

Oppama Plant / Environmental Report 2004

Business Summary: Vehicle manufacturing

Location: 1 Natsushimacho, Yokosuka-shi, Kanagawa, Japan

Start of Operations: October 1961

Number of Employees: 4,700

ISO 14001 Certification: May 1997

Environmental Slogan: Let's preserve and improve the natural environment of our beautiful beaches with their green flora and blue seas.



General Manager
Oppama Plant
Yoshiaki Watanabe

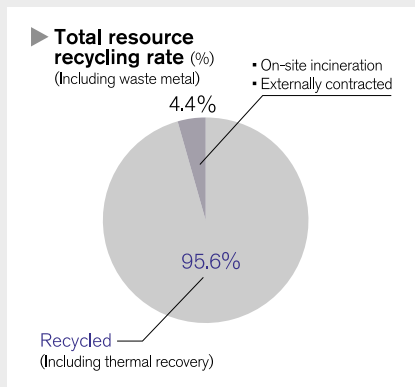


Yoshi Watanabe

Major Results in FY 2003

Zero Emissions

While maintaining zero direct disposal to landfill volume, we are working to reduce our volume of incinerated waste through such activities as waste separation and recycling.



Energy Conservation

Superior Energy Control Plant (Electrical Engineering Section)

Commendation from the Director General of the Agency for Natural Resources and Energy

Because of the combined efforts of each and every one of our employees, we were recognized with this award for the results of our energy conservation activities. In particular, we were commended for 1) shutting down the electric transformer on days the plant is not in operation and 2) shutting down compressed air lines on holidays and at night.

Energy Recovery from Automobile Shredder Dust (ASR)

In preparation for the enforcement of the Automobile Recycling Law in January 2005, we are incinerating ASR in the waste incinerator at our plant and performing energy recovery.

Reduction of Substances with an Environmental Impact

The deodorization equipment that treats emissions from the paint plant oven was changed from a catalytic converter to a regenerative thermal oxidizer (RTO), leading to an improvement in the volatile organic compound (VOC) removal rate.



FY 2003 Objectives and Results

Objective	Target	Results	Comments
Environmental preventive measures	Zero environmental accidents	+	Implemented environmental education, environmental patrols, and training for responding to accidents according to plan.
Reduction in substances with an environmental impact	100% implementation of facilities improvement plan	+	Installed the RTO in the paint according to plan.
	Cleaning thinner recovery rate of more than 60%	+	Maintained our target for the recovery rate of cleaning thinner.
Energy conservation	Reduction in amount of heat 82,000 GJ/year	+	Reached our target for discovering and implementing energy conservation activities.
Zero emission of waste	Reduction in amount of incinerated waste	+	Discovered and implemented new recycling activities; waste separation patrols have been implemented as scheduled.
Creating a corporate culture that values the environment	Implementation of events to raise environmental awareness	+	Conducted events for Environmental Month, Energy Conservation Month, and other events
Cooperation and coexistence with local communities	<ul style="list-style-type: none"> Implementation of mutual observation tours with other companies Implementation of cleanup activities Invitation to visitors for environmental course of plant tour 	+	In addition, we held a Plant Open House and set up an environmental information corner.

*Environmental Accident: A spill above legal requirements leaving company grounds

Communication with the Community

Oppama Plant Open House

Citizens from the local community took a tour of the inside of our plant.

Attendees: 1300 **Event Date:** Monday, November 3, 2003
Location: Oppama Plant Areas 1 and 2

2003 Oppama Festival

We held the "Oppama Autumn Festival" with the aim to establish a harmonious relationship with the local community and to invigorate our employees.

Participants: 27,000 **Event Date:** Sunday, September 13, 2003
Location: Oppama Plant Area 3



Nissan Cup

Oppama Championship (Wheelchair Half-Marathon)

Event Date: Sunday, July 13, 2003
Location: Oppama Plant Areas 1,2 and 3



NISSAN CUP

Kanagawa Triathlon

Event Date: Sunday, June 22, 2003
Location: Provided Oppama Plant Area 3 and the Test Course for meeting areas



Environmental Data

Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m³ N, Dioxins: ng-TEQ/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	105	64
	Heating furnaces	130	30
	Incinerators	250	100
Soot and dust	Boilers	0.1	0.004
	Heating furnaces	0.1	0.001
	Incinerators	0.1	0.029
Dioxins	Incinerators	1	0.75

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Waste Water Pollution Control Law and other ordinances)

Unit: mg/L (except pH)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.4	7.0	7.2
COD	60	9.9	6.0	8.4
COD (total)	110	37.7	11.1	20.7
BOD	60	ND	ND	ND
SS	90	1.0	ND	0.08
Oil	5	ND	ND	ND
Zinc	3	0.41	0.07	0.18
Fluoride	15	2.3	1.1	1.63
Copper	3	0.05	ND	0.02
Cyanogens	1	ND	ND	ND
Nickel	1	0.2	ND	0.03
Soluble manganese	1	0.10	ND	0.05
Total nitrogen	50	32	10	15.6
Total phosphorous	16	0.4	ND	1

• 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 (Dioxins: ng-TEQ/year)

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
1	Water-soluble zinc compounds	35,102	0	105	0	4,458	0	0	30,539
9	Bis (2-ethylhexyl)apadate	3,479	0	0	0	0	0	348	3,131
30	Bisphenol A mold epoxy resin	1,156	0	0	0	0	0	228	928
40	Ethyl benzene	33,307	2,900	0	0	0	0	5,026	25,381
43	Ethylene glycol	811,421	0	0	0	0	0	0	811,421
63	Xylene	1,400,941	536,712	0	0	0	722,503	109,783	31,943
68	Chromium and trivalent chromium compounds	4	0	0	0	0	0	0	4
176	Organotin compounds	8,849	0	88	0	0	0	8,761	0
224	1,3,5 trimethylbenzene	94	61	0	0	0	0	33	0
227	Toluene	603,888	202,532	0	0	0	103,127	107,880	190,349
230	Lead and its compounds	44	0	0	0	10	0	0	34
231	Nickel	5	0	0	0	0	0	0	5
232	Nickel compounds	5,181	0	137	0	3,085	0	0	1,959
243	Barium and its compounds	1	0	0	0	0	0	0	1
270	Di-n-Butyl Phthalate	10	9	0	0	0	0	1	0
272	Bis (2-ethylhexyl) phthalate	181,602	0	0	0	0	0	5,457	176,145
299	Benzene	17,832	9	0	0	0	0	5,085	12,738
307	Poly (oxyethylene) = alkyl ether (C =12 -15)	458	0	0	0	0	0	458	0
309	Poly (oxyethylene) nonyl phenyl ether	6,111	0	122	0	0	0	5,989	0
311	Manganese and its compounds	11,859	0	487	0	3,929	0	0	7,443
312	Phthalic anhydride	134	0	0	0	0	0	13	121
179	Dioxins	5,735	136	0	5,239	0	0	0	0
Total		3,121,469	742,223	939	0	11,473	825,630	249,062	1,292,142

• 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 substances 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



NISSAN MOTOR CO., LTD.

