

# 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 for achievement.

## Reducing and replacing ozone depleting substances

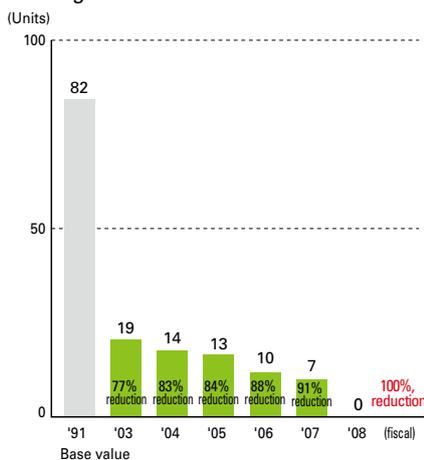
JR East is making efforts to accelerate reduction and replacement of chlorofluorocarbons (CFCs) that deplete the ozone layer.

- Large heat exchangers (Large refrigerators) – JR East had used heat exchangers in which CFCs is used as refrigerant. But they have been gradually replaced with non-CFC equipment. All heat exchangers using specified CFC have been completely removed from buildings by the end of fiscal March 2008.

- Rolling stock – Except for some diesel railcars, all of our cars use CFC substitutes. As of the end of fiscal March 2008, we were using 90 tons of CFC substitutes and only 0.6 ton of CFCs. We routinely check for gas leaks, and collect the refrigerants when scrapping retired railcars in accordance with applicable laws and regulations.

- Fire-extinguishing agent – Although 72 tons of halon gas was still in use as a fire-extinguishing agent as of the end of fiscal March 2008, 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 a considerable amount of specified chemical substances, JR East's 13 facilities submitted the data regarding the release and transfer of these substances to relevant authorities in fiscal ended March 2008, pursuant to the PRTR Law. (\*1)

We are also promoting the introduction of stainless steel railcars that do not require painting. At the end of fiscal March 2008, as many as 76% of the 10,677 cars operated on our conventional lines were stainless steel railcars.

Beside our initiatives for railcars, we used 695 tons of organic solvents for painting railway facilities and stabilizing track beds in fiscal ended March 2008

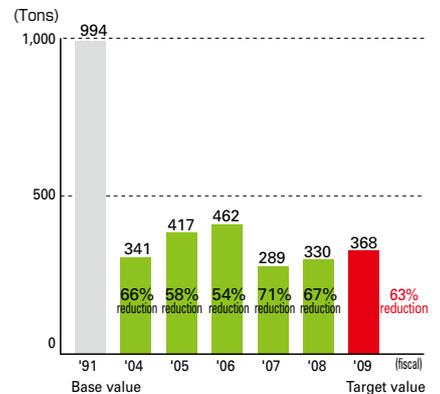
\*1 PRTR stands for "pollutant release and transfer registers."

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 encourages the assessment and control of toxic chemical substances emitted into the environment and measures to prevent negative impact on the environment

## Efforts 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



## Amount released and transferred from 13 reporting-required facilities (kg)

Chemical substance	Released into air	Released into sewerage	Transferred to other facilities
HCFC-141b	1,600	0	0
2-Aminoethanol	0	1,100	200
Bisphenol A-type epoxy resin	0	0	2,100
4,4'-methylenedianiline	0	0	260
o-toluidine	0	0	120
Ethylbenzene	5,010	0	1,402
Ethylene glycol	0	0	11,700
Xylene	25,130	7	2,737
Chromium and chromium (III) compounds	0	0	60
Dichloromethane	6,320	0	1,690
Styrene	1,800	0	0
Toluene	23,180	7	16,050
m-tolylene diisocyanate	830	0	180

\*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.

## Management of PCBs

Although JR East has long used polychlorinated biphenyls (PCBs) as insulating oil in locations such as railcars and substations, 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