
Year 2000 Preparations in the Australian Banking and Financial System

September 1999

Council of Financial Regulators

This booklet describes measures that have been undertaken in Australia by financial institutions and financial sector regulators to address the Year 2000 problem. It updates previous editions published in July 1998 and January and April 1999.

The Australian financial system is ready for the Year 2000 and its preparations rightly enjoy a world-class reputation.

Financial system participants have devoted substantial effort and resources to testing and remediation, and this process is now virtually complete. Participants are now finalising their Year 2000 contingency plans.

The public can be assured that deposits are safe and their records are not at risk from Year 2000 related problems.

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1. INTRODUCTION

1.1 What is the Year 2000 Problem?

The 'Year 2000 problem' has arisen because a large number of computer systems in operation today were not designed to deal with dates beyond 31 December 1999. These systems represent a year as a two-digit rather than four-digit value (eg '99' for 1999) so that, when clocks tick over to 1 January 2000, the '00' will most likely be interpreted as 1900 rather than 2000. The Year 2000 problem also includes issues related to the fact that 2000 is a leap year; this has not been recognised in a number of programs and systems.

Although solving the Year 2000 problem is simple in concept (namely, identifying the use of two-digit years and replacing them with four-digit years), doing so has proven to be time-consuming, expensive and resource-intensive. For many companies in Australia, including banks and other financial institutions, remedial action has involved many staff examining hundreds of thousands or even millions of lines of computer programs, testing every program and piece of electronic equipment and spending large sums of money on upgrades or replacements.

1.2 Impact of Year 2000

In an advanced economy like Australia, all businesses either rely on technology or are dependent on other businesses that do. This interdependence means that the Year 2000 problem is not just a technical problem but a problem potentially affecting all aspects of a business's operations. Failures of computing systems or electronic equipment in one organisation could have an immediate impact on others; if Year 2000 problems are not addressed adequately by most businesses, the consequences could be far-reaching. Banks and other financial institutions are particularly vulnerable in view of their heavy reliance on computer systems and electronic communications. However, banks and other financial institutions in Australia are well aware of the potential problems associated with the Year 2000 and have virtually completed their preparations for the date change.

1.3 Regulatory Responsibilities

Financial sector supervisors in Australia – the Australian Prudential Regulation Authority (APRA), the Reserve Bank of Australia (RBA), the Australian Securities and Investments Commission (ASIC) and, until 1 July 1999, the Australian Financial Institutions Commission (AFIC) – have been closely monitoring Year 2000 preparations in their respective areas. Through the Council of Financial Regulators (CFR), the supervisors have established a Year 2000 Coordinators Group to share information, to encourage a consistent approach in respect of regulated institutions and to coordinate involvement with local financial industry groups and international initiatives.

On 1 July 1998, responsibility for the supervision of banks was transferred from the RBA to APRA. At the same time, APRA took over responsibility for supervision of

life and general insurance companies and superannuation funds from the former Insurance and Superannuation Commission. Responsibility for the supervision of building societies, credit unions and friendly societies was transferred from AFIC to APRA on 1 July 1999. Combining supervisory responsibilities within APRA has allowed a consistent approach to supervision and disclosure of Year 2000 issues across APRA-regulated institutions, representing the majority of participants in the Australian financial system.

The RBA remains closely involved in Year 2000 issues because of its responsibilities for the payments system and overall financial system stability. The RBA is an active member of a number of interbank groups addressing Year 2000 issues and is closely involved, through its membership of the Australian Payments Clearing Association (APCA), in testing of, and contingency planning for, domestic payments clearing systems.

The RBA is also responsible for Australia's currency note issue. The RBA is aware of the potential for the demand for currency notes to increase in the lead-up to the Year 2000. With this in mind, the RBA has taken steps to supplement the significant buffer stocks of notes it usually holds.

ASIC has been closely monitoring Year 2000 preparations as part of its responsibility for regulating securities markets and consumer aspects of insurance, superannuation and banking.

1.4 Measures Taken to Address the Issue

Substantial work has been undertaken to prepare the Australian financial system for the Year 2000.

Banks and other financial institutions have allocated significant financial and staffing resources to ready their systems for the date change. The vast majority of banks have completed the remediation and testing of all critical systems. In those exceptional cases where testing is yet to be completed, APRA is satisfied that there are adequate fallback arrangements in place to ensure that it will be 'business as usual'. Banks have almost completed their contingency plans to deal with unexpected problems or problems outside of their control, such as problems with their suppliers.

Similarly, other financial institutions (building societies, credit unions, life and general insurance companies, superannuation funds and friendly societies) have also completed the vast majority of remediation and testing of critical systems and are now well into the contingency planning phase.

A comprehensive program to test the Year 2000 readiness of the Australian payments system, managed by the Australian Payments Clearing Association (APCA), was successfully completed, on time, by 30 June 1999 and no Year 2000 problems were reported by test participants. Because of this effort, the Australian public can be confident that their usual method of making non-cash payments, such as ATMs, EFTPOS and credit cards, will continue to work as usual over the New Year period.

The RBA is now working closely with the industry on contingency planning, to ensure that the payments system is prepared for any unexpected disruptions.

The RBA and APRA have also been working closely with banks and other financial institutions to ensure that they will have adequate liquidity over the New Year period. In June 1999, the RBA announced that, if need be, it would be more flexible in its domestic market operations as the New Year approached by, for example, supplementing its dealings in government securities by trading in a broader range of securities. Financial institutions will not have to curtail their normal activities because of concerns that there will not be adequate liquidity in the financial system.

Securities markets have also made substantial progress in their Year 2000 preparations. The critical systems of the Australian Stock Exchange (ASX) are now Year 2000 ready. The Sydney Futures Exchange (SFE) has completed the compliance testing of its core systems with one exception, which is expected to be ready shortly. Contingency planning by both the ASX and SFE is well under way.

In his Opening Statement to the House of Representatives Standing Committee on Economics, Finance and Public Administration on 17 June 1999, the Governor of the Reserve Bank said:

“[T]he Australian financial system is very well prepared for Y2K ... [and] rightly enjoys a world-class reputation for its high level of Y2K preparedness.”

“[T]he simple fact is that [customers’] *deposits are safe* and their records are not at risk from Y2K-related problems.”

“Overall, our view is that the system will be able to operate on a ‘business as usual’ basis and the public should view the new year as just another long weekend. For those who want a little extra reassurance in the form of extra cash, they can be confident that it will be readily available.”

The Governor’s comments on the Year 2000 issue can be found in Appendix 1.

1.5 Disclosure

The CFR believes that it is important for all organisations, financial or otherwise, to disclose the measures they are taking to address the Year 2000 issue. This information will assist those dealing with these organisations and reduce the need to make separate enquiries. The enactment of the *Year 2000 Information Disclosure Act 1999* by the Commonwealth Parliament in February should encourage disclosure by removing some of the legal concerns associated with making Year 2000 statements.

Earlier this year, APRA wrote to the institutions it regulates encouraging them to use the disclosure templates produced by the Global 2000 Coordinating Group – an approach endorsed by the Joint Year 2000 Council (the respective roles of these two groups are outlined in Chapter 4.2). These templates are of particular use to institutions operating on a global basis, as they enable a standard form of disclosure internationally.

Institutions should also disclose any other information that could be useful to those with whom they deal.

Financial institutions are well placed to influence their customers' awareness of the Year 2000 issue. This is especially important in the small- and medium-sized business sector, where businesses may not be taking sufficient measures to address the problem. The RBA has spoken to the banks, building societies and credit unions to make sure they are communicating with their customers in plain language to reassure them that their deposits are safe.

The ASX has also played a major role by requiring companies listed on the Exchange to provide Year 2000 disclosure statements as at 30 June 1998 and 31 March 1999. It has also required that another disclosure statement be provided by 30 September 1999.

Throughout July and August 1999, the year2k Industry Program of the Commonwealth Government held a series of Infrastructure Forums in major cities around Australia. Their aim was to advise Australian industry and the media of the Year 2000 readiness of key infrastructure and service providers such as banking and finance, electricity, gas/fuel, telecommunications, water, aviation, rail and road transport, ports and shipping. The RBA, APRA, the Australian Bankers' Association (ABA) and representatives from individual banks participated in these forums. The presentations by the RBA and ABA are available on their respective web sites (refer Appendix 2).

1.6 RBA/APRA Communications Centre

The RBA and APRA are establishing a joint communications centre which will operate over the New Year period. The centre will be located at the RBA's Head Office in Sydney.

The objective of the centre is to ensure that both the RBA and APRA are kept fully informed of developments affecting financial institutions and are able to communicate expeditiously with financial system participants about any necessary action. The centre will also allow the RBA and APRA to keep Government, the media and interested parties overseas (such as other financial regulators and central banks) informed of developments.

Reporting arrangements are now being finalised in close consultation with the industry and will be released shortly.

The following chapters outline the Year 2000 preparations of financial institutions in Australia; the activities of the financial sector regulators; and preparations in payments and securities settlement systems. A list of useful Year 2000 web sites is provided in Appendix 2.

The full text of this booklet is available at the following web sites: www.rba.gov.au; www.apra.gov.au; and www.asic.gov.au.

Comments or questions may be sent over the Internet at the above web sites, or to:

Year 2000 Liaison Officer
Reserve Bank of Australia
GPO Box 3947
SYDNEY NSW 2001

Year 2000 Liaison Officer
Australian Prudential Regulation Authority
GPO Box 9836
SYDNEY NSW 2001

Year 2000 Liaison Officer
Australian Securities and Investments Commission
GPO Box 4866
SYDNEY NSW 1042

2. AUSTRALIAN PRUDENTIAL REGULATION AUTHORITY

2.1 Framework for Achieving Year 2000 Compliance

A broad framework for achieving Year 2000 compliance, based on international standards, was provided in earlier editions of this booklet. In brief, it comprises five key stages: assessment, renovation, validation (testing), implementation and contingency planning. Financial institutions are now in the process of finalising their Year 2000 contingency plans. This approach is consistent with guidance issued by the Basel Committee on Banking Supervision, which has been adopted internationally by financial sector regulators.

