

# Compliance with laws and setting goals for reduction of chemical substances

In view of the significant impact of chemical substances on human bodies and the ecosystem, their control and replacement is of pressing urgency. JR East strictly follows legally prescribed standards and also sets its own goals to achieve.

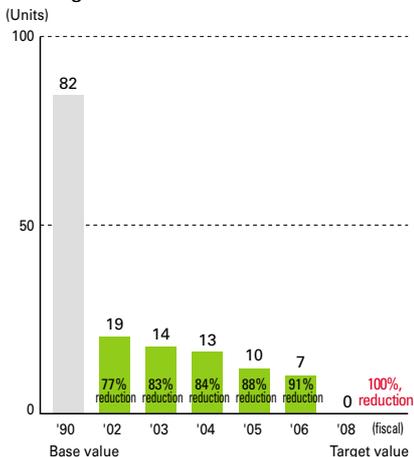
## Reducing chemical substances

### Reducing and replacing ozone-depleting substances

JR East is making efforts to accelerate reduction and replacement of chlorofluorocarbons (CFCs) that deplete the ozone layer.

- Large heat exchangers – While JR East has been using air-conditioning units with CFCs as refrigerants, we are gradually replacing them with non-CFC equipment. By the end of fiscal 2006, we reduced the number of air conditioning units using CFCs to 7, down from 82 in fiscal 1990. We expect to complete the replacement of all units by the end of fiscal 2008.
- Rolling stock – Except for some diesel railcars, all of our cars use CFC substitutes. As of the end of fiscal 2006, we were using 93 tons of CFC substitutes and only 0.6 ton of CFCs. We routinely check for gas leaks, and recover the refrigerants when scrapping retired railcars in accordance with applicable laws and regulations.
- Fire-extinguishing agent – Although 71 tons of halon gas was still in use as a fire-extinguishing agent as of the end of fiscal 2006, we have it under proper control and are replacing it with non-halon agents (such as powder agents and CO<sub>2</sub>) when building new facilities or renovating existing ones.

### Number of large heat exchangers using CFCs



## Chemical substance management

As JR East uses chemical substances primarily for painting and repairing our railcars, we take rigorous steps for their use and management in order to prevent their leakage. As a company that handles more than a certain amount of specified chemical substances, 15 JR East facilities submitted release and transfer data for these substances to relevant authorities in fiscal 2006, pursuant to the PRTR Law. \*1

We are also promoting the introduction of stainless steel railcars that do not require painting. As of the end of fiscal 2006, as many as 70% of the 10,804 cars operated on our conventional lines were stainless steel railcars.

Beside our initiatives for railcars, we used 372 tons of organic solvents for painting railway facilities and stabilizing track beds in fiscal 2006.

### Amount released and transferred from 15 reporting-required facilities

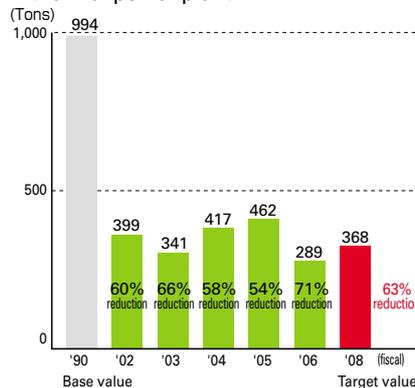
Chemical substance	Released into air	Released into sewerage	Transferred to other facilities (kg)
HCFC-141b	2,281	0	0
2-Aminoethanol	0	1,460	216
Bisphenol A-type epoxy resin	0	0	2,006
4,4'-methylenedianiline	0	0	523
o-toluidine	0	0	144
Ethylbenzene	5,391	0	2,072
Ethylene glycol	4	0	15,017
Xylene	29,747	7	2,030
Chromium and chromium (III) compounds	0	0	111
Dichloromethane	5,934	0	2,308
Styrene	2,440	0	0
Toluene	33,053	7	16,981
m-tolylene diisocyanate	1,105	0	117

\*Note: There was no release to soil, public water supply or disposal by landfills. Among the substances for which reporting is required, those that were actually released or transferred are posted here.

## Initiatives at JR East's thermal power plant

Our own thermal power plant uses natural gas, kerosene, and low-sulfur heavy oil as fuels with relatively low environmental impact. Since the plant emits nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), and soot, we are making efforts to reduce the emission of these pollutants by using desulfurization equipment, dust collectors, and other devices.

### NO<sub>x</sub> emissions from JR East's thermal power plant



## Control of PCBs

Although JR East has long used polychlorinated biphenyls (PCBs) as insulating oil in locations such as railcars and transformers, we are actively replacing PCB-using devices with ones that do not contain PCBs. We now store the retired PCB-equipment at 82 locations under stringent supervision, and report its status as stipulated by applicable laws and regulations.

We are currently studying ways to render PCBs harmless, taking into account the status of PCB waste treatment facilities and government policies.



PCBs are kept in special storage under stringent control

\*1 PRTR stands for "pollutant release and transfer registers."

The formal name of this law is the Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in their Management. The law promotes the assessment and control of toxic chemical substances emitted into the environment, and encourages measures to prevent negative impact on the environment.