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**REPORT FROM THE COMMISSION
TO THE COUNCIL, THE EUROPEAN PARLIAMENT,
THE ECONOMIC AND SOCIAL COMMITTEE
AND THE COMMITTEE OF THE REGIONS**

EU Infrastructures and the Year 2000 Computer Problem



Report of the Commission

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1 EXECUTIVE SUMMARY

The Commission continues with its quarterly reporting on the Year 2000 Problem by providing a mid-year update on EU preparedness in major infrastructure sectors. As in previous reports, the information contained herein is provided by national and regulatory authorities, as well as from European and international organisations.

As expected in such a fast moving domain, the progress and the issues concerned have continued to evolve rapidly during 1999.

- Several of the larger firms now report completing their Y2K preparations, with *the majority still expecting to finish in September or October*, and some even later.
- Detailed contingency plans are widely available, with *co-ordination of contingency planning activities at international level* most apparent in the electricity, aviation and financial sectors.
- Some report *delays resulting from dependencies on external suppliers* providing timely software or hardware upgrades, and there are also reports of *supplier claims proving to be unreliable* when tested.
- *SME inaction is becoming increasingly critical*, with every country reporting that SMEs continue to lag behind.

Nevertheless, care must be taken in making generalisations regarding Y2K preparedness at both sectoral and European level, since the business, technical and cultural situation in each country is unique.

Contingency planning efforts have become much more focused:

- *Specific plans are being developed to manage the rollover period itself*, with many organisations expecting the greatest stress to occur on the first working day of 2000, rather than on 1 January 2000.
- *Early warning systems are being established* - within sectors, nationally, and between governments.
- *Organisations are creating "command centres" or "crisis cells"* to ensure that they are able to react quickly to unexpected problems.

Apart from the actual readiness of organisations and contingency planning, the key issue for the remainder of this year will undoubtedly be communication. Although there are certain sectors in which the provision of information is particularly of concern, the supply of information to the public by all sectors should be improved.

The retention of public confidence is vital. Regardless of progress in addressing the problem, if the companies and organisations involved do not communicate their status and plans sufficiently well to their customers during the autumn, it may well be assumed that the situation is negative. This assumption could have a potentially severe effect on individual companies, and risks damaging the credibility of the overall sector in which they operate.

2 INTRODUCTION

*A midterm update on
EU Y2K preparations in
1999.*

In this report, the European Commission continues to facilitate the exchange of information on the Year 2000 Computer Problem (Y2K) in the EU by providing a mid-year update on the current situation of preparedness in 1999. As in previous reports, the information which is presented here has been provided by the relevant administrations, regulatory and supervisory authorities in the Member States, as well as by European and international associations. Countries which made specific contributions include Austria, Denmark, Finland, Germany, Greece, Ireland, Italy, the Netherlands, Spain, Sweden, and the UK. Detailed reports on the transport sector were provided by most EU Member States for the Transport Council on 17 June, and the results are also summarised. The overall reporting timeframe was mid-May to mid-July 1999.

The key sectors for which information is provided were selected on the basis of their relevance in an international context. In accordance with the recent invitation of the European Council in Cologne, The Commission places particular emphasis on cross-border and cross-sector issues, and the co-ordination of contingency plans between countries. The Commission is unable to carry out an independent validation of the information provided herein. A final report on the EU situation will be prepared in the autumn.

3 ENERGY

3.1 International Activities in the Energy Sector

The electricity supply industry in Europe, represented by Unipede/Eurelectric, holds quarterly meetings where experts discuss their progress and co-ordinate contingency plans. They will also discuss the possibility of implementing an Early Warning System (EWS) for their members during their next Y2K meeting in September.

*Various agencies and
organisations are
disseminating
information on Y2K in
the energy sector*

The Nuclear Energy Agency (NEA) is also developing an EWS system, which will make use of the Internet, particularly for reporting on the situation of nuclear plants during the rollover. The International Atomic Energy Agency (IAEA) will host an event concerning electricity grids and nuclear power plants, to be held on 13 – 15 September in Sofia, Bulgaria. The International Energy Agency (IEA) is also active on Y2K, hosting a number of seminars throughout the world in order to increase awareness of the problem, particularly with respect to the oil sector, including a recent workshop in Moscow with Russian operators.

3.2 Commission Activities in the Energy Sector

*A meeting of European
electricity grid
suppliers took place in
July*

At the initiative of the Commission, representatives of the main European electricity grids, including Central and Eastern European Countries and the Newly Independent States, and of relevant international organisations, met on 22 July in Brussels to discuss the Y2K problem with respect to electricity grids.

This event provided an opportunity for an extensive and useful exchange of views and experience, with the main results summarised below. The Commission indicated that it was ready to pursue assistance for appropriate follow-up actions, if requested. The Commission, together with the Member States, will continue to work on relevant issues at Community level, such as the

co-ordination of contingency planning at European level and early warning systems.

3.3 Electricity

The electricity sector is well aware of their importance.

Maintaining the operation of electricity grids during the Y2K changeover period, as a vital link in electricity supply and occurring in mid-winter, is essential. The electricity supply industry across Europe is fully aware of this and has been devoting very considerable efforts to prepare for the Y2K challenge. Nevertheless, unforeseen and possibly external disturbances to electricity grids and their operation, including the loss of major customer loads or faults in other services such as telecommunications or periphery systems, cannot be excluded. Given the possibility of cascading effects in grid faults, such efforts must continue, particularly on contingency measures and plans.

Electricity supply systems have little date-dependency.

In general, electricity supply systems, from generation, transmission through to distribution, comprise electro-mechanical equipment which is not in itself date-sensitive. Nevertheless, monitoring, control and other peripheral systems can be date-sensitive, and care has been taken to identify such systems and rectify them where appropriate. It should be noted that these are not normally critical systems, and electricity supply equipment can be operated on a manual basis. Telecommunication links between key installations are vital, and most electricity supply companies are taking measures to ensure that these links are secure, and to establish back-up systems such as radio or satellite communications.

Various contingency measures are envisaged...

Since the 1st January 2000 will be a Saturday occurring in a holiday period, electricity demand is expected to be significantly below mid-winter peak demand, although demand will naturally be affected by the weather conditions. This means that considerable spare capacity is anticipated and many electricity companies report that they will mobilise this to substantially increase the availability of reserves during the date change period, including instantaneous reserves. The distribution and fuel mix of generation will also be designed to be flexible and to be spread geographically, in part to avoid excessive loading of the grid. Planned outages for maintenance will be avoided, but maintenance in the run-up period will be increased. Staffing at key installations and mobile teams will be augmented for the date change period. Particular attention will also be paid as electricity demand builds up again in the first week of the new millennium, bringing in new equipment, and for other date sensitive periods such as 29 February 2000¹, although these are not thought to be as significant.

...and operators expect to be able to cope with the predicted load.

Difficulties could be created by the loss of major loads, with the possibility to destabilise the grid, especially if flows in the grid were relatively low. However, representatives of the electricity supply industry have indicated that even a major consumer is usually relatively small in comparison to the supply network, and in any case generation can be quickly reduced to maintain equilibrium. Furthermore, electricity supply companies are meeting with their largest customers, who are themselves taking action to avoid Y2K faults, to better anticipate demand requirements in the critical period. In some instances, large consumers are being advised against switching to stand-by generators just during the date change period, as this could in itself add instability. More generally, an information policy to the public is of key importance since low confidence can, as in other sectors, precipitate problems.

¹ Some software is unable to recognise the year 2000 as a leap year, hence the 29 February 2000 would simply not exist. As a consequence, calculations involving a date after 28 February 2000 would be incorrect.