To avoid confusion, and to provide a reference point for the industries it regulates, APRA has decided to use the following definition of Year 2000 compliance:

A Year 2000 compliant system is one which is able to operate *on and after* 1 January 2000 and manage and represent information involving dates, without being abnormally affected by dates spanning the period *prior to, during and after* the Year 2000. A Year 2000 compliant system should also be able to accurately exchange information involving dates with other systems.

A more detailed definition of Year 2000 compliance prepared by the British Standards Institute is included in Appendix 3.

The distinction is often made between ‘critical’ and ‘non-critical’ systems in respect of Year 2000 compliance. This is to ensure that attention is focused on those systems likely to have the most disruptive impact should they fail to be compliant. APRA has defined a system to be ‘critical’ if its failure would:

- result in a substantial loss (either in money or reputation);
- have a significant impact on the organisation’s operations; or
- adversely affect the organisation’s customers/counterparties for an extended period of time (eg over 24 hours, but this could vary depending on the type of business).

This definition typically covers the following systems: payments, accounting, treasury, risk management, front office, communications and operating systems directly supporting essential financial services. Examples of ‘non-critical’ systems might include other internal information systems and some administrative systems.

2.2 Supervision of Regulated Institutions

APRA’s role

As mentioned above, APRA was formed on 1 July 1998, combining the banking supervision operations of the RBA and the supervision of life insurance, general insurance and superannuation funds previously undertaken by the Insurance and Superannuation Commission (ISC); responsibility for the supervision of building

societies, credit unions, friendly societies and special service providers was transferred from the Financial Institutions (FI) Scheme supervisors to APRA on 1 July 1999. Prior to the transfer, APRA and AFIC (the lead regulator of the FI Scheme supervisors) worked closely to ensure consistency in their approach to the supervision of the Year 2000 preparations of their respective regulated entities.

APRA's overall approach to the supervision of regulated entities is based on the view that the prime responsibility for the prudent management of the entity resides with its board and management. APRA expects regulated entities to have systems in place which identify and limit risks to prudent levels. Therefore, ultimate responsibility for ensuring that a regulated entity will continue to operate successfully in the Year 2000 rests with the board and senior management. APRA's role is to ensure that institutions have in place an adequate program to address the Year 2000 problem, which is supported by the board and senior management, and that sufficient resources are being devoted to the task.

APRA (and, prior to its formation, the RBA, ISC and AFIC) has been monitoring the Year 2000 programs of regulated institutions since 1997. The degree of supervision varies according to the type and size of institution, with the most intensive supervision directed at banks because of their critical role in the payments system. APRA has also promoted awareness of Year 2000 related issues – this is especially important for the smaller institutions and those institutions which had originally focused on Year 2000 as a technology issue and had not fully taken into account the wider business implications.

Quarterly Progress Returns

Regulated entities are required to provide APRA with quarterly Progress Returns in respect of their Year 2000 programs. (The returns provided to the FI Scheme supervisors prior to 1 July 1999 were largely consistent with those provided to APRA.) The range of information sought in the quarterly returns has changed over time in line with the advancing stages of Year 2000 preparations. While the focus over late 1998/early 1999 was on renovation and testing of critical applications, attention has now shifted to finalisation and testing of contingency plans.

In addition to the returns, APRA also obtains a range of information from regulated institutions on their Year 2000 preparations, through meetings and prudential consultations, correspondence and telephone conversations. APRA also monitors the public information put out by institutions, including disclosure statements to the ASX and information placed on web sites and provided to customers.

Pro-active Measures

Where it has looked uncertain that a financial institution would meet its timeframe or adequately addressed those issues which it considers important, APRA has expressed its concerns directly to the Chief Executive Officer/Board/Country Head; where foreign banks are involved, APRA has also communicated directly with the bank's home supervisor. For example, where there was slippage in programs, APRA has sought

additional information on the measures being taken to address this – APRA expects institutions to have ‘trigger dates’ and alternative, or ‘fallback’, positions (this is especially important where there is a reliance on third-party software/hardware suppliers or in respect of outsourced operations).

Where APRA has had particular concerns about an institution’s progress, it has visited the institution to discuss its Year 2000 program in more detail. Over the past six months, APRA has met with a small number of institutions for this purpose. It should be emphasised that these visits are not aimed at verifying that financial institutions will not experience any Year 2000 related problems. Rather, they allow APRA to make a judgement as to whether the institution has in place an adequate program for Year 2000, that there is high-level commitment and that sufficient resources are being devoted to the task.

APRA wrote to regulated institutions in December 1998 informing them that, where they intend to outsource functions or undertake mergers with, or acquisitions of, other institutions, it would be assessing these plans in view of the possible impact on the Year 2000 remediation programs of regulated entities. Any plans to integrate systems, in the case of mergers or acquisitions prior to the Year 2000, require prior consultation with APRA.

Contingency Plans

Most institutions have completed the renovation and testing of critical systems and are now finalising contingency plans in order to mitigate the impact of a range of possible Year 2000 related problems arising through internal or external causes. APRA’s target date for the completion of these contingency plans was end-June 1999. While APRA acknowledged that this date was somewhat ambitious, the majority of institutions have now either completed, or are close to completing, these plans. Those financial institutions that have not yet done so have some additional time to deal with any slippages. All institutions are expected to test these plans well in advance of 1 January 2000.

A number of the larger global institutions learned some valuable lessons with the introduction of the Euro on 1 January 1999 and have taken these into account in their contingency plans. APRA has provided financial institutions with a number of useful documents on contingency planning, including those put out by the Joint Year 2000 Council and the Australian Year 2000 Interbank Working Group. While most institutions already have contingency plans to handle a range of events, APRA wrote to institutions in March and June highlighting a number of issues which it believes are unique to Year 2000. These include:

- liquidity issues, including potential changes in the behaviour of depositors, other customers and market participants. These could impact at both the retail and wholesale level, and could arise in the period leading up to, as well as on and after, 1 January 2000. A large number of institutions have indicated to APRA that they intend to significantly reduce the number of transactions they initiate in financial

markets in the week or so before and after the date change. In fact, some have put in place total prohibitions on ‘over-the-counter’ financial market transactions during this period. Other measures that have been, or are likely to be, adopted include lengthening the maturity of funding to limit volumes maturing prior to the date change and during January 2000, building up holdings of highly liquid assets, and arranging stand-by lines from other institutions. These responses highlight the need for all institutions (and those with which they deal) to take into account the fact that trading volumes, and hence access to liquidity, may be significantly less than normal over the period around the date change;

- institutions already have robust back-up arrangements to ensure that essential data (such as account information and customer records) are not lost due to system or other problems. APRA has asked that these arrangements be reviewed to take into account any potential problems specifically associated with the Year 2000. This is important in providing reassurance to depositors, policy holders, members of superannuation funds and other customers that their essential records are safe;
- boards of financial institutions should take into account the broader implications of Year 2000. This includes issues such as a potential increase in insurance claims and an assessment of the impact of Year 2000 related issues on current investment strategies; and
- where critical functions are outsourced, contingency plans should take this into account.

APRA has also written to institutions suggesting that they should consider setting periods in the latter part of 1999 and early 2000 (including the period around 29 February 2000) during which changes to critical systems will only be undertaken if deemed absolutely necessary. This is to ensure that any changes do not introduce errors into systems that have already been tested. Most institutions have put in place a freeze period on changes to critical applications. APRA supports the Australian Payments Clearing Association’s initiatives in this area (refer Chapter 5).

The following outlines APRA’s supervision of Year 2000 issues by individual sector.

2.2.1 Authorised Deposit-Taking Institutions

Banks

APRA is closely monitoring each bank’s Year 2000 program through quarterly Progress Returns, which are signed by a director of the bank (or Country Head in the case of foreign bank branches operating in Australia). External auditors are required to verify the information provided in the return in accordance with Prudential Statement H1, *Relationship Between Banks, Their External Auditors and APRA*. In addition to verifying the Year 2000 returns, APRA has asked external auditors to report on banks’ ‘Business Continuity (Disaster Recovery) Plans’, including preparations for business to continue in the face of difficulties associated with the Year 2000. APRA has also requested the Chief Executive Officer (CEO) of each bank to attest that progress on

Year 2000 issues meets the timeframe set by APRA in respect of critical systems (ie the completion of renovation and internal testing by end-December 1998 and completion of external testing by end-June 1999). CEOs and Country Heads have provided attestations as at end-December and end-June (with qualifying statements as necessary where some critical systems had not been internally tested). The attestations as at end-June 1999 also required CEOs and Country Heads to attest that comprehensive contingency plans were in place to deal with a broad range of possible events and ensure that essential data (eg account information and customer records) will not be lost as a result of system or other problems.

APRA has been closely watching banks' participation in testing of domestic payments clearing streams and other external testing programs, such as those conducted by SWIFT, the Australian Stock Exchange and the Sydney Futures Exchange.

The *Banking Act 1959* provides APRA with considerable powers over authorised deposit-taking institutions (ADIs), which now include banks, building societies, credit unions and their industry Special Service Providers. APRA will use these powers where it is of the view that an ADI has not taken adequate measures in respect of its Year 2000 preparations and where it believes that this could have an adverse effect on depositors or other financial institutions. In such cases, APRA has a range of options, including restricting the operations of the ADI. As mentioned above, APRA has already met with a small number of institutions where it had concerns, and indicated to them the broad approach it would take if it was not satisfied about the extent of progress. However, APRA is of the view, on the basis of the information it has at this time, that it is unlikely that such steps will be necessary.

Survey Results

The RBA undertook its first survey of banks' Year 2000 preparations in May 1997 (the results were outlined in a speech by Deputy Governor Thompson in October 1997 and published in the Reserve Bank *Bulletin* in November 1997). In March 1998, the RBA sought additional information and the results of that survey were given in the first of these booklets in July 1998.

