake this aspect of the contract.

**6.60** In contrast to the position applicable to Intergraph, no specific contractual obligations were assigned to any of the emergency service organisations in respect of the mobile data network. However, as explained in Part 8, it is a policy objective of the Government that all of the participating emergency services organisations operate a mobile data network under the same supply contract.

**6.61** The need for positive progress in this area is reinforced by the extent of the potential benefits likely to accrue to Victoria Police in terms of operational enhancements and more effective services to the public from use of a mobile data network. These benefits include improved service quality and community confidence through:

- a capacity to respond to calls from the public in a more timely manner;
- use of state-of-the-art technology which would release police officers from time-consuming procedural and recording activities; and
- more direct and visible policing at the local level.

**6.62** Also, from an efficiency viewpoint, Victoria Police has conservatively estimated that additional annual revenue of \$3 million could be generated from the availability of a mobile data network to operational police.

**6.63** The significance of the non-realisation to date of any benefits from a mobile data network was clearly evident to audit from views expressed by Intergraph. In this regard, Intergraph viewed the importance of a mobile data network to the calltaking and dispatch facility operated by it on behalf of Victoria Police as equivalent to “*the fourth wheel on a motor car*”. It was also verbally acknowledged to audit by representatives of Intergraph that, until a network becomes operational, the existing output of Intergraph’s system would be little more than a computerised version of output produced from the former D24 system.

**6.64** The latest position advised by Victoria Police at the completion of the audit concerning implementation of a mobile data network was that a detailed submission encompassing planned tasks and associated timeframes had recently been approved by the Chief Commissioner. Audit was informed that this submission projected that a mobile data network would be fully operational early in the year 2000.

**6.65** Notwithstanding the complexity of the task, it will be important that BEST ensures the extensive benefits to Victoria Police from operation of a mobile data network are fully availed of within the latest approved time frame.

**Other important management issues requiring attention by Victoria Police**

**6.66** In addition to the matters canvassed in the preceding paragraphs, several management issues were identified by audit which required attention by Victoria Police in order for it to be in a position to derive maximum benefit from a multi-agency communication system, consistent with the expectations of the Government. These issues, which in the main relate to internal management strategies, include:

- The directing of greater attention, in conjunction with Intergraph, to ensuring that the calltaking and dispatch function is performed in a manner which is complementary to the requirements of operational police, e.g. the quality and accuracy of the information elicited from the public in emergency calls are critical factors in assisting operational police to respond to such calls in terms of both timeliness and preparedness. Put simply, the safety of police and the public is put at risk if incorrect or incomplete information is obtained from the caller. Coupled with this point was the need for greater input from Victoria Police into Intergraph’s training programs so that calltakers and dispatchers possess a greater appreciation of the characteristics of police business. Audit acknowledges that Intergraph’s prior refusal to co-operate on issues surrounding calltaker training has hampered Victoria Police attempts to improve this situation;
- Placing a higher strategic priority on the importance of all operational police having a sound understanding of the multi-agency communication system as it applies to Victoria Police and a strong awareness of their responsibilities under the system. Because operational police fulfil an integral role not only in the flow of information but also in responding to communications, the envisaged capabilities of the system could only be achieved if all operational police possess a well-grounded knowledge of, and commitment to, the system. To date, the strategic approach by Victoria Police to this issue has been somewhat ad hoc;
- Addressing the generally held view in both Victoria Police and Intergraph that, after 2 years since the system was commissioned, there was still considerable scope for enhancing the working relationship between the 2 organisations at the operational level within Intergraph’s emergency communications centre at the World Trade Centre;
- Assessing the significance of the risk to the State of the adequacy of the back-up facilities located at the Intergraph Tally Ho site in the Melbourne suburb of Burwood (the primary communication site for the other emergency service organisations other than the State Emergency Service) in the event of a complete breakdown at the primary facility within the World Trade Centre. A significant issue relevant to this assessment would be the extent to which facilities at Tally Ho are compatible with the total communication needs of Victoria Police and provide a full complement of calltaker dispatcher and terminals;



- Taking appropriate action to substantiate the performance statistics submitted by Intergraph each month to support its claim for remuneration of the monthly contracted sum of \$1.4 million. Audit does, however, acknowledge that this situation is subject to pre-approved contractual arrangements; and
- Monitoring closely, under its recently-developed business process re-engineering strategy, progress in implementing the recommendations presented in the July 1997 report arising from the major review of the contract's schedules dealing with customer user requirements and performance measures.

**6.67** While the above matters fall within the direct responsibility of Victoria Police, it will be important for BEST to oversee progress made in many of the areas as part of its monitoring role on behalf of the Government. The principal focus of BEST's scrutiny should be on ensuring that a satisfactory outcome is reached for the various actions on a timely basis and in a manner which leads to more effective operation of the police component of the multi-agency computerised calltaking and dispatch system.

*□ RESPONSE provided by Chief Commissioner of Victoria Police*

*Refer to Part 1 of this Report.*

## STATE EMERGENCY SERVICE



*State Emergency Service volunteers assisting victims of a serious road accident.*



**6.68** Unlike the other emergency service organisations, the State Emergency Service does not have representation on the BEST ministerial steering committee.

**6.69** The Service advised audit that it is “... concerned that it is not represented on the committee ... with the move towards a “user pays” system this committee is now making decisions which have the potential to significantly impact financially on the Service yet about which the Service has little, if any, opportunity to comment and certainly limited control over the outcomes”.

**6.70** The Service anticipated that the introduction of a multi-agency communication system would, through an enhanced functionality and capability, assist it to provide more effective and efficient services to the community of Victoria. The operational area covered by the Intergraph calltaking and dispatch system for the State Emergency Service was depicted in the earlier Chart 6A.

### Commissioning of the system

**6.71** As indicated in Part 2 of this Report, a commissioning date of 5 September 1995, the same date that applied to Victoria Police, was stipulated in the contract for operation of Intergraph’s system in respect of the Service.

**6.72** The process relating to the commissioning of the system for the Service was undertaken in tandem with that which applied to Victoria Police. Formal commissioning occurred one week after the target date on 12 September 1995, within approximately 9 months of commencement of tasks. Comment on the tightness of this time frame was provided in earlier paragraphs dealing with Victoria Police.

**6.73** During August 1995, the Service expressed serious concerns to BEST regarding the quality and soundness of acceptance testing of the system leading up to commissioning.

**6.74** In addition, the consulting firm engaged by BEST to oversee the acceptance testing process issued an acceptance certificate even though it had indicated in the certificate that the minimum acceptance criteria had not been fully tested during the process, on the understanding that the matters would be attended to immediately after commissioning. Such criteria, which were stipulated in the contract, were designed to confirm Intergraph’s capability to meet intended performance measures and workload levels.

**6.75** Audit was advised by the Service that, despite the concerns it had expressed to BEST in relation to the acceptance testing process, it had little alternative but to agree, as the user of the system, to commissioning at the time. It also mentioned that it was unaware of any formal testing activity in the period immediately following commissioning which had been signalled as necessary in the acceptance testing certificate.





**6.76** The Service subsequently (in December 1996) conveyed to BEST views which further elaborated on its earlier concerns relating to procedures leading up to commissioning of the system. In this regard, the Service stated that the system was not designed specifically for it but was an adaptation of that designed for Victoria Police. The Service also indicated that, given this situation, the system had never completely met its needs.

**6.77** It was evident therefore that operation of the system proceeded at a time when significant reservations were held by the Service, the user of the system, and therefore the most important party in the process. Also, audit considers it questionable whether the tight timeframe established for commissioning, which was necessary to meet the specific circumstances relating to Victoria Police, should have been imposed on the Service.

### **Problems encountered by the Service since commissioning of the system**

**6.78** Many problems have been experienced by the Service since the September 1995 commissioning of the system. Some of these problems are summarised below:

- Non-compliance by Intergraph with the customer user requirement stipulated within the contract for it to produce standard management reports on a monthly basis for use by the Service. These reports were envisaged to be a key means of improving the quality of management information available to support decision-making by the Service. Accordingly, the Service later rejected an offer by Intergraph to supply its highly advanced management information facility at a cost which was approximately double the existing monthly service charge paid by the Service (as explained in earlier paragraphs dealing with Victoria Police, Intergraph had offered this facility to all emergency service organisations);
- Failure of Intergraph to furnish sufficient information to the Service to enable assessment of the extent to which the performance measures required of Intergraph within the terms of the contract had been met. In correspondence to BEST in March 1997, the Deputy Director of the Service stated that:
 

*“Other than anecdotal stories from Customer Steering Group Meetings on supposed improvements in service, we had received no information from BEST, or anyone else, that CSSS [specified performance standards] were being met. This was despite many attempts to obtain hard evidence of performance”;*
- Confusion arising from advice received from BEST in April 1997, in relation to moneys withheld since commissioning for the Service, to:
  - pay Intergraph amounts, which had previously been withheld by the Service on the ground that Intergraph had not provided performance statistics to confirm achievement of the performance measures; and
  - remit to Intergraph the full monthly charge from that date.



- BEST earlier had instructed the Service to assume that Intergraph was in minor default under the contract and to withhold 10 per cent of the monthly service charges until such time as performance statistics were provided. While the Service had complied with the advice received from BEST, there has been no change in the underlying circumstances which led to the original withholding of moneys;
- The Service did not expect cost savings to be generated from operation of Intergraph’s system and advised audit that “... *additional costs associated with increases in staff time had been required to overcome the issues surrounding implementation of the system*”;
- Concerns on a range of technical matters which from the viewpoint of the Service were adversely impacting on the operation of the system; and
- Doubts held by the Service on the quality and extent of training provided by Intergraph to calltakers and dispatchers.

**6.79** As a consequence of the above problems, the period of 2 years which has elapsed since commissioning of the system has been characterised by ongoing operational differences between the Service and Intergraph. In audit opinion, this position was hardly conducive to effective operation of the system.

**6.80** These overall circumstances were viewed seriously by the Service and it determined in December 1996, in the same correspondence referred to previously, to request BEST to facilitate a “*full system review*”. In its correspondence to BEST, the Service’s State Operations Officer indicated, in respect to the issues which needed to be included in the review, that “*Until these issues are resolved, the SES are not in a position to effectively review CSSS [performance] standards and consequently request that BEST enforce SES CSSS standards that were agreed as part of the contract*”.

**6.81** The review requested by the Service was agreed to by BEST in February 1997. Audit was advised that the review, which involves joint participation by the Service and Intergraph and is overseen by BEST, was still in course at the time of finalisation of the audit.

**6.82** Given that 2 years has now elapsed since commissioning of the system in respect to the Service, it is clearly critical that BEST ensures the current review leads to timely and satisfactory resolution of the various issues identified by the Service. Such an outcome is considered by audit to be necessary if the benefits to the community from enhanced operation of the calltaking and dispatch functions for the Service, as envisaged by the Government under the multi-agency system, are ever likely to eventuate.

*Development of a mobile data network*

**6.83** The audit comments in Part 8 of this Report identify the significant benefits likely to arise from implementation of a mobile data network within the emergency service organisations under the multi-agency calltaking and dispatch system. Reference is also made to the lack of overall progress which has occurred to date in the implementation of the network.

**6.84** The potential benefits likely to accrue to the Service from the use of a mobile data network, include:

- an increase in the speed and accuracy of communications;
- improved access to the communications centre at the World Trade Centre; and
- enhanced data capture and management information.

**6.85** The Service is currently working toward defining its user requirements with regard to the introduction of mobile data terminals. This work has been carried out by a firm of consultants appointed by BEST and is aimed at developing a strategic business case for the introduction of the mobile data network across emergency service organisations.

**6.86** The Service informed audit that, subject to clarification of funding issues, it envisaged that a mobile data network would be fully operational by the end of the year 2000, a timeframe consistent with that developed by Victoria Police.

**6.87** Similar to the position with the Victoria Police, the availability to the Service of a mobile data network constitutes an important means of achieving the benefits expected to be realised under the multi-agency computerised calltaking and dispatch system.

# **Part 7**

## **Emergency service organisations not yet commissioned**

- **Metropolitan Fire and Emergency Services Board**
- **Country Fire Authority**

## OVERVIEW

**7.1** Target commissioning dates of 1 May 1996 and 1 July 1996 were stipulated within the contract with Intergraph for operation of the system at the Metropolitan Fire and Emergency Services Board and the Country Fire Authority, respectively. These dates were not met and, some 16 months later at date of preparation of this Report, commissioning had not yet occurred in respect of either organisation. This less than satisfactory situation was primarily due to a continual inability by Intergraph to meet targeted levels of performance required of it.

