

PREM 49/845/2

Part 2 of 2



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John Elvidge
Economic and Domestic Affairs Secretariat
Cabinet Secretariat
70 Whitehall
London
SW1A 2AS

Our reference:

Your reference:

Date: 4 February 1999

+ M Beckett.

CPA.

Dear John,

YEAR 2000: CONTINGENCY PLANNING/STEERING GROUP

When we met last week we agreed that I would circulate details of the Exercise Hydra outline scenario for the second meeting, for the group to consider. This is enclosed, together with the CCC terms of reference, our proposed objectives for the exercise, and a separate sheet setting out our present thoughts on the briefing pack players should have seen before the exercise.

Please note that nobody other than the planning group has seen the proposed scenario and we need to keep the information to a small circle.

Copies of this go to Mandy Mayer, Mike Ricketts, Brian Butler, Barry Sutcliffe, Lee Bailey and Sarah Paul.

Best Wishes,

Tony

Tony Lewis
Head of Central Government Contingency Planning Group

CIVIL CONTINGENCIES COMMITTEE

1. Terms of Reference

"To co-ordinate the preparation of plans for ensuring in an emergency the supplies and services essential to the life of the community; to keep these plans under regular review; to supervise their prompt and effective implementation in specific emergencies; and to report as necessary to the appropriate Ministerial Committee."

CCC(91)1 explains that "when circumstances require the committee may meet as a Ministerial Group; when it does one official from each Department may also be invited. The standard membership is as follows –

Secretary of State for the Home Department (Chairman)
Mr J Elvidge, Cabinet Office (Deputy Chairman)
Chief Press Secretary, Prime Minister's Office

Representatives of –

Department of the Environment, Transport and the Regions
HM Treasury
Home Office
Department for Education and Employment
Cabinet Office
Scottish Office
Ministry of Defence
Department of Health
Department for Culture, Media and Sport
Northern Ireland Office
Ministry of Agriculture, Fisheries and Food
Department of Trade and Industry
Welsh Office

Representatives of other Departments will be invited to attend as necessary.

2. EXERCISE HYDRA OBJECTIVES

To exercise Ministers and immediate advisors in the operation of Civil Contingency Committee arrangements for dealing with potential or actual large scale disaster by:

- a) Starting with a scenario which has led to CCC being convened
- b) Having a clear impact on the scenario of actual and/or potential Year 2000 problems
- c) Creating a fictional situation serious enough for Ministers to consider whether or not the Emergency Powers Act 1920 should be invoked
- a) Encouraging Ministers to take appropriate decisions and to discuss the impact and presentation of them
- e) Holding a post-exercise review to determine what changes or enhancements to the standing arrangements need to be made; and reporting the outcome across Government.

EXERCISE HYDRA

3. OVERALL SCENARIO

DAY ONE – Sunday 26 December

- a) Weather
 - already bad. Heavy snow lying thick on the ground
 - Rapid thaw and then heavy rain predicted – will also be a storm surge down East Coast [Contribution from Met Office required to show in detail how the already bad weather will turn into the situation that threatens storm surge and flooding down East Coast and into London]
 - some part of storm tide/flood warning system will inexplicably fail. [Contribution from Met Office required, describing conflict between expected and actual weather. What we do offer as possibilities when asked by players to explain?]
- b) Water London
 - threat of contaminated drinking water in as a result of sewers backing up.
- c) Floods Threatened
 - Greenwich peninsula
 - Isle of Dogs/City Airport
 - Westminster and Pimlico - all in danger
- d) Power
 - a significant power failure in parts of London caused by the weather and in another area caused by a. Thames Barrier operation to rely on generator back-up – takes (x) hours to start instead of (y)

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on generator back-up – takes (x) hours to start instead of (y)

- e) Communications
In last minute Y2K tests a communication failure has shown up – not sure whether Y2K or not – has wrecked communications in the city area. Flow of information cut (timing?)
- f) Fire Service - Bad industrial situation in County X now looks certain to turn into a bitter strike following a ballot for action. Reports that the fire service personnel are looking to employment in entertainment /leisure industry to cover financial gap.
[Develop this in Day Two]
- g) Encouraged by the tabloid press in particular, there have been substantial stockpiling by consumers – candles, batteries, tinned and long life foods, bottled water, fuel, cans, fuel etc.
- h) Increasing numbers of reports over the preceding months about bitter disputes about payments for staff in all sectors who will be on duty over the millennium. Public Sector unions angry that their members are only getting normal payments whilst private sector workers are getting large bonus payments. [Develop on Day Two]
- i) Confidence in the banks of several Asian, East European and South American countries has collapsed a few weeks earlier. Markets still in turmoil, relieved only by the holiday season.
- j) Flu epidemic is devastating Health Service ability to cope. Predictions are it will get worse before it gets better.
- k) Banks reports public has stocked up with cash in December by a significant margin well beyond normal Christmas peak. Bank cash machines in some areas out because in spite of all efforts of (e) above

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they cope if they can only rely on cash? Impact for stock control, security, queues.

m) Demands at this stage on the military include

- Flu has hit some South East bases badly
- expecting to be called in to staff Green Goddesses in County X
- Half a dozen local authorities in the South East report that they think they will need help (flood prevention and impact and standby medical services)
- Water suppliers making noises about needing manpower and pumps if water is contaminated
- Public sector unions calling on services personnel not to undermine their "bonus" negotiations
- Police calling for military personnel with administrative, catering and communications skills to man depleted HQ's and police stations.
- Tabloid press calling for setting up of regional military task forces, with armed units included because of public disorder fears. Daily Planet suggests armed guards for supermarkets
- Suggestions that entire military communications network at home and overseas be on standby in case any of BT, Mercury, mobile providers, and ECN fail in combination.

[need a statement based on this on what is committed and what is still available – if anything]

Civil Contingencies Committee Agenda?

The CCC has been called to consider

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- a. take stock and consider options including possibly putting public sector resources on standby
- b. to decide what other information Ministers might require
- c. whether to commission officials to prepare for introduction of emergency papers
- d. to decide what statement to make to the media

Particularly ask them to focus on?

- i. Safeguarding water supplies
- ii. How Government will operate if Whitehall unavailable due to flooding
- iii. What general priorities MOD (and others) should be instructed to follow?
- iv. Whether any special steps should be taken to protect supermarkets and other food stockists, and their suppliers
- v. How much spare capacity to deal with any further trouble due to date change – what early warning system to set up as Millennium risks across from the dateline?

SCENARIO COMPONENTS

DAY TWO - THURSDAY 30 DECEMBER

- a. Communications in Finance Sector still down, confidence has plummeted
- b. Potential Fire Service Strike
Green Goddesses and services already in heavy demand and issuing process affected by staffing problems.
- c. Absenteeism
Poor handling of bonus disputes has created an expectation of a serious absentee problem for people assigned shifts over the next few days
- d. [Has financial collapses overseas created any Triple C problems?]
 - a. Water contamination took place. [What consequences do we want Ministers to have to deal with?]
 - b. Need to specify what decisions planners decided Ministers took on prioritising military aid and what problems remain?

CORE BRIEFING PACK FOR MINISTERS, PRIVATE
OFFICES, KEY OFFICIALS

Contents

1. CCC Terms of reference
2. Exercise objectives
3. Update on Government and Emergency Services/Local Authorities contingency planning arrangements
4. Summary of Emergency Powers Act 1920 powers immediately available to the Government
5. Information about exercise formats, logistics, plans for pre-exercise briefing, plans for wash-up
6. Media line(s) to take (about the exercise)
7. Contact list
8. Additional material specific to individual Departments



SANCTUARY BUILDINGS GREAT SMITH STREET
WESTMINSTER LONDON SW1P 3BT
TELEPHONE 0171 925 5000

The Rt Hon DAVID BLUNKETT MP

Seamus Gillen
Private Secretary
Department of the Environment,
Transport and the Regions
Eland House
Bressenden Place
London SW1E 5DU

3 February 1999

Dear Seamus

PRIME MINISTER'S SPEECH TO THE LGA MILLENNIUM BUG CONFERENCE

Thank you for your letter of 21 January, about Bug Buster training for District Councils.

The Bug Buster programme was designed to provide free training to help small businesses to deal with problems arising from the Millennium Date Change. Publicly funded bodies, such as schools and local authorities, were specifically excluded from the scheme as provision had already been made for them through their normal funding channels.

As I said in my previous letter, we could not justify opening up the programme to one part of the public sector without facing increased demands from others. We have had to maintain a consistent line on this, particularly with schools who have been pressing strongly for assistance.

I realise you will be disappointed by this reply. However the Prime Minister's speech did make it clear that proposals for local authority spending already make provision for dealing with the Bug, and that local authorities can benefit from the training by buying courses from their local team. Alternatively, courses could be run specifically for District Councils again, of course, at their expense.

I am copying this to Private Secretaries to Stephen Byers and Robin Cook, to Mandy Mayer at the Cabinet Office and to Clare Hawley, James Purnell and Siobhan Kenny in No 10.

Yours

Lindsey

LINDSEY BROWN
PRIVATE SECRETARY

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The Rt Hon Margaret Beckett MP

PRIVY COUNCIL OFFICE

68 WHITEHALL LONDON SW1A 2AT

(P)

03 FEB 1999

Dear Jack,

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CIVIL CONTINGENCIES COMMITTEE VALIDATION EXERCISE
- 11 MAY 1999

Thank you for your letter of 20 January about the "Hydra" exercise on 11 May.

This is clearly a very important part of our preparations for the Millennium and I can confirm that I intend to participate in the exercise. I am afraid that there is a Privy Council on 11 May which I will need to attend, but as this will be a short meeting over lunchtime I am sure that it should not cause too many difficulties.

Incidentally, the Civil Contingencies Committee has met previously at Ministerial level - about 20 years ago. I know because I was there!

I am copying this letter to the Prime Minister, Cabinet colleagues and to Sir Richard Wilson.

Re: civil
contingencies

MARGARET BECKETT

The Rt Hon Jack Straw MP
Home Secretary
Queen Anne's Gate
LONDON SW1H 9AT

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1 Victoria Street
London SW1H 0ET
Tel 0171 215 2000
Fax 0171 215 2744

Please reply to Action 2000 at:

National Infrastructure Team
Rooms SG 1-6, Cabinet Office
Horse Guards Road
London SW1P 3AL
Tel 0171 238 2315
Fax 0171 238 2323

2 February 1999

Ms Clare Hawley
Prime Minister's Office
10 Downing Street

Dear Ms Hawley

MILLENNIUM DATE CHANGE: NATIONAL INFRASTRUCTURE FORUM
21 JANUARY 1999

You may like to have this note on work which Action 2000 is facilitating through the National Infrastructure Forum on the millennium readiness of the key sectors of the UK infrastructure.

The Forum met for the third time on 21 January last week, at the Royal Institution of Great Britain in London.

The Forum brings together some 250 representatives of the 20 key sectors of the UK infrastructure from industry, regulatory bodies and Government Departments. These 20 sectors constitute the building blocks of the UK infrastructure and provide the services which business and the public expect to operate normally, regardless of whether they are in public or private ownership. The Forum enables participants to share information about their state of millennium readiness. It meets in Conference-style every three months.

Work of the Forum

The work of the Forum is currently focused on three main issues: the independent assessment of the state of readiness of individual sectors, the disclosure of the results of those assessments, and plans for further assessment and other work.

The goal is to ensure that there is no material disruption to the key infrastructure services across the millennium date change i.e. business as usual.

Work is most advanced in the six sectors of the economy which fundamentally enable all other activities to take place:

Electricity;

- Gas;
- Water;
- Telecommunications;
- Financial Services; and
- Fuel supply.

Registered details
Action 2000 is the trading name
of Action for Year 2000.
Registered in England and Wales
under Company No. 3463493.
Registered Office:
90 Fetter Lane, London EC4A 1JP.

action line 0845 601 2000
web site www.bug2000.co.uk

Work is also underway or beginning in the other 14 key infrastructure sectors, ranging from transport (rail, air, sea and road) to broadcasting, and the supply of food to the provision of health, emergency services and education.

General approach

In each sector, a so-called 'Responsible Body' has been or is being appointed to commission the independent assessments. The six core sectors are largely regulated under UK law and the responsible body is in most cases the regulator e.g. OFFER, OFGAS, OFTEL, OFWAT, the Financial Services Authority. The assessments themselves are typically being carried out by independent consultants appointed by the Responsible Bodies.

Scope of assessments

The assessments have to be sufficiently rigorous to satisfy the Responsible Body that no material disruption will occur. This will be achieved by an examination of the management of Y2K risks to infrastructure process delivery; an examination of the quality of approach to Y2K in the readiness approach of delivery organisations; and, as necessary, additional technical audits.

Colour-coding

To ensure a consistent approach and to enable comparisons between sectors a 'traffic light' colour-coding system is being used to quantify the assessments.

'White' means that the current level of information is insufficient to form an assessment.

'Red' means that there is a severe risk of material disruption to infrastructure processes, and that timely rectification may not be possible.

'Amber' means that there is some risk of material disruption, but that there is an agreed containment plan to rectify shortcomings.

'Blue' means that no risks of material disruption have been identified.

Assessments

At the Forum on 21 January, the Responsible Bodies for each of the six core sectors presented the results of their work so far.

In terms of colour-coding their overall assessment is as follows:

| | |
|-------------|-----------|
| Electricity | 52% Amber |
| | 46% Blue |
| | 2% Red |

For the key UK electricity companies

Amber expected to turn Blue in Second Quarter

| | |
|-----------------------------------|--|
| | End-to-end assessment (generation to transmission, distribution and supply) expected by end-February. |
| Gas | <p>Of the two main providers of safe supplies:</p> <p>Transco (national network) = 85% Blue, 15% Amber</p> <p>Siemens (smart card prepayment) = 75% Blue, 15% Amber</p> |
| Water | <p>All companies in England and Wales = Amber</p> <p>Specific points being raised with some companies</p> <p>Amber expected to turn Blue by July</p> |
| Telecommunications | <p>Direct access operators (including mobile operators) = Amber.</p> <p>Mobile network operators expected to become Blue in June</p> <p>Fixed network companies expected to become Blue in July</p> |
| Financial Services | <p>Industry 'relatively healthy'</p> <p>Infrastructure = Blue</p> <p>High impact firms:</p> <p>Majority = Blue or Amber (expected to become Blue)</p> <p>Some Reds – intensive supervisory action being taken.</p> |
| Fuel supply, offshore oil and gas | Amber (industry assessment) |

Similar work is underway in other energy sectors e.g. coal supply and nuclear fuel supply.

Where the role of the Regulator covers only e.g. England and Wales, similar work is underway by appropriate bodies in Scotland and Northern Ireland e.g. by OFREG or the Government Offices.

Next steps

All of the above sectors will be continuing their programmes of independent assessment, and will then move into monitoring and continuity planning (or contingency assessment).

Progress reports will be made public at or before the next meeting of the Forum on 21 April. The initial results of assessments in sectors like transport, health, food and the emergency services will also be disclosed at the April Forum.

Key dates

The final disclosure of results for the above sectors, based on full independent assessment, is expected as follows:

| | |
|--------------------|---|
| Electricity | 26 February |
| Gas | 26 February |
| Water | Site visits in March and April: report in June. Final survey of readiness in July. Report in August. |
| Telecommunications | 12 April |
| Financial services | April |
| Supply oil | 26 March |
| Transport fuel | 5 April |

I hope you find the above helpful.


A copy of our press release is attached.

Full copies of all the presentations made at the Forum (which included also the food industry, the rail sector and the police) are on the Action 2000 website at www.bug2000.co.uk, in the 'National Infrastructure 2000' section.

I am copying this to Misc 4 official contacts but please feel free to circulate this more widely within your Department or to make wider use of the information. But please remember that the assessments are those of the Responsible Bodies.

Yours sincerely



 DAVID HAYES



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media information

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2000**

WATER, GAS, OIL, ELECTRICITY, TELECOMS AND FINANCIAL SERVICES WORKING TOWARDS 'BUSINESS AS USUAL' FOR THE MILLENNIUM

Action 2000 and regulators report on Bug readiness
of key national infrastructure services

21 January, 1999

The UK's six key infrastructure services are well on the way to beating the Millennium Bug, British business leaders will be told today.

The water, gas, electricity, oil, telecoms and financial industries will all report on their ability to operate 'business as usual' over the millennium.

A world-first initiative by Action 2000, the Government's Millennium Bug Campaign, brought bodies responsible for each of the six sectors together to present to the National Infrastructure Forum (NIF).

The NIF meeting in London aims to inform businesses about the UK's essential services and their progress in tackling the Bug.

And today the Rt. Hon. Margaret Beckett MP, the Cabinet Minister responsible for the Bug, together with an audience of over 250 private and public sector businesses and organisations, will hear that the six have the Bug under control.

Don Cruickshank, chairman of Action 2000, said: "With just under 11 months to go, results show that the key infrastructure providers are well underway to being fully prepared."

A colour code - from red through amber to blue - was introduced to provide one standard to measure progress across all the sectors.

Cruickshank said: "The initial tier, of key six sectors, is in the 'amber' category. This means that although risks remain, robust plans are in place to manage them. By April, when the NIF next meets, I expect reports to show much more blue."

The NIF will also report on 'second and third tier' essential services, including the health, emergency and postal services, food, transport (rail, air, sea, road), broadcasting, local government, justice, benefit payment, taxation, meteorological office and education at regular intervals.

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action line **0845 601 2000**
web site www.bug2000.co.uk



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The background to today's NIF report:

- As a first step to delivering credible and robust statements from the first tier sectors, Action 2000 identified the appropriate organisation in each sector. These bodies commission independent assessments and disclose their findings. The bodies for the six reporting today are:
 - OFWAT - water
 - OFFER - electricity
 - OFGAS - gas
 - DTI Oil & Gas Directorate - fuel for transport
 - OFTEL - telecoms
 - Financial Services Authority - financial services
- Action 2000 stressed the importance of the assessment being undertaken independently from the actual delivery of the services. In the case of the six key sectors reporting interim findings at the NIF today, it is mainly industry regulators who are the appropriate bodies. They reported on the progress their sectors have made to date and detailed the independent assessment activity taking place in their sectors.
- In order to ensure consistency of approach and enable comparisons between sectors, Action 2000 introduced a 'traffic light' colour coding. Reporting bodies will use the colour coding system to chart the progress of the providers of UK infrastructure, identify problem areas and, over time, build public confidence in the work that is underway.
- The colour coding is:

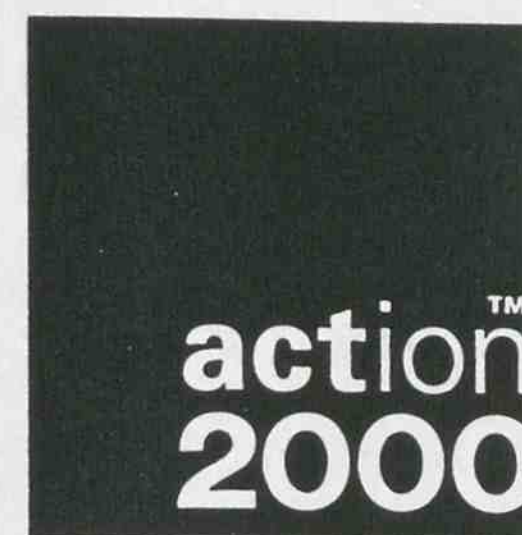
| Assessment | Traffic Light | Description |
|------------|---------------|--|
| None | White | Unable to form assessment with the present level of information |
| Poor | Red | The assessment indicates that there is a severe risk of material disruption to infrastructure processes and that timely rectification may not be possible. |
| Average | Amber | The assessment indicates that there is some risk of material disruption to infrastructure processes, but that there is an agreed containment plan to rectify shortcomings. |
| Neutral | Blue | The assessment has not identified any risks of material disruption to the infrastructure process |

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- Cruickshank said:

"The companies and sector representatives are to be congratulated on their approach.

"Action 2000 is facilitating this work and has provided guidance for the assessments in terms of the rigour of the process, but the results we see coming out of the NIF today are a joint effort and show a highly unusual degree of co-operation. We will continue to disclose results from infrastructure providers, including those in later tranches, to inform industry and the public.

"Sectors will be telling their own stories; Action 2000 will pull the results together to form an overall picture of this continuous disclosure. We will also ensure the news gets out via our Web site and subsequent meetings such as today's.

"When the Forum next meets in April, I expect the situation to have changed significantly, with further assessment activity confirming the transition from amber to blue."

- In addition to the six essential services under initial scrutiny, the National Infrastructure Forum is also assessing progress amongst other sectors and public services that are critical to both the public and businesses. Disclosure from tranches two and three will be made throughout 1999 and include:

- health service
- emergency services
- food
- transport (rail, air, sea, road)
- broadcasting
- local government
- postal services
- justice
- benefit payment
- taxation
- meteorological office
- education

- Cruickshank said:

"There is a significant number of key services that constitute the building blocks of the national infrastructure and which the public expect to operate normally, regardless of whether they are in public or private ownership.

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"The goal is 'business as usual' during the critical period. There is still a lot of work to be done before we can say this with full confidence, but I am clear that the NIF process now underway is an effective route to delivering the information that businesses and the public require."

ends

Notes to Editors

1. What is the Millennium Bug?

The Millennium Bug is the result of an inability of many business systems and other electronic devices to recognise the date change from 1999 to 2000. This is because their timing devices only acknowledge the last two digits of any year and may interpret the millennium change incorrectly, assuming it to be 1900 rather than 2000.

2. Action 2000 Millennium Bug Campaign

Action 2000 is a company set up by Government to help and advise the private sector on converting their awareness of the Millennium Bug into action. The Millennium Bug Campaign was launched in January 1998, with an action line (0845 601 2000) and Web site (www.bug2000.co.uk) providing fact sheets on the measures to be taken and signposting further sources of information.

3. The National Infrastructure Forum

Action 2000 is working closely with providers of the UK's essential services to ensure 'no material disruption' over the millennium period. The National Infrastructure Forum has mapped the key interdependencies in the UK and requires independent assessment of progress and disclosure of business continuity plans to deal with the Millennium Bug.

Action 2000 has identified the sectors of the economy which the entire country depends. Six of these - electricity, gas, telecommunications, water, fuel for transport and finance - have been judged as critical based on the extent to which others depend on them.

For further information, contact:
Action 2000 Press Office
Tel: 0171 497 2000



**CABINET
OFFICE**

The Year 2000 Team (CITU)

Horse Guards Road ■ London SW1P 3AL

TELEPHONE: 0171-238 0377 ■ FAX: 0171-238 0374 ■ E-MAIL: jhicks@cabinet-office.gov.uk

DATE ■ 2 February 1999

OUR REFERENCE ■

YOUR REFERENCE ■

To: All on the MISC4(O) contact list

Dear Colleague

NEXT MEETING OF THE INTER-DEPARTMENTAL GROUP ON THE MILLENNIUM BUG

Further to my note of 19 January regarding the next meeting of the Inter Departmental Group. This has had to be re-arranged, apologies for the short notice, and will now take place at 09.30 on Tuesday 9 February in room 130b/2 in the Cabinet Office building on Horse Guards Road. Please use the Parkside entrance.

As before names of those attending the next meeting to Leslie Mayne please on GTN 238 0378.

Proposed agenda attached.

J G Hicks



INVESTOR IN PEOPLE

*File Top: CH
cc: PJ*

INTER-DEPARTMENTAL GROUP ON THE MILLENNIUM BUG

MEETING TUESDAY 9 FEBRUARY 130B/2 GOGGS

AGENDA

1. Progress report on the National Infrastructure Forum
2. Legal Liability Issues.
3. Information requirements over the Millennium
4. Business Continuity Planning.
5. A.O.B.



INVESTOR IN PEOPLE



TOP-AL
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Richmond House 79 Whitehall London SW1A 2NS Telephone 0171 210 3000
From the Secretary of State for Health

Restricted - Policy

The Rt Hon Jack Straw MP
Home Secretary
The Home Office
Queen Anne's Gate
London
SW1H 9AT

2 February 1999

(P)

CIVIL CONTINGENCIES COMMITTEE VALIDATION EXERCISE 11 MAY 1999

Thank you for sending me a copy of your recent letter to Margaret Beckett, requesting confirmation of Ministerial attendance at the above exercise.

Your list of Departments most likely to be involved did not include the Department of Health, but I understand that this was simply an oversight. Helene Hayman is the appropriate Minister to represent this Department and she is prepared to participate as fully as the exercise may require.

I am copying this letter to Cabinet colleagues and to Sir Richard Wilson.

FRANK DOBSON



The Rt Hon Margaret Beckett MP

PRIVY COUNCIL OFFICE
68 WHITEHALL LONDON SW1A 2AT

29 JAN 1999

Dear Deputy Prime Minister,

YEAR 2000 - DEVELOPMENTS IN THE QUARTERLY MONITORING EXERCISE

I am writing to let you know of some changes to the quarterly monitoring exercise which were agreed at MISC 4 on 20 January.

Since March 1998, Government departments and agencies have been submitting reports on their progress in dealing with Year 2000 issues. These returns are sent quarterly to the Cabinet Office and form the basis of my statements to Parliament. Copies of the returns are also placed in the Libraries of the House, and are published on the Internet. All this is done to support our clear policy of being as open as possible about Year 2000 issues.

The current format of the monitoring exercise has served us well, but I now feel that it is time to move on, to reflect the additional pressures which will come on us as we move through 1999. Colleagues on MISC 4 last week supported my proposals, and the following changes will be introduced - some immediately, some within the next few months.

The main change is that, from July, there will be a supplementary monthly return primarily to update the progress against plans. Quarterly reports are, by their very nature, always out of date, and it is inevitable that, in the second half of the year, the Government will come under increasing pressure to provide up to the minute information on the state of preparedness of departments and agencies. I recognise that this new requirement does potentially increase the burden on departments and agencies at what will, in any case, be a very demanding time for them; but I shall ensure that the amount of additional information requested is kept to the minimum we shall need to provide proper information and maintain public confidence in central government services. Of course, I shall then need to report to Parliament on a monthly basis, and I propose to do this by means of written answers. We are considering the most appropriate way to inform MPs during the Recess.

Second, from March onwards, the returns will be published in a tabular form which will 'rank' departments and agencies against agreed objective criteria, rather than simply listing them alphabetically as is currently the case. These criteria will include percentage completion of planned compliance activity; state of business continuity

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planning; completion dates and slippage. In other words, those who are falling behind will be publicly named, and it will be very clear to everyone exactly where they stand in relation to other departments. We already publish details of those departments and agencies who are causing concern, and I see this as a logical development, which will also enable us to make a robust response to external monitoring groups if we disagree with their conclusions. These arrangements will apply to agencies and to those NDPBs who are part of the quarterly monitoring exercise, as well as to Government departments.

Third, MISC 4 felt it was important that quarterly returns provided by departments and agencies should contain the results of independent assessment, including a record of the actions recommended, and should be subject to some form of external validation. We need also to consider the role that departments' internal audit function might be able to play in this process. Some departments want them to review the returns before they are submitted, others feel that time will not permit this. I do not think we should be too prescriptive - providing the independent assessment is done, I am content for it to be done in parallel with the submission of returns to the CCTA. Both internal audit and external consultants may have a role to play, but I am content to let departments decide what that should be.

Finally, I am grateful to Permanent Secretaries and other Accounting Officers for taking a personal interest in these issues, and by this letter I am inviting them to consider how they wish to be involved in the quarterly monitoring process. The Letters of Representation that most Accounting Officers will be required to sign to support the 1998-99 financial statement will include an acknowledgement of Accounting Officer responsibilities for Year 2000 issues. Permanent Secretaries may therefore feel it would be appropriate for them to have sight of their departments' returns, if not before they are sent to the CCTA/ Cabinet Office, at least before my Parliamentary statement is finalised.

I believe these changes will help us, not only to continue the good progress that is being made on Year 2000 issues, but also to demonstrate publicly and openly what is being done.

I am copying this letter to the Prime Minister, Ministers in charge of Departments, members of MISC 4, and to Sir Richard Wilson and Permanent Secretaries. I would be grateful if the latter would pass it on to other accounting officers from the Agencies and NDPBs for which they are responsible.

Yours sincerely,

H.C. Edwards

p.p. MARGARET BECKETT

The Rt. Hon. John Prescott MP
Deputy Prime Minister

APPROVED BY THE PRESIDENT
AND SIGNED IN HER ABSENCE

Clare

all seems sensible to me.

✓ 12

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From: Clare Hawley

Date: 28 January 1999

Private Office

No 10 and the Millennium Bug

The Year 2000 Business Continuity Project Team are looking at the possible scenarios for No 10 over the Millennium, and how we would deal with them. We are planning for a range of possibilities, from limited and minor millennium bug problems (the expected reality) to more major events, with combinations of Bug, bad weather and millennium celebrations combining to hit a number of national – and international systems.

Clearly No 10 HAS to be millennium bug proof and work is going on to ensure that that is the case. But there are a lot of dependencies on outside factors (CO systems, transport, communications systems, suppliers) which mean that there is always the possibility that things will go wrong. And even if we think we have solved all the possible problems in No 10 we must have contingency plans for unexpected difficulties.

The attached documents are therefore a stab at identifying the risks and the systems that are critical to the operation of No 10. There is a risk assessment table (Sheets 1-3) which looks at "What if this system went wrong?" on the basis of a) How likely is it to go wrong, and b) what impact would it have. Multiplying these scores gives a total which helps identify the priorities. This is obviously total guesswork at present but will get refined over the months as work progresses.

Sheets 5 and 6 look at which No 10 departments are critical over the Millennium planning period, and what the critical systems are for Private Office. There are two main periods to look at. 31 Dec-3 Jan is holiday for the nation and the likely Bug difficulties are in the home, transport, infrastructure, and with weather and celebrations possibly adding to that. (And for No 10 on 31 Dec we have to think about where the PM is, transport to and from the Dome, revellers around Trafalgar Square, Horseguards etc etc) My best guess is that things are going to be relatively OK, but the media will want Govt to explain what the position is. At the moment it looks like Margaret Beckett would be the best Government spokesperson for the inevitable media interest and the Cabinet Office will have a Millennium Bug information centre up and running to support this.

No 10 will need to be kept informed but unless things get very hairy only the usual holiday systems for the Private Office are critical.

However, if things are worse than we expect, as we get information in from around the country we may need to start dealing with some problems. The Civil Contingencies Officials Committee will probably need to sit and they will make the decision on whether the Ministerial Civil Contingencies Committee (chaired by Jack Straw and comprising major Cabinet Ministers) needs to come in to play. This happens if local emergency planning operations can't cope on their own. Media handling will be vital. If this is the scenario then No 10 is going to have to be much more involved, and my guess is that more Private Office staff would need to be either in contact or in the office to deal with this (perhaps on a Dept by Dept basis?) and the majority of our working week systems would be critical.

4-11 January is when people are starting to go back to work, and a new series of Millennium Bug problems might start being found – work related and transport. If all this is minor, then I would expect Private Office to cope on its usual basis, and other No 10 sections to get back to normal. If Bug problems are much more widespread, and we start to get an accumulator effect of systems going down then we would need to concentrate on the Bug – and No 10 is likely to be doing little work other than that, so my theory is that in the worst case scenario Private Office. Press Office, Garden Rooms, IT, Duty Clerks and Switch are the key people to be here.

I have filled in the forms on this basis. If you think any of my assumptions are wrong, please amend – by 3 February in time for the next Planning meeting.

Clare

RISK ASSESSMENT TABLE

| RISK | PROBABILITY | IMPACT | SCORE |
|---|-------------|--------|-------|
| Systemic Risk | | | |
| Failure of IT Systems | 3 | 5 | 15 |
| Failure of communications systems (inc. secure comms) | 3 | 5 | 15 |
| Failure of power | 3 | 5 | 15 |
| Transport problems | 4 | 3 | 12 |
| | | | |
| Project Risk | | | |
| Y2K fixes not completed on time: | | | |
| IT | 1 | 5 | 5 |
| Non IT | 2 | 5 | 10 |
| Y2K errors not detected, OPS, secure systems | 4 | 4 | 16 |
| Problems with third parties e.g. suppliers | | | |
| | | | |
| Operational Risk | | | |
| Failure of facilities (building management systems, lift, comfort cooling, heating, gas, water) | 3 | 4 | 12 |
| Staff Motivation | 4 | 4 | 16 |
| Communications with other departments | | | |
| Communication with media | 34 | 5 | 20 |
| Communication with public | 4 | 4 | 16 |
| | | | |
| Legal and Regulatory Risk | | | |
| Health and safety systems (smoke, fire alarms, | 3 | 4 | 12 |
| | | | |
| Reputation Risk | | | |
| Public and media expectation of the organisation and the government machine | 4 | 5 | 20 |
| | | | |
| Security Risks | | | |
| Crowds around No10 | 4 | 4 | 16 |
| Security management system going down | 3 | 5 | 15 |
| Link Door jammed shut | 3 | 3 | 9 |

MEETING LIST

| | Probability | Impact | Score |
|---|-------------|--------|-------|
| Phones Systems - different | | | |
| Overload - reduce ability to use phones | 3 | 4 | 12 |
| Overload on public phone | 3 | 4 | 12 |
| Mobiles | 3 | 5 | 15 |
| Bleepers/ Pagers | 3 | 4 | 12 |
| Fancy Phones with dates | 3 | 3 | 9 |
| Power back-up supply (UPS) | 3 | 5 | 15 |
| Radio/TV transmitter down | 3 | 5 | 15 |
| Internet | 5 | 4 | 20 |
| Photocopier | 3 | 5 | 15 |
| Fax Machine | 3 | 5 | 15 |
| Portable Fax machines | 3 | 3 | 9 |
| Government Car Service | 3 | 3 | 9 |
| Trains/Transport | 5 | 4 | 20 |
| Security In and Out of No10 | 3 | 5 | 15 |
| No11 probs | 4 | 3 | 12 |
| Secure Comms | 3 | 5 | 15 |
| Home Equipment - supplied by office | 4 | 2 | 8 |
| No11 Flat | 4 | 4 | 16 |
| TV/Video Recorders | 3 | 2 | 6 |
| Back Up supplies - street blocker | 3 | 4 | 12 |

Critical / Non-Critical Department of No10

| 31 December – 3 January 2000 | | 04 – 05 January 2000 | | 06 – 11 January 2000 | |
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| CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL |
| Private Office | CB's Office | Private Office | CB's Office | Private Office | Personnel |
| Press Office | Political Office | Press Office | Political Office | Press Office | Finance |
| Garden Rooms | Personnel | Garden Rooms | Personnel | Garden Rooms | Correspondence |
| IT Section | Finance | IT Section | Finance | IT Section | |
| Duty Clerks | SCU | (Policy Unit) | SCU | Policy Unit | |
| Switch | Correspondence | Duty Clerks | Correspondence | (SCU) | |
| | Policy Unit | Switch | | (Political Office) | |
| | | | | (CB's office) | |
| | | | | Duty Clerks | |
| | | | | Switch | |
| | | | | | |
| | | | | | |
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Critical Departments

31 - 3 Jan

Holiday period.

Only critical departments are those that might need to be used if the Millennium Bug proves to be a significant national problem. No other work being done.

4 - 5 Jan

Semi-holiday period

People returning to work; may find additional Millennium Bug problems: need those departments who would deal with that. Start to need main day to day No 10 - but not critical

6 - 11 Jan

Nation back at work

Govt needs to be running: more sections are critical

BUT if large Millennium Bug problems, fewer No 10 Departments critical as effort will have to be concentrated on the bug: PM, Private Office, Press Office & support services.

DEPARTMENTAL NEEDS

Sheet 6

Based on: Minimum bug problems dealt with by Chief of Staff/PPS/Duty Secretary outside No 10 over holiday period + inside afterwards
Major bug problems could require Private Office staffed and working by a number of PSs over holiday period + beyond.

SECTION: PRIVATE OFFICE

| | | 31 December - 3 January 2000 | | 04 - 05 January 2000 | | 6 - 11 January | |
|----------|----------------|---|----------------------------|---|--------------|--|--------------|
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| MINIMUM | BUG PROBLEMS | Duty Private Secretary with communication links to PM/No 10, Press Office Chief of Staff PPS. Duty Clerk + Garden Room support + switch | IT systems Photocopier etc | Normal staffing level at holiday period. All communication + Duty Clerk/Garden Room/switch support | | All IT and communication systems All personnel | |
| | | | | | | | |
| ENHANCED | MAJOR PROBLEMS | All Private Office for various departments with communication links to PM/No 10 / Depts. / C.O. Enhanced Duty Clerk + Garden Room support + switch IT systems CCE Committee Links + M Beckett | Photocopier | All Private Office, with communication links Support IT systems Links to CO, HO, M Beckett Transport Food etc | | " | |
| | | | | | | | |

No 10 Power
Transport available
Food

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| Project Risk | | | |
| Y2K fixes not completed on time: | | | |
| IT | 1 | 5 | 5 |
| Non IT | 2 | 5 | 10 |
| Y2K errors not detected, OPS, secure systems | 4 | 4 | 16 |
| Problems with third parties e.g. suppliers | | | |
| Operational Risk | | | |
| Failure of facilities (building management systems, lift, comfort cooling, heating, gas, water) | 3 | 4 | 12 |
| Staff Motivation | 4 | 4 | 16 |
| Communications with other departments | | | |
| Communication with media | 34 | 5 | 20 |
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| IT Section | Finance | IT Section | Finance | IT Section | |
| Duty Clerks | SCU | (Policy Unit) | SCU | Policy Unit | |
| Switch | Correspondence | Duty Clerks | Correspondence | (SCU) | |
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| | | | | (CB's office) | |
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BUT if large millennium bug problems, fewer No 10 Departments critical as effort will have to be concentrated on the bug: PM, Private Office, Press Office & support services.

DEPARTMENTAL NEEDS

Sheet 6

Based on: Minimum support problems dealt with by Chief of Staff/PPS/Duty Secretary outside No 10 over holiday period + inside afterwards
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| Switch | Correspondence | Duty Clerks | Correspondence | (SCU) | |
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| | | | | (CB's office) | |
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| | | | | | |
| | | | | | |
| | | | | | |

Critical Departments

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Food

PROBABILITY OF EVENT HAPPENING

1. Improbable
2. Rare
3. Possible
4. Probable
5. Very Likely

IMPACT

1. Negligible
2. Small
3. Moderate
4. Large
5. Disastrous

Clare

This looks pretty comprehensive to me. A couple of minor comments.

Philip

$\frac{2}{2}$

From: Clare Hawley

Date: 28 January 1999

Private Office

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Clare

RISK ASSESSMENT TABLE

is the light? - If not, there will be higher.

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| Garden Rooms | Personnel | Garden Rooms | Personnel | Garden Rooms | Correspondence |
| IT Section | Finance | IT Section | Finance | IT Section | |
| Duty Clerks | SCU | (Policy Unit) | SCU | Policy Unit | |
| Switch | Correspondence | Duty Clerks | Correspondence | (SCU) | |
| Customs / Border | Policy Unit | Switch | | (Political Office) | |
| | | | | (CB's office) | |
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~~Letter~~ Clare

- feedback to staff
- presentation:
- review + Part 1?

② Has anyone factored in Parliament's possible wish to be recalled in next of next session?
KR

At my hpwg, there was
① a strong plea from staff to be told about plans in No 10 for tackling the bug +

From: Clare Hawley
Date: 28 January 1999

Private Office

what is being done more widely.

Part may have this

No 10 and the Millennium Bug

in hand, but can you discuss with her?

The Year 2000 Business Continuity Project Team are looking at the possible scenarios for No 10 over the Millennium, and how we would deal with them. We are planning for a range of possibilities, from limited and minor millennium bug problems (the expected reality) to more major events, with combinations of Bug, bad weather and millennium celebrations combining to hit a number of national - and international systems.

Maybe best to have note

sent round - +/or future presentation

Clearly No 10 HAS to be millennium bug proof and work is going on to ensure that that is the case. But there are a lot of dependencies on outside factors (CO systems, transport, communications systems, suppliers) which mean that there is always the possibility that things will go wrong. And even if we think we have solved all the possible problems in No 10 we must have contingency plans for unexpected difficulties.

Abb
1/2

The attached documents are therefore a stab at identifying the risks and the systems that are critical to the operation of No 10. There is a risk assessment table (Sheets 1-3) which looks at "What if this system went wrong?" on the basis of a) How likely is it to go wrong, and b) what impact would it have. Multiplying these scores gives a total which helps identify the priorities. This is obviously total guesswork at present but will get refined over the months as work progresses.

Sheets 5 and 6 look at which No 10 departments are critical over the Millennium planning period, and what the critical systems are for Private Office. There are two main periods to look at. 31 Dec-3 Jan is holiday for the nation and the likely Bug difficulties are in the home, transport, infrastructure, and with weather and celebrations possibly adding to that. (And for No 10 on 31 Dec we have to think about where the PM is, transport to and from the Dome, revellers around Trafalgar Square, Horseguards etc etc) My best guess is that things are going to be relatively OK, but the media will want Govt to explain what the position is. At the moment it looks like Margaret Beckett would be the best Government spokesperson for the inevitable media interest and the Cabinet Office will have a Millennium Bug information centre up and running to support this.

No 10 will need to be kept informed but unless things get very hairy only the usual holiday systems for the Private Office are critical.

However, if things are worse than we expect, as we get information in from around the country we may need to start dealing with some problems. The Civil Contingencies Officials Committee will probably need to sit and they will make the decision on whether the Ministerial Civil Contingencies Committee (chaired by Jack Straw and comprising major Cabinet Ministers) needs to come in to play. This happens if local emergency planning operations can't cope on their own. Media handling will be vital. If this is the scenario then No 10 is going to have to be much more involved, and my guess is that more Private Office staff would need to be either in contact or in the office to deal with this (perhaps on a Dept by Dept basis?) and the majority of our working week systems would be critical.