[For inquiries, please contact]

Oppama Plant Administrative Department

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Tochigi Plant / Environmental Report 2004

Business Summary: Automobile, automobile engine, and axel manufacturing

Location: 2500 Kamigamo, Kaminokawa-machi, Kawaguchi-gun, Tochigi, Japan

Start of Operations: October 1968

Number of Employees: 6,500

ISO 14001 Certification: December 1997

Environmental Slogan: To make continuous efforts to preserve the water and environment surrounding the plant.



General Manager
Tochigi Plant
Kiyoshi Higuchi

K. Higuchi

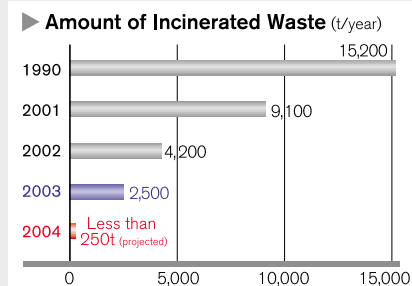


Tochigi Plant

Major Results in FY 2003

Zero Emissions

We were able to reduce the amount of incinerated waste by 2,561t/year, far surpassing our target of 3,180t/year. Our efforts focused on the promotion of recycling activities and due to this large reduction, we have ceased the operation of our waste incinerator as of the end of March 2004.



Energy Conservation

February is Energy Conservation Month, and as part of our activities we held a contest where representatives from each department presented on examples of improved energy conservation. The top two groups were nominated for the Kanto Area Case Example Competition of the National Energy Conservation Promotion Competition and one of the groups was honored with the "Superior Energy Conservation Center Award". Starting with the Minister of Foreign Affairs Award, we have been honored with 13 awards in the past 17 years.



Case Example Competition

Activities to Reduce Our Environmental Impact

We have reduced volatile organic compounds (VOC) emissions by switching to water-based paint in the painting process. In switching approximately half the painting volume to water-based paint in fiscal year 2004, emissions have decreased by 30%. In the future, we will continue to work to reduce our use of substances with an environmental impact.



Paint booth utilizing water-based paint

FY 2003 Objectives and Results

Objective	Target	Results	Comments
Environmental preventive measures	1. Zero environmental accidents*	+	Able to maintain the generation of waste to "zero" due to the appropriate education provided on environmental conservation and environmentally focused measures for facilities.
	2. Improvement plan 100% implementation rate	+	Taken measures to implement 8 improvements as planned.
Zero emission of waste	Reduction in amount of incinerated waste to less than 3,180t/year 65% reduction as compared to 1999	+	With developments in the recycling of paint residue, etc., the volume of incinerated waste has been reduced to 2,561t / year. Ceased operation of the incinerator as of March 2004.
Energy conservation	Various activities to reduce amount of heat more than 269,000 GJ	+	Passed our target of 269,000 GJ through various energy conservation activities achieving 281,200 GJ (2,309 conservation activities).
Reduction of water usage	5% reduction as compared to 1999 levels Reduction volume more than 300,000t/year	+	With the implementation of technical items and items with minor incremental improvements, we reached a reduction level of 422,000t / year.
Reduction of VOC emissions	Cleaning thinner recovery rate of over 60%	+	Maintained a recovery rate of over 60% at all our paint shops.

*Environmental Accident: A spill above legal requirements leaving company grounds

Communication with the Community

Environmental Facilities Tour

Starting with the President of the local neighborhood association, we have offered tours to such groups as the Environmental Committee of Tochigi Prefecture and the Eco-Life Network Tochigi to foster continued information exchange and deeper understanding of our environmental efforts.



Facility Tour

Shirasagi Festival

With more than 35,000 participants every year, this festival is our best opportunity to open up lines of communication with the community. We further deepen communication with the community by widely advertising for volunteers to participate in the festival.



Shirasagi Festival venue

Local Environmental Protection

On an ongoing basis, our employees take time during their lunch breaks to pick up litter along the public road bordering our plant. This hands-on activity has become part of new employee training as a way to teach the importance of environmental conservation.



Litter collection

Environmental Data

Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m³ N, Dioxins: ng-TEQ/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	190	120
	Heating furnaces	230	10
	Diesel engines	950	640
	Incinerators	300	85
	Furnaces	200	120
	Smelters	180	57
Soot and dust	Boilers	0.15	0.013
	Heating furnaces	0.2	0.061
	Diesel engines	0.1	0.025
	Incinerators	0.5	0.002
	Furnaces	0.2	0.012
	Smelters	0.2	0.061
Dioxins	Smelters	5	0.4
	Incinerators	10	1.8

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Waste Water Pollution Control Law and other ordinances)

Unit: mg/L (except pH)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.9	6.6	7.3
BOD*	25	19.3	1.0	3.1
SS*	50	14.8	1.0	2.3
Zinc	5	0.4	0.1	0.1
Soluble iron*	3	0.5	0.1	0.1
Soluble manganese*	3	0.2	0.1	0.1
Chromium	2	0.1	0.1	0.1
Fluoride	8	1.2	0.2	0.4
Nitrogen	20	19.2	2.0	7.2
Phosphorous	2	0.8	0.1	0.4

*Tochigi prefectural ordinance • Measurements of items other than those listed above were below minimum quantifiable limits

PRTR Substances

Unit: kg/year (Dioxins: ng-TEQ/year)

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
1	Water-soluble zinc compounds	654	0	2	83	0	0	0	569
9	Bis (2-ethylhexyl)apitate	708	0	0	0	0	0	35	673
16	2-Ethynol amine	349	0	70	0	0	0	279	0
25	Antimony and its compounds	23,760	0	0	0	0	0	0	23,760
29	Bisphenol A	13,375	0	0	0	0	0	13,375	0
30	Bisphenol A mold epoxy resin	3,477	91	0	0	0	0	0	3,386
40	Ethyl benzene	37,066	23,280	0	0	0	293	5,918	7,575
44	Ethylene glycol monoethyl ether	290	248	0	0	0	0	42	0
63	Xylene	926,795	314,904	0	0	0	529,786	47,747	34,358
67	Cresol	1,605	0	0	0	0	0	1,605	0
68	Chromium and trivalent chromium compounds	11,875	0	0	0	0	0	0	11,875
109	2-(Diethylamino)ethanol	300	0	60	0	0	0	240	0
224	1,3,5 trimethylbenzene	11,489	9,427	0	0	0	226	1,836	0
227	Toluene	281,103	93,006	0	0	0	168,025	13,906	6,166
232	Nickel compounds	537	0	13	341	0	0	0	183
260	Pyrocatechol	19,160	0	0	0	0	0	19,160	0
266	Phenol	12,255	0	0	0	0	0	12,255	0
270	Di-n-Butyl Phthalate	1	1	0	0	0	0	0	0
272	Bis (2-ethylhexyl) phthalate	57,165	0	0	0	0	0	2,765	54,400
283	Hydrogen fluoride and its compounds	3,194	100	247	296	0	2,551	0	0
299	Benzene	9,862	5	0	0	0	0	0	9,857
304	Boron and its compounds	119	0	0	116	0	0	0	3
309	Poly (oxyethylene) nonyl phenyl ether	605	0	72	0	0	0	533	0
310	Formaldehyde	3,240	2,657	0	0	0	0	583	0
311	Manganese and its compounds	354,233	0	46	372	0	0	0	353,815
346	Molybdenum and its compounds	7,475	0	0	0	0	0	0	7,475
179	Dioxins	142	69	0	73	0	0	0	0
Total		1,780,576	443,719	510	1,092	0	700,881	120,279	514,095

• 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 substances 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



FAIRLADY Z ROADSTER



FUGA

NISSAN MOTOR CO., LTD.

