MILLENNIUM COUNTDOWN

THE CHALLENGE FACING SCOTTISH LOCAL GOVERNMENT

A JOINT REPORT INTO THE STATE OF PREPAREDNESS OF SCOTTISH LOCAL GOVERNMENT BY THE CONVENTION OF SCOTTISH LOCAL AUTHORITIES (COSLA) AND THE ACCOUNTS COMMISSION FOR SCOTLAND (ACCOUNTS COMMISSION)

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1. ## SUMMARY

   This report has been jointly prepared by COSLA and the Accounts Commission. Its purpose is to give a broad assessment of the progress made by Scottish councils in tackling the Year 2000 issue. The report identifies specific areas which require early action.

   The report is based on an expectation that with less than a year to go, all councils should now be well advanced with the identification and testing of all systems and equipment which are likely to be susceptible to the millennium problem. The degree of preparedness of councils has been assessed against this expectation. The report does not focus on the position of any individual council but is a commentary on the general position across all councils.

   The report is designed to assist members and chief officers in Scottish councils to minimise the risk to service delivery from the failure of critical systems.

   It was evident from the surveys undertaken by COSLA and the Accounts Commission that many councils have still a long way to go to complete the testing of all systems and equipment which are susceptible to the millennium problem and to achieve compliance. Councils should be giving high priority to the Year 2000 issue, to monitoring progress on a continuing basis and to allocating adequate resources to ensure that all critical tasks are completed on time. They should be preparing contingency plans for any critical systems or items of equipment that cannot be made compliant or replaced in time.

2. ## FINDINGS

   The survey results relate to the position up to the end of 1998. Subsequent dialogue and contact between councils and COSLA shows that there is generally a strong commitment by councils to address the Year 2000 issue and that significant progress has been made by many councils in the period between the collection of the information and the publication of this report. This commitment needs to be maintained.

Findings from the Surveys:

(1)   Across the 32 councils there was a wide variation in the state of preparedness.   Approximately half of the councils were not as advanced as they should be with their Year 2000 preparations.

(2)   In a number of councils there was evidence that the progress achieved has been underpinned by sound management practices and a high degree of commitment on the part of senior management teams.

(3)   Progress in making mainstream IT systems compliant was generally satisfactory, although time is now very tight and there can be no letting up.

(4)   The cost of achieving compliance is proving to be high and is still increasing as new problems come to light.

(5)   In some councils target dates for achieving compliance are very late and leave little margin for slippage. It was evident that even with the most thorough testing and preparation, achieving 100% compliance may not be possible in some cases.

(6)   Obtaining information from suppliers about the compliance status of their products and services has proved to be very time consuming and resource intensive.

(7)   The embedded systems problem was a source of concern in most councils and progress lags behind what has been achieved with mainstream IT systems.

(8)   Independent assessment does not appear to have been widely used.

3.   <u>**POTENTIAL IMPACT OF YEAR 2000**</u>

The Year 2000 poses serious problems for all organisations and businesses that use computer systems and equipment containing embedded microprocessors. The problem is conceptually a very simple one involving the way in which dates in computer systems have, historically, been stored and processed.   In many systems, the year has been stored as only two digits, so, for example, "1996" is stored as "96".   This could cause systems to fail, or produce erroneous results, when processing dates involving the Year 2000 or beyond. The problem is not confined to computer systems.   Much of the equipment used by organisations is controlled by means of microprocessors (embedded systems) which may also use date and time information to function.

The potential impact of the transition from the present calendar year to the new millennium, on computerised systems and equipment, and ultimately on business continuity, is now generally well recognised by the public and the private sectors. Any council whose computer-based systems and equipment are not Year 2000 compliant runs the risk of serious disruption to its services. If this is to be avoided councils require to take action in good time to ensure that their computer systems and equipment containing embedded systems are Year 2000 compliant. This issue is not limited to information technology, it is a matter which affects organisations as a whole.

