



# Millennium Bug Can Affect Workplace Safety and Health

1998

Are you ready for the Year 2000? More importantly, is your technical equipment? On January 1, 2000, every computer—and every computer chip—in the U.S. needs to recognize that we're leaving the 1900's behind. Many need to be reprogrammed, since original coding often used only two digits for the year. This design flaw means that computers may not distinguish whether 00 means 1900 or 2000, which may lead to possible shutdowns, inaccurate data and faulty calculations. Fixing the problem may be painstaking and labor intensive; not fixing it may be worse. Serious safety and health problems are among the many concerns facing employers, employees and governments worldwide. OSHA recommends you take time now to address these issues.

## What Can Go Wrong

Computer chips are embedded in all kinds of equipment. If you have machinery or production processes that are computer-controlled, this equipment could fail or malfunction after 1999 turns into 2000. Some businesses have computerized information on hazardous materials. Will you be able to access that in the year 2000? What about computer chips programmed to print out routine maintenance messages? Will they work? Or will a system component fail because it wasn't replaced at the proper time?

For example, a power generating station simulated changing the date for a boiler feedwater control loop. The date change caused the feedwater regulating valves to slam shut and initiated the boiler trip logic. If this had not been a test, the plant would have come to a screeching halt. In another example, following testing, a petroleum company realized its offshore rig would shut down because an embedded chip misunderstood the date change.

## What You May Want to Evaluate

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|---------------|-------------------------------------|--------------------|
| ✓ Controllers | ✓ Air monitoring devices            | ✓ Security systems |
| ✓ Alarms      | ✓ Hazard communication databases    | ✓ Elevators        |
| ✓ Lighting    | ✓ Heating and air conditioning      | ✓ Generators       |
| ✓ Robots      | ✓ Underground storage tank monitors |                    |

## What You Can Do

- ✓ Check every system to identify time-sensitive logic controls.
- ✓ Evaluate to determine whether computer chips can handle the date change.
- ✓ Fix or replace equipment that could cause problems.
- ✓ Verify that the updated system works properly.