**7.2** In the case of the Metropolitan Fire and Emergency Services Board, Intergraph's under-performance related mainly to the dispatch of fire units following a call from the public. The contractor has been accorded the opportunity to progressively improve its services under a graduated scale involving a substantial lowering of the level of its expected performance. However, Intergraph's performance for this critical dispatching task has not been consistently met even though the performance target for this activity was less than that initially required under the contract and was less stringent than the performance levels met by Board personnel under the Board's former in-house Firecom system.

**7.3** An amount of around \$220 000 had been withheld by the Board up to July 1997 from monthly service charges due to Intergraph because of the contractor's under-performance and the Board was forced to incur additional costs of around \$420 000 arising from a need to continue to staff its former communications centre for an additional 14 weeks up to early September 1996. The Board is recouping these latter costs by offsetting an amount of \$20 000 over 21 months against its monthly service charge of \$222 000 payable to Intergraph.

**7.4** The latest commissioning time target set by the Board is 1 July 1998 which is more than 2 years after the deadline established under the contract. The Board has maintained a consistently strong stance with Intergraph in that it has stipulated that commissioning of the system would not occur until the private sector contractor has demonstrated a clear capacity to achieve performance expectations. It expressed confidence to audit that its latest deadline for commissioning will be met.

**7.5** Similar circumstances to the Board have been experienced at the Country Fire Authority where, for a variety of reasons relating to Intergraph's performance, commissioning of the calltaking and dispatch system has been deferred 5 times since July 1996. With its impending 1997-98 fire danger season and a general lack of confidence with the results of a recent 14 day trial period with the Intergraph system, the Authority, on the recommendation of Intergraph, has now deferred commissioning until at least April 1998.

**OVERVIEW - continued**

**7.6** In response to the initial delays experienced with commissioning, the Authority determined to develop, as an interim measure, its own centralised calltaking and dispatch centre at its headquarters at Tally Ho, utilising the same system previously operated by it at its Dandenong operations centre. It also decided to train Intergraph staff in the operation of its interim centre as a means of becoming familiar with the Authority’s operational environment.

**7.7** Because of the continual postponement of system commissioning, the Authority was forced to incur costs amounting to \$700 000 that otherwise would not have been incurred. Based on legal advice, the Authority has determined to recover \$456 000 from Intergraph.

**INTRODUCTION**

**7.8** As mentioned in Part 2 of this Report, the Metropolitan Fire and Emergency Services Board and the Country Fire Authority are parties, as emergency service organisations of the State, to the May 1995 contract with Intergraph. Chart 7A shows that the Intergraph calltaking and dispatch system covers the total Board operational area in addition to outer metropolitan areas under the control of the Authority.

**CHART 7A  
OPERATIONAL AREA OF THE INTERGRAPH CALLTAKING AND DISPATCH SYSTEM  
IN RELATION TO THE BOARD AND THE AUTHORITY**



Source: Country Fire Authority Annual Report 1995-96.



**7.9** Under the terms of the contract, commissioning of the system within each emergency service organisation is dependent upon Intergraph demonstrating that it is capable of achieving the performance measures specified in respect of the particular organisation.

**7.10** Target commissioning dates of 1 May 1996 and 1 July 1996 were stipulated within the contract for operation of the system at the Metropolitan Fire and Emergency Services Board and the Country Fire Authority respectively. These dates were not met and commissioning had not taken place in respect of either organisation at the time of preparation of this Report.

**7.11** Although commissioning of the system in relation to the 2 organisations is yet to occur, Intergraph has undertaken calltaking and dispatch functions, utilising its system, on behalf of the Metropolitan Fire and Emergency Services Board since July 1996 and its staff have operated the Country Fire Authority's communication centre, utilising the Authority's system, since November 1996.

**METROPOLITAN FIRE AND EMERGENCY SERVICES BOARD**



*Dispatch of a Metropolitan Fire and Emergency Services Board unit to an emergency incident.*

**Level of performance achieved to date by Intergraph**

**7.12** For around 13 years up to July 1996, the Board operated its own in-house communications system known as Firecom. Over this period, a range of enhancements was made to Firecom by the Board to ensure that the system’s capability kept pace with organisational demands and continued to meet the Board’s emergency response management and operational needs. Nevertheless, by around 1995, the time of the finalisation of Intergraph’s contract, the Board recognised that the technology underpinning the Firecom system was approaching the end of its useful life.

*Determination of the Board’s performance expectations of Intergraph*

**7.13** For the purpose of establishing a basis for the level of performance to be expected from Intergraph under the contract, the Board, in November 1995, engaged an external consultant to document and measure the calltaking and dispatch performance of the organisation under the Firecom system. This exercise involved the collection and analysis of data covering a sample of 23 three hour work periods randomly selected over a 2 week period during December 1995, relating to 3 principal calltaking and dispatch activities, namely:

- call answer time involving time elapsed from when a call is registered with Firecom to the point when the call is answered;
- total time to dispatch covering time elapsed from when a call from the public is answered to the dispatch of a fire unit; and
- total time to dispatch of a fire unit in response to the manual or automatic activating of an acknowledged fire alarm.

**7.14** The results of the sample showed that the performance of the Firecom system in the above 3 categories was as follows:

- 99 per cent of all telephone calls were answered within 7 seconds;
- 95 per cent of all dispatches in response to calls from the public occurred within 128 seconds; and
- 95 per cent of all dispatches arising from receipt of an acknowledged fire alarm took place within 22 seconds.

**7.15** Based on the above results, the Board and Intergraph agreed that the level of calltaking and dispatch performance expected of Intergraph in meeting its responsibilities under the contract would be as set out in Table 7B.

**TABLE 7B  
PERFORMANCE REQUIRED OF INTERGRAPH**

<i>Performance measure</i>	<i>Targeted level of performance</i>
Calls from the public answered within 5 seconds	Measure achieved for 99 per cent of calls
Units dispatched within 120 seconds of receiving calls from the public	Measure achieved for 95 per cent of dispatches
Units dispatched within 28 seconds of receiving a fire alarm signal	Measure achieved for 95 per cent of dispatches



**7.16** It can be seen that, for the 2 measures dealing with calls from the public, the performance expectation of Intergraph was marginally superior to that which had been demonstrated under the Board's Firecom system. For the third measure involving fire alarms, an additional 6 seconds was added to the measure to accommodate the involvement of Intergraph in acknowledging a fire alarm signal to create one measure of 28 seconds.

**7.17** The Board's anticipated overall improvement in performance from Intergraph, following its careful consideration early in 1996 of its own calltaking and dispatch capabilities, was consistent with the Government's expectation of enhanced performance from a private sector service provider. In contrast with the decision made by the Board in 1996, its President indicated towards the end of the audit that there may have been an element of over performance by Board personnel during the December 1995 assessment period. Notwithstanding this personal view of the President, Intergraph's actual performance, as discussed in subsequent paragraphs, has been consistently below the levels agreed under the terms of the contract.

#### *Actual levels of performance achieved by Intergraph*

**7.18** Because Intergraph was not able to perform to the levels agreed under the terms of the contract, which precluded system commissioning in May 1996, the Board and Intergraph entered into a Deed of Variation in August 1996 to assist Intergraph in meeting its contractual responsibilities and enable system commissioning with minimum further delay.

**7.19** Under this Deed of Variation, Intergraph was accorded the opportunity to progressively improve its performance in accordance with a graduated scale. The scale agreed between the parties envisaged incremental monthly improvements by Intergraph over a 4 month period beginning in August 1996. It provided for a starting target for the 120 seconds measure of 72.5 per cent, which was significantly lower than the level of performance (95 per cent) expected of Intergraph under the contract. Audit was advised by the Board that the purpose of the graduated scale was to establish levels during the term of the Deed that dictated when the Board could terminate the Deed for inadequate performance.

**7.20** The targeted level of performance required of Intergraph for commissioning at the end of this period, i.e. at November 1996, for this measure was 90 per cent compared with 95 per cent identified in Table 7B as the target established under the terms of the contract. Achievement by Intergraph of this reduced performance target for a 14 day period ended 30 November 1996 would have enabled commissioning of the system.

**7.21** Notwithstanding a significant lowering of its performance expectation, Intergraph was not able to satisfy the Board that it could consistently achieve the reduced targets as per the graduated scale.



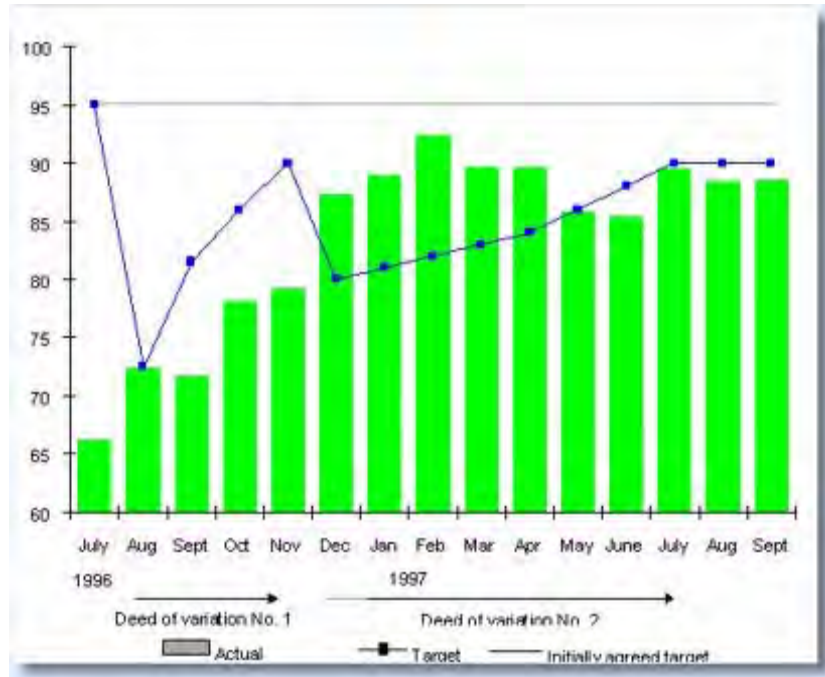
**7.22** The Board is empowered under the terms of the contract to terminate its relationship with Intergraph at any time on the ground of non-performance. However, the Board opted not to exercise this authority at the end of the period covered by the first Deed, but determined instead to proceed with a second Deed of Variation and provide Intergraph with a further opportunity to meet its responsibilities. In audit opinion, in the absence of extraordinary circumstances, it would have been very difficult for the Board to terminate Intergraph's performance given the Government's commitment to developing a multi-agency calltaking and dispatch system.

**7.23** The second Deed covered the 8 month period December 1996 to July 1997. Under this Deed, Intergraph was given further concessions to assist it to achieve a level of performance that would satisfy its responsibilities to the Board. In this regard, a performance level of 90 per cent was established for all 3 measures identified earlier in Table 7B. However, a second graduated scale of targeted performance was included within the Deed for the measure dealing with dispatch of fire units following a call from the public. The starting target for December 1996 under the scale was a level of 80 per cent, with incremental monthly improvements leading up to the 90 per cent target by July 1997.

**7.24** From an overall perspective, Intergraph displayed some improvement in its performance against the modified targets specified under the second Deed. For most of the 8 month period, it exceeded the 90 per cent target set for 2 of the 3 measures. However, for the 120 seconds dispatch measure involving the graduated scale of performance, it failed by a very small margin to meet the requirements of the scale in the last 3 months (the target was achieved in one earlier month, February 1997).

**7.25** Chart 7C highlights the actual performance of the Intergraph system against the targets established initially under the contract and later under the 2 Deeds of Variation.

**CHART 7C**  
**PERFORMANCE OF INTERGRAPH SYSTEM FOR DISPATCH OF FIRE UNITS IN**  
**RESPONSE TO PUBLIC CALLS**



**7.26** The inability of Intergraph to completely satisfy the performance measures agreed to within the second Deed meant that commissioning of the system had to be even further delayed. Accordingly, it was necessary for the Board to enter into a third Deed of Variation with Intergraph.