Councils provide a wide range of services to the public. The impact of any major failure of IT systems as a result of the Year 2000 problem is likely to be widespread and immediately felt. Some of the services that could be affected are:

- payment of benefits
- care in the community
- processing of council tax and non-domestic rates
- payment of salaries and wages
- payments to suppliers.

Examples of systems containing embedded systems that similarly could be affected are:

- community alarm systems in sheltered homes
- lift monitoring systems in high-rise blocks
- traffic lights
- lifts
- motorway control systems
- CCTV
- school heating and security systems.

Councils have a general duty of care towards the public, their staff and other parties, and they are by statute, required to develop and maintain civil emergency plans. The resolution of some of the issues relating to Year 2000 does not lie solely in the hands of individual councils. For some services councils are part of a supply chain and are, consequently, reliant on other suppliers and agencies such as the electricity, gas and water utilities. Failure of any part of a supply chain could have a knock-on effect for councils.

Not all the potential problems are confined to the changeover to the millennium on 1 January 2000; some systems which process forward dates have been reported to have failed, for example, systems which provide advance scheduling facilities. It is possible that difficulties could arise throughout 1999 and beyond 1 January 2000.

4. WORK UNDERTAKEN BY COSLA AND THE ACCOUNTS COMMISION

COSLA and the Scottish Office jointly commissioned and published a report in May 1997 entitled I.T. Implications for Local Government of the Year 2000.

In late 1998 COSLA, independently, undertook work to assess the progress made by councils towards achieving Year 2000 compliance. For the purposes of COSLA's exercise, a standard questionnaire was used. This questionnaire was drawn up in consultation with the Scottish Office and the Accounts Commission and issued to the Chief Executive in every council in November 1998, in order to establish the state of Year 2000 preparedness.

The majority of councils responded by the due date of mid December 1998, but the last of the returns was not received until almost the end of January 1999. Where it was considered necessary, discussions and in some cases follow up visits to individual councils, were arranged to verify the information provided.

In May 1997 the Accounts Commission advised auditors of the need to review the arrangements which individual councils had in place for identifying the extent of the Year 2000 problem and for taking appropriate action. Auditors were also given guidance on how they should approach this issue. The guidance was reinforced in April 1998 and auditors were encouraged to report their findings to management in each council. Consequently auditors have been monitoring councils' preparations for Year 2000 on an ongoing basis since May 1997.

Auditors were free to apply the guidance in accordance with their own methodology, but in carrying out their reviews they should have had regard to whether:

- responsibility for addressing the Year 2000 problem has been accepted by senior management at corporate level
- there is a clear overall strategy supported by a detailed plan for identifying and testing critical functions and equipment
- overall responsibility for managing the execution of the programme has been assigned to an appropriate group or person
- the council is taking steps to ensure that all new hardware and software acquired is Year 2000 compliant
- assurance has been obtained from providers of existing systems that their products are Year 2000 compliant
- there is a prioritised programme for the replacement of hardware and software which cannot be made Year 2000 compliant
- additional financial resources have been allocated for the task
- action has been taken to ensure the retention of key staff
- a management awareness programme is in place.

The findings set out in this report are based on the information contained in the questionnaires completed by councils and from information obtained by auditors during the course of their audit work. As the overall findings from these separate sources were similar it was decided to present them in a joint report.

It is important to understand that neither COSLA nor the Accounts Commission has undertaken a technical assessment of individual systems or equipment. The work carried out has focused on the management arrangements which councils have in place for addressing the Year 2000 issue.

It should be recognised that the questionnaire issued by COSLA was completed by councils on a self assessment basis. Neither COSLA nor the Accounts Commission are responsible for ensuring that councils' systems and equipment are Year 2000 compliant nor should the work underlying this report be taken as indicating the adequacy of any individual council's state of preparedness or providing assurance on the extent, or otherwise, of compliance achieved.

5. **OVERALL POSITION**

The work carried out by COSLA and the Accounts Commission focused on the following key areas.