[For inquiries, please contact]

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Kyushu Plant / Environmental Report 2004

Business Summary: Automobile manufacturing

Location: 1-3 Shinhama-cho, Kanda-machi, Miyako-gun, Fukuoka, Japan

Start of Operations: April 1975

Number of Employees: 5,000

ISO 14001 Certification: March 1999

Environmental Slogan: Let's protect our precious sea and nature, and keep our development along with the area.



General Manager
Kyushu Plant
Masataka Nogawa




Kyushu Plant

Major Results in FY 2003

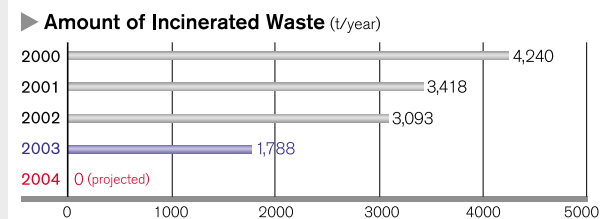
Zero Emissions

With the goal of discontinuing use of the waste incinerator at the Kyushu plant within fiscal year 2003, we have been making efforts to reduce the amount of waste generated and recycle all waste, while reducing the number of substances with an environmental impact used at our plant. We were able to cease use of the waste incinerator by the end of February 2004.

Waste Reduction

As a result of the following activities, we have reduced the volume of incinerated waste to 1,788t/year:

1. Recycling of sludge and waste plastic
2. Reduction of plastic bags used for parts packaging
3. Reduction of paint residue due to improved coating efficiency, etc.



Energy Conservation

In working toward achieving our energy conservation goals, our efforts have centered on the "Energy Conservation Family," our energy conservation promotion team, which crosses departmental boundaries in a joint effort to achieve real improvements.

FY 2003 Goals and Results

We were able to reduce the amount of heat by 155,100 GJ, surpassing our target of 122,000 GJ.

1. We were able to cut electrical power by 1,178MWh (12,100 GJ) by properly adjusting the transmission voltage on days that the plant is not in operation.
2. We were able to reduce the use of electrical power by 1,690MWh (17,300 GJ) by upgrading the compressor to a highly efficient model and carrying out more finely tuned control.

External Awards Received

1. Kyushu Bureau of Economy, Trade and Industry Director's Award – Electrical Engineering Section, Plant with Superior Energy Management
2. Energy Conservation Center Chairman's Award for "Reduction in electrical power use due to adjustment of transmission voltage on days of non-operation"

FY 2003 Objectives and Results

Objective	Target	Results	Comments
Environmental preventive measures	Zero environmental accidents*	+ (Zero)	Through review of the liquid leaks due to faulty equipment, we have implemented measures to counter equipment and system failure.
Zero Emission of Waste	Reduction in amount of incinerated waste to less than 2700t	+ (1,788t)	By promoting recycling activities and reducing waste products, we were able to cease the use of the waste incinerator in February 2003.
Energy Conservation	Reduction in amount of heat 122,000 GJ/year	+ (155,100 GJ/year)	Honored with the Kyushu Bureau of Economy, Trade and Industry Director's Award, and the Energy Conservation Center Chairman's Award in recognition of our achievements in energy conservation.
Improvement in environmental aspects	Environmental aspects evaluation	Achievement rate: 100%	+ Conducted environmental impact assessment of manufacturing and maintenance work, identified and standardized those with environmental risk.
	Environmental aspects improvement	Achievement rate: more than 90%	+ Conducted environmental impact assessment of office work, identified 12 works as significant environmental aspect and conduct improvement activities. All activities for improvement achieved 100%.
Creating a corporate culture that values the environment	Environmental seminars	2 times/year	+ Activities revolving around the theme of vehicle and waste recycling were held twice.
	Environmental meetings with suppliers	2 times/year	+ Conducted two informational exchange sessions with 25 parts manufacturers.
Cooperation and coexistence with local communities	Partnership activities with the authorities	3 times/year	+ Conducted cleanup activities three times/year in collaboration with the town of Kanda.
	Environmental communication with the community	6 times/year	+ Held a Plant Open House and offered tours of our wastewater treatment plant.

*Environmental Accident: A spill above legal requirements leaving company grounds

Communication with the Community

Beautification Activities in Collaboration with Kanda

We actively participate in beautification activities with the town of Kanda as well as with area businesses.

1. October 21 Cleanup of Kouno Shima
2. November 14 Cleanup along Shiraishi Beach
3. February 9 Cleanup of the prefectural road surrounding the plant

In addition, as the administrative agent of the Kanda Port Beautification Council, we are promoting various activities associated with the beautification of the Kanda port (PR activities, activities to expand membership, inspection tour activities, etc.).

Opening Facilities to the Public

We held tours to introduce our plant's water treatment facility.

1. PR Activities

We introduced our water treatment facility and announced the commencement of facility tours at various external gatherings.

2. Plant Tours

At our November 3 open house, approximately 200 people joined the observational tour of our water treatment facility.

Shinhamma Festival

This festival is held annually with the aim to establish a harmonious relationship with the local community and to invigorate our employees. In fiscal year 2003, the festival was held in the parking lot of the plant on September 14 and with approximately 32,000 visitors, the event was a great success. Because members from the Kanda Executive Committee were involved in all the planning stages, we also saw even more open lines of communication with the local community as compared to previous years.



Nissan-sponsored Sports Events

Nissan sponsors sports events every year to deepen the friendship between Nissan and the local community.

1. **Volleyball Tournaments (elementary school students)**
Silvia Cup, June 22 – the tournament was held with 21 participating teams (approximately 250 participants) from the districts of Keichiku and Kokura-minami.

Nissan Cup, January 25 – the tournament was held with 74 participating teams (approximately 900 participants) from the districts of Keichiku, Kita-Kyushu and Chikuhou.

2. **Table Tennis Tournament**

March 14 – the tournament was held with approximately 1200 participants from within Fukuoka Prefecture.

3. **Tennis Tournament**

August 9, 10 – the tournament was held with a total number of approximately 220 participants from the districts of Kita-Kyushu and Keichiku.

4. **Badminton Tournament**

December 7 – the tournament was held with a total number of approximately 180 participants from the district of Keichiku and Kita-Kyushu.

5. **Track and Field Meet**

August 24 – the meet was held with approximately 700 participants from the district of Keichiku.