**7.27** In developing the third Deed the Board determined, in an important strategic decision, to take the opportunity to utilise the delay in commissioning to ensure that the 4 key actions set out below, in addition to satisfactory achievement of performance measures by Intergraph, took place during the period of the Deed:

- effective implementation by Intergraph of Windows NT software, which is a more robust and stable operating system than the previous software utilised and is much more suitable for a large complex system such as Intergraph's, where minimisation of failure is a key imperative;
- introduction and subsequent tightening of average monthly times expected of Intergraph by 2 seconds for the 2 dispatch performance measures in anticipation of enhanced performance after the introduction of Windows NT (although the ninetieth percentile measure remained at 120 seconds and 28 seconds, respectively);



- introduction of 2 additional performance measures of a qualitative nature to apply to Intergraph relating to accuracy of address information within the system's map base and to the dispatch of correct appliances and the appropriate fire personnel to fire scenes; and
- implementation, at no cost to the Board, of new hardware and software by Intergraph associated with the Board's planned introduction of a first responder capability.

**7.28** After evaluating the workload demands of these tasks, the Board reached agreement with Intergraph that the third Deed would cover an 11 month period to 30 June 1998, with 1 July 1998 formulated with some confidence as the likely system commissioning date.

**7.29** Audit was advised by the Board that the conditions established within the third Deed represented in its view a most satisfactory outcome for the effective commissioning of the Intergraph system at the end of the Deed's period.

**7.30** In summary, 3 Deeds of Variation and a lowering of the performance targets set for Intergraph have been necessary since mid-1996.

**7.31** Since its agreement to include modified performance measures in the second Deed of Variation, the Board has maintained a consistently strong stance with Intergraph. It has stipulated that commissioning of the system would not occur until the private sector contractor had demonstrated a clear capacity to achieve a common 90 per cent target for the 3 key measures described in the earlier paragraphs.

**7.32** In contrast to the circumstances experienced by Victoria Police, as outlined in Part 6 of this Report, the Board had operated for some years a reliable in-house communication system and was not faced with the pressure of having to relocate its communication centre and achieve system commissioning by no later than a particular date. Nevertheless, it could be said that its decision to apply performance targets to Intergraph, which were less stringent than those previously achieved by Board personnel under its Firecom system (based on the samples of work periods examined by the Board's consultant during December 1995), was the only viable option if commissioning was to ever be a real possibility.

**7.33** Given that the latest target date of 1 July 1998 for commissioning of the system is more than 2 years after the initially planned date, it will be important for BEST to exhibit strategic leadership in this matter. It should ensure that no further delays are encountered by Intergraph in achieving the already-modified performance measures for the critical calltaking and dispatch functions associated with the Board's emergency fire services.

### *Withholding of moneys*

**7.34** Since 1 May 1996, the Board has withheld a proportion of Intergraph's monthly service charge under the provisions of the contract because of the contractor's inability to meet performance measures set out in the contract. The aggregate amount withheld up to 31 July 1997, the expiry date of the second Deed of Variation, was around \$220 000.



**7.35** In addition, Intergraph has forgone an amount of \$422 000 as, under the terms of the second Deed, the Board was obligated to only pay for the level of service it received.

**Other consequences of implementation of the contract to date**

**7.36** In addition to the significant delay in commissioning of the system, there have been a number of other consequences of a financial and operational nature to the Board from implementation to date of the contract with Intergraph, some of which have impacted on its service delivery to the public.

*Financial consequences to the Board*

**7.37** As mentioned in an earlier paragraph, the Board had progressively upgraded its in-house calltaking and dispatch system, Firecom, to a point where it met all of its emergency response management and operational needs. In anticipation of commissioning of the Intergraph system occurring by 28 May 1996 following a 28 day pre-commissioning period from the contract target date of 1 May 1996, the Board retrenched its 47 full-time Firecom communications staff with effect from the 28 May 1996.

**7.38** Because commissioning did not occur on the due date, the Board was forced to continue to staff its communication centre and operate the Firecom system. This unplanned arrangement remained until 3 September 1996 when the Board determined that, notwithstanding Intergraph's non-achievement of performance measures, it would utilise, from that date, the Intergraph system for calltaking and dispatch purposes. As mentioned in earlier paragraphs, because of Intergraph's failure to meet the specified performance measures, the system is yet to be commissioned.

**7.39** Audit was advised by the Board that its decision to utilise Intergraph from September 1996, even though the system had performed well short of specified performance measures, reflected the realisation that Intergraph would have found it extremely difficult, if not impossible, to meet the measures without the necessary operational experience. In effect, the Board determined that early operation of Intergraph's system, irrespective of the level of its past performance, was the most effective means of ultimately achieving the Government's objective of a multi-agency computerised calltaking and dispatch system.

**7.40** Costs totalling approximately \$950 000 were incurred by the Board for the operation of Firecom up to 3 September 1996 (mainly payments to former communications staff at double pay rates). Of this amount, the Board estimated that approximately \$420 000 represented the costs over and above what normally would have been incurred in operating Firecom up to that date.

**7.41** Other costs to the Board which have arisen solely from the prolonged non-commissioning of the system have mainly involved legal costs and significant levels of management time absorbed in discussions and negotiations with Intergraph.



**7.42** In August 1997, after expiration of the second Deed, the Board claimed compensation of \$641 000 (\$420 000 for additional costs of operating Firecom and the other costs of \$221 000 referred to in the preceding paragraph) from Intergraph in respect of additional costs incurred as a consequence of the Intergraph contract. The amount ultimately agreed between the parties as compensation payable by Intergraph to the Board was \$420 000 and was described in the August 1997 third Deed of Variation as covering “*claims made for retention of staff and maintenance of their communication centre, additional legal expenses incurred as a result of prolongation, project management fees by Price Waterhouse, and all claims for additional administration and costs occasioned by commissioning delay, to and including the date of this Deed*”. As part of the settlement, Intergraph forfeited all moneys previously withheld (under the both the first and second Deeds) by the Board.

**7.43** In addition, the Deed provided that the mode of payment by Intergraph of the amount of \$420 000 would be by way of 21 equal monthly instalments of \$20 000, set-off against the Board’s monthly service payment of \$222 000 to Intergraph and with no interest payable by Intergraph.

**7.44** Finally, and consistent with the message conveyed to audit by the State Emergency Service and the Country Fire Authority, the Board has not yet generated any significant cost savings from its involvement with the multi-agency communication system operated by Intergraph.

*Impact on quality of service*

**7.45** Audit was advised by the Board that the circumstances concerning Intergraph’s non-performance to date, as presented in the earlier paragraphs, had initially impacted on its relationship with Intergraph. In audit opinion, this situation would not have been conducive to engendering confidence in the new system at the operational level within the Board, given the consistently favourable performance of the Firecom system.

**7.46** When considering issues beyond calltaking and dispatch times, the frequency of incorrect assignments of fire vehicles, involving either dispatch to an incorrect location or dispatch of an inappropriate vehicle having regard to the nature of the call, is an important qualitative measure of the Board’s performance.

**7.47** The Board has experienced a number of problems with the map base element of Intergraph’s system through which the calltaking and dispatch system operates, thus impacting on its ability to maximise the quality of its service. The major areas of concern have been:

- incorrect map references;
- unverifiable locations; and
- the lack of information on aliases for street names.

**7.48** As mentioned in an earlier paragraph, under the third Deed of Variation, the Board introduced 2 additional performance measures to apply to Intergraph relating to the accuracy of address information and the dispatch of appropriate appliances and fire personnel to fire scenes.

*January 1997 fires - Dandenong Ranges*

**7.49** When commenting on matters relating to the assignment of fire vehicles to emergency locations, it is appropriate to refer to the circumstances experienced during the very serious emergency situation which occurred in Victoria in January 1997 within the area of the Dandenong Ranges.

**7.50** Before addressing these circumstances, it is necessary to recognise that, while Intergraph undertakes all calltaking and dispatch functions on behalf of the Board, the Firecom system is still connected directly to each fire station and is used to provide the link between dispatch information from Intergraph and transfer of such information to the fire station. In addition, the Intergraph system transfers fire event data to the Firecom system, so that Board management and operational staff are kept abreast of fire unit locations and fire status.

**7.51** In the January 1997 situation, which fell within the direct responsibility of the Country Fire Authority, a critical failure occurred in the communication link between the Intergraph system and Firecom. According to Board documentation, this failure arose from an under-estimation of the volume of data required to be transferred when the data transfer system was designed. An attempt to rectify the problem by the use of new software also failed. The consequential impact on the operations of the Board in terms of assistance rendered to the Country Fire Authority was immense in that:

- delays from 20 to 90 minutes were experienced in transfer of critical data in relation to vehicle movements;
- at one point, the data transfer system ceased for a period of 69 minutes, followed after re-establishment with delays of up to 3 hours in the transfer of information;
- details of many dispatches were never communicated to the Firecom system and corrupted data appeared on Firecom; and
- instances of Intergraph receiving but failing to acknowledge fire alarms.

**7.52** In the light of such experiences, Intergraph installed new data transfer software for the information requirements of both the Board and the Country Fire Authority. The Board received some positive information on the capability of this software in that it was successfully tested in mid-1997 using data traffic double the level experienced in the January 1997 fire emergency. Since August 1997, the new software has operated satisfactorily for the Board, however, it realises a complete test of the software's capability can only take place in a major real life emergency situation.



### *Standard of Intergraph's training*

**7.53** A further issue of relevance to the Board in terms of quality of service concerns the standard of training provided by Intergraph to its calltakers and dispatchers. The importance of this issue is reinforced by 2 factors, namely:

- similar to the position with the other emergency service organisations, the quality and accuracy of information elicited initially by calltakers from the public in emergency calls are critical in assisting fire officers to respond to such calls in terms of both timeliness and preparedness; and
- the fact that, under the terms of the contract, Intergraph's staff are responsible for the handling of emergency calls rather than the previous position where experienced in-house staff operated the calltaking and dispatch elements of the Board's Firecom system.

**7.54** The Board has expressed reservations to Intergraph concerning the standard of training programs in place for operators at the Tally Ho communication site. The main areas of concern to the Board relate to the structure of training courses given to Intergraph's operators and the level of continuous training and re-examination, particularly in the initial 12 months of employment. Audit understands that Intergraph is conscious of the need for improvement in its training programs to bring their quality to a level equivalent to those previously provided by the Board.

**7.55** In summary, Intergraph is acutely aware of the need to lift its performance in important areas impacting on the quality of its service delivery to the Board. It is evident that, when Intergraph ultimately performs to specified performance measures and the system can eventually be commissioned, the Board will be the recipient of services acceptable to its needs.

### *The need to use the Firecom system for generation of management information*

**7.56** Although the Board has determined to utilise under contract the Intergraph system for calltaking and dispatch purposes, it has found it necessary to use the Firecom system, in addition to other operational purposes, for the generation of management information suitable for its strategic and operational decision making. As mentioned in the preceding paragraphs, under this process data is downloaded from the Intergraph system to Firecom to enable detailed analysis for management purposes.

**7.57** Audit was advised by the Board that, given a real time link existed between the Intergraph system and Firecom which resulted in the automatic transfer of fire emergency data to Firecom, the Board did not find it necessary to utilise the standard performance reports produced by Intergraph under the terms of the contract.



7.58 As commented on in Part 6 of this Report dealing with Victoria Police, Intergraph has developed information management capabilities which it has offered to all emergency service organisations as a highly advanced management facility at a cost over and above the monthly service charge. Resulting from its decision to utilise its Firecom system as a management and operational tool, the Board considered that the use of the new facility available from Intergraph would only serve to duplicate the management information already produced. Accordingly it decided not to accept Intergraph's offer.

#### *Development of a mobile data network*

7.59 As discussed in Part 8 of this Report, the development of a mobile data network constitutes the most critical action necessary to achieve maximum benefits from a multi-agency computerised communication system. In this regard, the Government has established, as a significant policy objective, Statewide implementation of such a network with all participating emergency service organisations operating under the same supply contract.

7.60 The Board has identified that it proposes to proceed with the implementation of a mobile data network under a common supply contract subject to the reaching of agreement with BEST on acceptable tender costs and the ability of the network to meet the Board's needs.

7.61 From an operational viewpoint, the Board anticipates that the introduction of a mobile data network will lead to only a marginal improvement in response times. It sees that, in addition to the operational advantages, significant benefits of a financial nature will accrue from the use of a mobile data network. In this regard, the introduction of a network would obviate the need for the Board to outlay approximately \$800 000 to replace a portion of the existing Firecom communication facility which is nearing the end of its useful life. It also expects to generate net recurrent savings of around \$200 000 a year from the use of a network.

