



PAKISTAN REFINERY LIMITED



Environmental Report 2006



VISION

To be the
Refinery of first
choice
for all stakeholders.

MISSION

PRL is committed to remaining a leader in the oil refining business of Pakistan by providing value added products that are environmentally friendly, and by protecting the interest of all stakeholders in a competitive market through sustainable development and quality human resources.

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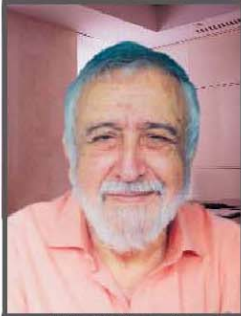
Executive Summary & Scope of Report

Environmental Report 2006

- The scope of this report is to provide information about the environmental impacts and operational performance of Pakistan Refinery Limited in the year 2006, to all stakeholders for acquiring their confidence and strengthening better relationship with PRL. This standalone environmental report is written by using ACCA-WWF /GRI environmental reporting guidelines.
- This report provides a brief view of Pakistan Refinery Limited (PRL), operation and processes and its direct/indirect impact on environment. Policies and procedures developed to have effective control on its operations and supply chain activities are in place.
- Under sustainable development program, long term strategic objectives are established through business strategy workshops such as; saving of natural resources through energy conservation, reduction in oil loss and reduction in pollutants load, in order to leave a better environment for our future generations.
- Budget of approximately Rupees 11.0 billion is approved which will be utilized for the production of environmental friendly HSD .The present level of 1.0 wt % sulfur in HSD will be reduced to less than 500 ppm. Secondly use of carbon rejection technology for reduction in fuel oil production will help sustained profitability along with heat integration for energy conservation.
- Platformer, Hydrotreater and Crude furnace efficiency has been increased from approximately 60% to 80% by the induction of a heat recovery module with a total installed cost of more than 90 millions rupees, energy saving of about 30 million rupees per year is realized.
- Crisis Management Plan is tested twice a year under different scenarios. Weaknesses are highlighted and corrective, preventive actions are taken accordingly.
- PRL as a result of its reliability centered maintenance has achieved a safe operational cycle of fifty two months.
- Top Management's commitment for the protection of environment, minimizing the damage to the health and safety of its employees, contractors and the communities and quality resulted into implementation of the integrated HSEQ Management System and acquiring certification against the requirement of ISO-14001:2004, OHSAS-18001:1999 and ISO-9001:2000.
- Violations of the legal and other requirements to which the organization has subscribed are dealt seriously and corrective actions are taken after thorough investigation. Records of non-compliance, quarterly walk through inspections and customers complaints with corrective actions are maintained.
- Corporate Social Responsibility (CSR) as being one of the pillars of the business strategy is given due importance.
- Contractors and Suppliers are evaluated to ensure their ability to supply materials and services in accordance with PRL's requirements. Issues related to contractors and suppliers are also highlighted.

Board of Directors

Environmental Report 2006



Ardeshir Cowasjee
Director



Asif Sidhu
Director



Hussain Dawood
Director



Ijaz Ali Khan
Director



Farooq Rahmatullah
Chairman



Jalees Ahmed Siddiqi
Director



Nadeem N. Jafarey
Director



S. Ali Raza
Director



Sabar Hussain
Director



Zaiviji Ismail bin Abdullah
Director



Zafar Haleem
Managing Director & CEO

Message from MD & CEO



We start with the view that the purpose of any business, is to satisfy human needs and in doing so, to generate profits for the investors. PRL provides refined hydrocarbon fuel products, in the National Energy sector for human progress and economic growth, while satisfying the need for a sustainable environment.

Our focus is on safety and protection of people, environment, health, operational excellence and security of supply.

The actions we take are designed to enable our business to prosper in an environmental friendly and safe manner; all our activities contribute to the delivery of our purpose.

I feel happy on the issuance of PRL Environmental Report 2006 by our team as a hallmark of strong commitment towards HSEQ policy and its implementation in true spirit.

Credit goes to PRL employees, being a real asset and strength in achieving Company's goals/targets. The recognition of this fact is supplemented by providing all opportunities for professional training, healthy and safe working environment to its employees to assure quality in every phase of work process.

Environment:

HSEQ objectives assure the continual improvement in the area of employee's Health, Safety, Environment and Quality that can have significant impact if not addressed.

Envisaging the global warming issues, due to emissions of gases, PRL has taken proactive initiative to reduce the release of green house gases, by implementing a number of energy conservation projects.

At PRL profound consideration is given to get maximum benefit out of its waste energies before final discharge to the atmosphere while remaining within NEQS limits. One of the steps taken in this direction is the successful **Installation & Commissioning of Flue Gas Waste Heat Recovery Unit (WHRU)** in order to minimize heat loss through flue gases.

PRL has initiated expansion project of around Rs. 11 billion to sustain in the oil market and continue to produce environmental friendly petroleum products, keeping in view the upcoming stringent environmental legislations e.g. emission standard and low sulfur diesel.

The Refinery revamp program entails setting up additional units including 15,000 b/d diesel hydrotreater, 7-8,000 bpd visbreaker, 20,000 bpd vacuum distillation unit, hydrogen generation plant, de-asphalting unit, sulfur recovery unit, and an amine treatment unit. The new units will produce fuel conforming to Euro II emission standards for the domestic market as well as for export and reduce fuel oil production.

Community service:

As a corporate social responsibility and also as a partner with United Nations Global Compact agenda, PRL is actively engaged in, up-gradation of Government hospitals and educational facilities around its vicinity. We have incurred around Rs 8 million, in health & educational field during the current year 2006, and are already a milestone ahead in achieving the targets of PMDG (Pakistan Millennium Development Goals) that reflects our strong commitment, in helping the Government for building a better Pakistan.

Achievements:

PRL's HSEQ Management system is a guideline source and entire Refinery operations and processes revolve around it. Periodic review / auditing is based on OHSAS 18001: 1999, ISO 14001:2004 & ISO 9001:2000. The efforts made by PRL have been accredited by various agencies in terms of; AEEA-2006 Award, ACCA-WWF 2005 Environmental Reporting Award & EFP best practices in "OH&S".