<i>Co-operation on contingency planning is taking place in the EU.</i>	Co-operation between countries and supply companies within the major grid systems is taking place, highlighting the need for a common understanding and guidelines. The UCTE ² and Nordel ³ grids have implemented a policy of setting flows across links between countries within these grid systems at minimum levels during the date change period, but keeping the links connected, so that electricity could be supplied if required. More generally, short term electricity exchange for economic optimisation purposes will temporarily be suspended.
<i>The reliability of grids is a key issue for nuclear power plant operations.</i>	The importance of maintaining grid operation for nuclear power stations has been identified as a key issue, since if the grid fails, the plant normally shuts down, though the reactor still requires electricity for cooling. This is a well recognised risk counterbalanced by the availability of back-up generators and batteries. Ensuring readiness of the latter is part of the various efforts being made to ensure the safe operation of these plants.
<i>The large operators are well prepared...</i>	3.4 Oil and Gas Production and Supply The oil and gas industry as a whole generally consists of large operators with comprehensive and well-defined Y2K projects, many of which are already reporting completion of their internal preparations. In the upstream sector, the industry has identified all the normal external dependencies, such as a reliance on external power, water and telecommunication providers. A number of additional specialist dependencies are relevant for offshore operators, including helicopters, air traffic control, coastguard and support vessel operators.
<i>...in an industry which has substantial experience of contingency planning.</i>	In common with the other energy areas, this industry has a long and extensive expertise in contingency planning. They therefore recognise that no matter how much effort has been expended on carrying out a thorough checking process, it is prudent to assume something could be missed and plan accordingly. In the UK, the UK Oil Operators Association arranged a major seminar on behalf of the industry where Communities of Interest were established to bring together specific facilities/resources from interested parties in order to develop compatible contingency plans and identify possibilities for mutual assistance.
<i>Sensible risk mitigation measures are planned.</i>	The development of plans for the rollover period for the various operators is well advanced, and many common themes are emerging. The goal is to minimise the risk/impact of any failures which do occur, thus there will be a temporary curtailment in maintenance and other non-time critical activities such as loading and offloading, and moving vessels into/out of harbours. The situation is similar in the downstream area. Again, non-critical activities will be avoided, pipeline and vehicle movements will be reduced, and companies are augmenting their distribution chain stock levels to accommodate possible changes in customer purchasing behaviour. In certain cases, residual work remains. In the UK for instance, to minimise disruption to customers and resulting lost sales, some operators plan to combine the installation of new pre-tested/certified Y2K-compliant forecourt equipment with their steps to convert/replace 4Star leaded fuel dispensing equipment with
	² UCTE: Union for the Coordination of Transmission of Electricity: Comprises Austria (AT), Belgium (BE), Croatia (HR), France (FR), Germany (DE), Greece (GR), Italy (IT), Luxembourg (LU), Former Yugoslav Republic of Macedonia (MK), The Netherlands (NL), Portugal (PT), Slovenia (SI), Spain (ES), Switzerland (CH), and Federal Republic of Yugoslavia (YU). ³ NORDEL: the organisation for electric power co-operation in Denmark (DK), Finland (FI), Iceland (IC), Norway (NO) and Sweden (SE).

Eastern affiliates may provide useful information.

Lead Replacement Petrol equipment. This timing is largely dictated by a taxation change which comes into force at the end of October.

Governments will also be able to take advantage of the international nature of this sector, and have access to the results emerging from the various companies Far East affiliates to obtain advanced warning of potential emerging problems.

4 NUCLEAR SAFETY

4.1 Overview

There is a potential impact of Y2K on nuclear safety.

There are a number of potential problems in nuclear power plants (NPPs) relating to safety that can be associated with the Y2K problem. The first of these are the direct safety issues, which concern the software, hardware, and embedded chips used in safety-related systems. The relationship between power plants and the electricity grid or other generation facilities may also induce problems. Should grid problems arise, it is important that back-up mechanisms, such as batteries and diesels, operate to ensure emergency electricity supply to cooling systems. Finally, there are also concerns that multiple failures, though not intrinsically unsafe in themselves, could unduly overload NPP operators.

4.2 International Activities on Nuclear Safety

WANO, the World Association of Nuclear Operators, has taken initiatives since 1998 to raise awareness and share information amongst its members. The International Atomic Energy Agency (IAEA) has launched a special project to address the Y2K problem for NPPs (particularly in CEEC, NIS and China). It has performed a number of missions to NPP sites. These have revealed a number of Y2K issues although these are generally not in safety critical systems. Instead, they may present a risk to continued operation, and an associated risk of operator overload. The IAEA plans to undertake further missions but it is limited by the unavailability of Western experts. It planned to hold an expert meeting in July, to discuss and analyse results seen to date.

4.3 EU Nuclear Safety

Rigorous programmes are in place throughout the EU, which are closely monitored by regulators.

All Member States with operating NPPs have a programme to address the issue. Although each programme differs in detail, each requires the licensee to identify systems that might be affected, to rank them by nuclear safety significance, to test each in turn and to modify or replace any that fail. Regulatory authorities are reviewing the content of these programmes and are monitoring their execution. Some Member State NPP operators reported they would be Y2K ready by end of June 1999. Others intend to execute some remediation and test activities during summer shutdown periods and plan to end such work by the end of September or, in one case, October. All Member States' NPP operators are now preparing risk mitigation and contingency plans. A number of research reactors will be closed over the critical dates. Several regulatory authorities plan to conduct inspections during the autumn, including the examination of contingency plans.

The Commission is in regular contact with relevant industrial groups (FORATOM, WANO, EURELECTRIC, UNIPED) for information on their activities. The Commission has raised the Y2K issue for discussion with Member State regulators in the relevant working groups, promoting the spread of best regulatory practice. There is no perceived need to increase the Commission's activities with respect to Y2K compliance of NPPs in the

Member States, since they report that they are already adequately addressing the issue.

4.4 Nuclear Safety in Central and Eastern European Countries (CEEC) and New Independent States (NIS)

Possible sources of concern in CEEC and NIS.

Central and Eastern Countries (CEEC) and New Independent States (NIS) are reportedly taking measures; however, it appears that the level of awareness and action is not homogeneous.. Given concerns that the preparations of the electricity sector in these countries tend to be less advanced than those of the EU, the likelihood of grid problems arising may be greater, increasing the possibility of problems with ensuring adequate reactor shutdown (cooldown) or of overloading operators. The Commission July grid conference discussed (see section 3.3. on Electricity) the impact of Y2K on EU, CEEC and NIS grids and possibilities for international co-operation.

A number of supporting programmes to nuclear installations exist

Considering the tight time scale and the absence of any mandate for the European Union to take an initiative, the Commission is channelling a major effort on supporting the IAEA⁴, WANO⁵ and ISTC⁶ work.

At the Commission's request, the issue was addressed at the TACIS on-site assistance meetings organised by WANO in November 1998 and May 1999.

In December 1998, the Commission requested TACIS on-site assistance contractors to ensure the Y2K compliance of equipment delivered under EU programmes. In early 1999, the Commission initiated a new inquiry with all EU utilities involved in the on-site assistance programme to raise awareness. The most recent on-site assistance contracts include a provision to address the issue at the specific sites. In the framework of the EU TACIS on-site assistance programme, the issue has already been taken up by one contractor (at Leningrad NPP).

Following intensive discussions, the terms of reference for a specific TACIS support project have been agreed over the reporting period between the Commission, the IAEA and WANO. The Commission has meanwhile signed the relevant contract with WANO. The objective of the project is to perform an independent review of the Y2K status of designated NPPs in Russia and Ukraine. This is done in full co-ordination with the IAEA.

The ISTC is establishing a special fund (1.35 M\$ are currently pledged) to assist Russian and NIS institutions in solving issues related to the Y2K problem, involving individuals and teams from the former weapon research institutes. The ISTC funds will support co-ordination of the definition of appropriate methodologies, assist Minatom and other institutions in conducting projects leading to the implementation of practical Y2K solutions, and assist in the provision of specific international expertise. A number of project proposals have recently been approved.

The Commission is also encouraging the exchange of information between nuclear regulators...

The Commission's CONCERT group, (consisting of the senior nuclear regulators of 25 EU, CEEC and NIS countries) has discussed the issue on three occasions since June 1998 in order to increase awareness. All CEEC and NIS nuclear regulatory authorities have action plans, several developed following the first discussion. The content of these plans and their state of progress varies

⁴ IAEA: International Atomic Energy Agency.