7.62 The Board advised BEST it will not require additional funding to meet the cost of implementing the network as it expects that a reduction in the Intergraph annual service charge will cover these costs.

#### *Emergency medical response developments*

7.63 The trend for fire authorities to provide an increasing range of services to complement their historical fire suppression and prevention role is expanding worldwide.

7.64 A consultant's report to the Board in January 1997 titled *Review of Emergency Response Delivery System* stated that in the United States of America, where the expanded role of fire services to emergency responses is most widespread, a typical urban fire service would spend an estimated 75 per cent of its service on enhanced emergency and medical response tasks with the remaining 25 per cent on fire suppression and prevention. This expanded role is currently under consideration by the Board.



**7.65** While all medically-related emergency calls are currently directed by Intergraph to the Metropolitan Ambulance Service, the initial formal move to enhance the Board's service to include emergency services other than fire related was made on 1 September 1997 when legislation changed the name of the Board to the Metropolitan Fire and Emergency Services Board.

**7.66** The consultant's report found that, because the Board's response times are considerably lower than those of the Metropolitan Ambulance Service, the community would gain a significant benefit if Board vehicles were dispatched to time-critical medical emergencies. It estimated that a range of 40 to 120 additional lives may possibly be saved each year as a result of earlier basic medical intervention by Board personnel.



*Country Fire Authority officers and volunteers fighting bushfires in the outer metropolitan areas of Melbourne.*

**7.67** The Board and the Metropolitan Ambulance Service are collectively developing the concept of co-responses for time-critical medical emergencies, and the multi-agency nature of Intergraph's system is seen to provide the ideal platform upon which to implement co-responses for pre-determined emergencies.

**7.68** Although the development of this initiative is the joint responsibility of the Board and the Metropolitan Ambulance Service, BEST is maintaining a watching brief as to the outcome of this initiative and will co-ordinate the communications aspect through Intergraph when required.

*□ RESPONSE provided by President, Metropolitan Fire and Emergency Services Board*

*Refer to Part 1 of this Report.*

## COUNTRY FIRE AUTHORITY

**7.69** As indicated in the introductory paragraphs to this Part of the Report, a target commissioning date of 1 July 1996 was stipulated within the contract with Intergraph for operation of the multi-agency computerised calltaking and dispatch system in respect of the Country Fire Authority.

**7.70** The earlier paragraphs also stated that this date was not met and, despite the setting of several target dates, commissioning had not taken place in respect of the Authority at the time of preparation of this Report.

**7.71** Although commissioning of the system is yet to occur, Intergraph staff have operated the Authority's interim communication centre at Tally Ho, utilising the Authority's system, since November 1996, a strategy designed to enable Intergraph to become familiar with the Authority's operational environment.

### Non-commissioning of system by successive target dates

#### *Contractual target date, 1 July 1996*

**7.72** Based on information provided to audit by the Authority, non-achievement of the target date of 1 July 1996 for commissioning of the system was due to the following factors:

- the tight schedule of commissioning between the Metropolitan Fire and Emergency Services Board and the Authority;
- a lack of understanding by Intergraph of the project scope, the complexity of the exercise and the resources required to commission the system in the relevant time frame; and
- outstanding issues at the Metropolitan Fire and Emergency Services Board which impacted on Intergraph's ability to focus its attention on the Authority.

**7.73** Cognisant that commissioning would not occur on 1 July 1996, the Authority's Chairman advised BEST on 24 June 1996 that the extension of the target date had caused concern among volunteer ranks. The seriousness of any delay in commissioning had been earlier conveyed by the chief executive officer of BEST in correspondence to Intergraph with the following terms "*whatever the magnitude of delay there could be only one delay as a series of delays would destroy the confidence of [Authority] career staff and volunteers in the ... system*".

*Second target date, 3 October 1996*

**7.74** The second target commissioning date not achieved by Intergraph was 3 October 1996.

**7.75** The Authority advised audit that the failure to commission on this date was principally due to difficulties experienced with the mapping element of Intergraph's system. It was the Authority's view that, had the system gone 'live' at that time, there was a real risk that inappropriate fire vehicles could be dispatched and vehicles sent to incorrect addresses. This situation could have had serious consequences for the Authority and the Victorian public.

**7.76** Prior to the target date, the Authority's Chairman corresponded during September 1996 with BEST on matters associated with the inaccuracy of the map base underpinning the system, including a view expressed by Intergraph that the problems experienced with the map base were outside of its direct control. The Chairman informed BEST that, *"To my knowledge, IPS [Intergraph] have contracted OGDC [now LANDVICTORIA] for the supply of the map base, as such, this is a commercial transaction between IPS and OGDC. Accordingly, I would suggest that CFA would not absolve IPS of any liability for any operational deficiencies due to errors, inaccuracies or deficiencies in the OGDC map data. It should be noted that IPS were the successful consortia, due mainly to the mapping ability"*.

**7.77** In anticipation that the second commissioning target date of 3 October 1996 would be achieved, the Authority offered redundancy packages to its full-time staff at the Geelong and Dandenong operations centres. However, failure to achieve this target meant that the Authority had to re-negotiate the effective date of redundancy with staff at the Dandenong operations centre to ensure continuity of service provision.

**7.78** About the same time, the Authority conducted a strategic analysis of its overall position in relation to delays experienced with commissioning the Intergraph system. Following this analysis, it determined to:

- develop, as an interim measure, a centralised calltaking and dispatch centre at the Authority's headquarters located at Tally Ho utilising the same system previously operated by the Authority at its Dandenong operations centre;
- progressively expand the centralised calltaking and dispatch operation to encompass the area of the State to be covered by the Intergraph system in a manner designed to complement the eventual move to the new multi-agency system; and
- train Intergraph staff in the operation of its Tally Ho centre as a means of becoming familiar with the Authority's operational environment.

**7.79** Following the decision to develop the interim calltaking and dispatch centre, the Authority then entered into an agreement with Intergraph for the contractor's staff to operate the centre until such time as Intergraph could commission its own system.



**7.80** The Authority's Tally Ho centre became operational on 14 November 1996, after just 6 weeks and in time for the 1996-97 fire danger period. The Authority advised audit that although the centre has proved to be an effective calltaking and dispatch facility for all of its 221 brigades in the area to be covered by the Intergraph system, it does not provide the same degree of functionality that would be provided from the Intergraph system.

**7.81** In the interests of community safety, the Authority decided that it would not proceed with commissioning of the Intergraph system during the 1996-97 fire danger period. With this condition in mind, it was estimated that a third target commissioning date would be some time around March/April 1997. It was later agreed by both Intergraph and the Authority that commissioning of the system would occur on or before 30 June 1997.

*Third target date, on or before 30 June 1997*

**7.82** Commissioning was not achieved by this agreed third target timeframe. The Authority attributed this position to problems experienced by Intergraph during the system testing phase. Failure to commission on this date constituted a fundamental default under the contract by Intergraph and, as a consequence, the following options became available to the Authority:

- termination of the contract;
- modification of performance measures specified in the contract; or
- extension of system commissioning for a fourth period.

**7.83** The Authority opted to agree to a further extension of time.

**7.84** On 25 September 1997, the Authority entered into a Deed of Variation with Intergraph which provided for a 14 day trial period to 14 October 1997, involving full operation of the Intergraph system and commissioning of the system in accordance with the contract, subject to a satisfactory outcome from the trial.

*Fourth target date, 14 October 1997*

**7.85** The 14 day trial period was unsuccessful, with the level of performance achieved by the Intergraph system well below that specified under the contract. In this regard, the contract provided for Intergraph to follow the performance measures developed for the Metropolitan Fire and Emergency Services Board.

**7.86** The current performance measures relating to the Authority, which are consistent with that of the Board, are outlined in Table 7D.

**TABLE 7D**  
**PERFORMANCE MEASURES FOR THE AUTHORITY**

<i>Description</i>	<i>Measure (seconds)</i>	<i>Condition for minor default by Intergraph</i>	<i>Condition for major default by Intergraph</i>
Calls answered from the public	5	Measure not achieved in 90 per cent of cases	Measure not achieved in 85 per cent of cases
Pager activation from a call from the public	120	Measure not achieved in 90 per cent of cases	Measure not achieved in 85 per cent of cases
Pager activation from a fire alarm	28	Measure not achieved in 90 per cent of cases	Measure not achieved in 85 per cent of cases

*Source:* Country Fire Authority.

**7.87** The Authority advised audit that Intergraph's failure to commission on this fourth occasion was due to a range of operational and technical issues including:

- a lack of experience of Intergraph's operators with the contractor's system because of their prolonged involvement in the operation of the Authority's communication centre;
- the overall speed of Intergraph's computer system; and
- difficulties associated with the interface between the Authority and Intergraph's paging system.

**7.88** Mapping issues, previously responsible for earlier failures to commission, have generally been resolved and the Authority's assessment of the map base has identified that it is now 95 per cent accurate.

**7.89** The approach consistently followed by the Authority in its dealings with Intergraph was that the level of performance achieved by the contractor had to directly equate with the performance measures spelt out in the contract. This approach was influenced primarily by the Authority's expectations of an improvement in performance which would emanate from the use of a private sector computerised calltaking and dispatch system, as well as a view that organisational standards should not be lowered simply because of the contractor's inability to meet core performance obligations set out in the contract.

**7.90** The Authority demonstrated to audit that, other than during initial training periods and times when standard operating procedures were under review, its interim centre has operated in line with the performance measures specified in the contract which, to date, the Intergraph system has been unable to achieve.

**7.91** Given the impending 1997-98 fire danger season and a general lack of confidence with the results achieved during the 14 day trial period with the Intergraph system, the Authority, based on Intergraph's recommendation, agreed with Intergraph to continue with the Authority's interim calltaking and dispatch facility at Tally Ho and defer commissioning for a fifth time until after the 1997-98 fire danger season (which extends at least to April 1998).

**7.92** In summary, commissioning of the system at the Authority has been deferred 5 times since July 1996 because of Intergraph's inability to meet the level of performance expected of it under the terms of the contract.

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## Financial consequences to the Authority

**7.93** Because of the continual postponement of system commissioning, the Authority was forced to incur costs amounting to \$700 000 that otherwise would not have been incurred.

**7.94** Of the \$700 000, a compensation claim against Intergraph for costs of around \$100 000 for failing to achieve commissioning on the first target date, 1 July 1996, was withdrawn as it was clear to the Authority that it would have a significant legal battle to succeed on the basis that Intergraph could argue that the delays encountered at the Metropolitan Fire and Emergency Services Board and with the inaccuracy of the map base had contributed to the delay at the Authority. Such a situation could have resulted in counter claims from Intergraph leading to further costs to the Authority.

**7.95** The balance of the additional costs incurred by the Authority, \$600 000, was associated with non-commissioning on the second target date, 3 October 1996. These costs involved direct capital and labour outlays relating to the establishment of the interim calltaking and dispatch centre at Tally Ho as well as indirect costs resulting from non-commissioning, such as consulting fees, legal expenses and other administrative expenses.

**7.96** Audit was also advised by the Authority that, based on legal advice, it determined in July 1997 to accept an offer from Intergraph of \$456 000. The Authority has agreed that the mode of payment by Intergraph of this amount would be by means of progressive off-sets against the monthly service charge payable by the Authority.

**7.97** Failure to commission during the latest 14 day trial period has provided the Authority with a further opportunity to claim compensation against Intergraph. The Authority has advised audit that it intends to submit an additional compensation claim for costs incurred for the period following the end of the testing period until eventual commissioning of the system.

**7.98** Finally, and consistent with the message conveyed to audit by the Metropolitan Fire and Emergency Services Board, the Authority does not expect to generate any significant cost savings from its involvement with the multi-agency calltaking and dispatch system.

## Development of a mobile data network

**7.99** As discussed in Part 8 of this Report, the development of a mobile data network constitutes the most critical action necessary to achieve maximum benefits from a multi-agency computerised calltaking and dispatch system. In this regard, the Government has established, as a significant policy objective, Statewide implementation of a mobile data network with all participating emergency services organisations operating under the same supply contract.



**7.100** The Authority had initially adopted a cautious approach to the introduction of a mobile data network. In fact, the Authority had written to BEST indicating that it would not be a participant in the introduction of a mobile data network. However, having later assessed the likely benefits available from the introduction of the network and the clear government policy in the area, it is now planning for its implementation.

**7.101** In anticipation of the benefits of introducing a mobile data network, the Authority has since engaged a private consultant to assist in developing its customer user requirements from a network. The Authority has also submitted material to a firm of consultants appointed by BEST to develop a strategic business case for the introduction of a mobile data network across the emergency service organisations.