Plant's critical equipment operational availability & integrity issues identified during the Reliability Centered Maintenance have been removed during Turn Around 2006. The changes made in plant will definitely improve the quality of products.

The equipments installed were

- 1) New Hydro Reactor
- 2) Modified LPG treatment facility by installation of modern & efficient trays in stabilizer to ensure on spec product on sustainable basis.
- 3) Advance Process Control (APC)

Safety:

PRL employees and contractors have worked hard to achieve the milestone of 11.8 million man-hours without Lost Time Injury (LTI).

Commitment:

- Perceiving the challenges ahead, every year Business Strategy workshop & HSEQ Management review are conducted, to identify the gaps for improvement, new Strategic & HSEQ targets are finalized for implementation.

PRL is committed to ensure environmental sustainability and compliance with regulations and reducing emission of pollutants that can help in changing better atmosphere of our planet.

It is my conviction that PRL will keep on striving to remain a Refinery of first choice, being a responsible and HSEQ conscious company of the nation.

Z. Haleem

12th December 2006



PAKISTAN REFINERY LIMITED

Health, Safety Environment & Quality Policy

PRL is committed to the protection of environment and to ensure health and safety of its employees, customers, contractors and communities where it operates and practice quality in all its business activities so as to exceed customer expectations.

PRL is also committed to comply with the applicable laws and requirements and work with the government and other stakeholders in their development and implementation. PRL shall continually improve the effectiveness of health, safety, environment and quality management system by achieving its commitments through:

Health

PRL seeks to conduct its activities in such a way as to avoid harm to the health of its employees and others, and to promote the health of its employees as appropriate.

Environment

PRL prevents pollution through progressive reduction of emission, effluents and disposal of waste materials that are known to have a negative impact on the environment.

PRL conducts periodic audits and risk assessment of its activities, processes and products for setting and reviewing its objectives and targets to provide assurance to improve HSEQ system and loss control. PRL encourages its contractors working on its behalf or on its premises to also apply health, safety, environment and quality standards.

Safety

PRL work on the principle that all hazards can be prevented through effective leadership and actively promoting a high standard of safety.

Quality

PRL focuses on customer satisfaction by operating efficiently and developing a culture, which promotes innovation, error prevention and teamwork.

Z. Haleem
MD & CEO
September 25, 2006

HSEQ-01 / Rev 04

Management Team

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PRL's "MTM" Management Team is composed of professional members of various disciplines. They devise & review the policies that help in improving the image of the company, providing congenial working environment for all which is necessary in developing ownership among the employees of the company.

All policies, strategic decisions & change in practices are formulated within the sphere of Company's vision & mission statement.



Standing (L - R) Front Row

M. Naman Shah (Project Team Leader)
Qazi Shehryar, G.M (Engineering & Construction)
M. Akram Peracha, G.M (Operations & Supply)
Zafar Haleem, Managing Director & Chief Executive Officer
Mohammad Afzal, G.M (Business Strategy & New Ventures)
K.M. Nauman, G.M (Human Resources & Administration)

Standing (L - R) Back Row

Dr. Junaid Farooqui (Chief Medical Officer)
Aftab Hussain, G.M (Commercial & Technical Services)
Saleem Butt, (Company Secretary & Chief Financial Officer)

Stake Holders

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Supplier

Crude is the biggest supply among all receivables at Refinery. The origin & source of crude supplies is:

- Abu Dhabi
- Saudi Arabia
- Iran
- Pakistan (Local Crude)

Customers

Customers feed back on our services and products is received annually on our "Customer Satisfaction Form", to make improvement in our products and evaluate customer satisfaction.

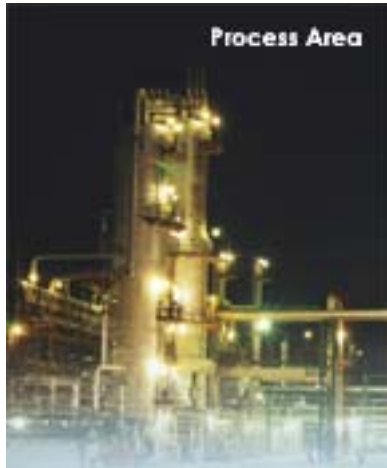
Their feedback is analyzed by Management Representative (MR) and is presented to Top Management for review in, "Management Review Process Meetings", the analysis/results become inputs for improvement initiatives.

The rating received this year from our customers is as under:

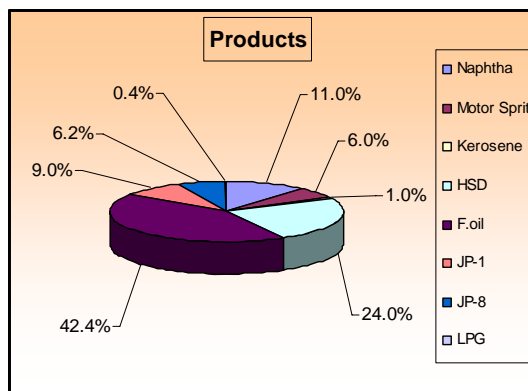
Chevron Pakistan Ltd -----Excellent
Shell Gas -----Excellent
Shell Pakistan Ltd-----Fair
Foundation Gas -----Excellent
Pakistan State oil -----Excellent

Company Profile

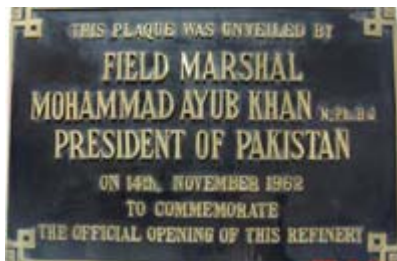
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PRL is a hydro skimming refinery. It is designed to process various imported and local crude oil to meet the strategic & domestic fuel requirement of the country. The Refinery has the capacity of processing 50,000 bpd crude oil into various petroleum products.