Management Arrangements

It is clear that there is a high level of awareness amongst councils of the potential problems that could arise as a result of systems and equipment not being Year 2000 compliant.

Most councils have assumed responsibility for the issue at senior corporate level and have appointed a Year 2000 Sponsor. In a number of cases, the sponsor is a senior council official (Director or Head of Service), who is a member of the senior management team, reporting directly to the Chief Executive. In almost half of the councils the role of Year 2000 Sponsor has been assigned to the Director or Head of IT. A number of councils have also established a Steering Group and appointed a Year 2000 Project Manager to oversee the execution of action plans. In many councils regular progress reports are being submitted to the Senior Management Team.

A few councils had either not yet formed a Year 2000 Steering Group (or had only recently done so), and some had delegated responsibility to a range of individuals rather than to a dedicated project manager. Some councils did not have a staff awareness programme in place to keep staff apprised of the situation.

Strategic Planning

Most councils have assessed the potential impact of the Year 2000 on their ability to deliver services and many are approaching the task of achieving compliance in a systematic and organised manner using strategic plans supported by more detailed plans of action. However in a significant number of cases, plans did not identify tasks and targets in sufficient detail. As at the end of 1998 some councils had still not produced a planning document.

The achievement of Year 2000 compliance is likely to have significant cost implications and most councils have made some attempt at estimating these. Based on the responses to the COSLA questionnaire councils estimate that they have spent £30m to date with a further £33m planned for 1999/2000. These figures need to be treated with caution as they may not have been drawn up on a consistent cost base and are unaudited. The 1999/2000 Scottish Office grant settlement contains £10m to assist councils address the Year 2000 issue.

There were wide variations in the level of budget provision which councils had made to meet the cost of modifying, upgrading or replacing systems and equipment. At the lower end of the range, some of the provisions could prove to be inadequate.

Councils' Year 2000 programmes must be adequately staffed whether by means of dedicated internal staff or external contractors. These resources need to be identified and committed as soon as possible. In the case of external contract staff, it is unlikely that they will be available at affordable rates later in the year as demand increases.

Service Priorities

Services that councils generally have identified as being most important in terms of achieving Year 2000 compliance prior to the Millennium are, in order of decreasing priority, as follows:

(1)   financial management systems
(2)   social work (including care in the community)
(3)   housing systems (repairs, letting, estate management)
(4)   salaries and wages
(5)   revenue collection (council tax, non-domestic rates)
(6)   internal communications (telephones, office services)
(7)   IT infrastructure (data networks etc)
(8)   commercial operations
(9)   roads infrastructure
(10)   education (pupil / teacher records, curriculum).

Surprisingly, only 3 councils identified payment of benefits as a specific priority, although this may have been included in some of those systems listed above. Only one council included burials and cremations in their list of priorities.

Fourteen councils, did not provide an approved list of Year 2000 service priorities. Some indicated that this was being left to individual departments to decide, whilst others felt that "everything was a priority". Of the eighteen councils who provided a prioritised list, the full council had agreed this in only seven cases.

Inventory Preparation and Risk Assessment

The identification of systems and equipment at risk is a pre-requisite to the implementation of an effective testing programme. By now, basic inventories should be fully established with only revisions taking place. To reduce or manage the risks of systems failing a process of risk assessment needs to be undertaken. This too should be complete by now with only revisions taking place in light of new information emanating from suppliers.

Auditors' reports and COSLA's review indicated that most councils were still in the process of compiling inventories and undertaking risk assessments, with progress being most advanced in relation to inventories for IT systems. Many councils had not completed their inventories and risk assessments for embedded systems and progress was not as well advanced as it should have been.

Embedded systems are proving to be a very difficult issue for all organisations. Many millions of these devices are in use throughout councils. Unlike traditional computer hardware such as servers and PCs, where details of the supplier's model numbers, software and location are known and well documented for reasons of maintenance and security, the location of embedded systems is often much less obvious. Many of these devices were installed in council premises that belonged to the former district and regional councils and is some cases, no records of the original suppliers or maintenance contractors are available.