4-11 January is when people are starting to go back to work, and a new series of Millennium Bug problems might start being found - work related and transport. If all this is minor, then I would expect Private Office to cope on its usual basis, and other No 10 sections to get back to normal. If Bug problems are much more widespread, and we start to get an accumulator effect of systems going down then we would need to concentrate on the Bug - and No 10 is likely to be doing little work other than that, so my theory is that in the worst case scenario Private Office, Press Office, Garden Rooms, IT, Duty Clerks and Switch are the key people to be here.

I have filled in the forms on this basis. If you think any of my assumptions are wrong, please amend - by 3 February in time for the next Planning meeting.

Clare

RISK ASSESSMENT TABLE

| RISK | PROBABILITY | IMPACT | SCORE |
|---|-------------|--------|-------|
| Systemic Risk | | | |
| Failure of IT Systems | 3 | 5 | 15 |
| Failure of communications systems (inc. secure comms) | 3 | 5 | 15 |
| Failure of power | 3 | 5 | 15 |
| Transport problems | 4 | 3 | 12 |
| Project Risk | | | |
| Y2K fixes not completed on time: | | | |
| IT | 1 | 5 | 5 |
| Non IT | 2 | 5 | 10 |
| Y2K errors not detected, OPS, secure systems | 4 | 4 | 16 |
| Problems with third parties e.g. suppliers | | | |
| Operational Risk | | | |
| Failure of facilities (building management systems, lift, comfort cooling, heating, gas, water) | 3 | 4 | 12 |
| Staff Motivation | 4 | 4 | 16 |
| Communications with other departments | | | |
| Communication with media | 34 | 5 | 20 |
| Communication with public | 4 | 4 | 16 |
| Legal and Regulatory Risk | | | |
| Health and safety systems (smoke, fire alarms, | 3 | 4 | 12 |
| Reputation Risk | | | |
| Public and media expectation of the organisation and the government machine | 4 | 5 | 20 |
| Security Risks | | | |
| Crowds around No10 | 4 | 4 | 16 |
| Security management system going down | 3 | 5 | 15 |
| Link Door jammed shut | 3 | 3 | 9 |

MEETING LIST

| | Probability | Impact | Score |
|---|-------------|--------|-------|
| Phones Systems - different | | | |
| Overload - reduce ability to use phones | 3 | 4 | 12 |
| Overload on public phone | 3 | 4 | 12 |
| Mobiles | 3 | 5 | 15 |
| Bleepers/ Pagers | 3 | 4 | 12 |
| Fancy Phones with dates | 3 | 3 | 9 |
| Power back-up supply (UPS) | 3 | 5 | 15 |
| Radio/TV transmitter down | 3 | 5 | 15 |
| Internet | 5 | 4 | 20 |
| Photocopier | 3 | 5 | 15 |
| Fax Machine | 3 | 5 | 15 |
| Portable Fax machines | 3 | 3 | 9 |
| Government Car Service | 3 | 3 | 9 |
| Trains/Transport | 5 | 4 | 20 |
| Security In and Out of No10 | 3 | 5 | 15 |
| No11 probs | 4 | 3 | 12 |
| Secure Comms | 3 | 5 | 15 |
| Home Equipment - supplied by office | 4 | 2 | 8 |
| No11 Flat | 4 | 4 | 16 |
| TV/Video Recorders | 3 | 2 | 6 |
| Back Up supplies - street blocker | 3 | 4 | 12 |

Critical / Non-Critical Department of No10

| 31 December – 3 January 2000 | | 04 – 05 January 2000 | | 06 – 11 January 2000 | |
|------------------------------|------------------|----------------------|------------------|----------------------|----------------|
| CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL |
| Private Office | CB's Office | Private Office | CB's Office | Private Office | Personnel |
| Press Office | Political Office | Press Office | Political Office | Press Office | Treasury |
| Garden Rooms | Personnel | Garden Rooms | Personnel | Garden Rooms | Correspondence |
| IT Section | Finance | IT Section | Finance | IT Section | |
| Duty Clerks | SCU | (Policy Unit) | SCU | Policy Unit | |
| Switch | Correspondence | Duty Clerks | Correspondence | (SCU) | |
| | Policy Unit | Switch | | (Political Office) | |
| | | | | (CB's office) | |
| | | | | Duty Clerks | |
| | | | | Switch | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Critical Departments

31 - 3 Jan

Holiday period.

Only critical departments are those that might need to be used if the Millennium Bug proves to be a significant national problem. No other work being done.

4 - 5 Jan

Semi-holiday period

People returning to work; may find additional Millennium Bug problems: ∴ need those departments who would deal with that. Start to need main day to day No 10 - but not critical

6 - 11 Jan

Nation back at work

Govt needs to be running: ∴ more sections are critical

BUT If large Millennium Bug problems, fewer No 10 Departments critical as effort will have to be concentrated on the Bug: ∴ PM, Private Office, Press Office & support services.

DEPARTMENTAL NEEDS

Sheet 6

Based on: Minimum keep problems dealt with by Chief of Staff / PPS / Duty Secretary outside No 10 over holiday period + inside afterwards
Major keep problems could require Private Office staffed and working by a number of PSs over holiday period + beyond.

SECTION: PRIVATE OFFICE

| | | 31 December - 3 January 2000 | | 04 - 05 January 2000 | | 6 - 11 January | |
|---------|--------------|--|----------------------------|---|--------------|--|--------------|
| | | CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL |
| MINIMUM | BUG PROBLEMS | Duty Private Secretary with communication links to PM / No 10, Press Office Chief of Staff PPS. Duty Clerk + Garter Room support + switch | IT systems Photocopier etc | Normal staffing level at holiday period. All communication + Duty Clerk / Garter Room / Switch support | | All IT and Communication systems All personnel | |
| | | All Private Office for various departments? with communication links to PM / No 10 / Depts. / C.O. Enhanced Duty Clerk + Garter Room support + switch IT systems CCE Committee Links + M Beckett | Photocopier | All Private Office, with communication links Support IT systems Links to CO, HO, M Beckett Transport Food etc | | " | |

No 10 Power
Transport available
Food

5 top score

RISK ASSESSMENT TABLE

| RISK | PROBABILITY | IMPACT | SCORE |
|---|-------------|--------|-------|
| Systemic Risk | | | |
| Failure of IT Systems | 3 | 5 | 15 |
| Failure of communications systems (inc. secure comms) | 3 | 5 | 15 |
| Failure of power | 3 | 5 | 15 |
| Transport problems | 4 | 3 | 12 |
| Failure to different phone systems | 3 - 4 | 4 - 5 | 12 |
| Overload - reduce ability to use phones | 3 - 4 | 4 - 5 | 14 |
| Project Risk | | | |
| Y2K fixes not completed on time: IT | 3 | 5 | 15 |
| Non IT | 3 | 5 | 15 |
| Y2K errors not detected, OPS, secure systems | 4 | 4 | 16 |
| Problems with third parties e.g. suppliers | 3 - 4 | 4 | 15 |
| Operational and Equipment Risk | | | |
| Failure of facilities (building management systems, lift, comfort cooling, heating, gas, water) | 3 | 4 | 12 |
| Staff Motivation | 4 | 4 | 16 |
| Communications with other departments | 2 - 5 | 4 - 5 | 14 |
| Communication with media | 2 - 5 | 4 - 5 | 16 |
| Communication with public | 2 - 5 | 2 - 5 | 14 |
| Mobiles | 3 - 4 | 3 - 5 | 14 |
| Bleepers/ Pagers | 2 - 4 | 2 - 5 | 13 |
| Fancy Phones with dates | 2 - 4 | 1 - 5 | 9 |
| Power back-up supply (UPS) | 1 - 4 | 4 - 5 | 12 |
| Radio/TV transmitter down | 2 - 4 | 3 - 5 | 15 |
| Internet | 2 - 5 | 2 - 3 | 9 |
| Photocopier | 2 - 3 | 2 - 5 | 11 |
| Fax Machine | 2 - 3 | 3 - 5 | 12 |
| Portable Fax machines | 3 - 4 | 2 - 3 | 7 |
| TV/Video Recorders | 3 | 2 - 5 | 9 |
| Government Car Service | 1 - 4 | 3 - 5 | 10 |
| Equipment at Home - supplied by office | 1 - 4 | 2 - 4 | 11 |
| Legal and Regulatory Risk | | | |
| Health and safety systems (smoke, fire alarms, | 1 - 3 | 3 - 5 | 11 |
| Reputation Risk | | | |
| Public and media expectation of the organisation and the government machine | 3 - 5 | 4 - 5 | 20 |
| Overload on public phone | 2 - 4 | 2 - 5 | 12 |
| Trains/Transport | 1 - 5 | 4 - 5 | 13 |
| Security Risks | | | |
| Crowds around No10 | 2 - 4 | 3 - 5 | 15 |
| Security management system going down | 1 - 4 | 4 - 5 | 13 |
| Link Door jammed shut | 1 - 4 | 1 - 5 | 7 |
| Back Up supplies - street blocker | 1 - 4 | 2 - 5 | 9 |
| Security In and Out of No10 | 1 - 3 | 4 - 5 | 11 |
| No 11 | | | |
| PM's Residence | 1 - 4 | 2 - 5 | 8 |

file

From: Clare Hawley
Date: 28 January 1999

Carol Allen

Y2K CONTINGENCY PLANNING

Here is my attempt to fill in the forms for the private office. They haven't had a chance to look at this properly yet so if they have any contrasting views I will bring them to the meeting.

Clare

RISK ASSESSMENT TABLE

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| Failure of communications systems (inc. secure comms) | 3 | 5 | 15 |
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| | | | |
| Project Risk | | | |
| Y2K fixes not completed on time: | | | |
| IT | 1 | 5 | 5 |
| Non IT | 2 | 5 | 10 |
| Y2K errors not detected, OPS, secure systems | 4 | 4 | 16 |
| Problems with third parties e.g. suppliers | | | |
| | | | |
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| Failure of facilities (building management systems, lift, comfort cooling, heating, gas, water) | 3 | 4 | 12 |
| Staff Motivation | 4 | 4 | 16 |
| Communications with other departments | | | |
| Communication with media | 34 | 5 | 20 |
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| | | | |
| Legal and Regulatory Risk | | | |
| Health and safety systems (smoke, fire alarms, | 3 | 4 | 12 |
| | | | |
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| Press Office | Political Office | Press Office | Political Office | Press Office | Finance |
| Garden Rooms | Personnel | Garden Room | Personnel | Garden Rooms | Correspondence |
| IT Section | Finance | IT Section | Finance | IT Section | |
| Duty Clerks | SCU | (Policy Unit) | SCU | Policy Unit | |
| Switch | Correspondence | Duty Clerks | Correspondence | (SCU) | |
| | Policy Unit | Switch | | (Political Office) | |
| | | | | (CB's office) | |
| | | | | Duty Clerks | |
| | | | | Switch | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

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Holiday period.

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4 - 5 Jan

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People returning to work; may find additional Millennium Bug problems \therefore need those departments who would deal with that. Start to need main day to day No 10 - but not critical

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Govt needs to be running \therefore more sections are critical

BUT if large Millennium Bug problems, fewer No 10 Departments critical as effort will have to be concentrated on the Bug. \therefore PM, Private Office, Press Office & support services.

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|---------|--------------|--|----------------------------|---|--------------|--|--------------|
| | | CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL | CRITICAL | NON CRITICAL |
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| | | All Private Office for various departments? with communication links to PM/No 10/ Depts./ C.O. Enhanced Duty Clerk + Carder Room support + switch IT systems CCE Committee links + M Beckett | Photocopier | All Private Office, with communication links Support IT systems links to CO, HO, M Beckett Transport Food etc | | " | |

No 10 Power
Transport available
Food



The Rt Hon Margaret Beckett MP

PRIVY COUNCIL OFFICE

68 WHITEHALL LONDON SW1A 2AT

27 JAN 1999

Dear David,

PROPOSALS TO EXTEND THE BUG BUSTER TRAINING SCHEME

Thank you for copying me your letter of 20 January to the Prime Minister about the Bug Busters programme.

It is indeed very encouraging that participation is now picking up. I also very much welcome that the savings on unit costs will allow the programme to be extended to a further 10,000 trainees. Many thanks to you and George for your work in this area.

I am copying this letter to the Prime Minister, Gordon Brown, Michael Wills and George Mudie.

Regards

Margaret

MARGARET BECKETT

Rt Hon David Blunkett MP
Secretary of State for Education and Employment
DfEE
Sanctuary Buildings
Great Smith Street
London SW1P 3BT

SKP 27/1/99

RESTRICTED - POLICY



QUEEN ANNE'S GATE LONDON SW1H 9AT

20 JAN 1999

The Rt Hon Margaret Beckett MP
President of the Council
Privy Council Office
Whitehall
London SW1

Dear Margaret,

CIVIL CONTINGENCIES COMMITTEE VALIDATION EXERCISE
- 11 MAY 1999

As you will know, an exercise, (now named "HYDRA") is planned for 11 May and an inter-departmental planning group, led by the Home Office, has begun work. I know that you plan to at least observe the exercise yourself.

My purpose in writing at this point is to remind colleagues of the importance of the exercise and the need to ensure that each Department involved is represented at Ministerial level on the day, potentially for a morning and afternoon session. The Civil Contingencies Committee has never met at Ministerial level. It is important therefore, in the run up to the millennium (and in any case) that a group of us become familiar with the procedures and problems that we would have to face in the event of a large scale disaster which may need central government intervention. This may possibly include drawing on the powers contained in the Emergency Powers Act 1920. I will certainly be playing in the exercise myself, and I hope that as many senior colleagues as possible will also take part.

It would be inappropriate for me to know exactly what the planners have in mind, but I understand the Department and Agencies most likely to be involved are MAFF, MOD, DETR, DTI, Home Office, Cabinet Office, Treasury, FCO, the Met Office and COI. The lessons learned by the actual players will, of course, be more widely shared. I would be grateful for confirmation of the Ministers from those Departments who will be attending. Further information about the exercise can be obtained from Mr Tony Lewis of the Home Office Emergency Planning Division (0171 273 4137).

I am sending a copy of this letter to Cabinet Colleagues and to Sir Richard Wilson.

Yours ever,

Jack

JACK STRAW

RESTRICTED - POLICY

SKP 26/1/99



SANCTUARY BUILDINGS GREAT SMITH STREET
WESTMINSTER LONDON SW1P 3BT
TELEPHONE 0870 0012 345
E-mail dfee.ministers@dfee.gov.uk

Claire Hawley
10 Downing Street
LONDON SW1A 2AA

The Rt Hon DAVID BLUNKETT MP

26 January 1999

Dear Claire

FORTNIGHTLY REPORT ON THE 'BUG BUSTERS' TRAINING PROGRAMME

I attach the third fortnightly report on the 'Bug Busters' training programme. This includes statistics on the number of trainees up to 22 January:

| | |
|---|-------------|
| Total starts since the programme began | 8916 |
| of which | |
| Total number of compilations | 7209 |
| Total number of bookings awaiting starts | 9011 |

I attach an annex which provides statistics broken down by region.

These figures were quoted in the press notice covering the Prime Minister's speech at the LGA Millennium Bug conference yesterday, so they are already in the public domain.

The next report will be with you on 10 February and fortnightly thereafter as agreed.

Yours
Lindsay

LINDSEY BROWN
PRIVATE SECRETARY

DfEE

He
cc PU/
Press (DP)
SKP (SK)
VSKP

| | | | |
|-----------------------|-----------------|-------------------|----------------------|
| | | | |
| | | | |
| BUG BUSTERS | | | |
| As at 22 January 1999 | | | |
| | No | No | Training |
| Region | Starters | Completers | Places Booked |
| South East | 1363 | 979 | 1559 |
| London | 1744 | 1154 | 1178 |
| Eastern | 919 | 777 | 814 |
| South West | 337 | 238 | 400 |
| West Midlands | 1071 | 958 | 1098 |
| East Midlands | 782 | 582 | 481 |
| Yorks & Humber | 670 | 743 | 869 |
| North West | 852 | 671 | 1075 |
| North East | 224 | 179 | 227 |
| ITNTO | 954 | 928 | 1310 |
| ENGLAND TOT | 8916 | 7209 | 9011 |

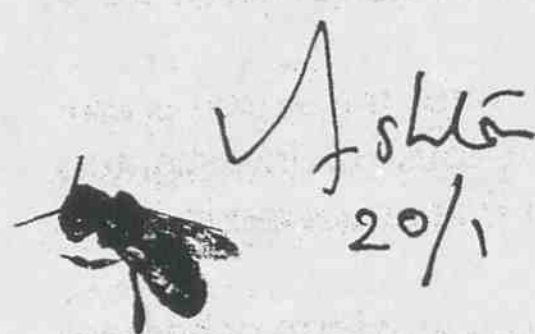
CKI [signature]

Y2K: So Many Bugs ... So Little Time

1) *Calvin Brainer*
An member, Y2K IAG

2) *Dr. Hayes*
Mar Hill

*A pretty good survey,
by a pioneer. The last
Section sums up well.*



Fixing Y2K seems simple: change all two-digit years to four digits. But that tedious—and unexpectedly difficult—process takes more time than is left

by Peter de Jager

An explanation of the psychology behind the Year 2000 computer problem can be found in a perhaps unlikely place: Lewis Carroll's *Alice in Wonderland*. In the popular children's classic, the Mad Hatter asks, "Does your watch tell you what year it is?" and Alice replies, "Of course not, but that's because it stays the same year for such a long time together."

There are many reasons why programmers, including me, chose to represent years by using just two digits, 55 for 1955 and 10/23/76 or 23/10/76 for October 23, 1976, for example. Decades ago digital real estate was scarce: computer memory was expensive, and typical punch cards were only 80 columns wide. People also rationalized the shortcut by citing the efficiency of reduced keystrokes. Of course, the absence of standards played an enabling role, and many of us truly believed (incorrectly so) that the software we were writing would long be retired before the new millennium. Thanks to sheer inertia and lingering Tea Party logic (why store more than two digits when the century stays the same for such a long time together?), the practice continued long after computer memory and cost constraints were legitimate concerns.

The net result? Computers are now riddled with representations of dates that are frighteningly ambiguous. Simply put, how will digital machines know whether 00 means 1900 or 2000? Already the confusion has led to a variety of problems. Back in 1993, Boeing noticed errors in its application that handles orders with seven-year lead times. A system at Amway Corporation, a global manufacturer of soap and other personal care products, rejected chemicals that it had mistakenly thought to be almost a century old. And some computerized cash registers have crashed when customers tried to use credit cards expiring in 00. In fact, according to

one industry study conducted a year ago, more than 40 percent of the organizations surveyed had already suffered some kind of Year 2000, or Y2K, failure.

The Soul of the Y2K Bug

Exactly what is causing such problems? An obvious example is a savings deposit made in 1999 and withdrawn in 2000. If the accounts program at the bank calculates the interest earned by first subtracting 99 from 00, the computer will mistakenly think that the term of deposit is -99 years.

Consider a more obscure Y2K pitfall: An insurance company must routinely look for policies that have been dormant for more than five years so that it can delete them from its databases. To locate the inactive policies, the firm runs an application that relies on data stored as LAST-ACCESS, which contains time stamps of the most recent dates that customers conducted a transaction.

When the program examines a LAST-ACCESS value, it adds five to the two-digit year. If the result is less than the current year, it deletes the record. Therefore, when LAST-ACCESS is 93, then $93 + 5 < 99$, and the policy will be correctly declared inactive. If LAST-ACCESS is 96, however, the processing gets dicey. If only two digits are allowed and extra information is truncated, $96 + 5$ will become 01, which is less than 99. The result would be the incorrect termination of the policy. (Because this example describes sloppy programming, people might be tempted to dismiss it. But this type of failure has already occurred.)

In other instances, a Y2K error could literally have fatal consequences. Using a medical program that specifies the dosage of certain drugs, a doctor types in "03-16-00" for an infant's birth date. The computer, however, as-

FAILURES THAT HAVE ALREADY OCCURRED

Unum Life Insurance Company deleted 700 records from a database that tracks the licensing status of brokers because a computer mistook 00 for 1900.

Mary Bandar, a centenarian, received an invitation to attend kindergarten in Winona, Minn.

In 1993 Boeing experienced errors in a system that used seven-year lead times for orders.

PC-based mixing system at Amway Corporation rejected a batch of chemicals because it mistakenly believed the expiration date to be in 1900.

sumes the patient is a centenarian and recommends a dosage that would have been fine for an elderly adult but turns out to be deadly for the tiny newborn.

This, then, is the soul of the Year 2000 problem. People have stored years ambiguously, and that confusion is now beginning to wreak havoc. Many organizations have simply replaced the offending programs with newer software that is Y2K-ready. For embedded systems [see box on page 70], that tactic has sometimes been the only viable option. But replacing the myriad computer programs already in use would be too costly and time-consuming. Companies are thus trying to mend what they have.

But What's a Date?

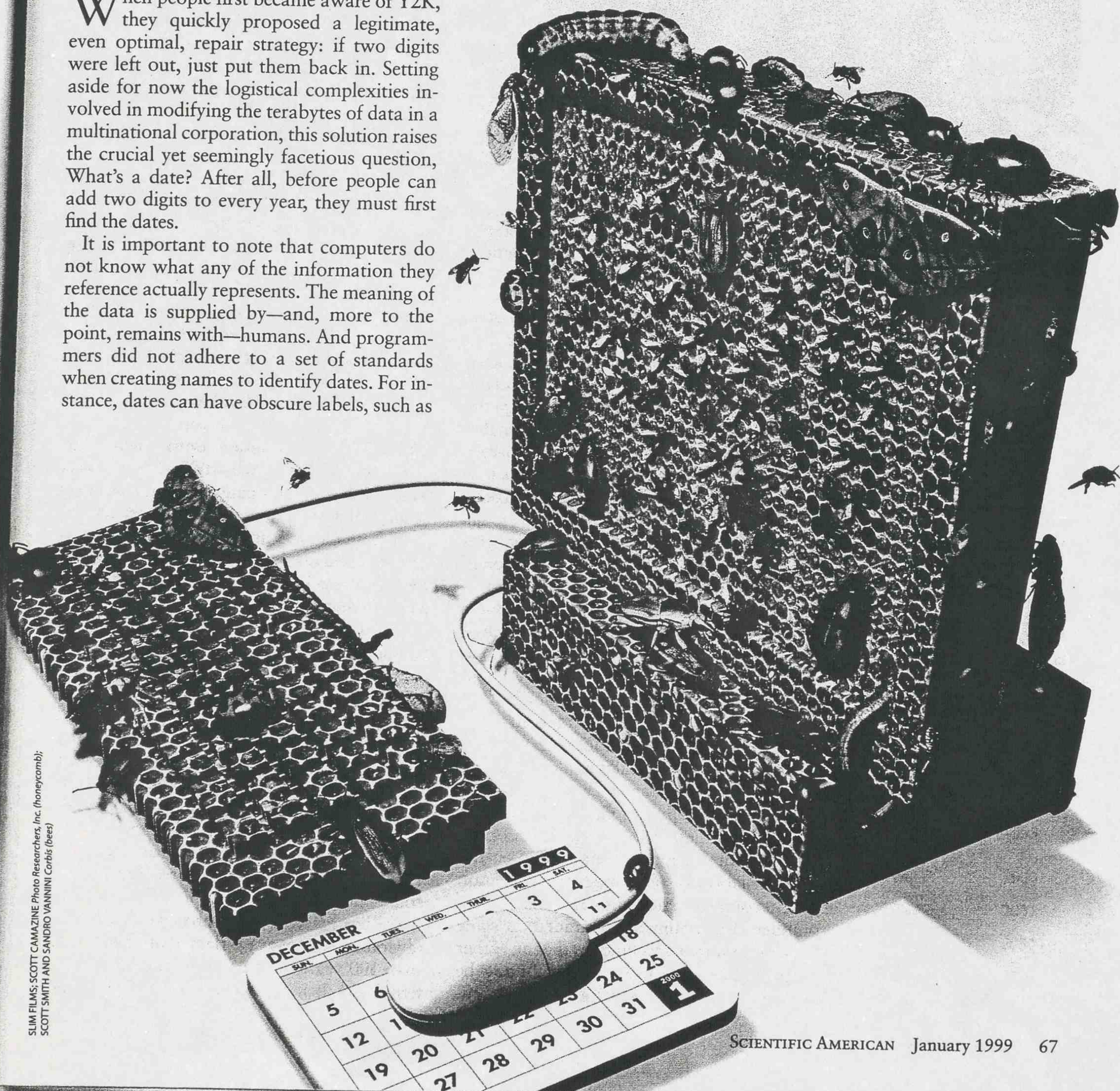
When people first became aware of Y2K, they quickly proposed a legitimate, even optimal, repair strategy: if two digits were left out, just put them back in. Setting aside for now the logistical complexities involved in modifying the terabytes of data in a multinational corporation, this solution raises the crucial yet seemingly facetious question, What's a date? After all, before people can add two digits to every year, they must first find the dates.

It is important to note that computers do not know what any of the information they reference actually represents. The meaning of the data is supplied by—and, more to the point, remains with—humans. And programmers did not adhere to a set of standards when creating names to identify dates. For instance, dates can have obscure labels, such as

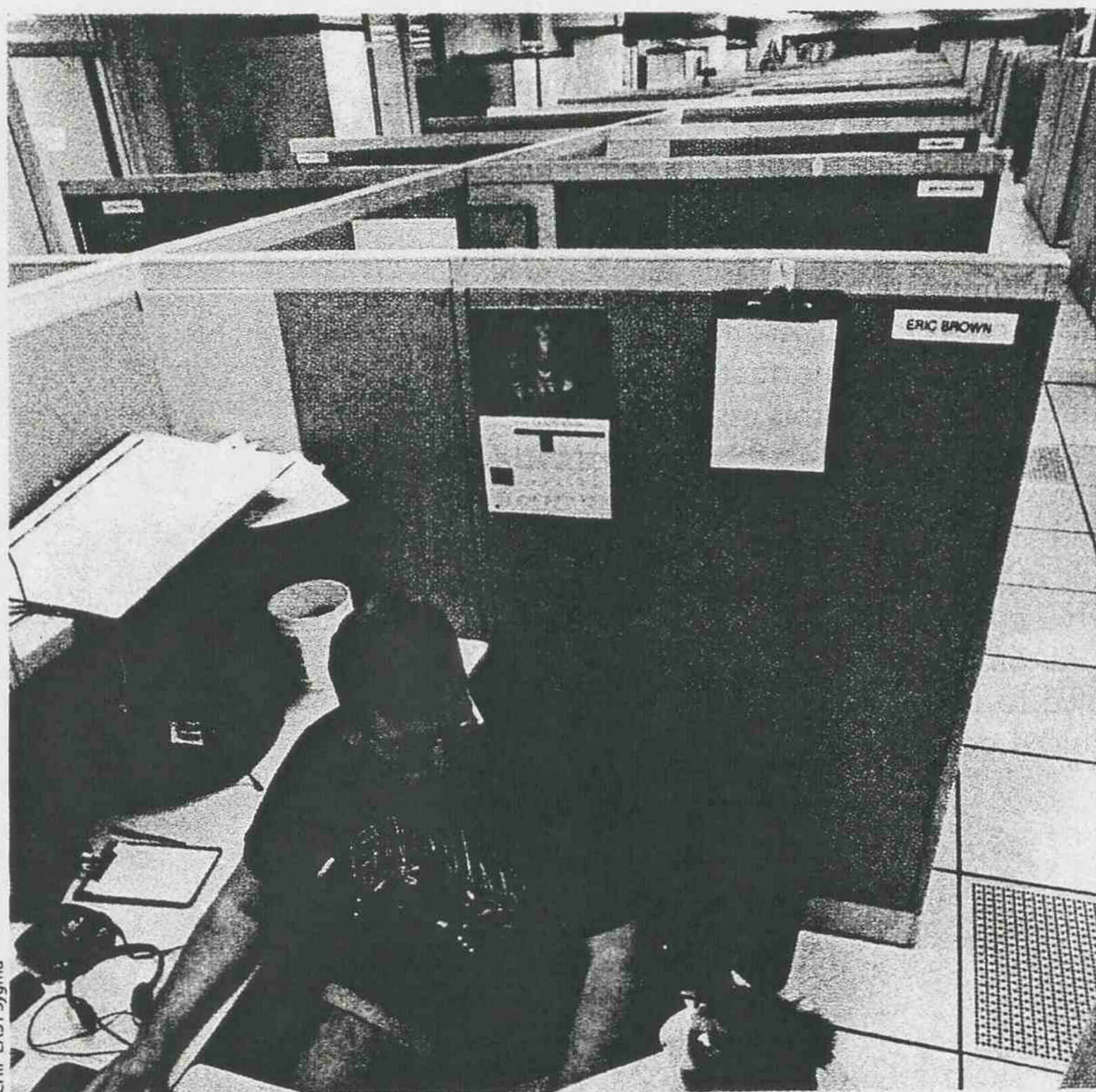
SNARK and WUMPUS, as well as more obvious choices, such as BIRTH_DATE and EMP_START_DT.

Nor can people rely entirely on the numerical information itself. One approach has been to sift through data and pick out columns with numbers that range from 1 to 12, from 1 to 31 and from 0 to 99 and then assume that the last piece of information denotes years. Although justified, this assumption is not always correct. The 0-to-99 data might instead represent percentages of a certain quantity. And often two-digit years are buried deep inside other data, such as within long product serial numbers.

Automated software tools have been developed to locate dates. Some of the more advanced products deploy deductive reasoning



SLIM FILMS; SCOTT CAMAZINE Photo Researchers, Inc. (honeycomb); SCOTT SMITH AND SANDRO VANNINI Corbis (bees)



COMPUTER PROGRAMMERS have been busy correcting Y2K problems. In this software "factory" in Charlotte, N.C., more than 250 technical staff of contractor Alydaar Software fix millions of lines of code each month. Much of this work is for Fortune 500 companies.

Y2K Litigation

After computerized cash registers at Produce Palace in Warren, Mich., repeatedly crashed when customers tried to use credit cards expiring in 00, the grocer sued TEC America, the manufacturer of the system.

to achieve astounding rates of success. Still, no tool has achieved error-free operation.

Finding dates is merely the first step. One problem with extending all years to four digits is that programmers might have to redesign the layouts of certain reports, forms and screen displays to accommodate the extra digits. A larger complication is that software applications that refer to the expanded data would also have to be modified.

Consider a personnel database in which employee names are stored in columns 1 through 30, birth dates from 31 through 36, salaries from 37 through 42 and so on. If the birth dates are expanded to accommodate four-digit years, then the salary information and all subsequent data will also be bumped two columns to the right. As a result, every program that retrieves that information must be adjusted to obtain data from the correct locations.

Such changes are typically made to "source code," which programmers write using languages like COBOL and C. The software is then converted into a form—called an object module—that a computer can comprehend. The translation is performed by a program called a compiler. Problems can arise because compilers are continually upgraded. In some cases, programming techniques that an earlier compiler accepted as legitimate might now be forbidden, in much the same way that a docu-

ment created by the third version of a word-processing software program might be rejected by version five of the same product. Consequently, old source code that has recently been corrected to handle Y2K may no longer compile properly into a new object module unless additional modifications are made.

To make matters worse, many companies have lost parts of their source code. Although the quantity of missing software is typically less than 3 to 4 percent, even this tiny amount can be extremely troublesome because programmers cannot easily modify an object module directly. They must re-create the source code, either from scratch (a difficult task because the accompanying documentation is most likely also missing) or from the object module itself (a heinous process that has been compared to retrieving a pig from sausage).

Once source code has been repaired and recompiled, it must also be tested. Because software revisions almost always introduce new bugs, the verification of modified programs is now the largest part of any Year 2000 project.

In the early 1990s many experts asserted that date expansion was the best way to tackle Y2K. But the unexpected necessity of having to recompile every program that refers to a date in any file, even when the application does not perform date calculations, has made this approach too expensive and time-consuming for most companies. (Of course, expansion to four digits would, in the transition from A.D. 9999 to 10,000, also lead to the Y10K problem, but that is a subject for another article.)

Doing Windows

An alternative solution is to teach computers that 00 means 2000. Programmers have extended this simple idea into a strategy called windowing. They have taken all the years from 00 to 99 and divided them into two groups based on a carefully selected pivot (45, for example). Two-digit years greater than or equal to that number are considered to reside in the current century (68 becomes 1968). Everything else is considered to lie in the 21st century (13 becomes 2013).

Using this concept, a programmer can delve into the source code, find all date references and modify accordingly the calculations involving that information. Because the actual two-digit years themselves do not need to be altered (just the calculations involving those dates are adjusted to place years in the appropriate centuries), windowing requires less work than date expansion and is currently the technique most commonly used to fix Y2K.

The approach, however, has weaknesses. It obviously fails for any data that span more than 100 years, such as birth dates and long-term leases. It also poses some interesting prob-

lems when information must be moved between systems that have used different pivot points. For example, a pivot of 25 might be appropriate for a program that handles the invoices of a company founded in 1928. But another application that does long-term sales projections at the same firm might deploy a pivot of 70. The problem, of course, is when information must be moved between the two systems: the year 2031 will become 1931, or vice versa, causing mayhem in the calculations.

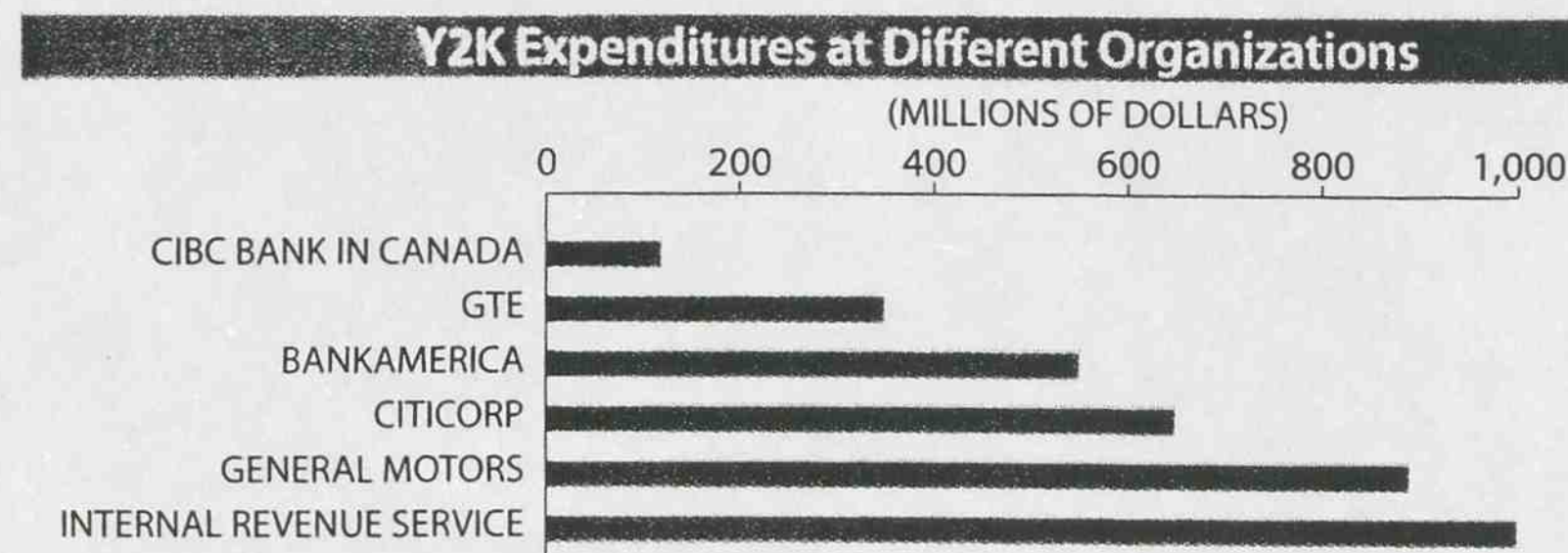
To complicate matters, programmers have also used sliding windows, in which the pivot changes over time. This strategy makes sense for certain types of programs, such as those that handle 30-year home mortgages. For such an application, the pivot might be set equal to 40 years from the current year. Obviously, it is crucial to keep track of sliding pivots to avoid possible conflicts with other systems. Furthermore, programmers must recognize that representing the year 1968 in a program with 70 as its pivot will require additional software tweaking.

Time Shifting

In another approach, basic arithmetic is used to finesse Y2K. Consider the calculation $00 - 99 = -99$. If the operation was intended to represent $2000 - 1999$, then the answer of -99 is obviously incorrect. But note that $00 - 99$ is equivalent to $(00 + 5) - (99 + 5)$. If that expression is calculated in two-digit math, it will yield $5 - 4 = 1$. Adding 5 to both 00 and 99 has, in effect, shifted both dates into the same century, so that the computation of $2000 - 1999$ could be performed correctly using just two digits.

But dates are more than mere numbers. January 1, 2000, is a Saturday; January 1, 2005, is not. Thus, the approach of adding 5 to all years will fail for programs that need to distinguish the days of the week. Still, all is not lost. Basically, there are two cycles controlling the days of the week: a cycle of seven for the different days and one of four for leap years. Multiplying the two gives an overall cycle of 28 years. January 1, 2000, will be a Saturday just as January 1, 1972, was and as January 1, 2028, will be. Taking advantage of that pattern, the "encapsulation" technique adds 28 to two-digit years before performing further calculations. Once those computations are complete, 28 is then subtracted from the dates.

Although encapsulation can be used to sidestep many Y2K problems, the technique becomes unwieldy for complex computations. An example is an application that works in parallel with one or more other programs: during its own computations, the application may need to send information to other systems that manipulate the data in their own ways; the results might then be combined and



BRYAN CHRISTIE, SOURCE: COMPANY REPORTS

recombined at various intervals. Programmers would have difficulty determining and keeping track of when to add and when to subtract 28.

In addition, encapsulation fails with dates that are buried in other information that uses certain digits for validation purposes. Consider a product stock number such as 7289-47-99-5, in which 99 is the expiration year and the last digit, 5, is used to verify the overall sequence. In this instance, the 5 is obtained from adding 7289, 47 and 99 and taking the last digit of the resulting sum of 7435. So-called check digits are often used to verify credit card, bar code and Social Security numbers. Obviously, cavalierly adding 28 to two-digit years would gum up such validation calculations.

The three techniques—date expansion, windowing and encapsulation—have thus far accounted for more than 95 percent of Y2K fixes to existing software. Many large companies with thousands of computer programs have deployed a mixed approach. Software tools exist to automate the three solutions, but none has achieved error-free success.

Perversely, one factor that severely hampers Y2K fixes is that some software already takes into account the century change. The original programmers have used their own windowing or encapsulation scheme in anticipation of Y2K problems. But these precautions may not have been deployed throughout an entire program, leaving the system betwixt and between a solution. For such software, implementing additional remedies could result in a digital

Other Rollover Dates

August 22, 1999:
Global Positioning System (GPS) will reset to week 0 after 1,023 weeks.

January 19, 2038:
Unix systems will roll over, because it will be 2^{31} seconds from their start date of January 1, 1970.

February 6, 2040:
Older Macintosh computers may revert to January 1, 1904, losing 2^{32} seconds.

How Prepared Is the U.S. Federal Government?

| | Total Number of Critical Systems | Systems Fixed as of August 1998 | Estimated Systems Fixed by March 1999 | Estimated Year When All Systems Are Fixed |
|---|----------------------------------|---------------------------------|---------------------------------------|---|
| SSA Social Security Administration | 308 | 93% | 99% | 1999 |
| FEMA Federal Emergency Management Agency | 49 | 69% | 82% | 1999 |
| Treasury Department of Treasury | 323 | 45% | 61% | 2000 |
| DOD Department of Defense | 2,965 | 42% | 54% | 2001 |
| Justice Department of Justice | 207 | 31% | 31% | 2030+ |
| NASA National Aeronautics and Space Administration | 158 | 63% | 74% | 2000 |

BRYAN CHRISTIE, SOURCE: SUBCOMMITTEE ON GOVERNMENT MANAGEMENT, INFORMATION AND TECHNOLOGY

Problems Embedded Everywhere

Hidden inside a medical system that doctors use for radiation treatments are computer chips that must ensure that the right dosage is delivered to a patient. But because the calculations are performed with two-digit years, the device will not be able to compute the correct strength of a radioactive sample that decays from the current century into the next. Fortunately, the manufacturer has already discovered the problem and has contacted its customers to recall the product.

Without a doubt, the dangerous wild cards of Y2K are preprogrammed computer chips that have been built into a wide variety of electronic equipment, including industrial machinery, monitoring devices, traffic lights, security alarms, navigation tools and countless consumer products, such as automobiles, watches, VCRs and microwave ovens. Such "embedded systems" are everywhere—in factories, nuclear power plants, water and sewage systems, hospitals, office buildings and homes. The Gartner Group, a consultancy in Stamford, Conn., puts the worldwide total at 32 billion to 40 billion.

Of course, most of these systems do not depend on any knowledge of dates and will therefore not be affected by Y2K. Of those that are date-sensitive, only a very tiny fraction will suffer anomalous processing. Nevertheless, even that minute percentage is still cause for concern. Although nobody knows for sure the exact number, Gartner estimates that millions of those embedded systems are vulnerable.