Nature of Ownership & Market Served

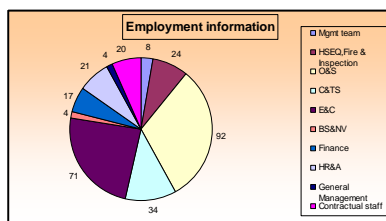


Pakistan Refinery was incorporated in Pakistan as public limited company in May 1960 and is quoted on Karachi and Lahore stock exchanges. The address of its registered office is Korangi Creek Road, Karachi.



Cross Country Pipeline Suspension Bridge

The Refinery is situated at the coastal belt of Karachi, Pakistan. Its entire business is limited to manufacturing & supplying of petroleum products to the Oil Marketing Companies through 16KM pipeline-network, (laid from PRL Korangi creek process area to Keamari terminals of Oil Marketing Companies situated at Keamari near the seashore. Also a 20 KM pipeline is laid between PRL, Korangi Creek to Karachi Airport).

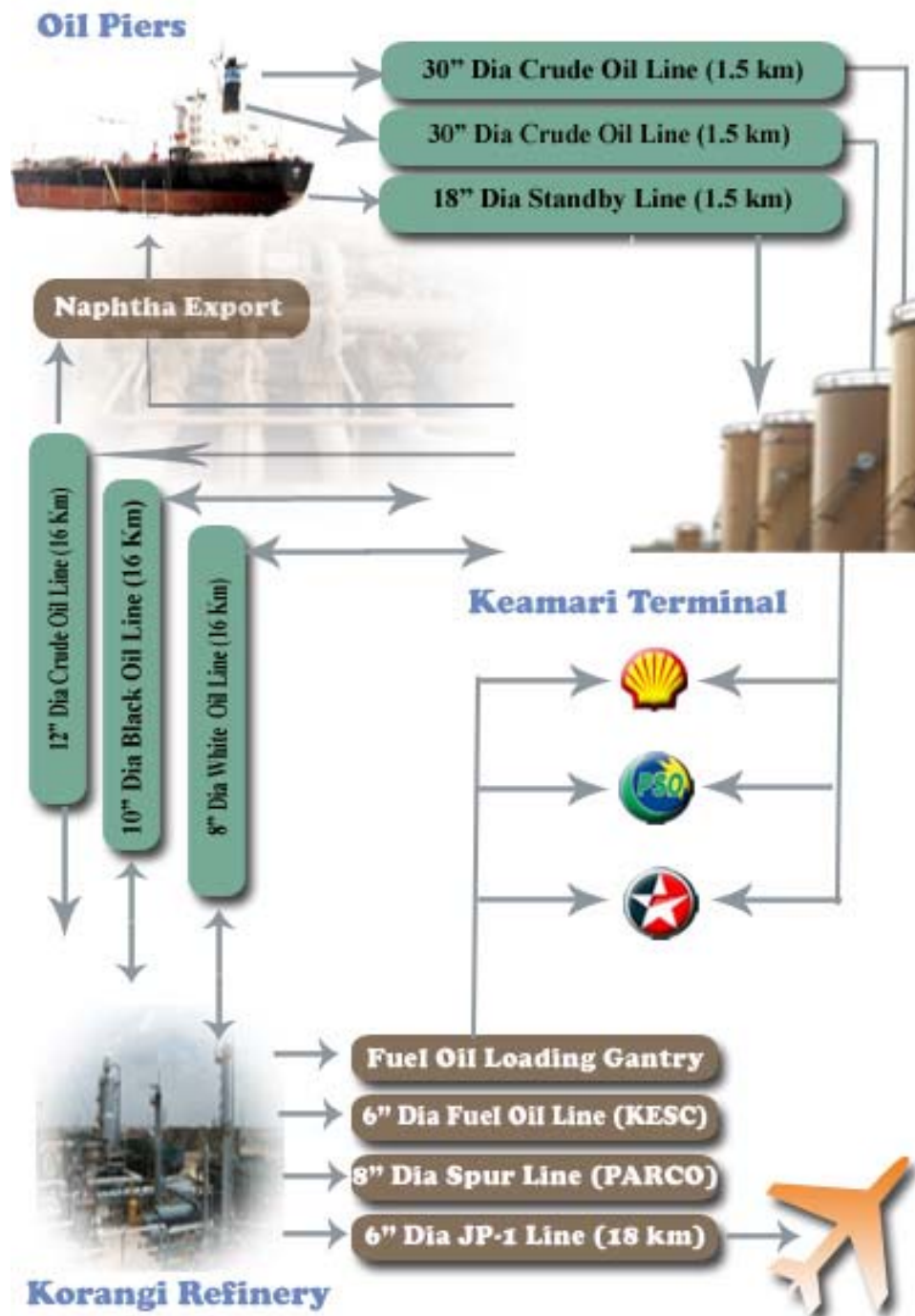


Strength

The total strength of its employees is 290.

Overall Operation Network

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Organization's Main Functions

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Central Control Room

Operationally, PRL is composed of following functions:-

Operations

PRL Plant is mainly composed of desalting unit, crude distillation, hydro de-sulfurisation, platforming & LPG units. Plant operation is controlled through Distributed Control System (DCS). Advance Process Control (APC) ensures the defined operating condition to produce the on spec. products in desired yields.

Operations is supported by utilities which include steam generation, power generation through generators & water treatment units.



Tank Farm Area

Supply Chain

The main responsibility of Supply Chain is to receive imported and local crude in a safe and efficient manner and distribution of on spec. products to Marketing Companies.

Health, Safety, Environment & Quality

Every concept, up-gradation and improvement proposal is given HSEQ dimension before its implementation. This ensures conformity of all activities within defined procedures based on OHSAS 18001: 1999, ISO 14001:2004 & ISO 9001:2000.