Environmental Data

Air Quality (Air Pollution Control Law and ordinances) Unit: NOx: ppm, Soot and dust: g/m³ N, Dioxins: ng-TEQ/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	230	110
	Heating furnaces	230	54
	Incinerators	250	150
Soot and dust	Boilers	0.10	0.006
	Heating furnaces	0.15	0.007
	Incinerators	0.15	0.004
Dioxins	Incinerators	5	0.32

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Waste Water Pollution Control Law and other ordinances) Unit: mg/L (except pH)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.3	6.5	6.8
COD*	15	9.4	5.6	6.9
BOD	20	2.5	ND	1.0
SS	25	ND	ND	ND
Oil*	2	ND	ND	ND
Zinc	5	1.8	0.60	1.0
Fluoride	8	3.7	1.8	2.8
Soluble iron	10	ND	ND	ND
Soluble manganese	10	1.6	1.5	1.5
Total nitrogen	120	19	10	15
Total phosphorous	16	9.2	1.7	4.4

*Indicates environment conservation agreement (Fukuoka Prefecture, City of Kanda, Nissan) • 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 (Dioxins: ng-TEQ/year)

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
1	Water-soluble zinc compounds	25,332	0	76	3,217	0	0	0	22,039
16	2-Ethynol amine	84	0	0	0	0	0	83	0
30	Bisphenol A mold epoxy resin	32,430	0	0	0	0	0	855	31,575
40	Ethyl benzene	273,649	104,591	0	0	0	112,353	22,562	34,144
43	Ethylene glycol	1,338,095	25,784	0	0	0	0	6,562	1,305,749
44	Ethylene glycol monoethyl ether	12	11	0	0	0	0	1	0
63	Xylene	1,021,463	338,695	0	0	0	362,153	65,908	254,706
68	Chromium and trivalent chromium compounds	12	0	0	0	0	0	0	12
101	2 ethoxyethyl acetate	39	33	0	0	0	0	6	0
224	1,3,5 trimethylbenzene	39,823	27,667	0	0	0	6,904	5,252	0
227	Toluene	654,986	174,492	0	0	0	190,822	20,741	268,931
230	Lead and its compounds	883	0	0	269	0	0	0	614
231	Nickel	52	0	0	0	0	0	0	52
232	Nickel compounds	4,983	0	120	3,169	0	0	0	1,694
270	Di-n-Butyl Phthalate	9	0	0	9	0	0	0	0
272	Bis (2-ethylhexyl) phthalate	3,856	0	0	0	0	0	116	3,739
299	Benzene	12,059	42	0	0	0	0	0	12,017
304	Boron and its compounds	90	8	9	73	0	0	0	0
307	Poly (oxyethylene) = alkyl ether (C = 12 -15)	433	433	0	0	0	0	0	0
309	Poly (oxyethylene) nonyl phenyl ether	2,027	0	0	0	0	0	2,027	0
310	Formaldehyde	4,608	3,956	0	0	0	0	652	0
311	Manganese and its compounds	7,137	0	300	2,412	0	0	0	4,425
346	Molybdenum and its compounds	1	0	0	0	0	1	0	0
179	Dioxins	1,591	6	0	0	0	1,585	0	0
Total		3,422,063	675,712	505	9,149	0	672,233	124,766	1,939,697

• 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 substances 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



TEANA



X-TRAIL

NISSAN MOTOR CO., LTD.

[For inquiries, please contact]

Kyushu Plant Administrative Department

tel: +81(0)93-435-1111

fax: +81(0)93-435-1511

Yokohama Plant / Environmental Report 2004

Business Summary: Manufacturing of vehicle engines and axels

Location: 2 Takara-cho, Kanagawa-ku, Yokohama, Kanagawa, Japan

Start of Operations: July 1935

Number of Employees: 4,000

ISO 14001 Certification: July 1998

Environmental Slogan: Creating an environmentally friendly facility, protecting the global environment and caring for Yokohama's natural setting.



General Manager
Yokohama Plant
Toshiharu Sakai

T. Sakai



Yokohama Plant

Major Results in FY 2003

Zero Emissions

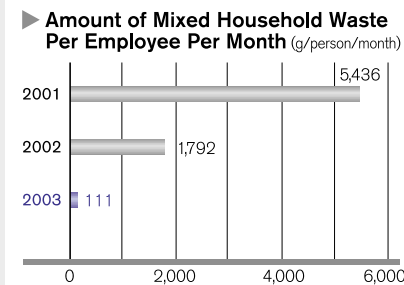
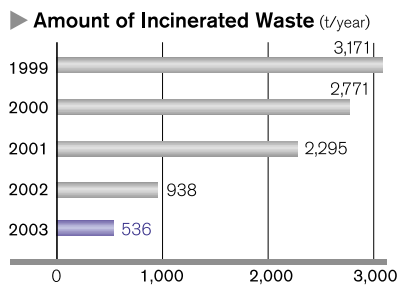
Since 2001, we began implementing zero emissions activities for waste and have attained "zero" direct landfill disposal for the past three consecutive years. We are promoting further recycling activities, and are working toward reducing the amount of waste that is incinerated.

Since 2003, all employees have been actively involved in a program to completely separate out "mixed household" burnable waste through the "One Employee, One Month, One Hundred Grams" program. Since the latter part of 2003, the amount of waste generated per employee per month is 111g, very close to reaching our goal. We will continue to promote activities that aim for zero emissions.

Energy Conservation

The following measures were taken through a collaborative project involving all departments:

1. Reduction in the maximum usage of electric power through the staggering of plant operation time.
2. Reduction of the energy used while the plant is not in operation, such as break times and shift changes.
3. Discovery and implementation of energy conserving technical items with the cooperation of "NESCO," the special team that aims for the promotion of company-wide, cross-sectional energy conservation.
4. Raising employee awareness through PR activities such as holding hands-on events for energy conservation.



FY 2003 Objectives and Results

Objective	Target	Results	Comments
Environmental preventive measures	Zero environmental accidents	+	Always aware of status of compliance with regulations and the operational status of plant facilities through implementation of scheduled environmental measurements.
Energy conservation	Reduction in amount of heat 109,000 GJ/year	+	Achieved significant results in the reduction of energy due to overall activities at the plant and energy conservation project activities.
Zero emission of waste	Continued achievement of zero waste to landfill	+	While achieving "zero" direct disposal to landfill for three consecutive years, all employees have also been taking part in the "One Employee, One Month, One Hundred Grams" program, and proactive efforts for zero emissions are being taken.
Reduction in use of hazardous chemical substances	Reduction in chemical use; verification of chemicals prior to use (efforts for non-chlorinated, etc.)	+	Making efforts to reduce the use of chemicals and switch to less harmful products through innovations in the manufacturing process and verification of chemicals prior to use.
Cooperation and coexistence with local communities	Guest Hall/engine museum operation	+	Since the opening of the Guest Hall one year ago, the number of visitors is now ten times greater.
	Summer Festival/ plant open house	+	These are regular annual events jointly held with the community.
Creating a corporate culture that values the environment	Implementation of "Director Patrols" (once a month)	+	Held monthly to prevent environmental accidents and raise plant-wide environmental awareness.

