

# Zama Operations Center / Environmental Report 2005

**Business Summary:** Design and production of vehicle manufacturing equipment, and development, design and production of vehicle-associated parts.

**Location:** 2-10-1 Hironodai, Zama-shi, Kanagawa, Japan

**Start of Operations:** December 1964

**Number of Employees:** 1,366

**ISO 14001 Certification:** January 2000

**Environmental Slogan:** Continuing to improve the environment and to protect our precious Earth



General Manager,  
Zama Operations Center  
and Senior Vice President  
Sadao Sekiyama



Zama Operations Center

*S. Sekiyama*

## Major Results in FY 2004

### Zero Emissions

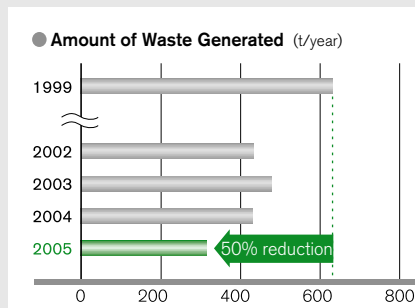
Since FY 2001, we had zero waste to landfill. The amount of incinerated waste also was reduced to 99% of fiscal year 1999 levels, allowing us to attain our goal of zero emissions.

Since FY 2004, we have initiated activities to reduce waste generated and are making efforts to control the input and output amount of waste generated to reach our goal of reducing waste to 50% of FY 1999 levels by the end of FY 2005.

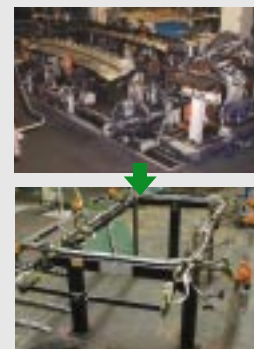
As a concrete activity, a committee is organized and made responsible for each kind of waste, reducible waste is gathered and waste is a goal independent of production load. Among other activities, carton boxes have been replaced by reusable boxes; plants were composted; the amount of industrial waste from the operations center was reduced; and the use time of cutting liquid was extended. All of which has resulted in a total waste reduction of approximately 200t per year.

### Resource Savings on Production Equipments

In FY 2004, the Body Assembly Engineering Department took measures to enhance the development of production equipment those need less resources. Specifically, we reviewed the structure of the treatment device in the design stage. By doing so, the weight was reduced by about 50% compared with previous years.



Composted Plants



Previous Device

Current Device

## FY 2004 Objectives and Results

Objective	Target	Result	Comment
Environmental preventive measures	Zero complaints	+	The past complaint was studied and the environmental improvement was carried out.
	Construction of evaluation system for indirect influence on environment	+	The system to evaluate the environmental influence of indirect business and improve the environment was constructed.
Energy conservation	Reduction in amount of heat 11,430GJ/year (4% reduction compared to previous fiscal year)	+	Centered around the energy conservation project, promoting improvements in energy efficiency through performing energy efficiency diagnosis. Reduced by 5.4% compared to the previous fiscal year.
Zero emission of waste	Reduction in amount of generated waste (200t/year item for reduction was found)	+	To achieve our reduction target reducing the amount of waste generated to 50% of FY 1999 levels (200t/year) by the end of FY 2005, we organized five reduction committees, found the item of 200tons that was able to be reduced in year, and achieved reduction of 202t/year.
Promotion of environmentally-friendly development and design	Reducing resources for the production of stamping die materials	+	Targets were set for production numbers of each model, including production requirements and weight reduction.
	Reduction in material intensity of manufacturing equipment	+	The weight of palette carts was reduced by 30% as compared with previous fiscal year.
	Reuse of unit manufacturing equipment	+	The reusability of existing unit equipment was expanded by 20% compared with previous fiscal year.
Cooperation and coexistence with local communities, local environmental protection	Reduction in environmental impact of electronic parts	+	Suppliers were used for procurement of lead-free electronic products.
	Environmental voluntary activity	+	Community cleaning activities were held 4 times per year in the area around the operations center.
	Zama Operations Center Open House	+	Invited employees and citizens of the local area and introduced our environmental efforts
	Communication activities with the community	+	A tour of Zama Operations Center and a public discussion were offered to the Zama Board of Education and local elementary school staff. At the Zama Environmental Lecture, a public presentation was held to introduce the current Zama Operation Center's environmental program, followed by an open exchange of opinions.