**7.102** The potential benefits likely to accrue to the Authority from the use of a mobile data network, include:

- improved effectiveness of emergency response when attending incidents;
- a more efficient deployment of limited resources;
- enhanced productivity; and
- provision of added support for volunteer staff.

**7.103** It is envisaged that the Authority would be looking to introduce a mobile data network utilising a phased implementation which would be based on regional boundaries. The Authority advised audit that it would be working toward a time frame not unlike that of Victoria Police and in a manner consistent with that determined as part of the development of the BEST strategic business case.

*□ RESPONSE provided by Chairman, Country Fire Authority*

*Refer to Part 1 of this Report.*



# **Part 8**

## **Implementation of a mobile data network**

## OVERVIEW

**8.1** The development of a mobile data network as a means of electronically transmitting data between emergency service crews and communications centres represents an important final phase of the Government's multi-agency emergency communication system.

**8.2** The timely implementation of a mobile data network has been recognised by BEST and the emergency service organisations as a vital component in the operation of an efficient and effective emergency communication system. In fact, the development of a network constitutes, in audit opinion, the most critical action necessary to achieve maximum benefits from a multi-agency computerised calltaking and dispatch system.

**8.3** The importance of the network was reinforced by a consultancy review commissioned by BEST and an internal review undertaken by Victoria Police, in August 1997, which both outlined the potential for major benefits to occur following implementation of a network.

**8.4** According to Victoria Police, the availability of a network is likely, when finalised, to lead to generation of additional annual revenue of at least \$3 million, over and above cost savings and a more effective response capability within the organisation.

**8.5** Despite this significance, the implementation of a network has been delayed. An implementation strategy plan was initially prepared in November 1996, by BEST, for the introduction of a network. However, a project brief, which will form part of documentation ultimately sent to potential suppliers of the mobile data network has been at final draft stage since April 1997 waiting on Cabinet approval to proceed with the project.

**8.6** Given the significant potential benefits of a mobile data network to the State's emergency service organisations, it is imperative that BEST finalises the selection of a supplier and implementation of a network as a matter of urgency.

## **INTRODUCTION OF A MOBILE DATA NETWORK**

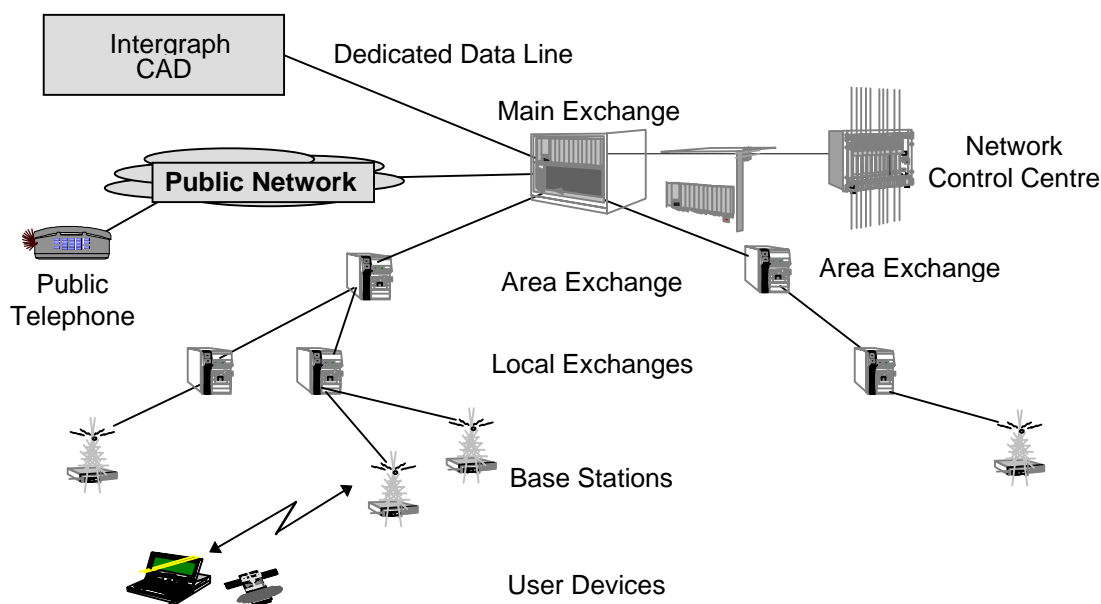
**8.7** The recommendations of the former Public Bodies Review Committee in its 1994 report to Parliament included implementation of a mobile data network, incorporating mobile data terminals, within the emergency service organisations.



**8.8** The establishment of a mobile data network constitutes an important component in the delivery of an efficient and effective computerised calltaking and dispatch service to the public of Victoria. The computerised system, which encapsulates and formats event data messages, communicates with the network through mobile data terminals located in emergency service vehicles. These messages are sent to and from the mobile data terminal over the radio communications channel to emergency vehicles and their crews.

**8.9** The network completes the end-to-end information flow by providing full details of a particular emergency situation in a reliable pre-determined format. It also has the capability to provide automated status messaging and ultimately achieve operational improvements. The features of a mobile data network are illustrated in Chart 8A.

**CHART 8A  
FEATURES OF A MOBILE DATA NETWORK**



**8.10** As identified in Chart 8A, a mobile data network operates in a manner similar to a mobile telephone network. Relevant emergency information is transmitted from the Intergraph calltaking and dispatch system through a series of exchanges to a base station (which is similar to mobile phone towers located in various areas throughout the State). The base station then transmits the information to a user device located in emergency service vehicles which could take the simple form of a panel of buttons or a sophisticated device such as a computer terminal. Where information is sent from the emergency service vehicle to the calltaking and dispatch system, the information follows the same path in a reverse manner.



**8.11** In my November 1997 Special Report No. 50 *Metropolitan Ambulance Service: Fulfilling a vital community need*, I commented on the current situation facing the Service in relation to the implementation of mobile data technology under its contract with Intergraph. The main issues addressed in the Report were:

- the implementation of mobile data terminals, initially planned for May 1994, remains a critically overdue component of the Statewide communications system still to be facilitated by BEST;
- the inability of the Service to utilise mobile data technology is resulting in productivity savings foregone calculated by the Service at \$720 000 a year, in addition to the outlay of \$302 000 a year for additional staff at Intergraph; and
- the adoption of mobile data technology would assist the Service in reducing time taken to dispatch ambulances, provide a more effective process for vehicle status to be communicated to dispatchers and allow for better management information for the monitoring of ambulance crews.

**8.12** Under the June 1995 contract between Intergraph and the 4 other emergency service organisations, Intergraph is obliged to establish the relevant interfaces with the computerised calltaking and dispatch system. These interfaces are intended to allow the procurement and installation of a mobile data network by all emergency service organisations at a date subsequent to system commissioning.

**8.13** There is no obligation on the emergency service organisations to implement mobile data technology. However, if they elect to do so, Intergraph is required to establish the appropriate interface, whether or not it is selected as the supplier of the mobile data technology.

<b>MOBILE DATA NETWORK BUSINESS CASE REVIEW</b>
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**8.14** In June 1995, BEST engaged a consultant to review the mobile data needs of the emergency service organisations and to develop a business case justification for the possible introduction of a mobile data network.

**8.15** The specific objectives of this consultancy review were to:

- determine the individual customer requirements for mobile data services and terminals;
- ascertain the size and configuration of a suitable network;
- assess the projected capital and recurrent costs of a network;
- advise on the appropriate timing for introduction of an automatic vehicle location facility in conjunction with the network; and
- identify the anticipated operational benefits and overall cost savings likely to arise from implementation of a network.

**8.16** The brief provided to the consultant indicated that, in the event of a recommendation for introduction of a network, additional objectives for the review were to:

- advise on the availability of suitable contractors to undertake the network project and of suitable mobile data and automatic vehicle location equipment; and
- recommend an appropriate implementation strategy.

**8.17** The consultant reported the results of the review to BEST in July 1996 and recommended that:

- a multi-agency mobile data network approach co-ordinated by BEST would be more cost-effective than the introduction of separate networks for each emergency service organisation; and
- a service provider option (which involves the provision of a network service by a private sector contractor) was the most cost-effective way to provide the network.

**8.18** The consultant identified a range of technical and organisational benefits from a mobile data network which would improve the delivery of emergency services, including:

- greater accuracy, timeliness and comprehensiveness of emergency information available to emergency vehicles;
- reduction of time taken to report developments and progress of incidents to emergency vehicles and dispatchers which would also lessen radio system congestion, a factor which detracts from effective operational control;
- decreased overall use of voice radio (although the consultant stated that it should continue to be available in extreme emergencies, particularly for summoning assistance);
- the ability to transmit graphics and images in the foreseeable future;
- interface of the network with other systems within and across emergency service organisations to maximise the quality of information communicated to emergency crews; and
- improved availability of management information to assist resource management.

**8.19** The consultant also identified potential cost savings including:

- reduced costs of data entry at Victoria Police, estimated to be at least \$1 million a year;
- the reduction of 4 staff positions at Victoria Police, thus avoiding future costs of \$120 000 a year; and
- dependent on Intergraph business decisions, a reduction in the level of dispatcher voice-based activities and a corresponding reduction in staff.

**8.20** Productivity gains identified by the consultant, while not included in the analysis to assess the cost-effectiveness of introducing the network, were seen to provide the greatest overall benefit.

**8.21** Major gains in operational effectiveness of a number of emergency service organisations and other potential government users, such as the Sheriff's Office, were identified, including:

- more timely and accurate information;
- improved dispatch efficiency; and
- increased revenue for the Sheriff's Office of approximately \$2.6 million a year.

**8.22** The overall conclusion of the consultant, which was used as the basis for recommending the introduction of a network, was that "... *the tangible benefits do not cover the costs of introducing mobile data*", however, "... *most anticipated benefits relate to effectiveness and productivity gains which we have considered as intangible. Although many of these benefits will be achieved over time, most ESOs were not able to estimate their values*".

### **Victoria Police review of the benefits of a mobile data network**

**8.23** The recommendation of the consultant to proceed with the introduction of the mobile data network was supported by a review of the benefits of a network undertaken by Victoria Police in August 1997.

**8.24** In its review, Victoria Police identified that an essential element of an efficient and effective police service is the provision of timely and accurate information to the operational, tactical and strategic levels of its business. Such a requirement allows an effective response to service demands, to the satisfaction of community expectations, within resourcing parameters. In addition, a network would increase the output and effectiveness of existing human resources by:

- enabling faster response times;
- releasing police officers from time-consuming procedural and recording activities; and
- facilitating more direct and visible policing at a local level.

**8.25** Victoria Police has identified the following benefits that would result from implementation of a network:

- an increase in revenue, conservatively estimated to be \$3 million a year, resulting from the direct access to the Law Enforcement Assistance Program database from the network which would also enhance operational productivity and the issue of infringement notices; and
- intangible benefits, as outlined in Table 8B, associated with sustained improvement to the quality of service and the resultant increase of community confidence in the police force.

**TABLE 8B  
VICTORIA POLICE -  
BENEFITS ENVISAGED FROM INTRODUCTION OF A MOBILE DATA NETWORK**

<p><b><i>Enhanced public confidence</i></b></p> <ol style="list-style-type: none"> <li>1. The ability to respond to calls in a more timely and appropriate manner.</li> <li>2. A professional approach in the use of technology.</li> <li>3. More pro-active and re-active patrol tasking.</li> <li>4. Increased accountability on individual police officers.</li> </ol> <p><b><i>Increased productivity</i></b></p> <ol style="list-style-type: none"> <li>1. Increased timeliness and accuracy of information.</li> <li>2. The ability to interrogate databases in “the field”.</li> <li>3. Improved resource deployment for patrol and activity targeting.</li> <li>4. Potential for increased execution of outstanding warrants (i.e. fines or apprehension).</li> <li>5. Reduction in time and duplication in information recording.</li> <li>6. Increased accuracy and accountability in relation to information.</li> <li>7. Enhanced information distribution.</li> </ol>	<p><b><i>Enhanced supervision and management</i></b></p> <ol style="list-style-type: none"> <li>1. Increased integrity and reliability of task information.</li> <li>2. The ability to monitor activity and workload levels.</li> <li>3. The output of resource information of operational police.</li> <li>4. Increased “logging on” of units.</li> <li>5. Easily accessible information for resource deployment, tasking, command and control.</li> </ol> <p><b><i>Increased officer safety</i></b></p> <ol style="list-style-type: none"> <li>1. Accurate and timely delivery to units of validated task information.</li> <li>2. Simple and accurate means of entering status and position updates.</li> <li>3. Enhanced access and ‘field’ interrogation of databases.</li> <li>4. Increased airspace availability for urgent communications.</li> <li>5. Security of sensitive information.</li> </ol>
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**8.26** Due to the significance of these benefits, Victoria Police regards mobile data technology as an inseparable component of its overall information technology strategy aimed at achieving necessary business reforms. As such, timely implementation of a network that caters to the needs of Victoria Police is viewed as directly important to the organisation’s strategic direction and future operational effectiveness.