APRA introduced its first quarterly Year 2000 Progress Return in September 1998 (the results of the September and December returns were published in the January and April 1999 versions of this booklet, respectively). Banks have had the option of completing these returns on a 'whole organisation' basis, reflecting the fact that many financial groups (consisting of banks, life insurers, funds managers etc) have tended to manage their program on a centralised basis. It was also decided to adopt this approach so as to simplify the provision of information to APRA for those financial groups having more than one entity regulated by APRA. While most respondents have chosen to adopt this approach (many had provided information on this basis in the previous surveys), others opted to provide the information on a bank-only basis. As a result, the information in the Progress Returns is not directly comparable with the earlier surveys.

The main results of the latest Progress Return, which detailed the state of Year 2000 preparations as at end-June 1999, are outlined below:

- there was significant progress during the June 1999 quarter, with more than half of the banks reporting at end-June that all critical systems had been completely renovated and tested. Most of the remaining banks finalised testing during July and August. The few remaining systems where testing is yet to be finalised are systems where any problems would have little or no impact on retail bank accounts or the payments system. Where a bank has not completed its renovation/testing activities for all of its critical applications, APRA is confident that appropriate ‘trigger dates’ and ‘fallback’ arrangements are in place to minimise disruptions should these systems not be made compliant in time. This is especially important where there is a possibility that third-party vendors will fail to provide compliant software/hardware within an acceptable timeframe;
- banks and banking groups continue to allocate considerable financial and staffing resources to their Year 2000 programs. They expect to spend around \$1.1 billion (this amount remains unchanged from the end-September 1998 figure)¹. While there was considerable variation between institutions, in aggregate, around 80 per cent of the budgeted amount had been spent by end-June, compared with 70 per cent at end-March and 60 per cent in December 1998;
- banks and banking groups had around 2,800 staff working on Year 2000 issues at end-June. This represents a fall of nearly 10 per cent since March, reflecting the fact that the most labour-intensive component of banks’ Year 2000 projects – testing – has now largely been completed. To date, banks have not experienced any problems in obtaining – or retaining – suitably qualified staff;
- most foreign bank branches are dependent on their parents for their Year 2000 compliance program. Most have only a small number of local IT staff and, being restricted to the wholesale market, tend to have less extensive systems than the large domestic banks involved in the retail market. APRA has exchanged information with the home-country supervisors of all foreign banks operating in Australia regarding Year 2000 preparations;
- banks are well into the contingency planning phase of their Year 2000 programs. Around 85 per cent of banks had completed their contingency plans by end-June, allowing the rest of the year for testing and further refinement. These plans address the impact on banks’ operations should their own systems experience Year 2000 problems and take into account the potential impact of problems experienced by counterparties, customers and suppliers. As mentioned in Chapter 2.2, APRA has indicated to banks those areas which it considers are most important;

1. This is only an approximate figure as, in most cases, separate figures could not be provided for foreign bank branches operating in Australia, reflecting the fact that Year 2000 programs were being managed by head office. In these cases, costs have been allocated on the basis of the size and type of operations in Australia. A number of banks increased their budgets in June 1999, but others reported an expectation that they will come in under budget.

- as at end-June, banks assessed that around two-thirds of their customers and counterparties were taking adequate measures to address the Year 2000 problem. Banks have included Year 2000 issues in their criteria for assessing potential exposures to customers and counterparties and most have provided disclosure statements on their Year 2000 preparations to their customers and counterparties. The vast majority of banks have now put in place programs to raise customer awareness of the Year 2000 problem and are seeking details of what customers and counterparties are doing to address the problem; and
- almost all banks plan to undertake a final check of some or all of their systems over the New Year long weekend as a final check for Year 2000 issues. Should problems be detected which cannot be resolved immediately, the three-day break provides ample time for banks to invoke contingency plans before normal trading resumes on 4 January. APRA will be seeking assurances from those not conducting tests, and those opening for business on 1 January, that appropriate safeguards are in place.

Credit Unions, Building Societies and Special Service Providers

As noted above, the responsibility for the prudential regulation of Australia's credit unions, building societies and their special service providers was transferred to APRA on 1 July 1999. Prior to July, the state-based FI Scheme was responsible for the supervision and regulation of these entities; AFIC was the lead supervisor in the FI Scheme. Throughout the period leading up to the transfer, AFIC worked closely with APRA to ensure a consistent approach to the supervision of the Year 2000 preparations of Australian financial institutions.

The approach adopted by FI Scheme supervisors included both on-site and off-site supervision activities. The on-site activities involved visits to specific institutions to assess the adequacy of their Year 2000 preparations, and the overall corporate governance of the Year 2000 problem. Off-site supervision activities focused on the collection of relevant information from quarterly returns. In addition, FI Scheme supervisors met with industry service providers and common IT vendors to discuss their Year 2000 preparations. AFIC also encouraged external auditors to consider the adequacy of an institution's Year 2000 preparations before signing-off on risk management audit reports.

Throughout the process, the FI Scheme supervisors have emphasised that the prime responsibility for the management of the Year 2000 problem resides with the board and management of each institution.

Survey Results – Credit Unions and Building Societies

All FI Scheme institutions have been required to submit quarterly returns on their Year 2000 preparations. The returns have been largely consistent with those required by APRA, with the range of information sought in the quarterly returns changing over time in line with the advancing stages of Year 2000 preparedness. The type of information sought has included board awareness, Year 2000 project planning,

contingency planning and current project status. The results from the returns have been useful in identifying specific issues and in influencing the focus of on-site inspections.

Credit unions have approached Year 2000 preparations from an industry viewpoint. There has been a high level of cooperation between individual institutions and considerable assistance from industry special service providers.

The June 1999 returns indicated that the very large majority of building societies and credit unions had completed the testing and implementation phase of their Year 2000 project by end-June 1999. Where there has been some slippage in testing timetables, this has been largely due to external service providers, an issue that was addressed by additional testing periods in July and August. FI Scheme supervisors have encouraged institutions to impose a freeze on changes to critical applications over the two main periods of risk.

With the completion of most of the renovation activities, the main focus of these financial institutions has now shifted to contingency planning, which includes issues such as potential liquidity demands, disclosure of Year 2000 preparations, staff training, and so on.

Survey Results – Special Service Providers

There are three Special Service Provider (SSP) groups – Credit Union Services Corporation of Australia Limited (CUSCAL), CreditLink and AAPBS Settlements Limited (ASL). The role of the SSPs is critical as they provide access to the payments system for the credit union and building society industries.

FI Scheme supervisors were responsible for the supervision of the Year 2000 preparations of SSPs prior to 1 July 1999, at which time responsibility was transferred to APRA. As with credit unions and building societies, SSPs have been required to submit quarterly returns on their Year 2000 progress. While these returns have been specifically tailored for each SSP based on the functions and services it provides, the returns have been, again, largely consistent with those required by APRA. Similarly, the range of information sought in the quarterly returns has changed over time in line with the advancing stages of Year 2000 preparedness.

The results of the June 1999 survey indicated that the SSPs have continued to make steady progress and that by end-June 1999, all testing phases relating to critical systems had largely been completed (the SSPs were also participants in the APCA payments system testing that was successfully completed at end-June). The SSPs' Year 2000 preparations are now heavily focused on contingency planning.

2.2.2 Life Insurance Companies and Friendly Societies

Life Insurance Companies

As the Year 2000 problem could potentially have a significant impact on the life insurance industry and interests of policy-holders, APRA has undertaken a number of

initiatives to raise awareness of the problem within the industry and to closely monitor industry progress towards resolving the problem.

APRA has surveyed all registered life companies on five separate occasions to assess the amount of attention being given to the Year 2000 problem. The first of these surveys was conducted in July 1997 in order to assess the level of awareness of the problems which could arise. In November 1997, the results of the survey were relayed to the industry through letters to the CEOs of all life companies and approved auditors. This emphasised CEO and board responsibility to ensure that a company's computer systems are adapted in time to avoid any Year 2000 problems, especially those which may harm policy-holder interests. The letter highlighted the role a company's auditor should play in assisting companies to monitor the progress of Year 2000 preparations. It also raised a number of business issues relating to the problem, in particular dependencies on external service providers (including reinsurers, investment managers and custodians) and the importance of contingency planning (including disaster recovery plans).

The second survey, and first of APRA's quarterly Year 2000 Progress Returns, was in September 1998. Further Progress Returns were conducted in December 1998, March 1999 and, most recently, June 1999.

In between these industry surveys, a series of inspections of life companies' Year 2000 preparations were conducted in April/May 1998. A range of companies were visited on the basis of size, type of business written, etc, in order to cover a cross-section of the industry. The prime focus of these inspections was to ascertain whether companies had appropriate processes in place to minimise the risk of loss or disruption to policy owners. During the second quarter of 1999, further inspections were conducted of a number of companies whose returns raised some concern.

Feedback from both the visits and the September 1998 survey were relayed to the industry through letters to the CEOs of all companies. During 1999 all feedback has been provided on an individual company basis when issues have arisen from a company's return.

On the whole, companies are now well advanced, if not finished, with renovation, testing and preparation for any potential disruptions. APRA is now dealing with any remaining issues on a company-by-company basis, including visits to companies and continued close monitoring.

Survey Results

The surveys conducted by APRA since 1997 have revealed:

- companies have recognised the importance of the Year 2000 issue and are committed to ensuring compliance. Although some companies started their preparations late, and have lagged behind the generally accepted international timetables, the industry is now well positioned for the date change;

- the level of attention paid to Year 2000 issues at board level has varied between companies and over time but is now a major focus of the board in all companies;
- companies originally concentrated on addressing the Year 2000 readiness of internal systems. Most are now addressing the compliance of other service providers (eg reinsurers, investment managers). All life companies have now contacted and received some responses from external service providers concerning their preparations. However, response rates have varied between companies;
- almost all life companies had completed the renovation and testing (including testing with external parties where appropriate) of all their critical computer systems by 30 June 1999. The few remaining companies have been contacted by APRA and their progress is being closely monitored; and
- the majority of companies have developed contingency plans for the Year 2000. The remaining companies are currently in the process of finalising and testing these plans.

APRA will continue to monitor life companies' Year 2000 compliance closely.