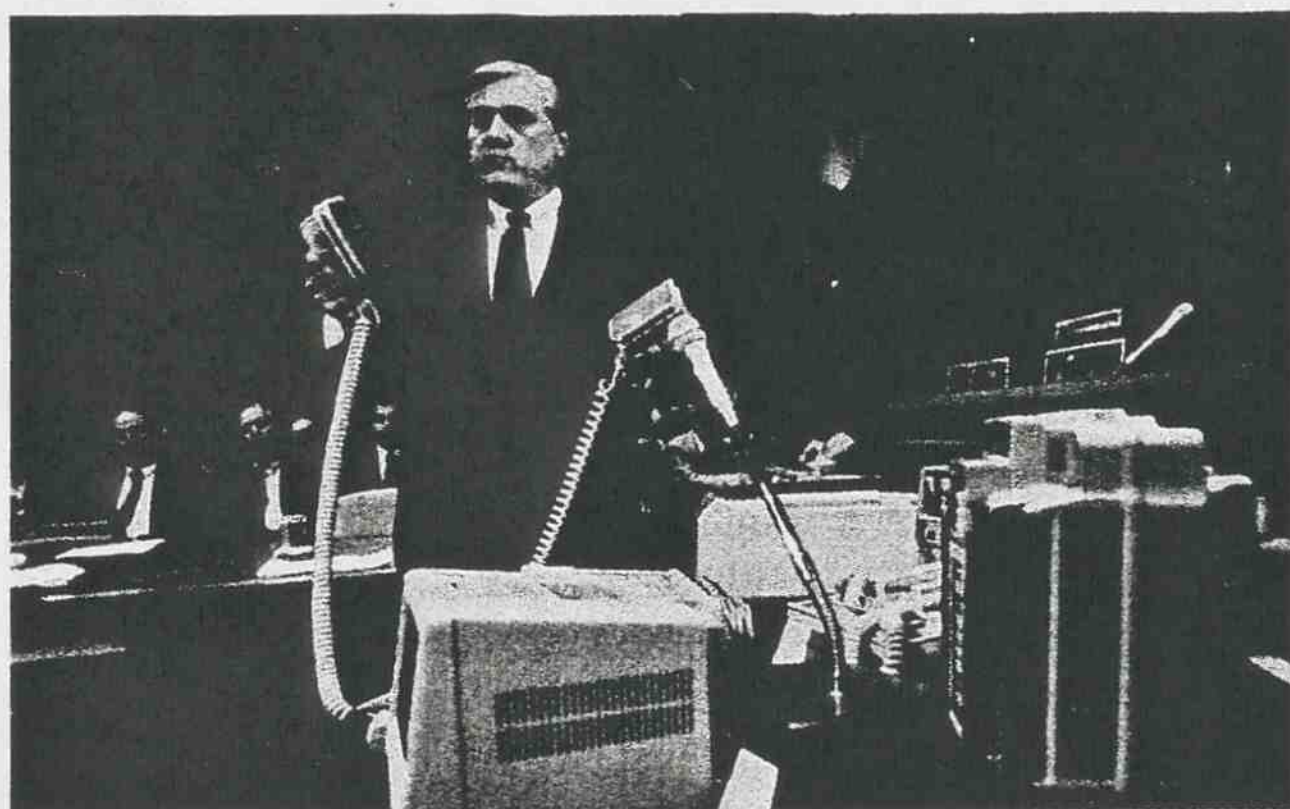
Such enormous uncertainty exists because it is often extremely difficult for someone—even an experienced engineer—to determine exactly how a particular embedded system might fail. Often equipment that does not at first appear to depend on date calculations actually does. Consider a device that for safety reasons shuts itself down on January 1, 2000, because it mistakenly thinks that its last inspection was nearly a century ago. An even more insidious problem could occur with a monitoring system that issues emergency warnings. The crucial messages might be ignored because they are date-stamped 00 and have thus been pushed off the operator's screen by seemingly more current messages dated 99. Indeed, Y2K problems could occur in the unlikeliest of places. Firefighters in Baton Rouge, La., had to test their fire trucks to ensure that the mechanisms controlling the water pumps and ladders do not require Y2K repairs. Fortunately, they don't.

Personal computers may be among the easiest products to

correct embedded problems. Most PCs purchased before 1996 have no intrinsic knowledge of the century turnover: on January 1, 2000, many will automatically revert to their reset date in 1980. But software patches are available to correct that flaw.

Unfortunately, other fixes are not so simple. Many of the companies that manufactured embedded systems are no longer in business, or if they are, the people who designed the faulty products have left and the documentation is missing or incomplete. Furthermore, some of the buggy systems have been installed in remote sites, such as on offshore oil rigs.

A common solution is to make one-for-one replacements of the offending chips, including real-time clocks (which keep track of time with a crystal oscillator) and microprocessors and controllers (which instruct a device to perform certain actions). The process might be as simple as pulling the parts off printed circuit boards and plugging in their newer counterparts that are inscribed with revised software designed to handle Y2K. Often, though, the entire piece of equipment must be scrapped and replaced—obviously an expensive course of action but sometimes a necessary one, particularly if the device will have trouble calculating a patient's radiation dosage. —P.d.J.



KENNETH W. KIZER of the Veterans Health Administration testified before Congress last July that certain medical equipment, including cardiac defibrillators, would not work properly because of Y2K problems in their computer chips.

Y2K in Japan

Japan has been criticized for its perceived inaction on Y2K. But one factor in the country's favor is that many companies have used the alternative emperor system to record years, in which 1999 is Heisei 11.

mess—double windowing with different pivot years or a combination of encapsulation and windowing on the same data.

Determining whether a software application has preexisting fixes can be difficult, particularly if the code is poorly written and badly documented. As a programmer, I have sat in front of a small amount of code (merely 10 to 15 lines) for hours, struggling to determine what the software was supposed to accomplish. And the danger of automated tools is that they blindly apply a cookie-cutter solution with no understanding of what the code is actually doing.

There are additional monkey wrenches. A common programming practice has been to give dates or years that are close to 2000 a

special meaning. Specifically, programmers have often used 9999 or simply 99 to mark the end of a file or a record that should be expunged or archived. Now, of course, that practice leads to confusion because the two quantities might instead legitimately mean September 9, 1999, or the year 1999, respectively. For instance, a sales application might prompt clerks to enter 99 as a year if they want to delete the corresponding customer order. The program must now be rewritten to enable that request to be made in a different way.

Another complication involves leap years. Because the earth takes a little less than 365.25 days to orbit the sun (the more exact number is 365.242199), leap years do not

adhere to a strict four-year cycle. Exempt are century years—such as 1700 and 1800, which are not leap years—but exceptions to that exception are centuries evenly divisible by 400. Thus, there will be a February 29 in 2000 (even though there was no such day in 1900), which will further confuse computers that have not been properly programmed with that knowledge.

A Digital Disaster?

These various factors, among numerous others, have led to widespread uncertainty and heated controversy over Y2K. At one end of the spectrum lies extreme silliness—“There is a possibility we will lose electrical power forever...” (a statement actually made by a speaker at a recent Y2K conference). At the other end is ill-informed complacency—“Y2K is a one-day event. People will fix any problems over the weekend.”

In my view, both extremes are equally naive. The former ignores society's ability to recover from adversity. The notion that people will somehow lose forever the intellectual capacity to produce electricity does not merit serious discussion. In fact, organizations such as financial institutions that have devoted the necessary resources have made great strides in combating Y2K. Last summer Wall Street simulated what stock trading would be like on January 3, 2000, and uncovered only minor date-sensitive problems. Additional tests are scheduled this spring.

On the other hand, pooh-poohing Y2K ignores the technological vulnerability of modern society, which is supported by an intricate foundation of interlocking code dependencies. In particular, single points of failure can ripple quickly through a system, with disastrous results. Galaxy IV, just one of many communications satellites, had a problem last spring, and millions of pagers died a sudden death. A single cable failed in Auckland, New Zealand, overloading the system, and the city lost power for six weeks.

These events happened; none was expected. Of course, Y2K is different—it has been predicted. Today computer professionals around the world are modifying much of their existing software. The CIBC bank in Canada has 1,000 people working on its project with a budget of about \$120 million. AT&T has already spent over \$500 million, Citicorp will shell out about \$650 million, and the Internal Revenue Service's expense will be roughly \$1 billion.

These are huge efforts, but if people have learned anything about large software projects, it is that many of them miss their deadlines, and those that are on time seldom work perfectly. To deny this is to forget the lessons of past software debacles, including the computer fiascos at the Atlanta Olympics and the

| The Bottom Line for Y2K in the U.S. | | | |
|--|------------|---------------|------------|
| | Best Case | Expected Case | Worst Case |
| Software applications with Y2K problems | 10 million | 12 million | 15 million |
| Percent of Y2K problems that will not be fixed in time | 5% | 15% | 25% |
| Infrastructure failures because of Y2K* | | | |
| Power systems | 5% | 15% | 75% |
| Transportation systems | 5% | 12% | 50% |
| Telephone systems | 5% | 15% | 65% |

*Percent of households that will be affected

Denver International Airport. Indeed, on-time error-free installations of complex computer systems are rare. The excruciatingly painful aspect of Y2K projects is that the deadline is immovable.

All that said—and considering other factors, including the amount of work already completed and the planned contingencies and compromises people will have to make as the century turnover nears—I believe that severe disruptions will occur and that they will last perhaps about a month. Additional problems, ranging from annoyances to more serious issues, will continue cropping up throughout 2000. This prediction might be optimistic; it assumes that people will have done what is necessary to minimize the number of single points of failure that could occur. Accomplishing that alone in the time remaining will require a Herculean effort unprecedented in the history of computers.

Cash-Flow Problems

In anticipation of people boarding money, the Federal Reserve Board is planning to add \$50 billion to the government's usual supply of cash.



The Author

PETER DE JAGER is a technology consultant whose essay “Doomsday 2000,” published more than five years ago in *Computerworld*, a computer trade weekly, is widely credited with alerting industry and governments to the Y2K computer bug. In 1996 he was summoned before the science subcommittee of the U.S. House of Representatives to testify on Y2K, and he is currently a special adviser to the U.K.'s Year 2000 task force. He is the co-author of *Managing 00: Surviving the Year 2000 Computing Crisis* (John Wiley & Sons, 1997) and *Countdown Y2K: Business Survival Planning for the Year 2000* (John Wiley & Sons, 1998). Years ago critics dismissed de Jager as a Chicken Little who was preying on the fears of technophobes. Today he is viewed as a moderate, particularly in comparison with doomsayers who have proclaimed the end of the world because of Y2K. A year from now, on New Year's Eve, de Jager hopes to spend the night with his family at a pub in Doolin, County Clare, Ireland, where his mother lives.

Further Reading

YEAR 2000 PROBLEM: STRATEGIES AND SOLUTIONS FROM THE FORTUNE 100. Leon Kappelman. International Thomson Computer Press, 1997. ISBN: 1-85032-913-3
 THE YEAR 2000 SOFTWARE CRISIS: CHALLENGE OF THE CENTURY. William M. Ulrich and Ian S. Hayes. Prentice Hall, 1997.
 COUNTDOWN Y2K: BUSINESS SURVIVAL PLANNING FOR THE YEAR 2000. Peter de Jager and Richard Bergeon. John Wiley & Sons, 1998.
 EVALUATING SUCCESS OF A Y2000 PROJECT. Howard Rubin and Brian Robbins. Information Economics Press, 1998.
 YEAR 2000 COMPUTER CRISIS: LAW, BUSINESS, TECHNOLOGY. Michael D. Scott and Warren S. Reid. Glasser LegalWorks, 1998.
 THE YEAR 2000 SOFTWARE PROBLEM: QUANTIFYING THE COSTS AND ASSESSING THE CONSEQUENCES. Capers Jones. Addison-Wesley, 1998.
 For more on Y2K see the author's Web site www.year2000.com



Paddy Tipping MP
Parliamentary Secretary

The Rt. Hon. Margaret Beckett MP
President of the Council and Leader of the
House of Commons
68 Whitehall
LONDON
SW1 A 2AT

John Margaret,

COMPUTER MILLENNIUM NON-COMPLIANCE (CONTINGENCY PLANS) BILL

David Atkinson plans to introduce a Ten Minute Rule Bill on Computer Millennium non-compliance on 2 February. It would require organisations responsible for the provision of essential public services and critical infrastructure to draw up contingency plans in the event of their computer systems failing to deal with calendar dates after 31st December 1999; to require such plans and the names of those responsible for them to be notified to an appropriate authority; to require the plans to be made available on demand; and for connected purposes.

Mr Atkinson has made a significant contribution to the Year 2000 debate, but this Bill seeks to pass into law what is already happening in practice, and for which a regulatory framework already exists. This is the fourth Private Members Bill that Mr Atkinson has introduced on Year 2000 issues, and the Government has made it clear to him on previous occasions that we feel that legislation would impose an additional burden which may well have the effect of diverting resource away from the action needed to solve the problem. Government Departments and Agencies are required to produce initial Business

file
los
I actually agree totally with the letter - we are doing all of this by non-legislative means and I can't see that legislation would improve the situation enough to make it worthwhile
QA

Clare
TOP-RR
CH
PJ
You might want to ensure that the public lines being taken on this are right - ie this is an unnecessary distraction burden, rather than any kind of helpful safeguard
25 January 1999

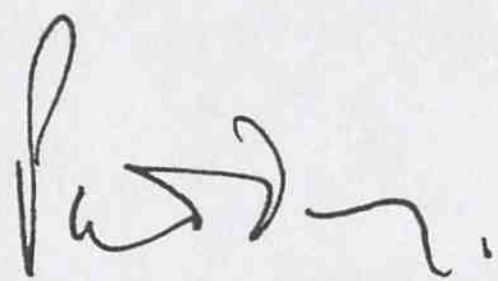
Reb
25/1

Continuity Plans (BCPs) by this month, and to give full details of their progress in the Departmental Quarterly Returns which form the basis of your statements to Parliament each quarter. The returns are then placed in the Libraries of the House and published on the Internet, so this information is readily available to anyone who wishes to examine it.

In the essential public services, Action 2000's National Infrastructure Forum is bringing together the key players and encouraging them to share their experience and expertise. As part of the process, these services will be preparing or amending BCPs, which again will be made public as part of the process of independent assessment which they are committed to. In fact, most essential utilities are required to have in place appropriate BCPs as part of their contingency planning for civil emergencies, and such plans already exist for electricity, gas and water, and are being taken forward for telecommunications. Moreover, if legislative powers are felt to be necessary, they already exist in the powers which the regulators of the key utilities have in respect of contingency planning, including the power to require the provision of information.

Given the measures that are already in place, plus the impracticality of legislating for Year 2000 issues at this late stage, even if we were persuaded of the value of such legislation, I propose, subject to the views of colleagues, that we oppose this Bill at second reading. **I would be grateful for colleagues' agreement to this approach by 5 February.**

I am copying this letter to the Prime Minister, members of the LEG Committee and to Sir Richard Wilson.



PADDY TIPPING

FROM THE OFFICE OF THE DEPUTY PRIME MINISTER

DEPARTMENT OF THE ENVIRONMENT,
TRANSPORT AND THE REGIONSELAND HOUSE
BRESSENDEN PLACE
LONDON SW1E 5DUTEL 0171 890 3011
FAX 0171 890 4399

OUR REF: PT/PSO/1029/99

Lindsey Brown
Private Secretary
Department for Education & Employment
Sanctuary Buildings
Great Smith Street
LONDON SW1P 3BT

21 JAN 1999

*See Lindsey***PRIME MINISTER'S SPEECH TO THE LGA MILLENNIUM BUG CONFERENCE
25 JANUARY 1999**

Thank you for copying to me your note to Clare Hawley, regarding the Bugbuster campaign in relation to the speech the Prime Minister is giving to the LGA Conference on 25 January.

We are disappointed to hear that DfEE do not feel able to extend the Bugbuster programme to District Councils. Many district councils, particularly those that are relatively small, are facing difficulties retaining experienced staff at this time. There are only 238 district councils in England so an extension of the programme to districts, even if every district looked to the scheme for training say one person, would not have a significant impact on a programme which now has an overall target of 30,000 trained people.

Opening up the Bug Buster programme to district councils on a fee paying basis would, of course, help to meet the training need. We could seek to justify this approach on the basis that the local government finance settlement contains provision for handling the Bug. But presentationally this argument would be difficult and unattractive. It would be damaging to one of the Government's central messages being re-enforced in the Prime Minister's speech, namely that the need to give dealing with the Bug the highest priority applies equally across all sectors of the economy - be they councils or businesses.

Accordingly we would hope that you could find your way to allowing each district council to send one or two persons on the Bug Buster programme to benefit from the valuable training it provides. Should district councils want to send more staff above an agreed limit of one or two persons per council, then we would accept they would meet the costs themselves.

The Deputy Prime Minister, Sir Jeremy Beecham and Dame Helena Shovelton, new Chair of the Audit Commission, will be writing jointly to all council leaders on 25 January with details of the package of measures being put in place to help councils, and officials are also writing to chief executives. It would be helpful if mention of a training package could be included in this correspondence.

Jan 22/1

I am copying this to Private Secretaries to Stephen Byers and Robin Cook, to Mandy Mayer in the Cabinet Office and to Clare Hawley, James Purnell and Siobhan Kenny in No 10.

Yours ever
Seamus

SEAMUS GILLEN
Private Secretary

CH file

To all IDG Year 2000 contacts

The National Infrastructure Forum met today, 21 January, and various statements were made about the state of key sectors of the infrastructure.

Press releases issued by the following are attached:

Mrs Beckett

Action 2000

FSA

Offer/Ofgas

Ofwat

DTI (oil and gas)

Year 2000 Team
Cabinet Office
21 January 1999



President of the Council
Leader of the House of Commons

NEWS RELEASE

CAB 21/99
21 January 1999

BECKETT WELCOMES REGULATORS' STATEMENTS ON YEAR 2000

Margaret Beckett, Cabinet Minister responsible for co-ordinating Government action against the millennium bug, welcomed statements made today by key regulators which show the UK national infrastructure working towards business as usual over the Millennium.

Speaking at the National Infrastructure Forum conference in London, Mrs Beckett said:

"The UK's National Infrastructure Forum was the first, and may still be the only, Forum in the world which brings together the major industries to help boost business confidence in continued operation of the key services and industries. The major services are submitting themselves to independent assessment - sometimes involving peer review from competitors - to be able to show the public they are as well prepared as they can be. The UK can be proud of this achievement."



Millennium bug
act now!

Mrs Beckett highlighted the importance of independent assessment and disclosure of information in achieving compliance and winning public confidence. Many Government Departments, agencies and wider public sector bodies are undergoing independent assessments. Their progress reports are being made public every quarter.

She continued:

"We are of course part of a world economy and depend to a large extent on trade with other countries. Many international commentators tell us that the UK is one of the best prepared countries in the world. This Forum is testimony to that fact. No other country, to the best of our knowledge, has so much independent assessment of the preparedness of its infrastructure.

"As far as we can discover, this is the first time in the world the key sectors of an economy have come together to declare initial results of independent assessment on a single day. Today the regulators have said that their industries are well on the way to solving the bug problem, though as always we must warn against complacency. UK plc depends on its business leaders working together on the Millennium date change problem and we owe it to the public to tell them what the position is."

NOTES FOR EDITORS

- 1 The National Infrastructure Forum (NIF) is part of the Government funded Action 2000 group. The NIF is made up of representatives from regulatory authorities and private and public sector providers of national infrastructure, six of these - power, water, transport, oil, telecommunications and finance - have been judged by Action 2000 as critical. This was the third NIF event, with over 200 representatives from a diverse range of public and private sector organisations taking part.

- 2 In addition to the NIF's work with providers of key public services, it has initiated similar processes with a second tranche of companies and organisations responsible for supplying good and services, such as emergency services, transportation and food.
- 3 Action 2000 was set up by the Government in Autumn 1997 to help and advise the private sector on action against the millennium bug.
- 4 For further information on the reports from the regulators published at the NIF conference contact the regulators - OFWAT Press Office: 0121 625 1442/1450/1345, OFFER Press Office: 0121 456 6208/6234/6459, OFGAS Press Office: 0171 932 1608/1606/1668, OFTEL Press Office: 0171 634 8991, Financial Services Authority - Robin Gordon-Walker: 0171 676 3324/3232; and Bank of England Press Office: 0171 601 4411.

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WATER, GAS, OIL, ELECTRICITY, TELECOMS AND FINANCIAL SERVICES WORKING TOWARDS 'BUSINESS AS USUAL' FOR THE MILLENNIUM

Action 2000 and regulators report on Bug readiness
of key national infrastructure services

21 January, 1999

The UK's six key infrastructure services are well on the way to beating the Millennium Bug, British business leaders will be told today.

The water, gas, electricity, oil, telecoms and financial industries will all report on their ability to operate 'business as usual' over the millennium.

A world-first initiative by Action 2000, the Government's Millennium Bug Campaign, brought bodies responsible for each of the six sectors together to present to the National Infrastructure Forum (NIF).

The NIF meeting in London aims to inform businesses about the UK's essential services and their progress in tackling the Bug.

And today the Rt. Hon. Margaret Beckett MP, the Cabinet Minister responsible for the Bug, together with an audience of over 250 private and public sector businesses and organisations, will hear that the six have the Bug under control.

Don Cruickshank, chairman of Action 2000, said: "With just under 11 months to go, results show that the key infrastructure providers are well underway to being fully prepared."

A colour code - from red through amber to blue - was introduced to provide one standard to measure progress across all the sectors.

Cruickshank said: "The initial tier, of key six sectors, is in the 'amber' category. This means that although risks remain, robust plans are in place to manage them. By April, when the NIF next meets, I expect reports to show much more blue."

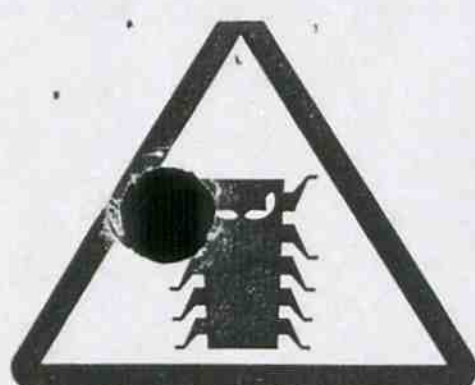
The NIF will also report on 'second and third tier' essential services, including the health, emergency and postal services, food, transport (rail, air, sea, road), broadcasting, local government, justice, benefit payment, taxation, meteorological office and education at regular intervals.

more

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Registered Office:
90 Fetter Lane, London EC4A 1JP.

action line **0845 601 2000**
web site www.bug2000.co.uk



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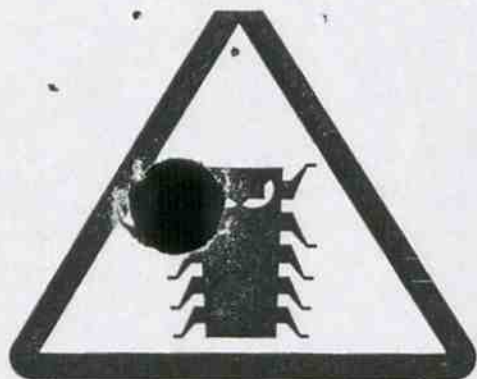
nif 2

The background to today's NIF report:

- As a first step to delivering credible and robust statements from the first tier sectors, Action 2000 identified the appropriate organisation in each sector. These bodies commission independent assessments and disclose their findings. The bodies for the six reporting today are:
 - OFWAT - water
 - OFFER - electricity
 - OFGAS - gas
 - DTI Oil & Gas Directorate - fuel for transport
 - OFTEL - telecoms
 - Financial Services Authority - financial services
- Action 2000 stressed the importance of the assessment being undertaken independently from the actual delivery of the services. In the case of the six key sectors reporting interim findings at the NIF today, it is mainly industry regulators who are the appropriate bodies. They reported on the progress their sectors have made to date and detailed the independent assessment activity taking place in their sectors.
- In order to ensure consistency of approach and enable comparisons between sectors, Action 2000 introduced a 'traffic light' colour coding. Reporting bodies will use the colour coding system to chart the progress of the providers of UK infrastructure, identify problem areas and, over time, build public confidence in the work that is underway.
- The colour coding is:

| Assessment | Traffic Light | Description |
|------------|---------------|--|
| None | White | Unable to form assessment with the present level of information |
| Poor | Red | The assessment indicates that there is a severe risk of material disruption to infrastructure processes and that timely rectification may not be possible. |
| Average | Amber | The assessment indicates that there is some risk of material disruption to infrastructure processes, but that there is an agreed containment plan to rectify shortcomings. |
| Neutral | Blue | The assessment has not identified any risks of material disruption to the infrastructure process |

more



Millennium bug
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2000

- Cruickshank said:

"The companies and sector representatives are to be congratulated on their approach.

"Action 2000 is facilitating this work and has provided guidance for the assessments in terms of the rigour of the process, but the results we see coming out of the NIF today are a joint effort and show a highly unusual degree of co-operation. We will continue to disclose results from infrastructure providers, including those in later tranches, to inform industry and the public.

"Sectors will be telling their own stories; Action 2000 will pull the results together to form an overall picture of this continuous disclosure. We will also ensure the news gets out via our Web site and subsequent meetings such as today's.

"When the Forum next meets in April, I expect the situation to have changed significantly, with further assessment activity confirming the transition from amber to blue."

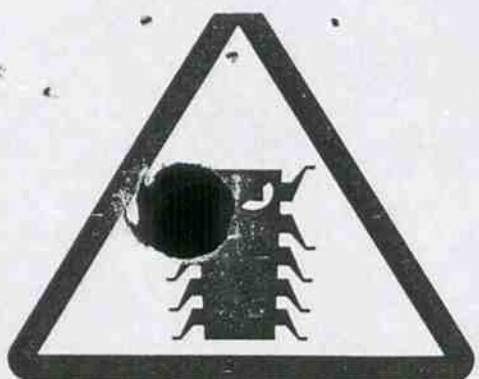
- In addition to the six essential services under initial scrutiny, the National Infrastructure Forum is also assessing progress amongst other sectors and public services that are critical to both the public and businesses. Disclosure from tranches two and three will be made throughout 1999 and include:

- health service
- emergency services
- food
- transport (rail, air, sea, road)
- broadcasting
- local government
- postal services
- justice
- benefit payment
- taxation
- meteorological office
- education

- Cruickshank said:

"There is a significant number of key services that constitute the building blocks of the national infrastructure and which the public expect to operate normally, regardless of whether they are in public or private ownership.

more



Millennium bug
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2000

nif4

"The goal is 'business as usual' during the critical period. There is still a lot of work to be done before we can say this with full confidence, but I am clear that the NIF process now underway is an effective route to delivering the information that businesses and the public require."

ends

Notes to Editors

1. What is the Millennium Bug?

The Millennium Bug is the result of an inability of many business systems and other electronic devices to recognise the date change from 1999 to 2000. This is because their timing devices only acknowledge the last two digits of any year and may interpret the millennium change incorrectly, assuming it to be 1900 rather than 2000.

2. Action 2000 Millennium Bug Campaign

Action 2000 is a company set up by Government to help and advise the private sector on converting their awareness of the Millennium Bug into action. The Millennium Bug Campaign was launched in January 1998, with an action line (0845 601 2000) and Web site (www.bug2000.co.uk) providing fact sheets on the measures to be taken and signposting further sources of information.

3. The National Infrastructure Forum

Action 2000 is working closely with providers of the UK's essential services to ensure 'no material disruption' over the millennium period. The National Infrastructure Forum has mapped the key interdependencies in the UK and requires independent assessment of progress and disclosure of business continuity plans to deal with the Millennium Bug.

Action 2000 has identified the sectors of the economy which the entire country depends. Six of these - electricity, gas, telecommunications, water, fuel for transport and finance - have been judged as critical based on the extent to which others depend on them.

For further information, contact:

Action 2000 Press Office

Tel: 0171 497 2000



media information

actionTM
2000

21 January 1999

KEY PUBLIC SERVICES

1. The building blocks of the UK economy - key services such as water, power and transport that businesses and individuals alike depend on - work together with ACTION 2000 in the National Infrastructure Forum. The membership of the Steering Group of the Forum is attached.
2. The Forum has drawn up a comprehensive and detailed 'map' of the UK's key public services, examining how organisations rely on each other and highlighting any vulnerabilities or hot spots. Six in particular have been identified as critical, in that all other services rely on them. They are:
 - electricity
 - telecommunications
 - water
 - gas
 - financial services
 - fuel for transport
3. The agenda for the Forum is presently organised around three issues:
 - authoritative independent assessment of the state of preparedness of the various services. The first public reports should be available in January 1999. This is consistent with most organisations' planned completion dates of end 1998 or early 1999.
 - disclosure of the state of preparedness between (1) the public services themselves (2) the public services and their principal business customers and (3) public services and the general public. An advisory group of business customers is focusing on this issue. The first specific information for the public will be available from the relevant organisations from January 1999. There will be regular updates throughout 1999.
 - the development and refinement of existing emergency planning procedures to cope with the possible impact of system failures. A full Steering Group debate on this is scheduled for early January.
4. The UK economy is very open by world standards - 35% of its GDP is traded internationally compared to 13% for the US and 10% for Japan. The normal operation of the infrastructure of the UK depends on processes and activities in many other countries working as normal throughout 1999 and 2000. Fuel, transport links, telecommunications and banking are the key sectors here.

Registered details

Action 2000 is the trading name
of Action for Year 2000.
Registered in England and Wales
under Company No. 3463493.
Registered Office:
90 Fetter Lane, London EC4A 1JP

action line **0845 601 2000**
web site www.bug2000.co.uk

5. As the state of preparedness at home moves to completion, this international dimension of the Millennium Bug will increasingly be on the agenda of the Forum. Many other countries will be thinking the same. The challenge will be to achieve the same levels of disclosure and co-operation across national boundaries as is being achieved within individual countries. At a recent United Nations meeting of the Y2K co-ordinators over 130 countries, reports were received from international bodies working in key sectors and the basis for future dialogue, disclosure and monitoring was debated. Action 2000 and Forum members expect to be closely involved in the follow up work.
6. The Forum programme is designed to ensure that it will be business as usual over the millennium period and that there will be enough information in the public domain for businesses, public services and the general public to plan their own activities over this period.

National infrastructure forum Steering group members

Action 2000

Association of Chief of Police Officers (ACPO)

Audit Commission

Bank of England

British Airways

British Telecommunications plc (BT)

Cabinet Office

Cable & Wireless Communications

Civil Aviation Authority (CAA)

Department of Trade and Industry (DTI)

Dept. of the Environment, Transport & the Regions (DETR)

Electricity Association

Financial Services Association (FSA)

Foreign & Commonwealth Office (FCO)

Health & Safety Executive (HSE)

Highways Agency

Home Office

IBM

Local Government Association

National Air Traffic Services Ltd (NATS)

National Audit Office (NAO)

National Health Service (NHS)

Office of Electricity Regulation (OFFER)

Office of Gas Supply (OFGAS)

Office of Telecommunications (OFTEL)

Office of the Rail Regulator

Office of Water Services (OFWAT)

Rail Millennium Programme Office (RMPO)

Shell Exploration & Production

The Chamber of Shipping Ltd

The Post Office

Transco

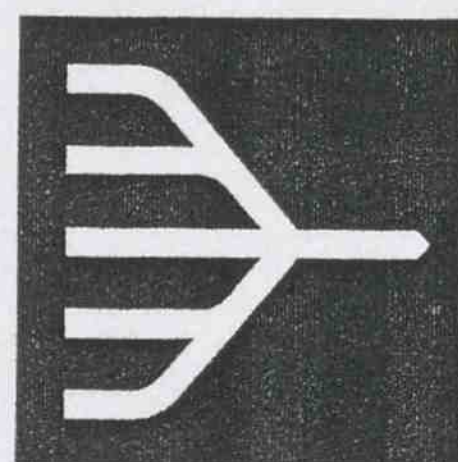
Water UK

For further information, contact the Action 2000 press office on 0171 497 2000.

Summary of assessments

| | |
|----------------------------|---|
| Electricity: | 46% <i>BLUE</i> 52% <i>AMBER</i> 2% <i>RED</i> |
| Gas: | 85% <i>BLUE</i> 15% <i>AMBER</i> |
| Water and Sewerage: | 100% <i>AMBER</i> |
| Telecommunications: | 100 % <i>AMBER</i> |
| Finance: | Infrastructure <i>BLUE</i> High impact firms mostly <i>BLUE</i> or <i>AMBER</i> A few <i>REDS</i> |
| Offshore Oil/Gas: | <i>AMBER*</i> |

Key: Blue - Assessment found no substantive risks of material disruption.
Amber - On course for Blue status in appropriate timescale.
Red - Current plan not sufficient to achieve Blue status.



NationalTM
Infrastructure
2000

* Source:UKOOA

actionTM
2000

FSA/PN/007/99
For immediate release
21 January 1999

FINANCIAL SERVICES: "GOOD PROGRESS SO FAR ON YEAR 2000"

The financial services sector has made good progress so far in tackling the Year 2000 computer problem – but there is no room for complacency and much work to do. This was the theme of a report from the Financial Services Authority (the FSA) and other sector representatives to the Action 2000 National Infrastructure Forum in London today.

Presentations were made to the Forum by Michael Foot, Managing Director of Financial Supervision at the FSA, by representatives of APACS (the payment system), HSBC-Midland (retail banking), the London Stock Exchange (securities trading) and by Alastair Clark, Executive Director, Financial Stability at the Bank of England.

Michael Foot told the Forum that one of the FSA's prime responsibilities was to protect depositors, investors, and policy holders and to oversee the integrity of UK financial markets. And it would not hesitate to use its regulatory powers where necessary to support these aims in relation to Year 2000.

Michael Foot said:

"Dealing with the problem is in the first instance a matter for regulated firms - no regulator can guarantee business continuity. But Year 2000 is a major supervisory priority for the FSA. Exchanges and clearing houses are broadly on track with their programmes. With regard to individual firms, our particular focus is on those with

Page 1 of 4

a potential high impact on consumers and markets. The large majority of these are either on track ("blue") for Year 2000 compliance or, if behind, well-placed to catch up in time ("amber"). A few firms are in danger of not being compliant in time ("red") and intense supervisory action is being taken with these.

"The UK financial sector is not an island. It operates in a highly international environment and therefore Year 2000 in the financial sector cannot be solved by action in the UK alone. Maximum effort is being put into co-ordination with overseas regulators and the industry to achieve effective solutions."

Michael Lewis, Deputy Chief Executive of APACS, told the Forum that APACS' objective was to maintain business as usual over the Millennium.

Michael Lewis said:

"We are very confident that normal operations in our clearings will be maintained. Specifically BACS which clears salaries, wages, direct debits, standing orders etc is Year 2000 ready and tested. The cheque clearing system is also Year 2000 ready and tested, as are CHAPS sterling and CHAPS Euro which clear high value same day payments. We are also confident that cash dispensing systems will operate normally with an ample supply of cash throughout the U.K."

Gerard Long, Senior Manager Year 2000 Programme, Midland Bank, on behalf of the retail banking sector, said the Midland had completed most of its work on its own systems.

Gerard Long said:

"This includes 97% of our critical systems; over 95% of PC hardware and standard software; most of the telecommunication systems; the premises and office equipment is Year 2000 ready; 98% of critical suppliers have provided positive responses on their Year 2000 programmes; and business contingency planning.

"Outstanding systems work is planned to be completed by 30 June 1999 with further system testing continuing throughout the year to mitigate the external risks to the organisation. The level of progress we have made to date is very encouraging and provides significant evidence that our system will be ready for the Year 2000."

Colvin Rae, Head of Business Operations, London Stock Exchange, said the Exchange's Year 2000 Project was designed to ensure that its systems, both internal and market facing, were Year 2000 ready and to help ensure an orderly market over the Millennium transition and beyond.

Colvin Rae said:

"Our Year 2000 readiness programme is on schedule. This involves the analysis, upgrading (where required) and testing of our key systems. We are also running services to test the linking of our customers' systems to the Exchange's own central trading and information systems. Tests are based around the key Millennium dates and replicate trading as it were taking place live. This programme is on course."

Page 3 of 4

Alastair Clark, Executive Director, Financial Stability at the Bank of England, said:

"Year 2000 is a big issue for the financial sector, given its heavy dependence on IT, and the interdependencies both within and outside the sector. The main infrastructure providers have been "on the case" for two or three years, sometimes longer; they have already undertaken extensive testing and provided extensive information about the actions they have taken, so that preparations in this area are well on schedule; but there remains more to do on testing, on risk mitigation and contingency planning and on the international front."

Notes to Editors:

1. The Financial Services Authority's responsibilities include maintaining confidence in the UK financial system and protection of customers. The Bank of England is responsible for the overall stability of the financial system as a whole.
2. The primary responsibility for achieving Year 2000 compliance and adequate business continuity rests with financial institutions themselves.
3. Year 2000 is a regulatory issue because of its impact on depositor, investor and policy holder protection; on prudential soundness of financial institutions; and market integrity.

ENQUIRIES

Press: Robin Gordon-Walker 0171 676 3324/3232
Outside office hours: 04325 197 939

Public: Enquiry Unit 0845 606 1234 and 0171 676 3298

Website: <http://www.fsa.gov.uk>



Press Information



2/99

21 January 1999

GAS AND ELECTRICITY INDUSTRIES ON COURSE TO BEAT THE MILLENNIUM BUG

OFFER and Ofgas, the electricity and gas regulators, today announced that the gas and electricity industries were making good progress in their preparations for the millennium date change. Speaking at Action 2000's National Infrastructure Forum, Peter Carter, Deputy Director General of Electricity Supply, outlined the independent assessments being carried out in both sectors, and the state of readiness of the gas and electricity industries.

Mr Carter said:

"The aim in the gas and electricity industries is business as usual over the millennium change. Both industries are well on the way to ensuring this. In gas there are two companies critical to the continuation of the flow of gas to all customers over the millennium period - Transco and Siemens Metering Ltd. The Office of Gas Supply has received initial results from their consulting engineers on the independent assessment they commissioned. This shows that both companies are well advanced in completion of their Millennium compliance projects.

"In electricity the independent assessment is initially targeting the 20 or so major players in the electricity sector, the major generators, transmission and distribution companies. With about half the assessments complete findings are that these companies are well on their way. They have largely completed work to rectify critical systems but some tests to demonstrate full compliance remain outstanding. Companies are indicating completion of testing in the 2nd quarter of 1999."

Ofgas and OFFER will continue to monitor the progress of the gas and electricity industries through independent assessment and by working with the industries, Action 2000 and the DTI.

Notes to Editors

OFFER appointed PB Merz & McLellan, energy consultants, in November 1998 to conduct independent assessments of the electricity companies' plans for Year 2000 compliance, and in December 1998, Ofgas appointed W.S Atkins, consulting engineers, to conduct an independent assessment of the state of readiness for the gas industry.

Media Enquiries

OFFER Press Office - 0121 456 6208/6234/6459
Out of Hours - 01426 174714

OFFER Press Releases can be accessed on the Internet at:
<http://www.coi.gov.uk/coi/depts/GER/GER.html>

OFFER Web-site at: <http://www.open.gov.uk/offer/offer.htm>

Ofgas Press Office - 0171 932 1608/1606/1668
Out of hours - 0374 728971

Ofgas Press Releases can be accessed on the Internet
at: www.coi.gov.uk/coi/depts/GAS/GAS.html



Press notice

21 January 1999

OFWAT REPORTS ON MILLENIUM BUG AND NEXT STEPS
FOR WATER INDUSTRY

Ofwat today set out how the regulator will make sure that the water and sewerage companies maintain services to customers with the change to the year 2000.

Speaking in London today at the National Infrastructure Forum Meeting, Roger Dunshea, Assistant Director and Head of Operations at Ofwat, said:

"1999 is the peak of a significant investment in finance, expertise and resources by the water companies to ensure that services to all customers are maintained and that business as usual will be delivered."

Ofwat has assessed the water industry's readiness to deal with the Millenium Bug as "amber" on the Action 2000's "traffic lights" measuring scale. All the water companies in England and Wales are making progress towards "blue". Roger Dunshea explained:

"This means that work is well under way in the water industry in England and Wales. It is moving towards the position where all the companies can satisfy the regulator that there will be no material disruptions to services for customers. Ofwat will continue to monitor the progress of companies closely".

In October 1998, Ofwat commissioned the first independent assessment of a utility industry's readiness to deal with the Year 2000 problem. The report concluded

that all water companies have formal programmes in place and that they are making progress towards securing continuity of services.

Roger Dunshea continued:

"Ofwat will carry out a further independent survey during March and April on companies' progress on securing continuity of services into the Millennium. A final survey of readiness will be carried out by August. These reports will be shared with the industry and made public."

NOTES TO EDITORS

1. Ofwat is working in partnership with the Water Regulators' Year 2000 Group made up of the Department of the Environment, Transport and the Regions, the Environment Agency, the Drinking Water Inspectorate and the Health and Safety Executive and Action 2000 to monitor year 2000 compliance. Ofwat's specific role is to co-ordinate a report on the progress made by the water companies towards ensuring that water and sewerage services function normally from late 1999 through early 2000.
2. The Director, Ian Byatt, is the economic regulator of the water and sewerage services in England and Wales. His primary duty is to ensure that the functions of the companies are carried out and that they are able to finance them. The Director has a duty to customers. Customers' interests are represented by ten independent Customer Service Committees, established and maintained by the Director and, at a national level, by the Ofwat National Customer Council.
3. Copies of the independent report, published in October 1998 which deals with companies on an anonymised basis, are available from the Ofwat library on 0121 625 1373 price £5.00 (free of charge to the media).
4. The full text of the speech is available from Ofwat's library priced £3.20 (free of charge to the media). Telephone 0121 625 1373.

