

Catalogue no. 61F0057MIE

Business and Trade Statistics Field

**CANADA'S PREPAREDNESS FOR THE YEAR 2000  
COMPUTER PROBLEM**

**Findings from February 1999 Survey**

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**Jamie Brunet, Chris Johnston and Christian Wolfe**

Small Business and Special Surveys Division

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## **ABSTRACT**

An extensive survey on preparedness for the Year 2000 computer bug was conducted by Statistics Canada in February and March of 1999. Senior managers in some 10,100 public and private organizations from across Canada were contacted. They were asked about the various steps that their organizations might have taken to address the Year 2000 issue, including: assessment, conversion and testing of systems for Year 2000 compliance; communications with business partners (customers, suppliers and service providers), and Year 2000-related contingency planning. Questions on the timelines that had been established for completing these preparations were also included.

In general, most businesses and organizations said they had taken at least some steps to prepare their systems. Respondents also reported they were confident that their organizations would be ready in time for the Year 2000, and most organizations expected to be ready before the end of September of 1999. Preparations, however, generally remained a work in progress, and some organizations were not planning to finish until the last quarter of the year.

This report includes detailed tabulations of the survey results, with breakdowns for 16 industrial sectors and five geographic regions.

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## SUMMARY

The main findings from the February 1999 National Survey on Preparedness for the Year 2000 conducted by Statistics Canada are as follows:

- In general, businesses and organizations said they expected to be ready to deal with the millennium bug. They almost always indicated that they had established a timeline for having their critical systems ready for the Year 2000 on time, and they said they were “very confident” or, in some cases, “somewhat confident” that all critical systems would be ready on time.
- A majority of organizations of all sizes appeared to have taken at least some steps to deal with the millennium bug, and there was evidence that many organizations were close to having their critical systems compliant. Some 97% of large organizations (more than 250 employees) had tested or were testing their critical systems, and 52% of large organizations expected to have all of their critical systems ready before the end of June 1999. This was expected to increase to 85% by the end of September. Individual types of technology were expected to be ready sooner. For example, 74% of large organizations with LANs or mainframes considered critical expected these systems to be ready by the end of June. Likewise, some 69% of large firms with process control systems embedded in plant machinery expected these systems to be ready by the end of June.
- About 87% of small organizations (6 to 50 employees), and 98% of medium (51 to 250 employees) organizations with critical systems had taken at least some steps to ensure these systems would function when the date changes to the Year 2000. Many of the small firms that had not acted indicated that they felt Y2K was not an issue for their organization.
- Despite the progress that had been made, there was still significant work to be done. At the time of the survey, only 15% of all large organizations with plans to test critical systems said testing had been completed. An estimated 13% said testing had not even started, and an additional 9% said testing had started but was less than halfway to completion.
- There was also evidence that the work done to date did not progress as quickly as originally expected. In May 1998, some 42% of large businesses expected to have completed assessment, conversion and testing of their systems by December of 1998. The new survey found that only 18% of large organizations expected to have all of their critical systems ready by the end of April 1999. This would seem to indicate that firms were too optimistic in their original assessment of the amount of work to be done and how fast they could do it. On the other hand, another finding suggests that large firms had not experienced unanticipated difficulty to any significant extent, with only 2% indicating that their system testing had revealed “many more problems” than what was expected before testing began.
- Organizations and businesses of different sizes were approaching the Year 2000 issue in different ways. Larger organizations were most likely to be approaching the issue in a more formal manner, with higher percentages reporting that their planning incorporates assessment, conversion and testing of all systems, as well as formalized contingency

**The survey findings should not be interpreted as a forecast of the degree to which the delivery of products or services will be disrupted by the millennium bug when the Year 2000 arrives. This report reflects the responses and expectations of the senior managers who participated in the survey when it was conducted in February and March of 1999.**

planning, and communication with business partners on their Y2K preparedness. This finding is not surprising given that larger organizations represent some 85% of gross revenues in the survey target population and are more likely to report having the most sophisticated of computerized equipment. Almost one-third of small organizations (31%), on the other hand, said they did not have any computerized technology considered "critical" to their operations.

- With the exception of some smaller entities, the vast majority of organizations in all sectors had taken at least some steps to prepare their critical systems for the Year 2000. Those that had not acted included 21% of small firms in the primary industries and 18% in the care homes industry. Additionally, some 21% of fire departments in small municipalities (population size 1,000 to 5,000 people) said they had not acted at the time of the survey. **Only an in-depth knowledge and expertise of the sectors in question can determine the significance of these findings.**
- In general, large organizations almost always said they were doing inventory, assessment, conversion and testing of their critical systems, but they did not always say that these steps were part of a structured, multi-phased plan. The proportion of large firms with this type of formal plan was especially high among electrical companies, oil and gas companies (manufacturers, distributors and producers), hospitals, and finance and insurance firms. The proportion for municipal police services in large municipalities (population size more than 25,000 people) was also high at 93%.
- Some 61% of small organizations, 72% of medium and 85% of large indicated that some sort of contingency measures were being implemented to deal with potential Y2K disruptions. As well, 46% of small, 72% of medium and 87% of large entities had approached their critical business partners (suppliers or service providers) to determine these partners' preparedness for the Year 2000.
- Organizations usually indicated that their international as well as domestic partners had been approached. There was, however, somewhat less of a tendency to report that foreign partners had been approached. For example, some 84% of large organizations that purchased critical materials, machinery or equipment from Canadian suppliers said they had approached these suppliers about their preparedness. A slightly lower proportion (73%) of large organizations had approached their foreign suppliers.
- Many organizations appeared to be targeting June or September for completing various phases of their Year 2000 projects. In most sectors, at least 75% of large organizations said they would complete all Year 2000 preparations required to ensure the continued delivery of products and services before the end of September. The only exception is the health sector, where 49% of large hospitals and 33% of large care homes said they would not complete their preparations until sometime during the last quarter of this year. It is important to note that these percentages reflect timelines for completion of ALL Year 2000 preparations, including contingency planning. Some firms may set later timelines in order to accommodate the need for unforeseen contingencies as they arise.
- Among large municipalities, some 34% of police, 9% of ambulance, 22% of fire, 17% of water and 17% of sewage services said they would not finish critical preparations until after September.
- The survey results do not show any major overall differences in Year 2000 preparedness across different regions of the country. Regional differences in Year 2000 preparedness tend to be less pronounced than differences across industries or size categories. Regional differences within sectors can be observed in the survey data, but many are not statistically significant.

## INTRODUCTION

In response to a recommendation issued by Task Force Year 2000 in its final report, several federal government departments commissioned Statistics Canada to conduct an extensive survey on preparedness for the Year 2000. The survey was conducted by telephone in February and March of 1999 and a preliminary release of the results was included in the April 27 version of Statistics Canada's data release vehicle, *The Daily*. This report expands on the analysis included in the preliminary release and makes available detailed tabulations of the survey results (see Appendix C).

As with two previous surveys, conducted in October 1997 and May 1998, this most recent survey included a sample of all businesses with more than 5 employees. It also included a wide range of public sector organizations that were not included in the two earlier surveys. The sample included health care providers, police forces, fire departments, ambulance services and public utilities.

Senior managers in some 10,100 businesses and organizations from across Canada were contacted. They were asked about the various types of steps that their organizations may have taken to address the Year 2000 issue, including: assessment, conversion and testing of systems for Year 2000 compliance; communications with business partners (customers, suppliers and service providers), and Year 2000-related contingency planning. They were also asked to identify the timelines that had been established for completing these preparations.

More detailed information on the survey methodology, response rates and sampling error are available in Appendix A.

## GENERAL SURVEY FINDINGS

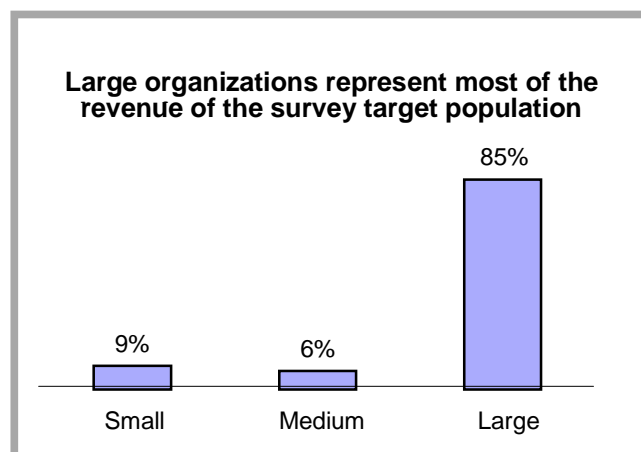
### ***HOW WILL THE MILLENNIUM BUG AFFECT THE DELIVERY OF GOODS AND SERVICES?***

The senior managers who responded to the survey generally expected their most essential computer systems and computerized equipment would not be affected substantially by the millennium bug.