*Delays in implementation of a mobile data network*

**8.27** Despite the significance of potential benefits of a mobile data network to emergency service organisations, as outlined in preceding paragraphs, there has been a lack of progress to date in implementation of the network, particularly in regard to Victoria Police and the Country Fire Authority. In this regard, Victoria Police has identified changes in its requirements of the network and the Authority has only recently indicated its willingness to be involved in the implementation of the network.

**8.28** BEST advised audit that there are a number of effectiveness and economic criteria to be satisfied before BEST is in a position to proceed with the selection of a network service provider.

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**8.29** The situation is further complicated by the Metropolitan Ambulance Service having already moved part way to implementing its own network facility by purchasing the rights to its own mobile data terminal equipment. While any course of action taken by the Service in the matter is recognised as its own decision, the Chief Executive Officer of BEST informed audit that it was preferable that there be one service provider rather than risk a repetition of the problems encountered during the selection process for the provision of the Service's emergency calltaking and dispatch system which were outlined in my April 1997 Special Report No. 49 *Metropolitan Ambulance Service: Contractual and outsourcing practices*.

**8.30** BEST has acted to address this situation through the engagement of a consultant to prepare a strategic implementation plan, followed by a project brief, for the selection of the network service provider.

**8.31** The report, presented to BEST by the consultant in July 1997, identified that the strategy for implementation of the network will be to seek a single service provider delivering a complete end-to-end mobile data network.

**8.32** In addition, the interface between the mobile data network and the Intergraph calltaking and dispatch system would take at least 12 months, exclusive of the testing period, for Intergraph to develop.

**8.33** The preparation of a project brief containing the requirements of the network is to be finalised in late 1997 and included in Registration of Interest and Request for Proposal documents. The project brief will include requirements of the Country Fire Authority, which had previously indicated it did not wish to be involved in the implementation of the network, but subsequently expressed a desire to be included in the project. The brief would also cater for changes in the functionality and coverage of the network to suit the Victoria Police which now requires Statewide coverage as distinct from its initial requirement for the metropolitan area only.

**8.34** The Government's objective to introduce a network that caters for a number of organisations with differing priorities and needs creates a difficult situation for BEST. Accordingly, it is important that BEST finalises the project brief, to enable the implementation of the project to proceed.

**8.35** The effective provision of communication services to the State's emergency service organisations, and the general public, cannot be provided without a network capable of supplying timely, accurate and complete information to emergency crews, which is a process considered so vital to the protection of the State's greatest resource, its people.

**8.36** In summary, given the significant potential benefits of a mobile data network to the State's emergency service organisations, it is imperative that BEST finalises the selection of a supplier and implementation of a network as a matter of urgency.



# **Part 9**

**Issues relating to  
Telstra and 000,  
the national  
emergency number**

## OVERVIEW

**9.1** Telstra, as the Australian Government's telecommunications carrier, plays a critical role in the State's emergency communication process. In this capacity, it is the initial contact point for calls to 000, the national emergency number. After gathering pertinent information from a 000 caller, Telstra transmits the call to Intergraph for handling of calltaking and dispatch functions on behalf of the appropriate emergency service organisation as requested by the caller.

**9.2** It is estimated that Telstra received around 2.5 million 000 calls in Victoria during the 1996 calendar year.

**9.3** To its credit, BEST has been a key player within the telecommunications industry in highlighting several problems associated with the national emergency calltaking function. A significant shortcoming is the unsuitability of the use of 3 zero digits for the national number which gives rise to a high incidence of accidental mis-dialling of other frequently used numbers prefixed by the digits 0 and 00. This situation, when coupled with the high level of nuisance or hoax calls to 000, unnecessarily consumes Telstra's resources and may impede the timeliness of responses to genuine emergency calls. For these reasons, an industry working group, which includes BEST, has pushed for replacement of 000 as the national emergency number.

**9.4** In Victoria, there are several emergency numbers which can be used by the community in addition to 000. The alternative numbers include 3 special access numbers, 11440 (Ambulance), 11441 (Fire) and 11444 (Police), which commenced in the early 1980s prior to 000 and go directly to Intergraph. The availability of many emergency numbers can create confusion in the minds of the public as to which is the most appropriate number to call in an emergency. As such, the phasing out of the 3 emergency service access numbers in Victoria should be regarded as a high priority.

**9.5** Telstra's emergency information database automatically identifies the location of all emergency calls (other than calls made via a mobile phone) and is the sole means of directing the emergency response in situations so serious that a caller is unable to verbally convey any information. BEST has identified a number of issues relating to the integrity of this database as well as the requirement to automatically identify the location of an emergency caller who makes the call from a mobile phone. Because of the serious implications for the community's safety and wellbeing, it will be important for BEST to continue to pursue such issues with Telstra. Any unresolved matters may need to be raised by the Victorian Government at an inter-governmental level.

**9.6** BEST is currently exploring with the relevant national body a range of matters associated with improving the emergency calltaking process, including the costs and benefits of the existing double handling of emergency calls by Telstra and Intergraph. It also expects to be directing increasing attention to monitoring the likely significant ramifications of the deregulated telecommunications industry on the State's emergency response communication framework.

**BACKGROUND**

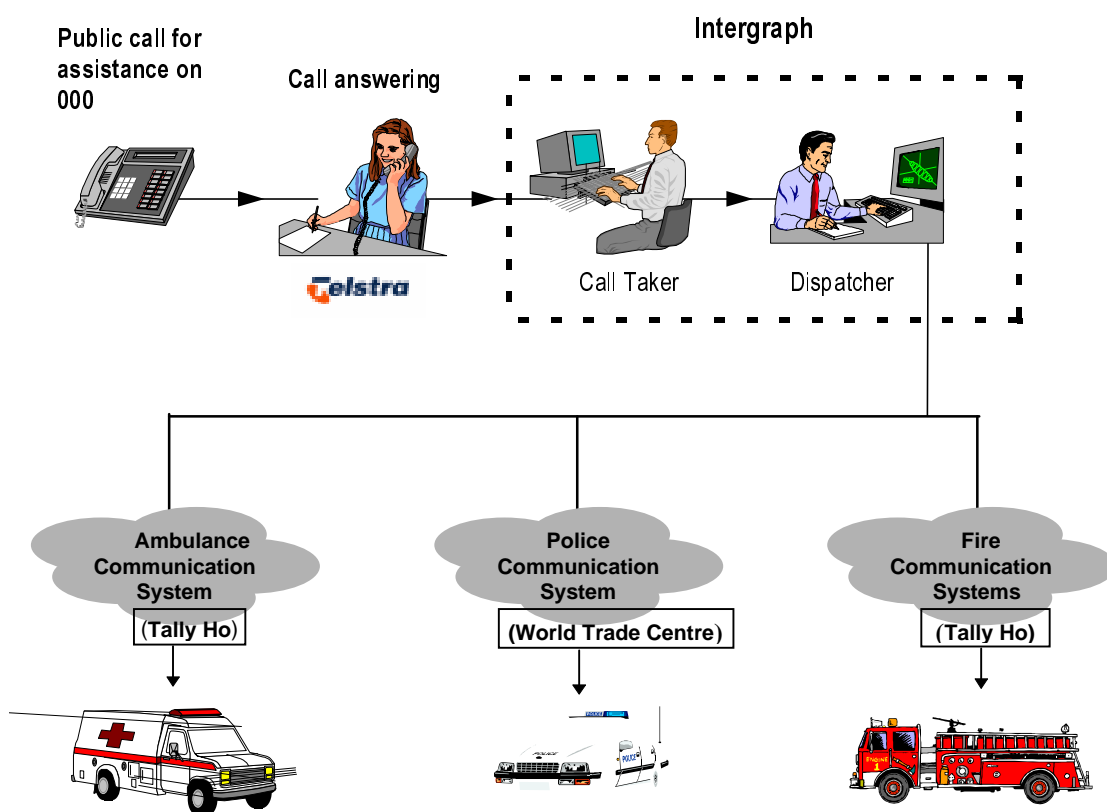
**9.7** The provision of emergency services to the public of Victoria involves the interaction of organisations, both national and State, from the time an emergency call is made to the response by the relevant emergency service organisation. The effectiveness of the processes involved to perform this task has a major bearing on the ability of emergency service organisations to maximise the quality of service provided to the public, and thus minimise the potential harm or damage to life or property.

**9.8** Telstra, as the Australian Government’s telecommunications carrier, provides a significant community service in the field of emergency communications. Traditionally, and on a national basis, it has supplied resources and systems to:

- receive emergency calls from the public under 000, the national emergency number;
- gather pertinent information in relation to the emergency; and
- deliver the emergency call to Intergraph for handling on behalf of the appropriate emergency service organisation, or directly to the appropriate emergency service organisation where the locality of the caller is outside the operational area of the Intergraph system.

**9.9** The current role of Telstra in the provision of emergency services in respect of the operational area of the Intergraph system is shown in Chart 9A.

**CHART 9A  
THE EMERGENCY COMMUNICATION PROCESS**



**9.10** Chart 9A illustrates the significance of Telstra's involvement with the emergency communication process as the initial contact point for 000 emergency callers within the framework of the Statewide communication system. The chart does not include the Victoria State Emergency Service which is not recognised as a primary emergency service provider under the national *Telecommunications Act* 1997.

**9.11** Major change in the Australian telecommunications industry is expected to progressively occur under the Australian Government's deregulation policy for the industry which has received legislative endorsement from the Australian Parliament under the Telecommunications Act.

### LIAISON BY AUDIT WITH TELSTRA

**9.12** Because of the importance of Telstra's position within the emergency communication process, audit considered that it was desirable to gather information on Telstra's current and likely future role in the area.

**9.13** Following an initial meeting and subsequent correspondence to Telstra on the various issues earmarked by audit for examination, Telstra determined, after considering advice from its legal staff, not to enter into dialogue with, or make any further information available to, the audit team. Notwithstanding that the thrust of the audit request was aimed at seeking Telstra's views on avenues available to improve the provision of emergency communication services to the community, audit recognised that Telstra was under no obligation to respond to an inquiry from the Victorian Auditor-General.

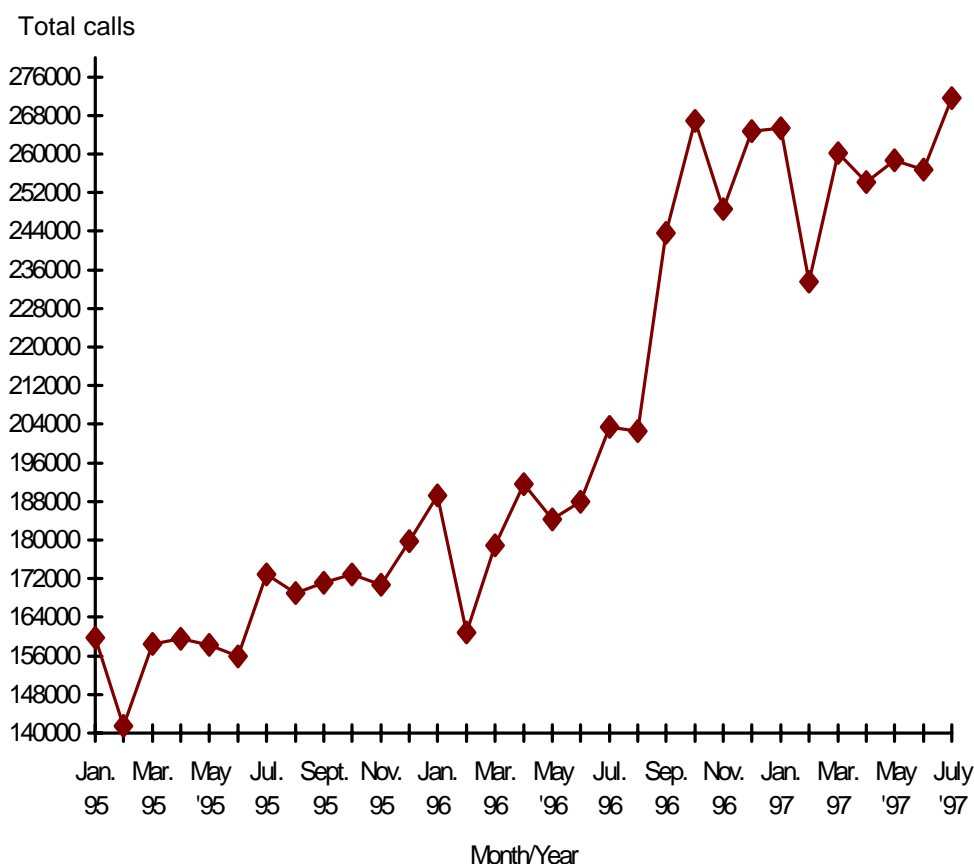
**9.14** As a result of Telstra's unwillingness to liaise with audit, the extent of information available to audit was limited to that held by BEST. This information mainly comprised material relating to the operation of 2 important discussion forums, namely, the Telephone Taskforce (which was in place between May 1996 and January 1997) and the National Emergency Call-taking Working Group (established June 1996 and still in place). BEST had played the lead role in the formation of these forums which were aimed at identifying, from a national viewpoint, any deficiencies in the current 000 emergency communication process from managerial, operational, legislative and regulatory perspectives.