## Communication with the Community

### Voluntary Activities in the Local Community

As a local voluntary activity, we utilize our days off to conduct clean-up activities around the vicinity of the Operations Center in collaboration with companies in the surrounding area and the neighbourhood community association. This year marks the fourth consecutive year since we began the activity in FY 2001 and has led to the curtailment of illegal dumping.

**Event Date: June, September, November 2004, February 2005**

**Total Participants: 360**



### Zama Operations Center Open House

We invited members of the local community to an Open House to introduce our business activities, while also introducing automobile recycling, reduction of generated waste activities, and our environmental efforts.

**Event Date: Wednesday, November 3<sup>rd</sup>, 2004**

**Number of Participants: 400**



### A Guided Tour and Discussion with the Zama Board of Education and Local Elementary School Staff

The Zama Board of Education and elementary school staff were invited to Zama Operations Center to learn about our program of environmental activities. The topics included the current status of our waste reduction, separation, and recycling procedures. As a company rooted in the local community, we also try to do our part by meeting and discussing about how to give elementary and junior high school students opportunities to gain experience in handling environmental issues.



## Environmental Data

### Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m<sup>3</sup>N

Substance	Facility	Legal Limit	Measured Value
NOx	Boiler	60	47
	Air heating furnace	150	140
	Heater	125	88
Soot and dust	Boiler	1	0.002
	Air heating furnace	0.3	0.015
	Heater	0.3	0.001

\*Measured values are the maximum measured values in FY 2004

### Wastewater Quality (Wastewater Pollution Control Law and other ordinances)

Unit: mg/L (except pH)

Item	Legal Limit	Measured Value		
		Maximum	Minimum	Average
pH	5.8-8.6	7.7	7.2	7.5
COD	60	7.9	2.4	5
BOD	60	3.7	0.9	1.9
SS	90	5.2	ND	2.7
Oil	5	1	ND	ND
Zinc	5	0.07	ND	0.05
Fluoride	8	ND	ND	ND
Soluble manganese	1	ND	ND	ND
Total nitrogen	60	10.7	1.8	6.3
Total phosphorous	8	0.4	ND	0.13

\*Measurements of items other than those listed above were below minimum quantifiable limits  
\*ND indicated values lower than the minimum quantifiable limit

### PRTR Substances

Unit: kg/year

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
24	Alkyl benzene sulfonic acid	4.2	0	4.2	0	0	0	0	0
30	Bisphenol A mold epoxy resin	0.4	0	0	0	0	0	0	0.4
40	Ethyl benzene	214.9	27.2	0	0	0	0	187.7	0
63	Xylene	2,115.2	1,073.7	0	0	0	0	1,041.5	0
101	2 ethoxythyl acetate	5.0	5.0	0	0	0	0	0	0
224	1,3,5 trimethylbenzene	48	21.1	0	0	0	0	26.9	0
227	Toluene	2,670.6	1,163.2	0	0	0	0	1,507.4	0
230	Lead and its compounds	169.1	0	0	0	0	63.8	0	105.3
272	Bis (2-ethylhexyl) phthalate	0.2	0.2	0	0	0	0	0	0
299	Benzene	62.6	0	0	0	0	0	62.6	0
<b>Total</b>		<b>5,290.2</b>	<b>2,290.4</b>	<b>4.2</b>	<b>0</b>	<b>0</b>	<b>63.8</b>	<b>2,826.1</b>	<b>105.7</b>

\*PRTR: Pollution Release and Transfer Register. This system calculates the extent to which the production, use, and storage of chemical substances result in the release and transfer of those substances into the environment. The PRTR Law was originally enacted in July 1999 in Japan. \*According to PRTR law, raw materials that contain 0.1% or more of carcinogen (designated type 1 chemical substances) and those that contain 1% or more of other substances are measured. All are reported to the local government, but information on additional substance is included in this chart (all types of dioxin are stated). \*As the figures are rounded to the first place, the sum of air, water, waste, or buried by Nissan, recycled, chemically changed, and made into products may not necessarily be the same as the sum of the amount handled or total.

### Major Products



Body panel stamping die



Body welding equipment

## Nissan Motor Co., Ltd.

[For inquiries, please contact]

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