The survey questions focused on systems that were deemed by respondents to be essential to the delivery of products and services or to the safety of employees or the public. Such systems were referred to as “critical systems,” and could include any kind of technology that can be computer-controlled (e.g. personal computers, computer software, process control systems embedded in plant machinery).

In particular, large organizations (more than 250 employees) indicated that they expected their critical systems would be ready on time for 2000. Among all large organizations:

- 5% said they had no critical systems.
- 94.5% had taken steps to prepare their critical systems and had established timelines for having critical systems ready before the Year 2000 arrives.
- 0.5% said they did not know when their critical systems would be ready.



The Year 2000 preparedness of large organizations is crucial to the Canadian economy. They represent the lion's share of business activity (85% of gross revenues in the survey target population) and are the most dependent on computerized processes and equipment.

It can be inferred from the survey results that large organizations expected that their systems will continue to function without disrupting the delivery of products and services or jeopardizing the safety of employees or the public. About three-quarters (79%) said they were “very confident” all of their critical systems would be ready on time. About 20% said they were “somewhat confident.”

Similar patterns were observed for medium-sized organizations (51 to 250 employees):

- 13% said they had no critical systems.
- 86% had taken steps to prepare their critical systems and had established timelines for having critical systems ready before the Year 2000.
- 1% said they did not know when they expected critical systems would be ready.



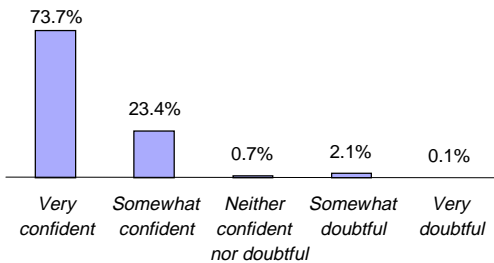
The results for small businesses were somewhat different, but the general tendency remained - managers rarely indicated they expected to have significant problems with any computerized equipment they might have. Often small organizations said whatever computerized systems they had were not critical to operations. Among all small organizations (6 to 50 employees):

- 31% said they had no critical systems.
- 59% said they had critical systems and had addressed the preparedness of these systems and provided a timeline for having all critical systems ready before the Year 2000 arrives.
- 9% had critical systems but had not taken steps, but generally expressed that they had not done so because they felt Y2K was not an issue for them. Less than 1% of all small firms said they had not addressed the problems because they lacked the time, money or staff.
- 1% said steps had been taken but did not know when the systems would be ready

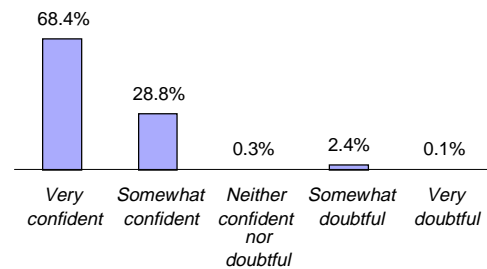
**We asked respondents:**

*How confident or doubtful are you that ALL this organization's CRITICAL systems will be ready on time for the Year 2000? Are you...*

Responses for **SMALL** organizations with critical systems

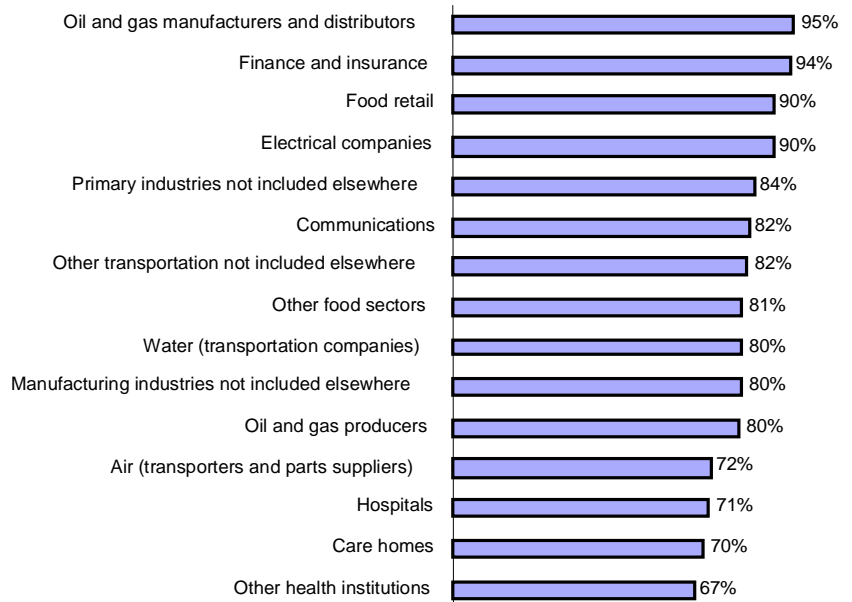
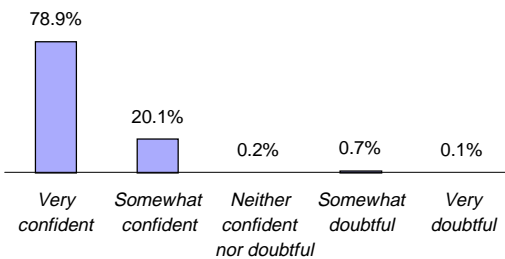


Responses for **MEDIUM** organizations with critical systems



Proportion of **LARGE** organizations that responded 'Very Confident'

Responses for **LARGE** organizations with critical systems



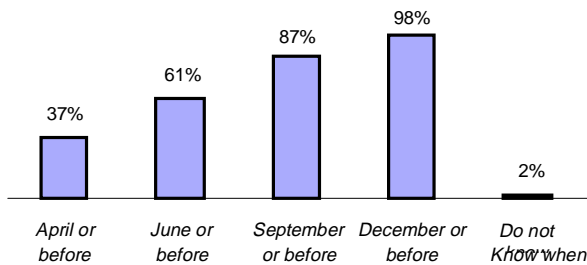
## HOW MUCH WORK IS LEFT TO BE DONE AND WHEN WILL THE WORK BE FINISHED?

Preparing systems for the Year 2000 remained a matter of work-in-progress for most businesses and organizations. Only 18% of large organizations said all their critical systems would be ready by the end of April of 1999.

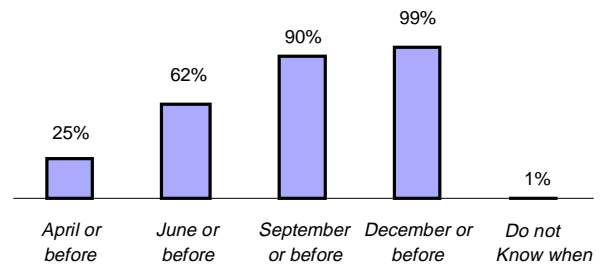
### We asked respondents:

Overall, when does this organization expect to have ALL of its CRITICAL systems ready for the Year 2000?

Responses for **SMALL** organizations taking steps to prepare their critical systems

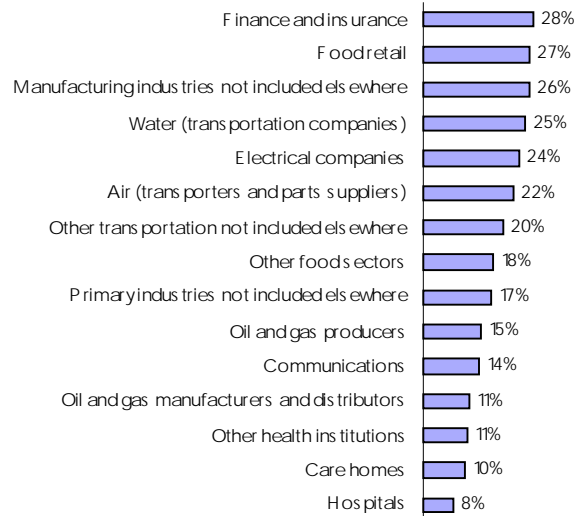
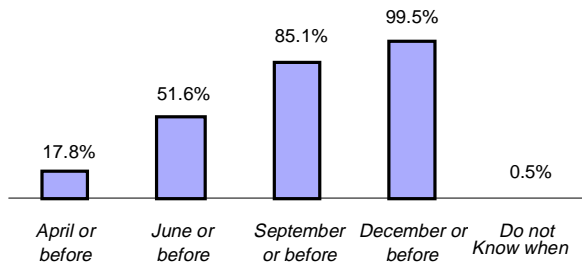


Responses for **MEDIUM** organizations taking steps to prepare their critical systems



Proportion of **LARGE** organizations indicating April or earlier

Responses for **LARGE** organizations taking steps to prepare their critical systems