*Environmental Accident: A spill above legal requirements leaving company grounds

Communication with the Community

Guest Hall First Anniversary

One year has passed since the opening of the Guest Hall in April 2003 and during the year we have had approximately 20,000 visitors. At the first anniversary commemorative event, Mr. Yutaka Katayama of NISMO gave a commemorative lecture, and also several changes were announced, such as an increase in the number of engines on display and the opening of the hall on Saturdays. We hope to see an even greater number of visitors to the Guest Hall this year.

Event Date: Thursday, March 25, 2004 / **Attendees:** 150



Community Relations Model Factory Award

Our contributions to the local community through such aspects as open communication with the local community (summer festival, plant tours, etc.), information disclosure (inviting visitors to our plant with the tour centered around our Guest Hall), and community-based activities (electrical power reduction, recycling) have gained us recognition from Kanagawa Prefecture for being committed to successful coexistence with our community.

Event Date: Friday, November 28, 2003



Plant Tour

As a way for local citizens, our employee's family members, and retired Nissan employees to learn about the Yokohama plant and Nissan, we hold a plant tour every year. Despite the rain, many people joined us for our most recent tour.

Event Date: Monday, November 3, 2003
Attendees: 900



Environmental Data

Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m³ N, Dioxins: ng-TEQ/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	150	57
	Heating furnaces	230	34
	Gas engines	300	29
	Furnaces	180	155
	Smelters	180	43
Soot and dust	Boilers	0.05	0.002
	Heating furnaces	0.1	0.006
	Gas engines	0.04	0.001
	Furnaces	0.1	0.033
	Smelters	0.1	0.059
Dioxins	Aluminum furnaces	5	0.32

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Waste Water Pollution Control Law and other ordinances)

Unit: mg/L (except pH, COD, Dioxins)

Item*1	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH(-)	5.8~8.6	7.6	6.8	7.2
COD (total) (Kg/d)	Area #2	64.8	46.6	1.4
	Area #3	92.1	79.1	0.6
	Area #4	7	1.4	ND*3
SS*2	90	12	ND*3	3
Oil*2	5	1	ND*3	0.1
Copper	3	0.13	ND*3	0.01
Zinc	3	0.14	ND*3	0.07
Fluoride	8	0.7	ND*3	0.3
Soluble iron	10	0.5	ND*3	0.05
Soluble manganese	1	0.8	ND*3	0.3
Total nitrogen	30	25	1.9	6.4
Total phosphorous	8	0.4	ND*3	0.1
Dioxins (pg-TEQ/L)	10	0.4	ND*3	0.1

*1 Measurements of items other than those listed above were below minimum quantifiable limits **More strict than what is required by the regulations **3ND indicates below minimum quantifiable limits

PRTR Substances

Unit: kg/year (Dioxins: ng-TEQ/year)

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
1	Water-soluble zinc compounds	313	0	1	0	40	0	0	272
16	2-Ethynol amine	39	0	14	0	0	0	25	0
40	Ethyl benzene	25,545	9	0	0	0	0	25,536	0
43	Ethylene glycol	313	0	0	0	313	0	0	0
63	Xylene	114,289	27	0	0	0	0	114,262	0
227	Toluene	179,007	592	0	0	0	0	178,415	0
230	Lead and its compounds	1,119	0	0	56	0	0	0	1,063
232	Nickel compounds	216	0	5	0	137	0	0	73
243	Barium and its compounds	402	0	0	402	0	0	0	0
272	Bis (2-ethylhexyl) phthalate	4,416	0	155	0	0	0	0	4,261
283	Hydrogen fluoride and its compounds	5,760	691	0	0	0	5,069	0	0
299	Benzene	14,646	46	0	0	0	0	14,600	0
304	Boron and its compounds	68	8	28	0	32	0	0	0
307	Poly (oxyethylene) = alkyl ether (C = 12 -15)	0	0	0	0	0	0	0	0
309	Poly (oxyethylene) nonyl phenyl ether	5,342	0	186	0	0	0	42	5,114
311	Manganese and its compounds	3,581	0	0	0	0	0	0	3,581
346	Molybdenum and its compounds	82	0	0	0	0	82	0	0
179	Dioxins	6	5.8	0.0018	0.0	0	0	0	0
Total		355,138	1,373	389	458	522	5,151	332,880	14,364

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Major products



QR25/QR20 Engine (installed in the Primera)

VK45/VH45 Engine (installed in the Cima)

NISSAN MOTOR CO., LTD.

[For inquiries, please contact]

Yokohama Plant Administrative Department

tel: +81(0)45-461-7304

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Iwaki Plant / Environmental Report 2004

Business Summary: Manufacturing of vehicle engines

Location: 386 Shimokawa Otsurugi-aza, Otsurugi, Izumi-cho, Iwaki-shi, Fukushima, Japan

Start of Operations: January 1994

Number of Employees: 650

ISO 14001 Certification: March 1999

Environmental Slogan: Creating a clean facility, that is friendly to the environment and natural world of Iwaki.



General Manager
Iwaki Plant
Shinichi Asano



Iwaki Plant

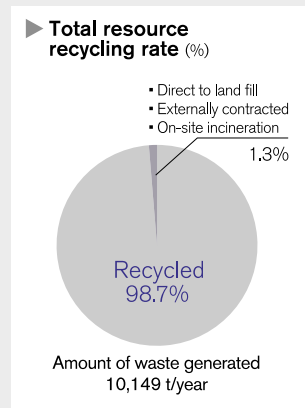
Major Results in FY 2003

Zero Emissions

Our efforts during fiscal year 2003 include waste separation and recycling of flexible, hard, and composite plastic waste products. The results of this effort made it possible to effectively utilize combustible wastes as refuse derived fuel (RDF) and other power-generating fuels, helping us achieve a recycling rate of 98.7%. In the future, we plan to work proactively to increase the recycling of liquid sealant and used filters.



Recycling station



Environmental Education

■ Employee Education

During Environment Month, we held study sessions on water pollution prevention and tours to observe the disposal process at the wastewater treatment facility as ways to educate management supervisors on environmental conservation.



■ Water Treatment Facility Tours

Starting next fiscal year, we plan to widely introduce the water treatment process at our plant by inviting the public to observe the process so that we can demonstrate that the wastewater from our plant is properly treated before it is released into the Onahama Port.



FY 2003 Objectives and Results

Objective	Target	Results	Comments
Energy conservation	Reduction in amount of heat 18,000 GJ	+ 38,600 GJ	Achieved through the implementation of improvement efforts (350 cases) in each work area
Zero emission of waste	Waste Disposed Directly to Landfill 8t/year	+ 5t/year	Made possible through advancements with recyclers in recycling metals and composite plastics.
	On-site incineration volume 30t/year	+ 26t/year	
Cooperation and coexistence with local communities, local environmental protection	Implementation of "Clean Day" (beautification of area surrounding plant)	+ 7 times/year	As part of "Clean Day," carried out activities to green the plant interior and collect litter from the public road bordering the plant.