The logistical difficulties of identifying these devices and establishing whether or not they process dates is reflected in the findings which show that progress in addressing the embedded systems issue is not as well advanced as for IT systems. Unlike IT systems, there is also a lack of in-house technical knowledge of embedded systems.

Compliance Testing

The testing of systems and equipment to establish whether or not they are Year 2000 compliant is one of the key tasks facing councils. In some cases auditors' assessment of progress in this area was rendered difficult by the absence of well documented plans for testing and records of testing actually carried out. Based on the information available, the overall findings were that councils were not generally well advanced with this work.

Progress is generally more advanced in relation to IT systems, but many councils appear to have made little progress in testing embedded systems. Some were still at the planning stage whilst others had completed only a small proportion of their testing.

In some cases, councils are working to completion dates late in 1999 for the completion of testing. This is much too late to accommodate any slippage and other problems which could arise.

Estimate of Work Completed to Date

Based on the questionnaire returns the average percentage completion figures as at the end of 1998 across all councils for Inventory Creation, Risk Assessments and Compliance Testing Programmes were as follows:

TASK	Percentage Completion (IT Systems)	Percentage Completion (Embedded Systems)
Inventory Creation	90%	66%
Risk Assessments	88%	58%
Compliance Testing	41%	29%

The relatively low % completion figures, particularly for embedded systems, indicate that a number of councils require to review their programmes and allocate additional resources to advance these. In cases where critical systems and/or equipment cannot be made compliant, councils need to ensure that effective contingency plans are in place.

6.   **SERVICE CONTINUITY**

As it is impossible to eliminate every single risk, councils require to prepare contingency plans to deal with the possibility of failure, which might affect vital services. Only those risks that cannot be eliminated, deferred or reduced to an acceptable level require a contingency plan.

Contingency plans need to be developed in parallel with compliance programmes and ideally should be fully tested and in place by the middle of 1999 at the latest. Councils already have plans in place to deal with major emergencies and internal problems such as the loss of computer systems resulting from hardware or software failure or other hazards such as fire or flooding.

These plans provide a useful starting point for contingency planning but require to be reviewed to ensure that they are still relevant in a Year 2000 context. Council's Emergency Planning Units should be directly involved in Year 2000 Contingency Planning.

A significant number of councils were not well advanced with their contingency planning. This process is to some degree, informed by the results of compliance testing. The fact that testing generally was not well advanced means that some of the information required to assist with contingency planning was not to hand.

The nature of the Year 2000 problems facing councils and the impact that one organisation's failures can have on another, make it is essential that the efforts of suppliers and partners are co-ordinated at a local level.

It is also essential that councils ensure that all new hardware or software acquired is fully Year 2000 compliant. A number of councils were not doing enough to address this issue. For example, some councils had not obtained warranties or guarantees from suppliers, some had not tested equipment on receipt, whilst others were relying on purchasing consortia through whom they acquire equipment, to have obtained the necessary compliance assurances.

The retention of key staff, particularly those with IT expertise, is critical during the preparatory period and over the transitional period. Most councils were aware of this, but few appeared to have taken positive steps to retain staff who are critical to their Year 2000 preparations.

7.   KEEPING THE PUBLIC INFORMED

As the millennium approaches, maintaining public confidence will become increasingly important.

Councils need to be open about their Year 2000 plans and progress and to provide information to the public on a regular basis. In a number of councils this is already being done by means of media broadcasts, council newsletters or information leaflets distributed to public libraries and other council locations. Some councils are also using the Internet to report progress with their Year 2000 plans. Councils may also wish to consider setting up a Year 2000 public help-line. Encouragingly, 20 out of the 32 councils already had plans in place to keep the public informed about the Year 2000.

COSLA are currently establishing a Year 2000 Web-site with links to individual council web-sites and the Scottish Office's Year 2000 Web-site. This will provide up to date information on councils' assessment of their overall state of preparedness.