Friendly Societies – Survey Results

As with other entities supervised by APRA and the FI Scheme supervisors, friendly societies have been required to submit quarterly returns on their Year 2000 progress. These returns have been largely consistent with the returns required from credit unions and building societies.

The June 1999 returns indicated that the friendly society industry is well progressed with its Year 2000 projects. The very large majority of institutions have completed their testing and implementation phases and are now focused on their contingency planning.

2.2.3 General Insurance Companies

Approach to Supervision

APRA has undertaken a range of measures to raise awareness of the Year 2000 issue in the general insurance industry. In addition to the protection of policy-holders' interests, as the prudential supervisor of entities which might provide cover to others in respect of insurance risks relating to Year 2000 events, APRA's concern extends to the potential liability of such entities for claims.

In January 1998, all authorised general insurers and approved auditors were surveyed to assess their awareness of, and measures being taken to address, the Year 2000 problem. This was followed up with another survey of authorised general insurers in November 1998. Between the surveys, APRA visited 15 groups of insurers to obtain a better understanding of their approach to Year 2000 issues.

As a result of the surveys and company visits APRA was able to confirm that the industry was giving sufficient priority to Year 2000 preparations and that the proposed

projects covered the broad issues within acceptable timeframes. In particular, the critical functions for renewals and new policies were renovated before the end of 1998.

Most insurers have changed their policies to exclude losses that arise directly from Year 2000 problems, but they have not excluded losses that arise indirectly from such problems (ie consequential losses). However, reinsurers have tended to provide reinsurance to direct insurers without Year 2000 exclusion clauses. On this point it is worth noting that the Insurance Council of Australia (ICA), the industry association representing private sector general insurers, has advised that many potential Year 2000 related losses can be predicted and can be avoided by careful planning and timely action. As a result, the ICA is of the view that such losses may not be covered by insurance, which covers losses arising only from accidental or unforeseen events. The actual outcomes based on specific claims cannot be forecast with any certainty at this stage.

Survey Results

The Year 2000 progress of general insurance companies that are part of a financial group containing banks and/or life insurers has been monitored through the 'whole of organisation' quarterly Progress Returns requested of those institutions. The remaining stand-alone general insurers and reinsurers were required to file quarterly Progress Returns for the March and June 1999 quarters. The main results of the returns are as follows:

- general insurers had largely completed renovation and internal testing of critical systems by end-June 1999. A large proportion of the residual work-in-progress relates to post-June upgrading to Year 2000 compliant software. APRA will continue to closely monitor the renovation and testing of remaining systems;
- where APRA has had concerns with the pace of an individual insurer's progress, it has raised these concerns directly with the insurer. APRA's experience has been that, where such concerns have been raised with insurers (mainly as part of conglomerates), they have been addressed as a priority;
- contingency planning for the industry is well advanced, with the majority of insurers providing summaries of their plans, as requested by APRA. Most of the remaining insurers have identified their risks and proposed action and are in the process of finalising the plans;
- most insurers have indicated that they intend to test all or key aspects of their contingency plans prior to 1 January 2000;
- a standard element of individual insurers' contingency preparations includes plans to verify over the date change weekend that internal systems are functioning normally; and
- a feature of general insurers and reinsurers is the high percentage of customer and supplier Year 2000 assessments.

APRA required the CEO, or authorised agent in the case of branch operations, to attest by mid-August 1999 as to the status of their preparations as at end-June. The attestations are being examined by APRA as part of the assessment process.

2.2.4 Superannuation

Because of the number of superannuation entities regulated by APRA, it is impractical to approach each entity to assess its preparations for Year 2000 issues. Instead, APRA has focused on raising the awareness of trustees about their responsibilities in managing the risks. Central to this is that APRA believes Year 2000 compliance is an important control issue with respect to the statutory obligations of all trustees.

APRA has assessed preparedness through surveys of larger entities and service providers, as well as placing special emphasis on the Year 2000 issue during the normal ongoing prudential review program. Where concerns have been raised they have been relayed directly to the trustees. APRA's findings, including general concerns and 'best practice' information, have been continually disseminated to the broader industry by trustee newsletters, speeches, brochures and press releases.

Approved trustees are responsible for funds whose membership accounts for approximately 90 per cent of the industry and nearly two-thirds of total assets. Reflecting their importance within the industry, APRA has obtained quarterly Year 2000 Progress Returns from all approved trustees since December 1998. In addition, Year 2000 compliance forms part of the annual certification as to the adequacy of approved trustees' internal control systems. Many approved trustees are part of banking or insurance conglomerates which have reported Year 2000 progress on a 'whole of organisation' basis.

APRA raised any issues directly with trustees or their agent in writing or as part of the ongoing review processes. These concerns generally related to the timing for completion of renovation and testing of systems and/or contingency planning. A particular issue for some trustees, in view of the high level of outsourcing of functions, has been the need for more pro-active management of progress by critical service providers. APRA has continually reminded trustees that it is their responsibility to form an opinion of their service providers' progress, regularly review progress against milestones and determine fallback positions with appropriate trigger dates.

Because of the large number of superannuation funds serviced by external administrators, APRA has sought information directly from administrators as well as from funds themselves. The selected administrators' clients were concentrated mainly in the excluded funds part of the superannuation industry (also known as D-I-Y funds). Where individual administrators did not provide APRA with a sufficient degree of comfort, APRA has approached some of the affected trustees directly and emphasised their responsibility to assess their service providers and, if necessary, take appropriate action to protect members' interests. All trustees approached have responded that they consider that the administrator does not present a material risk to member benefits.

Survey Results

The first survey of Year 2000 awareness among the major entities in the superannuation industry was undertaken in 1997. This survey covered the top 100 industry funds, all approved trustees and selected administrators. This survey indicated a mixed degree of preparedness and, as a result, all survey participants were written to expressing concern at the inadequate attention apparently being paid to this issue by the superannuation industry.

Throughout 1998, APRA focused on Year 2000 preparations as part of its ongoing program of prudential reviews of superannuation funds. A follow-up survey was sent to more than 300 approved trustees, fund administrators and large superannuation funds in July 1998. An additional tier of superannuation funds with 200 or more members was surveyed in October 1998. These surveys highlighted critical areas where superannuation trustees and administrators needed additional focus as part of their Year 2000 compliance programs. The survey responses showed that there had been a significant increase in awareness of the issues within the superannuation industry compared with the position twelve months earlier.

Commencing in December 1998, all approved trustees and a selected population of administrators were approached as part of APRA's program of quarterly Progress Returns. The major findings, which detailed the state of Year 2000 preparations at end-June 1999, are:

- most of the internal systems of approved trustees have been renovated and tested. Most of the applications outstanding relate to the delivery and upgrading to Year 2000 compliant versions of commercial software – this should be finalised by early September 1999. Those approved trustees that had not finished renovation and testing at end-June 1999 are being closely monitored;
- approved trustees who are critically dependent on service providers have generally improved their process for service provider assessment since the first quarterly survey in December 1998. At 30 June 1999, most were satisfied with service provider progress and expected to sign off in August 1999. The majority of significant service providers are part of banking or insurance conglomerates which have been closely monitored through the 'whole of organisation' returns provided to APRA;
- over half of the approved trustees have finalised their contingency plans. The remainder are well advanced in their contingency planning and expect to have this process completed by end-August. The delay largely reflects the critical dependency of many approved trustees on service providers and the need to build on the contingency plans of those service providers;
- most approved trustee contingency plans include testing and confirmation over the date change weekend that the operations are functioning normally;
- of the administrators surveyed, the more significant report to APRA as part of bank, insurance or approved trustee conglomerates and their progress reflects the

position of these conglomerates, as described earlier. In respect of the remaining institutions surveyed, it was found that their services were mostly to the 'excluded fund' (less than 5 members) sector. While the nature of the relationship between the excluded funds and the reporting administrator, and the size of the funds, present little material risk to either individual funds or to the superannuation industry as a whole, the administrators have nonetheless identified compliance requirements and have either renovated or are in the process of installing Year 2000 upgrades or patches to the commercial software on which their services rely; and

- a minority of approved trustees have either indicated that they have made, or intend to make, a Year 2000 disclosure to members. ASIC has decided against a modification to the *Superannuation Industry (Supervision) Act 1993* (the 'SIS Act') requiring such disclosure statements. Both ASIC and APRA encourage voluntary disclosure. In any event, trustees must consider their position on Year 2000 statements under the notifiable event provisions of the SIS Act and its Regulations.

2.3 APRA's Internal Preparations for Year 2000

Management Structure

APRA's compliance program is overseen by the Year 2000 Committee, which reports to the Board through the Risk Management and Audit Committee. The committee is chaired by the Chief Executive Officer and comprises the three Executive General Managers, the heads of the Legal and IT areas and the head of the Policy area responsible for developing and implementing APRA's supervisory approach to Year 2000 issues.

APRA's Year 2000 Program

The Year 2000 compliance program was independently certified as complete on 30 July 1999. APRA is continuing the former ISC's participation in the 'whole-of-government' compliance program being managed by the Office for Government Online (formerly the Office of Government Information Technology).

APRA's Year 2000 program addressed all major areas of APRA's operations, including computer hardware and software, building infrastructure and telecommunications.

APRA has around 500 PCs and 15 network servers. These have been assessed for Year 2000 compliance. A similar process will be undertaken for any additional PCs purchased prior to the Year 2000.

APRA uses a range of software that was assessed for Year 2000 compliance. This includes:

- specialised software which has been developed 'in-house' (such as those used to process statistical information from regulated entities);
- application packages supplied by third parties; and
- vendor-supplied operating systems and workstation software.

The software systems that were developed in-house required the greatest attention in respect of ensuring Year 2000 compliance. APRA has also received written certification from software vendors that its third-party application packages are Year 2000 compliant. In some cases it has been necessary to upgrade to a later version of this software.

APRA has engaged a consultant to independently verify APRA's state of Year 2000 readiness. The consultant's report was received at 30 July and confirmed APRA was at low risk from any Year 2000 issues.