Communication with the Community

“Clean Day”

We held “Clean Day” seven times throughout the year, during which all employees collected litter from areas surrounding the plant during their lunch break. Clean Day has become a well-established activity at the plant and will continue to be held every year.

2003 Iwaki Plant Autumn Festival

This year's festival celebrated Nissan's 70th anniversary and the Iwaki plant's 10th year of operation, and marked the cumulative production of three million VQ engines. A record 3,500 people attended the event. We held this event with the joint efforts of the local community, including participation by the local high school's brass band.

Event Date: October 11, 2003



Environmental Data

Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m³ N, SOx: K limit, Dioxins: ng-TEQ/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Water cooling and heating generator	120	83
	Aluminum furnaces	100	32
	Aluminum chip melting furnaces	100	18
Soot and dust	Water cooling and heating generator	0.03	0.001
	Aluminum furnaces	0.03	0.012
	Aluminum chip melting furnaces	0.03	0.003
SOx	Water cooling and heating generator	4.5	< 0.01
	Aluminum furnaces	4.5	0.01
	Aluminum chip melting furnaces	4.5	0.01
Dioxins	Incinerators	1	< 0.0001

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Waste Water Pollution Control Law and other ordinances)

Unit: mg/L (except pH)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.4	6.9	7.4
COD	16	6.8	3.4	4.9
SS*	56	< 5	ND	ND
Oil	5	< 0.5	ND	< 0.5
Zinc	4	—	—	< 0.1
Soluble iron	10	—	—	< 0.1
Nitrogen	60	—	—	5.1
Phosphorous	8	—	—	0.07

*Indicates pollution prevention agreement (Fukushima Prefecture, City of Iwaki, Nissan)
 • Measurements of items other than those listed above were below minimum quantifiable limits • ND indicates below minimum quantifiable limits • The above data are under normal operating conditions, not in the event of environmental accident

PRTR Substances

Unit: kg/year (Dioxins: ng-TEQ/year)

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
13	2,2'-azobisisobutyronitrile	66	0	0	6	0	0	0	59
16	2-Ethynol amine	93	0	5	88	0	0	0	0
40	Ethyl benzene	6,886	1	0	165	0	0	6,719	0
43	Ethylene glycol	4,285	0	0	0	0	0	0	4,285
44	Ethylene glycol monoethyl ether	3	3	0	0	0	0	0	0
63	Xylene	33,092	49	0	793	0	0	32,250	0
100	Cobalt and its compounds	85	0	0	9	0	0	0	77
227	Toluene	62,242	29	0	1,493	0	0	60,720	0
231	Nickel	176	0	0	18	0	0	0	158
283	Hydrogen fluoride and its compounds	204	0	0	203	0	0	0	0
299	Benzene	2,192	1	0	53	0	0	2,138	0
304	Boron and its compounds	12	0	1	0	0	0	11	0
307	Poly (oxyethylene) = alkyl ether (C =12 -15)	61	0	3	58	0	0	0	0
309	Poly (oxyethylene) nonyl phenyl ether	533	0	29	504	0	0	0	0
311	Manganese and its compounds	16	0	0	2	0	0	0	14
346	Molybdenum and its compounds	47	0	0	5	0	0	0	43
179	Dioxins	0.27	0.27	0	0	0	0	0	0
Total		109,993	83	38	3,396	0	0	101,839	4,636

• 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 substances 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



VQ engine



ELGRAND



MURANO

NISSAN MOTOR CO., LTD.

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 fax: +81(0) 246-75-1151

Environmental Efforts in Product Development

In order to reduce the environmental impact of vehicles, it is important that efforts are directed at every stage of the vehicle life cycle. To this end, Nissan is moving forward with the development of technology and environmentally friendly vehicles at the early stages of product development for cleaner exhaust emissions, improved fuel economy (and reduced CO₂ emissions), reduced vehicle noise, reduced air-conditioning refrigerant emissions, management and reduced use of chemical substances with an environmental impact, and design for recycling.



Cleaner Exhaust Emissions

Over 90% of our gasoline vehicles sold in Japan have achieved the ultra-low emissions vehicle (U-LEV*) standard. This has the same effect as selling over 400,000 zero emissions vehicles such as fuel cell vehicles and electric vehicles.

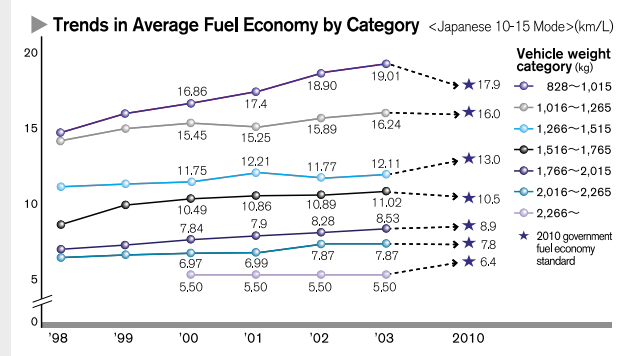
*U-LEV: An environmentally friendly vehicle that emits 75% fewer exhaust emissions of nitrogen oxide (NOx) and hydrocarbon (HC) than the level prescribed in the year 2000 exhaust emissions standards.

Additionally, the Bluebird Sylphy was the first in Japan to receive certification as a super ultra-low emission vehicle (SU-LEV), with 75% fewer emissions than the level prescribed in the 2005 exhaust emissions standards. We will continue to expand our SU-LEV lineup in the future.



Improvement of Fuel Economy (Curbing Global Warming)

Through technology developments such as improvements to engine efficiency, boosting of drivetrain efficiency through Continuously Variable Transmission (CVT) technology, as well as through weight-saving techniques, Nissan met Japan's 2010 fuel economy standard in four out of seven target vehicle weight categories.



Development of Clean Energy Vehicles

Nissan strives to develop and support the widespread use of clean energy vehicles that use alternative energy sources, such as natural gas and fuel cells, which are cleaner sources of energy that also emit less CO₂.

Nissan launched limited lease sales of the 2003 model X-TRAIL FCV, delivering the first vehicle to Cosmo Oil Co., Ltd.