Public Relations Officers in councils also have an important role to play in keeping the public informed. Consequently they need to receive regular updates about their council's Year 2000 plans and compliance programmes.

8. **CONCLUSIONS AND RECOMMENDATIONS**

The Year 2000 issue is a major challenge which requires action by a fast approaching deadline. If councils are to achieve compliance for all critical systems, and minimise the impact from non critical systems which cannot be made compliant in time, they require to maintain a strong continuing commitment to this issue throughout the remainder of 1999.

Councils should have regard to the following recommendations:

(1)   The Year 2000 problem should be owned both politically and managerially at the highest level in councils. It should feature as a standing item on the agenda of senior management teams and be the subject of regular progress reports to a committee of the council.

(2)   As the deadline for the Year 2000 is finite, councils need to focus on what they must do before 1 January 2000, prioritise the outstanding tasks and, where necessary, commit additional resources. Non critical systems and equipment may require to be left until after the millennium.

(3)   Management need to ensure that Year 2000 resourcing is not compromised by routine system development which could be deferred.

(4)   Greater priority needs to be given to developing contingency plans in the event of critical systems failing. These plans should be prepared and tested now, in parallel with other compliance programmes, and not left until later in the year.

(5)   In conjunction with the emergency services and other agencies, councils need to ensure that their civil emergency plans remain viable in a Year 2000 context. This should not be assumed.

(6)   There are positive lessons to be learned from those councils that are well advanced with their compliance programmes. There needs to be more co-operative working between councils in order to minimise duplication and thereby reduce time-scales and costs.

(7)   Systems which achieve compliant status should not be subject to further change which could jeopardise operational functionality.

(8)   Management should consider using independent assessment as a means of validating their Year 2000 programmes in order to be reassured that these programmes are both robust and achievable.

(9)   Councils should be open and keep the public informed of their plans and progress in addressing the Year 2000 problem. As part of their overall communication strategy regular progress updates should be published on web-sites and other public reporting media, as appropriate. This approach will reinforce councils' approach to self assessment.

9.   CURRENT SITUATION

Discussions, and in a number of cases meetings, have taken place with a cross-section of councils during February and March in order to clarify responses to the questionnaires and to review on-going progress. The results have been generally encouraging and it is evident that good progress has been made in a number of councils since the survey was conducted.

The following are worthy of note:

- a considerable amount of work has now been undertaken in compiling inventories and carrying out risk assessments, both for mainstream IT systems and embedded systems

- progress continues to be made with compliance programmes for mainstream IT systems

- the methodologies and quality assurance systems introduced specifically to address the Year 2000 problem will be of lasting benefit to many councils well beyond the Millennium

- a number of councils are now using external contractors to validate their embedded systems inventories and risk assessments

- an Embedded Systems Forum has been established by COSLA to assist councils in sharing information and expertise, with the majority of Scottish councils taking up membership

- council leaders and conveners have signed up to Pledge 2000 as a public statement of their commitment and determination to successfully address the Year 2000 problem

- the majority of Chief Executives remain confident that there will be no material disruption to public services as a result of the Millennium date change.

10. CONTINUING INVOLVEMENT OF COSLA AND THE ACCOUNTS COMMISSION

COSLA will continue to work throughout 1999 to:

- support Councils in their efforts to ensure the continuity of key services
- facilitate the sharing of information and experiences between councils and other agencies by establishing various practitioner working groups at local and national levels
- facilitate inter-agency working, involving councils, the emergency services and the public utilities
- promote best management practice
- work with the Scottish Office, the emergency services and the public utilities to co-ordinate their Year 2000 work across all sectors.

In addition COSLA and the Accounts Commission will work together to:

- develop a self assessment questionnaire to enable councils to monitor the state of their preparedness on a ongoing basis
- undertake, through the audit process, selective validation of the information provided by each council on its preparations for Year 2000
- monitor the progress being made by councils by undertaking periodic evaluations during 1999
- prepare and publish periodic update reports
- discuss and agree action plans with councils whose preparations appear to be behind schedule.