⁵ WANO: World Association of Nuclear Operators.

⁶ ISTC: The International Science and Technology Centre, Moscow, RU.

...and provides them with direct assistance.

EU countries also carry out bilateral activities.

significantly. Some countries report being as well prepared as their EU counterparts, while others are significantly less advanced.

Following requests for specific assistance, the Commission is now providing support to the Bulgarian and Slovakian nuclear regulator authorities. A request from the Russian authority is being processed.

The G-24 Nuclear Safety Assistance Co-ordination (NUSAC) secretariat, hosted by the Commission, raised the Y2K issue at its March 1999 meeting. The meeting brings together CEEC and NIS countries and the donors of nuclear safety assistance. The meeting considered the role of donor countries in assessing the Y2K compliance of equipment that they have supplied.

The UK Department of Trade and Industry funded a study⁷, the results of which were circulated to utilities participating in the TACIS on-site assistance programme. Finland has provided assistance to the Leningrad NPP near Saint Petersburg and to the NPP in the Kola peninsula. Representatives from Russian nuclear power plants have observed the Y2K preparations carried out by the Loviisa NPP in Finland, which contains Russian-made reactors. Germany is providing assistance to the Ukrainian regulator and NPPs. Further reports on bilateral actions have been requested from Member States.

For all Commission funded on-site activities, the target date for completion is October 1999, since last minute modifications to NPPs or to procedures run the risk of introducing more problems than they resolve.

5 TRANSPORT

5.1 Aviation

5.1.1 International Activities in the Aviation Sector

International organisations in the aviation sector are very active...

The International Civil Aviation Organisation (ICAO) has developed Y2K assessment criteria which cover three areas: - Air Traffic Services, Airports and Aircraft Operators. Its Member States were invited to perform a critical Y2K compliance assessment of their aeronautical services, air navigation services and the aerodrome services of designated international and alternate aerodromes based on these criteria, and provide appropriate aeronautical information by 1 July 1999 on the compliance status of these services. A first global readiness assessment report based on this survey is under preparation and will be available by mid-September.

In order to ensure that strategic ATS routes remain open, their contingency planning efforts are focusing on providing back-up power and telecom facilities, as well as the establishment of 8 regional contingency co-ordination centres which will collect and disseminate information to the countries of their region. A global co-ordination centre will also be created. IATA has created a database with information on the status of their members.

In the European Civil Aviation Conference (ECAC), an examination was made of the legal aspects of possible courses of action being considered in connection with Y2K readiness, as well as limitations of operations in cases where there is no information on compliance status, and/or where there is reason to suspect non-compliance, with a view to preparing policy proposals to the Directors

⁷ The Millennium Problem. Raising the awareness of nuclear power station operators and regulatory authorities in Central and Eastern Europe, September 1998

	General of Civil Aviation. A meeting of Directors General is scheduled to take place on 18 October 1999. The Commission has regularly informed the Council of Transport Ministers regarding relevant developments and has participated in the ECAC work. It will consider the need for appropriate action in light of the assessments of the situation made by international organisations.
<i>...and EU aviation organisations are also acting responsibly.</i>	5.1.2 EU Aviation Throughout the EU, individual airport, airlines and air traffic control (ATC) systems are preparing for the new millennium with projects expecting to be completed during the second and third quarters of 1999. Such projects generally cover critical links to relevant partner systems at the airports and to basic suppliers (power supply, telecommunications). Many ATC operators are carrying out interoperability tests both internally and with external partners such as the airports and Eurocontrol.
<i>There are some difficulties in obtaining supplier information.</i>	The industry reports experiencing some problems in obtaining satisfactory assurances from suppliers. In a number of cases, the supplier chain has proved to be more complicated and longer than anticipated. The industry is also heavily dependent on the availability of vital national infrastructures (power, telecommunications, and water). For power, the industry is taking steps to ensure that alternative or backup sources are available, however, there remain concerns about possible failures of telecommunication networks.
<i>International testing of ATS services is occurring.</i>	On an international basis, contingency planning is closely interwoven with the neighbouring countries, since there is a high degree of dependency on others for air traffic control services. The civil airport authorities are drawing up contingency plans for essential airport systems. Several countries reported carrying out interface tests with neighbouring air traffic service providers. UK Ministers have announced that the Government will be making a statement on the international safety implications (the Y2k status of foreign operators, airports and ATC systems) by October 1.
<i>Identifying embedded chip problems in ships is an issue.</i>	5.2 Maritime Transport Ships may make use of a variety of electronic devices and systems, particularly in the newer fleets. There is extensive use of embedded systems, for which it may be very difficult to obtain information from suppliers. Each ship also tends to be unique, in that even ships in a batch from the same yard will need to be examined individually, taking into account their history of repairs and upgrades following delivery.
<i>The key threat to navigation systems can be easily overcome.</i>	The main risk to any ship is in the ability to navigate safely. In general, the shipping sector has assessed their Y2K compliance and developed a replacement and contingency programme to overcome the potential problems identified. However, all ships have a built-in contingency to cope with the failure of electronic equipment relating to navigation - reversion to manual methods.
<i>Many EU ports will request certification of compliance from ships.</i>	All Dutch ships will be licensed by a joint effort between insurance companies and a sectoral organisation. For ships from foreign countries visiting Dutch ports, a similar scheme is proposed. Greece is also paying close attention to the maritime sector. Proof will be requested from ships entering Greek ports that measures have been taken to address the problem. They will also be required to provide documented Y2K contingency plans.

<i>Risks to port operations are being addressed.</i>	Ports are hubs of trade activities, and this is reflected in their processes and main dependencies, which range from the supply of electric power through to provision of customs and immigration and the supply of tug services. The main risks to port operations appear to be the failure of electricity supply, loss of communications, hazards created by non-compliant shipping, and disruptions to the national transport infrastructure. Ports already practice and operate contingency planning for all areas of their operations. For Y2K, ports are identifying potential problems and carrying out work to minimise or remove the risk to port operations. Some ports may close for a time over the critical period or place additional safety precautions on shipping entering the port. Notice to mariners of these restrictions will be given in the usual way.
<i>The UK will carry out independent assessments of port readiness.</i>	In the UK, the 50 largest ports have been asked to provide information on their state of readiness by means of a detailed questionnaire. The survey consisted of two parts - an assessment of the ports overall Year 2000 programme, and a rating of the risk to specific areas of port operation. Consultants have been appointed to conduct an independent validation of the self assessments of nearly half of the largest 50 UK ports, including all the top ten by freight volumes, with results expected to be published in July.
<i>In Germany, navigation systems are being carefully tested...</i>	In the field of inland navigation in Germany, the national traffic management and control systems are being examined by the navigation test centre in Koblenz, which is responsible for the central management of maritime traffic control systems. These trials, which have been running since 1997, cover the radar, navigation and direction finding computer systems, local switching, remote control, information and recording systems, satellite navigation equipment, and the reporting and information system for inland navigation.
<i>...and port contingency plans will be reviewed by the national authority.</i>	Y2K problems in the German maritime navigation and seaport sector were also discussed at a meeting of harbour masters with the BMVBW, the North and North West Waterways and Shipping Directorates and the BSH in January 1999 in Bremen. With regard to German maritime navigation and seaports, the waterways, shipping offices and the ports falling within their jurisdiction will draw up contingency plans by the middle of the year to be discussed at a meeting of all port authorities with the national authority. These plans will cover all the agencies involved, such as river police, fire service, pilots, tugboat owners, watermen, the German Lifeboat Association and other voluntary organisations.
<i>The Netherlands have introduced a certification scheme for ships.</i>	In the Netherlands, port authorities and individual shipping companies are considered to be making good progress, although this applies to larger firms more than smaller firms. A certification scheme for ships has been developed and is being implemented; thus a certificate will be required to obtain entry to major ports. Several governments mentioned that they would like to see more information on progress provided by this sector, and also felt that there was a need for greater co-ordination at international level.
	5.3 Rail Transport Rail industry Y2K projects focus on central and remote business and technical systems, embedded systems, and supplier and customer relations.
<i>Rail operators report that supplier claims are not always accurate.</i>	Many rail operators are dependent on external suppliers. In Germany, for example, the results of a survey of suppliers carried out in 1997 did not reveal any particular problems with the process computers used in the Deutsche Bahn

AG network. However, actual tests carried out by DB placed considerable doubt on the claims of some suppliers.