MEDIA ENQUIRIES TO OFWAT PRESS OFFICE ON 0121 625
1442/1450/1345
OUT OF HOURS CALLS TO 0121 355 7057
Ofwat's press notices are on our Website:
<http://www.open.gov.uk/ofwat>



Department of Trade and Industry

press notice

P/99/43

21 January 1999

**OIL AND GAS COMPANIES' TO REPORT ON
PREPARATIONS FOR YEAR 2000**

UK oil companies and offshore gas producers are analysing their readiness to cope with the Year 2000 threat to computer systems. Many have undertaken improvements and are pressing on with systems testing. John Battle, Minister for Energy and Industry, confirmed today that the DTI will be sent detailed assessment reports from companies and trade bodies and will expect all necessary action to be taken to protect vital services.

Mr Battle said:

"I have approached the senior management of the offshore oil and gas producers. They will provide me with reports based on the checks being carried out on their systems by independent experts. The DTI will continue to monitor progress regularly to ensure that the companies take action in good time to reduce any likelihood of disruption to vital services."

The offshore producers are currently undergoing a stringent assessment process coordinated by their trade association UKOOA (United Kingdom Offshore Operators Association). They are expected to report their state of readiness to the Department by March. In addition, the DTI are commissioning an independent verification of this process.

This work is also being co-ordinated with that of the onshore gas suppliers and the power generation sector.

The downstream oil companies will also be reporting to the DTI about the supply of heating fuel and petrol.

In addition to this precautionary and remedial work on their systems, the oil and gas companies are reviewing their well-established emergency plans for drawing on the significant reserve stocks of oil which are held by the UK.

Notes for editors

1. The Year 2000 computer problem arises from the use of software which stores dates in two-digit form and which may interpret "00" as 1900 rather than 2000.
2. Major companies, including those in the oil and gas industry, began preparing to combat this several years ago and most have finished the analysis and rectification work and are moving on to systems test.
3. The offshore oil and gas sector comprises those companies which explore for and produce oil and gas on the UK continental shelf and deliver it onshore to oil refineries or gas shippers. In response to an approach from the industry's sponsor department DTI, the members of the UK Offshore Operators Association - which supply around 90% of the oil and gas landed in the UK - have agreed, as part of the Action 2000-co-ordinated infrastructure review, to make available to DTI the results of their peer-reviews, and to introduce an independent element to their assessment process.
4. The downstream oil sector supplies refined products such as heating oil for businesses, and petrol and diesel for motorists. The members of the UK Petroleum Industry

Association - the largest group of suppliers of road transport fuel - are also in discussion with the Department about making information available concerning their assessment work.

5. While aiming, through thorough preparation, to keep to a minimum any disruption to supplies, these industries also have ready well-established emergency procedures and oil stocks sufficient for 90 days are held, to maintain essential supplies.
6. Action 2000 is a company set up by the DTI in 1997 to tackle the Millennium Bug problem. A free step-by-step guide for business is available by calling the Action Line on 0845 601 2000 or visiting the Action 2000 web site at www.bug2000.co.uk

Press Enquiries: 0171-215 6137/6140

(Out of Hours: 0171-215 5110/5600)

Public Enquiries: 0171-215 5000

General Enquiries *textphone* (for people with hearing impairments): 0171-215 6740

Internet address: <http://www.dti.gov.uk>



Office of Telecommunications
50 Ludgate Hill, London EC4M 7JJ

<http://www.oftel.gov.uk>

For press enquiries only: Tel 0171 634 8750/1/2/3/5/6

Fax 0171 634 8842

email press.office.oftel@gtinet.gov.uk

For all other enquiries: Tel 0171 634 8700

Press Release

Ref: 03/99

Date: 21 January 1999

Telecoms industry action to beat the Millennium Bug

An extensive checking programme shows that the telecoms industry is in good shape for the new millennium, the Office of Telecommunications announced today.

The industry-wide activity of millennium bug testing and assessment has been underway for more than a year. The process – which has cost the industry in excess of £500 million – is being backed up by independent verification and guided by OFTEL.

Speaking at the Action 2000 National Infrastructure Forum, OFTEL's Director of Operations Anne Lambert unveiled the results so far of the review of telecom operators' Year 2000 readiness.

In line with the Action 2000 "traffic lights" system it showed that:

- 90% of the sector will be Y2K compliant by mid-1999 with the remaining 10% achieving compliance by September 1999.
- In phone line terms this is 95% of fixed lines millennium-ready by mid-year, moving to 100% by end September 1999.
- The four mobile operators will also be Y2K compliant by end-June.

Anne Lambert said: "There has been an unprecedented sharing of knowledge, expertise and resources to create an industry-wide approach to Y2K and cover issues ranging from inventories of systems and liaison with common suppliers, to rectification, inter-operator testing and contingency planning.

"OFTEL is an integral part of the Telecommunications Operators' Forum and I am pleased at the openness and proactive approach of the companies taking part.

"However, nothing can ever be 100% guaranteed, which is why OFTEL has ensured that contingency planning is also underway throughout the telecoms systems.

"There are areas that OFTEL cannot cover, such as customer's own equipment, although we will be offering guidance on this area. There is also the question of the readiness of networks in other countries and we are working with international bodies on this question.

"We also ask everyone to remember that New Year's Eve is traditionally a very heavy time for phone use and the turn of the millennia is likely to be even heavier than in previous years.

"So, there may be problems on networks but it's nothing to do with the millennium bug – and everything to do with people contacting friends and loved ones. The industry is also working hard to minimise the effect of this."

Notes To Editors

1 - Copies of Anne Lambert's speech to National Infrastructure Forum are available on OFTEL's web site (<http://www.oftel.gov.uk>). Copies are also available to the media from OFTEL Press Office on 0171 634 8991.

2 – For details of the National Infrastructure Forum and other Y2K issues contact the Action 2000 press office on 0171 497 2000.

3 - The UK telecoms industry is also working with the International Telecommunications Union on cross-border Y2K issues and a task force has been established. However, some countries are better prepared than others and so UK operators are making plans based on the available information.

FROM THE OFFICE OF THE DEPUTY PRIME MINISTER



DEPARTMENT OF THE ENVIRONMENT,
TRANSPORT AND THE REGIONS

ELAND HOUSE
BRESSENDEN PLACE
LONDON SW1E 5DU

TEL 0171 890 3011
FAX 0171 890 4399

OUR REF: PT/PSO/1029/99

Lindsey Brown
Private Secretary
Department for Education & Employment
Sanctuary Buildings
Great Smith Street
LONDON SW1P 3BT

21 JAN 1999

L. Lindsey

**PRIME MINISTER'S SPEECH TO THE LGA MILLENNIUM BUG CONFERENCE
25 JANUARY 1999**

Thank you for copying to me your note to Clare Hawley, regarding the Bugbuster campaign in relation to the speech the Prime Minister is giving to the LGA Conference on 25 January.

We are disappointed to hear that DfEE do not feel able to extend the Bugbuster programme to District Councils. Many district councils, particularly those that are relatively small, are facing difficulties retaining experienced staff at this time. There are only 238 district councils in England so an extension of the programme to districts, even if every district looked to the scheme for training say one person, would not have a significant impact on a programme which now has an overall target of 30,000 trained people.

Opening up the Bug Buster programme to district councils on a fee paying basis would, of course, help to meet the training need. We could seek to justify this approach on the basis that the local government finance settlement contains provision for handling the Bug. But presentationally this argument would be difficult and unattractive. It would be damaging to one of the Government's central messages being re-enforced in the Prime Minister's speech, namely that the need to give dealing with the Bug the highest priority applies equally across all sectors of the economy - be they councils or businesses.

Accordingly we would hope that you could find your way to allowing each district council to send one or two persons on the Bug Buster programme to benefit from the valuable training it provides. Should district councils want to send more staff above an agreed limit of one or two persons per council, then we would accept they would meet the costs themselves.

The Deputy Prime Minister, Sir Jeremy Beecham and Dame Helena Shovelton, new Chair of the Audit Commission, will be writing jointly to all council leaders on 25 January with details of the package of measures being put in place to help councils, and officials are also writing to chief executives. It would be helpful if mention of a training package could be included in this correspondence.

I am copying this to Private Secretaries to Stephen Byers and Robin Cook, to Mandy Mayer in the Cabinet Office and to Clare Hawley, James Purnell and Siobhan Kenny in No 10.

Yours ever
Seamus

SEAMUS GILLEN
Private Secretary



file Tap-JTH
CH
cc CH
LPJ
Press

Prime Minister

PROPOSALS TO EXTEND THE BUG BUSTER TRAINING SCHEME

I am writing to update you on progress with the Bug Buster training. The latest figures on trainees are very encouraging. As at 8 January, 5895 trainees had started training, 4460 had completed, and 7627 more had booked places. I am now confident that we will achieve the target of 20,000 trained by the end of March.

The Bug Buster programme is now becoming well known to businesses and the demand for places is increasing. Indications are that demand will now be considerable by March - when we had originally planned to stop, so that we must now consider how we manage ending this programme. The Government may attract criticism for closing it at the end of March, while demand for training is rising and we are still 9 months away from the Millennium.

I therefore propose that we should extend the scheme into the summer - to allow training for about a further 10,500 trainees. The current delivery arrangements have produced savings on unit costs which mean that I could continue to deliver this extension to Bug Busters from within my existing budget.

A copy of this letter goes to Gordon Brown, Margaret Beckett and Michael Wills.

David Blunkett

DAVID BLUNKETT
20 January 1999

20/1

File

From: Kristian Armstrong
Year 2000 Team
Rm 67C/4 GOGGS
Tel GTN 238 0373

Date: 20 January 1999

PS / PRESIDENT OF THE COUNCIL

cc: PS/Mr Tipping
PS/Lord McIntosh
PS/Sir Robin Mountfield
Mr Bender
Mr Cooke
Mr Sutlieff
Year 2000 Team
Ms McIntyre
Mr Rhoades
Ms Murrell
Ms Russell

YEAR 2000: TASKFORCE 2000 SURVEY OF THE TOP 1000 UK COMPANIES

Issue

1. How to respond to the results of the Dibb Lupton Alsop (a firm of lawyers) and Taskforce 2000 survey into the levels of preparedness of the UK's top 1000 firms.

Timing

2. Urgent.

Recommendation

3. I attach lines to take at A.

Background

4. The survey, published yesterday, Tuesday 19 January, was commissioned by Dibb, Lupton and Alsop (a major legal firm) and Taskforce 2000. The survey is purported to cover the UK's top 1000 companies. However it appears that only 6% of companies (i.e. 60 out of a total of a 1000) returned the survey questionnaires. **Given such a small sample size it is possible to question the validity of the results.**

5. A copy of the Dibb, Lupton Alsop /Taskforce 2000's press release is attached at **B** but the key messages they have drawn from the results are:
- that many big companies may be significantly lagging in their efforts to deal with the bug;
 - that a significant number do not appear to have completed the initial inventory stage of the process, and that many have not reached even the halfway point for completing the remediation, testing and implementation stages;
 - that big business may not be as on course as the government has been saying; and since it is already clear that small business and the public sector are in trouble, the UK economy is facing an emergency; and
 - that the way forward is to recognise that everything cannot be fixed and to focus on practical workarounds and in particular on business continuity planning.
6. By way of contrast Action 2000's recent statements on the preparedness of big business in the UK have been far more positive. Don Cruickshank has gone on the record saying that "big businesses have got the measure of the bug". Action 2000 have a greater body of research behind them. They have conducted in depth 30 minute telephone interviews with 500 firms with more than 250 employees. They have also analysed the results of Year 2000 preparedness questionnaires returned to them from 75% of the FTSE 500 companies and members of the National Infrastructure Forum.
7. Action 2000 has responded to the Taskforce 2000 press notice by issuing a press notice (attached at **C**) re-affirming its views on how well larger firms are doing in tackling the bug.

Kristian Armstrong

Kristian Armstrong
Year 2000 Team
GTN 238 0373

ANNEX A

Line to take

The results of the recent Taskforce 2000 research shows that many large companies are behind in their preparations to tackle the bug...

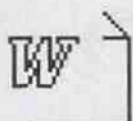
- Action 2000 has carried out its own comprehensive research of the levels of preparedness across big business. This research was based on questionnaires completed by 75% of FTSE 500 companies and national infrastructure providers and telephone interviews with 500 businesses employing more than 250 people. The results showed that 90% of large firms were on course with their bug preparations, with many already being capable of working in 2000.
- While the results for big business are encouraging, progress by small and medium sized business remains a particular concern. We will continue to do what we can to encourage small business to take action to tackle the bug and to encourage larger firms to work through their supplier networks to help small businesses to tackle the bug.

[If required]

- The recent Taskforce 2000 survey does not bear comparison with Action 2000's work in this area. The results of survey are based on a very small sample, only 60 companies out of the top 1000 firms.

Paul Agutu

From: Clare Hawley
Sent: 21 January 1999 09:22
To: Requests
Subject: FW: Lines to take on the recent Taskforce 2000 survey of preparedness of big businesses



Briefing on TF2000 big
business...

For filing

-----Original Message-----

From: Armstrong Kristian - Year 2000 Team -
[mailto:KARMSTRO@cabinet-office.gov.uk]
Sent: 20 January 1999 18:46
To: Edwards Helen - Privy -
Cc: Sutcliffe Barry - IG -; Rhoades Howard - IG -; Murrell Karen - IG -;
McIntyre Ailsa - IG -; Ricketts Mike - GICS -; Russell Nicci - Privy
Council Office -; Lewis Debbie - Public Service Delivery -; Sweeney Mark
- Perm Sec Office -; Brown Selvin - Parly Branch -; Hawley Claire - No.
10 -; Hall Ruth - Year 2000 Team -; Hicks John - Year 2000 Team -;
Keating Valerie - Year 2000 Team -; Lidbetter Katrina - Year 2000 Team
-; Madden Sebastian - Year 2000 Team -; Mayer Mandy - Year 2000 Team -;
Mayne Leslie - Year 2000 Team -; Pender Marie - Year 2000 Team -; Singh
Rani - Year 2000 Team -; Tomlin Eddie - Year 2000 Team -
Subject: Lines to take on the recent Taskforce 2000 survey of
preparedness of big businesses

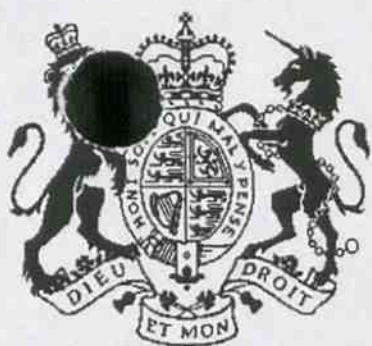
<<Briefing on TF2000 big business bug survey.doc>>

Helen

Attachments to follow by fax. (And for press office).

Kristian
238 0373

File



**CABINET
OFFICE**

The Year 2000 Team (CITU)

Horse Guards Road ■ London SW1P 3AL

TELEPHONE: 0171-238 0377 ■ FAX: 0171-238 0374 ■ E-MAIL: jhicks@cabinet-office.gov.uk

DATE ■ 19 January 1999

OUR REFERENCE ■

YOUR REFERENCE ■

To: All on the MISC4(O) contact list

Dear Colleague

NEXT MEETING OF THE INTER-DEPARTMENTAL GROUP ON THE MILLENNIUM BUG

I am writing to inform you that the next meeting of the inter-departmental group will take place on Friday 5 February at 09.30 in room 130b/2 in the Cabinet Office building on Horse Guards Road. Please use the Parkside entrance.

An agenda will be circulated before the meeting. In the meantime I would be grateful if you would let Ruth Hall here in the Year 2000 Team (Tel: GTN 238 0382) have a report of any known computer problems following the date change to 1999.

Names of those attending the next meeting to Leslie Mayne please (Tel: GTN 238 0378).

I also have enclosed minutes of the last meeting, apologies for the delay.

J G Hicks
Year 2000 Team



INVESTOR IN PEOPLE



**CABINET
OFFICE**

The Year 2000 Team (CITU)

Horse Guards Road ■ London SW1P 3AL

TELEPHONE: 0171-238 0377 ■ FAX: 0171-238 0374 ■ E-MAIL: jhicks@cabinet-office.gov.uk

DATE ■

OUR REFERENCE ■

YOUR REFERENCE ■

To all IDG Colleagues

ACTION NOTE OF THE MEETING OF THE INTERDEPARTMENTAL GROUP ON THE MILLENNIUM DATE CHANGE: 10.00 WEDNESDAY 9 DECEMBER

This letter records the main action points from the meeting of the Interdepartmental Group on the Millennium Date Change, chaired by Mandy Mayer, on Wednesday 9 December.

Mrs Mayer opened the meeting and announced that the HMT paper for that afternoon's MISC 4 meeting had been withdrawn

Item 1 Comments on action note of last meeting

Carl Jennings Home Office stated that the necessity of emergency planning arising from food price increases had been considered and a paper circulated.

DETR stated that they would be willing to look at Year 2000 transport issues for the Channel Islands.

Item 2 Future International Activity: FCO Paper

Mike Hill FCO introduced the paper and said it had yet to be approved by FCO Ministers. He went on to make the following points:

- There should be a move from awareness raising to risk assessment focusing on key risk areas. This should involve other government departments, especially those with sectorial



INVESTOR IN PEOPLE

responsibilities;

- The FCO had identified several key risk areas, socio-economic, political, environmental, security and the safety of British Nationals. A matrix of risks to the UK should be drawn up. Other government departments would be asked to help in doing this. Annex 4 of the paper contained a sample risk matrix;
- On the issue of disclosure of FCO information about Y2K readiness overseas to British companies and Nationals, some information for travellers would be released in the new year. Ministers would however need to balance the political risks in doing so with their duty to British firms and nationals.
- Information about the state of readiness of countries would be drawn up in conjunction with OGD's and circulated to posts to be up-dated. Individual companies might be provided with more in depth briefing;
- Ministers would also need to consider the role of the FCO in dealing with claims that British Companies had supplied non-compliant goods. in the light of legal advice that the FCO should stay out of legal liability cases.

The role of other Departments was discussed. Mr Hill felt that they should take the lead in discussions of sectorial issues with foreign Governments. It was suggested that the UK should attempt to get other countries involved to share responsibility for the information released. International organisations like the International Air Traffic Association (IATA) should be encouraged to make their survey results public. It was noted that the US Government was very aware of the possibilities of legal action being taken under the Freedom of Information Act. They would therefore release early guidance which might make use of uncorroborated UK evidence. Mr Browne (DTI) asked if there was a way of ensuring that any advice given by the UK Government was based on corroborated or named sources of evidence. Mr Hill said that consideration would be given to the idea of notifying Foreign Governments that certain items of information were to be released. In any case, a measured disclosure strategy was likely to be bounced by events. The FCO's communication strategy should reflect this. The risk matrix was felt to be a necessary addition to work on the international field. It provided a much more focused look at the risk areas. At present there was no real idea of the most worrying areas overseas, or how they should be prioritised. FCO would,



however, need proactive help from OGD's to pull together. Mr Tomlin mentioned that Action 2000 should have a list of dependencies on the UK infrastructure of overseas readiness, such as we need weather station information for weather forecasts.

The provision of aid to developing countries was discussed. It was decided that the provision of aid beyond the £10M that had been given to the World Bank should be discussed at the next international group meeting. Consideration should also be given to the issue of faulty equipment given as aid. There was the possibility that any failure by the UK to provide assistance with UK equipment overseas might detract from the perception that the UK was in good shape. There was a need for a strategy to avoid this perception. The Overseas Trade Board did not yet appear to have taken much action on Year 2000 issues. They should be looking to provide advice to exporters: Action 2000 has developed a fact sheet, but only as part of their work on the national infrastructure. Meetings were to be planned with the Invest in Britain Bureau to take forward the idea of using the UK's Y2K reputation to good advantage.

HSE pointed out that their officials working on nuclear topics would not take on any more work on the bug.

Action: DETR to pursue IATA to get information in the public domain

Action: FCO to have a communication strategy in place by end 1998

Action: FCO to get contributions for risk matrix

Action: FCO to get views/information from the British Overseas Trade Board and to consider whether Mr Fatchett might take action in this area.

Action: DfID to get a line from its lawyers on legal liability issues.

Action: Action 2000 to prepare a list of dependencies for the FCO and others.

Item 3 Readiness of the emergency services: Home Office paper

Carl Jennings introduced the paper and made the following points:



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- The Police nationally were making good progress on business critical systems. A programme had been running since 1996 and the Home Office had no major concerns;
- Locally information was patchy and the Association of Chief Police Officers had established a millennium compliance committee;
- Information relating to the 50 fire services was again patchy, four brigades had not given any information. Three would not meet the year 2000 deadline;
- The Ambulance service was generally thought to be doing well although there was a question mark over its ability to meet increased demand over the millennium period.

In discussion the following points were made:

- It would be useful to map the weak areas across the three services, so that regions where two out of the three services were struggling could be targeted;
- Assistance from voluntary organisations could not be relied upon. It should be noted that individuals were often a member of more than one voluntary organisation and there could be some double counting when the size of the sector was assessed;
- Emergency planning was a long standing and well tested area. It should however be remembered that the anticipated widespread small problems with a cumulative effect might create special tensions which might not have been tested. - This point was well understood by the services, which would not be relying on mutual aid;
- Emergency services planners would need to know what services were to be provided by local services providers;
- Police, fire and ambulance services would liaise at local level. It would be very useful to establish formal links between the three services;
- The way the public behaved could effect delivery of services;
- Police leave over the Millennium period had been cancelled, Home Office was about to release guidance on leave situation in the Fire Service. Ambulance trusts had autonomy over conditions and services but it was understood that most trusts were saying no to leave applications and following normal pay and conditions;
- The regional dimension was important, although it



should not

detract from existing arrangements. Once the Government Office for London had put plans in place it would provide lessons for other Government Offices for the Regions. This would act as a catalyst for a regional network for emergency services, and,

- Various concerns with emergency communications were raised.

Mr Tomlin reported there was a difficulty in getting the police and fire policy groups in the Home Office to take responsibility for independent assessment of Forces and Brigades. Mr Jennings confirmed that the military were part of the emergency planning system.

Action: Home Office to map problem areas for police, fire and ambulance services.

Action: Home Office to take the lead to ensure that all police forces were covered by independent assessment. Any information relating to scenario planning should feed into the independent assessment process.

Action: Home Office to consider producing a paper on emergency communications.

Item 4 The Emergency Powers Act 1920: Home Office paper

Mr Lippiatt introduced the paper which set out the background to the current review of the Emergency Powers Act 1920. The Home Office were confident that the new regulation would be in place by Easter 1999. Stress was laid on the limitations of the Act.

Ministers should realise that it was not the answer to all concerns. The emergency services exercise on 11 May would be part of the learning curve.

Item 5 Millennium Celebrations: DCMS

DCMS circulated a paper entitled "Millennium Planning in the United Kingdom - Roles & Responsibilities.

The Cabinet Office Year 2000 Team was now in regular contact with the DCMS celebrations unit. The Unit's dedicated press officer was now a member of the Whitehall Press Officers



Group. DCMS

reported that there was to be a one day conference on official millennium celebration policy on 20 January. Chris Smith and Peter Mandelson would attend. DCMS were now getting a picture of official celebrations in major cities and at the millennium dome. DCMS would re-focus the paper for the MISC 4 meeting on 17 Jan to take account of the following points

- Geographical coverage of the paper to be made clear;
- DCMS to state clearly in the paper what they are and are not responsible for, and,
- Paper should highlight the impact on the emergency services, and, how the celebrations were linked to in with the emergency planning community.

The possibility of a Minister thanking public sector employees for working over the millennium period was voiced but some thought that such a statement could backfire. Question was asked whether there was a figure for the number of visitors that would be attracted into London over the millennium period. Organisations should be made aware that millennium celebrations that could put additional strain on their organisations for contingency planning purposes. DCMS reported that the British Tourist Authority had a database of all DCMS sponsored events and that the police had a link into that database. It was a requirement of those organisations receiving help from DCMS that they list their event on the BTA's database and make contact with local emergency services. Local authorities had been given advice.

Item 6 Millennium bug in London: Government Office for London

London faced a unique challenge over the millennium. There would be a huge concentration of people and no focal point to deal with the issue. Nick Raynesford, Minister for London, had taken on board the need to energise those working in the London Infrastructure and had set up a new unit in the GOL. The meeting felt that Mr Raynesford should be prepared to be seen as Mr London in relation to millennium matters and would have to work in a complementary manor with other Government



Departments. The paper highlighted the London 2000 readiness team's work plan and the role of Mr Raynesford. In discussion the following points were made:

- The meeting felt that the Pan London Steering Group would in practice meet more often than anticipated in the paper;
- It was noted that the Scottish Office were considering setting up similar arrangement in Edinburgh to those in London;
- The role of Mr Raynesford should be made to sound more proactive. The wording of the paper should be altered to reflect this;
- The paper might also set out some milestones for the team and discuss how communication with the public would be achieved.

Action: GOL to include timings to complete action by in the paper

Action: GOL to include a note of Mr Raynesford's role as Minister for London

Action: GOL paper to include what Mr Raynesford expects from other Government Departments

Item 7 Any other business

DfEE wondered whether a joint line should be developed to pass on the message that contingency planning could assume that the utilities would continue to function. They were referred to the DoH which had already developed such a line.





FACSIMILE

TO: Clare Hawley
10 Downing Street

TELEPHONE:

FAX NO: 930 5520

NO OF PAGES: 1

COLIN COTMORE
HEAD BRANCH F
LOCAL GOVERNMENT SPONSORSHIP

DEPARTMENT OF THE ENVIRONMENT
TRANSPORT AND THE REGIONS

5/A1
ELAND HOUSE
BRESSENDEN PLACE
LONDON SW1E 5DU

DIRECT LINE: 0171 890 4028
FAX: 0171 890 4109
GTN CODE: 3533 4028

19 JANUARY 1999

Clare

LGA Conference "Beating the Bug"

We spoke this morning about this conference.

In the draft speech we sent over we were proposing to use Croydon as an example of good work locally. Unfortunately we have been unable to develop this and propose instead mention be made of Cornwall CC who the Audit Commission consider to be one of the better authorities on this topic. You might like to consider something along the following lines:-

Cornwall commenced their Year 2000 project to check all their systems and equipment in April 1997 and this will be completed in the next 3/4 months.

We also spoke about the Bugbusters. DFEE appear to be reluctant to let district councils have free training, but are more than happy to attend the Bugbuster training on a fee paid basis. We therefore proposed the following contribution for the speech:-

The expertise which the TECs have developed can be purchased by others than small businesses. So, for example, should a council or a NHS Trust wish to take advantage of this expertise then they can buy it from their local Bugbuster team.

It would be useful if something along these lines could be included in the final version.

Colin

Mandy Mayer

Marie Pender
Clare

Five.

END



10 DOWNING STREET
LONDON SW1A 2AA

cc CD

SUBJECT
Heritage Museum
P+G
Filed on

THE PRIME MINISTER

Personal Minute

MINISTER FOR LONDON

London will face a considerable challenge over the next New Year holiday. It will be simultaneously the focus of national celebrations, involving substantial movements of people and a concentration of pressure on its infrastructure, and a point of potential vulnerability to Year 2000 IT problems because of the complexity of its infrastructure. I would welcome your assessment of the issues and a progress report on preparations for dealing with them.

Tony Blair

19 January 1999

KK



10 DOWNING STREET

PM

We need to keep up the pressure on Nick Raynsford to make planning for London over the Millennium a priority. This note to him asks for a progress report.

Clare

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file

Tf657

From: DAVID COOKE
Director
Central IT Unit
53 Parliament Street

Tel: 0171-238 2004

Fax: 0171-238 2006

Date: 19 January 1999

MRS MAYER

cc Sir Robin Mountfield
Mr Bender
Mr Granatt
Mrs Oppenheimer
Mr Sutlieff
Mr Tolladay
Ms Keating
Mr Heywood, No 10
Ms Hawley, No 10
Mr Purnell, No 10

YEAR 2000: THE BID

1. This is just to record, for copy recipients of Brian Bender's note of 18 January, the conversation which I had with Don Cruickshank yesterday evening, and which I subsequently passed onto you over the telephone.

2. Don had rung in order to explore in broad outline the scope for convergence at this morning's meeting between the Cabinet Office and Action 2000. He started by saying that he thought there might be an unbridgeable gap, but ended by agreeing that there was considerable scope for bringing the Action 2000 and Cabinet Office positions closer together.

3. The main points which Don Cruickshank and I ran over together were as follows:

- Don readily agreed that it would be sensible to plan on having a single action line for SMEs, people interested in the infrastructure and the general public; and that it would not make sense to run two action lines in parallel.
- On the booklet, Don said that he wanted to maintain the branding continuity with Homecheck 1, capitalise on the work which Action 2000 had already done with the banking sector and others, and make best use of Action 2000's information and expertise in drafting the booklet. I said our view was that there needed to be a single, comprehensive booklet, which also covered information on the infrastructure and made the Homecheck 1 material available with a better audience penetration. Don agreed that May or June might now be the right timing. I said it was vital that there should be shared editorial control between Cabinet Office and Action 2000, given

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that the booklet would need to contain carefully targeted messages on public confidence. Don said he accepted this, and envisaged that Action 2000 would in effect be the government's contractor for all, or at least key parts, of the booklet. [Comment: there may be some argument about who exactly does what, but my impression was that we and Action 2000 ought to be able to agree on a booklet in May/June with a comprehensive scope and produced under shared editorial control.]

- On warm-up activity for the booklet, Don agreed with me that there needed to be proper below the line support. I said we were not persuaded by Action 2000's proposal for heavyweight national TV advertising, although there might be a case for regional TV advertising. [Comment: not clear how far this gap will be bridgeable at today's meeting, but Don did not give me the impression that he was personally wedded to heavyweight national TV advertising.]
- On the national infrastructure work, I said we accepted the case for some increased resource on assessment and press handling. We could see that there might be a role for government to fund a co-ordinated message about infrastructure as a whole (in addition to placed media material), but did not think Action 2000 had made out a convincing case for the 6 major paid advertising campaigns currently covered in their version of this part of the bid. Don again saw some scope for convergence here, and did not seek to defend the 6 message approach. We both agreed that there would be a major role for the infrastructure players themselves, but that the National Infrastructure Forum announcements on 21 January and subsequently would generate demands from households and businesses dependent on national infrastructure services which might well necessitate a co-ordinated message about what the government was doing about the infrastructure as a whole.
- Don said he was unhappy about presenting possible additional activity in late 1999 primarily in the context of contingency planning for an Armageddon scenario. His own preferred approach was that the Treasury should be told that further proposals would be put to them in May or June for a further call on the reserve to deal with the position in the autumn. I said that this would need to be explored further at today's meeting: the idea that there would be a further call on the reserve was unlikely to be welcomed; on the other hand, it was reasonable to take a view on whether talking of an Armageddon scenario understated the likelihood of the need for supplementary activity in late 1999.

4. On timing, Don and I agreed that it would be important to press on with finalising and resolving the bid as swiftly as possible for a number of reasons, including the extra demands which the National Infrastructure Forum announcements on 21 January would be likely to generate.

DAVID COOKE

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lee



MANDY MAYER

From: BRIAN BENDER
Head of Public Service Delivery
Room: 60/1, Horse Guards Road
Tel: 270 6593
Fax: 270 6595
Date: 18 January, 1999

cc: Sir Robin Mountfield
Mike Grannatt
David Cooke
Nicky Oppenheimer
Barry Sutlieff
Keith Tolladay
Valerie Keating
Jeremy Heywood, No 10
Claire Hawley, No 10
James Purnell, No 10

YEAR 2000: THE BID

1. At the meeting I took this afternoon, we discussed next steps on preparation of the bid, following yesterday's meeting with Claire Hawley and James Purnell and the latest material from Action 2000.
2. We noted the following main differences between our thinking and that of Action 2000:
 - action line funding. On reflection, it seemed sensible to plan on a single action line for SMEs, people interested in the infrastructure and the general public. This required a fairly basic rethink of the proposal and the costings;
 - we did not agree with Action 2000's proposal that the bid should cover 6 major paid advertising campaigns in the infrastructure field. There was a case for the taxpayer to fund advertising about the position in vital, genuinely public services (eg the NHS), but

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there was no reason why the utilities should not advertise the position in their industries at their own expense. However, there might be a role for Government to fund a co-ordinated message about infrastructure as a whole (in addition to placed media material on this). This should be tested by research;

- there was some scepticism about the need for (and costing of) the element in the bid for modelling for contingency planning. We should pursue discussions with HMT and with Action 2000 on this;
- on public information:
 - * booklet: our clear view was that there needed to be a single, comprehensive document (ie covering information on the infrastructure and material from Home Check 1 as well as the information Action 2000 envisaged including), which should issue in May/June. This should be subject to shared editorial control (between Cabinet Office and Action 2000). The costs needed to be clarified;
 - * warm-up activity for the booklet: we were not persuaded by Action 2000's proposal for a national TV advertising campaign, especially as the door drops would be spread over several weeks in different regions. There might be a case for regional TV advertising, in addition to newspapers/local radio. This should be properly tested; more work should be done on where below the line support could be obtained; and more thought was needed on exactly what the message should be.
- while we remained entirely unpersuaded about the proposed expenditure for the Ideal Home Exhibition, it could make sense for there to be a mobile exhibition to support the leaflet, as part of a co-ordinated strategy.

3. We agreed that you would revert to Action 2000 on the above basis. Proper budgetary control was essential. The aim would be to try to reach a clear, quasi-contractual agreement with them on a set of discrete activities they would carry out at a stated cost, feeding into an overall communications strategy. We would want to have Luther Pendragon retained as our advisers on the strategy and available to Action 2000 as a resource.

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4. As regards the bid for the Cabinet Office Y2K press team, we agreed that the aim was for the effort to be carefully co-ordinated with Action 2000, integrated as far as practicable - on the basis that we were all in this together, and were not contemplating a situation in which Action 2000 would have lead responsibility until a certain date when it would shift to the Government.

5. The next step will be for you to explore with Action 2000, in the course of next week, the extent to which it will be possible to reach agreement on the above basis. A triangular meeting involving Y2K team, Action 2000 and No 10 might be foreseen for the week beginning 25 January. If, however, there remained points of difference between us and Action 2000, we would want another bilateral discussion with No 10 before the triangular meeting.

Brian Bender

B G BENDER

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SECRETARY OF STATE

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Covering CONFIDENTIAL

MINISTRY OF DEFENCE
WHITEHALL LONDON SW1A 2HB

Telephone 0171-21 82111/2/3

Ca Sullivan Kenny R/9/1
James Russell
David Peel

works OK to me *CSA*

file

MO 26/2/1H

18 January 1999

Dear Clare,

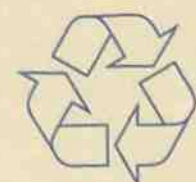
We spoke on Friday about the MoD's plans for its Y2K week starting on Monday 25 January.

I am sorry that a misunderstanding has arisen from the discussion at the meeting you described. I enclose a copy of the latest draft of the briefing pack for our Y2K week. This will be distributed next week under a letter from our Permanent Secretary to Commanding Officers and Senior Managers throughout the Armed Forces and the MoD in order that they may use it for a cascade briefing of all their staff.

The point which Mr Longhurst was making at the meeting was that the references to Operation SURETY on pages 9 and 10 explicitly do not refer to the most sensitive of the possible tasks, such as any request to evacuate British subjects overseas. I attach a copy of the operation order, which is an entirely routine format.

Claire Hawley
10 Downing Street

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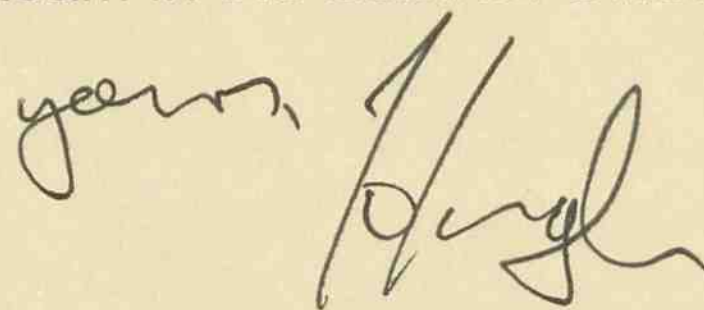


Recycled Paper

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I have also alerted our Press Office to liaise with No.10 on the public aspects of this internal communication exercise.

I am copying this letter to the Y2K team in the Cabinet Office.

A handwritten signature in dark ink, appearing to read 'H D Kernoohan', written in a cursive style.

(H D KERNOHAN)
Private Secretary

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CDS/53/98

OP SURETY

OPERATIONAL POSTURE OF THE ARMED FORCES FOR THE MILLENNIUM

INITIAL PLANNING INSTRUCTIONS

1. SITUATION. Dealing with the consequences of the Year 2000 (Y2K) date change (Op SURETY) is now one of the highest priorities for the MOD, which needs to be addressed by all Commands, TLBs and Agencies. In particular:

- a. In common with other Departments, considerable effort and resources are being committed to identify and rectify MOD systems that could be affected.
- b. A review of defence priorities has been conducted to allocate priorities to tasks for the period prior to, during and immediately following the Millennium.
- c. These priorities are being kept under review to reflect:
 - (1) Changing operational requirements,
 - (2) The emerging assessment of the impact of Y2K on our own systems, and
 - (3) Evolving requests to the MOD for military assistance to the civil authorities at home (Op JEKYLL) and abroad. To date no such requests have been made and there is not yet any indication that widespread assistance will be sought.

Recognising that the effects of Y2K and full validation of capability may continue into the year 2000, the Millennium period is considered to cover the 7 months from 1 Sep 99 to 31 Mar 00 for the purposes of this Instruction.

2. OBJECTIVES. The principal objectives of Op SURETY are to:

- a. Ensure the continuity of extant operations and operational procedures, including those with Allies.
- b. Ensure the requisite level of operational capability to conduct contingent or other priority tasks.

CDS/53/9.12.98

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3. **AIM.** The aim of this instruction is to develop operational and other contingency planning into the Millennium, and to harmonise such planning across Commands, TLBs and Agencies. It complements but does not replace the normal planning processes for operations.

4. **PLANNING ASSUMPTIONS.** The following assumptions apply to the Millennium period:

- a. We must plan to be able to maintain all operations, including permanent peacetime tasks, under way at the time.
- b. Regional conflict inside NATO (MT 24) is unlikely to start over the Millennium period.
- c. Additional pre-planned major commitments, particularly additional peace support operations on behalf of the international community, are unlikely.
- d. Even in worst case circumstances, no potential aggressor could generate the capabilities necessary to launch a major NATO regional conflict or a strategic attack on NATO in the Y2K timeframe. MT25 and MT28 are therefore not considered further in this Instruction.
- e. Within the prioritisation of Military Tasks set out at Annex A, we should plan to be able to respond to crises coincident with, and perhaps related to, the date change, such as:
 - (1) State and non-state terrorism.
 - (2) Instability and infrastructure collapse overseas leading to NEOs or humanitarian operations.
 - (3) Environmental disasters overseas.
- f. SDR assumptions and conclusions remain extant.
- g. Operational and training costs lie where they fall.

5. **DIRECTION.** You are to review your policies, planning, commitments and - for operational commanders - forces assigned to Military Tasks against the priorities at Annex A, and:

- a. By 20 Feb 99, identify the critical capabilities without which each 1st Order task could not be conducted.
- b. By 20 Feb 99, review exercise or other commitments and declare to VCDS those that could or should be curtailed, including for presentational reasons, in order to release the resources potentially required to implement Op SURETY.

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- c. By 31 May 99, drawing where appropriate on the output of single Service Y2K capability workshops, declare to VCDS, relevant operational commanders and Service Level Agreement customers, those critical capabilities which you consider to be at high risk of Y2K failure. You are also to identify to VCDS those systems or personnel required to be committed to contingency or fallback plans to back up critical capabilities.
- d. By 31 May 99, declare to VCDS broad order C2 and unit capability that might be available to assist civil authorities at home and abroad.
- e. By 31 Aug 99, conduct sufficient tests and demonstrations of single Service and joint capability declared to 1st Order tasks. Work is in hand to identify or adjust exercises to meet this need.
- f. Plan to verify C2 structures and JRRF capability (as at 1 Jan 00) as early as possible after the date change, reporting results through the chain of command.

6. CONSTRAINTS.

- a. There is to be no raising of readiness in relation to Op SURETY or Op JEKYLL without MOD authority. Similarly, no Warning Orders are to be issued to units or individuals without consultation with the MOD.
- b. The internal and external presentation of Op SURETY and Op JEKYLL is to avoid any inference that the MOD lacks confidence in its own or any other Department's ability to tackle Y2K issues. Further guidance will follow in due course.
- c. Forces and equipment based overseas are included in the provision of this Instruction but further judgements will need to be made over their commitment.

7. LOGISTIC CAPABILITY. By 31 May 99, Commanders are to review the level of stocks held in operational theatres and the UK with the aim of becoming self-sufficient by 1 Dec 99. The level of sustainability stocks (to no more than 30 days) and all potential costs are also to be assessed, and reported to VCDS.

8. COMMAND AND RESPONSIBILITIES. Current responsibilities for the delivery of operational capability remain extant. Similarly, existing command responsibility for operations and military activities remains in place. CDS will confirm the appointment of C in C LAND as the joint commander of Op' JEKYLL separately should this be required.