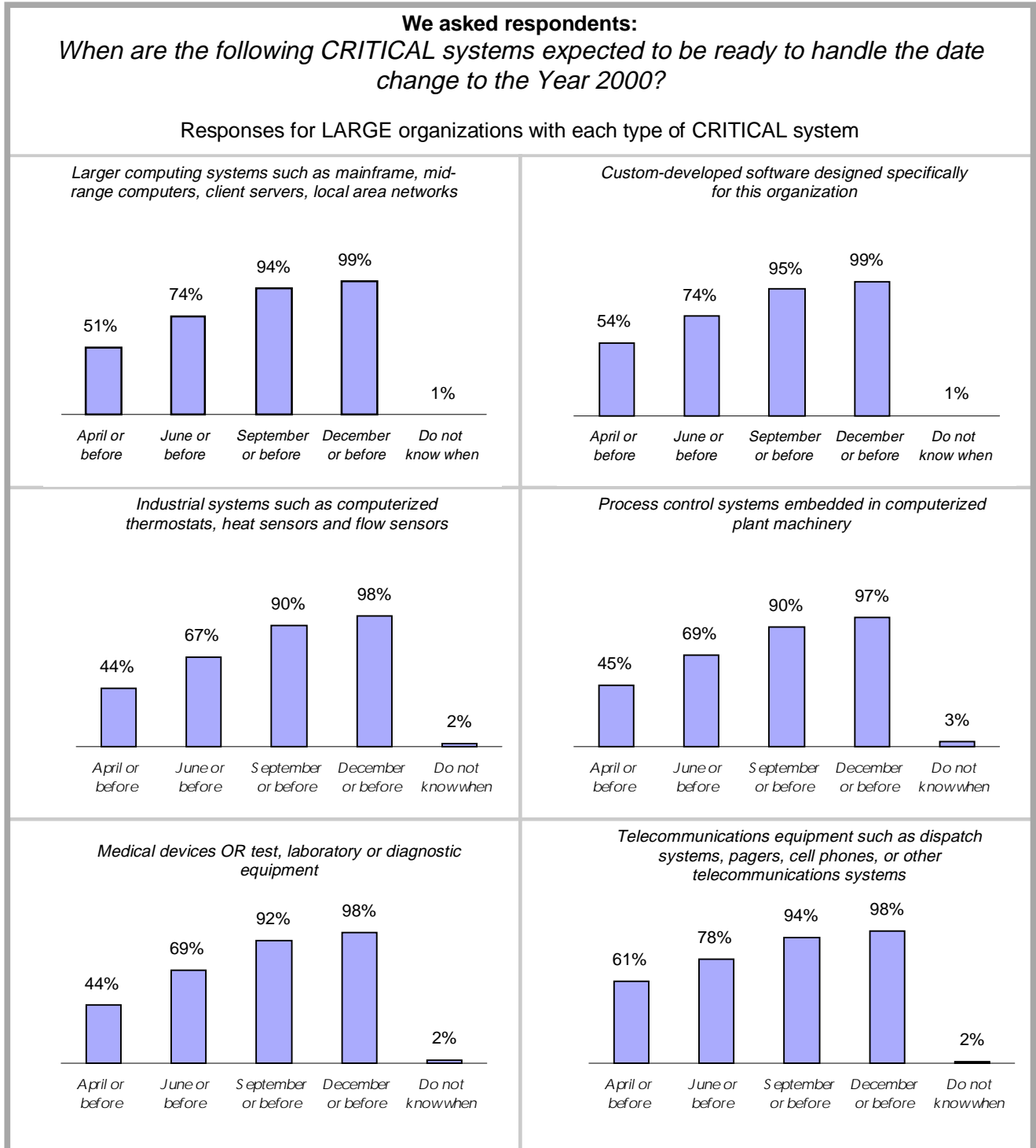


Yet there was also evidence that the work was well under way in many organizations, and perhaps even near completion in many cases. Among large organizations with critical systems:

- Many indicated that they were targeting June or September of 1999 for having their critical systems ready. This would bring the proportion of large organizations with critical systems expecting their systems to be ready by the end of June to 52%, and the total proportion expecting to be ready before the end of September to 85%.
- When asked about the timelines for preparing individual categories of equipment and technology, respondents often indicated systems would be ready by the end of April. For example, 51% of large firms with critical larger computer systems, such as mainframes and

local area networks, said these systems were already compliant or that they would be before the end of April. Likewise, some 44% of large firms with computerized industrial systems said these systems would be ready before the end of April.

- Of the large firms with plans to test critical systems, 64% said testing of critical systems was not finished, but was at least halfway to completion, and 66% said they would complete testing before the end of June.



Despite the progress, significant work remained. Some 13% of large organizations with plans to test critical systems had not started their testing as of February, and another 9% had started but had completed less than half of the testing phase. Only 37% of the small and 25% of the medium firms that had acted to prepare critical systems expected all of these systems to be ready before the end of April.

The nature of the Year 2000 problem implies that the survey cannot conclude one way or the other as to whether or not organizations will meet the Year 2000 challenge on time. Only the arrival of the Year 2000 itself will be a definitive indication of the preparedness of organizations.

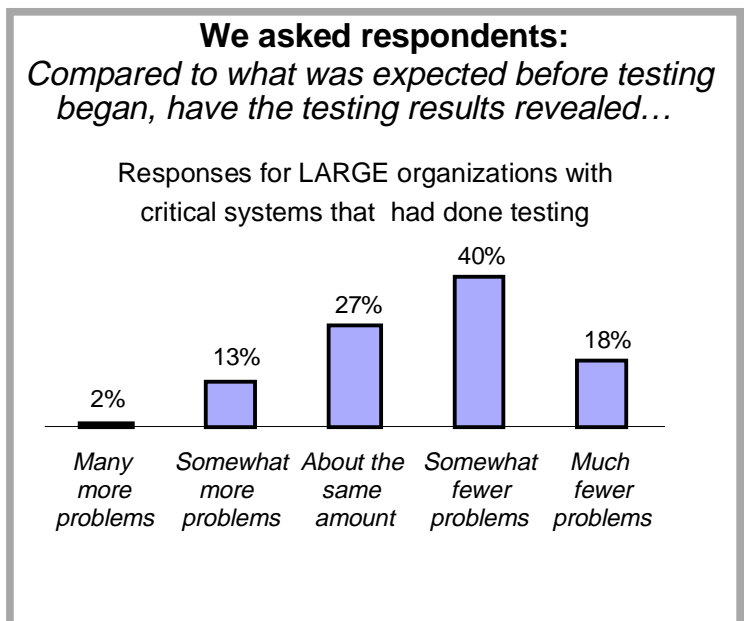
It is, however, a potential area of concern that the survey results, when compared with the results of the May 1998 survey (also conducted by Statistics Canada), suggest that the work done to date has not progressed as rapidly as originally expected.

In May 1998, some 15% of all large organizations said they had completed assessment, conversion and testing of their systems. An additional 27% said they would finish by the end of 1998, and another 34% said they would finish in the first half of 1999. This means that in May of 1998, some 76% of large organizations expected to have completed all phases of their Year 2000 system preparations before the end of June 1999. By comparison, the February 1999 survey indicates that only 52% of large organizations said all of their critical systems would be ready to handle the date change before the end of June.

There were some methodological differences in the May and February surveys that would – to some extent – impact on the comparability of the results. The target populations were different, as the February survey included health and educational institutions, which were excluded from the May survey. In addition, the questions were worded differently. Although the impact of these differences on the accuracy of such comparisons cannot be completely measured, it seems unlikely that the apparent slippage in timelines could be explained solely by methodological differences between the two surveys. This finding may indicate that organizations were too optimistic in their original planning.

On the other hand, another finding would seem to suggest that firms have not experienced major problems in coping with the task of preparing their systems. When asked about the results of their system testing, only 2% of all large firms indicated testing had revealed “many more problems than expected.” Some 13% said testing had revealed “somewhat more problems than expected”. This left 85% that indicated testing had revealed about the same amount of problems or fewer problems than expected.

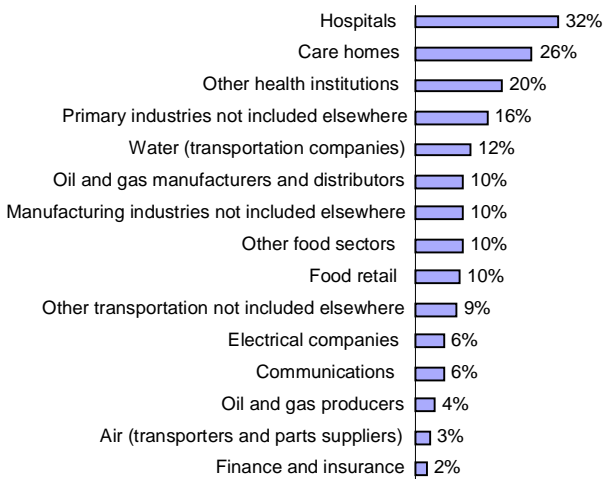
In any case, there will likely be little room for slippage in timelines as the Year 2000 approaches. Overall, the percentage of organizations planning to carry critical Y2K-related work past September of 1999 was higher in some sectors than in others. Most notably, the health sector appeared to be running later in its efforts to prepare.