HSEQ team with MD & CEO

Pakistan Refinery has a Fire Station equipped with fire tenders & ambulance. Round the clock fire & safety support is provided through a dedicated & professional team of fire fighters. Firewater network is laid all around the facilities, which is kept pressurized at all times. PRL believes that investment in this head will pay back if we are prepared to meet any unfortunate emergency without allowing injury & property loss.

Engineering & Construction

Mechanical, Electrical, Instrument & Civil maintenance and revamping projects are performed by this department. The effective maintenance plans & their implementation ensure the availability of equipment to their production capacity. All business & maintenance activities are recorded in Computerized Maintenance Management (CCM) using SAP as an ERP tool for future reference & analysis purposes.

Information Technology

Information Technology (IT) is part of **Engineering & Construction Department** and performs the operations of main data communication system between the cross function departments inside the Refinery. Refinery's information data is secured & protected through dedicated system administration. It provides all kind of software & hardware solutions & support to the end user. This department preserves and maintains the real time entire financial, technical & HSEQ management system database of Refinery.

Human Resources & Administration

HR & Admin. is actively engaged in maintaining the industrial peace, creating a suitable working environment, developing HR policies for the betterment of staff, promoting the skills & health, by providing professional training & best health care.

Finance

The Finance Department of Pakistan Refinery Limited ensures sound use of company's fiscal resources in line with its strategic objectives. Realizing the challenges of ever-changing dynamic business environment, the finance division has widened its focus from traditional number crunching and regulatory reporting to providing comprehensive measures and information analysis for operational and strategic business decisions. Driven by investment in enterprise resource planning (ERP), shared services and changes in its reporting role, the finance department of the Company not only ensures integrity and transparency of business performance but also provides strategic decision support.

Projects

All major & strategic projects are initiated, managed & implemented by professionals belonging to this department.

Commercial & Technical Services

Commercial and Technical Services department plans, organizes, directs and manages commercial & technical activities of the refinery such as crude import, product export, affreightment and transportation contracts, production planning, OMC sales & purchase agreements. The technical services monitors and provides support to ensure sustainable refinery operation to meet quality standards.

It is the department that is responsible for the procurement of crude & sale of petroleum products manufactured at Refinery. They are responsible for monitoring the plant operation as per design requirement & resolving the operational problems, which can become bottlenecks for meeting the desired output without violating the National Environmental Quality Standards (NEQS) limits. They ensure sustainability of Refinery operations. Plant Change Management System (PCMS) is one of the key functions of this department.

Laboratory (ISO-9001:2000 Certified)

All products are tested and are in compliance with product specifications as per ISO 9001:2000, before sending to oil marketing companies.

Materials

It manages timely procurement of all essential spares, equipment & quality products and ensures to maintain optimum stock levels for smooth and environmentally safe operation of the plant in accordance with the Company's purchasing policies, internationally recognized business ethics. The core functions of Procurement, Materials Planning, Inventory Management and Ware Housing are managed and controlled through SAP Enterprise Resource Planning (ERP) solution.

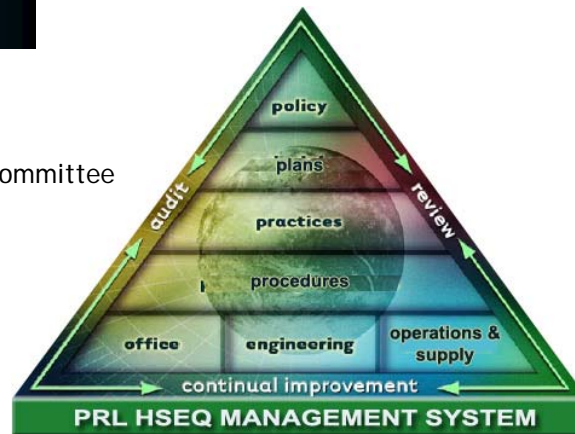
Health, Safety, Environment & Quality

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PRL has very comprehensive Management System to ensure that all business activities are performed in a systematic way. Management Committees have been established to achieve its objectives:

Management Committees

- 1) Purchase Committee
- 2) Executive Committee
- 3) Recruitment & Selection Committee
- 4) Policies & Procedures Review Advisory Committee



HSEQ issues are addressed at every step of work without jeopardizing the prevailing environmental laws while promoting health & safety of workmen.

In order to facilitate functioning of HSEQ Management System the following committees have been formed to constantly review HSEQ compliance in all areas where Refinery operates:

1. Main HSEQ Committee

Managing Director & CEO	-----	Chairman
G.M BS & New Ventures	-----	Member
G.M HR & Admin.	-----	Member
G.M Engg. & Const.	-----	Member
G.M Operations. & Supply	-----	Member
G.M Comm. & Tech Serv.	-----	Member
Chief Financial Officer	-----	Member
Project Team Leader	-----	Member
Chief Medical Officer	-----	Member
HSEQ Advisor - MR	-----	Member

The function of this committee is to review over all HSEQ management system & its effectiveness, bi-annually. All issues that require any change in company policy, processes or future strategies are discussed & decided at this forum.

In addition to this there are three more HSEQ sub-committees that work as platform for employees of different departments to discuss & resolve HSEQ related issues. Through review & follow-up it is ensured that the corrective actions against all issues are being taken & reported to the Management.

2. Operations HSEQ Committee
3. Engineering HSEQ Committee
4. Office HSEQ Committee

Compliance of Applicable HSEQ Legislation & Regulation

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External Compliance Record

- Certificate issuing authority M/S Bureau Veritas Certification conducted the audit of PRL's integrated HSEQ management system in November 2006 against the requirement of ISO 9001:2000, ISO 14001:2004 & OHSAS 18001:1999. No NCR (non conformance) was observed.
- PRL has always complied with the NEQS and to the others to which the organization has subscribed. The testing is conducted on regular basis and results are being reported to Sindh EPA & Pakistan EPA.


Internal Compliance Record

In order to ensure effective functioning of integrated HSEQ management system different levels of checks have been introduced.