CDS

CDS

PUS

PUS

9 Dec 98

ANNEX A TO
Op SURETY
Initial Planning Instructions
DATED 9 DEC 98

OP SURETY
MILITARY TASKS - PRIORITIES

1. Based on the planning assumptions at Para 3 of CDS' Planning Directive, the following list sets out the prioritisation of MOD activities by Military Task over the Millennium period. No priority is accorded to tasks within the 4 categories set out below.

a. First Order Tasks (activities the UK must plan to be able to carry out).

- [1] Continuity of operational commitments to:
 - [a] MT2 - MACP in Northern Ireland.
 - [b] MT21 - Peacekeeping (extant operations only).
 - [c] MT22 - Peace enforcement (extant operations only).
 - [d] MT23 - Regional conflict outside NATO (extant operations only).
 - [e] MT26 - Home Defence (protection of critical Government installations and information systems).
 - [f] MT27 - Nuclear Forces.
- [2] Maintain the capability to respond to the following tasks:
 - [a] MT4 - MACM (emergency assistance only).
 - [b] MT5 - MACC (emergency assistance only)
 - [c] MT7 - Nuclear Accident Response.
 - [d] MT12 - NEO.
- [3] Ensure continuity of:
 - [a] MT1 - MACP in GB.
 - [b] MT6 - Military contribution to SAR.
 - [c] MT10 - Intelligence.
 - [d] MT11 - Meteorological Services only.
 - [e] MT13 - VIP duties and transport.
 - [f] MT14 - Security of overseas territories (internal security only).

CONFIDENTIAL

[g] MT15 - Security of Sovereign base areas (internal security only).

b. Second Order Tasks (activities the UK would have little or no choice but to carry out, but which are very unlikely to occur during the Millennium period):

[a] MT8 - Integrity of UK Territorial Waters (would arise only in the context of MT24).

[b] MT9 - Integrity of UK Airspace (would arise only in the context of MT24).

[c] MT14 - Security of overseas territories (external threats).

[d] MT15 - Security of Sovereign Base areas (external threats).

[e] MT24 - Regional Conflict inside NATO.

c. Third Order Tasks (activities the UK would have the option to carry out):

[a] MT20 - Additional Humanitarian operations.

[b] MT21 - Additional Peacekeeping operations.

[c] MT22 - Additional Peace enforcement operations.

d. Fourth Order Tasks (activities for which there would be little or no penalty should they not be carried out over the Millennium period):

[a] MT3 - Counter drugs.

[b] MT4 - Aid to OGDs (routine assistance).

[c] MT5 - MACC (routine assistance).

[d] MT11 - Hydrographic and Geographic Services.

[e] MT16 - Arms Control.

[f] MT17 - Outreach.

[g] MT18 - Other Defence Diplomacy.

[h] MT19 - Support for Wider British Interests.

PACK CONTENTS

1. Introductory letter

2. Briefing slides

- On paper, which can be copied to acetate for overhead projection, or which can be copied for handouts.
- On floppy disk (in PowerPoint 95 format)
- On the CD-ROM, under briefings (PowerPoint 95 format)

3. Speaking notes to accompany briefing slides

4. Video "Beating the Millennium Bug" (VHS Format, approximately 20 minutes running time)

5. Question and Answer sheet

6. CD-ROM.

Note 1. The CD is not required for the briefing. It contains supplementary material, such as compliance of office equipment, guidance notes and PC test software. Its purpose is to act as a 'handy reference'. Machine specifications to view the CD-ROM are printed inside the CD-ROM case. The CD can be viewed on lower specification machines (for example without an audio facility). The CD may be viewed on suitable PCs.

Note 2. The material provided is unclassified but is for official use only.

YEAR 2000 WEEK

With less than a year to go we need to intensify our efforts to ensure that our programme to address the effects of the computer date change problem (the 'Millennium bug') is completed on time.

Year 2000 Week is designed to inform all civilian and military personnel about the problem, about the action being taken and about their own responsibilities in this area. Year 2000 Week starts on the 25 January 1999. Over this week, I expect personnel at all levels to be briefed on the basis of the enclosed material and to have seen the video 'Beating the Millennium Bug'.

This is not just an issue for technical staff to tackle, but one in which we all have a role to play. Our key aim must be to ensure that we can continue to meet our defence commitments and maintain operational readiness and business continuity over the millennium period.

In the enclosed pack, you will find a set of slides and speaking notes which you can use in briefing your staff, a video emphasising the importance which the Secretary of State, CDS and I attach to this, and a CD ROM containing additional guidance.

Tackling the Year 2000 problem is our highest priority, apart from meeting our key operational commitments. I know that the cascade briefing to staff at all levels will not always be easy. But it is vital that all staff should be aware of the Year 2000 programme and what it means for them.

Kevin Tebbit
PUS



MOD Y2K Week

1

The following slide presentation explains the Year 2000 or "millennium bug" issue and the MOD programme; and serves as an introduction to the accompanying video containing a message from the Secretary of State for Defence.

The speaking notes which go with the slides may be personalised to suit the individual circumstances of the area in which the briefing is being given, if it is felt that this would improve the relevance and impact of the presentation.

NB. All presenters should endeavour to insert their own slide after Slide 13 giving details of how their particular unit or establishment could be affected by Y2K problems and what is being done, with specific examples, to address the issue.

You will find three optional extra slides with speaking notes at the back of the presentation on the Y2K problem and the MOD's programme which may be used as necessary as a supplement to the Q and A material to answer questions on these subjects.



Briefing Topics

Aim

The YEAR 2000 Problem

The MOD Programme

Actions

Operational Posture

Video & Other Material

2

The aim of this briefing is to bring to your attention the Year 2000 date change problem, more popularly known as the 'millennium bug' or the 'Y2K problem', and how it might affect MOD.

During the coming week, this briefing is being provided to all staff, military and civilian, so that you will be aware of the problem and the actions that you should be taking, or may be required to take, to make sure that our operational capability is maintained.

After the briefing a video about MOD's programme will be shown that contains a message from the Secretary of State. The video will last about 20 minutes. After the video, I will answer any questions that you may have.



Aim

- To brief all military and civilian staff on the Year 2000 or 'millennium bug' issue and the MOD Programme
- To make sure that you know what actions are needed to ensure that our operational capability and business continuity are maintained

3

The briefing is in a number of parts.

The first part describes the problem:

The second part is an overview of the programme which has been put in place to ensure that MOD systems are 'millennium compliant'. The briefing describes the steps being taken to make sure that the equipment on which we depend will continue to work effectively, and what actions we as managers or users of equipment and services should be taking.

The third part outlines the operational posture during transition from 1999 to 2000.



The Year 2000 Problem

- The end of Century date change
 - Two digit dates affect hardware, operating systems, applications, databases
- 2000 *is* a leap year
 - Affects calendars, security systems, payment systems etc.
- Other dates
 - There are lots of other dates - in fact, nearly all software will date fail at some time
 - Data errors can occur before and after January 2000 - for example some older GPS receivers may fail on 22 August 1999
- Commercial Systems and Other Countries
 - The problem also affects commercial systems and systems in other countries

4

Whilst the end of the century date change is the biggest problem we face, there are other date change problems that have been found.

The next most common is the 'leap year' error.

Other dates can also be a problem in particular systems. For example some older GPS receivers may fail on 22 August 1999. Other systems fail at various dates in the next century. If you have an interest in this topic, these dates can be found on the MOD Internet site on the Year 2000 page.

It must be said that all these problems can affect Defence and non Defence systems alike, whether in this country or elsewhere. This is why, if you are overseas during the Millennium, you should be mindful of possible failures or the disruption that can be caused if government or commercial systems fail.



The MOD Programme

Key elements

- Fixing our own systems
- Making sure that plans are in place so that we can cope with unexpected failures or requests for military assistance
- Working with our Allies and encouraging others to put in place similar programmes

5

MOD has made significant progress since 1996. Ministers are grateful for the effort put in by all staff. What we need now is a final push in 1999 to ensure MOD is ready. Our preparedness has three strands:

The first is to make sure that our own systems are 'Year 2000' ready.

The second is to make sure that we can cope with unexpected failures - it is possible that we may not get some of the more hidden problems fixed. We also need to be able to cope with requests for assistance from others, for example from emergency services.

The third is to encourage our allies and others with whom we may enter into coalition operations to put in place similar work to make sure that their systems continue to work properly.



The MOD Programme Scope of the Problem

- The YEAR 2000 problem can affect
 - Data processing centres (such as those used for pay, personnel or logistics)
 - Personal Computers (PCs) and local area networks
 - Weapon systems - in particular supporting equipment
 - Communications equipment
 - Office equipment (fax machines, photocopiers)
 - Building and site services (security systems, alarms, air-conditioning)
 - Goods and services provided by others

6

There are all sorts of systems that can be affected by the Millennium bug.

The most obvious is the large mainframe data processing centres, such as those used for pay or logistics support. Fortunately the problems were recognised early and work was put in hand some years ago. It is not likely that there will be any major problems with these systems.

Personal computers and local area networks are a bigger problem, mainly because we have so many of them. Even if a PC is non compliant (and the problems can be in either its hardware or software), it may still be usable, but it depends on what it is being used for. It does have to be checked and made compliant if its failure would put MOD at risk.

An even more difficult problem is the so called 'embedded' computers - those found in weapon systems, ships, aircraft or land equipments. Specialists are checking these systems. Many systems have been checked already.

Other equipment is also at risk, for example office equipment such as photocopiers or fax machines. In the next few months you should find compliance stickers on them. If not, you should ask 'why not'.



YEAR 2000 Contingency Plans

- Contingency plans are being developed, where necessary to cover
 - Unexpected failure
 - Systems not being fixed or being replaced
 - Failures in supplies of goods and services

7

We may not get everything right, so contingency plans will be needed to cover both unexpected failures in our systems and for those systems which we know will not be fixed in time or will be retired from service early. Not all systems will need these plans, but you need to be certain that where systems are vital to your operations, you know what to do if they fail.

Failures in other people's systems can also affect us. Failures in our key suppliers of goods and services can put us at risk. The same is true of systems owned by our Allies on which we depend. We have done much to alert suppliers to this problem, but we cannot be certain that suppliers will be unaffected. In your area of responsibility you need to be aware of any dependency you may have on suppliers or Allies and, if vital to operations, plan to cope with loss of those services.



Actions

- If you are a manager, make sure that Year 2000 work is properly staffed / financed and accorded priority
- If you are a user of equipment, make sure you know whether it is 'Year 2000 compliant'
- If you depend on goods and services supplied by others, make sure you know how to cope if they fail.
- Make sure you know of any contingency plans that may affect you.

8

Much work has already been done within MOD to tackle the problem, but there are some specific actions that you can take to help.

If you are a manager, make sure that Year 2000 work is accorded the priority set by the Secretary of State, in particular that work is not held up by inaction.

If you are a user of equipment, make sure that you know whether it is compliant or not. The MOD Year 2000 policy promulgated in mid 1996 makes it clear that responsibility for fixing equipment lies with its owner. If you are not clear about whether it is compliant or not, ask the owner for advice.

If you depend on vital goods and services, make sure you know how to cope if any of these fail. If you have any questions about suppliers or utilities, your local chain of command or line manager should be able to provide advice.

Finally, if plans are put in place for specific Year 2000 support which may include you, make sure you know your role, your availability, and are confident in being able to carry out the task you may be asked to do.



Operation SURETY (1)

1 September 1999 - 31 March 2000

- CDS and PUS have issued joint planning instructions for Op SURETY, the operational response to likely effects of YEAR 2000
- MOD has reviewed and allocated priorities accorded to 28 Military Tasks to concentrate on those we are most likely to face
- First priority is the maintenance of operational capability.

9

Now to look at the Operational Posture. Operation SURETY is MOD's operation to tackle the effects of the Year 2000 date change. You may also hear reference to operation JEKYLL, which is part of the wider Op SURETY. JEKYLL is the operation to respond to any requests for assistance from civil authorities in the UK.

As the basis for planning, we have reviewed our defence tasks to allocate priorities to our commitments, based on the situation and the demands that the MOD is most likely to face.

Obviously it is important that we ensure that our current operations are not affected adversely by the date change, and this is where our first priority lies. There are 13 workshops currently addressing the Year 2000 'compliance', or otherwise, of our capabilities and the complex web of systems that support these capabilities. This work should be complete by April 1999.



Operation SURETY (2)

1 September 1999 - 31 March 2000

- Other priorities include the need to maintain capability to respond to crises (including Military Assistance to Civil Authorities (MACA)) and provision of services to others
- As yet there is no requirement to raise readiness states, but the situation is being closely monitored
- Principle is only to warn personnel for specific tasks.

10

As well as maintaining current operations which we are running at the time of the Millennium, we also need to maintain the capability to respond to crises, which may arise or be coincident with, the Millennium. For example, we will continue to require a capability to respond to non combatant evacuation operations and to any request for military assistance from other Government Departments.

From all of this work, we will be able to identify risks and consequent tasks against which personnel and equipment can be assigned. It is important to understand that the MOD wishes its people to be committed to specific tasks. We have no desire to place the entire Armed Forces on standby, just in case they may be needed. So our work at present is focused on identifying the tasks we may be asked to carry out.

However you will appreciate that this is a unique operation and the situation will certainly change as our information improves and both military and civilian Year 2000 vulnerabilities are assessed. Therefore the Armed Forces must be prepared to respond, possibly at late notice, to problems, crises or requests for assistance in the UK and overseas. The MOD will warn personnel for tasking as early as possible and will endeavour to minimise disruption over what we hope will be a period of national celebration.



Royal Navy

All ships and submarines planned
to be compliant by August 1999

11

The general position in each of the three services is as follows. Each of the three Services have publicly announced targets for their Year 2000 programmes. Specific examples of how each service is affected and how they are tackling the problem are given in the video you will see after this presentation.

The Navy plans that all ships, submarines and aircraft will be mission capable by August 1999.



Army

All mission critical systems, including
weapon systems, will be Year 2000
compliant by September 1999

12

All the Army's mission critical systems will be compliant by September 1999.



Royal Air Force

All RAF aircraft have been
certified safe to fly post 2000 and
will be declared mission capable
by 31 May 1999.

13

All RAF aircraft types have now been certified safe to fly post the Millennium and are expected to be declared mission capable - that is that their supporting equipment and weapon systems are compliant - by the end of May 1999.



Video and CD-ROM

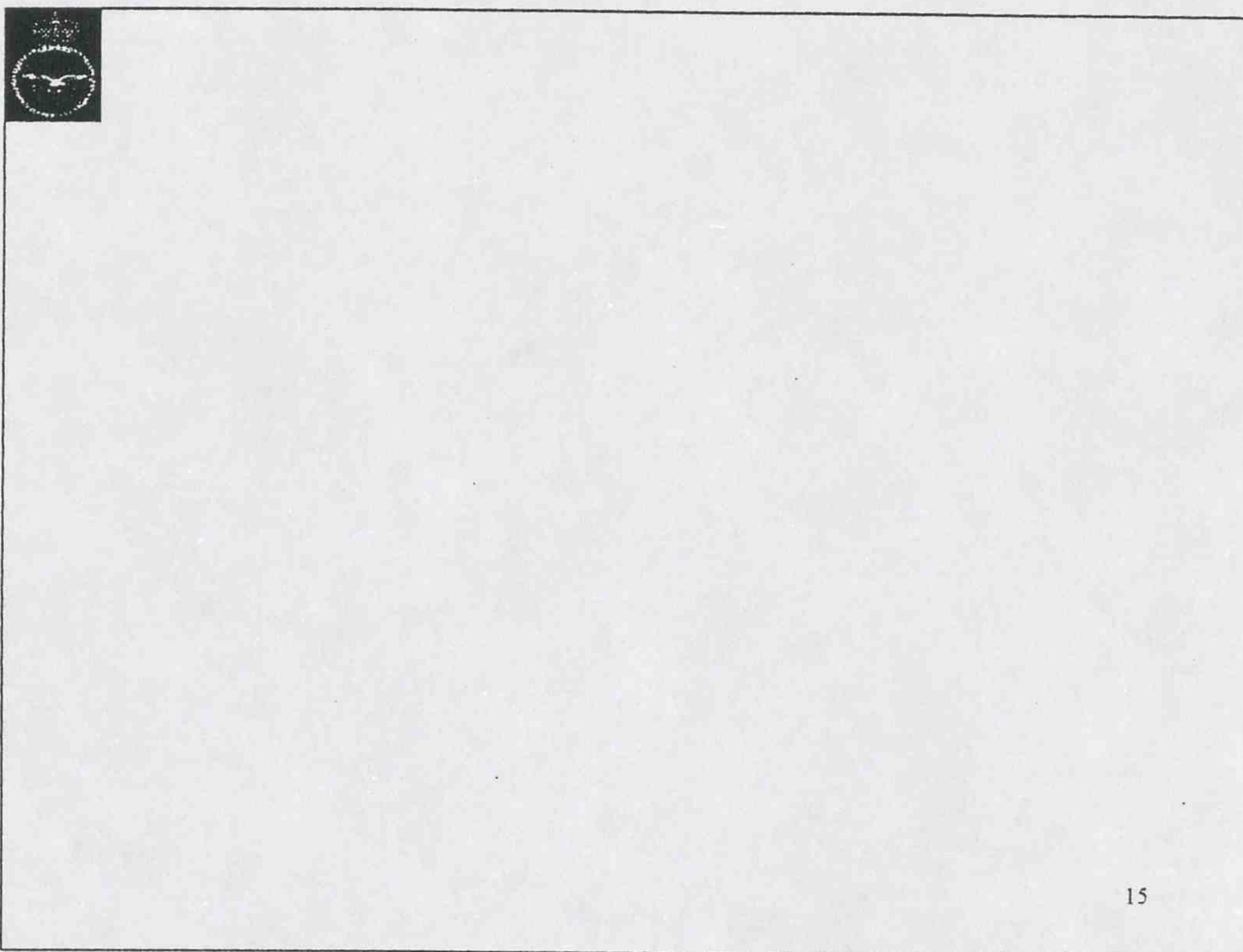
Video - Contains message from the
Secretary of State, setting Year 2000 programme priority

CD-ROM -Contains video, slide presentations
and Year 2000 reference material

14

The video which will be shown next gives you an overview of what has been done already to tackle the problem. It clearly sets the work to tackle this problem as the highest priority within MOD, second only to those tasks we may be asked to undertake from time to time to meet key operations, such as Desert Fox.

I also have a CD-ROM which can be borrowed and viewed at your leisure. I am afraid it needs a fairly modern multimedia PC to view it. It contains the video I am about to show and a lot of helpful advice on office equipment and the MOD programme. The CD is unclassified, you can view it in the office, or, if you really wish to, at home. I have been asked to remind you that it is for official use only and should not be circulated outside MOD without the consent of the authors, the MOD Year 2000 team, whose phone number is on its cover.



The following supplementary optional slides and speaking notes are for use with the Q and A Brief:

The Year 2000 Problem

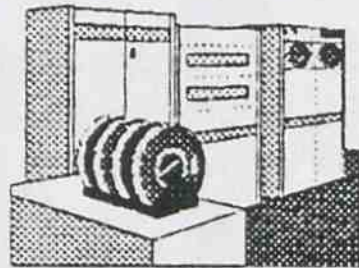
The MOD Programme

Year 2000 Progress



The Year 2000 Problem

Computers, like people, often use two digit years to represent dates. But at the end of a century



$$\cancel{02 - 96 = -94}$$



$$2002 - 1996 = 6$$



Technically a simple problem
-but dates are used extensively in
computer based systems, so a lot of
checking and modifications are necessary

16

The millennium bug is technically quite simple. Its origins are in the shorthand that we all use in expressing years. It is easy to say 98 or 99, but few of us say 1998 or 1999. But when we change from one century to the next and we want to find out how many years have elapsed from one date to another, illustrated in the example in the slide, the arithmetic fails unless we express the year in full.

There is no reason why computers should not get the year right, except that computer designers adopted the same shorthand for expressing years, in their case to save memory since the '19' expressing century appeared to be redundant.

In the case of many older, or legacy, computer programmes, the designers did not think about the long term consequences of using 'two digit' years.



The MOD Programme Key Facts

- Work Started in 1996
- Around 30,000 systems and equipments within MOD and its agencies identified
- About 1,000 which are critical to Defence Capability need remedial work
- 18,000 which are non-critical need remedial work
- Work on about 60% completed so far
- Cost estimated at £200M

17

There is a significant programme in place in MOD.

Work started in earnest in 1996, although some started earlier, for example in pay and personnel systems.

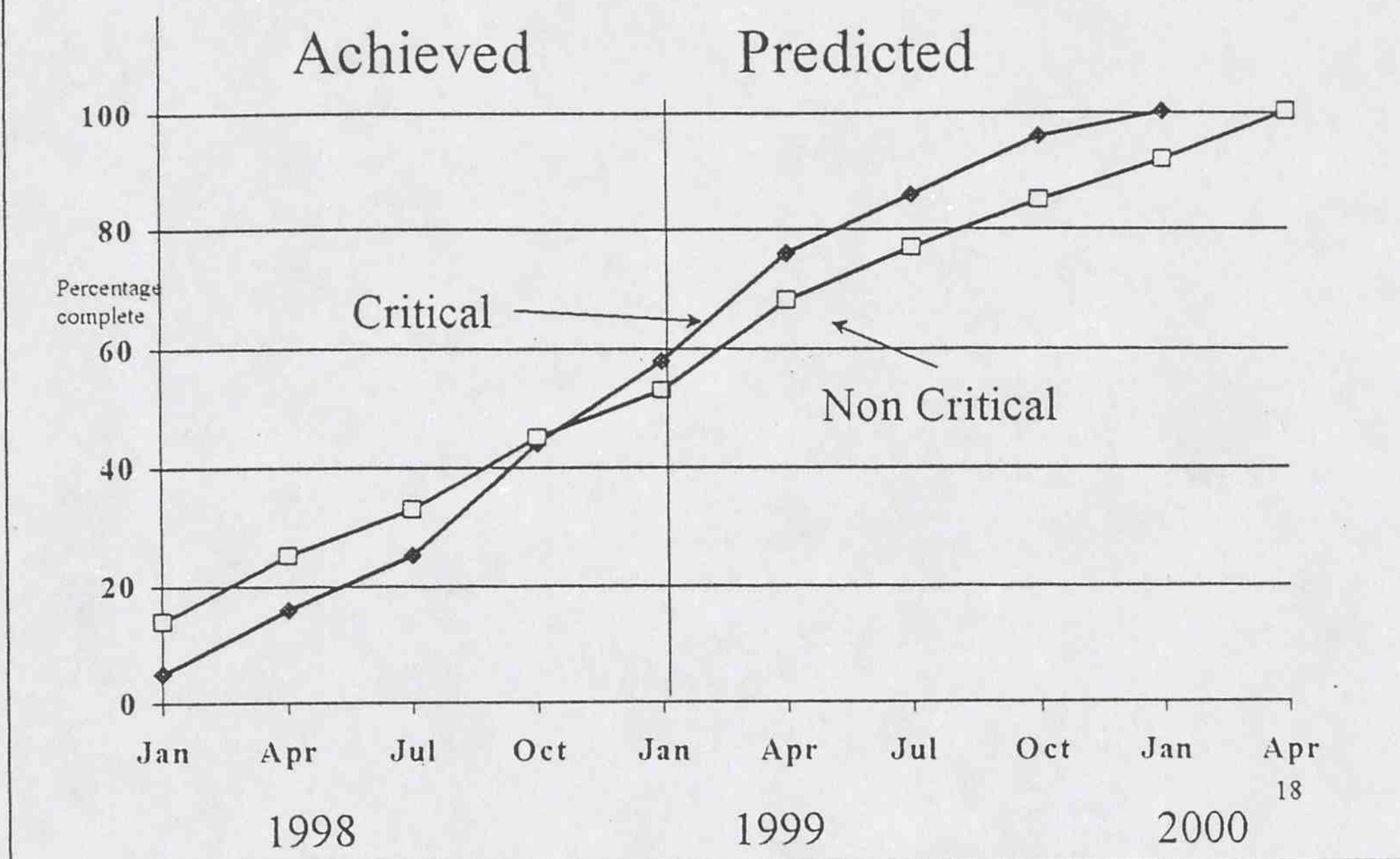
Around 30,000 systems have been identified in the department that need to be checked. The checks have mostly been completed.

Of those checked, some 1,000 of the so called critical systems - those which would put MOD at risk if they failed - need to be modified. Much of the modification has already been completed. All should be complete before the Millennium.

About 18,000 of the systems are not critical but need some form of modification. Systems which are not critical will cause an irritation if they fail but can be worked around. Most of the modifications to these non-critical systems will be completed before the Millennium, but it is possible that a few will not be fixed until Year 2000.



Year 2000 Progress



Our overall progress to date is shown in this graph. In the last year work on about 60% of critical systems has been completed, leaving about 40% still to be completed before the end of this year.

Most non critical systems will be fixed in time, but a small number, in the region of 5 to 10 % will not be completed in time.

There is not much time left and there is no room for complacency, which is why the programme is now MOD's highest priority, subject only to those demands made to meet urgent operations, such as Desert Fox.

YEAR 2000 WEEK - JANUARY 1999QUESTION AND ANSWER BRIEF

Q1. TOO LITTLE, TOO LATE?

A. The main Year 2000 programme began in 1996, although work had already started on some systems. Early work included identification and assessment of systems, development and promulgation of policies, and mounting an awareness campaign across the Department. Work on fixing systems is being carried out in a well-managed and timely programme.

Q2. WHAT IS MY ROLE AS A NON-COMPUTER EXPERT?

A. Everyone in MoD and the Armed Forces has a part to play. Each of you should consider the part computer systems play in your day-to-day work, whether part of a large networked system or a single PC, or perhaps a fax or photocopier. Managers and Commanding Officers must make sure that Year 2000 work is properly resourced and given appropriate priority. Users of equipment should check whether those systems are compliant or work is underway to make them so. Stickers declaring 'Y2K Tested' are available from the Y2K Branch at Minerva House on extension 5320 (external telephone number 01793 555320) to be affixed to compliant equipment once this status has been determined. We do all have a part to play in ensuring MoD passes into the next millennium with fully capable Defence systems. There may also be a role for you to play over the millennium period itself, either putting fall-back plans into place if necessary or helping if MoD is required to offer assistance to the civil authorities in the UK or overseas.

Q3. LEAVE OVER THE MILLENNIUM?

A. In principle, the Armed Forces and their civilian colleagues will only be warned against specific contingent tasks. There are no plans to shorten the notice of the entire Armed Forces in response to a generalised threat of Y2K-related disruption. However, we must be prepared for the situation to change as we may receive a number of requests for assistance, probably at late notice, as civil authorities assess their vulnerabilities. MoD will endeavour to minimise disruption over what we hope will be a period of national celebration.

Q4. COMPENSATION IF HOLIDAYS HAVE TO BE CANCELLED?

A. There will be no special arrangements for the millennium, usual regulations will apply in cases of nugatory holiday expenditure.

Q5. PROBLEMS WITH PAY?

A. All pay systems are being checked. No problems are anticipated. Contingency plans will be in place, for example to pay staff by cheque should the necessity arise.

Q6. COST OF THE Y2K PROGRAMME TO MoD?

A. The estimated cost of £200m is unlikely to be exceeded.

Q7. SUPPLIER COMPLIANCE? UTILITIES?

A. We are working closely with our major suppliers. We have written to an initial list of over 300, asking them to complete a questionnaire on Year 2000 issues concerning their internal systems and their own suppliers. We have received replies from two-thirds of them, and the information received has been encouraging. This is an on-going process and we expect to be taking the exercise forward with other groups of suppliers over the next few months. With regard to the Utility companies, the Government is seeking assurances on continuation of supply over the millennium period. So far, no formal reassurances have been received, but MoD is pressing hard at ministerial level and information on the national infrastructure is expected shortly. It is, however, unlikely that there will be problems with utilities at a national level, although there could be isolated failures.

Q8. PRIORITISATION OF WORK/RESOURCES?

A. In common with other Government Departments, MoD has had no additional funding to deal with Y2K. Each TLB area is assessing the impact of the Year 2000 work on its provision of defence capabilities and then re-directing its resources to ensure that those capabilities are not put at risk. The Secretary of State has set his priority clearly - Year 2000 is the top priority second only to urgent operations such as Desert Fox.

Q9. TROOPS/OTHER BRITISH NATIONALS ABROAD?

A. The safety of British nationals world-wide is primarily a Foreign Office matter. But of course we are working very closely with them in an analysis of the possible risks to our deployed forces from problems over the millennium period. We are factoring these risks into the normal Defence planning process, which covers the millennium period. With regard to foreign travel over the millennium period, whether on duty or for holidays, the Foreign Office is co-ordinating a risk assessment on a country-by-country basis, and will provide advice if it considers there may be difficulties anywhere.

Q10. SAFETY OF TRIDENT/OTHER NUCLEAR WEAPONS?

A. Trident and the nuclear weapons systems of our Allies cannot be accidentally triggered through a date-change failure. With respect to other countries, this issue is being pursued through political and diplomatic channels.

Q11. WILL GPS FAIL?

A. All GPS receivers are being checked, and where necessary replaced. Provided the replacement programme runs to schedule, no problems are anticipated in relation to the GPS roll-over date of 22 August 1999.

Q12. WHERE DO I GO FOR HELP?

A. You should seek advice through your chain of command, from your line manager or from the relevant equipment manager, depending on the nature of the query. There will also be a local Y2K Co-ordinator to whom you could go for advice. As well as these sources, there is the Y2K Help Desk at Minerva House on extension 5566, external telephone number 01793 555566.

HERITAGE : MILLENNIUM BSG : PART 5

Annex: Report by the Comptroller and Auditor General

"How the Utility Regulators are addressing the
Year 2000 Problem in the Utilities"



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2. file.

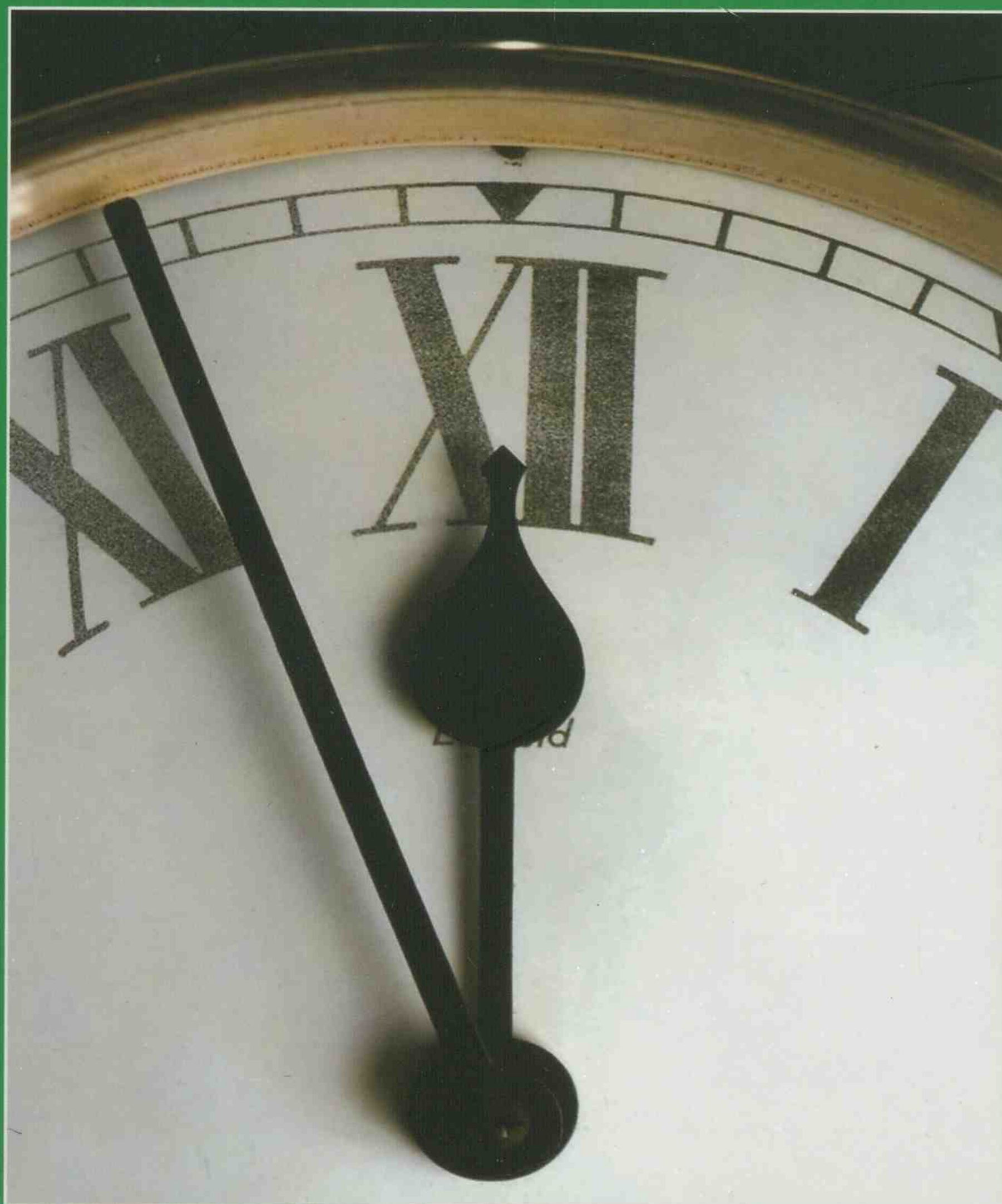
With compliments

V. Keen



INVESTOR IN PEOPLE

How the Utility Regulators are addressing the Year 2000 Problem in the Utilities



Report by the
Comptroller and Auditor General

Office of Electricity Regulation
Office of Gas Supply
Office of Telecommunications
Office of Water Services

How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

Ordered by the
House of Commons
to be printed 15 February 1999

How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

John Bourn
Comptroller and Auditor General

National Audit Office
5 February 1999

The Comptroller and Auditor General is the head of the National Audit Office employing some 750 staff. He, and the National Audit Office, are totally independent of Government. He certifies the accounts of all Government departments and a wide range of other public sector bodies; and he has statutory authority to report to Parliament on the economy, efficiency and effectiveness with which departments and other bodies have used their resources.

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Appendices

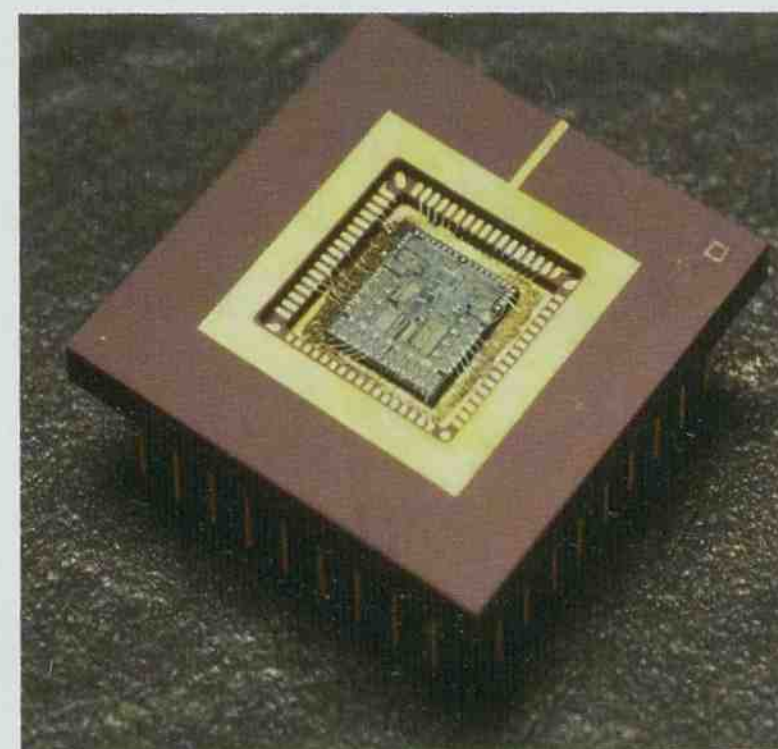
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Executive summary

This report examines what the utility regulators are doing to ensure that the utilities are tackling the Year 2000 problem

1 The Year 2000 problem arises because of the way dates are recorded in many electronic systems. In the past such systems often used two digits rather than four to represent the year ("99" rather than 1999). As a consequence many systems cannot tell the year 2000 from the year 1900 and may not function or may produce meaningless results on and beyond 1 January 2000.

2 Electronic systems that record dates are used throughout the electricity, gas, telecommunications and water industries, so the continued provision of essential services to the public depends on the utility companies taking effective action to rectify or replace systems affected by the Year 2000 problem. The companies also need to have in place contingency plans to cope with any system failures that do occur



3 If the companies do not prepare adequately for the millennium, the Year 2000 problem could cause serious economic damage, for example, if electricity, gas or water supplies were disrupted or telecommunications systems did not function. Such failures could also threaten loss of life, for example, if people could not call an ambulance because their telephone did not work, if they could not heat their home without gas or electricity, or if contaminated water entered the public supply (paragraphs 22 to 24 and 31 to 33).

4 Four industry specific regulators are responsible for regulating the electricity, gas, telecommunications and water industries: the Office of Electricity Regulation (OFFER); the Office of Gas Supply (OFGAS); the Office of Telecommunications (OFTEL); and the Office of Water Services (OFWAT). The regulators are concerned to ensure that the companies they regulate continue to deliver essential services to the public in accordance with their licences and statutory obligations (paragraph 25).

5 The Year 2000 team in the Cabinet Office support the work of the Ministerial Group by co-ordinating information and initiatives and advising Ministers on the steps they need to take collectively: responsibility for action and implementation of initiatives rests with departments and other public sector/infrastructure bodies. In doing this they work closely with Action 2000. Action 2000 were set up by the Government in March 1998 to support private sector businesses in their efforts to tackle the Year 2000 problem. The Government have emphasised the key rôle of the utility regulators in ensuring that those providing services to the public are as well prepared as possible for the millennium change (paragraphs 34 to 43).

6 Our examination focused on the steps being taken by the four regulators to ensure that essential services will be maintained over the millennium period. We examined the regulators' assessment of:

- the state of readiness of the utility companies for the year 2000;
- what more needs to be done to ensure that the utility companies are ready for the year 2000.

The position described is based on the results of our fieldwork up to 31 December 1998. It also includes progress reported orally by each of the regulators to the National Infrastructure Forum on 21 January 1999.

7 Our examination of the regulators was based on detailed discussions with representatives from the regulatory offices, supported by a close review of their files and the material supplied to them by the companies. Our detailed findings relating to each of the regulators are set out in Appendices 1 to 4 (paragraphs 26 to 30).

8 Our examination follows our earlier reports in 1997 and 1998 and two reports in 1998 by the Committee of Public Accounts. These reports focused mainly on the preparations being made for the year 2000 in Central Government and the National Health Service. Appendix 5 summarises the key conclusions of these reports.



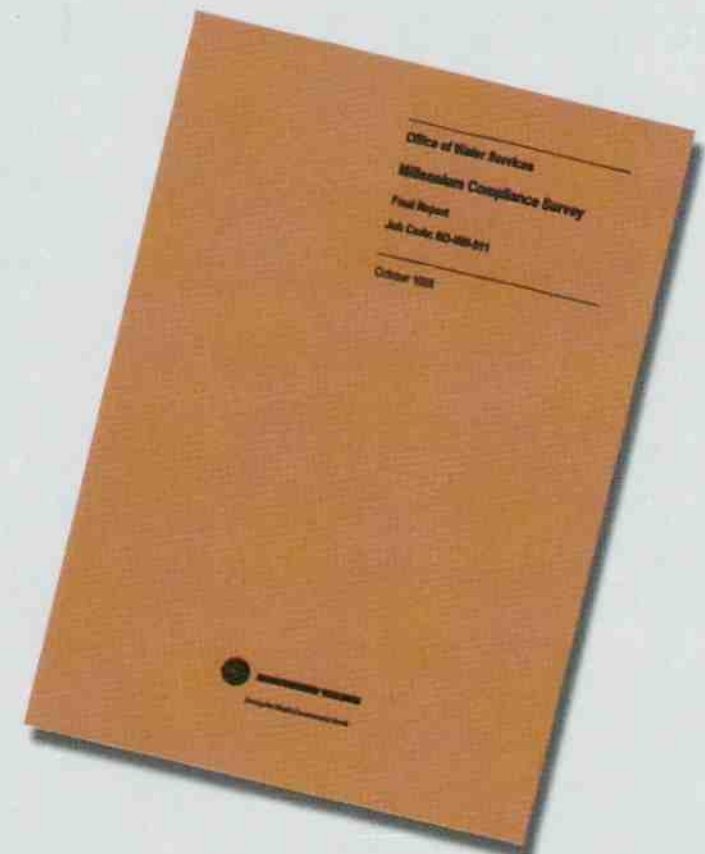
The utility regulators do not yet have a complete picture of the results of the companies' work in addressing the Year 2000 problem

9 The regulators regard 68 companies (19 in electricity, 2 in gas, 19 in telecommunications and 28 in water) as key to ensuring that essential services to the public are maintained over the millennium period. They have identified four main areas on which they need information about the progress being made by these companies:

- whether the companies' own systems are millennium compliant;
- whether the companies' suppliers will continue to be able to supply the goods and services that the companies need;
- whether the companies have adequate contingency plans, in case failures occur despite all the precautions taken;
- the companies' timetables for completing preparations (paragraphs 44 to 47).

10 All the companies have told the regulators about progress with their own systems and have provided timetables for achieving full compliance. The regulators have only limited information, however, on the progress being made by companies to safeguard the continuity of key supplies. And they have little information so far on the companies' contingency plans for dealing with failures arising specifically as a result of the millennium bug (paragraphs 48 and 52 to 58).