**We asked respondents:**

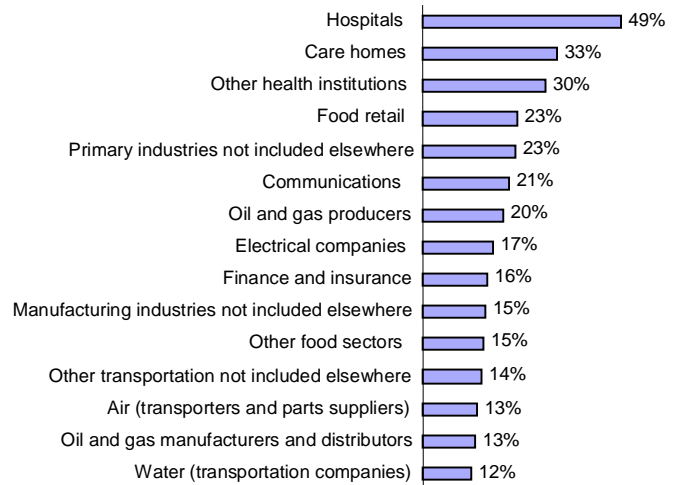
*Overall, when does this organization expect to have **ALL** of its **CRITICAL** systems ready for the Year 2000?*

Proportion of **LARGE** organizations responding October or later



*Overall, when does this organization expect to complete the Year 2000 preparations required to ensure that the continued delivery of products and services and the safety of employees or the public are not affected?*

Proportion of **LARGE** organizations responding October or later



**ARE ORGANIZATIONS TAKING THE STEPS NECESSARY TO THOROUGHLY ASSESS AND REPAIR THEIR SYSTEMS?**

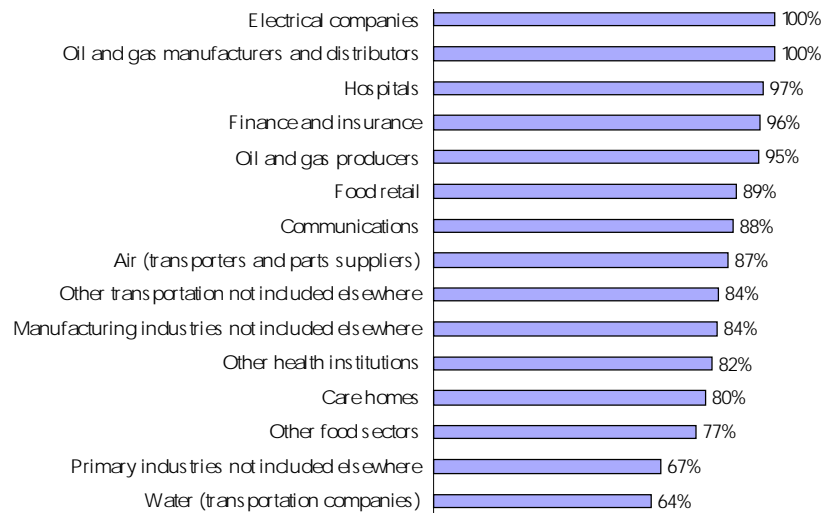
Respondents usually indicated that they had taken steps to prepare their systems. Nonetheless, one-quarter of large organizations with critical systems said they had no structured, multi-phased plan for conducting assessment, conversion and testing of systems, though these steps were usually being done using less formal approaches. Moreover, just under one in ten (9%) of small firms said they had critical systems but had not taken steps to ensure the systems would work when the Year 2000 arrives. Entities were acting to prepare their critical systems in various ways. Among large organizations with critical systems:

- 98% said they were doing an inventory and assessment of their critical systems, with 51% saying inventory and assessment had been completed at the time of the survey. An estimated 90% indicated inventory and assessment would be finished before July. According to standard methodologies for approaching the Year 2000 problem, inventory and assessment are usually considered to be the first crucial steps in assessing the scope of the Y2K problem for an organization.
- 97% said critical systems had been, or would be, converted to achieve Y2K compliance.
- 85% said they had tested, or that were in the process of testing critical systems “by inputting problem dates to ensure that systems would work with those dates”. An additional 12% said testing was being planned, though it had not yet started.

- It was usually indicated that testing was being undertaken for all different types of critical technologies. For example, some 96% of firms that said they had critical larger computing systems, such as mainframes or local area networks, also said these systems had been, or would be, tested. Likewise, 93% of firms with critical industrial systems, such as heat sensors and flow sensors, said testing of these systems was being undertaken.
- About 76% indicated that assessment, conversion and testing was being carried out under a formal, multi-phased plan, with many of the remainder indicating that these steps were being done on a less formal basis. The proportion of large firms with formal plans was especially high among: electricity companies, oil and gas companies (manufacturers, distributors and producers), hospitals, and finance and insurance firms.
- 63% of those that had started testing said testing results had not been made publicly available on demand, including 13% who indicated testing results had not been documented.

**Many LARGE organizations have a structured, multi-phased plan including assessment, conversion and testing of all systems**

Proportion of **LARGE** organizations with plans (as a percentage of those with critical systems)



Small and medium organizations also often said the preparedness of their systems was being addressed:

- 87% of small firms with critical systems said they had taken steps to prepare their critical technology for the date change. Of those firms with critical systems that said steps had not been taken, it was often indicated that they felt Y2K was not an issue for these systems.
- Some 63% of all small firms with critical systems had undertaken to do inventory and assessment and 73% had done or were doing testing by inputting problem dates to make sure systems would work with those dates. Some 74% said they were relying on information from computer hardware or software vendors on the compliance of some of their critical systems.

**ARE BUSINESSES AND ORGANIZATIONS COMMUNICATING WITH THEIR PARTNERS?**

It has been recommended that organizations contact their business partners, such as their customers, suppliers and service providers, in order to assess the potential for disruptions that may originate from elsewhere in the supply chain. The survey included questions on whether

various types of critical partners had been approached. "Critical" business partners were defined as those that impacted on the delivery of the products or services of the responding organization or that would impact on the responding organization's ability to protect the health and safety of employees or the public.

The findings were as follows:

- 46% of small, 72% of medium and 87% of large organizations had contacted at least SOME critical partners. This represented an increase from the May 1998 survey when it was found that the proportion of businesses that had contacted partners was 27%, 36% and 62% for small, medium and large businesses, respectively.
- There was a tendency for some organizations to be less likely to contact foreign as opposed to Canadian business partners.

**We asked respondents:**  
*Which critical suppliers or service providers have been approached? Have you approached your...*

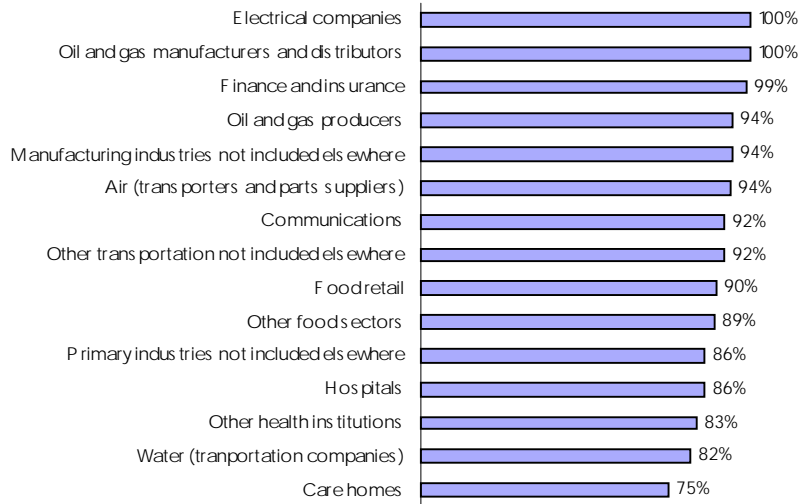
% YES responses for each category of suppliers and service providers. (Excludes organizations for which category was not critical.)