- HSEQ sub committees meetings of different areas viz. office, Operations & Engineering are held on regular basis to discuss HSEQ related issues.
- Members of management teams conduct cross functional field visits to check the compliance against defined procedures and deliver safety talks on different topics.
- Once in three months a team of various disciplines conducts walk through inspection of Refinery & Keamari installations and bring forward issues related to HSEQ for action.
- Internal Audit is conducted as per the defined frequency, non conformities are investigated and corrective/preventive actions are taken.
- In the year 2006, internal audit findings on non conformities with respect to, hazard identification, maintenance record, document control, house keeping, permit to work system and risk assessment were addressed.

Assurance / Authenticity

To ensure that HSEQ system is in place, internal/external audits and walkthrough inspections are conducted periodically. Management team (MTM) regularly reviews report of these audits. At Management review meetings with Management Representative (MR), Heads of different HSEQ committees discuss issues related to Health, Safety, Environment and Quality which are addressed and resolved.



**BUREAU
VERITAS**

BUREAU VERITAS CERTIFICATION

Our Ref. PAK/BVC/1097-3/AZ December 5th, 2006

**PAKISTAN REFINERY LIMITED
KARACHI - PAKISTAN**

Attn.: Mr. Mansoor Ali KHAN / HSEQ Advisor

Sub: Routine Surveillance Visit to ISO 9001: 2000, ISO 14001:2004 & OHSAS 18001:1999 Standard

Bureau Veritas Certification confirms that Routine Surveillance Visit of your Organisation' s Integrated Management System against the requirement of subject standards was performed on 29th & 30th November 2006 against the scope of:

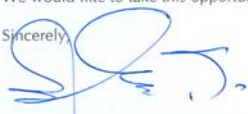
"Refining, Storage and Distribution of Crude Oil and Petroleum Products in the Refinery at Korangi Creek and Keamari Terminal"

During the Visit no (minor/major) Non-Conformity (NCR' s) was identified. **Congratulations!**


This in turn will ensure continuation of your **Registration (Certification)** with Bureau Veritas Certification till the Forth coming Surveillance Visit. Please be informed that Bureau Veritas Certification will keep you posted for the due visit well in advance.

We would like to take this opportunity and congratulate you for this achievement.

Sincerely,



**MUHAMMAD SHAHAB SAQIB
CERTIFICATION MANAGER**



**AZEEMUL HAQ USMANI
ASSISSTANT MANAGER (OPERATIONS)**

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Demonstration of Commitment

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HSEQ Performance & Achievement

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Turn Around

Turn Around

Integrity of entire plant infrastructure such as equipments, structures & pipings was improved by applying high quality-engineering practices while executing jobs identified through condition monitoring based inspection. The entire plant was prepared to operate for another 4 years turn around cycle without any failure or abnormality that could lead to environmental & safety related consequences.



Waste Heat Recovery Unit

Waste Heat Recovery Unit

Installation & commissioning of waste heat recovery unit is also an initiative towards conserving natural resources. This unit was also hooked up with the platformer & crude unit flue gases duct during Turn around 2006. This improvement will boost pre-heat of hydro feed before entering to hydro unit.



Reactor

Reactor

The function of hydro reactor in refinery process is to remove the mercaptans in the presence of hydrogen. It was identified through implementation of Reliability Centered Maintenance (RCM) approach that hydro reactor needs to be changed. Replacement of reactor completed during Turn around 2006.



APC for Crude Unit

Advance Process Control System (APC) for Crude Unit

APC on the crude unit helps to reduce fuel gas usage in the furnace and emissions that have negative impact to the environment.

Volatile Organic Compounds (VOC)

- I. Mechanical seals provided at crude tank mixers.
- II: Installation of Radar Gauges at HSD tanks.
- III: Installation of additional run down cooler has been completed.

Grit

The most commonly used blasting medium sand for surface preparation of metal has been replaced with steel grit for confine space works to minimize the high concentration of free silica dust in the environment that causes silicosis to the workmen.

Relief Valve

Installation of pilot operated relief valve over JP-1 pipeline to reduce air pollution & soil contamination.

Sludge Pits

Sludge pits have been constructed adjacent to crude tanks that are expected to be decommissioned in near future to reduce the soil contamination during tank sludge cleaning phase.

Variable Frequency Drive Motor (VFD)

The installation of VFD motors on rotary equipment such as compressor has resulted in effective utilization of motor and 20-25% savings in energy to conserve natural resources.

Summary of Significant Accounting Policies

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The significant accounting policies adopted in the preparation of financial statements are set out below:

Basis of preparation

These financial statements are prepared in accordance with approved accounting standards as applicable in Pakistan and the requirements of the Companies Ordinance, 1984. Approved accounting standards comprise of such International Accounting Standards as have been notified under the provisions of the Companies Ordinance, 1984. Wherever, the requirements of the Companies Ordinance, 1984 or directives issued by the Securities and Exchange Commission of Pakistan differ with the requirements of these standards, the requirements of the Companies Ordinance, 1984 or the requirements of the said directives have been followed.

Overall valuation policy

These financial statements are prepared under the historical cost convention except as has been stated below in respective policy notes.

Fixed assets

Fixed assets are stated at cost less accumulated depreciation/amortization except capital work-in-progress, which is stated at cost.

Current and Deferred Taxation

Charge for current taxation is based on the higher of taxable income at the applicable rates of taxation or half percent of turnover as defined in the Income Tax Ordinance, 2001.

Deferred tax is provided in full, using the liability method, on temporary differences arising between the tax base of assets and liabilities and their carrying amounts in the financial statements.

Stores, spares and chemicals

These are valued at cost, determined using weighted average method, less provision for obsolescence. Items in transit are valued at cost comprising invoice value plus other charges incurred thereon.

Stock-in-trade

Stocks of crude oil are valued at cost determined on "first-in first-out" method except crude oil in transit which is valued at cost. Finished products are valued at lower of cost and net realizable value.

Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and a reliable estimate of the amount can be made.