FY 2003 Objectives and Results (Products)

Item	Objectives and Activities Up to 2005	Results	Comments
Improvement of fuel economy (curbing global warming)	Early attainment of Japan's 2010 fuel economy standards for gasoline vehicles and 2005 standards for diesel vehicles [Objective] Attainment of the new standards by 2005 target date	+	Met 2010 fuel economy standard in four out of seven target vehicle weight categories
Reduction of exhaust emissions	Gasoline vehicles: Steady expansion of Nissan's ultra-low emission vehicle (U-LEV) lineup, starting with the 2000 launch of the Bluebird Sylphy [Objective] Achieve U-LEV certification for more than 80% of all Nissan passenger cars sold in Japan by end of March 2003 Diesel vehicles: early release of vehicles complying with the latest exhaust emission regulations	+	Bluebird Sylphy the first car in Japan to receive SU-LEV certification
Development of clean-energy vehicles (CEVs)	FCV*1: Projecting the year 2005 as our technical development goal for practical use Participation in domestic testing program for FCVs under the auspices of the Japanese government in 2002 Other CEVs: Research, development, and market introduction of EVs*2, CNGVs*3, HEVs*4, and other CEVs	+	2003 model X-TRAIL FCV limited lease sales commenced (Delivered first vehicle to Cosmo Oil Co., Ltd.)
Promotion of design for recycling and management/Reduction of environment-impacting substances	Advancing the recycling of new models Attainment of a recoverability rate of 95% or higher* by weight for new models by 2005 (*based on Nissan's in-house calculation standards) Reduction of environment-impacting substances Banning the use of mercury and cadmium with some partial exceptions Reducing the use of lead (to be largely phased out by the end of 2002) and hexavalent chromium (to be reduced to one-half of 1996 levels by 2005)	+	95% recyclability achieved for March, Cube, and Cube Cubic models Materials of reduced use: lead – reduction to less than 1/10 from 1996 levels achieved for all new models
Reduction of vehicle noise	Compliance by all models with voluntary standards for vehicle noise that are tougher than regulatory noise limits	+	Achieved for all models
Control of air-conditioner refrigerant emissions	Attainment of Nissan's voluntary targets for reduced use of the HFC-134a refrigerant	+	Voluntary targets achieved

*1 FCV: Fuel cell vehicle

*2 EV: Electric vehicle

*3 CNGV: Compressed natural gas vehicle

*4 HEV: Hybrid electric vehicle

Environmental Efforts through Our Business Activities

Our business activities in product and technology development are also concerned with the promotion of energy and resource conservation, as well as the prevention of environmental problems.

Optimization of Product and Development Operations

Through the promotion of virtual development and other methods, we are moving forward with optimization and streamlining of development operations, which in turn contributes to a reduction in resource and energy consumption.



■ Reduction in Paper Use (FY 2003 actual results)

Conserved the equivalent of 1,420 trees.



■ Energy Conservation Activities (FY 2003 actual results)

Conserved the equivalent of 14 days' worth of energy for 90,000 households in Atsugi City.

Zero Emission of Waste

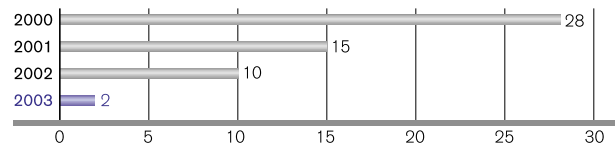
By separating our waste into 25 different categories and expanding our network of recyclers, we have worked to reduce the amount of waste sent to landfill and increase our recycling ratio.



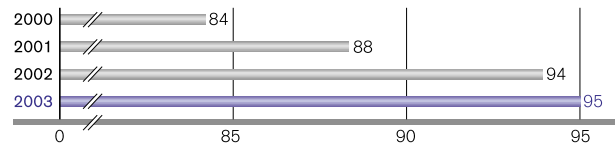
■ Installation of Bio-waste Processing Equipment

Food waste from our cafeterias was previously incinerated, but equipment now being employed can convert biological materials into water and carbon dioxide gas within 24 hours.

▶ Waste Disposed Directly to Landfill (tons)



▶ Total Resource Recycling Rate (%)



Environmental Preventive Measures

Within our place of business, we identify facilities, operations, or processes that have an environmental impact, and work to make facility and management improvements while performing periodic reviews.



■ Training for Responding to Environmental Accidents

The Technical Center holds simulation emergency training sessions, including environmental accident scenarios, for each facility at least once a year. In fiscal 2003, we held 17 training sessions and looked for any weaknesses in our response to emergencies, for instance, in the transmission of information and protocol.

FY 2003 Objectives and Results (Business Activities)

Objective Name	Target	Results	Comments
Compliance with environmental laws	No legal violations	+	Ensured by the establishment of corporate targets and enforcement through daily inspections and environmental patrols.
Environmental preventive measures	No environmental accidents*1	+	Ensured by improving facilities and lateral spread throughout the company of safeguards against minor incidents that may otherwise lead to serious environmental accidents.
Environmental Contributions through Business Activities	Achievement of registered items	+	By breaking down our business activities and examining possible environmental contributions, we succeeded in implementing proactive measures at each division.
Improving Waste Recycling	Over 96% recycling rate	-	Actual result: 95% Proceeded with recycling materials that used to be disposed of as waste. Moreover, the amount of waste itself was considerably reduced because of waste generation reductions. In fiscal 2003, identified recyclable items in order to manage the total amount of waste, as well as increase ratio of recycled materials.
Reducing Waste Generation	Over 2% reduction rate*2	+	Achieved by identifying recyclable items among waste and recycling them.
Reducing Paper Use	Reduction in paper use: 40% per person per month *3	+	Achieved by using projectors, double-sided photocopying, and shrinking documents to be copied.
Promoting Energy Conservation	Over 4% reduction in CO ₂ emissions *4	+	Energy Conservation Committee identified and implemented new areas for energy conservation.
Communication with Local Communities and Authorities	No serious claims	+	Held information exchange sessions with local communities.
Fostering a Better Understanding and Awareness of Environmental Protection	100% participation in environmental management system training	+	Improve environmental education and engaged in events during Environment Month.

*1 Environmental Accident: A spill above legal requirements leaving company grounds *2 Reduction Rate: Compared with FY 2002 *3 Reduction Rate: Compared with FY 2001 *4 Reduction Rate: Compared with FY 2000

Communication with the Community

Events with Local Associations and Governments

We hold regular explanatory meetings and open houses for the local associations and governments of Atsugi and Isehara cities to familiarize them with our business operations and environmental efforts. In fiscal year 2003, we also offered them the chance to test-drive our FCV.



Bus Terminal Cleanup Activities

Every month, we hold a cleanup activity for the area around the Aikou Ishida/Isehara bus terminal, which many of our employees use for commuting.



"Innovation Festa"

We convened this festival to encourage a harmonious relationship with our community, during which we also introduced our environmental efforts. After the festival, the waste produced at the food stands was separated and collected, thanks to everyone's cooperation.



Environmental Data

Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Kerosene boilers (Installed before April 1, 1997)	150	102
	Kerosene boilers (Installed after April 1, 1997)	80	69
	Gas boilers	105	87
	Smelters	180	90
Soot and dust	Kerosene boilers	0.3	< 0.003
	Gas boilers	0.1	< 0.002
	Smelters	0.2	< 0.001

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Sewage Water Law and other ordinances)

Unit: mg/l (except pH)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	above 5 - less than 9	8.4	6.6	7.2
BOD	< 600	500	1	57.6
SS	< 600	110	1	18.7
n-hexane				
Liquid petroleum	5	1	1	1
Fat and oil taken from plants and animals	30	7	2	3.2
Zinc	3	0.5	0	0.2
Nickel	1	0.5	0.1	0.1
Iodine	< 220	1	1	1
Smelttable metal	10	0.4	0.1	0.2
Soluble manganese	1	0.1	0.1	0.1

PRTR Substances

Unit: kg/year

Substance number	Chemical substance	Amount handled	Air	Water	Transferred as waste	Landfilled by Nissan	Recycled	Chemically changed	Product
40	Ethyl benzene	22,741	1	0	4	0	0	22,736	0
63	Xylene	135,326	1,223	0	353	0	0	133,749	0
227	Toluene	186,332	2,596	0	59	0	0	183,676	0
299	Benzene	7,624	4	0	1	0	0	7,620	0
Total		352,023	3,824	0	417	0	0	347,781	0

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NISSAN MOTOR CO., LTD.