	% of SMALL organizations responding YES		% of MEDIUM organizations responding YES		% of LARGE organizations responding YES	
	<i>In Canada</i>	<i>Outside Canada</i>	<i>In Canada</i>	<i>Outside Canada</i>	<i>In Canada</i>	<i>Outside Canada</i>
<i>financial institutions such as banks, trust companies, investment firms or insurance companies?</i>	29%	30%	55%	52%	74%	61%
<i>providers of transportation services? telephone companies, dispatch systems or other telecommunications service providers?</i>	24%	13%	48%	31%	70%	62%
<i>providers of emergency services such as police, fire or ambulance services?</i>	23%	10%	52%	21%	77%	49%
<i>providers of emergency services such as police, fire or ambulance services?</i>	10%	--	20%	--	35%	--
<i>government agencies that provide regulatory or licensing services?</i>	10%	12%	22%	19%	50%	35%
<i>hospitals or medical laboratories or any other health care institutions?</i>	7%	4%	26%	16%	39%	21%
<i>suppliers of materials, machinery or equipment?</i>	36%	30%	61%	53%	84%	73%
<i>municipal utilities that provide water or sewage services?</i>	10%	--	28%	--	48%	--
<i>electricity, oil or gas companies?</i>	14%	18%	30%	15%	54%	46%
<i>Other key providers of services and supplies?</i>	37%	11%	51%	24%	84%	81%

"--" does not apply

**We asked respondents:**  
*Has this organization approached ANY of the critical suppliers or service providers to determine their preparedness for the Year 2000?*

**Proportion of LARGE organizations that responded YES**





## **HOW ARE ORGANIZATIONS PLANNING FOR POTENTIAL YEAR 2000 DISRUPTIONS?**

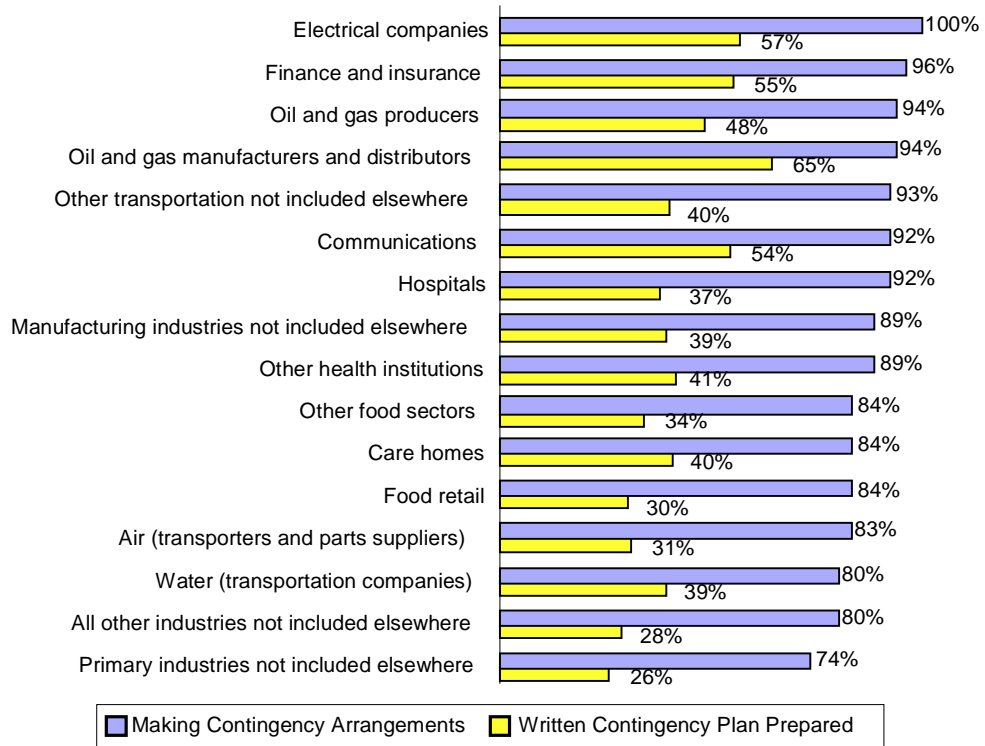
The survey included several questions about Y2K-related contingency planning. Key findings were as follows:

- Some 61% of small, 72% of medium and 85% of large organizations were making some form of contingency arrangements.
- At the time the survey was conducted, 35% of large organizations had prepared written contingency plans.
- Contingency measures most commonly implemented included: the development of alternative processes such as paper or manual processes; planning special staff arrangements and identification of alternative suppliers that have achieved compliance.

<b>We asked respondents:</b>			
<i>Which of the following types of contingency arrangements are being made to prepare this organization for potential Year 2000 difficulties?</i>			
	<b>% YES responses</b>		
	<b>SMALL organizations</b>	<b>MEDIUM organizations</b>	<b>LARGE organizations</b>
<i>Are alternative processes such as paper or manual processes being developed?</i>	43%	45%	57%
<i>Are special staff arrangements for the period of the date change-over being planned? For example, are holidays being extended or cancelled, or is extra staff being hired?</i>	11%	30%	52%
<i>Are alternative suppliers or service providers that have achieved Year 2000 compliance being identified?</i>	24%	39%	48%
<i>Are additional inventories of key components, materials or final products being accumulated?</i>	19%	28%	36%
<i>Have SPECIAL equipment or products such as generators been purchased to ensure the continuity of operations?</i>	11%	13%	20%
<i>Are any other contingency arrangements being made?</i>	5%	12%	18%
<i>Are there plans to suspend any activities that are essential to the continued delivery of products or services?</i>	10%	9%	16%
<b>% responding YES to AT LEAST one of the above</b>	<b>61%</b>	<b>72%</b>	<b>85%</b>

**Most LARGE organizations are making contingency arrangements, but not all had prepared a written contingency plan**

Proportion of LARGE organizations



## SECTORIAL ANALYSIS

In comparing survey results for organizations of different sizes and in different regions or industrial sectors, it becomes evident that the findings vary most significantly according to size and industrial sector.

Differences across the five regions were usually – but not always – less pronounced and not statistically significant. There were no regions that consistently had different response patterns across industrial sectors.

Appendix C includes detailed tabulations of the survey results by region, employment size and industrial sector. Some of the major inter-sectorial differences are highlighted below.

### **WHAT TYPES OF ORGANIZATIONS ARE TAKING THE VARIOUS STEPS? WHICH ONES ARE NOT?**

The proportion of medium and large organizations that said they had taken at least some steps to prepare their critical systems for 2000 was close to 100% in all sectors. Among small organizations with critical systems, the proportion that had not taken steps (13%) was statistically significant. The percentage of small firms that had not acted was highest in the **primary industries (21%)**, **health care homes (18%)** and **other transportation (17%)** sectors. Also, some 21% of small municipal **fire services** said they had critical systems but had not acted to prepare these systems for the Year 2000. This was the highest proportion reported of all municipal services. **In-depth sectorial knowledge and expertise is required to conclude on the significance of these findings.**

#### *Doing inventory and assessment of critical systems*

In all sectors, most large organizations said they were doing or had done an inventory and assessment of critical systems. The proportions of small organizations that had done or were doing inventory and assessment of critical systems varied substantially, ranging from about 45% for small firms in the **primary** and **other transportation** sectors to 93% for small **hospitals**. Virtually all **police services** in municipalities of all sizes said they had conducted or were conducting inventory and assessment of critical systems.

#### *Testing of critical systems*

Virtually all large organizations in all sectors had tested or planned to test at least some of their critical systems by inputting potential problem dates to make sure systems will work with those dates. Small and medium organizations not planning to conduct such tests were most prevalent among the **health care homes** and the **primary** sectors, where some 39% of small organizations with critical systems said they would not be conducting Year 2000 systems tests. Over 44% of **fire services** in small municipalities and 26% of those in medium size municipalities had no plans to test critical systems. These organizations may be using other means of ensuring the preparedness of their systems.

#### *Type of approach taken to prepare for Year 2000*

Even though the vast majority of large organizations in all sectors said inventory and assessment, conversion and testing of critical systems were being undertaken, there was a tendency for some to indicate that these steps were not part of a structured, multi-phased action plan. Only two-thirds of large businesses in the **primary** sector said they had such a plan. Large organizations in the **hospital**, **energy**, and **finance and insurance** sectors were most likely to adopt formal

planning, with proportions exceeding 96%. **Police services** in municipalities of all sizes were also likely to be using a formal plan – 94% of small, 83% of medium and 93% of large.

#### *Approaching critical suppliers and business partners*

**Electrical companies** were among those organizations most likely to have contacted critical business partners. An estimated 88% of small, 96% of medium and 100% of large **electrical companies** said partners had been approached. Virtually all medium and large **finance and insurance firms** had also approached partners. Virtually all **police services** in small, medium, and large municipalities said partners had been approached.

#### *Making contingency arrangements*

Contingency planning was being done least often in the **primary sector**. Only one-half of small, less than two-thirds of medium and three-quarters of large organizations in this sector were making such arrangements. **Hospitals, electricity companies, finance and insurance** institutions, firms in **communications** and **oil and gas** companies were among the sectors with the highest proportions making some kind of contingency arrangements. Virtually all **police services** in all three municipal size categories were making contingency arrangements while only six out of ten **sewage services** in small municipalities had done so.