### EXTENT OF USE OF 000 AS THE NATIONAL EMERGENCY NUMBER

**9.15** While audit was unable to obtain statistics directly from Telstra in relation to the number of 000 calls received by it annually, information provided by BEST to audit indicates that Telstra handles approximately 10 million 000 calls nationally each year.

**9.16** In Victoria, the number of 000 calls received by Telstra for the 1995 and 1996 calendar years was estimated to be around 2 million and 2.5 million respectively. Chart 9B shows the increase in the level of 000 calls on a monthly basis over the period January 1995 to July 1997.

**CHART 9B**  
**VICTORIAN 000 CALLS RECEIVED BY TELSTRA,**  
**JANUARY 1995 TO JULY 1997**



**9.17** Clearly, the handling of emergency calls through 000 within Victoria (and presumably across Australia) represents an increasing activity undertaken by Telstra.

**OPPORTUNITIES TO ENHANCE  
 THE 000 EMERGENCY CALLTAKING FUNCTION**

**9.18** The significance of the role performed by Telstra to the delivery of efficient and effective emergency services was considered by BEST in the development of the request for proposal which was forwarded to prospective contractors in July 1994. As stated in Part 5 of this Report, phase 2 of the 4 phase implementation plan allowed for the possibility of removing the Telstra 000 operator from the emergency calltaking function, and for the successful private sector contractor to supply this service, as a potential enhancement to the emergency calltaking process. The subsequent formation of the Telephone Taskforce considered this potential enhancement in addition to other enhancements necessary to the delivery of effective emergency callhandling services.

**9.19** The Telephone Taskforce (mentioned in an earlier paragraph) was chaired by a member of the BEST ministerial steering committee and included a senior representative from both Intergraph and Telstra, and an executive officer supplied by BEST. The other major forum, namely, the National Emergency Call-taking Working Group is also chaired by BEST and comprises 2 representatives of each State Government. Telstra has sought representation on this Group.

**9.20** The deliberations to date of the 2 discussion forums have identified several opportunities to enhance the national 000 emergency calltaking function. Specifically, in January 1997, the Telephone Taskforce concluded in a report to the BEST ministerial steering committee that, "... *the major stakeholders, the Victorian public, the emergency service organisations and Telstra are badly served by the existing arrangements which suffer from a number of fundamental and serious problems*".

**9.21** Relevant details of a number of the identified opportunities to enhance the 000 emergency calltaking function, together with audit comment, are presented below.

**Suitability of continuing to use 000 as the national emergency number**

**9.22** It has been recognised for sometime within the Australian telecommunications industry that the adoption of 000 as the national emergency number has one major inherent problem, namely, the use of 3 zero digits gives rise to a high incidence of accidental mis-dialling of other frequently used numbers prefixed by the digits 0 and 00. Examples of often-used 0 and 00 numbers include:

- STD numbers;
- analogue and digital mobile phone numbers;
- international access numbers;
- the almost unlimited range of direct dialling telephone information services dealing with news, weather, sport, astrology/horoscopes, lotteries, telechat, stocks and shares etc. currently available to the public; and
- the dialling of 0, which is a commonly used prefix for external access from PABX systems, when it is not required.

**9.23** In this regard, as soon as 3 consecutive zeros are dialled, the call is directed within a fraction of a second to the 000 operator, irrespective of the intention of the caller. The consequence is that a significant level of resources within Telstra's emergency service system is occupied with non-bona fide emergency calls. The impact of this situation is accentuated by the fact that Telstra is responsible for transferring the call to Intergraph or depending on the locality of the caller (if outside the operational area of the Intergraph system), to the appropriate emergency service organisation as requested by the caller.

**9.24** The National Emergency Call-taking Working Group, in its January 1997 submission to a Senate Committee on the Telecommunications Bills Inquiry, stated "*only one tenth of these* [the estimated 10 million calls to 000] *are referred to the emergency service organisations*". BEST advised audit that the equivalent proportion of genuine calls in Victoria is likely to be higher at around 25 per cent of calls.

**9.25** Of the estimated 9 million national non-emergency calls received through 000, approximately half or 4.5 million calls are considered to be due to accidental mis-dialling arising from the above-mentioned inherent problem associated with the use of 000. The remaining 4.5 million non-emergency calls have been attributed to nuisance or hoax calls.

**9.26** The position in Australia contrasts sharply with the situation in the United States of America where non-emergency calls represent only about 10 per cent of calls made to that country's emergency number, 911.

**9.27** It is also of interest that, in the United States of America, all 911 calls are automatically referred to public safety answering points which determine the appropriate emergency service organisation, and all nuisance or hoax calls are traced to establish whether punitive action is necessary.

**9.28** After considering the difficulties experienced with the use of 000 as the national emergency number, the National Emergency Call-Taking Working Group, in its submission to the Senate Committee, called for a review of the suitability of 000 for emergency calls within Australia. The Group suggested that such a review canvass:

- the possibility of using 112, the standard international emergency number for mobile phones and a number which shortly will be available as an alternative emergency number for all telephone subscribers, in lieu of 000; and
- removing from the list of authorised telephone numbers any which would be likely to give rise to accidental mis-dialling to this new standard number, e.g. numbers commencing with 122.

**9.29** While recognising the involvement of a large number of parties, audit considers it will be important for BEST to continue to facilitate, as far as practicable, early resolution of problems associated with use of 000. The fact that the problems have clearly acted against the safety and welfare interests of the community highlights a need for early consideration at both national and State government levels.

### **Scope to rationalise the range of emergency numbers available in Victoria**

**9.30** While, as previously mentioned, 000 is the national emergency number, many other emergency numbers can currently be used in Victoria to contact an emergency service organisation. Of these other numbers, 112, the standard international emergency number for mobile phones is routed through Telstra, some make direct contact with an emergency service organisation and others go directly to Intergraph. The full range of numbers that can be used in Victoria is as follows:

- 000;
- 112;
- 11440 (Ambulance), 11441 (Fire) and 11444 (Police) which were introduced as emergency service access numbers in the early 1980s, prior to the introduction of 000, and go directly to Intergraph; and
- several other access numbers available for emergency purposes including the many direct contact numbers for the Country Fire Authority.

**9.31** The availability to the public of many emergency numbers creates confusion as to which is the most appropriate emergency number to call. It also means that 2 separate calltaking processes, operated by Telstra and Intergraph, with differing infrastructure are used within Victoria for emergencies. As a result, it is not possible for planning and monitoring purposes to identify and, hence, gather standard data relating to each process and compare the relative performance of the 2 processes on a uniform basis.

**9.32** The magnitude of the public's use of numbers other than 000 for emergency purposes is illustrated by the reference in the January 1997 report of the Telephone Taskforce to the BEST ministerial steering committee that nationally "50% of all emergency calls received today are via non-emergency numbers".

**9.33** It is the intention of the emergency service organisations to eventually eliminate the 3 emergency service access numbers (11440, 11441, 11444) when the public is sufficiently educated in the use of the national emergency number 000. Audit was advised by BEST that a date for the elimination of these numbers is yet to be determined as the public's use of the numbers is still relatively high, particularly in the case of the access number for the Metropolitan Fire Brigades Board.

**9.34** It is clearly very important, primarily in maximising public safety but also for enhancing operational efficiency, that BEST and the emergency service organisations continue to actively promote the adoption of one emergency number in Victoria. In this regard, the phasing out of the 3 emergency service access numbers should be regarded as a high priority.

### **Quality and accuracy of the emergency information database**

**9.35** Achieving timely and accurate responses by emergency service organisations to calls from the public was one of the major considerations in the establishment of a multi-agency emergency communication system and is thus a key ongoing objective of BEST.

**9.36** Information obtained from a 000 caller by the Telstra operator is routed through the Telstra network to the relevant Intergraph emergency communication centre within the metropolitan area or direct to the appropriate emergency service organisation in regional areas, after matching data held in Telstra's emergency information database. This database, which relies on information provided by all emergency service organisations, is used exclusively by Telstra to automatically identify the location of all emergency calls (except calls made using a mobile phone) and is the sole means of directing such calls in circumstances, so serious, that the caller is unable to provide any information.

**9.37** The integrity of the data provided by the emergency service organisations and held in the database, is therefore critical to the timeliness and accuracy of the direction of emergency calls and, in turn, the safety and wellbeing of the caller.





**9.38** It was not possible for audit to obtain information directly from Telstra concerning the operation of its emergency information database. However, from discussions with BEST and preliminary liaison with representatives of Telstra (prior to the organisation's decision not to provide any further information to audit), the following issues were identified:

- Telstra, in correspondence to BEST, has acknowledged that the facility within its database which identifies the location of the caller is not 100 per cent accurate and in fact only guarantees 90 per cent accuracy of the database. In addition, BEST is not in a position to determine the data standards applicable to the database;
- For mobile telephones, which BEST estimates to cover around 15 per cent (and increasing) of all calls to emergency numbers, the database identifies the number of the mobile telephone, the mobile telephone service provider and whether the mobile telephone is analogue or digital. Importantly, it does not identify the location of the mobile telephone at the time of the call;
- For telephone numbers linked to large PABX switchboards, the location of an emergency caller is identified within the database as the location of the switchboard rather than the physical location of the caller; and
- There is no requirement for local government authorities to advise the emergency service organisations or Telstra of geographical changes such as alterations to maps and boundaries, for purposes of updating the database, a situation viewed by BEST as impeding the emergency communication process.

**9.39** The very high level of reliance placed on Telstra's emergency information database for the effective dispatch of emergency services and the public's protection, reinforces the importance of BEST continuing to pursue with local government authorities and Telstra issues associated with the integrity of the database and the ability of Telstra to identify the location of an emergency caller using a mobile phone. If necessary, unresolved issues may need to be raised by the Victorian Government at an inter-governmental level.

### **The need for a single management focus**

**9.40** Because there are a variety of organisations, from both the public and private sectors, involved in the emergency callhandling process, a significant problem experienced to date has been the lack of an overall management focus across the whole emergency callhandling process. This position has arisen as no single entity has management responsibility for the total emergency calltaking function and each participating party has tended to focus on its own area of interest.

**9.41** In considering the effect of this problem, the Telephone Taskforce made the following recommendations in its January 1997 report:

*“There should be a single point of management focus provided on behalf of the emergency service organisations such as:*

- *end to end operational performance of telephone call handling;*
- *management of the telephone network configuration;*
- *future planning of telephone network configuration;*
- *integrity of input to Telstra’s [emergency information] database;*
- *handling of complaints regarding telephone connections to emergency service organisations; and*
- *customer education and public relations”.*

**9.42** Some specific areas were identified during the audit where benefits would be derived from having in place a single point of management focus as recommended by the Telephone Taskforce. By way of illustration, clarification of management responsibility for the total calltaking function would facilitate:

- determination of the costs and benefits of the current level of double handling of emergency calls by Telstra and Intergraph, and identification of avenues for streamlining the calltaking process such as the desirability of Intergraph assuming the status of an “*Emergency Call Person*” under the national *Telecommunications Act 1997*;
- implementation of strategies aimed at determining the extent to which emergency calls abandoned prior to answering by the Telstra operator are adversely impacting on the emergency communication process (statistics provided to audit by BEST show that, on average, 25 per cent of total 000 calls registered on the Telstra system are abandoned by the caller prior to contact with Telstra);
- assessment of the need for adoption of a uniform time standard, e.g. Greenwich Mean Time, across the total emergency communication system to facilitate monitoring of calltaking performance by the respective parties and overcoming difficulties currently encountered in identifying the extent and cause of delays within the system; and
- organisation of periodic public education campaigns to ensure that the general public is adequately informed of emergency call procedures, has total confidence in the operation of such procedures and is fully conscious of the potential risk to public safety from accidental or deliberate mis-use of the emergency call numbers.