[For inquiries, please contact]

Technical Center Environmental Management Desk

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Zama Operations Center / Environmental Report 2004

Business Summary: Design and production of vehicle manufacturing equipment, vehicle-associated parts in line with engineering development, design, and production

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

Start of Operations: December 1964

Number of Employees: 1,345

ISO 14001 Certification: January 2000

Environmental Slogan: Continuing to Improve the Environment and to Protect our Precious Earth



General Manager
Zama Operation Center
Sadao Sekiyama

S. Sekiyama



Zama Operations Center

Major Results in FY 2003

Zero Emissions

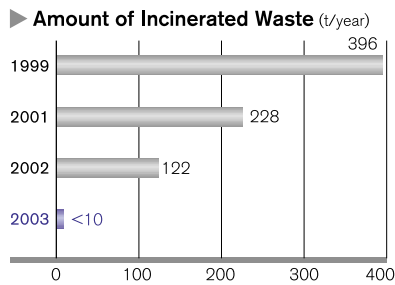
In fiscal year 2003, we again had zero waste to landfill. The amount of incinerated waste also was reduced to 99% in comparison with fiscal year 1999 levels, allowing us to attain our goal of zero emissions.

In fiscal year 2004, we are initiating activities to reduce the volume of waste generated and are making a shift toward taking preventive measures at the source.

Water-soluble cutting fluid used at the metal processing stage accounted for 55% of the plant's incinerated waste, and therefore posed a critical problem to get to zero emissions. Working in collaboration with the equipment manufacturer, we installed sewage-processing equipment and succeeded in processing 100% of the water-soluble cutting fluid at the plant.

Environmental Risk Reduction

As a preventive measure against environmental accidents, if by any chance the pH of effluent reaches an unacceptable level during normal operation of the water treatment equipment, the treatment will cease automatically, the emergency cutoff valve of the discharge tank will be activated, and measures will be taken to ensure that nothing flows out of the operational area. In fiscal year 2004 we will make further efforts to be aware of preventive measures against environmental accidents as we develop an effective water treatment system.



FY 2003 Objectives and Results

Objective	Target	Results	Comments
Environmental preventive measures	Zero complaints	+	Learning from complaints we have received in the past, we worked to make environmental improvements by performing measurements on vehicular noise emission, etc.
	Implementation of environmental patrols	+	Working for environmental improvements by conducting environmental patrols as a preventive measure against environmental accidents.
Energy conservation	Reduction in amount of heat 4,290 GJ/year	+	Centered around the energy conservation project, promoting improvements in energy efficiency through performing energy efficiency diagnosis. Reduced by 2% compared to last year, surpassing our target of 1.5%.
Zero emission of waste	Reduction in amount of incinerated waste	+	As a result of installing processing equipment for the water-soluble cutting fluid which accounts for 55% of the volume of incinerated material, we have gained a head start over the entire company on attaining zero incinerated waste material.
Promotion of environmentally friendly development and design	Reduction in weight of casting press	+	Continuously promoting the reduction in the number of processes through combining processes, etc.
	Reduction in material intensity of manufacturing equipment	+	Lightened the weight of the robot hand and have achieved a 40% reduction compared to the previous fiscal year.
	Reuse of unit equipment	+	Reusing the unit equipments for such things as the crank grinder.
Cooperation and coexistence with local communities, local environmental protection	Reduction in environmental impact of electronic parts	+	An evaluation for the adoption of lead-free galvanizing of electrode was implemented and plans are being made for its adoption.
	Cleanup activities around the Operation Center	+	Regularly occurring activity that is held four times a year.
	Zama Operations Center Open House	+	Invited employees and citizens of the local area and introduced our environmental efforts
	Communication activities with the community	+	Participated in the meeting of the Zama city board of education and proposed an excursion tour to our place of business to contribute to the education of elementary school students.

Communication with the Community

Volunteer Activities in the Local Community

As a local volunteer activity, we utilize our non-business days to conduct volunteer cleanup activities around the vicinity of the Operations Center in collaboration with companies in the surrounding area and the neighborhood community association. This year marks the third consecutive year since we began the activity in 2001 and has led to the curtailment of illegal dumping.

Event Date: June, September, November 2003; February 2004
Total Participants: 320



Zama Operations Center Open House

We invited local citizens to an open house to introduce our business activities, while also introducing automobile recycling, waste reduction activities, and our environmental efforts. In addition, we are contributing to the local community by hosting such events as meetings to exchange opinions regarding environmental issues with local companies and the local government.

Event Date: Friday, November 3, 2003
Number of Participants: 300



Environmental Data

Air Quality (Air Pollution Control Law and ordinances)

Unit: NOx: ppm, Soot and dust: g/m³ N

Substance	Facilities	Legal Limits	Measured Value
NOx	Boilers	60	45
	Air heating furnace	150	58
	Heater	125	39
Soot and dust	Boilers	1	0.003
	Air heating furnace	0.3	0.026
	Heater	0.3	0.001

Measured values are the maximum measured values in FY 2003

Wastewater Quality (Waste Water Pollution Control Law and other ordinances)

Unit: mg/L (except pH)

Item	Legal Limits	Measured Values		
		Maximum	Minimum	Average
pH	5.8~8.6	7.6	7.2	7.4
COD	60	11.6	3.5	6.1
BOD	60	10.5	1.1	2.7
SS	90	6	2.0	4.9
Oil	5	ND	ND	ND
Zinc	5	0.23	0.05	0.09
Fluoride	8	0.5	0.5	0.5
Soluble manganese	1	0.05	0.05	0.05
Total nitrogen	60	10.4	3.8	7.6
Total phosphorous	8	0.7	0.11	0.21

• 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 (Dioxins: ng-TEQ/year)

Substance number	Chemical substance	Amount handled	Air	Water	Waste	Landfilled by Nissan	Recycled	Chemically changed	Product
30	Bisphenol A mold epoxy resin	3	0	0	0	0	0	1	2
40	Ethyl benzene	67.5	67.5	0	0	0	0	0	0
63	Xylene	1,091	1,036	0	0	0	0	55	0
227	Toluene	2,547	994	0	0	0	0	1,553	0
230	Lead and its compounds	145	0	0	0	0	115	0	30
309	Poly (oxyethylene) nonyl phenyl ether	1	0	0	0	0	0	1	0
311	Manganese and its compounds	4	0	0	0	0	4	0	0
179	Dioxins	5,376	136,476	0	0	5,239	0	0	0
Total		3,858	2,097	0	0	0	119	1,610	32

• 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 substances 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.

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