#### *Prepared a written contingency plan*

The proportion of organizations that had prepared written contingency plans as of February 1999 was highest among large firms in the **energy, communications and finance and insurance sectors**. Among these sectors, about one-half of large organizations had prepared written contingency plans. Plans had also been prepared by some 64% of **police forces** in large municipalities. Proportions for the other municipal services were substantially lower.

### **WHEN WILL PREPARATIONS FOR YEAR 2000 BE COMPLETED?**

#### *Timelines for testing of critical systems*

Testing of critical systems was a work in progress in all sectors and in organizations of all sizes. Among large organizations, the proportion indicating that testing of critical systems was complete at the time of the survey ranged from 0% for the **oil and gas manufacturers and distributors** sector to 22% for the **manufacturing sector**.

#### *Timelines for having all critical systems ready*

Most of the sectorial differences in timelines for having all critical systems ready occurred before the month of September. June or September seemed to be key targets in several sectors. Important sectorial differences diminished in the following months and became insignificant by the end of the year. There was evidence that organizations in the **health care sector** will often have critical systems ready later than entities in other sectors.

#### *Timelines for contingency planning*

Most organizations expected to complete their contingency planning before the end of September. In general, 12% of large organizations said contingency planning would be carried into the last quarter of the year, and 3% said they did not know when contingency planning would be finished. This pattern was consistent across all sectors. **Police services** expected to be finished contingency planning sooner than other municipal services. Only 4% of small, 12% of medium and 10% of large municipalities expected to complete contingency planning for their **police services** after August.

*Timelines for completion of all Year 2000 preparations*

Completion of Year 2000 preparations was expected to continue until late in the year for some organizations.

Many organizations appeared to be targeting June or September for completing various phases of their Year 2000 projects. As a result, some 23% of large organizations said they would not complete all Year 2000 preparations required to ensure the continued delivery of products and services until after September. This compared to 20% for small organizations and 18% for medium.

Similar results were observed across all industrial sectors. The only exception is the **health sector**, where 49% of large **hospitals** said they would not complete their preparations until sometime during the last quarter of this year.

Some providers of municipal services were also leaving Y2K-related work until late in the Year. Among large municipalities, some 34% of **police**, 9% of **ambulance**, 22% of **fire**, 17% of **water** and 17% of **sewage services** said they would not finish critical preparations until after September.

## **APPENDIX A**

### **SURVEY METHODOLOGY AND SAMPLING ERROR**

Statistics Canada interviewers conducted the National Survey on Preparedness for the Year 2000 by telephone from February 1 to March 26, 1999. The questionnaire in Appendix B was administered to a senior official familiar with the computer systems of each sampled business. Statistics Canada and representatives from several federal departments jointly developed the questionnaire. The survey questions were similar, but not identical, to the questions used in two previous surveys on the Year 2000 preparedness of businesses, conducted by Statistics Canada in October 1997 and May 1998.

The target population for the new survey was enlarged to include new sectors and municipalities. The survey sampled a wide range of public organizations that were not included in the previous surveys. Health care, police, fire, ambulance services and public utilities (water and sewage) are all new to the sample. In addition, there was increased coverage of electrical companies.

As in the previous surveys, this survey was based on a sample of enterprises with more than 5 employees. All sampled municipalities<sup>1</sup> had more than 1,000 people. The target population excluded municipal, provincial and federal government offices.

In addition to presenting results for industrial sectors of various size groupings, the survey was designed to produce reliable estimates for five regions. Production of regional estimates required a much larger sample size than the first two surveys. To produce reliable survey estimates relating to the target population, the sample consisted of 14,418 firms and organizations selected from Statistics Canada's business register and 2,544 municipal services. Responses were received from over 8,800 enterprises and 1,300 municipal services.<sup>2</sup>

Although all respondents, enterprises and municipalities were administered the same questionnaire, municipalities were interviewed independently from other organizations. In fact, sampling municipal services added an extra layer of complexity to the survey. First of all, in order to limit the burden placed on respondents, only two municipal services were surveyed in each sampled municipality – one emergency service (fire, police or ambulance) and one public utility (water or sewage). As with the enterprise portion of the survey, the questionnaire was administered to a senior official familiar with the computer systems used to provide the municipal service in question. Since services can be managed at the municipal level, the regional level or the provincial level, responses given by a service provider were in many cases linked to more than one municipality. For example, some municipalities have their police services provided by regional or provincial authorities.

#### ***REGIONS***

1. Atlantic Provinces
2. Québec
3. Ontario
4. Prairies, Northwest Territories and Nunavut
5. British Columbia and Yukon

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<sup>1</sup> Municipalities correspond to 1996 Census Subdivisions.

<sup>2</sup> Some municipal service providers responded for more than one municipality.

### **ENTERPRISE SIZE CATEGORIES**

1. Small - between 6 and 50 employees
2. Medium - between 51 and 250 employees
3. Large - more than 250 employees

### **MUNICIPALITY SIZE CATEGORIES**

1. Small - between 1,000 and 4,999 people
2. Medium - between 5,000 and 25,000 people
3. Large - more than 25,000 people

### **SECTORS**

1. Food – Divisions E, G, I, J and Q of the 1980 Standard Industrial Classification<sup>3</sup>
  - 1.1 Fabrication, storage, wholesale, caterer (Divisions E, G, I and Q)
  - 1.2 Retail (Division J)
2. Health – Division P
  - 2.1 Hospitals (Division P)
  - 2.2 Care homes (Division P)
  - 2.3 Other health institutions, offices, laboratories and associations (Division P)
3. Energy – Divisions D, E, G, H, I and J
  - 3.1 Oil and gas production (Division D)
  - 3.2 Oil and gas manufacturing and distribution (Divisions E, G, H, I and J)
  - 3.3 Electricity companies (Division H)
4. Communications (Telecommunications, postal and courier services) – Division H
5. Transportation – Divisions E and G
  - 5.1 Air transport – Service providers and manufacturers (Divisions E and G)
  - 5.2 Rail transport – Service providers and manufacturers (Divisions E and G)
  - 5.3 Water transport – Service providers and manufacturers (Divisions E and G)
  - 5.4 Trucking/Other - Service providers and manufacturers (Divisions E and G)
6. Finance and Insurance – Division K
7. Municipalities – Divisions H and N
  - 7.1 Ambulance services
  - 7.2 Police services
  - 7.3 Fire services
  - 7.4 Water services
  - 7.5 Sewage services
8. Other industries not included above – Divisions A, B, C, D, E, F, G, I, J, L, M, O, Q, and R.
  - 8.1 Primary industries not included above (Divisions A, B, C and D)
  - 8.2 Manufacturing industries not included above (Divisions A, B, C, D, E, F and G)
  - 8.3 All other industries not included above (Divisions I, J, L, M, O, Q and R)

The response rate for the survey was 78%, meaning that about eight out of ten in-scope firms responded to the survey. Small and medium size enterprises had the same response rate (78%) and large firms showed a 79% response rate.

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<sup>3</sup> See *Standard Industrial Classification 1980*, Statistics Canada

### Number of responses and response rate by organization size category

Size	Number of responses	Response rate
Small	4 115	78 %
Medium	3 074	78 %
Large	1 597	79 %

The response rates varied more between sectors. Enterprises in the food retail sector (62%) and in the oil and gas manufacturing and distribution sector (65%) had the lowest response rates. Those in the electricity companies and health care home sectors led with response rates of 92%, respectively.

### Number of responses and response rate by sector

Sector	Number of responses	Response rate
Manufacturing industries not included elsewhere	1249	82 %
All other industries not included elsewhere	1109	77 %
Health – care homes	943	85 %
Fabrication, storage, wholesale, caterer	875	79 %
Other health institutions, offices, lab. and associations	751	77 %
Health – hospitals	682	84 %
Primary industries not included elsewhere	658	81 %
Food Retail	636	62 %
Communications (telecommunications, post, courier)	449	80 %
Trucking/Other Transport	255	79 %
Finance and Insurance	238	70 %
Energy – Electricity companies	233	92 %
Energy – Oil and gas production	185	77 %
Air Transport	184	75 %
Water Transport	140	73 %
Energy – Oil and gas manufacturing and distribution	138	65 %
Rail Transport	61	73 %
All Enterprises	8,786	78 %

The response rate varied slightly between regions. They all showed rates between 76% and 80%. Atlantic provinces led with a rate of 80% while the British Columbia and Yukon region had the lowest response rate (76%).

