# Implementing risk-reduction measures to protect the environment.

We are conducting a variety of risk-reduction measures to protect the environment in and around our manufacturing sites. Besides purifying the soil and groundwater; we are working to restrict emissions of dioxins and environmental endocrine disrupters and to totally eliminate use of substances that contribute to depletion of the ozone layer. As always, our overall aim is to achieve the most harmonious possible balance between our manufacturing activities and the global environment.

Fujitsu was again involved in no legal violation, lawsuit or accident concerning the environment in fiscal 2001.

### **Soil and Groundwater Purification**

Soil purification efforts aimed at removing volatile organic compounds continue, as in the previous year, at certain sites of Fujitsu and affiliated companies where concentrations exceed regulatory limits. We conducted soil surveys on the sites of three of our demolished company operations and one operation to be demolished, based on ordinances and internal standards (regulations concerning soil and groundwater surveys) to confirm the soil pollution conditions. One of the sites is now conducting soil purification treatment, and the results of the survey based on ordinances have already been reported to the prefectural governor. We take the Bill against Soil Pollution\*1 into consideration in our plant surveys and conduct evaluations of contamination to determine whether measures are required. We also survey flooring materials from demolished buildings for contamination in order to determine the contamination conditions and introduce countermeasures when required to prevent the spread of any contamination to the environment.



Purification equipment (Fujitsu Kawasaki Plant)

### **Dioxin Emission Prevention Measures**

The Fujitsu Group as a whole (5 Fujitsu plants and 10 affiliates with incineration facilities) has discontinued use of its incineration facilities and is continuing efforts to prevent generation of dioxins. Among the plants concerned, the Fujitsu Numazu Plant completed demolition of its incineration facility in March 2001, in accordance with the provisions of a Notice Concerning Prevention of Health Damage from Dioxins\*2 upon Waste Incineration Facility Demolition (Urgent Measure) issued by the (former) Ministry of Health and Welfare in September 2000.



Demolition of an incinerator chimney interior (Fujitsu Numazu Plant)

### **Total Elimination of Ozone-depleting Substances**

We have completely eliminated the use of ozone-depleting substances in our manufacturing operations. We have also taken measures to ensure that no CFC coolants used in airconditioning or refrigeration equipment leak into the atmosphere. When equipment of this type is renovated, we make use of the opportunity to replace the coolants with non-CFC alternatives.

**Results Concerning Ozone-depleting Substance Elimination** 

| Ozone-depleting substance        | Date of elimination |
|----------------------------------|---------------------|
| Cleaning CFCs (CFC-113, CFC-115) | End of 1992         |
| Carbon tetrachloride             | End of 1992         |
| 1,1,1-trichloroethane            | End of October 1994 |
| Substitute CFCs (HCFCs)          | End of 1999         |

## **Environmental Facility Status Surveys**

Since fiscal 2000, we have conducted surveys of all the Fujitsu Group manufacturing and R&D facilities. These surveys, which are based on internally developed standards, assess the environmental maintenance and management status at these sites. The aim of the program is to improve the levels of environmental facility maintenance to prevent accidents and achieve stable plant operation.

### **Main Survey Criteria**

- Reporting system for environmental facility management status
- Overview of each facility (capacity, processing systems)
- Facility operation management status (daily supervision, maintenance, emergency countermeasures)
- Degradation countermeasures (checks on degree of aging, renovation plans, etc.)
- · Survey/countermeasure status for environmental risks
- Measures for waste product management and energy saving

### **Anticipated Program Benefits**

- Accident prevention
- · Stable plant operation
- Improvement in ongoing supervision levels
- Exchange of information and views among those responsible for environmental facility management within Fujitsu Group

### **Results of Fiscal 2001 Surveys**

Fujitsu facility management surveys: 4 sites
Domestic affiliates: 3 companies

## **Working Toward Paperless Operations**

We are promoting reductions in paper consumption through initiatives such as the use of PC networks and online manuals. In fiscal 2001, we cut paper use by approximately 50 million A4 sheets.