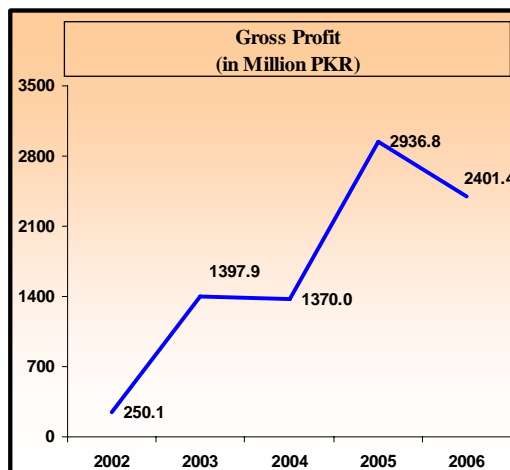
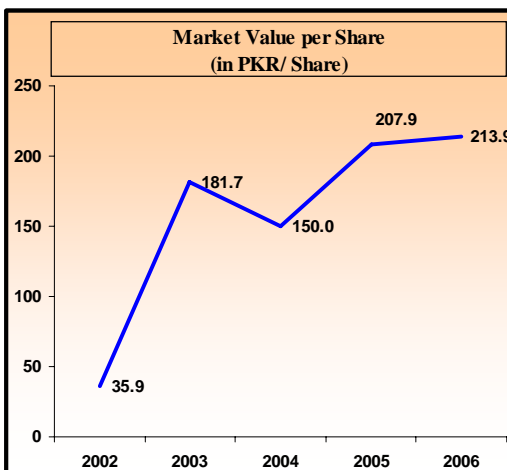
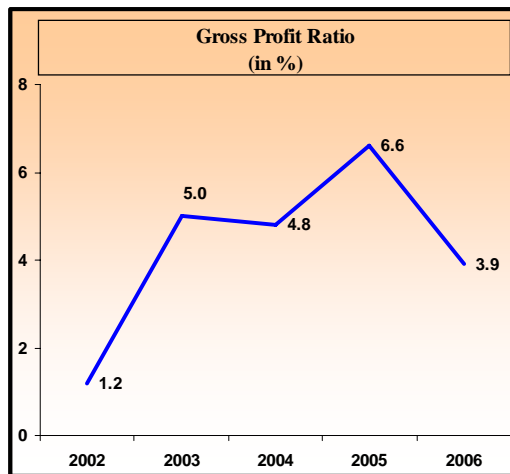
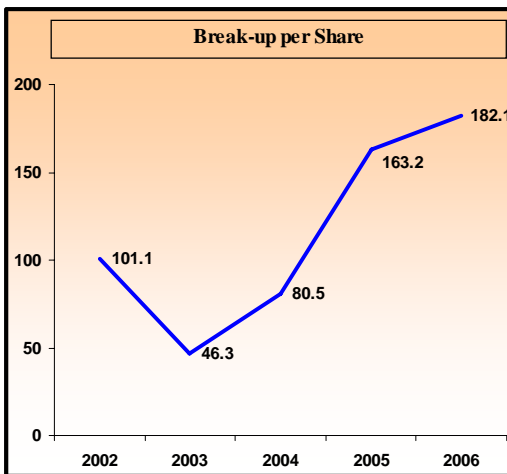
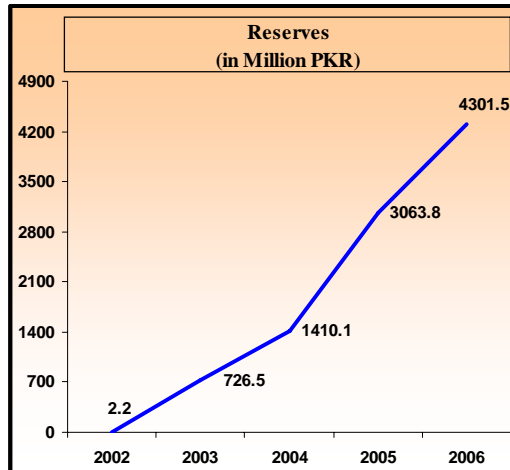
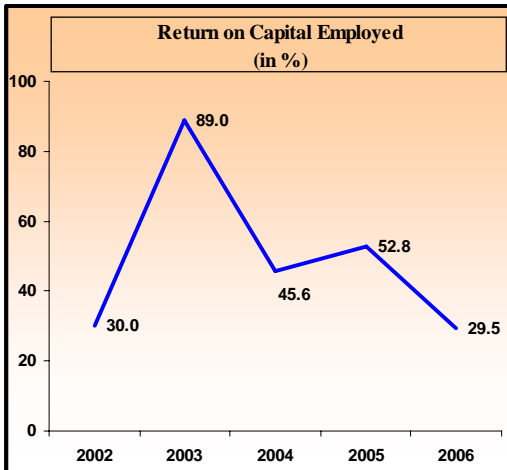
Revenue recognition