### Number of responses and response rate of organizations by region

Region	Number of responses	Response rate
Atlantic provinces	1 251	80%
Québec	1 763	77%
Ontario	2 463	79%
Prairies, N.W.T, Nunavut	1 838	79%
B. C., Yukon	1 471	76%



**Number of responses from municipal service providers, number of CSD surveyed and response rate**

Municipal services	Number of municipalities		Number of municipal service providers
	Sample	Responses	Responses
Ambulance	426	265	213
Police	426	369	123
Fire	426	303	299
Water	633	406	382
Sewage	633	375	367

Whenever population estimates are derived from a sample, sampling error is inevitable because information is obtained from only a part of the population. The tables in Appendix C include indicators of sampling error ranges for each survey estimate.

**APPENDIX B**  
**QUESTIONNAIRE**



Statistics Canada

Case ID number: Y

# National Survey on Preparedness for the Year 2000

CONFIDENTIAL when completed.

Collected under authority of Statistics Act,  
Revised Statutes of Canada, 1985,  
Chapter S19.

### Contact information

Name of organization

Name of respondent

Title of respondent

Telephone

Ext.

FAX

### The purpose of this survey

We are conducting a national telephone survey on preparedness for the Year 2000 computer issue on behalf of the Government of Canada. (You may be aware that some computers are not designed to handle the date change to the Year 2000.) We are conducting the survey with other federal government departments that are assessing the potential risks of the Year 2000 issue to Canadians.

### The data you report are confidential

Statistics Canada is prohibited by law from publishing or releasing any statistics that reveal information obtained from this survey relating to any identifiable business. The data reported on the questionnaire will be treated in strict confidence, used for statistical purposes and released in aggregate form only.

### Your participation is important

Your response to this survey is mandatory under the authority of the Statistics Act. We are seeking information relating to any consolidated Canadian operations directly managed and owned by this organization.

### Data sharing agreement

Thank you for taking time to participate in our survey. As part of the federal government's efforts to prepare for the Year 2000, Statistics Canada has entered into a data-sharing agreement with the National Contingency Planning Group of the Department of National Defense under section 12 of the Statistics Act. Your answers will only be used to support contingency planning for the Year 2000. Although not required to do so, your co-operation in allowing Statistics Canada to share your information with the National Contingency Planning Group would greatly assist in the national effort to be Year 2000 ready. You may refuse to share your information with National Contingency Planning Group by writing to the Chief Statistician and faxing your letter of objection along with the completed questionnaire at: Fax: (613) 951-7141 (or) 1-800-766-9946

If you require assistance in the completion of the questionnaire or have any questions regarding the survey, please contact the Operations and Integration Division of Statistics Canada at: 1-800-647-0642 or (613) 951-4567.

**PLEASE FAX YOUR COMPLETED QUESTIONNAIRE TO: (613) 951-7141 (or) 1-800-766-9946**

## GENERAL INFORMATION

*This questionnaire should be filled out by the **SENIOR MANAGER** who is directly responsible for preparing the organization (named above) for the Year 2000. Answers provided should relate to the consolidated operations owned and managed by this organization in Canada.*

### Q1. How many people are currently employed by this organization in Canada, including contract workers?

Full-time employees  
(more than 30 per week)

Part-time employees  
(less than 30 per week)

*If seasonal business/organization, then record an estimated average annual employment. If organization is a franchise, include only the employment of the franchise unit being surveyed.*

### Q2. What is the end date for the fiscal reporting period for this organization's Canadian operations?

DAY

MONTH

YEAR



Statistics Canada Statistique Canada



Canada

## MODULE A: Company Information

The following questions ask whether this organization has different types of systems and whether **ANY** of these systems are **CRITICAL**. For the purposes of this survey, **CRITICAL SYSTEMS** are those that are *essential to the CONTINUED delivery of products or services to clients or to the public OR those systems that impact on the health and safety of employees or the public.*

**QA1.** Does this organization have any of the following technologies? *(Please mark column A)*

**QA2.** Are ANY of these **CRITICAL** to the **CONTINUED** delivery of products and services OR to the health and safety of employees or the public? *(Please mark column B)*

Mark all that apply	Column A Have this technology	Column B Is CRITICAL
<b>1</b> Stand-alone personal computers	<input type="radio"/>	<input type="radio"/>
<b>2</b> Larger computing systems such as mainframes, mid-range computers, client servers, local area networks (excl. stand-alone personal computers)	<input type="radio"/>	<input type="radio"/>
<b>3</b> Off-the-shelf software applications such as word processors, spreadsheets and database management software	<input type="radio"/>	<input type="radio"/>
<b>4</b> Custom-developed software designed specifically for this organization	<input type="radio"/>	<input type="radio"/>
<b>5</b> Industrial systems such as computerized thermostats, heat sensors and flow sensors	<input type="radio"/>	<input type="radio"/>
<b>6</b> Process control systems embedded in computerized plant machinery	<input type="radio"/>	<input type="radio"/>
<b>7</b> Medical devices OR test, laboratory or diagnostic equipment.	<input type="radio"/>	<input type="radio"/>
<b>8</b> Computerized systems that control alarms, elevators, furnaces, air-conditioners OR other building equipment.	<input type="radio"/>	<input type="radio"/>
<b>9</b> Telecommunications equipment such as dispatch systems, pagers, cell phones, or other telecommunications systems	<input type="radio"/>	<input type="radio"/>
<b>10</b> Other types of technology <b>Specify</b> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>	<input type="radio"/>	<input type="radio"/>
If organization has <b>no systems of any kind</b> , check here and <b>skip to Module C (page 4)</b>	<input type="radio"/>	
If organization has <b>no critical systems</b> , check here, complete the remainder of Module A, then <b>skip to Module C (page 4)</b>		<input type="radio"/>

**QA3.** Has this organization taken any steps to ensure that its technology will function correctly when the date changes to the Year 2000?

<input type="radio"/>	Yes	<b>Go to QA5</b>
<input type="radio"/>	No	

**QA4.** Why has this organization chosen not to take any steps towards dealing with the Year 2000 issue?

Mark all that apply
<input type="radio"/> Year 2000 is not an issue for our organization
<input type="radio"/> Not worried yet/enough time to do it later
<input type="radio"/> No resources (time, money, staff)
<input type="radio"/> Expecting information technology suppliers to deal with problem
<input type="radio"/> Assuming systems are ready
<input type="radio"/> Anticipating arrival of problem-solving application on market
<input type="radio"/> Not aware of issue
<input type="radio"/> Other reason (Specify:) <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>
<b>Go to Module C (page 4).</b>

**QA5** Which of the following **BEST** describes this organization's approach to the Year 2000 issue?

Mark ONE only	
<input type="radio"/> A formal approach means a structured, multi-phased plan that includes an assessment of all systems followed by conversion and testing phases.	<b>Go to QA6</b>
<input type="radio"/> A less formal approach MAY mean that some, but not all, of these phases are being implemented.	<b>Go to QB1</b>

**QA6.** When was this organization's formal plan first implemented?

Month	Year
<div style="border: 1px solid black; width: 60px; height: 20px;"></div>	<div style="border: 1px solid black; width: 60px; height: 20px;"></div>

## MODULE B: Systems Preparations

Different organizations take different steps to deal with the Year 2000 issue. The following are questions about steps that this organization may have taken to prepare its **CRITICAL SYSTEMS**.

**Recall** : **CRITICAL SYSTEMS** are those that are essential to the **CONTINUED** delivery of products or services to clients or to the public **OR** those systems that impact on the health and safety of employees or the public.

**QB1.** Has anyone prepared, or is anyone preparing, an inventory of this organization's **CRITICAL** systems to assess these systems for compliance?

Yes

No

**QB2a.** Has anyone assessed, or is anyone assessing, this organization's **CRITICAL** systems to identify those systems that may have date problems?

Yes

No

If you answered **NO** to either **QB1** or **QB2a**, then go to **QB3**.

**QB2b.** How much of the inventory and assessment work has been completed? Have you completed...

**Mark ONE only**

All (of the work) **Go to QB3**

More than half (of the work)

Half (of the work)

Less than half (of the work)

None (of the work)

**QB2c.** When do you expect to complete the inventory and assessment work?

Month

Year

**QB3.** Has anyone obtained or is anyone obtaining information from hardware or software vendors to determine whether **ANY CRITICAL** systems are compliant?

Yes

No

**QB4.** Has this organization hired any **INDEPENDENT** contractors or consultants to implement a Year 2000 plan?

Yes

No

**QB5.** Have **ANY CRITICAL** systems been replaced or upgraded to prepare for the Year 2000?

Yes **Go to QB7**

No

**QB6.** Are there any plans to replace or update **ANY CRITICAL** systems before the Year 2000 arrives?

Yes

No

**QB7.** Has anyone tested, or is anyone testing **ANY** of this organization's **CRITICAL** systems by inputting potential problem dates to make sure the systems will work with those dates?