5.4 Road Transport

*Road transport systems
are being examined.*

In most instances, road systems are the responsibility of local authorities, thus few EU countries are addressing this sector at national level. Countries report that local authorities are examining their operating equipment and the traffic and electrical devices controlled by computer programmes. Included are traffic light systems (controlled by programmes which make use of the calendar), data acquisition units such as permanent census points and measuring loops with stops at intervals, equipment affecting traffic flows on motorways and highways, traffic computer centres, and other operating equipment, such as tunnel installations, communications equipment, and lighting systems.

In Germany, the road building authorities in the Federal Länder are currently drawing up contingency plans, and the police services of the Länder are now co-ordinating their action plans for the turn of the year with those bodies responsible for road transport.

In the private sector, attention is being focused on transport logistics chains, due to their importance for trade and the economy. The road sector is regarded as a low risk sector, where the problems which have been identified tend to affect less critical systems.

6 TELECOMMUNICATIONS

*The EU
telecommunication
industry is making good
progress...*

As one of the key infrastructure sectors upon which all others depend, the telecommunications industry is carefully preparing for the millennium date change. Several EU countries report that the Public Switched Telephone Network facilities provided by their main operators are already compliant, with most expecting to be ready by September 1999. The overall risk of disruption from the main network providers of direct fixed and mobile telecommunications is considered to be low.

*...and are not expected
to be disrupted by any
international problems.*

Although certain countries are better prepared than others, international calls to some less developed countries may be disrupted, as the networks in these countries may not be adequately prepared. International telecommunications failures are not expected to have an impact on domestic services. EU operators are working to ensure that their end of international links are Y2K compliant.

*Contingency plans
make use of existing
emergency procedures.*

The industry is focusing on business continuity contingency planning. In certain countries, the independent verification of network operators' contingency arrangements is part of this process. All countries report that their major operators have performed risk assessment and business impact evaluations. Operators in this industry have pre-existing emergency plans, which include the use of mobile centres, backup generators, activation of mobile satellite systems, manual operations, mobilisation of additional human resources.

*Information campaigns
are being aimed at
corporate and private
consumers.*

There is concern about the equipment which businesses and individuals use, although most customers will not be affected. Campaigns are being carried out by operators and governments to raise customer awareness of possible effects on their equipment. Information leaflets are aimed at the home consumer, identifying all equipment in a home which might be affected, including telephone equipment, as well as at companies. Some telecom operators have information packs available both to corporate and private users of their equipment. The larger operators are setting up dedicated Y2K help lines, and

Operators have agreed procedures to prioritise emergency calls.

smaller operators are providing information and advice via their usual customer services lines, as are certain regulatory authorities such as OFTEL in the UK.

Most consumer equipment such as telephones and fax machines will continue to work as normal. People using non-compliant PCs to access networks may encounter problems, as could small businesses using private switches which have date-dependent functions.

Large national operators have internal procedures to prioritise telephone calls in emergencies, with a dedicated emergency planning staff. Detailed plans are being developed for emergency telephone number services to handle an anticipated increase in the level of emergency calling. For example, BT in the UK is planning to handle up to five times the normal level of Saturday night 999 calls - a significant margin above the level of 999 calls for last New Year's Eve. In the Netherlands, an emergency telecom service is available at national level for government users, which is being carefully tested. The introduction of a temporary, mobile phone, emergency service is being considered to augment the current capacity of the emergency service.

Some countries have recognised a need for "behaviour management" of telecommunication customers, to reduce potential call congestion overload due to normal end of year activities. Hence in the Netherlands, a dial-in television programme originally planned for New Year's Eve was cancelled.

7 FINANCE

7.1 Overview

The financial sector considered most advanced.

The financial sector is still generally considered to be the most advanced sector, although it is fully recognised that financial services, like other sectors, are dependent on other infrastructures such as electricity and telecommunications.

7.2 International Activities in the Financial Sector

International co-ordination activities.

At international level, two organisations, Global 2000 for industry and the Joint Year 2000 Council for the supervisory authorities, have carried out specific Y2K activities, as well as the development of a mechanism for the global exchange of information during the rest of 1999 and the rollover weekend.

Global 2000, the international organisation created by the financial services (FS) industry (banking, insurance, investment firms and payment systems operators), updates a global country readiness chart every 3 weeks. This chart indicates their assessment of the readiness of countries in various critical sectors: - finance, telecommunications, transport, energy, water, and government. Global 2000 plans to cease these assessments in September to concentrate on event management and risk mitigation for the remainder of the year.

The Joint Y2K Council has prepared instruments to facilitate the exchange of information between supervisors and central banks during the rollover period:

- a status report template to be completed by each institution and sent to its supervisor, which could be used to inform other interested parties;
- a country report template for each national supervisory authority to inform other national supervisors of the level of readiness of their country;

- the organisation of conference calls between national supervisors and certain other parties to rationalise communication during the rollover period.

The level of information disseminated by the country reports and through the conference calls will be very general. The exchange of more confidential and sensitive information will be left to the traditional bilateral contacts between supervisors. Major EU financial centres and national supervisors will be part of the Joint Year 2000 Council exercise for the rollover period, and the European Commission and the European Central Bank may also be associated.

7.3 EU Financial Services

The financial services sector in the EU, as in other countries, has given top priority to contingency planning and risk mitigation.

Most of the internal adaptation of systems is now complete and testing has been greatly advanced. A successful international test of payment systems was conducted during the weekend of the 12th of June. The participants (19 countries including 5 EU countries - Belgium, France, Germany, Italy, and the United Kingdom - as well as EBA, TARGET, and SWIFT) established an environment for 34 participating systems to test "end-to-end" transaction flows. This test involved "Y2K ready" systems and used highly scripted transaction sets with customers and correspondents, investigation systems, repair systems, treasury management systems, and credit and risk systems.

In the other financial sub-sectors, multilateral testing has occurred both on a compulsory and voluntary basis. It is expected that the testing phase will be completed by the end of September for the vast majority of businesses.

Contingency planning is taking place on an individual and collective basis, determined by the technical and commercial linkages between partners. Nevertheless, system testing leads to constant new adaptations to systems, hence, work on contingency planning is occurring in parallel.

Many EU operators in this sector are assessing the Y2K readiness of their counterparts and customers. This enables them to take preventive measures to limit the impact of less prepared operators, and increase the pressure on partners and customers to address the problem. The majority of EU businesses in this sector regularly disclose general and technical information on their internal state of Y2K readiness. In parallel, professional organisations at the EU level provide an insight into readiness of their sector at country level.

In carrying out their risk analyses, the financial services sector has tended to focus on the rollover period. Although operators are aware of potential macro-economic Y2K-related risks, there is still a tendency in the EU to underestimate management and business risks not directly associated with information system failures (business-to-business risks, systemic disruptions, coverage of clients Y2K risks and litigation).

7.3.1 Banking: Lessons provided by the changeover to the euro

Although the Y2K projects of financial service businesses in some cases may have suffered in 1998 due to the priority given to the euro, banks have been able to take advantage of their acquired euro experience and expertise and apply it to the Y2K problem. Whilst the euro conversion is not completely comparable to the changeover to the Year 2000, nevertheless, there are certain similarities from a technical and project management perspective.

Successful testing of global payment systems was conducted.

Financial service operators are carefully assessing external threats.

The euro changeover has generally been an advantage for the financial sector.

There is a need for the suppliers of liquidity and credit to offset payment and funding dislocation...

The banking community in the EU and of Global 2000 have therefore used the changeover to the euro, particularly the rollover period of the weekend of 1st January 1999 (including the five days after the 1st of January), as a template for the Year 2000 changeover. Global 2000 has issued various recommendations aimed at the banking community⁸.

