Yokkaichi Refinery (as of March 31, 2005)

Address	1-1 Daikyo-cho, Yokkaichi, Mie
Start-up	July 1943
Total area	1,188,075 m^2
Company Staffs	314
Capacity	155,000 barrels / day
ISO 9001	February 18, 1997
ISO 14001	March 20, 1998

About the Yokkaichi Refinery

Located in the center of the Chukyo Industrial Belt, and as an important base for supplying energy across the Chubu, Hokuriku, and Kinki regions, and furthermore, with as the producer of Cosmo Oil's sole lubricant and with its recent expansion into the IPP business, the Yokkaichi Refinery has become an integrated energy company.

- Environmental activities: The Yokkaichi Refinery engages seriously in various environmental issues, the largest one being climate change, and to that end, it aims for continuous improvements which outside parties can understand and consent to, which is the spirit of ISO14001. Specifically, it promotes energy conservation and recycling of industrial waste, as well as thoroughly implements and improves the environmental monitoring system for water and air quality.
- Safety activities: As a refinery and also from the perspective of corporate social responsibility, safe operation is of the utmost importance to the Yokkaichi Refinery. In order to maintain and improve safe operations, the Yokkaichi Refinery ensures smooth operation of the safety management system, makes appropriate equipment improvements, and implements upgrades in safety technology as well as nurturing of company staffs sensitive to safety issues, thereby encouraging self-awareness towards safety among all of its company staffs.
- Activities for the regional community: Starting with the monthly volunteer cleanup program, the Yokkaichi Refinery holds the "Junior Soccer School" and the "Softball tournament for regional fighter moms" which targets the local neighborhood community association, among other programs, so as to establish communication with the local community, and to make efforts to become a trusted and reliable refinery that can coexist with the larger society.

Seizo Suga
Director
Yokkaichi Refinery

Environmental Activities

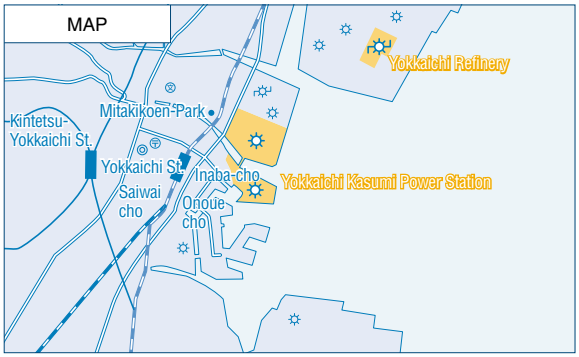
- Energy conservation
  Introduction of the "energy conserving steam trap", "the motor inverter control (HDRIVE method)", etc.
- Environment equipment
  Introduced the "gasoline desulfurization units (sulfur free gasoline supply)", etc.

Health and Safety Activities

- Accomplishment of major maintenance programs and introduction of large equipment (gasoline desulfurization units)
  Carried out operations without a single accident or disaster by thoroughly implementing operational management, construction quality management, and site education for both the production and safety divisions.
- Preventative measures
  Advance accident prevention program using the "close call memo" system; on-the-job training at the Mie Fire Academy as part of the safety reinforcement program (87 people)

Regional Communication Activities

- Kyohoku region accident prevention liaison meeting
- Harbor region regular maintenance explanatory meeting
- Meeting for the exchange of opinions between the fishery cooperative and Cosmo Oil (5th meeting, concerning the regular maintenance and environmental activities)
- Liaison meetings between the Yokkaichi manufacturing complex, the Kasumi manufacturing company, and other corporations
- Participation in the local soft volley ball tournament and Grand Golf tournament, etc.



