Risk-reduction Measures to Protect the Environment

Fujitsu is undertaking a variety of risk-reduction measures to protect the environment in and around its plants. Besides purifying soil and groundwater, the company is working to restrict emissions of greenhouse gases. No environment-related accidents occurred at Fujitsu plants during fiscal 2000.

Soil and Groundwater Purification

Soil purification efforts aimed at removing organic chlorine compounds continue in parts of some Fujitsu manufacturing sites and affiliated companies where concentrations exceed regulated limits. All samples from the observation wells on a vacant lot at the Aizuwakamatsu Plant examined in tests conducted in October 1999 were within the limits. Official measurements conducted over the following five months confirmed these results, and the relevant authorities were notified that purification work was completed at that site in June 2000.

Fujitsu's internal regulations require a full survey of soil or groundwater contamination following the demolition of any company building and the implementation of appropriate countermeasures, if required. During fiscal 2000, a program of survey and countermeasures was completed on a vacant lot at one manufacturing plant, and surveys were initiated at two additional plants. One affiliated company completed soil purification in February 2001 and reported its completion to the relevant authorities in March 2001. The company has also formulated internal regulations to institute measures to prevent the occurrence of environmental pollution due to soil or groundwater contamination by chemicals.

Purification equipment (Kawasaki Plant)

Elimination of Ozone-depleting Substance Use

Fujitsu has completely eliminated the use of ozone-depleting substances in its manufacturing operations. We have also taken measures to ensure that no CFC coolants used in air-conditioning or refrigeration equipment leak into the atmosphere. When such equipment is renovated, we use the opportunity to replace the coolants with non-CFC alternatives.

Dioxin Emission Prevention Measures

All five Fujitsu plants with functioning incinerators in May 1998 formed committees to oversee the implementation of countermeasures to prevent dioxin emission. Operation of all five incinerators had ceased by January 2000, and the last of them, the incinerator at the Numazu Plant, was demolished in March 2001 in accordance with the (then) Ministry of Health and Welfare notification, "Prevention of Threats to Health from Dioxins in Dismantling Waste Combustion Facilities (Emergency Measure)" (September 2000). Various other dioxin emission prevention measures introduced included stopping operation of incinerators owned by ten affiliates by March 2000. Dioxin levels in wastewater are currently undergoing analysis at all our manufacturing plants to reconfirm the safety of all emission.

A decommissioned waste incinerator

Elimination of Ozone-depleting Substances

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

URL: http://eco.fujitsu.com/en/info/eco20010215a_e.html

Surveys of Environmental Facilities Maintenance/Management Situation

From our own manufacturing facilities and those of our affiliates to our R&D sites, we have been implementing surveys of the environmental facility*1 maintenance/management situation employing original standards since fiscal 2000. We are striving to improve such aspects of environmental facilities maintenance as accident prevention and stable plant operation and to enhance our maintenance and management functions.

*1: Environmental facility: electroplating, boilers, water purification, wastewater treatment and chemical supply facilities.

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
- Safe plant operation
- Improvement in ongoing supervision levels
- Exchanges of information and views among those responsible for environmental facility management in various Fujitsu organizations

Number of Fiscal 2000 Surveys

- Domestic affiliates: 13
- Overseas affiliates: 3

A facility management survey of Kyushu Fujitsu Electronics' waste gas cleaning facility

A facility management survey of Fujitsu VLSI's wastewater treatment facility

Measures against Environmental Endocrine Disruptors

Since fiscal 1997, Fujitsu has been evaluating and reducing the use by its plants of 67 chemicals designated as exerting a potentially harmful effect on the human endocrine system. During fiscal 2000, we used 206.7 kg of such substances, 47% more than in the previous fiscal year mainly due to increased production at our plants. We plan to switch to substitutes and revise our processing formulae to move further toward elimination of those chemicals.

Environmental Endocrine Disruptor Usage Status in Plants

Substance	Amount used*2	Principal uses
Nonyl phenol	160	Degreasing agent
Di-n-butyl phthalate	39	Raw material for resins

*2: Amount used: amount of a substance used exceeding 1/100 of 1.0 t/year, which is over the limit for management under the PRTR Law. (Unit: kg)

Greenhouse Gas Emission Prevention

The Japanese semiconductor industry has established a voluntary code of conduct to cut emission of potentially harmful greenhouse gases such as perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulfur hexafluoride (SF6). Fujitsu's efforts in this area are spearheaded by the Electronic Devices Division, which has formulated plans to ensure that internal emission countermeasures meet both Japanese and international standards. Specific ongoing measures include the following:

- Use of substitutes for liquid PFCs
- Application of emission reduction technology to new production lines
- Survey/measurement of emission levels
- Support for R&D programs focusing on substitute, collection and re-use technologies