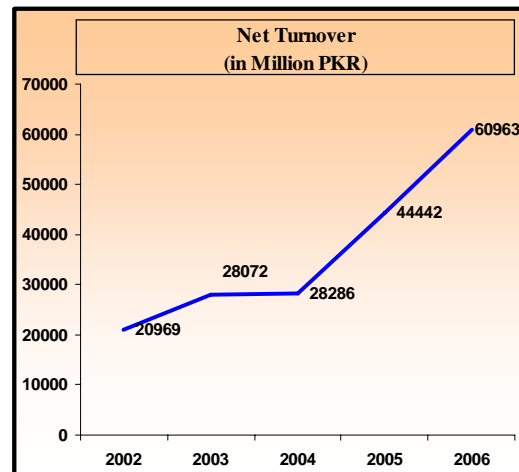
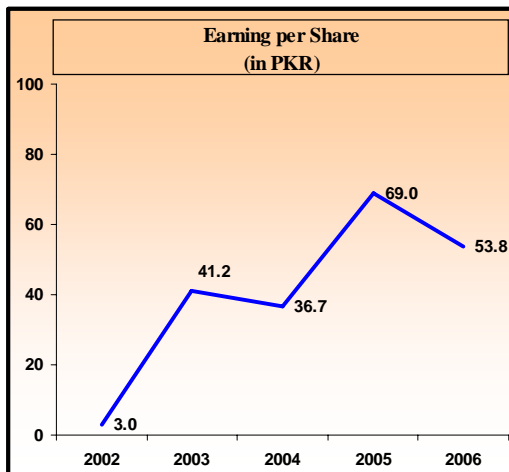
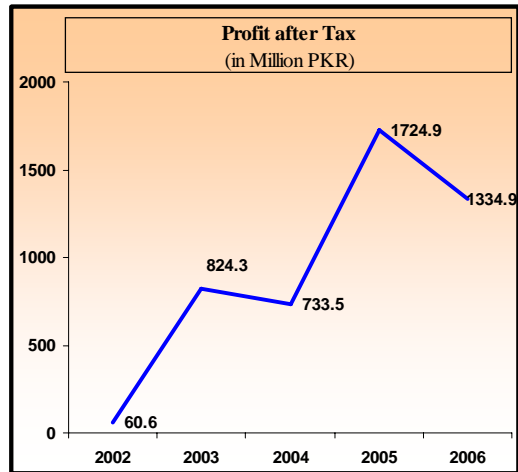
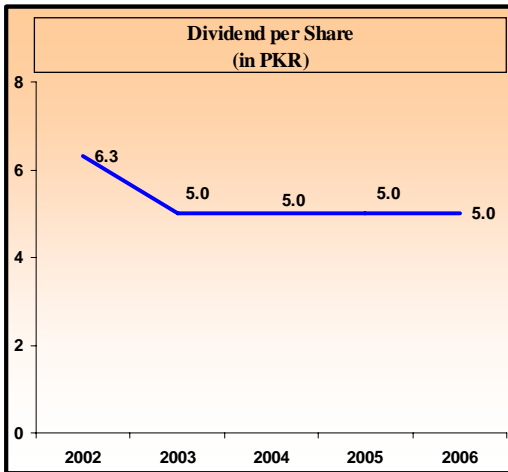
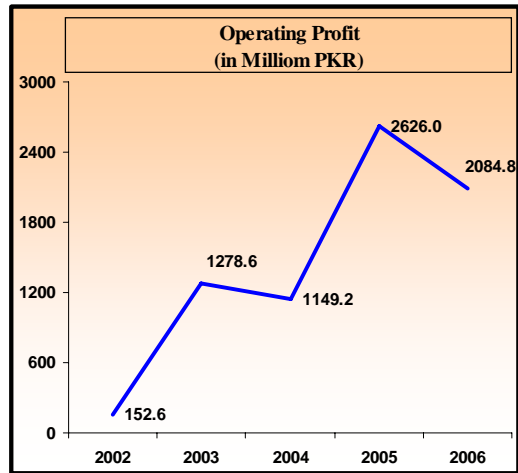
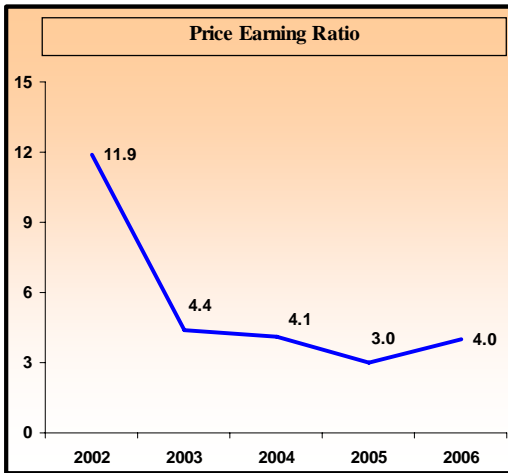
- (a) Local sales are recorded on the basis of products pumped in oil marketing companies' tanks.
- (b) Export sales are recorded on the basis of products shipped to customers.
- (c) The prices of Refinery products are primarily based on import parity pricing formula.
- (d) Dividends are recognized when the right of receipt is established.
- (e) Income on bank deposits is recognized on accrual basis.

Financial Performance for Last Five Years

Environmental Report 2006

The financial performance data is based on the fiscal year. The data for the current year is up to June, 2006.





Rationale behind Key Performance Indicators

Environmental Report 2006

Key performance indicators are developed keeping in view the environmental aspect/ impact analysis and hazard identification / risk assessment of all activities, processes and products of PRL. The following are KPIs' which would help to protect environment and minimize damage to the health and safety of employees, as well as the community living around in specific and the mankind in general.

Emissions to Air

- Green house gases
- Acid Rain Gases
- Ozone Depleting Substances
- Volatile Organic Compounds

Emissions to Water

- Organic Pollutants

Emissions to Land

- Hazardous and Non-Hazardous Waste (Landfill, Incinerated)

Resources Used

- Raw Water
- Fuel (Refinery Gas, Suigas & Fuel Oil)
- Crude Oil

Health and Safety

- Lost Time Injury frequency
- Total Recordable Case frequency
- Total Reportable Occupational Illness frequency

Approach and Methods

The performance data is determined by using the most accurate methodology, which is available and practicable. All values are the actual tested figures whose test results are available. However, gaseous load is calculated by using Tier-1 approach of Shell's "Group HSE performance monitoring and reporting" guidelines. This approach uses standard emission factors (for refineries of similar types) in combination with the actual values.