Number of visitors to the Refinery in Fiscal 2004	33 visits 409 people
No accident record (as of December 2004)	7,474,000 hours
PCB custody status	High voltage condensers 59 units Others

Number of Staff holding Environmental Qualifications

Air pollution control manager	18
Water pollution control manager	16
Noise pollution control manager	4
Vibration pollution control manager	3
Dioxin pollution control manager	3
Hazardous materials officer (Class A & B)	441
High-pressure gas production safety manager (Class A & B)	281
Qualified person for heat management	22
Qualified person for electricity management	4
Specially controlled industrial waste manager	6
Engineering manager for disposal facilities of industrial waste	7
Boiler operator (Special grade)	9
Boiler operator (1st & 2nd grade)	248

Regulated Pollutants

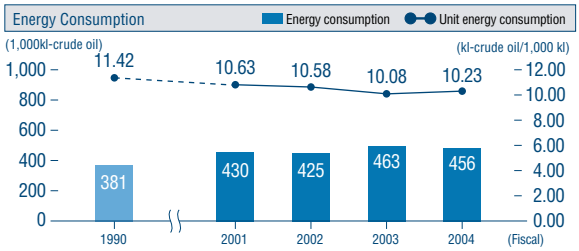
Data includes Yokkaichi Kasumi Power Station

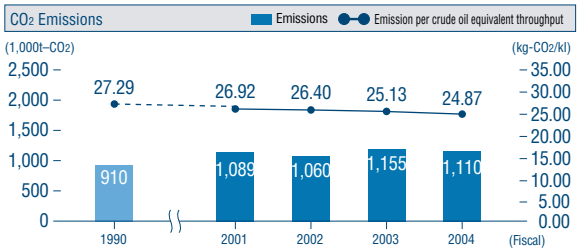
	Pollutant	Standard	Actual Performance in Fiscal 2004 Maximum	Actual Performance in Fiscal 2004 Average
Air pollutants	NOx (m^3N/hour; total pollutant load control)	80.8	56.1	26.2
	SOx (m^3N/hour; total pollutant load control)	109.48	56.0	25.8
	Particulate (boiler; g/m^3N)	0.049	0.040	0.014

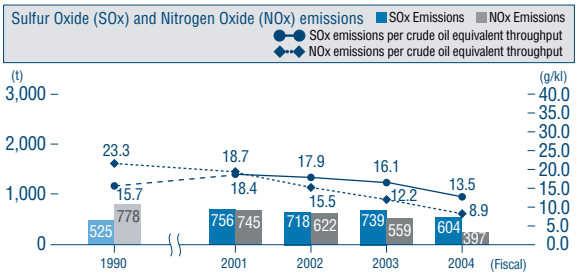
	Pollutant	Standard	Actual Performance in Fiscal 2004 Maximum	Actual Performance in Fiscal 2004 Average
Water pollutants	COD (kg/day; total pollutant load control)	535.0	380.0	190.1
	COD (mg/L)	160 (120)	8.1	4.8
	SS (mg/L)	200 (150)	8	4
	Oil Content (mg/L)	1	Below measurement threshold	
	Nitrogen (kg/day; total pollutant load control)	697.0	435.76	92.22
	Nitrogen (mg/L)	15	1.8	Below measurement threshold
	Phosphorus (kg/day; total pollutant load control)	80.47	16.35	1.13
	Phosphorus (mg/L)	1.5	0.08	0.05
	Phenols (mg/L)	1	Below measurement threshold	

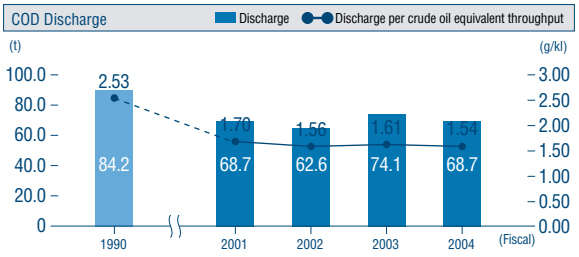
Values in ( ) are daily average.

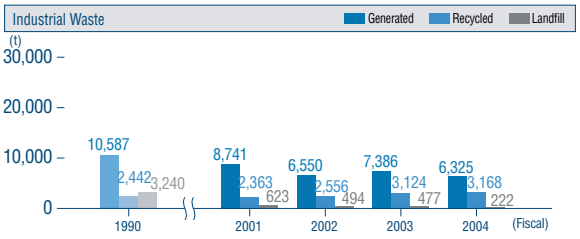
Environmental Performance (energy, etc.)