The lease for APRA's new head office building contains an assurance of Year 2000 compliance and inquiries are being made in relation to the other buildings tenanted by APRA.

APRA has tested all communications facilities, and these were modified as necessary to achieve Year 2000 compliance. The new head office communication systems were already certified as being compliant.

APRA is currently preparing a Year 2000 Contingency Plan, which is expected to be implemented by end-September.

Costs

APRA estimates the total cost for its Year 2000 program will be around \$350,000.

3. AUSTRALIAN SECURITIES & INVESTMENTS COMMISSION AND SECURITIES MARKETS

3.1 Australian Securities and Investments Commission

The Australian Securities and Investments Commission (ASIC) administers the Corporations Law, regulates securities markets and has responsibility for consumer aspects of insurance, superannuation and banking.

Early in 1998, ASIC (then the Australian Securities Commission) developed a strategy for communicating the Year 2000 issue to the financial services sector and the wider business community. The key elements of the strategy were:

- general awareness raising activities, including speeches and media interviews on Year 2000 by Commissioners and senior officers;
- release of an Information Sheet to highlight the issue and to cover required disclosure;
- inclusion of a Year 2000 message on the annual return forms provided to all Australian companies for lodgement with ASIC in respect of 1998/1999;
- development of a media campaign;
- communication with all licensees;
- establishment and maintenance of links with government, securities industry bodies, and securities and futures markets regarding their Year 2000 initiatives; and
- completion of ASIC's own systems compliance program and development of a testing environment for use by external organisations linking into ASIC.

ASIC issued an Information Sheet, *The Millennium Bug – Don't Get Caught*, in May 1998, which can be obtained from the ASIC web site (www.asic.gov.au) or via Infoline (1300 300 630). The Information Sheet covers what the problem means to businesses and their disclosure obligations.

The 1999 annual return, completed by every registered Australian company, contained a Year 2000 warning message and the accompanying guide for completion of the annual return contained a brief explanation of the Year 2000 issue.

ASIC has also been active in communicating with the business community, securities industry, industry associations and the public through speeches, media exposure and publications. In mid-1998, ASIC launched a media campaign directed at small and medium businesses.

Licensees

ASIC has direct responsibility for licensing all advisers and dealers in the securities and futures markets. Since July 1998, ASIC has also taken over licensing of intermediaries in the fields of superannuation and insurance.

ASIC considers that Year 2000 compliance is essential if a licensee is to meet the fundamental requirement of its licence to operate their securities or futures business “efficiently, honestly and fairly”. ASIC considers that the failure to ensure that a licensee’s business is ready for Year 2000 may constitute a breach of their responsibilities as licensee and may, in given circumstances, provide grounds for disciplinary action.

In March 1998, ASIC wrote to all securities and futures licensees making them aware of their obligations and setting out what it considered to be the minimum steps that should be adopted. As a follow up to this letter, ASIC conducted a survey of a sample of 700 licensees in December 1998/January 1999 to determine what action had been undertaken. This sample was composed of securities advisers and dealers licensees and insurance intermediaries which had not already been covered by surveys from APRA, ASX and SFE – that is, smaller licensed securities dealers, investment advisers and insurance brokers. By March 1999, less than half of the sampled organisations had responded.

The survey found that, among licensees who did respond, the importance placed on solving the problem by the board was very high. The vast majority of licensees have completed risk assessment and planning. Just under half have completed corrective action. The survey found that approximately 35 per cent have achieved Year 2000 compliance, 25 per cent expected to be compliant by end-March 1999 and 35 per cent by end-June 1999.

While those that responded indicated that they were making significant progress with correcting the problem and preparing contingency plans, ASIC was concerned by the lack of response of the others. Accordingly, in April 1999 ASIC wrote to all licensees and insurance brokers to seek an assurance that all reasonable steps are being taken to ensure readiness for the Year 2000 and that appropriate contingency and business continuity plans are being developed. Responses were required by May 1999.

ASIC requested each licensee and insurance broker to provide ASIC with a Year 2000 Statement of Readiness from the board or the principal stating that the licensee or insurance broker is:

- aware of the Year 2000 issue and its potential impact;
- taking all necessary steps to ensure Year 2000 compliance; and
- developing appropriate contingency and business continuity plans.

Licensees and insurance brokers were also asked to advise ASIC of previously lodged statements with other regulatory bodies.

Two-thirds of securities licensees and insurance brokers (companies and individuals) have responded with a Year 2000 Statement of Readiness. ASIC is still receiving responses and will continue to closely monitor licensee and insurance broker Year 2000 compliance. Those that responded have indicated that they have made significant progress in preparing for the Year 2000 and developing contingency plans.

Superannuation

Following comments from industry participants in response to ASIC *Information Release 99/015*, ASIC does not intend to make it mandatory for superannuation trustees to disclose their Year 2000 readiness to superannuation fund members. Rather, ASIC will be encouraging trustees to voluntarily disclose as a means of ensuring that they are well placed to reassure their members about their Year 2000 readiness.

3.2 Liaison with Industry Bodies, Government and International Bodies

ASIC has been active in working with other bodies to promote the Year 2000 issue. ASIC has been involved with the year2k Industry Council organised by the Federal Government's year2k Industry Program, and with the CFR Year 2000 Coordinators Group. From a global perspective, ASIC has participated in Year 2000 activities of the International Organisation of Securities Organisations (IOSCO) and the Joint Year 2000 Council.

3.3 ASIC's Internal Preparations for Year 2000

ASIC has reviewed its own systems, developed a compliance plan and has had a project to implement the changes required. ASIC reports each quarter to the Office for Government Online (OGO) on these plans.

All ASIC's core applications have been updated where necessary, and tested for compliance using the Year 2000 compliance testing environment set up for this purpose. Testing of ASIC's critical systems was completed in early July 1999. Full compliance, covering systems, building and facilities, is expected in September 1999.

This testing environment has also been made available to external bodies to test the compliance of their systems, but as yet few clients have availed themselves of this facility.

ASIC has prepared a statement of its Year 2000 status (in the format in which listed companies were required to report their status to the ASX). This disclosure statement has been published on the ASIC web site. ASIC has released a media statement highlighting its disclosure and encouraging other companies to publish their status in a similar way.

3.4 Australian Stock Exchange

The Australian Stock Exchange (ASX) operates primary and secondary markets in equities. In addition, it operates markets in warrants and options.

The ASX commenced an assessment of the Year 2000 status of its systems in 1996. In May 1997, following completion of a detailed exercise to determine the ASX's potential exposure to the Year 2000 problem, the ASX formally established a project with the responsibility for ensuring that the ASX's critical business services will not be interrupted as a consequence of processing date references beyond 1999.

As a basis for assessing the Year 2000 readiness of its critical systems, the ASX uses the British Standards Institute definition (see Appendix 3) as a guide. If the ASX states that an ASX system or service is Year 2000 ready, it means the following:

‘The system or service has undergone an internal review process. In addition, as a minimum, each critical ASX application has been tested using an appropriate set of representative dates. On the basis of this review, and any associated test results, ASX assesses that the risk of a material failure of the system or service as a result of a date processing problem is not significant.’

Critical systems used by the ASX in operating the equities and options markets include:

- equities and warrants trading system (SEATS);
- equities (and warrants) clearing, settlement and registration system (CHESS);
- Derivatives Trading Facility (DTF);
- Derivatives Clearing System (DCS); and
- Company Announcements Platform (CAP).

SEATS

SEATS is the Stock Exchange Automated Trading System for equities and warrants. The Year 2000 ready version of SEATS was released into production in August 1998. Since September 1998, the ASX has provided a SEATS Year 2000 Open Interface test facility. This facility is designed to assist broker organisations assess their level of Year 2000 readiness.

CHESS

CHESS is an electronic clearing, settlement and registration system for equities and warrants. Testing for Year 2000 compliance commenced in 1997 and all components of CHESS are Year 2000 ready. Since February 1998, the ASX has provided a CHESS Year 2000 test facility. This facility is designed to assist CHESS users (eg brokers, institutions and issuers) assess their level of Year 2000 readiness.

Derivatives Trading Facility

The Derivatives Trading Facility (DTF) is used to trade exchange-traded options. ASX uses a system provided by OM Technology (Sweden). The ASX has completed its own Year 2000 testing of the version of the software that has been stated as Year 2000 ready by OM Technology. The Year 2000 version of the software was implemented into ASX production in mid-August 1999. Since July 1999, the ASX has provided a DTF Year 2000 test facility, designed to assist DTF users assess their level of Year 2000 readiness.

Derivatives Clearing System

The Derivatives Clearing System (DCS) is used for clearing exchange-traded options. DCS is a new system which was successfully implemented into ASX production in mid-June 1999. This software has passed the ASX's own Year 2000 readiness testing.

Company Announcements Platform

The Company Announcements Platform (CAP) is used to support the ASX Company Announcements Office in the role of informing the market of announcements which are required to be made by listed entities and other parties. The Year 2000 ready version of CAP was released into ASX production in December 1998.

Industry Testing

The ASX, in conjunction with a representative set of organisations (eg selected broking organisations, institutional settlement participants and banks) successfully completed an industry test during April 1999. The adopted approach was in line with the recommendation of the Global 2000 Coordinating Group. This test concentrated on the day-to-day trading and settlement processes in the equities market.

Disclosure of Listed Companies

The ASX first requested each listed organisation, excluding exempted foreign issuers and debt issuers, to provide a disclosure on two areas concerning the Year 2000 problem by 30 June 1998. First, each organisation was required to provide an assessment of its exposure to the Year 2000 problem. Sources of exposure include suppliers, operations and customers. Secondly, each organisation was required to outline the scope and status of its Year 2000 activities, whether it intends to be Year 2000 compliant (and whether a standard definition of compliance was used), whether it intends to develop and implement contingency plans for continued operation of its critical systems, whether it intends to obtain independent verification of its Year 2000 activities and the estimated total Year 2000 project cost.

