

Summary of the Pollution Control Agreement

Pollution Control Agreement

Target Companies	The city concluded an agreement on environmental pollution control with major companies in Kawasaki City in 1970
	37 companies (39 factories) → Sulfur oxide (SO ₂) emission per factory is 10 Nm ³ /h or more
	In 1972, the city exchanged memorandums on environmental pollution control with major companies in Kawasaki City
	8 companies (8 factories) → Sulfur oxide (SO ₂) emission per factory is 5 Nm ³ /h - 10 Nm ³ /h
Agreed Matters	○Emissions from factories with agreements and memorandums account for 95% of the total emissions from factories and workplaces in Kawasaki City
	○Cooperate with the air pollution control measures in Kawasaki City
	○Response to air pollution emergency... Operations to be controlled when sulfur oxide reaches a high concentration
Implemented Policies	○Report the amount of fuel used and result of the measurement of emission gas concentration to Kawasaki City
	(1) Installation of a device for the continuous measurement of emission gas and regular reporting via telemeter (dedicated telephone line)
	(2) Implementation of reduction measures
	-Making of high quality fuels (low-sulfur heavy oil, gasification, etc.) -Installation of flue-gas treatment facilities (dust collectors, desulfurization and denitrification equipment, etc.) -Improvement of the manufacturing processes

Introduction of the Total Volume Control

Summary	The fundamentals of the Kawasaki City Pollution Control Ordinance are the reduction of pollutant (sulfur oxides and nitrogen oxides) emissions. Therefore the Total Volume Control Method—controlling the total volume of pollutant emissions per factory—was introduced for the first time in Japan. The law regulated the concentration at the outlet per smoke generating facility (PPM regulation) and later introduced the total volume control in the	
Characteristics	(1) Set the required levels of environmental achievement (health protection and conservation of living environment)	
	(2) Set the Total Allowable Emission per district to achieve the goal and set the emission standards for factories	
	When setting the emission standards, the location and the emission volume of the source of the pollution and weather were modeled. A method to estimate the environmental concentration by an atmospheric dispersion simulation (numerical calculation) was used	
	(3) Regulations were applied mainly to the above-mentioned factories concluding the pollution control Agreement	
Related Measures	Electroluminescence display for air pollution	Start to display the environmental measured concentration (Daishi, Tajima, and Chuo districts)
	Automatic monitoring system for generation source of sulfur dioxide gas	Targetting at 42 major factories, the data on the generation source is centrally monitored at the Pollution Monitoring Center in Kawasaki City with dedicated telephone lines. Install a display board in the Kawasaki City government office building to indicate compliance with the regulation standard
	Environmental air pollution information reporting system	Transmission device of the information on the environmental concentration for self-regulation. (Environmental data collected by Kawasaki City are transmitted to factories.)

Environmental Quality Standards

Monitoring System of the Environmental Concentration	Atmospheric environment has been measured (SO _x , NO _x , SPM, PM _{2.5} , O ₃ , CO, HC, and weather-related matters) at a total of 18 stations: 9 Ambient Environment Monitoring Stations and 9 Roadside Air Pollution Monitoring Stations. The data monitored by the automatic monitoring devices are sent from each of the sub-station systems to the parent station and released on the Kawasaki City website
Sulfur Oxides	0.04 ppm or less (daily average of the value per hour) and 0.1 ppm or less (hourly value) → This standard was achieved in 1979
Nitrogen Oxides	Within 0.04 ppm - 0.06 ppm (daily average of the value per hour) or less → Ambient Environment Stations achieved this standard in 2003 (Some of the Roadside Air Pollution Monitoring Stations have not yet achieved)
Suspended Particle Matter/PM ₁₀	0.1 mg/m ³ or less (daily average of the value per hour) and 0.2 mg/m ³ or less (hourly value) → This standard was achieved in 2004
Particle Matter/PM _{2.5}	35 µg/m ³ or less (daily average) and 15 µg/m ³ or less (annual average)