The Global 2000 document states that “...firms and central banks were faced early on with funding and credit decisions that had to be made with less than perfect information”, and recommends that a responsible body should deal with such matters in the future. Work on Central banks and firms liquidity management has raised a number of issues: on one hand, companies will wish to ensure business as usual, however, credit institutions will be tempted (or obliged) to restrict their lending capacity. Collateral could pose a problem as well if every financial institution requests collateralisation of all transactions and positions. Global 2000 believes that there is a limit to what the private sector can do and has asked public authorities to share in the monitoring of the Y2K-related impact on financial markets.

The core problem is the location in which collateral is accepted. In Europe, the problem arises from substantial differences in the national laws governing collateral operations. However, payment systems in the EU are based on several infrastructures (Euro 1, EBA, Target), which reduces the risk of systemic problems occurring in the field of payment systems.

...as well as an improved system for the collective exchange of information.

The Global 2000 document highlighted “the lack of information across firms and industry systems as a significant problem, especially on cross-border issues during the first week after the conversion”, indicating that “Formal information-sharing networks that had been set up in advance were not used as expected, because firms were generally not willing to volunteer or share bad news until the last minute”. Apparently, “The most effective information sharing and problem solving occurred through telephone contact bilaterally”.

Priority is being given to event management, risk mitigation and contingency planning.

The euro changeover has had another benefit, in that many of the contingency strategies for Y2K are being based upon the contingency measures adopted for the euro changeover. The EU banking community is now concentrating on the management of the rollover period, and is at the core of the efforts being made at national and international level to secure a stable financial environment throughout the rollover weekend.

Nationally, EU banks will be in constant contact with their supervisors and with the national Central Bank. At international level, a cross-border mechanism monitored by Global 2000 will ensure coherent country information and secure channels to disseminate this information (secure telecommunication providers for collective teleconferences, SWIFT, Reuters and the Internet). Global 2000 will set up protocols to identify appropriate contact points in every institution for bilateral or multilateral communication purposes. Such cross-border channels for communication between firms are very new and unique for the sector.

Extra testing may take place during the rollover period.

The banking community recognises the inevitability of some disruptions arising from Year 2000 computer problems, particularly from residual bugs which may not have been identified during testing exercises, however thorough these may be. Many banks are therefore considering the possibility of organising “real

⁸ Lessons Learned from the Euro, Global 2000 Co-ordinating Group, 4 February 1999

	tests” during the first weekend of January (an option which is not available to the payment systems industry).
<i>Additional bank holidays.</i>	The European System of Central Banks has decided that the 31 of December 1999 should be declared a bank holiday to allow central and commercial banks to have three full days for their final Y2K preparations. The ECB has also decided to close the TARGET system on this day.
	7.3.2 Payment systems: Business as usual during the rollover period
<i>Payment systems must be ready on time...</i>	Unlike other financial services, payment systems will need to be up and running from the very first moment of the new Millennium. Without the “period of grace” that the other industries have, payment systems will not be permitted to close or reduce their operations, nor to test their systems in the post-Y2K environment during the three holidays of 31.12.1999, 1.01.2000 and 2.01.2000.
	The payment systems industry has therefore been carrying out assessments, testing and contingency planning for some time. A VISA survey in May 1999 indicated that more than 90 % of the VISA transaction traffic in dollar fall will not be affected by the changeover to the Year 2000. Only 10 % of their member institutions are in countries which are considered to be less prepared.
<i>...although there is a complex chain of dependencies which contributes to the overall readiness.</i>	Nevertheless, the Y2K “compliance” of payment systems as a whole does not rely only on the readiness of payment systems operators (generally Y2K ready as far as their internal systems are concerned). It depends also on the financial infrastructure readiness (Y2K ready), bank readiness (the direct customers of payment systems operators) and merchant readiness (and the suppliers of the point of sale terminals for payments, merchants are bank customers for retail payment systems), as well as providers of telecommunications and electricity. Payment systems operators such as VISA and Europay therefore evaluate the readiness of their members on the basis of their individual preparedness as well as the overall readiness of the country.
	Moreover, major operators in the credit card industry have established agreements to implement a network of observers for the exchange and monitoring of information (30 people throughout Europe). Most EU card operators are basing their contingency plans on a possible 5 days outage of electricity and telecommunications, which would affect 5 to 10 % of the financial transactions based in Europe (1 % in the US), whilst recognising that the actual situation will vary considerably from one country to another.
<i>Card operators are assessing their members for compliance.</i>	Card operators rely on various sources of Y2K information, as well as on specific assessment questionnaires sent to their members. Most expect to complete their readiness evaluations by September, such that preventive measures, including penalties or the withdrawal of licenses, could be taken in the autumn. The operators have completed the remediation of their own systems and contingency plans. Their main focus is now on “event management” or the “rollover period” - management of the 5 days around the 1 st of January 2000.
	7.3.3 Wholesale payment systems and infrastructure providers
<i>The majority of SWIFT users have carried out testing.</i>	Mandatory testing is the guiding principle for SWIFT customers. The coverage of mandatory testing is not universal: 5100 customers have connected their systems for these mandatory tests, representing only 70 % of their total customer base, but approximately 94 % of the live traffic for SWIFT transactions.

	The remaining financial institutions are not obliged to participate in testing of wholesale payment systems. Nevertheless, SWIFT has created a dedicated infrastructure to assist those who want to carry out voluntary testing. Participation in voluntary testing is substantial, although less than in mandatory testing, thus an effort is required from those who have yet to take part in bilateral and multilateral testing. Testing should be completed by September.
<i>Securities firms are adopting practical measures to reduce risks.</i>	7.3.4 Securities : a flexible approach for the exchange of information As far as dealing conventions are concerned, Global 2000 envisages that operators will change certain standard documents used for deals. They suggest that activity in this field be reduced to essential processing and settlement activities during the rollover weekend wherever possible and practical, such that this reduction in activity does not hamper normal market operations or affect market liquidity.
<i>Insurers are examining the potential impact of Y2K...</i>	7.3.5 Insurance: A wider assessment of Y2K-related risks Insurers have analysed very closely the impact of the Year 2000 changeover on their customers, primarily businesses, and the additional financial burden that could be expected through an increase in sinisters. The changeover to the Year 2000 is expected to have macro-economic consequences resulting from disruption to business or because disruptions will lead to financial losses that businesses will try to recuperate by suing their partners and providers. This impact is likely to occur in three waves, the first of which will happen during 2000 itself. Initially, recourse will be made to damage insurance policies and second level suits in liability. Property losses will result in an increase in claims, the victims of which will turn to their insurance companies in order to obtain coverage under their normal damage insurance policies.
<i>...and preparing for a significant increase in claims.</i>	French insurers alone expect up to 70,000 additional claims. They have made it clear to their customers that they will be required to prove that they have taken all necessary measures to protect themselves against Y2K-related risks (the so-called "due diligence" principle). In this context, French insurers have put in place a common technical platform that will provide each damage insurance company with the expertise needed to identify specific Y2K-related sinisters and the technical reasons why a sinister was wholly or partially caused by a Y2K problem, and to analyse the quality of the Y2K project of the insured company. Additionally, the first wave of liability claims will be launched throughout 2000. A second and third wave of Y2K legal consequences will take place in 2001 and 2002 – when liability cases generate appeals and counterattacks. Serial claims are also likely to generate specific actions during 2001 and 2002.
<i>There is no consistent approach in the EU –</i>	The UK insurance industry is also concerned that it may face claims as a result of Y2K failures, in spite of its efforts to inform customers that it will not cover such a predictable event. The UK insurance industry commissioned a report through the UK trade body, ABI, which produced a series of model clauses to insert in policies, in order to help insurers clarify their exposure to the problem. Nevertheless, there may be a difference between the advice which companies are currently giving to their customers and the eventual resolution of claims.
<i>...some countries will cover Y2K and others won't.</i>	In the Netherlands, millennium risks are being excluded from most policies at renewal. A central emergency fund of 500 million euro has been established for special risks, intended for policy holders who can prove due diligence in addressing the problem. Italian insurance companies are also introducing new contracts with special clauses excluding year 2000 risks, particularly in areas

The risk of increased litigation due to Y2K is a serious concern in the EU.

such as general civil liability (for professional activity and product policies), damage to other goods, transport, and fire.