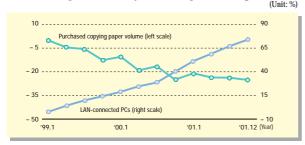
Paper Use Reduction Results (Estimated A4-sheet Equivalents) (Unit: million sheet

| Fiscal 2000 use    | 750 |
|--------------------|-----|
| Fiscal 2001 use    | 700 |
| Reduction achieved | 50  |

Fuiitsu and domestic affiliates

An internal survey has demonstrated a clear trend toward a decline in the volume of paper purchased as the number of computers linked to company networks has risen. We believe this to result from the conversion of internal documents and administrative procedures to electronic formats. Future plans call for increased electronic formatting of sales communications to promote further reductions.

### The Relationship between LAN Systems and Paper Purchasing Volumes



### **Measures against Environmental Endocrine Disrupters**

We are evaluating annual usage by our manufacturing plants and R&D facilities of 65 chemicals designated as exerting a potentially harmful effect on the human endocrine system to facilitate future reduction. We are managing the usage volume even of particles of these substances at all our plants and affiliates. In fiscal 2001, the volume of environmental endocrine disrupters used by the Group was approximately 90,613 kg. The volume used by Fujitsu was approximately 183.1kg, an 11.4% reduction compared with fiscal 2000.

#### **Usage Status of Environmental Endocrine Disrupters**

(Fujitsu Group Fiscal 2001)

| Substance   | Substance<br>number* | Amount used (kg) | Principal uses                         |
|---|----------------------|------------------|--|
| Bisphenol A   | 37                   | 83469.3          | Raw material for resins                |
| Di-n-butyl phthalate  | 40                   | 6589.2           | Shaping agent                          |
| Alkyl phenol (from C5 to C9)<br>Nonyl phenol, 4-octylphenol | 36                   | 534.1            | Degreasing agent for painted parts     |
| 2-ethylhexyl phthalate                                      | 38                   | 20.2             | Adhesive for affixing electronic parts |
| Permethrin  | 59                   | 0.4              | Insecticide for mites                  |
| Total   |                      | 90613.1          |  |

### Usage Status of Environmental Endocrine Disruptors (Fujitsu Fiscal 2001)

| Substance   | Substance<br>number* | Amount used (kg) | Principal uses                         |
|---|----------------------|------------------|--|
| Alkyl phenol (From C5 to C9)<br>Nonyl phenol, 4-octylphenol | 36                   | 91.5             | Degreasing agent for painted parts     |
| Di-n-butyl phthalate  | 40                   | 73.0             | Adhesive for test items                |
| 2-ethylhexyl phthalate                                      | 38                   | 17.1             | Adhesive for affixing electronic parts |
| Bisphenol A   | 37                   | 1.6              | Raw material for resins                |
| Total   |                      | 183.1            |  |

- \* The results tallied here are for 11 Fujitsu sites and 11 domestic and 4 overseas affiliates.
- \* The usage status covers all substances used by Fujitsu and the Fujitsu Group.
  \* Substance number in the Ministry of Environment publication "Strategic Programs on Environmental Endocrine Disrupters '98" (SPEED '98)



eco.fujitsu.com/en/info/eco20010814\_e.html

## Water/Air/Noise/Vibration Quality Countermeasures

Nineteen Fujitsu Group and five Fujitsu sites exceeded our internal standards for control of air, noise, vibration and water quality conditions in fiscal 2001. None of them violated relevant laws or ordinances.

### **Main countermeasures**

#### **Violations of Internal Standards**

| Violations of internal standards   | Countermeasures                   |
|--|-----------------------------------|
| Noise generation by dust removal equipment (58 dB internal standard 55 dB) | Constructed a soundproofing wall. |
| Fluorine value exceeding the internal standard                             | Added new removal equipment.      |
| Excessive volume of n-hexane   | Checked kitchen grease traps and  |
| extraction   | standardized the service manual.  |