**9.43** As questions of overall management responsibility for emergency communications involve national considerations, BEST should strive to promote through the relevant national organisation, the Australian Communications Authority, the advantages of having in place a single point of management for all elements of emergency procedures.

**IMPLICATIONS OF  
DEREGULATION OF THE TELECOMMUNICATIONS INDUSTRY**

**9.44** Full deregulation of the Australian telecommunications industry became effective from 1 July 1997 under the terms of the *Telecommunications Act 1997*. Partial deregulation had earlier occurred in 1991 under legislative changes which enabled another telecommunications carrier, Optus Communications, to enter the industry. Optus Communications has had no direct involvement in the provision of emergency calltaking services and presently provides only limited local calltaking facilities.

**9.45** The recent decision by the Australian Government to allow telephone users to change from Telstra to Optus without changing their telephone number, from 1 May 1998, will open up competition in the local call market. The impact of this development on the operation of the 000 calltaking facility is expected by Telstra to be minimal as all carriers, as a condition to their licences to operate, are required to provide an interface into the emergency service database. This requirement will ensure that all 000 callers are automatically routed through the Telstra 000 operator, regardless of the carrier.

**9.46** Under full deregulation, the telecommunications industry will be characterised by the following features:

- open competition in a fully deregulated market resulting in multiple operators within the industry;
- a high degree of industry self-regulation;
- the presence of competition policy; and
- responsibility for technical regulation assumed by the Australian Communications Authority.

**9.47** As such, there will still be some significant ramifications for the provision of national emergency calltaking services from operation of a deregulated telecommunications industry. In this regard, the *Telecommunications Act 1997* provides for the Australian Communications Authority to make a written determination imposing requirements on all or any parties involved in the provision of emergency call services. An interim determination came into effect on 1 July 1997 and a subsequent determination will apply from 1 July 1998.

**9.48** Some of the issues relating to emergency calltaking services likely to require consideration by the Australian Communications Authority in the development of the statutory determination include:

- the appropriateness of the existing arrangements, under which one carrier (i.e. Telstra) has sole responsibility for providing the national emergency calltaking service, in the deregulated environment where multiple carriers may operate within the industry;
- articulation of the specific responsibilities of all telecommunication carriers for operation of the national emergency calltaking service, including the funding of the service;
- resolution of matters associated with the maintenance of a central database of telephone subscribers in a deregulated and competitive environment, such as technical considerations and the commercial confidentiality of data;
- the feasibility or otherwise of an organisation other than a telecommunication carrier assuming legislative responsibility for provision of the national emergency calltaking service; and
- specification of the accountability obligations of telecommunication carriers for reporting to the community on their performance within the national emergency calltaking process.

**9.49** BEST advised audit that it expected to be directing increasing attention to monitoring the impact of the deregulated industry on the State's emergency service organisations through its representation on the National Emergency Call-taking Working Group and, where necessary, promoting and protecting the interests of those organisations and the Victorian community.

# **Part 10**

## **Other management issues**

## OVERVIEW

**10.1** It is a current government policy objective that a single computerised calltaking and dispatch system operate in respect of all of the State's emergency services, i.e. encompassing both metropolitan and rural services.

**10.2** In September 1996, consultants appointed by BEST recommended that Intergraph's 2 emergency communication centres, located in Melbourne at Tally Ho and the World Trade Centre, be used to provide calltaking and dispatch services to rural Victoria. This course of action was cited by the consultants as more cost-effective than the construction of new facilities in one or more regional centres.

**10.3** A pilot study in the south western region of Victoria, involving the South Western Ambulance Service and the Victorian State Emergency Service, to assess the feasibility of extending computerised calltaking and dispatch functions to rural areas is to proceed in the near future.

**10.4** It will be important for BEST to establish target completion dates for the pilot study and ensure that it is in a position to formulate appropriate recommendations to Government within a reasonable timeframe.

**10.5** A further management issue for BEST concerns the significant issues confronting all organisations maintaining computerised systems associated with ensuring the capacity of data sensitive software and large databases can cope with the changes of dates from 1999 to the year 2000. This challenge to management has become known as the *Millennium Bug*.

**10.6** In view of the potential impact the impending date change may have on the various interactive components of the computerised calltaking and dispatch system, it is critical that each emergency service organisation acts diligently to address the relevant risks.

**10.7** It is also important that BEST maintains a strong co-ordinating and monitoring role over the activities of all parties involved in operation of the computerised calltaking and dispatch system in its endeavours to ensure there is no interruption to the State's emergency services during the change to the year 2000.

## CALLTAKING AND DISPATCH SERVICES IN RURAL VICTORIA

**10.8** It is a current government policy objective that a single computerised calltaking and dispatch system operate in respect of all of the State's emergency services, i.e. encompassing both metropolitan and rural services.

**10.9** In line with this policy objective, one of the strategic tasks identified by BEST involved investigation of the feasibility of extending calltaking and dispatch services into rural Victoria.

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## Assessment of the feasibility of extending calltaking and dispatch services into rural Victoria

**10.10** In early 1995, BEST established a steering group, which it chairs, comprising representatives of all of the State's emergency service organisations to review the feasibility of widening computerised calltaking and dispatch functions to rural areas of the State. In June 1995, the steering group commissioned an external consultancy to assist in this work.

**10.11** In a September 1996 report, the consultants identified a number of issues impacting on the effective provision of calltaking and dispatch services to emergency service organisations in rural Victoria including:

- considerable duplication of communication centres across the emergency service organisations;
- difficulties experienced by a number of the organisations in staffing their communication centres;
- the availability of only limited management information relating to the operations of rural emergency service organisations;
- restricted back-up facilities in place for the rural communication centres;
- a perceived need for "local knowledge" of rural locations and operations by communications personnel;
- a requirement for infrastructure enhancements to allow communication with emergency communication centres located in Melbourne; and
- a need to account for, and recognise the existence of, both emergency and non-emergency response tasks undertaken by rural ambulance services.

**10.12** Based on the above findings, the consultants recommended to BEST's steering group that Intergraph's 2 emergency communication centres, located in Melbourne at Tally Ho and the World Trade Centre, be used to provide calltaking and dispatch services to rural Victoria. This course of action was cited by the consultants as more cost-effective than the construction of new facilities in one or more regional centres.

**10.13** The consultants put forward the following strategy for implementation of its recommendation:

- Victoria Police - calltaking and dispatch services for emergency cases, encompassing both metropolitan and rural areas, be handled at Intergraph's emergency communications centre at the World Trade Centre;
- Rural ambulance services - a system of centralised calltaking for emergency cases only be established at Intergraph's Tally Ho communications facility. The dispatching function for emergency cases and both calltaking and dispatching for non-emergency situations continue to be handled by the existing communication centres of individual rural ambulance services;
- Country Fire Authority - any implementation of a common calltaking and dispatch service covering the non-metropolitan element of the Authority's responsibilities should not be contemplated at this point in time; and

- State Emergency Service - the operation of a centralised calltaking and dispatch service covering the whole of the State be handled from the communications facility at the World Trade Centre.

**10.14** The consultants also recommended to the steering group that a district or region of the State be initially earmarked for the carrying out of a pilot study and that the results of the study be used as the basis for subsequent action involving expansion of calltaking and dispatch services to remaining areas. This particular recommendation was subsequently adopted by the steering group.

**10.15** BEST, the South Western Ambulance Service and the State Emergency Service have reached an in-principle agreement to conduct the pilot study in the south western region. Audit was advised that this pilot project is likely to proceed in the near future. It is intended to use the results of this pilot project as a model for the wider extension of calltaking and dispatch services, involving the State's emergency services, into rural Victoria.

**10.16** Audit was advised by LANDVICTORIA that no funding has been allocated to it within the State's 1997-98 budget for the completion of the State Digital Road Network to encompass all areas of the State. Clearly, the finalisation of funding arrangements for this task will need to be addressed at an early stage if extension of computerised calltaking and dispatch services to rural Victoria is to proceed.

**10.17** It will be important for BEST to establish a target completion date for the above pilot study and ensure that it is in a position to formulate appropriate recommendations to the Government within a reasonable timeframe.

## MILLENNIUM BUG

**10.18** My May 1997 *Report on Ministerial Portfolios* addressed the significant issues confronting all organisations maintaining computerised systems associated with ensuring the capacity of data sensitive software and large databases can cope with the changes of dates from 1999 to the year 2000. This challenge to management has become known as the *Millennium Bug*.

**10.19** The Report included the observation by audit that there was currently a lack of appreciation within public sector agencies of the business implications associated with this important management issue.



**10.20** Audit concluded that minimisation of the risks associated with this issue is dependent on early review by management of computerised systems and, where necessary, the establishment of appropriate measures to ensure that such systems continue to correctly function beyond the year 1999.

**10.21** Briefly, the millennium bug problem arises from software and databases constructed with the underlying assumption that the years following the current year always have higher numbers. While this issue relating to the year 2000 will have varying impacts on different systems within organisations, it appears that the potential impact may range from significant disruptions to operational collapses. It is widely acknowledged within the business community that the major risks associated with this issue relating to the year 2000 are:

- prolonged unavailability of business-critical systems;
- financial losses due to an inability of systems to correctly process and calculate critical transactions over a sustained period of time;
- legal action from customers and creditors that can have financial consequences; and
- malfunction of both information technology and non-information technology systems leading to incorrect information records and, in relation to infrastructure support systems, damage to facilities.

### **Action taken by Intergraph and BEST**

#### *Steps initiated by Intergraph to address the year 2000 issue*

**10.22** Intergraph, on 28 July 1997, forwarded a letter to BEST, all of the emergency service organisations and its suppliers of computer software advising that programs and interfaces related to the calltaking and dispatch system must utilise internal date/time methods which preclude “Year 2000” problems.

**10.23** Recipients of the letter were also advised that Intergraph will be conducting field tests during the next 12 months on its own equipment installed at its 2 communication centres to ensure that no factors have been overlooked which might cause difficulties in the year 2000. Intergraph envisages that, when this testing has been completed, it will be able to certify that the systems and equipment designed, manufactured and supplied by it should not be the source of “Year 2000” problems.

**10.24** Intergraph believes that it is of critical importance for each of the emergency service organisations and suppliers involved to take immediate action to ascertain and certify that their equipment and systems will not cause an interruption to service or degraded performance or accuracy once 1 January 2000 is reached.

**10.25** The contractor also emphasised that “Year 2000” issues are not by any means limited to application software. Individual items of computer hardware and even such seemingly innocuous devices as telephone systems, copy machines, faxes, thermostats and elevators can possibly be affected by the millennium change.

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*BEST's overview role in the process*

**10.26** BEST, in September 1997, requested each emergency service organisation to provide comment to it on actions underway which are aimed at avoiding any of the anticipated problems associated with the year 2000 matter. At the time of preparing this Report, only the Metropolitan Ambulance Service and the Country Fire Authority had responded to BEST.

**10.27** On 20 October 1997, BEST wrote to Telstra inquiring as to the arrangements it had in place to ensure that the year 2000 date processing problems are addressed and will not impact on the services received at Intergraph's 2 communication centres. Telstra advised BEST on 3 November 1997 that planning for the year 2000 transition is well advanced and that all aspects of the transition affecting Telstra's business, including services supplied to Intergraph, would be addressed.

**10.28** In view of the potential impact the impending date change may have on the various interactive components of the computerised calltaking and dispatch system, it is critical that each emergency service organisation diligently pursues "Year 2000" compliance.

**10.29** It is also important that BEST maintains a strong co-ordinating and monitoring role over the activities of each party to the computerised calltaking and dispatch system in its endeavours to achieve uninterrupted operations during the change to the year 2000.

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