There is some uncertainty regarding the legal environment in the EU and elsewhere, and the potential impact of the Year 2000 cannot be accurately assessed. The risk of increased litigation cases due to the Year 2000 changeover in the EU is thus a serious consideration for many insurers. The liability for disruptions and serious claims is likely to be found outside normal insurance contracts. In certain cases, where businesses are in a position to demonstrate that they have taken all necessary measures to protect themselves internally against Y2K-related disruptions or malfunctioning, then disruptions and malfunctioning which cause serious damage will be covered by the insurance company. Nevertheless, the better-prepared businesses, and their insurers, will search for external entities to sue.

The cost of this litigation chain has been estimated as hundreds of billions of dollars world-wide. Should a limited number of operators (particularly chip, software, and hardware providers) be identified as the source of the liability chain, this could lead to a situation where these few companies end up bearing the cost of a collective financial loss, with their liability only partially covered by their insurance contracts. This is clearly an unacceptable position, which could temporarily weaken economies.

7.4 Commission Activities in the Financial Services Sector

EU supervisors meet regularly in the Committees organised by the European Commission to discuss the Year 2000 issues.

BAC supervisors continue to monitor EU preparations...

For banking, the Banking Advisory Committee (BAC) met several times during 1999 and will meet again in September. Although it concluded in March 1998 that the Year 2000 issue fell primarily under the competence of national supervisory authorities, the BAC decided to contribute to raising awareness on the issue and to facilitate co-operation between national supervisors.

In each BAC meeting, EU supervisors consider the Y2K preparedness of the banking sector. The Groupe de Contact is the relevant body for supervisors to deal with the issue. The BAC receives information from the Groupe on a regular basis. For example, in March, the BAC discussed a situation report on practical measures and issues faced by supervisors concerning the Y2K changeover. The Groupe de Contact is also in charge of establishing a contact list of Year 2000 experts to assist supervisors and to strengthen supervisory co-operation in cases of emergency.

EU supervisors are generally content with the level of preparedness displayed by the banks. Their main concerns are the readiness of counterparts, such as the public sector and utilities, and contingency plans. The level of co-ordination that is taking place between EU competent authorities is considered satisfactory.

Committee meetings have also taken place in the insurance sector, with the next meeting in September. During a meeting in April, Insurance Committee (IC) discussions have highlighted the different approaches pursued in each country.

...and insurance supervisors are aware of the different approaches being taken in each MS.

In France, an organisation has been created by French damage insurers, "Coordination An 2000". Insurers are disseminating general information to their business customers to draw their attention to the risks associated with both internal systems and the potential for increased costs arising from litigation. Recent cases in France have suggested that case law is now more favourable to consumers than to insurers. The French government adopted a regulation imposing a new obligation on financial service operators to inform their Board throughout 1999 on their level of Y2K preparedness. In parallel, budget law has

given an advantage to insurance companies in France, allowing them to provision for the potential increased future risks of sinisters.

All companies in the German insurance industry have replied to a questionnaire issued in 1998. This questionnaire has stimulated further efforts by insurance companies to prepare for Year 2000-related risks. German insurance companies have not introduced Y2K-exclusion clauses in their contracts.

The supervisory authority of the Swedish insurance industry delivers a detailed report to government every six months on the Y2K readiness of the sector. Supervisory authorities are also responsible for site visits and have visited nearly half of the insurance companies in Sweden. The Austrian national authorities are particularly concerned about liability in the event of hospital accidents relating to Y2K. In Italy, the insurance sector is a priority of the National Committee for the Year 2000, where an ad hoc sub-Committee meets monthly to analyse the progress of the sector.

8 WATER

The water sector is also developing contingency plans...

In general, the production and distribution of water can be handled manually without the support of IT-based control systems. Contingency planning in the water industry is similar to other infrastructure sectors. Reservoirs will be full. There will be increased staffing and additional training provided to personnel to carry out manual operations if necessary. Emergency power supplies will be used as a back-up in the event of a loss of energy supply. In Greece, there are plans to have personnel equipped with various telecommunication equipment, located at critical nodes of the water supply network and prepared to take quick and effective action.

...but it remains difficult to obtain information.

Several countries reported that water supply and waste water management was one of the most difficult sectors from which to obtain information, although they also felt that it was a sector which was exposed to some risk. This difficulty is primarily associated with the large number of small, localised companies which provide these services, usually thousands in each country.

9 COMMISSION ACTIVITIES

9.1 Internal Situation

Commission initiatives continue...

The Commission continues to actively pursue the initiatives announced in its Communication COM1998(102).

...with priority given to internal systems...

Top priority is being given to making its own systems and products compliant. Regular meetings involving the Secretary General and Directors General keep progress under review through the Co-ordination Group on Organisation and Management.

...and good progress has been achieved.

Since 1996, all DGs have been asked to include in their annual information plan a specific plan to adapt their information systems to the Year 2000, with priority given in the budget allocations to executing these plans. Approximately 67% of the Commission's strategically important information systems are already compliant or are being replaced by compliant systems, 32% are currently being adapted and, for the remaining 1%, investigations are ongoing.

<i>End-to-end testing has been conducted...</i>	Particular attention is being paid to ensuring that work in progress on those mission critical systems not yet compliant is completed in time. The verification of the underlying infrastructure (hardware, system software, third party software) is well advanced and compliance will be achieved in time. A series of individual tests in the DGs and a Commission-wide end-to-end test have been conducted. The end-to-end test has validated the compliance of information flows in the areas of administrative, financial, statistical, documentary and office information. The results of this test showed no major outstanding problems. Further tests are planned for information systems which link to national administrations in the areas of customs and agriculture.
<i>...and non-IT aspects are being addressed.</i>	An inter-service group, led by the Secretariat General and with representatives of all DGs, oversees the ongoing Year 2000 activities within the Commission. Its tasks cover mainly non-informatic subjects, such as the co-ordination of contingency plans for assuring the continuity of essential services, a legal audit of products, contracts and obligations, the general infrastructure aspects (including buildings, security systems, lifts, and all related supplies), and information campaigns targeted at Commission staff and the public. As regards other European institutions, the inter-institutional committee for informatics (CII) is co-ordinating year 2000 activities so as to ensure a common approach to the problem. The Commission has also organised a symposium with Member States and a joint conference with the Portuguese Government to discuss the adaptation of European information systems to the year 2000. Similar actions are planned with other Member States and for SMEs.
<i>A successful workshop explored cross-border and cross-sector issues in critical infrastructure sectors in the EU.</i>	9.2 External Activities On April 19-20 the Commission hosted a meeting with the providers of EU critical infrastructures in Brussels, with an emphasis on cross-border and cross-sector Y2K issues. Over 150 participants, including national Y2K co-ordinators, regulators, and representatives of both international associations and industry, shared information on their progress and concerns relating to the aviation, maritime, electricity, gas, telecommunications, and nuclear power sectors. All participants expressed their commitment to ensure “business as usual” during the millennium changeover period. Industry associations are: • providing their members with guidelines and databases of common information, • offering fora to exchange information between members, • developing strategies for, and implementing, sectoral contingency plans. The need to encourage better communication between the different infrastructure sectors at local, national and international level was identified as a major issue. Such intersectoral co-ordination must cover aspects such as: • forecasting customer behaviour and sectoral demand, • making joint information on progress and plans available to the public, • reaching agreement on priorities and contingency actions in the event of unexpected disruption to essential services.
<i>A need for increased communication and exchange of information was identified.</i>	Regulatory authorities and other organisations must soon take very difficult decisions concerning whether to continue to license or certify individual companies to continue to operate. Hence there is also a need for increased co-operation, to share strategies, and the criteria and information upon which they will base such decisions.