The ASX requested updated disclosures from listed companies (excluding exempt companies) by 31 March 1999. The ASX is now requiring further information about listed entities' progress so as to be satisfied that they are meeting their continuous disclosure obligations under ASX Listing Rules. The ASX has called for this third and final disclosure by 30 September 1999. These disclosures are available to interested parties on request (the ASX National Call Centre telephone number is 1300 300 279). The ASX is not in a position to verify the claims made by the organisations in their Year 2000 disclosures and assumes no liability in relation to these disclosures.

Business Continuity Plans

The ASX already has tested Business Continuity Plans (BCPs) in place for each of its critical systems. Each of these plans were reviewed in light of potential Year 2000 problems. Specific Year 2000 BCPs have now been prepared for each critical ASX system/service. Each Year 2000 BCP focuses upon failure of individual critical

components. Alternative methods or components were identified where feasible. This assessment was based upon the level of risk associated with each component (ie high risk/high impact).

The ASX is currently planning in detail the activities that will be undertaken between 31 December 1999 and 2 January 2000. Over the transition weekend, the ASX will undertake a number of verification activities to assess whether its critical services will be able to continue effectively in 2000.

During the early days in 2000 the ASX will continue to monitor the ability of participant organisations to settle.

Broker Readiness

The ASX requested broking organisations to complete a self-assessment of their Year 2000 activities and associated progress. Following a review of the completed self-assessments, the ASX is following up areas of significant concern.

Further information on all Year 2000 matters can be found on the ASX web site (www.asx.com.au).

3.5 Sydney Futures Exchange

Structure

The Sydney Futures Exchange (SFE) and New Zealand Futures & Options Exchange (NZFOE) Year 2000 Project has the highest priority and the full support of senior management and the board.

The SFE and NZFOE Year 2000 Project addresses:

- enhancement and testing of SFE and NZFOE systems;
- the review of the preparedness of core service providers and vendors; and
- the monitoring of SFE and NZFOE markets' Year 2000 progress.

The exchanges have prepared an inventory of all infrastructure and have established dedicated test environments for all critical and most non-critical systems. Detailed test plans have been formulated using, as required, the exchanges' Year 2000 mandatory test dates (09/09/99, 31/12/99, 03/01/00, 29/02/00, 29/12/00 and 02/01/01) and other dates as necessary for date-related functionality testing.

Status

As at 31 July 1999, SFE and NZFOE core systems had passed compliance testing with the exception of SYCOM® IV. SYCOM® IV is undergoing Year 2000 compliance testing and is targeted for completion in September 1999. Additional compliance testing of core systems' interfaces with SYCOM® IV is also being performed.

In July 1999 the SFE and NZFOE performed an Industry Wide Test, with the 22 members participating meeting the core success criteria (refer below).

Industry Wide Test

In July the SFE completed an Industry Wide Test (IWT). The objective of the IWT was to perform an integrated Year 2000 test of core systems used within the day-to-day activities of the futures industry for the SFE, NZFOE and member firms. Twenty-two members elected to participate in this test, including 21 of the exchanges' 25 clearing members. All back office accounting system providers within each market also supported the IWT.

The results of the IWT have been reviewed and signed-off by SFE Information System Audit. All participants met the core success criteria established for the IWT by reconciling cash and position for each of the test days to the SFE's Clearing House.

A minor Year 2000 related problem was experienced during testing of 3 January 2000, when an application software of two participating members had the incorrect date of 3 January 1900 displayed. This problem was rectified on the day by a simple software upgrade provided by the members' software vendor.

Business Continuity Plan

As part of the SFE's preparations for the changeover to Year 2000, the existing Business Continuity Plan (BCP) has been reviewed and is being upgraded.

To effectively update the SFE's BCP in relation to Year 2000, a series of internal Year 2000 scenario workshops have been undertaken. The scenarios covered included the potential problem involved with power and communication infrastructure outage, settlement and clearance system outage and psychological and physical events affecting international financial markets.

The SFE has developed a BCP Member Communication for Transition to Screen Trading and Year 2000, with Issue 1 being distributed on 13 August 1999. An ongoing process with members will be progressed during the third quarter to ensure BCP procedures are in place for identified Year 2000 risk scenarios with specific focus on SFE/NZFOE core system failure.

The key policy decisions that the SFE has ratified include:

- the SFE does not intend to leave the Trading Floor infrastructure intact post floor closure to be used as a contingency;
- the SFE does not intend to set up an alternative screen trading facility for Year 2000 purposes;
- members are responsible for having their own BCP; and
- in a screen trading environment, where there is a major trading system outage, and where appropriate, the SFE intends to rely on telephone trading.

Market Implementation

A process to survey market readiness for the Year 2000 will continue through to the end of 1999. An initial questionnaire was sent to all dealing and clearing members in June 1998 requesting details of their Year 2000 programs. Questionnaire 2 was distributed in February 1999, with Questionnaire 3 due for distribution in September 1999. Responses to these questionnaires are reviewed to monitor the market's ability to maintain services into the Year 2000 and beyond.

Further information on current status and project progress is available on the Year 2000 pages on the SFE web site at www.sfe.com.au or by contacting the Year 2000 Project Team at year2000@sfe.com.au.

4. COORDINATION ARRANGEMENTS

4.1 Domestic Activities

Regulators

The three Australian financial sector regulatory agencies – the RBA, APRA and ASIC – have, under the auspices of the CFR, established a Year 2000 Coordinators Group. The broad role of this group is outlined in Chapter 1.3.

This Group has already considered a number of issues, including seeking the views of major financial sector institutions and industry bodies on the merit of having special public holidays around the date change as a means of assisting contingency planning. There was negligible support for a holiday on 31 December, but unanimous agreement on the benefits of having a nation-wide public holiday on Monday, 3 January 2000. All States and Territories have declared 3 January to be a holiday.

The RBA and APRA also meet regularly with representatives of the Australian Bankers' Association (ABA) and Australian Payments Clearing Association (APCA) to share information on Year 2000 issues, especially in respect of media reports and possible ways of addressing any public concerns that may arise.

Year 2000 Interbank Working Group

Since August 1997, the four major Australian banks and the RBA have met regularly as the Interbank Working Group (IWG) to address Year 2000 issues affecting the banking community. APRA and the ABA have also participated in the IWG where relevant. Further details on the IWG structure and activities can be found on the web site www.bankers.asn.au.

The IWG has focused on issues that could be progressed better by a broader industry-based group rather than by individual organisations, and has shared its work with all banks. The ABA and APCA assist by communicating relevant information and developments to all participants in those organisations.

The IWG has accomplished many of its original objectives and, as reported in earlier publications of this booklet, has been refocusing and scaling back its activities during 1999. In summary, the remaining operations of the group are:

- **Telecommunications**

The IWG continues to liaise with the major domestic carriers and the Australian Communications Industry Forum on issues of potential impact on the banking community and on the continuing disclosure of their Year 2000 preparations and end-to-end connectivity compliance.

- **Property & Building Services**

The IWG welcomes the moves by industry bodies and utilities' regulators (particularly electricity supply) to coordinate and publish the state of readiness for

their particular utility supply chain. The IWG will continue to liaise as appropriate with these industries.

- Risk Management

The IWG Risk Management group will continue to support the activities of APCA's Year 2000 Contingency Group. There are common members of the IWG Risk Management group and APCA's contingency group to ensure a continued sharing of knowledge and a common approach.

- Global Coordination

This is discussed under the Global 2000 Coordinating Group in Chapter 4.2.

4.2 International Activities

Joint Year 2000 Council

APRA is represented on the Joint Year 2000 Council, which was established by international financial supervisors in April 1998. The Council consists of representatives from the Basel Committee on Banking Supervision (Basel Committee), the Committee on Payment and Settlement Systems (CPSS), the International Association of Insurance Supervisors (IAIS) and the International Organisation of Securities Commissions (IOSCO). The Council has agreed on a range of initiatives to ensure a high level of attention is focused on the Year 2000 problem by supervisors, to share information, to discuss possible contingency measures, and to serve as a point of contact with national and international private sector initiatives. The Council is currently focusing on procedures to ensure effective communication between regulators over the Year 2000 transition period, including procedures for sharing information in respect of institutions with significant cross-border operations.

Global 2000 Coordinating Group

The private sector Global 2000 Coordinating Group continues to work on those areas where coordination will improve the readiness of global financial institutions to address the Year 2000 problem. The Group recently approved a framework for industry-wide contingency plans which will provide options for individual markets to consider when developing their own contingency plans.

The Group liaises with the relevant regulators and supervisors with all outputs available on its web site at www.global2k.com.

Australia was a founding steering committee member of the Global 2000 Group and the IWG has supported Australia's representation.

5. PREPARATIONS IN THE PAYMENTS SYSTEM

This chapter provides an update of the work which is under way, or completed, to prepare the technical infrastructure used in Australia's payments clearing systems for the Year 2000.

5.1 The Payments System

Participants in the Australian payments system include banks, building societies, credit unions, special service providers for the building society and credit union industries, card schemes, and non-financial institutions which provide payments switching and clearing services (these are often referred to as payments service bureaus).

The retail payments system consists of clearing systems for cheques and direct entry managed by the Australian Payments Clearing Association (APCA); a series of bilateral arrangements for the interchange of ATM, EFTPOS and credit card transactions; and a bill payment facility (BPAY).

There are three high-value clearing systems in Australia which settle on a real-time gross settlement (RTGS) basis. The core RTGS system is the Reserve Bank Information and Transfer System (RITS), which is also the settlement system for Commonwealth Government securities. RITS is also used to settle multilateral net obligations arising in the retail clearing streams. Two other high-value systems are linked to RITS as 'RTGS feeder systems'. These are Austraclear Limited's FINTRACS system, a settlement system for private sector and semi-government debt securities, and APCA's SWIFT Payment Delivery System (PDS).

5.2 Year 2000 Testing

The Australian payments system is now in the final stages of preparation for the Year 2000. Industry testing managed by APCA was successfully completed, on schedule, by 30 June 1999. No Year 2000 problems were reported by test participants. The testing covered the exchange of payment information relating to cheques, direct debit and credit transactions, debit and credit card payments in ATM and EFTPOS terminals, BPAY transactions and high-value payments.