Environmental Performance (PRTR)

Data includes Yokkaichi Kasumi Power Station

PRTR listed substances		Releases Air	Releases Water	Releases Soil	Releases Total	Transfers
Ethyl benzene	kg/year	380	0	0	360	0
Xylene	kg/year	1,500	0	0	1,500	0
1,3,5-trimethylbenzene	kg/year	0.3	0	0	1.3	0
Toluene	kg/year	4,600	0	0	4,600	0
Nickel compounds	kg/year	0	0	0	0	14,000
Benzene	kg/year	1,500	0	0	1,500	0

* In addition to above, we treat 2-aminoethanol, cobalt and its compound, molybdenum and its compound, 1,2-dichloroethane, 1,2-dichloropropane and hydrazine over 1,000 kg per year, the release and transfer volume are 0 kg per year on the all substances.

Kasumi PS Environmental Performance

	Substance	Emissions
Air pollutants	NOx (t/year)	73
	SOx (t/year)	40
Water pollutants	COD (t/year)	0.3

Industrial waste	Generated (t/year)	4,181
	Recycled (t/year)	4,181
	Sent to landfill (t/year)	0
Energy consumption		10,000kl-crude oil/year
Carbon dioxide emissions		30,000t-CO2/year

Environmental Accounting

Data includes Yokkaichi Kasumi Power Station

Environmental conservation costs (million yen)

Category and Key Activity	Fiscal 2004 Investment	Fiscal 2004 Cost
1. Business area: Pollution prevention	159	2,889
Global environmental conservation	128	3,089
Resource circulation	15	222
2. Upstream/downstream: Green purchasing	0	0
Reduction of environmental impact of products	5,262	5,520
Sulfur reduction of products	(5,124)	(3,513)
Substitution of toxic substances in gasoline	(138)	(2,007)
3. Administration	0	118
4. Research and development	0	0
5. Social activity	0	0
Total	5,564	11,838

Purchasing recycled paper: 1 million yen

Data includes Yokkaichi Kasumi Power Station

Economic benefit (million yen)

Details of Benefit	Fiscal 2004
Energy conservation (cogeneration)	1,483
Gypsum sales	128
Ammonia recycling	138
Catalyst recycling	1
Total	1,750

Environmental conservation benefits

Item		Fiscal 2004 Reduction (year-on-year) Concentrations/unit value	Fiscal 2004 Reduction (year-on-year) Impact
1. Benefits corresponding to worksite costs			
Reduced resources input into business activities			
Energy input		- 0.15 (kl-crude/1,000kl)	143 (TJ)
Water input		- 8(kg/kl)	- 890 (1000t)
Reduced emissions and waste generation			
Emissions to air:	CO2	0.26 (kg-CO2/kl)	35 (1000t-CO2)
	SOx	2.6 (g/kl)	172 (t)
	NOx	3.3 (g/kl)	156 (t)
	Benzene	0.00 (g/kl)	0.00 (t)
Emissions to water:	COD	0.07 (g/kl)	5.4 (t)
Industrial waste :	Generation	19 (g/kl)	- 197 (t)
	Recycled	- 3 (g/kl)	- 1,302 (t)
	Landfill	5 (g/kl)	255 (t)
2. Benefits related to upstream and downstream costs			
Related to goods and services			
Reducing sulfur content of products		(sulfur content: mass %)	(potential SOx: t)
	High octane gasoline	0.0000	0
	Regular gasoline	0.0017	37
	Naphtha	0.0013	- 41
	Jet fuel oil	0.0006	0
	Kerosene	0.0006	13
	Diesel fuel	0.0010	18
	Heavy fuel oil A	0.0206	651
	Heavy fuel oil C	0.0751	5,926
	LPG	- 0.0002	- 1
	Total	0.0459	6,604
Reducing benzene in gasoline		0.0151 (volume %)	491 (t)
CO2 emissions from product use		- 0.0085 (t-CO2/kl)	443 (1,000t-CO2)