11 Independent validation of companies' plans and action taken is essential if the regulators and the public are to have confidence in the companies' ability to tackle the Year 2000 problem. Only OFWAT, however, have so far completed an independent assessment of companies' preparations, based on information obtained from companies in August 1998. OFFER and OFGAS commissioned independent assessments in December 1998. OFTEL intend in February 1999 to commission an independent assessment of the peer review process in the telecommunications industry whereby each company is being assessed by two others. Work on independent assessments is being co-ordinated across the sectors by Action 2000's independent assessment team (paragraph 49).



12 All the regulators are planning to publish information in 1999 on the state of preparedness of their industries. OFWAT published the results of their independent assessment of the water industry in October 1998 and expect to publish further information during 1999. The initial results of the OFFER and OFGAS independent assessments were published in January 1999. OFTEL intend to publish information on the telecommunications industry at regular intervals during 1999. Action 2000 are working with all the regulatory bodies to publish information on the national picture throughout 1999 (paragraph 62).

While many utility companies have told the regulators that they are well advanced in addressing the millennium problem, some companies do not expect to be year 2000 compliant until well into 1999

13 To ensure that their own systems are year 2000 compliant the utility companies need to:

- prepare inventories of all relevant systems;
- determine which components are likely to be affected by the millennium problem;
- take action to rectify or replace faulty components;

- test rectified items and systems to ensure that rectification is effective (paragraph 50).

14 All the key companies in the electricity, gas and telecommunications industries have reported that they have drawn up inventories of all their systems that might be affected by the millennium problem and have identified all components where there are likely to be problems. Most companies expected to have completed rectification and testing by the end of 1998 or in the first half of 1999. Information for the water industry is based on data collected by independent consultants for OFWAT in August 1998. The consultants found that at that time many water companies had not completed drawing up inventories, or started the later stages of the work (paragraph 51).

15 Twenty-five of the key companies told the regulators that they expected their own systems to be millennium compliant by the end of 1998. A further 29 companies expected to be millennium compliant in the first half of 1999. Eleven companies -- 10 water companies and one small telecommunications company - said that they did not expect to be ready until the second half of 1999. OFWAT contacted the 10 water companies who had initially said that they would not be ready until late 1999. All the companies either provided information showing that their plans were more advanced than had been thought, or had changed their plans to remedy potential problem areas. Rectification and testing were now expected to be completed by July 1999 (paragraphs 52 and 53).

16 The regulators reported to the National Infrastructure Forum on 21 January 1999 that, although risks remained in the industries they regulated, plans were in place to contain those risks within the time available. They expected that between April and September 1999 their industries would all be able to report that they had not identified any risk of material disruption (paragraph 63).

17 The utility industries rely on each other and on suppliers of goods and services in other industries to be able to maintain their operations. An important element of planning for the millennium change, therefore, is that the utility companies are able to safeguard the continuity of key supplies essential to their operations. All the companies who have provided the regulators with information on this issue have said that they are in the process of contacting key suppliers (paragraphs 54 and 55).

18 The regulators consider that, whatever precautions are taken, it is prudent to allow for the possibility that some items of equipment or some systems will fail as a result of the millennium bug. Although contingency plans for supply emergencies already exist within the four industries, the utility companies need to

review their contingency plans to ensure that services can continue to be provided despite any system failures that might occur as a result of the millennium bug. All the regulators are planning to examine the companies' millennium-specific contingency plans in 1999 (paragraphs 56 to 58).

Work remains to be completed by the companies and the regulators to ensure that there is no disruption to essential services over the millennium period

19 The regulators have identified the following actions that remain to be completed by the key companies:

- some companies still need to complete inventories of relevant systems and determine which components are likely to be affected by the millennium bug;
- many companies still need to complete the rectification and testing of components affected by the millennium bug;
- most companies still need to complete the task of obtaining assurances from their suppliers about the continuity of key supplies over the millennium period;
- most companies need to complete their contingency plans to deal with any failures which might occur (paragraph 59).

20 Providing that the companies complete this work on time, all the regulators are confident that the utility industries will be able to avoid any major disruption to services to customers (paragraphs 60 and 61).

Recommendations

21 Work also needs to be completed by the regulators:

- 1) to obtain satisfactory assurance about the companies' plans for addressing the millennium problem;

There are gaps in the regulators' knowledge of what the companies are doing to address the millennium problem. And the information obtained by the regulators from the electricity, gas and telecommunications companies is only now being independently validated (paragraphs 47 to 49 and 52 to 58).

- 2) to ensure that the companies deliver on their programmes of work so that major disruptions to services to customers can be avoided;

Many companies still have work to do to complete rectification and testing, to safeguard the continuity of their supplies and to develop contingency plans to cope with any system failures over the millennium. The regulators will need to monitor the companies' progress closely throughout 1999 to ensure that there is no slippage in the companies' programmes and that swift action is taken where problems are identified (paragraphs 50 to 58).

- 3) to build public confidence that essential services will be maintained over the millennium period;

All the regulators should ensure that information is published at regular intervals during 1999 on the state of preparedness of their industries. To enhance public confidence such information needs to be backed up by independent validation (paragraph 62).

Report

The Year 2000 problem arises because of the way dates are recorded in many electronic systems

22 In the past, computers, microprocessors and other electronic systems often used two digits to represent the year (for example, "99" representing 1999) to save memory space, reduce operating costs, and maintain compatibility with earlier systems. Many systems using this method of recording dates remain in operation. In this format, however, computers are unable to distinguish the year 2000 ("00") from the year 1900 ("00"). As a result, systems recording dates in this way may not function or may produce meaningless results on and beyond 1 January 2000¹.

23 The problem can affect all computer systems which use dates. But it can also affect any system which includes, displays or processes dates or times. Computer chips are often embedded in non-IT systems or machinery, for example, in lifts or air conditioning systems. Some of these chips have been used since the early days of information technology and are hard to detect and test. The change to a new century may cause these systems to stop working, to shut down equipment making it unsafe or unreliable, or to refuse to accept instructions.

24 The provision of essential utility services is threatened unless the utility companies take effective action to address the Year 2000 problem. The companies need to prepare their computer and electronic systems to deal with the year 2000, check that their suppliers are doing likewise, and prepare contingency plans to deal with any failures that may occur despite these preparations. Failures within the utility industries could affect virtually all members of the public and impact on almost every area of public life.

¹ A number of other dates around the year 2000 may cause problems for electronic systems. For example, some systems may not cater for the fact that the year 2000 will be a leap year, whereas the years 1800 and 1900 were not. The term Year 2000 problem is used in this report to include all of these problem dates.

We examined the work done by four utility regulators to establish how well the utilities are addressing the Year 2000 problem

25 Four utility regulators are each responsible for regulation of the electricity, gas, telecommunications and water industries (Figure 1). The regulators have a wide range of duties and are particularly concerned to ensure that the companies they regulate continue to deliver essential services to the public in accordance with their licences and statutory obligations. They are therefore well placed to report on the progress being made by the utility companies in addressing the Year 2000 problem. The regulators are also in a position to take enforcement action against the companies if this is needed.

Figure 1

The regulators we examined

Regulator

Geographical area covered by the regulator

Office of Electricity Regulation



England, Scotland and Wales

Office of Gas Supply



England, Scotland and Wales

Office of Telecommunications



England, Northern Ireland, Scotland and Wales

Office of Water Services



England and Wales

Source: National Audit Office

26 We examined the regulators' assessment of:

- the state of readiness of the utility companies for the year 2000;
- what more needs to be done to ensure that the utility companies are ready for the year 2000.

The position described is based on the results of our fieldwork up to 31 December 1998. It also includes progress reported orally by each of the regulators to the National Infrastructure Forum on 21 January 1999.

27 We focused on the primary aim of the regulators, which in each case is to ensure that essential services will be maintained over the millennium period. We did not examine areas not immediately relevant to maintaining essential services, such as billing and accounting systems. Although such systems are very important as regards maintaining the quality of service to customers, the regulators do not regard them as critical to ensuring that essential services are maintained.

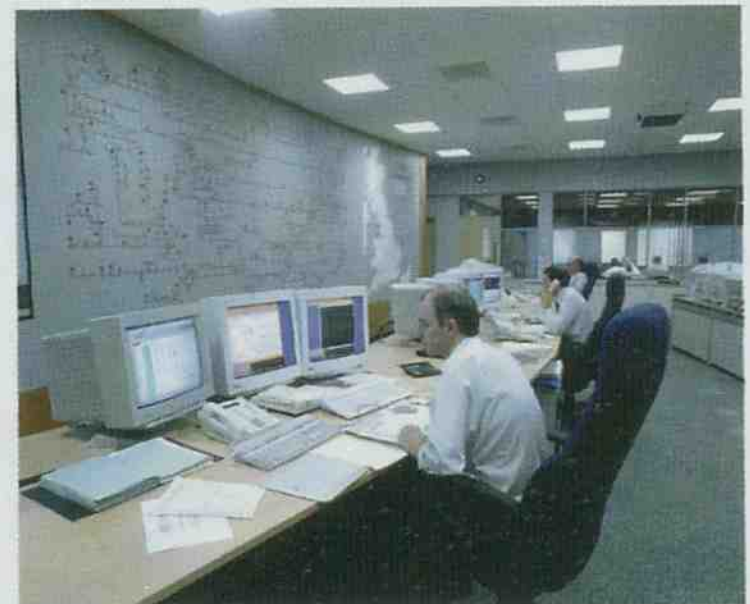
28 Our examination of the regulators was based on detailed discussions with their staff, supported by a close review of their files and the material supplied to them by the companies. Our aim has been to provide an early progress report on the state of preparedness of the four utility industries at a common date.

29 Our detailed findings relating to each of the regulators are set out in Appendices 1 to 4. The following sections set out the key points emerging from our examination.

30 Our examination follows our earlier reports in 1997 and 1998 and two reports in 1998 by the Committee of Public Accounts. These reports focused mainly on the preparations being made for the year 2000 in Central Government and the National Health Service. Appendix 5 summarises the key conclusions of these reports.

Unless the utility companies prepare properly, the Year 2000 problem could cause serious economic damage and possibly loss of life

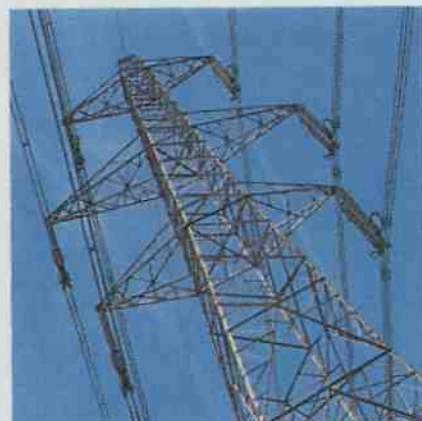
31 Computers, electronic systems and microprocessors that record dates are used throughout the utilities. For example, they are used in the minute to minute control of key systems, such as the electricity grid and the gas transmission system, in telephone exchanges, and in the equipment controlling the operation of power stations and water treatment works.



32 Unless the utility companies identify the systems affected by the Year 2000 problem, and take action to rectify or replace them, the change to the year 2000 could result in the failure of many of these systems. Figure 2 gives examples of the most serious problems that might arise if such failures occurred.

Examples of the most serious problems that might arise if companies did not prepare adequately for the year 2000 problem

Figure 2



Electricity

Failure of equipment in power stations and sub-stations could disrupt the National Grid and cut off electricity supplies to some parts of the country.



Gas

Multiple failures of key equipment in the gas transmission system could interrupt the flow of gas to customers. Resuming the supply to customers could take months because of the need to visit customers to remove air that would enter gas pipes while the supply was cut off.



Telecommunications

Modern telephone exchanges are wholly electronic and they and telecommunications networks are monitored and controlled by computer. Failure of exchanges or computers could cause loss of telecommunications services to customers, including the public emergency service. In addition, all utilities use telecommunications extensively, so telecommunications failures could affect any (or all) of the other utilities.



Water

Failures of pumps or valves could cause the water supply to be cut off or lead to flooding from sewers. Failures in electronic equipment might also affect water treatment and sewage works.

33 If failures were widespread, they would cause serious economic damage. They could also threaten loss of life, for example, if people could not call an ambulance because their telephone did not work, if they could not heat their home without gas or electricity, or if contaminated water entered the public supply.

The Cabinet Office and Action 2000 are working with the utility regulators in taking an active rôle in addressing the Year 2000 problem

34 In March 1998 the Prime Minister stated that the overall Government objective in connection with the Year 2000 problem was to "ensure no material disruption to the essential public services of the United Kingdom" as a result of the millennium bug. He announced additional expenditure of £97 million on a range of initiatives designed to ensure that businesses and Government are prepared for the year 2000. The Government have also established a Ministerial Group, chaired by the President of the Council and Leader of the House of Commons, to co-ordinate action across Government departments and the whole of the national infrastructure, including the utilities. In responding to the April 1998 report on the Year 2000 problem from the House of Commons Select Committee on Science and Technology, the Government emphasised the key rôle of the utility regulators in ensuring that those providing services to the public are as well prepared as possible.

35 The Year 2000 team in the Cabinet Office support the work of the Ministerial Group by co-ordinating information and initiatives and advising Ministers on the steps they need to take collectively: responsibility for action and implementation of initiatives rests with departments and other public sector/infrastructure bodies. In doing this they work closely with Action 2000.

36 Action 2000, a company limited by guarantee, were set up by the Government in March 1998 to support private sector businesses in their efforts to tackle the Year 2000 problem and to advise the Government on the action that might be taken. Action 2000 are jointly sponsored by the Department of Trade and Industry and the Cabinet Office, and are supported by Government grants (around £25 million in 1998-99).

37 Action 2000 have two main objectives as regards the national infrastructure:

- to ensure that there is no material disruption due to the millennium bug to public services on which the country and individuals rely;



**Millennium bug
act now!**

- to create public confidence that public services will continue to operate as normal.

38 In March 1998 Action 2000 inaugurated a National Infrastructure Forum to encourage companies to share information with each other and to provide a basis for building confidence that essential industries, including the utilities, will be able to cope.

39 Action 2000 are currently co-ordinating a process of independent assessment of each company's activities, so that other companies and the public can have greater confidence in companies' preparations. In October 1998 they issued guidance to the regulators on how to ensure that independent assessment of the utility companies provides sufficient information to enable the Government to assess the risk of material disruption in each industry. Action 2000's intention is that the results of the independent assessment should be disclosed to the public to enhance public confidence.

40 To ensure consistency of approach and enable comparisons between sectors, Action 2000 have introduced a colour coding system to chart the progress of key sectors in tackling the millennium bug (Figure 3).

Action 2000's colour coding system for charting the progress of sectors in tackling the Year 2000 problem

Figure 3

| Assessment | Colour code | Description |
|------------|-------------|--|
| None | White | Unable to form assessment with the present level of information. |
| Poor | Red | The assessment indicates that there is a severe risk of material disruption to infrastructure processes and that timely rectification may not be possible. |
| Average | Amber | The assessment indicates that there is some risk of material disruption to infrastructure processes, but that there is an agreed containment plan to rectify shortcomings. |
| Neutral | Blue | The assessment has not identified any risks of material disruption to the infrastructure process. |

Source: Action 2000

The utility companies are responsible for preparing for the Year 2000 problem: the regulators have a responsibility to see that this is done

41 The individual utility companies have primary responsibility for ensuring the continuity of their services. As the owners and operators of the utility networks, the companies are clearly in the best position to ensure that services are maintained. They have a direct commercial incentive to provide the services for which their customers pay them, and in many cases they are also required to compensate customers if services are badly disrupted. The companies also have relevant legal duties. For example, the operators of networks, such as British Telecommunications and the gas transportation company Transco, have statutory duties to operate their networks economically and efficiently.

42 The industry regulators have a dual responsibility:

- They are responsible for enforcing the duties given to the companies and for protecting customers. The regulators have a variety of powers at their disposal. They can require the companies to provide them with information and can, in certain circumstances, make orders directing companies to put right actual or prospective breaches of their licence obligations or certain statutory obligations.
- They have a duty to use these powers "in a manner calculated to ensure that all reasonable demands for" gas, electricity and telecommunications are satisfied (the water regulator's duties are expressed slightly differently but with broadly similar effect).²

43 Although the primary responsibility lies with the companies, the regulators have powers to require the companies to prepare effectively for the Year 2000 problem, and a duty to use these powers if effective preparations are not being made.

² The Secretaries of State (of Trade and Industry in the case of telecommunications, gas, and electricity, and of the Environment, Transport and the Regions and of Wales in the case of water) also have this duty, but do not have the detailed supervisory powers and responsibilities of the industry regulators.

All the utility regulators have requested information on how the companies are addressing the millennium problem and have commissioned independent assessments of the companies' plans

44 All the regulators have taken the view that it is not sufficient to rely entirely on the commercial incentives on companies to ensure that services are maintained. They have therefore asked the companies they regulate about the preparations the companies are making for the millennium.

45 The regulators have given particular priority to essential services to the public, since it would be disruption to these services that would most affect the public (Figure 4). They have given less priority to other services, such as billing and trading systems, on the grounds that there are strong financial incentives for the companies to ensure that these systems operate normally.





46 The regulators have identified 68 companies that they regard as key to ensuring that services to the public are maintained over the millennium period (Figure 4). Nineteen of these companies are in the electricity industry, 2 are in the gas industry, 19 are telecommunications companies and 28 are water companies.

47 The regulators recognise that their enquiries need to cover the companies' preparations in four main areas:

- ensuring that companies' own systems are millennium compliant;
- ensuring that companies' suppliers will continue to be able to provide goods and services needed to support services to the public;
- the companies' contingency plans, in case failures occur despite all the precautions taken;
- the companies' timetables for completing preparations.

Figure 4

Regulatory priorities in addressing the millennium problem

| The regulators' main priorities in addressing the millennium problem |  |  |  |  |
|---|---|--|---|---|
| | | | | |
| 68 companies regarded by the regulators as key to ensuring that essential services are maintained | Ensuring continuation of the electricity supply over the millennium period. | Maintaining the safe physical flow of gas to customers. | Ensuring that present levels of service to customers are maintained. | Ensuring that the water supply to customers is maintained. |
| | Maintaining access to public emergency telephone services. | Maintaining that sewerage systems operate effectively. | | |
| | 5 companies providing 75% of generating capacity to England and Wales (one of these 5 companies is also a regional supplier). | Transco (the largest gas transporter). | 3 main fixed operators. | All 10 water and sewerage companies and all 18 water only companies. |
| | Siemens Metering Services Ltd (who maintain the electronic cards, charging units and meters for prepayment customers). | 4 main mobile operators. | 11 other companies who provide dial tone. | |
| | The National Grid Company | See note ³ | Racal, who provide the tele-communications network for the railways. | |
| | 11 other regional companies in England and Wales. | | | |
| | 2 companies in Scotland. | | | |
| | Total: 19 | Total: 2 | Total: 19 | Total: 28 |

Source: The Regulators

48 The approach followed by the regulators so far has been based on the exchange of information and discussion, and none have considered it necessary to resort to formal sanctions against companies. All the regulators have made written requests for information or had discussions with the companies about the companies' own systems and the companies' timetables for completion (Figure 5). All the companies have responded to the regulators' requests for information.

3 Although OFGAS do not regulate the companies that produce gas from gas fields and operate the coastal terminals at which gas is landed and treated, OFGAS need to be satisfied that these companies are able to continue to supply gas to Transco's pipelines over the millennium period. The Department of Trade and Industry and Transco have been monitoring the preparations made by these companies to address the millennium problem and have been sharing the results with OFGAS.

Figure 5

Regulatory action to address the millennium problem

| |  |  |  |  |
|---|--|---|---|--|
| Regulatory action to ensure that key companies are addressing the millennium problem | Informal consultation in April 1997. Letters to companies in March 1998 asking for details of their preparations. | Discussions with Transco throughout 1998 and with Siemens Metering Services Ltd in December 1998. | Letters to companies in July and October 1997 and July 1998. | Questionnaires to companies in January 1998 and a follow up of responses in July 1998. |
| The regulators' plans to obtain independent assessments of companies' plans | Commissioned independent assessments in December 1998. Initial results of the independent assessments were published in January 1999. | Commissioned independent assessments of Transco and Siemens Metering Services Ltd in December 1998. Initial results of the independent assessments were published in January 1999. | Intending in February 1999 to commission an independent assessment of the industry's system of peer review. | Commissioned an independent assessment in August 1998, with results reported in October 1998. Intending to commission further independent assessments in 1999. |

Source: The Regulators

49 Although OFFER, OFGAS and OFTEL have now commissioned, or are in the process of commissioning, some form of independent assessment of companies' preparations, only OFWAT have so far completed such an assessment (Figure 5). OFWAT commissioned in August 1998 a firm of consulting engineers, Montgomery Watson, to carry out an assessment of the preparations made by the water companies. The consultants reported in October 1998. OFFER and OFGAS commissioned independent assessments in December 1998 and initial results were published in January 1999. The telecommunications industry is operating a system of peer review, whereby each company is being assessed by two others. OFTEL have decided to commission an independent assessment of the peer review process, with results due in February 1999.

Many companies have told the regulators that they are making good progress in addressing the millennium problem but some are not expecting to be fully compliant until mid 1999

Most companies have said that they are well advanced in rectifying and testing their own systems

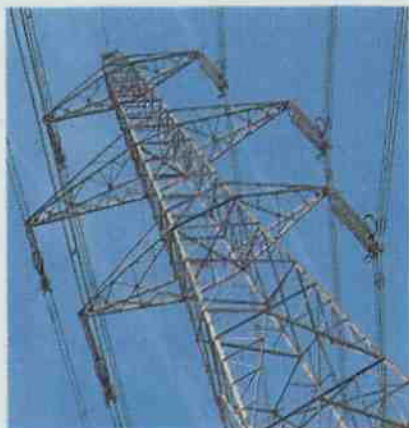



50 To ensure that their own systems will be millennium compliant, companies need to undertake four key steps:

- **Inventories** – drawing up an inventory of all the systems that use computers, microprocessors or other components that might be affected by the millennium problem.
- **Problem identification** – ascertaining which components are likely to be affected by the millennium problem, for example, by testing or by consulting component manufacturers.
- **Rectification** – for example, by re-writing software, or by replacing affected equipment.
- **Testing** – to ensure that rectification is effective. In complex systems testing needs to include tests both of individual components and of the system as a whole.

51 Figure 6 shows the progress made by the key companies. For the electricity, gas and telecommunications industries, this relies on reports by the companies themselves to the regulators. All the key companies in these industries report that they have drawn up inventories and completed problem identification. Most companies have started rectification work and some have completed it. Most companies expected to have completed rectification and testing by the end of 1998 or in the first half of 1999. Information for the water industry is based on data collected by independent consultants for OFWAT in August 1998. The consultants found that at that time many water companies had not completed drawing up inventories, or started the later stages of the work.

Figure 6

Progress made by key companies on their own systems

| | Electricity | Gas | Telecommunications | Water (see note) |
|-------------------------------|---|---|---|--|
| |  |  |  |  |
| Preparing inventories | All 19 companies have completed inventories of all critical areas. | Transco and Siemens Metering Services Ltd have completed their inventory process. | All 19 companies have completed inventories of all equipment and systems that might be affected by the millennium change. | All but 6 of the 28 companies have surveyed at least 80 per cent of the sites identified as potentially at risk. One company has completed only 26 per cent of its site surveys. |
| Problem identification | All key companies have identified and ranked problem equipment and systems. | Transco and Siemens Metering Services Ltd have completed their problem identification. | All companies have identified the potential problem areas where corrective action might be needed. | Less than half the companies have completed at least half their problem identification. |
| Rectification | All companies aimed to have completed rectification of their more important equipment and systems by December 1998. | Transco and Siemens Metering Services Ltd have started rectification and aim to complete it during the first quarter of 1999. | Most companies are well advanced in rectifying their equipment and systems. | Most companies have begun rectification work and 4 companies have completed it. Five companies have not yet started. |
| Testing | All companies aimed to have completed testing by December 1998. | Transco aim to complete implementation during the second quarter of 1999. Siemens Metering Services Ltd aim to have tested their systems by March 1999. | All companies have started testing. All but one expect to complete testing by June 1999. | Five companies have completed testing but 13 have not yet started. |

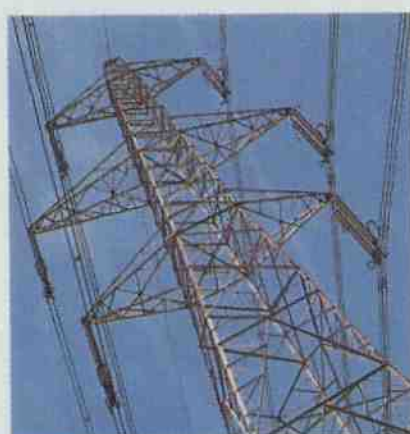
Note: Information for the water industry is based on August 1998 survey data, the latest currently available.
Source: The Regulators

While some companies expected to be year 2000 compliant by the end of 1998, others will not be ready until well into 1999

52 Figure 7 shows the targets for millennium compliance reported to the regulators by the key companies. Twenty-five of the key companies intended that their critical systems should be millennium compliant by the end of 1998. A further 29 companies said that they expected to be millennium compliant during the first half of 1999. Eleven companies, however, said that their systems would not be ready until the second half of 1999. These companies consisted of 10 water companies and one small telecommunications company.

The companies' own targets for millennium compliance

Figure 7



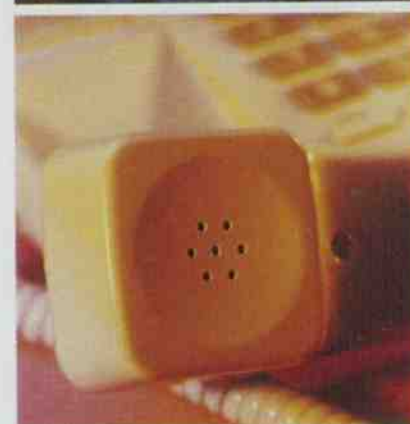
Electricity

All 19 companies intended to have their core systems compliant by the end of 1998.



Gas

Transco completed most of their compliance work in 1998 and expect to complete all remaining remedial work by the end of June 1999. Siemens Metering Services Ltd intend that their systems should be ready during the first quarter of 1999.



Telecommunications

All but one of the 19 companies expect to be compliant by June 1999.



Water

Of the 25 companies who provided information in August 1998 (see note) on their targets for compliance, 6 expected to be compliant by the end of 1998, 9 in the first half of 1999 and 10 in the second half of 1999.

These 10 companies later provided OFWAT with updated information showing that rectification and testing would be virtually complete by March to July 1999.

Note: This information is based on what the companies told independent consultants commissioned by OFWAT in August 1998.

Source: The Regulators

53 Target completion dates in the second half of 1999 allow little room for slippage in the companies' plans. If any late problems are identified, there will be little time for rectification and follow-up testing. In December 1998 OFWAT contacted the ten water companies who had told the independent consultants that they would not be ready until late 1999. All the companies either provided information showing that their plans were more advanced than had been thought, or had changed their plans to remedy potential problem areas. The overall picture was that rectification and testing were expected to be virtually complete by March to July 1999.

All the companies who have provided information to the regulators have said that they are seeking to safeguard the continuity of key supplies

54 All the utility industries depend on each other and on suppliers of goods and services in other industries to maintain their own operations. Electricity and telecommunications are particularly important because of the rôle they play in monitoring, controlling and operating the equipment in all the utilities. The gas industry is also highly dependent on supplies of gas from off-shore producers. Each of the utility industries is providing assurance to the others through meetings of the National Infrastructure Forum.

55 Figure 8 summarises the progress reported by companies in safeguarding the continuity of key supplies essential to their operations. All the companies who have provided the regulators with information have said that they are in the process of contacting key suppliers.

Progress reported by
the companies in
safeguarding the
continuity of supplies

Figure 8



Electricity

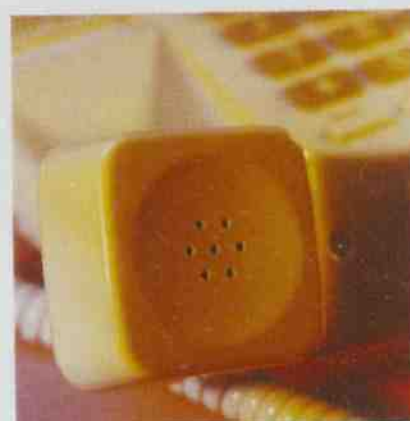
OFFER believe that, apart from gas, water & telecommunications, the electricity industry is in the short term largely independent of other suppliers. OFFER have not therefore addressed the supply chain as they are aware that others are taking action in the relevant infrastructure sectors.



Gas

Transco are liaising with their own key suppliers and are meeting key gas producers and terminal operators on a voluntary basis since no contractual obligations are involved.

OFGAS are planning to ask Transco and Siemens Metering Services Ltd in early 1999 to provide evidence of suppliers' assurances. OFGAS will continue to monitor the arrangements being made to safeguard the continuity of supplies.



Telecommunications

All companies are talking to their suppliers.

Two companies have said that they are making good progress in ensuring continuity of supplies.

Starting in February 1999, OFTEL intend to follow up the progress being made by the other 17 key companies.



Water

All companies are in the process of contacting key suppliers, particularly electricity and telecommunications companies.

Some have received satisfactory responses, while others are awaiting responses.

Source: The Regulators

The regulators have little information on the adequacy of the companies' contingency plans for dealing with the possibility of system failures occurring over the millennium period

56 Despite all the above preparations, the companies need to allow for the possibility that equipment and systems may still fail as a result of the millennium problem. They need to develop contingency plans against the risk of failures in their own systems and on the part of their suppliers. The plans will need to address such matters as staff availability over the millennium period and how to ensure that key automated systems can be operated manually if required. They will also need to consider abnormal patterns of demand, especially in telecommunications

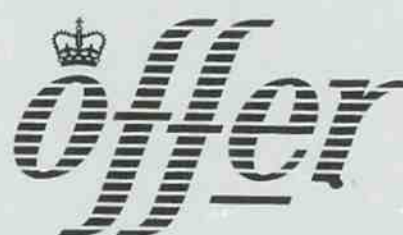
systems. The companies also need to review disaster recovery plans in the light of the risks from the millennium bug in case their contingency plans fail to prevent serious disruption to their services, or key suppliers fail.

57 Arrangements for supply emergencies already exist within the four industries. In the electricity industry, for example, these rely on automatic and manual intervention to respond to and minimise the effect of system failures. Such procedures would automatically come into effect if there were significant problems arising in electricity supply at the millennium. Companies in the water industry are statutorily required to put in place contingency plans capable of dealing with any emergency situation arising from any cause. The Department of the Environment, Transport and the Regions have asked the companies to obtain independent certification of their new or revised contingency plans and to submit these to the Department by April 1999.

58 The regulators have limited information, however, on the companies' contingency plans for dealing with failures arising specifically as a result of the millennium bug (Figure 9). All the regulators are planning in 1999 to examine the companies' contingency plans for the millennium.

Progress reported by
key companies in
developing millennium-
specific contingency
plans to deal with
failures of equipment or
systems

Figure 9



OFFER have yet to discuss millennium-specific contingency planning with the electricity companies, but intend to look at the companies' contingency plans in detail in 1999.



Transco have demonstrated their approach to contingency planning to OFGAS and will be reporting progress through 1999.

OFGAS have yet to discuss contingency planning with Siemens Metering Services Ltd, but are planning to do so in early 1999.



Five companies have told OFTEL that they are well advanced with contingency planning. The position of the other key operators will not be known until the industry's peer review process is completed in early 1999.

OFTEL aim to examine the companies' contingency plans in early 1999.



All the companies are reviewing their contingency planning and are aiming to complete their plans by March 1999.

The independent assessment that OFWAT intend to commission in March 1999 will cover the testing of contingency plans.

Source: The Regulators

All the utility regulators recognise that there is work still to be done by the companies to be ready for the year 2000 and that they will need to monitor progress throughout 1999

59 The regulators consider that the companies need to take the following actions to ensure that their equipment and systems are millennium compliant:

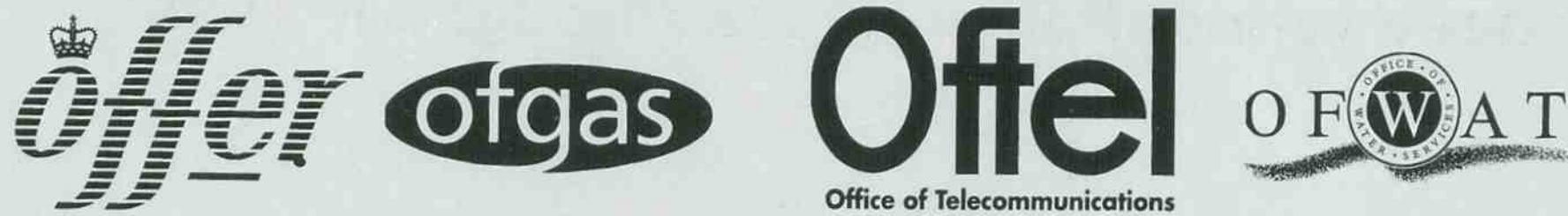
- complete inventories of relevant systems and identify problem components;
- complete work on rectifying the equipment and systems identified as not being millennium compliant;
- complete the testing of rectified equipment and systems to ensure that they are millennium compliant and will remain so in the run up to the millennium;
- ensure that they have adequate stocks and have taken all possible steps to safeguard the continuity of key supplies over the millennium period;
- complete their contingency plans and review their disaster recovery plans so as to deal with any failures which might occur

60 Providing that the companies complete this work on time, all the regulators are confident that the utility industries will be able to avoid any major disruption to services to customers. It is important to recognise, however, that, except for OFWAT, the regulators' views are based on what they have been told by the companies and not so far on any independent assessment of the companies' preparations. The regulators' proposed assurances also apply only to the areas for which they are responsible.

61 All the regulators recognise that they will need to monitor performance closely throughout 1999 to ensure that the companies deliver on their programmes of work. Each of the regulators has drawn up an action plan for this purpose (Figure 10).

The regulators' action
for addressing the
millennium problem
in 1999

Figure 10



- | | | | |
|--|---|--|---|
| <ol style="list-style-type: none"> 1. From January 1999 review the results of OFFER's independent assessment of the companies' preparations. 2. Monitor the companies' progress monthly. 3. Analyse millennium-specific contingency and disaster recovery plans, starting in January 1999 and continuing throughout 1999. 4. Participate in industry forums and liaise with Action 2000. | <ol style="list-style-type: none"> 1. Obtain in early 1999 an independent assessment of the companies' preparations. 2. Receive monthly progress reports from the companies. 3. Review Transco's progress quarterly with the company's senior management. 4. Review the companies' contingency and disaster recovery plans in early 1999. 5. Participate in industry forums and liaise with Action 2000. | <ol style="list-style-type: none"> 1. Commission consultants in early 1999 to provide an independent assessment of the industry's peer review process. 2. Write follow-up letters to the companies from February 1999 and complete meetings with them in February 1999. 3. Follow up companies' progress in safeguarding their supply chains, starting in February 1999. 4. Review the companies' contingency and disaster recovery plans on an ongoing basis. 5. Participate in industry forums and liaise with Action 2000. | <ol style="list-style-type: none"> 1. In January 1999 follow up the companies' responses to OFWAT's concerns arising out of the 1998 independent assessment. 2. Appoint a firm of independent consulting engineers in March 1999 to carry out verification site visits to all 28 companies and undertake an industry-wide survey. Publish the results by early June 1999. 3. Carry out a further survey of companies' readiness in mid-July 1999, to be reported in August 1999. 4. Participate in industry forums and liaise with Action 2000. |
|--|---|--|---|

Source: The Regulators

All the regulators intend to publish information during 1999 on the state of preparedness of the industries they regulate

62 All the regulators plan to publish information on what progress the utilities have made to address the millennium problem (Figure 11). OFWAT have already published the results of their independent assessment of the water companies' preparations, although without the names of the individual companies being shown. They and the other regulators expect to publish further information in 1999 on the state of preparedness of the industries they regulate.

The regulators' plans for publishing information on the companies' preparedness for the year 2000

Figure 11



Intend to publish in February 1999 the results of their independent assessment of the industry's readiness (initial results published in January 1999).

Have not yet decided whether to publish information about individual companies.



Intend to publish in February 1999 the results of their independent assessment of the readiness of Transco and Siemens Metering Services Ltd (initial results published in January 1999).

Have not yet decided how to publish information about other companies in the industry.



Plan to publish information at regular intervals throughout 1999 on the state of preparedness of the industry.



Expect in conjunction with Action 2000 to publish further information on the progress of millennium preparations across the water industry as a whole.

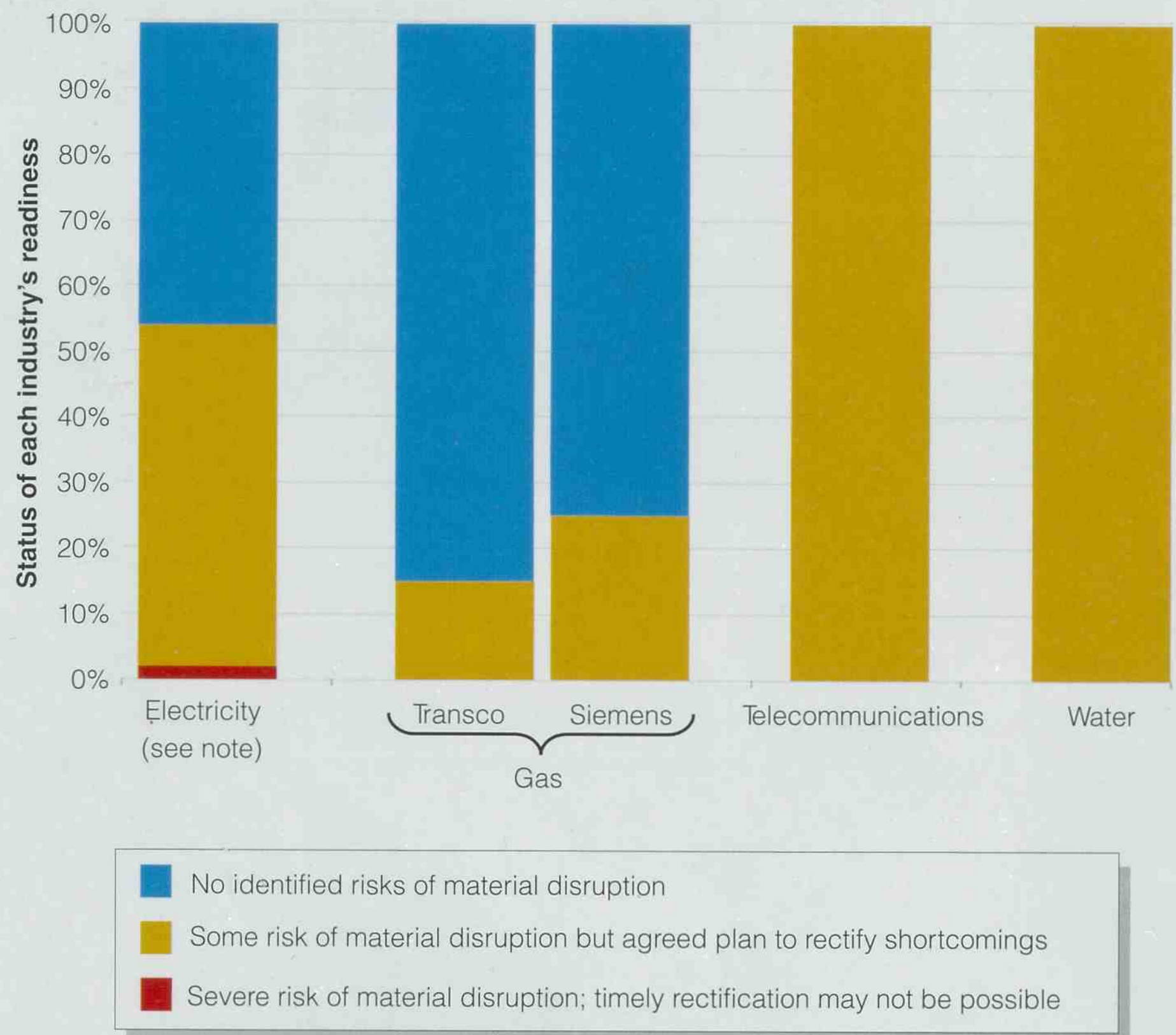
Source: The Regulators

63 All the regulators reported to the National Infrastructure Forum on 21 January 1999 on the state of readiness of the industries they regulate, based on Action 2000's colour coding system (Figure 12). The regulators concluded that, although risks remained, plans were in place to contain those risks within the time available. They expected that between April and September 1999 their industries would all achieve 100% "blue" status - signifying no identified risk of material disruption to the infrastructure process (Figure 13).