Banks, building societies and credit unions, as well as key payments service bureaus, participated in this testing and were required to certify that internal systems supporting their payments operations were Year 2000 ready before testing commenced. The scope of the tests also included posting of transactions to the appropriate customer account. The completion of this testing is being complemented by an industry 'Preservation Strategy', described in Chapter 5.3.3, which is designed to ensure that the Year 2000 readiness of the payments system is maintained.

Detail on testing in individual clearing streams and BPAY is set out below.

5.2.1 Australian Paper Clearing System (APCS)

Cheques and other paper-based payment instruments are cleared through the APCS. Exchanges in this system are conducted on a bilateral basis by 12 direct clearers, which are also responsible for clearing paper-based payment instruments drawn on 37 appointor institutions.

Year 2000 testing was completed as part of the introduction of a new electronic message standard for the electronic presentment and dishonour of cheques and payment orders; testing included clearing services provided by payment service bureaus. All direct clearers in the APCS tested their Year 2000 compliance with at least one other direct clearer. Direct clearers also completed testing with each of their appointor institutions.

5.2.2 Bulk Electronic Clearing System (BECS)

Direct entry debits and credits are cleared on a bilateral basis through BECS. At present, the BECS electronic message format only has a six-digit date field (DD/MM/YY). This message format will not change prior to the Year 2000 and participants will be required to make internal systems changes to correctly interpret the '00' appearing in the last two digits of the date field.

Year 2000 testing in BECS focused on those institutions which clear payments directly with at least one other direct clearer in BECS, and also payment clearing services provided by payments service bureaus. Direct clearers also completed testing with those institutions for which they act as clearing agent (ie appointor institutions).

5.2.3 Retail Electronic Payments

Retail electronic payments in Australia include debit, credit and other plastic cards through ATMs and EFTPOS, and other card schemes including MasterCard, Visa and Bankcard.

APCA coordinated testing for debit card payments through ATM and EFTPOS terminals and payment switch mechanisms provided by non-financial institutions. Credit card payments exchanged bilaterally between financial institutions or payments service bureaus were also included. Test participants also completed testing with financial institutions for whom they provide settlement or transaction switching services.

Individual institutions are responsible for ensuring the Year 2000 compliance of their links with systems operated by card schemes (see Chapter 5.4 for details on credit card schemes).

5.2.4 Bill Payment System (BPAY)

BPAY allows customers to pay invoices through financial institutions participating in the scheme. Cardlink Services Limited is the clearing house for the exchange of BPAY transactions.

Testing in this system included members' internal systems used to collate and exchange customers' BPAY transactions, exchanges between Cardlink Services and its members and interbank settlement. BPAY transactions involving only one financial institution were not included in the testing.

Members joining BPAY after end-June 1999 must complete industry Year 2000 testing by 1 September 1999 and must commence live operations before 1 October 1999 (this may be extended to 15 October 1999 with special approval). These dates are consistent with the commencement of the 'Change Implementation Moratorium' on 1 November 1999 (refer Chapter 5.3.3), which applies to all payments clearing systems, but is mainly applicable to BPAY where new membership is anticipated.

5.2.5 RTGS Systems

All of the key components of Australia's RTGS infrastructure have been tested, including:

- RITS – the core system through which final settlement of interbank payments is effected. RITS settles transactions which are entered directly through RITS terminals (eg settlements for Commonwealth Government securities) or routed to it from 'feeder systems' (the SWIFT PDS and FINTRACS);
- the Central SWIFT Interface (CSI) – which provides the interface between RITS and SWIFT for payments between members of the SWIFT PDS;
- the SWIFT PDS – a high-value funds transfer system based on SWIFT's FIN-Copy Service. Financial institutions access the SWIFT PDS via SWIFT computer-based terminals (CBTs); and
- banks' CBTs, and proprietary payments systems that access the SWIFT PDS on an automated basis.

The RBA's internal Year 2000 acceptance testing of RITS and its interfaces is complete. Interbank testing of the above systems focused on the automated exchange of high-value payments, account to account, between banks. All holders of Exchange Settlement (ES) accounts at the RBA participated in testing.

Austraclear Limited has completed its stand-alone Year 2000 application testing and internal user acceptance testing of its FINTRACS system. FINTRACS interfaced to RITS in August 1998 for industry tests and all banks have tested their common terminal connection to either RITS or FINTRACS. Most other members of RITS and FINTRACS (in terms of transaction volumes) have now tested their interface to these systems.

5.3 Contingency Planning

5.3.1 RBA/APRA Communications Centre

The RBA and APRA are establishing a joint communications centre which will operate over the New Year period. The centre will monitor the operational status of the payments

system and developments in the financial system and in the key infrastructure sectors more generally. Financial institutions and payments service providers will be asked to report regularly on their status (positive reporting) and immediately if serious problems were to arise (exception reporting). Reporting arrangements are now being finalised in close consultation with the industry and will be released in coming weeks.

5.3.2 Settlement Arrangements

The RBA has been coordinating an industry review of the existing *RTGS Contingency Procedures* in the light of the Year 2000. Members of the review group were drawn from the commercial banks, Credit Union Services Corporation (Australia) Limited, Austraclear and APCA. Updated procedures were released to all ES account holders at the end of August.

The RBA has also developed Year 2000 contingency procedures for the 9.00 am net settlement of low-value payments (ie cheques, direct entry, BPAY and card-based payments). They cover disruptions to banks' internal systems, telecommunications difficulties and disruptions to the RBA's internal systems.

5.3.3 APCA Clearing Systems

Preservation Measures

With testing now complete, the industry's focus has shifted to ensuring that any internal system changes made by participants do not introduce date-related problems. Financial institutions are now required to identify and risk assess any system changes they are intending to make, and report the information to APCA on a regular basis. Institutions are also undertaking bilateral tests where necessary to prove the Year 2000 readiness of new systems. In addition, a 'Change Moratorium' will be in place from 1 November 1999 until 17 January 2000, and again from 21 February until 3 March 2000. During the moratorium, only emergency fixes (corrective and preventative) and essential table changes will be able to be made to internal systems involved in the Year 2000 testing.

Contingency planning for the APCA clearing systems is now well under way. This work has three main elements:

- development of mandatory and recommended risk mitigation strategies for payments system participants. These include the 'Preservation Strategy' for industry testing, ensuring that alternative arrangements (eg magnetic tapes) are in place for bilateral exchange of electronic payment information if direct telecommunications links are unavailable and assessing the feasibility of routing card payments through alternate links;
- updating the industry's existing contingency procedures to take account of the Year 2000. Procedures for the paper clearing system, which will be finalised shortly, cover situations where an individual clearing member, or members, cannot process or electronically exchange payment information; the procedures set out

arrangements for communication between APCA and clearing system participants. Contingency procedures for the bulk electronic and retail electronic (card-based) clearing systems are expected to be finalised by end-September. They will be tested and fine-tuned over the remainder of 1999; and

- the development of an APCA media plan for the Year 2000 which sets out how APCA will coordinate the release of media statements with other payments system stakeholders, the types of messages to be issued and when they will be issued.

5.4 Credit Card Schemes

This section contains information on Year 2000 preparations provided by the major credit card schemes operating in Australia.

5.4.1 Bankcard

The APCA Year 2000 testing program for retail electronic payments included testing for Bankcard members where credit card transactions are exchanged bilaterally between banks.

Bankcard members have also undertaken bilateral testing with another Bankcard member or with Cardlink Services Limited, which provides transfer and processing services for some Bankcard members. This testing, which was completed on 30 June 1999, required members to test functions which support the exchange of transaction details, such as transaction values and information for security purposes. Voice authorisation procedures, which include an electronic authorisation request from Cardlink to the issuing bank, were also tested.

Bankcard and its members are participating in APCA contingency planning for retail electronic systems (see Chapter 5.3.3).

5.4.2 MasterCard

MasterCard completed the updating of its internal systems, including its transaction authorisation system, in 1998. MasterCard has also performed extensive testing with members to determine whether transactions can be processed after the date change, and provided educational material to assist members and merchants in developing their own readiness programs. Members representing approximately 98 per cent of MasterCard's worldwide payment card transaction volumes had successfully tested online in a Year 2000 environment by 30 June 1999.

MasterCard's contingency plans include alternative processes that will help protect cardholders in case of a disruption along the transaction route. It has also expanded system capacity.

5.4.3 Visa International

All VisaNet systems have been successfully tested for Year 2000 readiness and were implemented globally in December 1998. All Australian Visa members successfully completed member to VisaNet testing by 30 June 1999.

A Global VisaNet system freeze was implemented on 1 July 1999. The freeze will continue until at least mid-March 2000.

All principal members have provided detailed statements on their Year 2000 readiness to an independent Year 2000 consultancy organisation. This information, along with similar independent data on the readiness of a country's infrastructure, is currently being used to assess the potential financial exposure for every Visa member.

Visa has established contingency plans which set out business unit recovery processes at the global and individual country levels. Visa is also establishing regional Event Management Centres, which will coordinate Year 2000 operations information. These centres will be fully operational by 30 December 1999 to provide a 24-hour service until at least 10 January 2000.

5.4.4 American Express

American Express has been addressing the Year 2000 issue since 1995 and as a result internal Year 2000 remediation work was more than 99 per cent complete by end-June 1999. As part of an overall compliance program, American Express has been working directly with key external parties to mitigate the potential risks arising from Year 2000.

At this point, remediation and testing of systems is substantially complete. The focus is now on testing, independent test validation and Year 2000 contingency planning. American Express's Year 2000 contingency plans include measures such as selecting alternative suppliers and channels of distribution, creating command centres to coordinate global Year 2000 information and actions, and scheduling the availability of key personnel worldwide. American Express will continue to refine contingency planning activities through the remainder of the year.

6. THE RESERVE BANK'S INTERNAL PREPARATIONS FOR YEAR 2000

6.1 The RBA's Year 2000 Project

The RBA's systems, services, processes and facilities are Year 2000 ready.