<i>A follow-up event is planned in the autumn.</i>	Several sectors rely upon the continuity of service or supply from countries outside the Union. The session on nuclear safety had a specific focus on potential safety problems occurring in the Central and Eastern European countries and the Newly Independent States. More attention must be paid to establishing closer communication, and where appropriate, providing assistance. A follow-up event will take place in September, to examine the evolution of the preparations for the rollover to the new millennium of the key EU infrastructure sectors discussed previously. It will also investigate in more detail other key sectors which are also relevant - rail transport, finance, and supply chains (particularly food and pharmaceuticals, freight, and including customs issues). Finally, it will analyse two issues which will require increasing attention as the year-end approaches – the communication of information to the public and emergency planning.
<i>MS civil protection authorities are also exchanging plans.</i>	As previously, the discussion will focus on cross-border issues, the scope of which will include neighbouring non-EU countries, as well as cross-sector dependencies. The workshop will consider how to better co-ordinate activities in these areas, how to co-operate efficiently to mitigate risks, and how to improve communicate internationally and between sectors during the rollover period. A Y2K workshop involving the Member State authorities responsible for civil protection took place at the beginning of June. The Millennium celebrations at the end of 1999 are expected to be more numerous and larger than usual, therefore, the fire and rescue brigades and emergency services are expected to be in much greater demand, if not overloaded, and preparations must take this into account. For instance, in some cities, the fire brigades are planning for a significant increase in the number of fires, possibly twice as many as a normal year end. All levels of responsibility from local municipalities up to central government are involved in ensuring the continuous and safe functioning of the economy. The system is based on the various contingency plans which are already in place to cope with different hazards, these plans being reviewed in order to take into account possible additional complications resulting from Y2K.
<i>Potential problem areas have been identified.</i>	A major concern is the Y2K compliance of the IT systems which manage incoming and outgoing alarm calls. Nevertheless, it is considered that most technical systems will continue to operate, but that certain links between systems could be disrupted. Furthermore, the behaviour of many interfaces is unknown and cannot be tested. The possible failure of heating systems could have the greatest impact on the population and the availability of rescue personnel. Telecommunications is another problem area, hence auxiliary networks are being established, supplementary tests are being carried out, and more personnel are being made available. Possible problems with chemical and nuclear plants, as well as false alarms were also mentioned as issues.
<i>No crisis scenarios are envisaged, but Y2K could exacerbate normal holiday emergencies.</i>	Generally, emergency planners are being told not to envision a “doomsday scenario”, but that there is a need to test, adapt and refine plans to take care of unexpected failures, which could have a domino effect. In the Netherlands, a special commission has been set up at government level to co-ordinate the efforts of the emergency services at local and national level. To make these plans more consistent amongst the various authorities concerned, a reference scenario for emergency services and local authorities has been published. It is based on a worst case situation, which is defined as the lack of electrical power supply for a maximum of 8 hours, starting at midnight on New Year’s Eve. Local contingency plans will be activated first and various levels of escalation

A High-Level Working Party on Y2K issues is established for the EU.

are foreseen. In this respect, one of the difficulties is to ensure that communication between the different ministries involved is efficient.

Efforts will be made to inform the public at all levels. The media will be used in the event of any emergency.

In June, the European Council in Cologne called on the Commission to “...convene a high-level working party which can put forward proposals for strategic decisions which may be required within the European Union to ensure the proper functioning of essential areas of infrastructure should computer problems arise in connection with the change of millennium.” A first meeting of the EU High-Level Working Party on Y2K was held in July, generally consisting of the EU national Y2K co-ordinators, and the group will closely monitor the situation by meeting at least monthly during the remainder of 1999.

10 CONCLUSIONS

As 1999 progresses, the situation and concerns relating to the Year 2000 problem continue to evolve at a rapid pace.

Some operators are ready and detailed plans are now becoming available.

A few organisations are now beginning to report the completion of their Y2K preparations, although these tend to be the larger firms. Nevertheless, the majority of companies do not expect to complete their preparations until September or October, and some even later. The details of contingency plans have now been firmed up, stimulating co-ordinated activities on contingency planning throughout the EU in most critical sectors. Reference continues to be made to dependencies on external suppliers providing timely software or hardware upgrades. Many companies report that their assumption of Y2K readiness is based solely on supplier guarantees, although specific reference has been made in several country reports to supplier claims proving to be unreliable when tested, particularly in the transport sector.

Little time remains for SMEs to take action.

The position of SMEs is becoming increasingly critical, with every country reporting that SMEs have a tendency to lag behind, indicative of a worrying "wait and see" attitude. In certain cases, SMEs may be responsible for providing infrastructure services, although usually on a very restricted, local basis.

Nevertheless, it is important to avoid generalisations at either sectoral or European level. A recent Italian survey noted that in the tourism sector, 90% of companies were aware of the problem, rising to 100% for tour operators, regardless of company size, which they attributed to the international nature of the sector. In Italy, only 30% of SMEs actually own computers, whereas in Finland, only 10% of SMEs do *not* make use of computers.

Focus on plans for the rollover period.

Whereas during the first quarter of 1999, attention was focused on general contingency planning, now specific plans are being developed to manage the rollover period itself, which includes the 1st of January but also the first few working days of the New Year. Indeed, many organisations expect their greatest stress to occur on the first working day of 2000.

Co-ordinated activities on Early Warning systems.

Many early warning systems are being established - within sectors, nationally, and between governments. Given the experience of the financial sector during the euro implementation, where formal information-sharing networks were not used as anticipated, it is important to carry out test runs in advance. Whilst such systems have clear benefits, they need to be carefully designed in order to provide the right information to the right people in a timely manner.

Many organisations are creating "command centres" or "crisis cells". Additional personnel are being mobilised, and it would appear that few IT employees can expect to be celebrating at home during the New Year holiday period. As organisations and sectors now complete their own preparations, more expertise is becoming available to assist those who are lagging behind.

The provision of information is likely to become the key concern for the remainder of this year.

The worst sectors for the provision of information continue to be the water and maritime sectors. This can be attributed to the large number of small operators in these sectors, the presence of many regulatory bodies with authority over different aspects of the industry, and the absence of supranational bodies with a strong co-ordinating role for Y2K. Nevertheless, the supply of information to the public by all sectors should be improved. Many companies continue to underestimate the effect that a lack of information may have on the public, but also the global impact on economies, in sectors where public confidence is most

vital. A lack of attention to communication risks damaging the position of companies and sectors, regardless of progress in addressing the problem.

The provision of information will become increasingly important in the autumn. In the absence of information, there is a tendency for a vacuum to be filled with misleading, inaccurate rumours and suppositions, to the detriment of all.

11 ANNEX

The following is a list of websites from which additional information can be obtained.

These websites are not under the control of the services of the European Commission and the Commission is not responsible for the material contained therein.

National and government information:

Austria	http://www.wifi.at/tub/2000/ (WIFI / Beratungsdienste)
Belgium	http://y2000.fgov.be/ (national site)
Denmark	http://www.fsk.dk/fsk/div/aar-2000/year2000.html (Research and Information Technology)
Finland:	http://www.vn.fi/vm/kehittaminen/tietohallinto/hko33.htm (Finance)
France	http://www.premier.ministre.gouv.fr (Prime Minister) http://www.an2000.gouv.fr (government) http://www.industrie.gouv.fr/site/industrie/home/navi/page/industrie (industry) http://www.justice.gouv.fr/publicat/an2000.htm (justice) http://www.defense.gouv.fr/sdsic/a2000/index.html (defence) http://www.equipement.gouv.fr/an2000/1000.htm (transport/logistics) http://www.education.gouv.fr/actu/an2000/plan.htm (education) http://www.diplomatie.fr/actual/dossier/an2000.html (foreign affairs) http://www.interieur.gouv.fr/an2000 (interior) http://www.agriculture.gouv.fr/index.html (agriculture) http://www.jeunesse-sports.gouv.fr/francais/misan2000/index.htm (youth/sports) http://www.santé.gouv.fr/htm/pointsur/an2000/index.htm (health)
Germany	http://www.iid.de/jahr2000/ http://www.kbst.bund.de/j2k/ (Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik in der Bundesverwaltung - KBSt) http://bmwi.gmd.de/y2k/ (The Y2K Problem in Information Technology - Progress Report by the Federal Government)
Greece	http://www.year2000.gr