The state of readiness of the utility industries as reported to the National Infrastructure Forum on 21 January 1999

Figure 12

This graph shows the regulators' assessment of the state of readiness of each industry at 21 January 1999

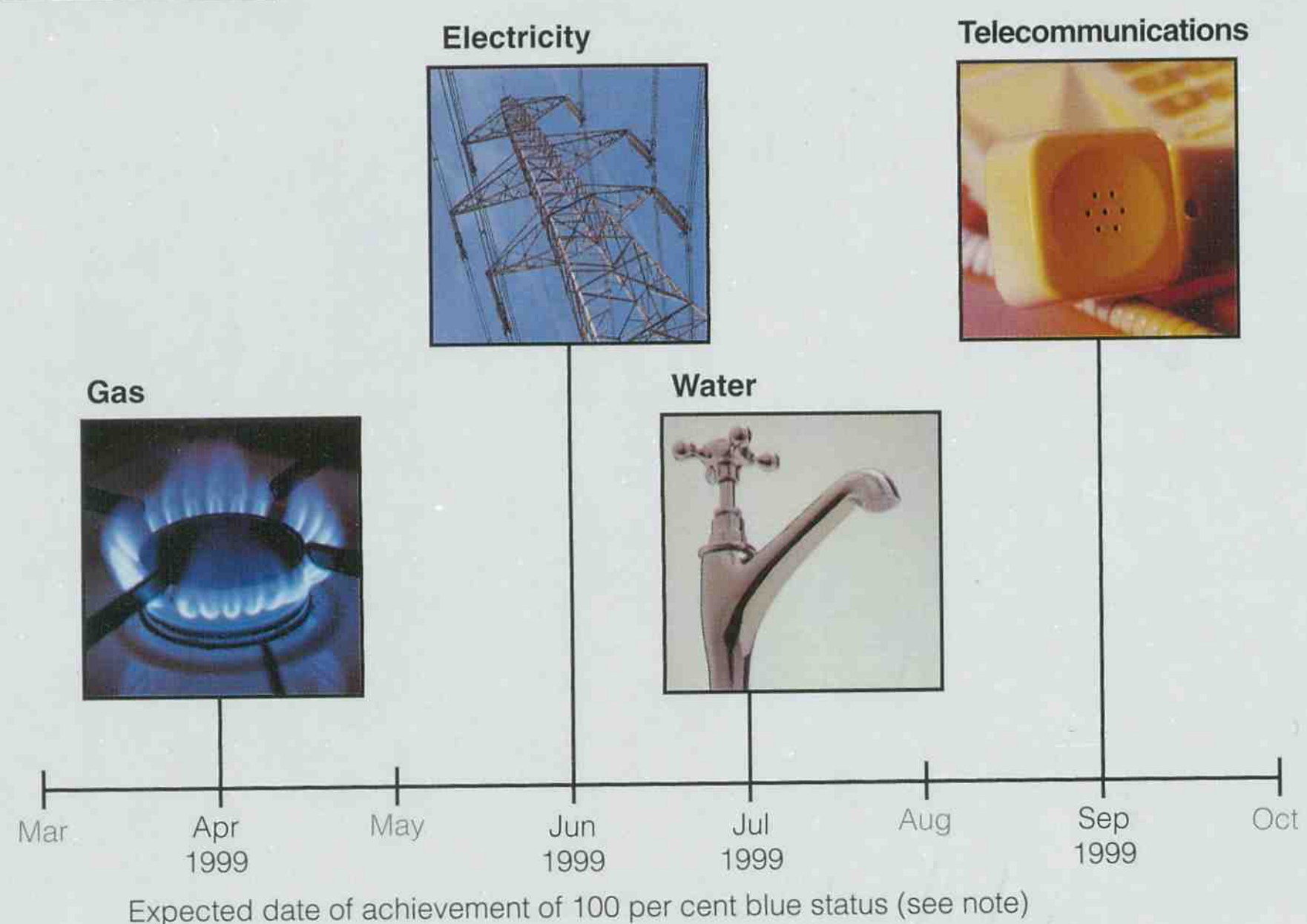


Note: The 2% "red" assessment relates to some old generating sets which are very low down on the merit order and unlikely to be needed.

Source: The Regulators

Expected date of achievement of 100 per cent blue status as reported to the National Infrastructure Forum on 21 January 1999

Figure 13



Expected date of achievement of 100 per cent blue status (see note)

Source: The Regulators

Note: Blue status signifies no identified risk of material disruption.

Case examples

1 This section describes briefly the progress reported by five companies, which between them operate in all four utility industries. The companies are: BT, the National Grid Company, Scottish Power, Transco and Yorkshire Water. All the companies have adopted broadly similar objectives for their Year 2000 programmes, aiming in particular to avoid any material disruption of the service they provide to their customers and to have in place contingency plans to deal with any failures that might occur. All five companies report that they are confident that there will be no material disruption to their service to customers and have published or intend to publish information on their Year 2000 programmes on the Internet and in a variety of other ways. The progress reported by each company is set out below.



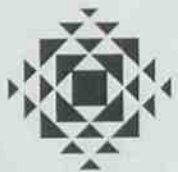
2 BT are the largest supplier of telecommunications in the United Kingdom, with 85 per cent of the local call market, 76 per cent of national calls and 52 per cent of international calls. BT established their Year 2000 programme in December 1995 with the target of completing all end-to-end testing by December 1998, and at an estimated total cost of £300 million. They report the following progress:

- As of December 1998, fixes to 97 per cent of BT's systems had been tested and deployed, with the remainder targeted for deployment in early 1999.
- The Year 2000 programme team have now shifted their focus onto contingency planning, managing all the external and internal risks arising from the year 2000 transition, of which the date-related technical problem is now becoming a relatively small part.
- BT's international products are subject to more complicated supplier and partner issues. In particular, they depend on local telecom operators completing their year 2000 work to time. BT are working closely with their partners and with the International Telecommunications Union to stimulate action and to build appropriate contingency plans.



3 The National Grid Company operate the 7,000 miles of high voltage power lines and some 280 substations that make up the electricity transmission system in England and Wales. They are also responsible for controlling the generation of electricity to ensure that enough electricity is generated to meet customers' demand. They began work on their Year 2000 programme in 1996 and expect it to cost around £20 million. They report the following progress:

- They have completed their inventories and are in the process of rectifying and testing their systems. They are moving from the "test and fix" stage into contingency planning.
- They are in the process of contacting their suppliers, and expected these checks to be complete by mid June 1999.
- They are working with the Government and industry bodies.
- They are currently building on existing contingency plans in order to be fully prepared to react to any unforeseen problems.



ScottishPower

4 Scottish Power serve 1.8 million electricity customers in Scotland, 1.3 million electricity customers in Merseyside and North Wales, and 1.7 million water and/or sewerage customers in southern England. They also serve some 500,000 gas customers around the country. They established a Year 2000 programme in May 1997 and estimate its total cost will be about £30 million. They report the following progress:

- They have identified critical systems and, where appropriate, solutions have been identified and most have been implemented. Most critical systems were year 2000 ready by the end of 1998 and they intend to complete the remainder early in 1999. Non-critical systems will continue to be addressed during 1999.
- They are seeking compliance assurances from their suppliers.
- They are working with various industry forums to share solutions.
- They are in the process of preparing contingency plans to manage the additional risks presented by the year 2000.

Transco^g

5 Transco are the largest gas transporter in Britain, serving 99 per cent of homes served by gas. They are responsible for transporting gas safely and efficiently from the terminal to the customer and for operating a 24-hour gas emergency service to deal promptly with reported gas leaks and other dangerous incidents. They have 300 main sites and offices, 3,000 other locations, over 12,000 desktop computers and 6,500 suppliers. They report the following progress:

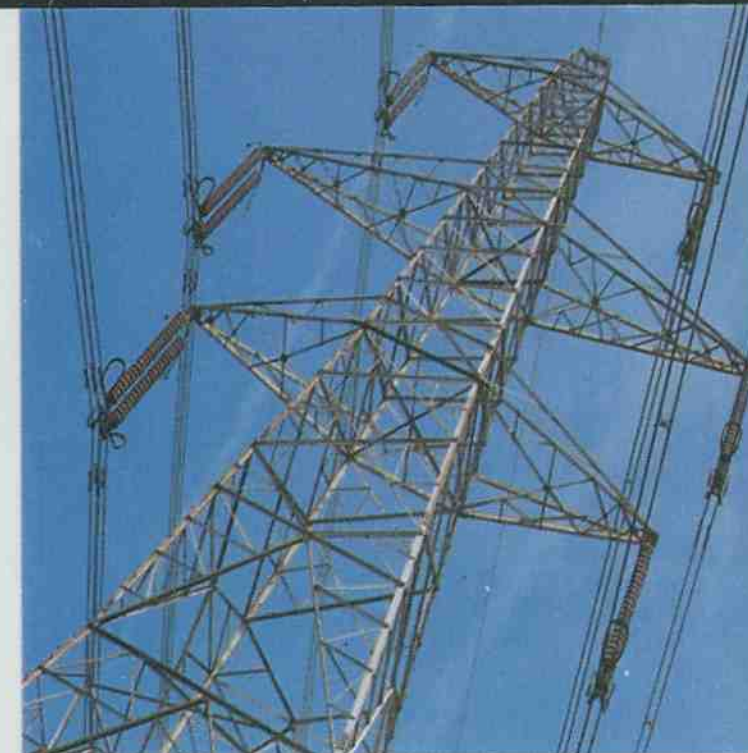
- All inventories are in place and assessments complete.
- Rectification and testing are well advanced and were planned to be completed for key systems by the end of 1998. Any rectification and testing necessary in 1999 is authorised by Transco's board and closely monitored - none is expected materially to affect Transco's business.
- Transco have been liaising with key parts of their supply chain since 1997, including other utilities, shippers, gas producers and regulators.
- Transco intend to review existing contingency plans during 1999 in the light of the impact of the millennium.



6 Yorkshire Water provide water and/or sewerage services to 4.5 million people. They operate 123 water treatment works, 620 sewage treatment works and more than 17,000 miles of water mains. They formed a Year 2000 steering group in 1997 to manage the Year 2000 problem. They report the following progress:

- Inventories for all systems and equipment and the identification of risks for key systems and processes have been completed. Rectification and testing of 92 per cent of the high priority systems/equipment were completed by the end of December 1998. The remainder will be completed by March 1999.
- All suppliers have been risk assessed and 43 high-risk suppliers have been identified. Yorkshire Water are actively working with them to mitigate business risk and with Government and industry bodies to combat the Year 2000 problem at a national and local level.

- Contingency planning is well underway, aimed at assessing the impact of failure of individual systems, services and suppliers, and producing operational contingency plans over and above existing emergency/disaster recovery plans.



Appendix 1: Electricity

What are the statutory responsibilities of the Office of Electricity Regulation (OFFER) and the electricity companies?

1 The Electricity Act 1989 gives the Director General of Electricity Supply, the head of OFFER, duties which include a duty to act in the manner which he considers is best calculated to secure that all reasonable demands for electricity are satisfied. All network operators (the National Grid Company, the 2 Scottish electricity companies and the 12 regional electricity companies in England and Wales) have a duty under the Act to operate efficient, co-ordinated and economical systems. OFFER may take enforcement action under the Act if the companies' licence obligations and certain statutory obligations are not met, and may seek amendments to licences to address issues of concern.

What do OFFER consider is their responsibility and the responsibility of the companies as regards the millennium problem?

2 OFFER consider that the millennium problem is covered by the existing range of statutory and licence duties which, taken together, require companies to operate in such a manner as to maintain electricity supplies. OFFER consider that companies in the industry should take all necessary steps to ensure that the millennium bug does not cause material disruption to electricity supplies. In the light of the statutory duties of the Director General, OFFER regard their responsibility as being to ensure that companies take timely and effective action to achieve this.

3 If the electricity supply is interrupted for more than 24 hours, domestic customers affected are entitled to claim a £50 payment from their electricity company. For non-domestic customers the amount of compensation due will depend on their particular terms of supply.

What do OFFER consider to be the main priorities in tackling the millennium problem?

4 OFFER's primary aim is that electricity supplies should not be interrupted because of the millennium bug. OFFER are also the "Responsible Body" for the electricity industry as regards the Action 2000 Programme.



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5 OFFER recognise that electricity supplies are vital to the provision of essential services in major industries, such as water, electricity, gas, transport and finance. The functioning of much of the national infrastructure depends on the continued supply of electricity.

6 OFFER regard the following companies as priorities in ensuring that a normal electricity service is maintained:

- The 5 companies (National Power, PowerGen, Nuclear Electric, Magnox Electric and Eastern) who provide 75 per cent of generating capacity to England and Wales. The remaining 25 per cent of generating capacity is provided by recent entrants to the generation market and through interconnections to the Scottish and French networks. Eastern are also a regional electricity company, distributing and supplying electricity in their authorised area.
- The National Grid Company, who transmit electricity at high voltage throughout England and Wales.
- The 11 other regional electricity companies in England and Wales, who distribute low voltage electricity in their authorised areas and supply electricity to end customers.
- The 2 companies (Scottish Power and Hydro-Electric), who generate, transmit, distribute and supply electricity in Scotland.

What action have OFFER taken to ensure that the companies are addressing the millennium problem?

7 In April 1997, OFFER asked their regional managers to find out what steps the 12 regional electricity companies in England and Wales, the 2 Scottish companies and the National Grid Company had taken to address the millennium problem. The electricity generators were not contacted at this stage. OFFER did not follow up this request and the information obtained was not collated or analysed centrally.



8 In March 1998, OFFER wrote to key licensees and other industry participants. Their aim was to assess the approach of licensees towards the millennium problem, so as to evaluate the risks to electricity generation, transmission, distribution, supply and trading systems. The letter requested:

- an assessment of the nature and extent of any problems;
- a timetable for scoping and resolving problems;
- details of resources and management arrangements;
- the criteria used for measuring compliance.

9 OFFER received substantive replies to their March 1998 consultation from all the companies on their priority list.

10 In December 1998 OFFER commissioned consultants to undertake an independent assessment of the electricity industry's preparedness for the millennium. The consultants have been asked to provide:

- an assessment of the work the electricity companies are doing to achieve millennium compliance;
- an "end-to-end" assessment of the industry processes that occur from the generation of electricity to its supply to the customer to ensure that no problems exist in the linkages between generation, transmission, distribution and supply.

Initial results from the assessment were received in January 1999.

11 OFFER are working with the key players in the electricity industry to help to ensure that there should be no material disruption to essential services as a result of the millennium bug. To this end they liaise regularly with the Electricity Association, the Department of Trade and Industry, Action 2000 and the National Infrastructure Forum.



What have OFFER found the companies to be doing to address the millennium problem?

the companies' own systems

12 Inventories OFFER have been informed by all the companies on their priority list that inventories of all critical areas have been completed.

13 Problem Identification All the key companies have identified and ranked problem equipment and systems into three main categories of importance. The highest category covers those items which are crucial for the continuation of electricity supply. Plans for rectification and testing have been prioritised in accordance with this classification.

14 Rectification OFFER consider that there are three main options that the companies need to consider:

- replacement of non-compliant equipment or systems;
- refurbishment or fixing of non-compliant equipment or systems;
- taking no corrective action, because equipment or systems are due to be upgraded before the millennium change, because the date is not critical to their operation, or because their operation is not critical to the supply of electricity.

15 All the key companies have informed OFFER that they have a programme for achieving compliance. They told OFFER that rectification programmes have commenced on those systems they deemed crucial to the continuance of electricity supply.

16 Three companies reported that they planned to have completed rectification of their critical equipment and systems before the end of November 1998. The remainder were well advanced in rectification work. All companies aimed to have completed rectification of their most important equipment and systems by December 1998.



17 **Testing** There are three elements to this process:

- testing equipment and systems on their own;
- testing equipment and systems within the wider environment within which they are expected to function;
- testing that compliant equipment and systems remain so in the light of subsequent changes.

18 Testing is an integral part of the compliance programme and follows on from the rectification process. All the key companies have incorporated testing of critical equipment and systems into the rectification procedure and aimed to have completed this work by December 1998.

the companies' supply chain

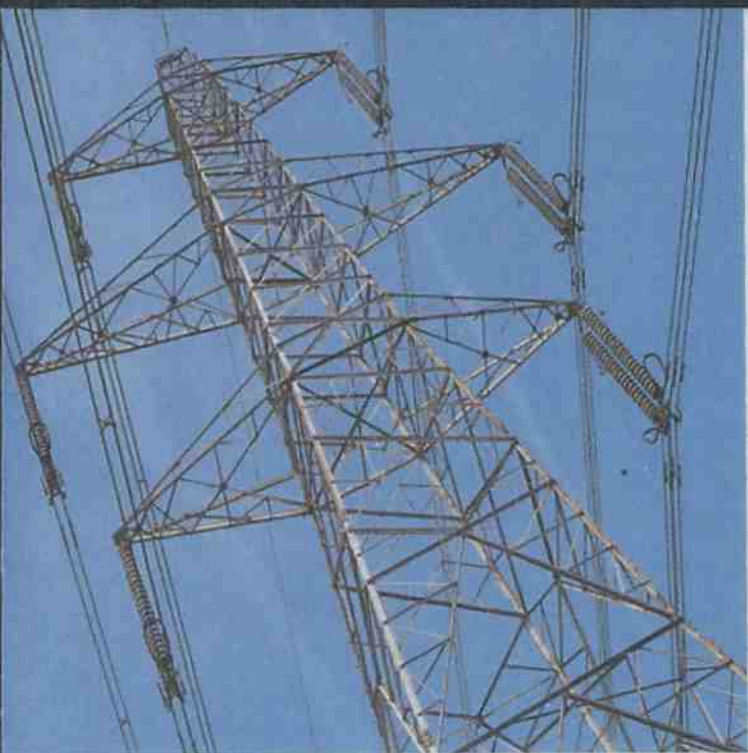
19 A number of support services are essential to enable equipment and systems to function. For example, water is critical for cooling, fuel is needed for generation, and telecommunications are fundamental to many processes throughout the industry. OFFER consider that shortages of fuel should not be a problem for coal and nuclear-fired power stations. However, gas-fired power stations, which account for around a quarter of electricity generated, will need to take steps to ensure continuity of gas supplies, though some of these stations have their own back up liquid fuel supplies.

20 OFFER have not done any work specifically to address the supply chain as they are aware that others are taking action in the relevant infrastructure sectors. They believe that, apart from water, fuel and telecommunications, the electricity industry is in the short term largely independent of other supplies. Important facilities are routinely manned and operated on a 24-hour basis, which should minimise problems arising from any possible transport disruption.

contingency plans

21 OFFER have identified the following elements that should be addressed in companies' contingency plans:

- ensuring staff availability over the millennium period;



- making sure that automated systems can be operated manually if required.

22 In 1999 OFFER intend to consider in detail the contingency plans the industry has in place to deal with any failures occurring over the millennium period.

23 OFFER will also be reviewing the companies' existing disaster recovery plans to ensure that they are sufficient to deal with any serious problems that might occur as a result of the millennium bug. Arrangements for supply emergencies already exist within the industry. These rely on automatic and manual intervention to respond to and minimise the effect of system failures. Such procedures would come into effect if there were significant problems arising in electricity supply at the millennium.

timetable

24 All the key companies told OFFER that they intended to have core systems compliant by the end of 1998.

What is OFFER's assessment of whether the companies will be able to avoid any major disruption to services to customers?

25 OFFER have been told by the companies that two significant problem areas have been identified that need to be rectified to ensure continuity of electricity supply:

- Some protection relays are non-compliant so all need to be checked. These are crucial systems that monitor and control faults on transmission and distribution networks.
- Some control systems critical to the operation of the transmission and distribution networks are non-compliant.

The companies told OFFER that they were well advanced in rectifying and testing in these two areas but a small proportion of protection relays and control systems still needed to be dealt with.



26 Subject to the resolution of these problems, and to the satisfactory completion of rectification and testing of equipment and systems by all the key companies, OFFER are confident that there will be no major disruption to electricity supplies over the millennium period. At this stage this assessment by OFFER is based on the information given to them by the companies.

27 OFFER are not in a position to test that the electricity supplied via the interconnector with France will continue over the millennium period. OFFER consider, however, that, as this source contributes only four per cent of peak demand, the industry would be able to cope if the supply were disrupted at the millennium.

What more needs to be done to be ready for the year 2000?

by the companies

28 OFFER consider that the companies need to take the following actions to ensure that their equipment and systems are millennium compliant:

- complete work on rectifying equipment and systems identified as not being millennium compliant, including resolving problems with protection relays and control systems;
- complete the testing of rectified equipment and systems to ensure that they are millennium compliant and remain so in the run up to the millennium;
- ensure that they have adequate stocks and have taken all reasonable steps to safeguard the continuity of supply;
- complete their contingency planning to deal with any failures of equipment or systems.

by OFFER

29 As well as commissioning an independent assessment, OFFER intend to take the following actions in the run up to the millennium to ensure that the companies on their priority list are millennium compliant:

- monitor companies' progress monthly from December 1998;



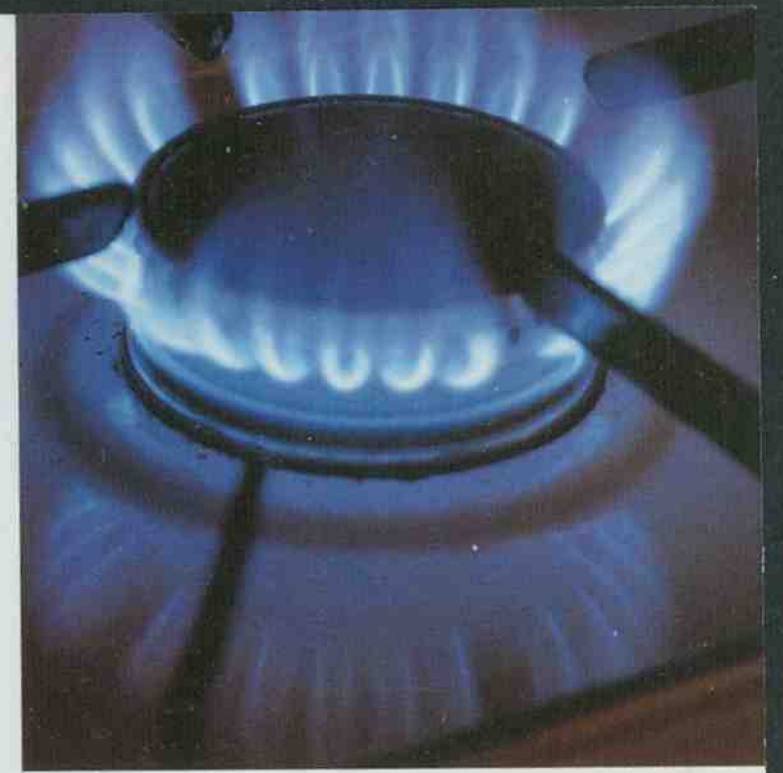
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- analyse millennium-specific contingency and disaster recovery plans, starting in January 1999 and continuing throughout 1999 as these plans develop;
- continue to participate in industry forums and liaise with Action 2000.

What plans do OFFER have to ensure that information on the state of preparedness of the companies for the year 2000 is published?

30 OFFER expect to publish in February 1999 the results of their independent assessment of the industry's readiness, but have not yet decided whether to publish information relating to individual companies.

31 OFFER reported to the National Infrastructure Forum on 21 January 1999 on the interim results of their independent assessment of the electricity industry, based on information relating to roughly half the companies. OFFER's assessment of the state of readiness of the electricity industry, using Action 2000's colour coding system, was 46 per cent "blue" (no identified risks of material disruption to the infrastructure process), 52 per cent "amber" (some risk of material disruption to infrastructure processes exist, but there is an agreed plan to rectify shortcomings), and 2 per cent "red" (a severe risk of material disruption to infrastructure processes and timely rectification may not be possible). OFFER reported that the 2 per cent "red" assessment related to some old generating sets which were very low down on the merit order and unlikely to be needed. OFFER expected that in the second quarter of 1999 they would be able to assess as "blue" the state of readiness of the 52 per cent of the industry currently assessed as "amber".



Appendix 2: Gas

What are the statutory responsibilities of OFGAS and the companies?

- 1** The statutory responsibilities of the Director General of Gas Supply, the head of OFGAS, are contained in the Gas Act 1986, as amended by the Gas Act 1995. The Director General has a duty to act in the manner which he considers is best calculated to secure that, so far as it is economical to do so, all reasonable demands in Great Britain for gas are safely met.
- 2** The responsibilities of the companies vary according to their type of business:
 - **Public Gas Transporters** transport and store gas. They have statutory duties to operate a safe, efficient and economic pipeline system. The largest transporter, Transco, serve 99 per cent of domestic gas customers; a number of smaller gas transporters serve the remainder, using gas drawn from Transco's system.
 - **Shippers** trade in the wholesale gas market, buying gas from producers and other shippers, contracting with transporters for its transportation and/or storage, and selling it on to suppliers. Shippers have an obligation under their licences to act in a reasonable and prudent manner in the way they use a transporter's pipeline system to transport gas.
 - **Suppliers** retail gas to domestic and other customers. They have a licence obligation to supply gas to domestic customers on request and to continue to supply gas for as long as the customer requires. Many gas companies hold licences as both shippers and suppliers.
- 3** Contracts between Transco and shippers and between shippers and suppliers provide financial incentives for shippers to put sufficient gas into Transco's transportation system to meet the demands of the suppliers' customers. Transco buy and sell gas to maintain an overall balance and recover the cost of this operation from shippers. In the event of a serious threat to supplies, Transco have special powers to maintain the safe operation of the gas system and to safeguard supplies to customers in accordance with priorities established by the Secretary of



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State for Trade and Industry. The licences of the shippers and suppliers require them to co-operate with Transco during such emergencies and to comply with any instructions given to them by Transco.

4 OFGAS may take enforcement action under the Act if the companies' statutory and licence commitments are not met, and they may seek amendments to licences to address issues of concern. If a domestic gas supply is interrupted for more than 24 hours, and the fault lies with the gas transporter, the customer may be entitled to compensation.

5 OFGAS are not responsible for regulating the companies that produce gas from gas fields or those that operate the coastal terminals at which gas is landed and treated before it is injected into Transco's gas transportation system. The Department of Trade and Industry license these activities but the licences they issue do not impose such specific obligations to maintain supplies as are imposed on transporters, shippers and suppliers. There are, nevertheless, strong financial incentives for producers and terminal operators to provide gas when required.

What do OFGAS consider is their responsibility and the responsibility of the companies as regards the millennium problem?

6 OFGAS consider that their primary responsibility is to ensure the continued safe operation of the gas supply system. They are also the "Responsible Body" for the onshore gas industry as regards the Action 2000 programme. They consider that they can meet these responsibilities by monitoring the action being taken by the companies involved in the gas supply chain to prepare for the millennium period.

7 OFGAS consider that the responsibility of all these companies is to take whatever action is needed to enable them to continue to operate normally over the millennium period. There are no specific obligations relating to the year 2000, but any failure to prepare for the millennium problem could affect the companies' ability to comply with their statutory and licence obligations.



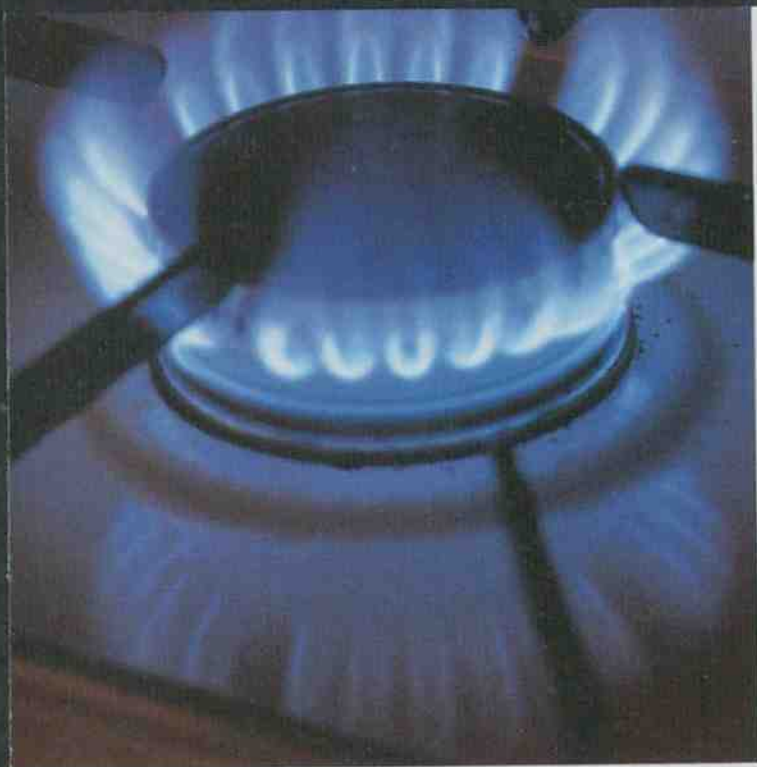
What do OFGAS consider to be the main priorities in tackling the millennium problem?

8 OFGAS's primary concern is to maintain the safe physical flow of gas from the coastal terminals to customers at the right pressure. The performance of two companies is crucial to achieving this aim:

- Transco, the largest gas transporter, who move gas to the customer from the coastal terminals. The other gas transporters also draw their supplies from Transco's network and have their own obligations regarding safety.
- Siemens Metering Services Ltd, who maintain the system of electronic cards and charging units for some 1.4 million prepayment meter customers in Great Britain. This system is important because if the prepayment meters do not operate correctly they are capable of cutting off the supply of gas to customers.

9 OFGAS have also asked the other companies that they regulate - shippers, suppliers and other gas transporters - what they are doing to prepare for the new millennium across the full range of their regulated activities. Such activities include, for example, billing systems, systems for trading gas on the wholesale market and the provision by public gas transporters of emergency services for customers connected to their networks. OFGAS have given these activities a lower priority because any failures are unlikely to impact on the physical flow of gas. In addition, OFGAS consider that there are strong financial incentives for the companies to ensure that their systems operate normally. Accordingly, the remainder of this Appendix focuses primarily on OFGAS's work in relation to Transco and Siemens Metering Services Ltd.

10 Although they do not regulate the companies that produce gas from gas fields, or those that operate the coastal terminals at which gas is landed and treated, OFGAS recognise the critical rôle of these companies in ensuring that gas continues to flow. The Department of Trade and Industry and Transco have been monitoring the preparations made by these companies to address the millennium problem and have been sharing the results with OFGAS.



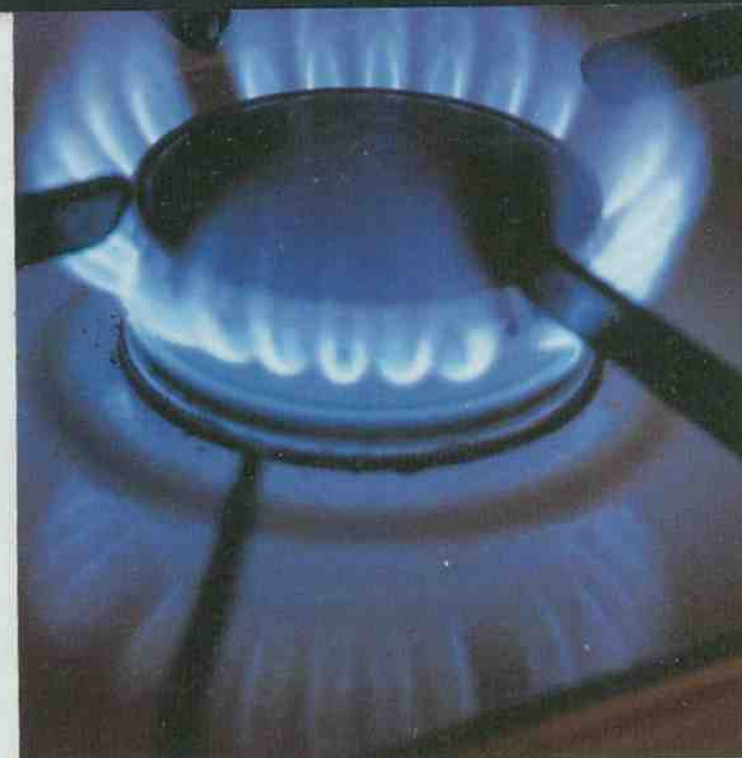
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What action have OFGAS taken to ensure that the companies are addressing the millennium problem?

11 In February 1998, OFGAS issued questionnaires to all the regulated companies, except Transco, and to some gas producers to establish what preparations they were making for the year 2000. The survey sought to establish whether the gas industry as a whole was taking suitable steps to prepare for the millennium and had drawn up programmes to ensure that all systems were year 2000 compliant. The questionnaire covered business continuity and contingency plans, targets for compliance and evidence of suppliers' compliance.

12 OFGAS and Transco meet regularly to monitor Transco's progress. Meetings take place on a monthly basis, with a quarterly review of points of concern by the Director General of Gas Supply and senior Transco officials. Consultants are being appointed to review questionnaire information; they will be carrying out programmed visits to Transco and Siemens Metering Services Ltd to discuss their plans. Ad-hoc visits will be made to other companies if these are deemed necessary. Both OFGAS and Transco have also liaised closely with the Department of Trade and Industry, the Gas Consumers Council and the Health and Safety Executive.

13 The Department of Trade and Industry have been in regular contact with the gas producers and terminal operators to ask about their plans for the millennium. In October 1998 they wrote to the companies to ask about their contingency plans to deal with any potential failures over the millennium period. Arrangements have been put in place to establish peer group reviews on the year 2000 preparations being made by the key players in the offshore gas industry. The Department have asked the companies to report progress to them by February 1999, accompanied by an independent assessment, and intend to report the results at the next National Infrastructure Forum.



What have OFGAS found the companies to be doing to address the millennium problem?

the companies' own systems

14 Inventories OFGAS have been informed by Transco and Siemens Metering Services Ltd that they have completed inventories of equipment and systems which might be affected by the millennium bug.

15 Problem identification Transco and Siemens Metering Services Ltd have told OFGAS that they have identified all the potential problem areas where corrective action might need to be taken.

16 Rectification Transco have told OFGAS and the gas shippers that they are in the process of rectifying their systems. Siemens Metering Services Ltd are also taking action to rectify their systems. Both companies aim to complete rectification during the first quarter of 1999.

17 Testing Transco have advised OFGAS that most of their compliance work was completed in 1998 and that the remaining remediation work will be completed by the end of June 1999.

18 Siemens Metering Services Ltd have told OFGAS that their systems upgrade should be complete by March 1999. The operation of the Quantum metering system depends on three separate elements – the meter, the electronic card and the recharging point. OFGAS understand that the meters and electronic cards are unaffected by the millennium bug. However, they are concerned that the recharging points, of which there are several thousand, could be sensitive to the millennium date change. As a result, customers may be unable to charge their cards and their meters may cut off the supply of gas once any existing credits have been used up.





How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

19 Until September 1998, the Quantum metering system was owned and administered by Centrica (the group that supply gas to most households under the names British Gas Home Energy and Scottish Gas). Centrica had a company-wide programme to achieve millennium compliance, which included addressing the problem with the Quantum charging units.

20 When Siemens purchased the Quantum metering system in September 1998 they undertook to continue with existing plans to ensure that the Quantum operation was millennium compliant. However, the change of ownership resulted in a delay in OFGAS's monitoring of progress. Siemens Metering Services Ltd told OFGAS in December 1998 that they were on course for achieving millennium compliance during the first quarter of 1999.

the companies' supply chains

21 There are three main aspects that Transco and Siemens Metering Services Ltd need to consider in relation to activities which are critical to maintaining the supply of gas:

- The ability of manufacturers to supply replacement equipment and/or necessary expertise in the event of equipment or systems failure.
- The availability of essential support services such as power, water and telecommunications to enable equipment and systems to function.
- The production of gas and the operation of the coastal gas terminals.

22 OFGAS are planning to ask Transco and Siemens Metering Services Ltd in early 1999 to provide evidence of assurances from their suppliers that they will be able to maintain services over the millennium period.

23 Transco have written to 6,500 suppliers highlighting the Year 2000 issue and requesting compliance information. They have identified 96 suppliers providing key goods and services and have met with all but 11 companies to gain assurances that these goods and services will be available. The 11 outstanding companies are currently in the process of tendering for contracts.

24 Transco have also embarked upon a programme of meetings with key gas producers and terminal operators. They are seeking to obtain assurances that gas will be available as normal on 1 January 2000. The Department of Trade and Industry told the National Infrastructure Forum on 21 January 1999 that the



offshore gas industry had reported that it was well on the way to completing the fix, repair and replace phase of millennium preparations and that many companies were now in the final testing and contingency planning phase.

contingency plans

25 OFGAS intend to meet Transco and Siemens Metering Services Ltd in early 1999 to review the effectiveness of the companies' contingency plans and disaster recovery plans for dealing with failures over the millennium period. Transco already have extensive experience of managing disruptions to supply.

26 The Department of Trade and Industry are responsible for determining the criteria for priority gas consumers which the industry would take into account when handling a gas supply emergency. They are currently reviewing these arrangements in consultation with the gas industry.

timetable

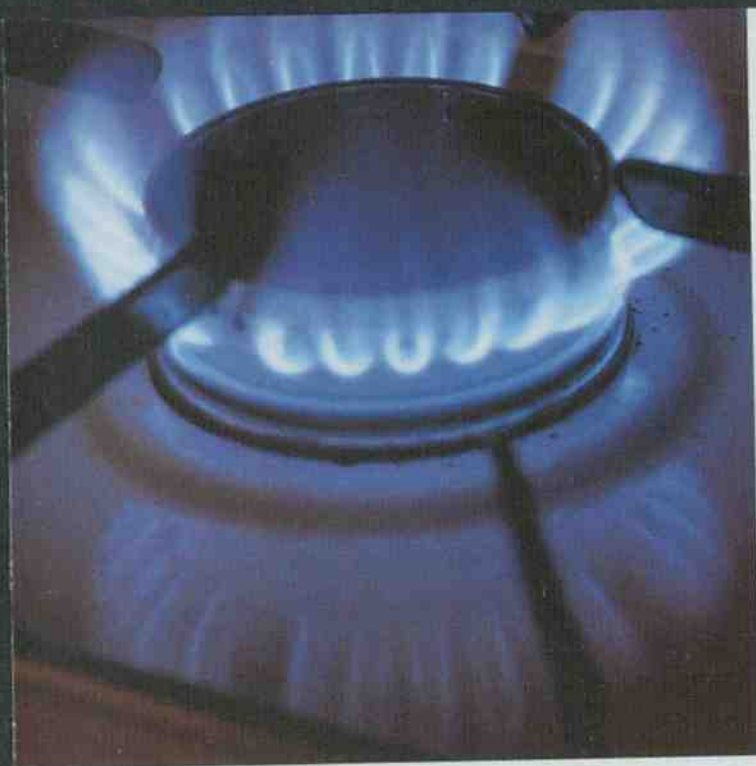
27 Transco had been planning to have their own systems fully ready for the year 2000 by the end of 1998. However, 10 per cent of the total workload remains to be completed during 1999, none of which is deemed by Transco as critical to the safety and supply of gas. OFGAS and Transco are monitoring progress on the remaining exceptions monthly.

28 OFGAS met Siemens Metering Services Ltd in December 1998 and January 1999 to review progress and were assured that systems would be ready for the year 2000 during the first quarter of 1999.

What is OFGAS's assessment of whether the companies will be able to avoid any major disruption to services to customers?

29 Despite the complexity of the gas and interdependent industries, OFGAS are confident that gas will flow, provided that:

- The producers and terminal operators regulated by the Department of Trade and Industry supply enough gas to meet the demands of customers and all the functions and services necessary to input the gas and keep it flowing are in place.



How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

- Transco satisfactorily complete their millennium programme, receive assurances from suppliers about their compliance and have satisfactory contingency plans in place.
- Siemens Metering Services Ltd satisfactorily complete their millennium programme and provide assurances that their electronic card recharging points will function at the millennium.

What more needs to be done to be ready for the year 2000?

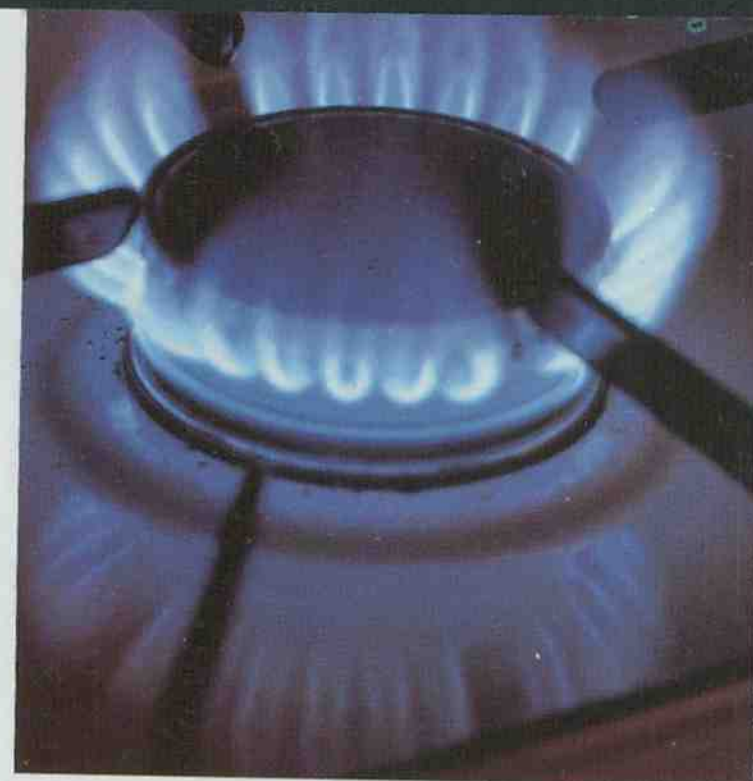
by the companies

30 OFGAS consider that Transco and Siemens Metering Services Ltd need to take the following actions to ensure that their equipment and systems are millennium compliant:

- Complete the rectification and testing of equipment and systems to ensure that they are millennium compliant and remain so in the run up to the millennium.
- Complete their contingency planning to deal with any failures of equipment or systems.
- Check their dependencies on other companies and obtain assurances from these other companies on their compliance.
- Transco need to complete their discussions with the key gas producers and secure satisfactory assurances about the producers' compliance.

by OFGAS

31 OFGAS will be receiving monthly reports on progress from Transco and Siemens Metering Services Ltd. The progress of Transco is to be reviewed every quarter at meetings between the Director General and company senior management. OFGAS appointed consultants in January 1999 to provide an independent assessment of the millennium programmes of Transco and Siemens Metering Services Ltd. Completion of the independent assessment is expected by February 1999.