The RBA began its technical preparations for the Year 2000 problem in 1996. Since 1997, the Year 2000 project has been controlled by a Steering Committee which reports to the Governor and to the Reserve Bank Board. The Steering Committee, which is chaired by the Assistant Governor (Corporate Services), receives direct reports on progress from all business areas. Audit Department reviews the project to identify risks, and provides an independent check on reported progress.

The project was managed through the establishment of a formal set of milestones. These required the completion of an inventory of all software and hardware, vendors, etc; assessment of the scope of potential problems; remediation of problems identified; exhaustive testing of systems; implementation of the modified/new and tested software; and sign-off by departments. These steps have all been completed successfully. The final milestone is contingency planning, due for completion by September 1999. While the RBA has a range of existing contingency plans in place, an assessment of likely Year 2000 risks has been made and, where required, additional safeguards are being introduced.

A preservation strategy has been implemented to ensure continued Year 2000 compliance throughout the remainder of 1999.

The cost of the Year 2000 project is estimated at around \$5 million, the bulk of which is for existing staff redeployed from other activities.

6.2 External Year 2000 Testing

The RBA and its customers are major participants in the payments clearing systems. The RBA has concluded its participation in the testing of the external payments clearing streams conducted by APCA (refer Chapter 5.2). The testing confirmed that the relevant systems are Year 2000 compliant.

In addition, the RBA provided testing facilities for its customers. Testing was successfully undertaken with a broad range of customers, including several key Government agencies.

6.3 Cash

The RBA is supplementing its normally significant buffer stocks of notes in anticipation of additional demand for currency notes in the lead-up to the Year 2000. This is being done by printing a quantity of notes in addition to its normal requirement in 1999, and by retaining some used notes that would otherwise have not been reissued on quality grounds.

The RBA is also liaising with banks, building societies and credit unions, as well as armoured car companies, on arrangements for the distribution of cash. Later in the year, the Bank will distribute additional notes to financial institutions to ensure the ready availability of currency around the Year 2000.

APPENDIX 1

Extracts from Reserve Bank Governor's Speech 17 June 1999

The following is an extract from the Opening Statement to House of Representatives Standing Committee on Economics, Finance and Public Administration by Governor of the Reserve Bank of Australia, Mr Ian Macfarlane, on 17 June 1999.

“[I] now want to turn to a totally different subject, but one that will be very important over the next seven months. I refer, of course, to the issue of the end of century date change – or Y2K as it is colloquially known.

“The main point I want to make is that the Australian financial system is very well prepared for Y2K. The formal processes of fixing and testing their systems began in the mid 1990s and it has been under the scrutiny of APRA and the Reserve Bank since early 1997. Financial intermediaries have devoted over a billion dollars and thousands of staff to checking and updating computer systems. Where problems have been found, they have been fixed. Outmoded ATMs and EFTPOS machines have been replaced, computer programs have been rewritten or new software has been installed. With all this effort, the Australian financial system rightly enjoys a world-class reputation for its high level of Y2K preparedness.

“The Reserve Bank's own computer systems are, of course, Year 2000 ready. In particular, the systems that the Reserve Bank uses to distribute pensions and other government payments to banks, building societies and credit unions on behalf of Centrelink have been thoroughly tested. Pension payments will be made on time.

“So much work has now been completed to ensure that the system works, that the big issue facing us is no longer a technical one – it is instead an issue of public reaction. While I am very confident that the overwhelming majority of the Australian public will act sensibly, there are no doubt a few who are inclined to believe doomsday scenarios. With this in mind, there are a few preparations that we at the Reserve Bank have been putting into place to help reassure the community.

“An important step was to talk to the banks, building societies and credit unions to make sure that they were communicating with their customers in clear language to reassure them that their deposits were safe. Because the simple fact is that their *deposits are safe* and their records are not at risk from Y2K-related problems.

“All financial institutions have extensive back-up systems to ensure that each night they keep multiple physical records of all account information. While some members of the public have expressed concerns for the safety of their deposits because they think records might disappear, there is no basis for this type of concern. The safest place for people to keep their savings is in the financial institution that they are already with. Withdrawal and conversion to cash would expose them to a lot of unnecessary risks.

“The vast majority of people, I believe, do not have those concerns, but they probably still have a few uncertainties. Many will wish to take more cash out to tide them over the New Year period than they normally do. To this group, I just want to make a few points:

- Do not, for a minute, fear that you need to take out more cash because there may not be enough to go round. There will be. The Reserve Bank has printed, and is carrying in stock, a lot more notes than usual so that it can meet any increased demand.
- If you are worried about high-tech systems such as ATMs or EFTPOS letting you down, remember you are only dependent on them for the first three days of the new year. After that, the banks, building societies and credit unions open their doors again and you can go back to the old-fashioned ways of obtaining cash. You are really only dealing with a long weekend.
- Even in those three days, you are not completely dependent on cash – credit cards can, if necessary, still operate in their traditional paper-based mode and cheques can be used as normal.

“Overall, our view is that the system will be able to operate on a ‘business as usual’ basis and the public should view the new year as just another long weekend. That is what I will be doing. For those who want a little extra reassurance in the form of extra cash, they can be confident that it will be readily available.

“That is all I wish to say in general terms about Y2K at this stage, but I will be happy to answer any detailed questions you wish to put to me.”

APPENDIX 2

Year 2000 Web Sites

The following is a list of web sites containing information on the Year 2000 issue. It is a dynamic list and is not intended to be all inclusive; members of the Council of Financial Regulators do not necessarily endorse all of the ideas presented.

Domestic regulatory sites

Reserve Bank of Australia	www.rba.gov.au
Australian Prudential Regulation Authority	www.apra.gov.au
Australian Securities and Investments Commission	www.asic.gov.au
Australian Payments Clearing Association	www.apca.com.au
Australian Stock Exchange	www.asx.com.au
Sydney Futures Exchange	www.sfe.com.au

International regulatory sites

Bank for International Settlements	www.bis.org
Bank of England	www.bankofengland.co.uk/millennium/index.htm
Federal Deposit Insurance Corporation	www.fdic.gov/about/y2k
Federal Financial Institutions Examination Council	www.ffeic.gov/y2k
Hong Kong Monetary Authority	www.info.gov.hk/hkma/eng/y2k/index.htm
Securities Industry Association (US)	www.sia.com/html/year_2000_intro.html
US Securities and Exchange Commission	www.sec.gov/news/home2000.htm
New Zealand Futures & Options Exchange	www.nzfoe.co.nz

Other sites

Australian Bankers' Association	www.bankers.asn.au/abayer.htm
Australian Government	www.dcita.gov.au/year2000
year2k Industry Program	www.year2k.com.au
Global 2000 Coordinating Group	www.global2k.org

State Governments

New South Wales	www.y2k.gov.au
Victoria	y2k.millennium.vic.gov.au
Western Australia	www.y2k.wa.gov.au
Queensland	www.y2k.qld.gov.au
South Australia	www.y2k.sa.gov.au
Australian Capital Territory	www.act.gov.au/y2k
Northern Territory	www.nt.gov.au/year2000
Tasmania	www.tdr.tas.gov.au/homepg.html

APPENDIX 3

Definition of Year 2000 Compliance

The standard definition of Year 2000 conformity prepared by British Standards Institute (DISC PD2000-1) is a useful benchmark definition. The definition below incorporates minor amendments by Standards Australia.

“Year 2000 Conformity shall mean that neither performance nor functionality is affected by dates prior to, during or after the Year 2000”

Rule 1

“No value for current date will cause any interruption in operation”

This rule is sometimes referred to as General Integrity.

If this requirement is satisfied, roll-over between all significant time demarcations (eg days, months, years, centuries) will be performed correctly.

“Current date” refers to today’s date as known to the equipment or software.

Rule 2

“Date-based functionality must behave consistently for dates prior to, during and after Year 2000”

This rule is sometimes referred to as Date Integrity.

The rule means that all equipment and software must calculate, manipulate and represent dates correctly for the purpose for which they were intended.

The meaning of functionality includes both processes and the results of these processes.

If desired, a reference point for date values and calculations may be added by organisations: eg as defined by the Gregorian calendar.

No equipment or software shall use particular date values for special meanings: eg “99” to signify “no end value” or “end of file”, *or* “00” to mean “not applicable” or “beginning of file”.

Rule 3

“In all interfaces and data storage, the century in any date must be specified either explicitly or by unambiguous algorithms or interfacing rules”

This rule is sometimes referred to as explicit/implicit century.

It covers two general approaches:

explicit representation of year in dates: eg by using four digits or by including a century indicator. In this case, a reference may be inserted² and it may be necessary to allow for exceptions where domain-specific standards (eg standards relating to

2. eg 4-digit years as allowed by AS 3802-1989[1]

Electronic Data Interchange, Automatic Teller Machines or Bankers Automated Clearing Service) should have precedence.

the use of inferencing rules: eg two-digit years with a greater value than 50 imply 19xx, those with a value equal to or less than 50 imply 20xx. Rules for century inferencing as a whole must apply to all contexts in which the date is used, although different inferencing rules may apply to different date sets.

Rule 4

“Year 2000 must be recognised as a leap year in terms of handling both the 29th of February and day 366”

The Year 2000 is a leap year, whereas the years 1800 and 1900 were not. Hence for proper compliance there must be rollover from 28-02-2000 to 29-02-2000 (and subsequently to 01-03-2000), and from 28-02-1900 to 01-03-1900.

General Notes

For rules 1 and 2 in particular, organisations may wish to specify allowable ranges for values of current date and dates to be manipulated. The ranges may relate to the feasible life-span of equipment or products and/or the span of dates required to be represented by the organisation’s business processes. Tests for specifically critical dates may also be added (eg for leap years, end of year, etc). Organisations may wish to append additional material in support of local requirements.

Where the term century is used, clear distinction should be made between the “value” denoting the century (eg 20th) and its representation in dates (eg 19xx): similarly, 21st and 20xx.

In order to encourage a uniform approach to date fields, organisations may wish to consider following the Commonwealth of Australia’s convention for expressing the date field – CCYYMMDD.