Iceland	http://2000.stjr.is/ensk/index.html (national site)
Ireland	http://www.irlgov.ie/ (government) http://www.irlgov.ie/finance/y2k2.htm (Finance) http://www.2000aware.ie/ (industry)
Italy	http://www.comitatoanno2000.it/ (presidency)
Luxembourg	http://www.crpht.lu/an2000
Netherlands	http://www.mp2000.nl/ (national site) http://www.pmo.nl/pmo/home.nsf (Ministry of Interior: SME site)
Norway	http://www.aksjon2000.org/ (national site) http://odin.dep.no/aad/publ/aar2000/index.html (Arbeids –og administrasjons-departementet – AAD)
Portugal	http://www.missao-si.mct.pt/P2000/index1.html (national site) http://www.iapmei.pt/idex/informacao/ano2000.html (SMEs) http://www.inst-informatica.pt/ANO2MIL/2mil001.htm http://www.min-plan.pt/menu/tforce/index.html http://www.2000-delegationen.gov.se/arbete/direktiv.htm
Spain	http://www.map.es/csi/2000.htm
Sweden	http://www.statskontoret.se/2000/sfs.htm http://www.2000-delegationen.gov.se/aktuellt/index_1.html (national site)
Switzerland	http://www.millennium.ch (national site) http://www.efd.admin.ch/aktuellt/2000/index.htm (public administrations)
UK	http://www.open.gov.uk/year2000 (UK plans/preparedness) http://www.bug2000.co.uk (UK infrastructures – the results of all assessments are provided on this website) http://www.citu.gov.uk/y2000.htm (Year 2000 Team & Year 2000 Media Co-ordination unit)

For the energy sector:

Finland	http://www.finergy.fi http://www.fingrid.com http://www.neste.fi/konserni/2000/index.html http://www.gasum.fi/frindex_eng.htm
France	http://www.edf.fr (electricity) http://www.gdf.fr (gas)
Greece	http://www.dei.gr/dei-en.htm

	http://www.depa.gr/eng.index.html
	http://www.dep.gr
Italy	http://www.enel.it
Luxembourg	http://www.cegedel.lu
Netherlands	http://www.energie2000.nl
	http://www.emp.nl
Norway	http://www.enfo.no/index.cfm
	http://www.statnett.no/y2k/index.html
	http://www.npd.no/y2k/
Spain	http://www.endesa.es/2000/index.htm
	http://www.repsol.es/webrepsol/esp/inversor/efecto2000.htm
	http://www.miner.es
Sweden	http://el2000.com/index.html
	http://www.stem.se/om_myndigheten/y2k.html
Switzerland	http://www.strom.ch (electricity)
	http://www.erdgas.ch (gas)

For the transport sector in general

Spain	http://www.mfom.es
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For the aviation sector:

International	http://www.icao.int/y2k/ (International Civil Aviation Organisation – ICAO)
Belgium	http://www.sabena.com/public/about/y2k.asp
Finland	http://www.ilmailulaitos.com/english/ (Civil Aviation Authority)
Greece	http://www.olympic-airways.gr
Sweden	http://www.lfv.se/sakerhet/y2k/y2krs03.pdf
Switzerland	http://www.atraxis.com

For the maritime sector:

International	http://www.ship2000.com (joint web site of the International Chamber of Shipping (ICS), the United Kingdom P&I Club and Lloyd's Register)
Greece	http://www.yen.gr
Norway	http://www.rederi.no/no/bibliotek/y2k/

Sweden <http://www.sjofartsverket.se/frameset.htm>

For the rail sector:

Finland <http://www.rhk.fi/defeng.htm> (Finnish Rail Administration)

<http://www.vr.fi> (Finnish State Railways)

France <http://www.sncf.fr>

<http://www.ratp.fr>

Greece <http://www.ose.gr>

Sweden <http://www.banverket.se/framtiden/ar2000.htm>

Switzerland <http://www.sbb.ch>

For the road sector:

France <http://www.equipement.gouv.fr/an2000/1000.htm>

Greece <http://www.oasa.gr> (Athens Urban Transport Association)

For the telecommunication sector:

International <http://www.itu/y2k> (summaries of individual company responses to questionnaires can be found on this ITU web site)

Belgium <http://www.belgacom.be/uk/about/operations/y2k/default.htm>
(Telecommunication operator)

<http://www.mobistar.be/fr/new/Y2K.html> (mobile telephony operator)

Finland <http://www.sonera.fi/english/year2000.html> (Sonera Oyj)

<http://www.hpy.fi/yritys/vuosi2000> (Finnet Group)

France <http://www.france.telecom.fr>

Greece <http://www.ote.gr> (Hellenic Telecommunications Organisation)

http://www.cosmote.gr/e_mainpage1.htm

<http://www.panafon.gr/en>

Luxembourg <http://www.y2k.lu>

Norway <http://www.telenor.no/bedrift/ar2000>

Spain <http://www.sgc.mfom.es/efecto/efecto.htm>

Sweden <http://www.pts.se/aktuellt/2000-rap.pdf>

Switzerland <http://www.swisscom.com/2000ok>

UK <http://www.oftel.gov.uk/bug2000.htm>

For the Nuclear Power sector:

International	http://www.iaea.org/worldatom/program/y2k/ (International Atomic Energy Agency)
Finland	http://www.stuk.fi
France	http://www.edf.fr/html/fr/an_2000/index.html
Sweden	http://www.ski.se/
Switzerland	http://www.hsk.psi.ch/aktuel.html
UK	http://www.snl.co.uk/be98/frame.pl5?loc=media/mn_factfiles_millenium.html (British Energy)

For the financial sector:

International	http://www.bis.org/ongoing/index.htm (Bank for International Settlements) http://www.worldbank.org/y2k/
Belgium	http://www.nbb.be/sg/e/geninfo/p25e.htm (national bank) http://www.gbank.com/y2k.htm http://www.kbc.be/kbc2000/en/index_en.html
Finland	http://www.bof.fi (Bank of Finland) http://www.rata.bof.fi/english/Faq/Faq.html (Finnish Supervisory Authority) http://www.hex.fi/euro/index.html (Helsinki Stock Exchange)
France	http://www.afb.fr/pascfonb.htm http://www.paribas.com
Germany	http://www.bakred.de (Bundesaufsichtsamt für das Kreditwesen) http://www.bundesbank.de (Deutsche Bundesbank) http://www.bav-bund.de (Bundesaufsichtsamt für das Versicherungswesen) http://www.bawe.de (Bundesaufsichtsamt für den Wertpapierhandel)
Greece	http://www.hba.gr
Italy	http://www.bancaditalia.it http://www.cipa.it http://techinfo.sia.it http://www.consob.it http://www.borsaitalia.it http://www.cedborsa.it

	http://www.isvap.it
Netherlands	http://www.dnb.nl
Norway	http://www.finans.dep.no
Portugal	http://interbolsa.pt/index.htm
Spain	http://www.cnmv.es/A2000/efecto2000.htm http://www.ipyme.org/inipyme/prog4.htm
Sweden	http://www.fi.se/fffs/1998/fs9818.htm
Switzerland	http://www.swissbanking.org/e/Pages/swissbanking.htm
UK	http://www.bba.org.uk (information by the BBA on UK financial sector preparations) http://www.bankofengland.co.uk (contains the Bank of England's "Blue Book")

For the water sector:

Denmark	http://www.dkvand.dk/index1.htm http://www.kl.dk/siab.asp?o_id=1869
Finland	http://www.vvy.fi
France	http://www.generale-des-eaux.com http://www.suez-lyonnaise-eaux.fr http://www.bouygues.fr
Norway	http://www.norvar.no
Spain	http://www.mma.es/2000.htm
Sweden	http://www.slv.se/vatten/index.htm