What plans do OFGAS have to ensure that information on the state of preparedness of the companies for the year 2000 is published?

32 OFGAS expect to publish in February 1999 the results of their independent assessment of the readiness of Transco and Siemens Metering Services Ltd.

33 OFGAS reported to the National Infrastructure Forum on 21 January 1999 on the preliminary results of their independent assessment of Transco and Siemens Metering Services Ltd. OFGAS's assessment of the state of readiness of Transco, using Action 2000's colour coding system, was 85 per cent "blue" (no identified risks of material disruption to the infrastructure process) and 15 per cent "amber" (some risk of material disruption to infrastructure processes exist, but there is an agreed plan to rectify shortcomings). OFGAS's assessment of the state of readiness of Siemens Metering Services Ltd was 75 per cent "blue" and 25 per cent "amber". OFGAS expected that by April 1999 they would be able to assess the state of readiness of both companies as 100 per cent "blue".



Appendix 3: Telecommunications

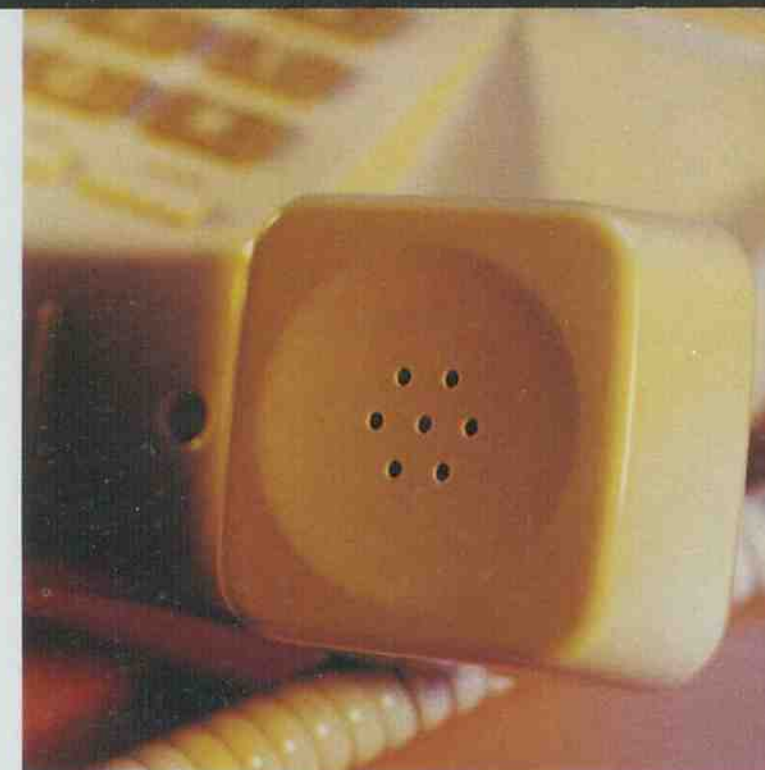
What are the statutory responsibilities of the Office of Telecommunications (OFTEL) and the telecommunications companies?

- 1** The Telecommunications Act 1984 (as amended) gives the Director General of Telecommunications, the head of OFTEL, a duty to act in the manner he considers best calculated to secure the provision throughout the United Kingdom of telecommunications services which satisfy all reasonable demands. British Telecommunications (BT) are required by their licence to provide a telephony service to any customer who requests it. BT and all public telecommunications operators who provide public emergency services are required to provide access to these services at all times. OFTEL may take enforcement action under the Act if these requirements are not met and may seek amendments to licences to address issues that concern them.

What do OFTEL consider is their responsibility and the responsibility of the companies as regards the millennium problem?

- 2** OFTEL consider their responsibility to be:
- To ensure compliance with the requirements of the European Revised Voice Telephony Directive, under which OFTEL are responsible for aspects of the security of network operations and maintenance of network integrity. These responsibilities are passed on to licensees by statutory instrument.
 - To encourage operators to take appropriate action to ensure that telecommunications systems are not placed in jeopardy by Year 2000 problems. Such action would include the testing of systems and inter-actions between different networks, the protection of supply chains and the provision of contingency arrangements.
 - To encourage operators to share information on problems and solutions.

OFTEL are also the "Responsible Body" for the telecommunications industry as regards the Action 2000 Programme.

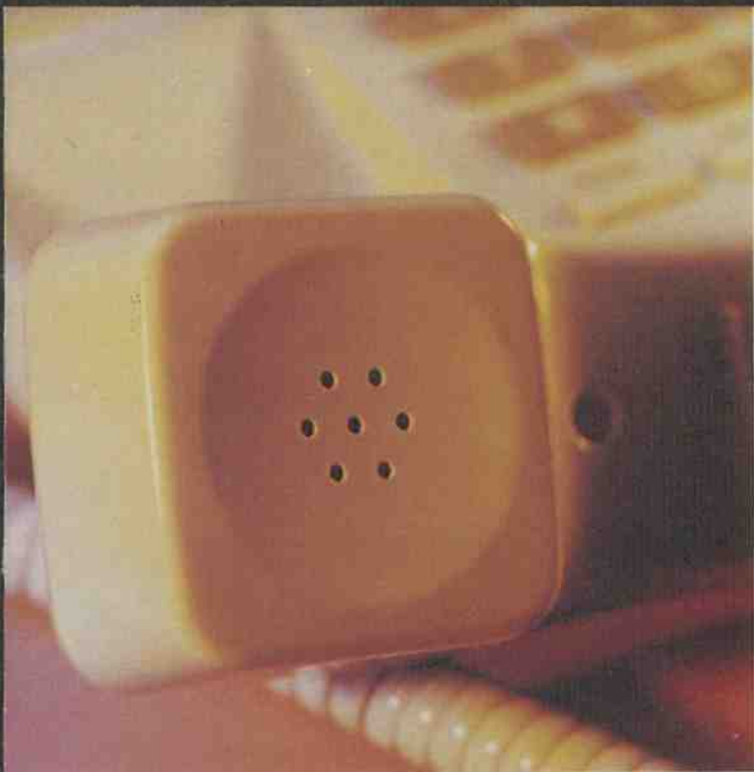


3 OFTEL consider that their responsibility as regards the millennium problem does not generally extend to telecommunications equipment owned by customers. OFTEL have some responsibility for the approvals regime for customer equipment and operation of such equipment under broad licensing powers. OFTEL consider, however, that they do not have the resources to ensure that the wide variety of customer equipment available is millennium compliant. Instead they aim to raise customer awareness on this issue. They are discussing their intention to raise customer awareness with Action 2000, who are taking the lead in helping consumers to check that all types of domestic appliances, including telecommunications equipment, are millennium compliant. OFTEL also intend by February 1999 to publish guidance of their own to customers that will alert them as to what to do to ensure that their equipment is not affected by millennium problems.

4 OFTEL consider the operators' responsibilities as regards the millennium problem to be:

- to comply with their licences;
- to undertake inventories of equipment in use;
- to identify which items have problems;
- to develop solutions to these problems and take corrective action;
- to test the effectiveness of this action and repeat where necessary;
- to protect their essential supply chains;
- to co-operate with other operators, suppliers and customers to safeguard normal operations;
- to make information publicly available on their state of readiness.

5 If the telephone service is significantly disrupted, customers may be entitled to claim compensation under the contract with their telephone company.



What do OFTEL consider to be the main priorities in tackling the millennium problem?

6 OFTEL have two main aims in seeking to address the millennium problem:

- To ensure that present levels of service to customers are maintained. There should be a dial tone when picking up the phone; and, provided that the telecommunications networks are not unusually busy, customers should be able to make their calls. The standard levels of service set by telephone operators vary from one company to another
- To maintain access to public emergency telephone services.

7 OFTEL consider that networks may be unusually busy over the millennium period, for example, they expect high volumes of international calls on 31 December 1999 and 1 January 2000. As a result operators may need to implement network management controls which may lead to a lower standard of service at times.

8 OFTEL recognise that telecommunications systems are vital to the provision of essential services in major industries, such as water, electricity, gas, transport and finance. The functioning of much of the national infrastructure depends on the continued operation of telecommunications services.

9 OFTEL regard the following companies as priorities in ensuring that OFTEL's aims for maintaining services are met:

- The three main fixed operators: BT, Cable and Wireless Communications and Kingston Communications. These are the only companies who connect directly to the emergency services.
- The four main mobile operators: Cellnet, Vodafone, Orange and One2One.
- Eleven other companies who provide dial tone.
- Racal, who provide the telecommunications network for the railways.



What action have OFTEL taken to ensure that the companies are addressing the millennium problem?

10 OFTEL wrote to all public telecommunications operators in July 1997, asking for details of what they were doing to address the Year 2000 problem. OFTEL also sought assurance that the companies were doing everything necessary to ensure that their equipment and systems would operate normally at the millennium change. All operators replied to the letter. In October 1997 OFTEL followed up this letter by asking selected operators for more information about their ability to maintain a reliable telecommunications system.

11 In July 1998 OFTEL wrote again to all public telecommunications operators and to other licensees seeking information on:

- progress to date in preparing for the year 2000 and in testing new or rectified equipment and systems;
- any problem areas identified;
- details of any reviews they had commissioned to assess progress;
- their contingency plans for dealing with any failures on 1 January 2000.

To ensure that operators were addressing this problem at an appropriate management level, OFTEL asked that each reply should be authorised by the Chief Executive of the company.

12 By November 1998 OFTEL had received replies to their July 1998 letter from all the companies on their priority list. OFTEL considered that the quality of the replies was good. They intend by February 1999 to follow up the replies by visiting all the companies on their priority list.

13 OFTEL are part of the UK Year 2000 Telecom Operators Forum, a working party designed to share information and experiences in the countdown to the year 2000 and open to telecom operating companies in the United Kingdom. OFTEL are also part of the Action 2000 National Infrastructure Forum.



What have OFTEL found the companies to be doing to address the millennium problem?

the companies' own systems

14 Inventories OFTEL have been informed by all the companies on their priority list that they have completed inventories of equipment and systems which might be affected by the millennium bug. These cover:

- real time systems (systems providing access and the ability to make calls, for monitoring, and for network management);
- processor systems and software;
- embedded chips;
- interconnections with other networks.

15 Problem identification The companies told OFTEL that they had identified all the potential problem areas where corrective action might need to be taken. In some cases this would involve asking equipment suppliers to confirm that the equipment they had supplied was millennium compliant.

16 Rectification The companies have informed OFTEL that any necessary rectification of equipment and systems would range from minor adjustments to full replacement. Most companies said that they were well advanced in rectifying their equipment and systems but none had yet finished. BT said that at the end of December 1998 they had substantially completed their upgrades.

17 Testing There are four elements to this process:

- testing equipment and systems on their own;
- testing equipment and systems within the wider environment in which they are expected to function;
- testing interconnections between different operators' networks;



- testing that compliant equipment and systems remain so in the light of subsequent changes.

All the companies said that they had started on this work but recognised that there was still a lot more to be done. All the companies except one expect to complete testing by June 1999.

the companies' supply chain

18 There are two main aspects that the companies need to consider:

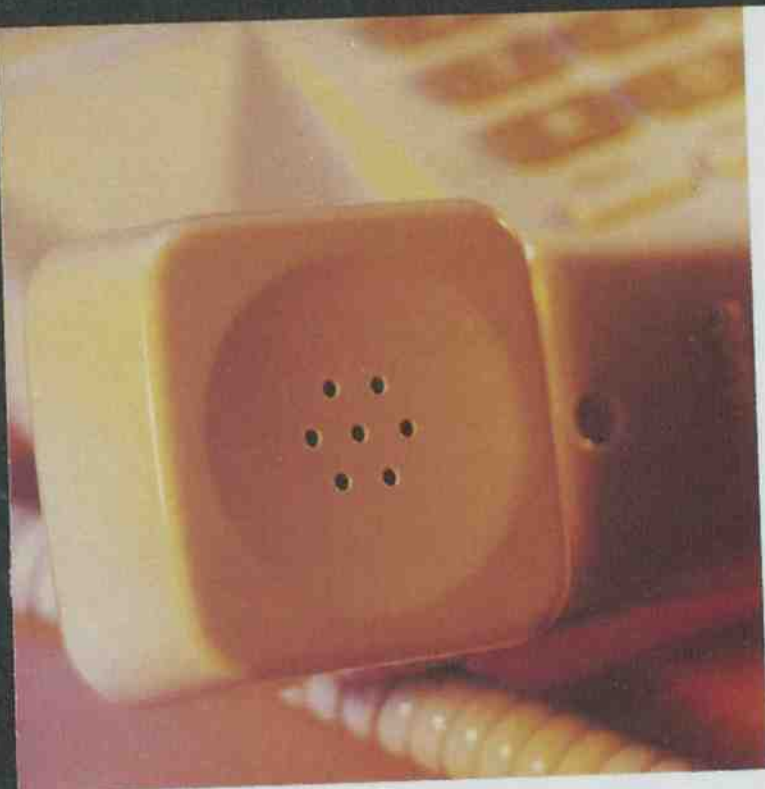
- The ability of manufacturers to supply replacement equipment and/or necessary expertise in the event of equipment or systems failure.
- The availability of essential support services to enable equipment and systems to function. For example, water is critical for cooling, fuel is needed for back-up electricity generation, and public transport and other public facilities are required by employees to allow them to work normally.

19 The companies told OFTEL that they were talking directly to their suppliers on these issues, to ensure that they had adequate stocks and to seek to safeguard the continuity of supply. Two companies have informed OFTEL that they are making good progress on this issue. Starting in February 1999, OFTEL intend to follow up the progress being made by the other companies on their priority list.

contingency plans

20 OFTEL have identified the following elements that should be included in operators' contingency plans:

- ensuring staff availability over the millennium period;
- making sure that they have emergency communications, such as VHF radios;
- ensuring that mobile generators, with adequate fuel, are positioned in the right places.



How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

21 Five companies have told OFTEL that their contingency planning is well advanced. OFTEL intend to discuss contingency planning in the meetings they intend to hold in early 1999 with the companies on their priority list.

22 OFTEL are aware that the companies on their priority list already have in place disaster recovery plans to respond to serious disruption to their services. Except for three companies, however, OFTEL do not yet have information on what these plans cover and have not reviewed their adequacy.

23 A recent serious failure in the Gloucester area has enabled operators to fine-tune their plans in the light of direct experience. The Gloucester failure highlighted two issues. First, backup generators failed to operate correctly during a major mains power failure. Secondly, the people operating the network failed to recognise the build up of events that led to the failure until it was too late. The company concerned have since reviewed their procedures for such network failures and other companies have focused on the vulnerability of their own networks.

24 OFTEL intend to address the adequacy of disaster recovery plans further with all the companies on their priority list.

timetable

25 All but one company on OFTEL's priority list have told OFTEL that by June 1999 they expect to have completed all the actions necessary to be millennium compliant. The remaining company is a small telecommunications company.

What is OFTEL's assessment of whether the companies will be able to avoid any major disruption to services to customers?

26 Subject to the satisfactory completion of rectification and testing of equipment and systems by all the key companies, OFTEL are confident that there will be no major disruption to telecommunications services over the millennium period. This assessment by OFTEL is based on the information given to them by the companies and applies only to the United Kingdom.

27 Telecommunications links between the United Kingdom and other countries are vitally important. If these links were to be disrupted because of the millennium bug, there could be serious consequences for economic trade and for the United Kingdom's ability to protect citizens of the United Kingdom overseas.



BT and other key players have told OFTEL that they are working bilaterally with major companies in other countries and also through the Year 2000 Task Force of the International Telecommunication Union to prepare contingency plans to deal with likely problem areas.

What more needs to be done to be ready for the year 2000?

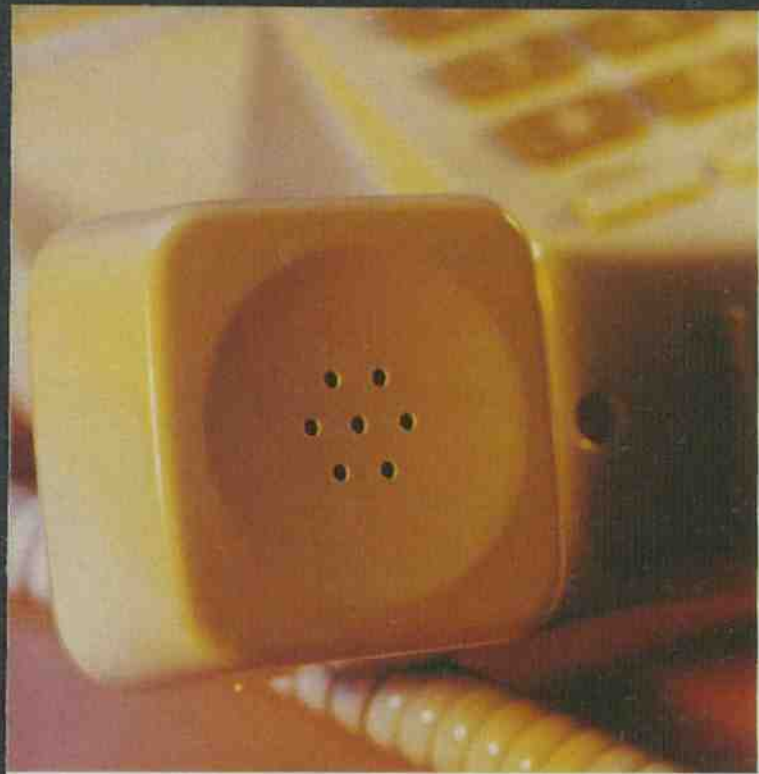
by the companies

28 OFTEL consider that the companies need to take the following actions to ensure that their equipment and systems are millennium compliant:

- complete work on rectifying equipment and systems identified as not being millennium compliant;
- complete the testing of rectified equipment and systems to ensure that they are millennium compliant and remain so in the run up to the millennium;
- complete network interconnection testing;
- complete end-to-end testing of the public emergency telephone service;
- ensure that they have adequate stocks and have taken all possible steps to safeguard the continuity of supply;
- complete their contingency planning to deal with any failures of equipment or systems.

by OFTEL

29 The UK Year 2000 Telecom Operators Forum has initiated a system of peer review to assess the preparedness of companies in the telecommunications industry for the year 2000. Each company is being assessed by two others. This approach is being overseen by OFTEL, who have set the terms of reference for the reviews and are working with the companies to decide how the results will be followed through. OFTEL intend to commission consultants to provide an independent assessment of the peer review process. The aim is that the consultants would report by the end of February 1999.



How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

30 OFTEL also intend to take the following actions in the run up to the year 2000:

- provide some publicity on customer equipment by February 1999;
- write follow-up letters to domestic public telecommunications operators in February and March 1999 seeking confirmation of their preparedness;
- complete meetings with priority list companies by February 1999;
- continue to participate in the UK Year 2000 Telecom Operators Forum, the Action 2000 National Infrastructure Forum and the Network Operators Business Continuity Forum;
- issue regular press releases.

What plans do OFTEL have to ensure that information on the state of preparedness of the companies for the year 2000 is published?

31 OFTEL are planning to publish information at regular intervals throughout 1999 on the general state of preparedness of the telecommunications industry. They also support publication of information by the industry; the UK Year 2000 Telecom Operators Forum intends to issue a press release at regular intervals. Individual companies may also publish information on their own progress

32 OFTEL reported to the National Infrastructure Forum on 21 January 1999 that the state of readiness of the telecommunications industry, using Action 2000's colour coding system, was "amber" (some risk of material disruption to infrastructure processes exist, but there is an agreed plan to rectify shortcomings). OFTEL reported that by June 1999 they expected the state of readiness of all mobile networks and 90 per cent of fixed network companies to be "blue" (no identified risks of material disruption to the infrastructure process). And they expected 100 per cent "blue" status by September 1999.



Appendix 4: Water

What are the statutory responsibilities of the Office of Water Services (OFWAT) and the water companies?

1 The Water Industry Act 1991 gives the Director General of Water Services, the head of OFWAT, a duty to act in the manner he considers best calculated to ensure that the companies carry out their functions as water and sewerage undertakers. These functions include supplying clean water and disposing of sewage. OFWAT may take enforcement action under the Act if the companies' statutory and licence commitments are not met, and may seek amendments to licences to address issues of concern. If the water supply is interrupted for more than 24 hours, each customer affected is entitled to claim compensation from his or her water company.

2 Other regulators also have important interests:

- The Drinking Water Inspectorate are responsible for regulating the quality of the water supplied to customers.
- The Environment Agency regulate the impact of the companies on the environment, in particular by regulating the volume of water abstracted and the volume and quality of discharges of sewage and treated sewage.
- The Department of the Environment, Transport and the Regions have overall policy responsibility for the water industry and for co-ordination with other Government departments, for example, on emergency planning. The Welsh Office have similar responsibilities with regard to Wales.

3 The Water Regulators' Year 2000 Group has been formed to co-ordinate work and minimise duplication between the various regulators. The Group has members from OFWAT, the Department of the Environment, Transport and the Regions, the Drinking Water Inspectorate, the Environment Agency, the Health and Safety Executive, and Action 2000.



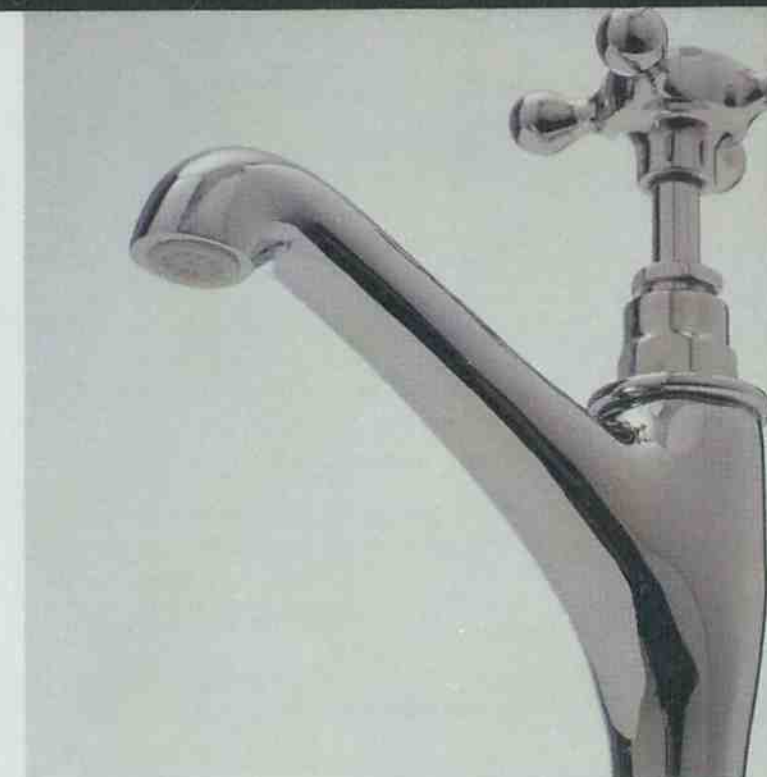
What do OFWAT consider is their responsibility and the responsibility of the companies as regards the millennium problem?

4 The Minister for the Environment has asked OFWAT to monitor progress by the industry and take action where necessary, with a view to ensuring as far as possible that water supply and sewerage services will continue to operate throughout the millennium period. OFWAT are also the "Responsible Body" for the water industry as regards the Action 2000 Programme.

5 OFWAT consider that the companies are responsible for providing over the millennium period the services required by their licences and legislation. To discharge this responsibility, OFWAT expect each company to:

- undertake inventories of equipment in use;
- identify which items have problems;
- develop solutions to these problems and take corrective action;
- test the effectiveness of this action and repeat where necessary;
- protect their essential supply chains;
- co-operate with other operators, suppliers and customers to safeguard normal operations;
- make information publicly available on their state of readiness.

6 The Security and Emergency Measures (Water and Sewerage Undertakings) Direction 1998, issued by the Department of the Environment, Transport and the Regions and the Welsh Office, requires all water companies to develop or review their contingency plans to ensure that by April 1999 they have in place contingency plans capable of dealing with any emergency situation arising from any cause. The Department have asked the companies to obtain independent certification of their new or revised contingency plans and to submit them to the Department by April 1999.



7 The Drinking Water Inspectorate have advised water companies that any incidents affecting drinking water quality arising from lack of preparation for the year 2000 would not have a defence of due diligence. During their inspections in 1998, the Inspectorate examined arrangements and concluded that companies (i) have made good progress in identifying, testing and remedying components which might affect their ability to supply wholesome water; (ii) were developing contingency plans; and (iii) are likely to provide wholesome drinking water during the millennium period, subject to the provision and maintenance of satisfactory electricity and telecommunication services.

What do OFWAT consider to be the main priorities in tackling the millennium problem?

8 OFWAT have two main aims in seeking to address the millennium problem:

- to ensure that the water supply to customers is maintained - this requires that water is abstracted in accordance with limits authorised by the Environment Agency, is treated to the standards required by the Drinking Water Inspectorate, and is pumped through companies' distribution systems so as to reach customers at the necessary pressure;
- to ensure that sewerage systems operate effectively - this requires that sewage is taken away (which may require pumping) and treated to the standards which accord with consents issued by the Environment Agency before discharge to the environment.

9 Embedded chips are used widely in water and sewerage systems to monitor processes and control equipment, and are a key priority for attention. OFWAT recognise that water services are vital to the provision of essential services in major industries, including the utilities, as well as to public health.

10 OFWAT regard all the companies providing water and sewerage services as priorities in ensuring that services are maintained because each company is the only supplier of such services in the area it serves. There are 28 such companies: 18 that provide only water, and 10 that provide both water and sewerage services (Figure 14).



**Water and sewerage
companies in England
and Wales**

Figure 14

| Water and sewerage companies | Water only companies | |
|------------------------------|-------------------------|----------------------|
| Anglian | Bournemouth & West Hant | Mid Southern |
| Dwr Cymru/Welsh Water | Bristol | North Surrey |
| North West | Cambridge | Portsmouth |
| Northumbrian | Cholderton | South East |
| Severn Trent | Dee Valley | South Staffordshire |
| South West | Essex & Suffolk | Sutton & East Surrey |
| Souther | Folkestone & Dover | Tendring Hundred |
| Thames | Hartlepool | Three Valleys |
| Wessex | Mid Kent | York |
| Yorkshire | | |

Source: OFWAT

What action have OFWAT taken to ensure that the companies are addressing the millennium problem?

11 In January 1998, OFWAT asked all 28 water companies to complete a questionnaire on their plans for coping with the millennium problem. The aim of the survey was to obtain a broad indication of the action planned by the companies to ensure service delivery in the year 2000. The survey was followed by further questions in July 1998.

12 OFWAT concluded from their analysis of the questionnaire responses that further work was required to assess the progress being made by the companies, notably in respect of computerised engineering control systems for the treatment and pumping of water and sewage. In August 1998 they commissioned a firm of consulting engineers, Montgomery Watson, to review the information already obtained by OFWAT and undertake further investigative work. This comprised:

- a further survey and analysis of the water companies' preparedness;
- site visits and audits at ten selected water companies, including visits to seven water treatment works, one water pumping station and three wastewater (sewage) treatment works.



13 OFWAT promised that individual companies would not be identified in any information released publicly as a result of Montgomery Watson's work as they were concerned not to raise any unnecessary public or commercial concerns at such an early stage.

14 Montgomery Watson carried out their survey in August 1998 and submitted a report of their findings to OFWAT in October 1998. They also presented their findings to a forum of company representatives and regulators in October 1998.

What have OFWAT found the companies to be doing to address the millennium problem?

the companies' own systems

15 Inventories Montgomery Watson found that companies had identified a total of 34,500 sites (water treatment works, etc.) potentially at risk and that all companies planned to survey all such sites in their area. By August 1998, 12 companies had completed their surveys and of the remaining companies⁶ all but 6 had surveyed 80 per cent or more of their sites. One, however, reported that it had completed only 26 per cent of its site surveys.

16 Problem identification By August 1998, most companies reported that they had started problem identification, 10 companies were at least halfway through the process and 2 reported that they had completed around 95 per cent of it. The surveys completed at the time of Montgomery Watson's work had identified non-compliant equipment at between 0 per cent (9 companies) and 90 per cent (one company) of the sites surveyed. One company had identified more than 1,000 sites with non-compliant equipment, although the same system is used at each site. Overall and excluding this company, around 11 per cent of sites examined contained systems or instruments which would fail if not corrected. Water UK told us that between 2 and 2.9 per cent of systems and instruments were affected.

17 Montgomery Watson drew attention to the different methods used by different companies to identify non-compliant equipment. They found four different methods in use:

6 One very small company was omitted from the survey and, because some companies are members of groups owning more than one water company, some responses cover more than one company. As a result, most of Montgomery Watson's analyses were based on 25 responses.



How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

- asking equipment suppliers for written assurances that equipment was compliant;
- testing all critical equipment, either on-site or in a workshop;
- testing a sample of each type of equipment, and going on to test all items of a type, if the sample showed evidence of non-compliance;
- consulting other companies, for example to ascertain the results of their testing of equipment.

18 Most companies reported that they had carried out at least some testing themselves (although five companies qualified this by saying that they did so “where possible” or “for some cases”). But there was a wide variation in approach – whereas five companies said that they would test all equipment themselves, six said that they would rely almost entirely on written assurances from suppliers.

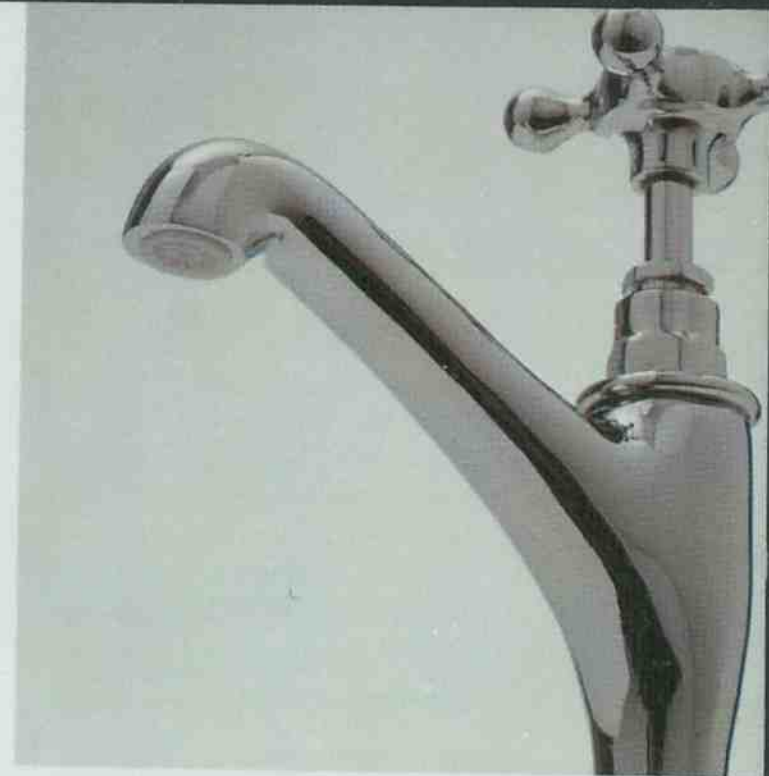
19 Rectification Montgomery Watson found that most companies had begun rectification work. Four said it was complete and four more said they were at least halfway through it. Five companies reported no progress to date.

20 Testing Five companies said that they had completed testing, 7 had begun it and 13 had yet to start.

the companies' supply chain

21 Montgomery Watson found that all companies were in the process of contacting key suppliers. Some had received satisfactory responses, while others were awaiting responses.

22 Electricity and telecommunications were identified as key. Electricity is used in many water treatment processes and for pumping water and sewage while telecommunications are needed for monitoring systems, for the remote control of equipment and to deploy staff and other resources in the event of an emergency. On electricity, 14 companies were satisfied with the assurances they had received, 7 were seeking clarification and 4 had not received satisfactory assurances or were not confident about the assurances given. On telecommunications, 11 had received satisfactory assurances, 7 were seeking clarification and 7 more had not received satisfactory assurances or were not confident.



contingency plans

23 OFWAT take the view that, whatever precautions are taken, there can be no assurance or guarantee that no equipment will fail as a result of the millennium problem. OFWAT consider that the companies must therefore be prepared for failures, both within the companies themselves and on the part of their suppliers.

24 The Security and Emergency Measures (Water and Sewerage Undertakings) Direction 1998 was issued in June 1998. At the time of Montgomery Watson's survey in August 1998, all the companies were reviewing their contingency plans in the light of the Direction. Contingency plans were planned to be completed in March 1999 or earlier; but, at the time of the survey, the review of plans by most companies was at too early a stage for Montgomery Watson to comment on the quality of the updated plans or the companies' potential to respond successfully to difficulties caused by the millennium problem. But Montgomery Watson noted that only 12 of the companies' existing plans provided for multiple failures, which is an important risk that needs to be considered in year 2000 planning. Thirteen companies reported that they were modifying their contingency plans to cover multiple failures.

25 Nineteen companies said they intended to test their contingency plans, one had already done so and 6 were still considering whether to do so. In addition, 20 companies commented that their priority sites could be operated manually if automated control systems failed, although some commented that the necessary manpower might not be available. Five more companies were checking whether manual operation would be possible.

timetable

26 Of the 25 companies providing information on when they expected to complete all stages of preparing their own systems, up to and including testing, 6 said that they expected to do so by the end of 1998, or had done so already; 9 expected to do so in the first half of 1999; and 10 expected to do so in the second half of 1999. Montgomery Watson were concerned that some company programmes allowed little room for slippage and that if problems were not identified until say April 1999 there would be little time left for rectification and follow-up testing.

27 In the light of the Montgomery Watson report, OFWAT contacted 10 companies in December 1998 for clarification. All the companies either provided information showing that their plans were more advanced than had been



thought, or had changed their plans to remedy potential problem areas. The overall picture was that rectification and testing were expected to be virtually complete by March to July 1999.

What is OFWAT's assessment of whether the companies will be able to avoid any major disruption to services to customers?

28 OFWAT's view is that whilst all the companies are making progress towards securing continuity of services into the new millennium, they would like to see some companies completing their system checks earlier than they had originally planned and to be assured that companies' contingency plans are developing in line with statutory requirements. OFWAT believe that services to the public will be maintained provided that:

- companies satisfactorily complete their millennium programmes on time;
- companies receive assurances from suppliers about their compliance;
- companies have satisfactory contingency plans in place.

What more needs to be done to be ready for the year 2000?

by the companies

29 OFWAT consider that the companies need to take the following action to ensure that their equipment and systems are millennium compliant:

- complete work on identifying systems and equipment that are not millennium compliant, and rectify them where necessary;
- complete the testing of rectified equipment and systems to ensure that they are millennium compliant and remain so in the run up to the millennium;
- ensure that they have adequate stocks of equipment and spares to safeguard the continuity of supply;



complete their contingency planning to deal with any failures of equipment or systems; ensure that plans can deal with multiple failures; ensure that enough staff will be available to put the plans into action; and obtain the necessary supplies and equipment required to put these plans into operation.

30 OFWAT have identified additional action for some individual companies, for example to improve liaison with other companies or with other bodies, such as other utilities or county emergency planning units, with whom they should co-ordinate their contingency plans.

by OFWAT

31 OFWAT intend to take the following actions in the run up to the year 2000 to ensure that all companies are millennium compliant:

- Appoint a firm of independent consulting engineers in March 1999 to carry out during March and April 1999 verification site visits to all 28 companies and undertake an industry-wide survey questionnaire. The aim will be to survey progress on rectification of critical systems that are non-compliant and testing of contingency plans. The results will be reported by early June 1999.
- Undertake a final survey of readiness in mid-July 1999, to be reported in August 1999.
- Continue to participate in industry forums and liaise with Action 2000.

32 As a last resort OFWAT may take enforcement action under the Water Industry Act 1991 against any companies who are not preparing adequately for the year 2000. But OFWAT's view at present is that such action is unlikely to be required.



How the Utility Regulators are addressing the Year 2000 Problem in the Utilities

What plans do OFWAT have to ensure that information on the state of preparedness of the companies for the year 2000 is published?

33 OFWAT have published the Montgomery Watson report, without the names of individual companies being shown, and have also placed a copy on their web site (www.open.gov.uk/ofwat). They expect in conjunction with Action 2000 to publish further information on the progress of millennium preparations across the water industry as a whole. OFWAT propose to publish the two independent verification reports planned for 1999 with the companies named. They have also told the companies that if they do not believe a company is making good progress they will put this information in the public domain.

34 OFWAT reported to the National Infrastructure Forum on 21 January 1999 on the state of readiness of the water industry, based on independent verification. Their assessment was that at the end of October 1998 the state of readiness of all the companies, using Action 2000's colour coding system, was 'amber' (some risk of material disruption to infrastructure processes exist, but there is an agreed plan to rectify shortcomings). OFWAT reported that since October 1998 they had received further feedback from the companies that good progress is being made towards achieving 'blue' status (no identified risks of material disruption to the infrastructure process) by July 1999.

Appendix 5: Reports by the National Audit Office and the Committee of Public Accounts

1 This appendix summarises the key points of earlier reports on the Year 2000 problem by the National Audit Office and the Committee of Public Accounts.

National Audit Office reports

2 We have published the following reports referring to the Year 2000 problem:

- **Managing the Millennium Threat**, HC 3 Session 1997-98 (May 1997). This report described the Year 2000 problem, and examined what departments were doing to prepare their operational systems to ensure that Government business would continue beyond the millennium.
- **Financial Auditing and Reporting: 1996-97 General Report of the Comptroller and Auditor General**, HC 251-XIX Session 1997-98 (February 1998). This report commented on a wide range of matters arising from our audit of 1996-97 accounts. It included a summary of the progress made by departments and other bodies audited by us in preparing computerised financial systems for the year 2000.
- **National Health Service (Scotland) Summarised Accounts 1996-97**, HC 692 Session 1997-98 (April 1998). Among other matters, this report commented on the progress being made in tackling the Year 2000 problem in the National Health Service in Scotland.
- **Managing the Millennium Threat II**, HC 724 Session 1997-98 (May 1998). This report updated progress in preparing operational systems across Central Government and the wider public sector since the 1997 report and examined in depth how the Department of Social Security and the National Health Service in England were tackling the Year 2000 problem.

- 3** We plan to report further in 1999 on progress in preparing operational systems across Central Government.

Reports of the Committee of Public Accounts

- 4** The Committee have published two reports referring to the Year 2000 problem:

Managing the Millennium Threat (66th Report 1997-98 (July 1998))

- 5** On the basis of the National Audit Office report "Managing the Millennium Threat II", the Committee took evidence from the Office of Public Services and the National Health Service Executive on progress in tackling the Year 2000 problem across Central Government, the wider public sector and within the National Health Service in England. The Committee expressed concern about the readiness of the public sector and the National Health Service, and that there were signs of slippage in programmes to deal with the problem, costs were rising, and central monitoring of the wider public sector had only just begun. They were also concerned that the National Health Service had made a late start. The Committee recommended action:

By the Office of Public Service, to:

- Ensure that business critical systems including those that impact directly on citizens and patients, are tackled first.
- Monitor progress closely, and take or encourage direct action where progress is too slow, especially on those systems critical to public business and to public services.
- Ensure that contingency plans are in place, and are tested.

By the National Health Service Executive, to:

- Take strong decisive action to ensure that all NHS organisations and GPs are fully prepared.
- Monitor the position on medical equipment closely, and take every possible step to ensure the safety of patients.

- Ensure that lack of resources does not result in the failure of systems and equipment that are critical to NHS services and patient care.

**National Health Service (Scotland) Summarised Accounts
1996-97 (2nd Report 1998-99 (December 1998))**

6 On the basis of the National Audit Office's report on these accounts, the Committee examined the Scottish Office Department of Health on a number of matters, including progress in managing the Year 2000 problem in the National Health Service in Scotland. With regard to the Year 2000 problem, the Committee expressed concern that 17 per cent of National Health Service bodies in Scotland were not confident that all critical systems and equipment would be year 2000 compliant by 31 March 1999. They concluded that the National Health Service Management Executive needed to target these bodies to ensure that their remedial work was speeded up, and that contingency plans to cope with the millennium threat were in place and tested.

Reports by the Comptroller and Auditor General, Session 1998-99

The Comptroller and Auditor General has to date, in Session 1998-99, presented to the House of Commons the following reports under Section 9 of the National Audit Act, 1983:

| | |
|--|--------|
| Ministry of Defence: Modifying Defence Equipment..... | HC 24 |
| Overseas Operations, Governance and Management at Southampton Institute | HC 23 |
| The Flotation of Railtrack..... | HC 25 |
| BBC World Service: New Financial Arrangements | HC 26 |
| Ministry of Defence: Management of Office Space..... | HC 105 |
| The Final Accounts of Chessington Computer Centre, Recruitment and Assessment Services and the Occupational Health and Safety Agency | HC 154 |
| Sales of Residual Loans to Housing Associations | HC 192 |
| Public Trust Office: Protecting the Financial Welfare of People with Mental Incapacity | HC 206 |
| How the Utility Regulators are addressing the Year 2000 Problem in the Utilities..... | HC 222 |

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