Yes **Go to QB9**

No

**QB8.** Are there any plans to test **ANY CRITICAL** systems by inputting problem dates?

Yes

No

## MODULE B: Systems Preparations (cont'd)

For each of the technology categories that were indicated as being CRITICAL to this organization in QA2, please answer the following:

- QB9.** Has anyone tested, or is anyone testing, ANY of the CRITICAL technologies?
- QB10.** Are there any plans to test ANY of these CRITICAL systems?
- QB11.** Are ALL of these CRITICAL systems now ready to handle the date change to the Year 2000?\*
- QB12.** When do you expect these CRITICAL systems to be ready to handle the date change to the Year 2000?\*

	QB9: Tested or being tested?		QB10: Will be tested?		QB11: Are now ready*?		QB12: Will be ready by*?	
	YES	NO	YES	NO	YES	NO	MONTH	YEAR
1 Stand-alone personal computers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
2 Larger computing systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
3 Off-the-shelf software applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
4 Custom-developed software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
5 Industrial systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
6 Process control systems embedded in computerized plant machinery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
7 Medical devices OR test, laboratory or diagnostic equipment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
8 Computerized control systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
9 Telecommunications equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>
10 Other types of technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input style="width: 40px;" type="text"/>	<input style="width: 40px;" type="text"/>

(\* Note: A system is "ready" if it can operate normally with the date change over to the Year 2000 without the application of some contingency measure such as a manual override or an alternative process.

**QB13a.** How much of the work required to test CRITICAL systems has been COMPLETED to date? Have you completed...

**Mark ONE only**

- All (of the testing)? **Go to QB14**
- More than half (of the testing)?
- Half (of the testing)?
- Less than half (of the testing)?
- None (of the testing)?

**QB13b.** When is the testing of ALL CRITICAL systems expected to be completed?

Month  Year

If answer to QB13a was **NONE**, then go to QB20

**QB14.** Compared to what was expected before testing began, have the testing results revealed ....

**Mark ONE only**

- Many more problems than expected?
- Somewhat more problems than expected?
- About the same amount of problems as expected?
- Somewhat fewer problems than expected?
- Many fewer problems than expected?

**QB15.** Have the testing results been documented?

- Yes
- No **Go to QB20**

## MODULE B: Systems Preparations (cont'd)

**QB16.** How have the testing results been made publically available...

**Mark all that apply**

- ...on request?
- ...on the Internet?
- ...in a business or trade journal?
- ...in other ways? (Specify)

- Testing results have not been made publically available in any way

**QB20.** Overall, when does this organization expect to have ALL of its CRITICAL systems ready for the Year 2000?

- All critical systems are ready now OR...

All critical systems will be ready by  
Month                      Year

**QB21.** How confident or doubtful are you that ALL this organization's CRITICAL systems will be ready on time for the year 2000? Are you ...

**Mark ONE only**

- Very confident
- Somewhat confident
- Neither confident nor doubtful
- Somewhat doubtful
- Very doubtful

## Module C: Customers/Suppliers/Service Providers

The following questions address the extent to which organizations are communicating with their **critical suppliers and service providers** as part of their Year 2000 preparations. Suppliers and service providers are critical if they are essential to the delivery of YOUR products or services OR to the safety of employees or the public.

**QC1.** Please indicate whether any of the following are CRITICAL to this organization in Canada?

**QC2.** Please indicate whether any of the following are CRITICAL to this organization in other countries?

	QC1 in Canada?		QC2 in other countries?	
	YES	NO	YES	NO
<b>1</b> Financial institutions such as banks, trust companies, investment firms or insurance companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>2</b> Providers of transportation services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>3</b> Telephone companies, dispatch systems or other telecommunications service providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>4</b> Providers of emergency services such as police, fire or ambulance agencies	<input type="radio"/>	<input type="radio"/>	not applicable	
<b>5</b> Government agencies that provide regulatory and licensing services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>6</b> Hospitals or medical laboratories or any other health care institutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>7</b> Suppliers of materials, machinery, equipment or inventory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>8</b> Municipal utilities that provide water or sewage services	<input type="radio"/>	<input type="radio"/>	not applicable	
<b>9</b> Electrical, oil or gas companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>10</b> Other key providers of services and supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Specify</b>	<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			

**QC3. Has this organization approached ANY of the critical suppliers or service providers to determine their preparedness for the Year 2000?**

- Yes
- 
- No **Go to QC6**

**QC4. Which suppliers or service providers have been approached in Canada?**

**QC5. Which suppliers or service providers have been approached in other countries?**

Have you approached any of the critical...	QC4 in Canada?		QC5 in other countries?	
	YES	NO	YES	NO
<b>1</b> Financial institutions such as banks, trust companies, investment firms or insurance companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>2</b> Providers of transportation services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>3</b> Telephone companies, dispatch systems or other telecommunications service providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>4</b> Providers of emergency services such as police, fire or ambulance agencies	<input type="radio"/>	<input type="radio"/>	not applicable	
<b>5</b> Government agencies that provide regulatory and licensing services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>6</b> Hospitals or medical laboratories or any other health care institutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>7</b> Suppliers of materials, machinery, equipment or inventory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>8</b> Municipal utilities that provide water or sewage services	<input type="radio"/>	<input type="radio"/>	not applicable	
<b>9</b> Electrical, oil or gas companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>10</b> Other key providers of services and supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**QC6. Does your organization sell any products or services to clients in Canada?**

- yes
- 
- No **Go to QC8**

**QC7. Have any of the clients in Canada been approached to determine how their level of Year 2000 preparedness might impact on this organization?**

- yes
- 
- No

**QC8. Does your organization sell any products or services to any clients in other countries?**

- yes
- 
- No **Go to QC10**

**QC9. Have any of the clients in other countries been approached to determine how their level of Year 2000 preparedness might impact on this organization?**

- yes
- 
- No

**QC10. NOTE: If the answer to QC8 was YES OR any of the items in QC2 was answered YES, please answer QC10.**

Has anyone taken steps to contact any FOREIGN customs or border control authorities to ensure that the delivery of products or services will not be disrupted by any Year 2000 difficulties that these authorities may experience?

- yes
- 
- No



## Module D: Contingency Measures

In their efforts to prepare for the Year 2000, some organizations are implementing contingency measures to ensure that operations will continue EVEN IF YEAR 2000 PROBLEMS OCCUR. The following questions ask about various contingency measures that this organization may be following.

**QD1.** Which of the following types of contingency arrangements are being made to prepare this organization for potential Year 2000 difficulties?

**Mark all that apply**

- Are alternative processes such as paper or manual processes being developed?
- Are additional inventories of key components, materials or final products being accumulated?
- Have SPECIAL equipment or products such as generators been purchased to ensure the continuity of operations?
- Are alternative suppliers or service providers that have achieved Year 2000 compliance being identified?
- Are there plans to suspend any activities that are essential to the continued delivery of products or services to clients or to the public?
- Are special staff arrangements for the period of the date change-over being planned? For example, are holidays being extended or cancelled, or is extra staff being hired?
- Are any other contingency arrangements being made?

Specify

- NO contingency arrangements have been or are being made**      **Go to E1**

**QD2.** Are staff meetings being conducted to train employees on Year 2000 issues or to develop or to communicate contingency plans?

- Yes
- No

**QD3.** Are critical business partners (such as customers, suppliers, service providers) being included in the contingency planning process?

- Yes
- No

**QD4.** Which of the following BEST describes this organization's approach to the contingency planning process?

**Mark ONE only**

- There is a formal, multi-phased approach whereby a team is assembled, the risks are assessed, a written plan prepared, the parts of the plan are tested and revised as required. **OR**
- Other less formal approaches are being used.

**QD5.** Which of the following contingency planning measures have been undertaken? Has this organization...

**Mark all that apply**

- Assembled a contingency team
- Assessed the risks that the Year 2000 issue poses
- Prepared a written contingency plan
- Tested the plan

**If the plan has not been tested, go to QD7.**

- None of the above have been undertaken

**QD6.** Has the plan been revised as a result of the testing?

- Yes
- No

**QD7.** Has this organization finished its contingency planning?

- Yes      **Go to QE1**
- No

**QD8.** When does this organization expect to complete its Year 2000 contingency planning?

- Contingency planning is completed OR...

contingency planning will be completed by

Month

Year



## Module E: Conclusion

**QE1.** Overall, when does this organization expect to complete the Year 2000 preparations required to ensure that the continued delivery of products and services and the safety of employees or the public are not affected?

- All preparations are now completed OR

Month

Year



**Please Fax your completed questionnaire along with any comments you may have to:**

**(613) 951-7141 (or) 1-800-766-9946**

**Thank you for your participation.**

# APPENDIX C

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