Absolute HSEQ Performance at a Glance (2005 & 2006)

Environmental Report 2006

MEASURE ITEM	VALUES 2005	VALUES 2006	UNITS
Environmental Investment	46.9	199.5	Millions PKR
Nitrous Oxide (N ₂ O)	0.5	0.5	Tonnes
Methane (CH ₄)	25	22	Tonnes
Carbon Dioxide (CO ₂)	166	152	Kilo Tonnes
Chloro Flouro Carbon (CFCs)	0.70	0.55	Tonnes
Oxides of Sulphur (SO _x)	1206	1050	Tonnes
Oxides of Nitrogen (NO _x)	102	95	Tonnes
Volatile Organic Compound (VOCs)	357	340	Tonnes
Refinery – oil discharged to surface water	1.4	1.2	Tonnes
Spills > 100 kg	01	01	Number
Energy Consumed (Electrical)	20.9	18.7	Million Units
Energy Consumed (Ref. Fuel + Ref. Gas + Sui Gas)	55.7	56.1	Kilo Tonnes
Raw Water Consumed	120	110	Million Gallons
Refinery Throughput – Crude + feedstock	2155	2177	Kilo Tonnes
Manufacturing loss	12.8	12.8	Kilo Tonnes
Hazardous Waste (wet weight)	215.5	286	Tonnes
Non-Hazardous Waste (wet weight)	5.5	7.6	Tonnes
Exposure Hours – Company	0.8	0.9	Million hours
Exposure Hours – Contractor	1.2	1.3	Million hours
Potential Incidents Reported	40	53	Number
Lost Time Injury – Company	00	00	Number
Lost Time Injury – Contractor	00	00	Number
Total Recordable Cases – Company	00	04	Number
Total Recordable Cases – Contractor	01	01	Number
Total Reportable Occupational Illnesses	00	00	Number

Normalized HSEQ Performance at a Glance (2005 & 2006)

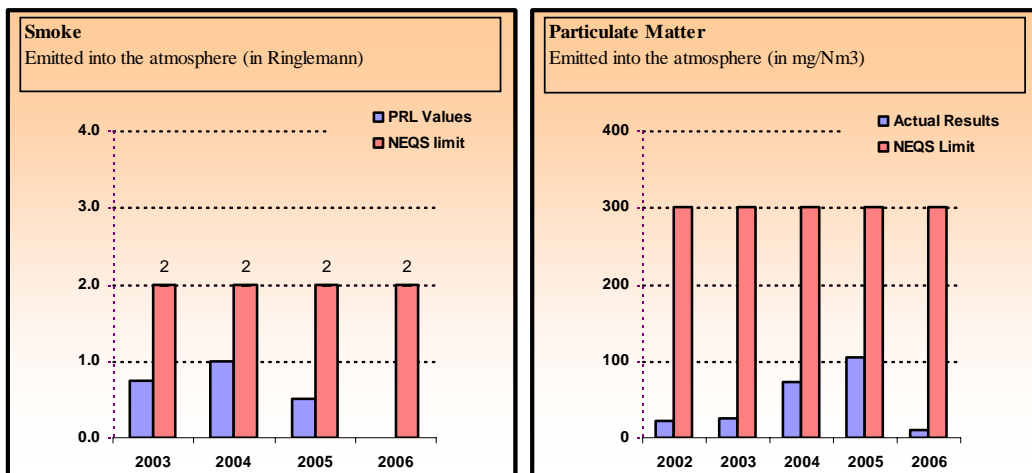
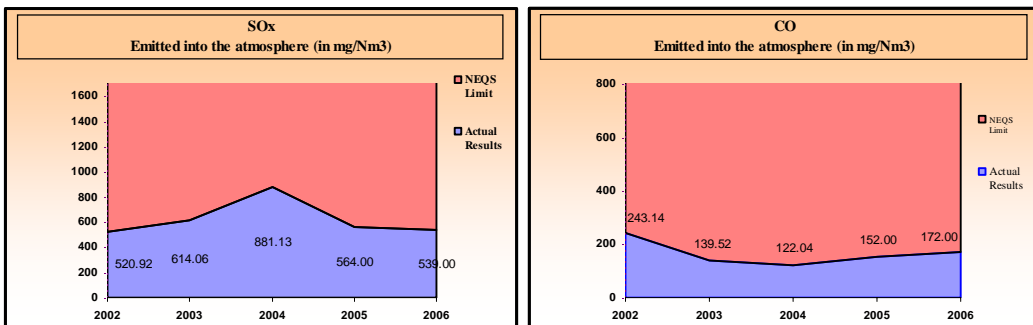
Environmental Report 2006

MEASURE ITEM	2005		2006		UNITS
	ACTUAL VALUE	TARGET VALUE	ACTUAL VALUE	TARGET VALUE	
Nitrous Oxide (N ₂ O)	0.023 x 10 ⁻³	-----	0.025x10 ⁻³	-----	% wt of throughput
Methane (CH ₄)	0.0011	0.0010	0.0010	0.0010	% wt of throughput
Carbon Dioxide (CO ₂)	0.077	0.141	0.069	0.141	Tonnes / Ton of throughput
Chloro Flouro Carbon (CFCs)	0.032 x 10 ⁻³	-----	0.020x10 ⁻³	-----	% wt of throughput
Oxides of Sulphur (SO _x)	0.056	0.043	0.048	0.043	% wt of throughput
Oxides of Nitrogen (NO _x)	0.005	0.014	0.0043	0.014	% wt of throughput
Volatile Organic Compound (VOCs)	0.016	0.018	0.015	0.018	% wt of throughput
Refinery – oil discharged to surface water	0.647	0.442	0.5	0.442	Grams / Ton of throughput
Spills > 100 kg	0.08	0.20	0.08	0.20	Number / Normalized Shift Position
Actual Energy Index (Electrical + Fuel)	158	158	157	158	----
Raw Water Consumed	0.33	-----	0.30	-----	Million Gallons / Day
Manufacturing loss	0.58	0.58	0.58	0.58	wt% on throughput
Potential Incident Reporting	0.09	0.25	0.18	0.27	Potential Incidents/ Number of Employees
Lost Time Injury Frequency – Company + Contractors	00	00	00	00	LTI / Million Man- hours
Total Recordable Case Frequency – Company + Contractor	0.49	1.52	2.4	1.5	TRC / Million Man-hours
Total Reportable Occupational Illnesses Frequency – Company + Contractor	00	00	00	00	TROI / Million Man-hours

Emissions

Environmental Report 2006

PRL also conducts monthly testing of its all emissions sources such as Stacks, Boilers & Generators. The graphical representation of the emission level of different greenhouse gases vs. NEQS limits are given below for the furnaces stack.



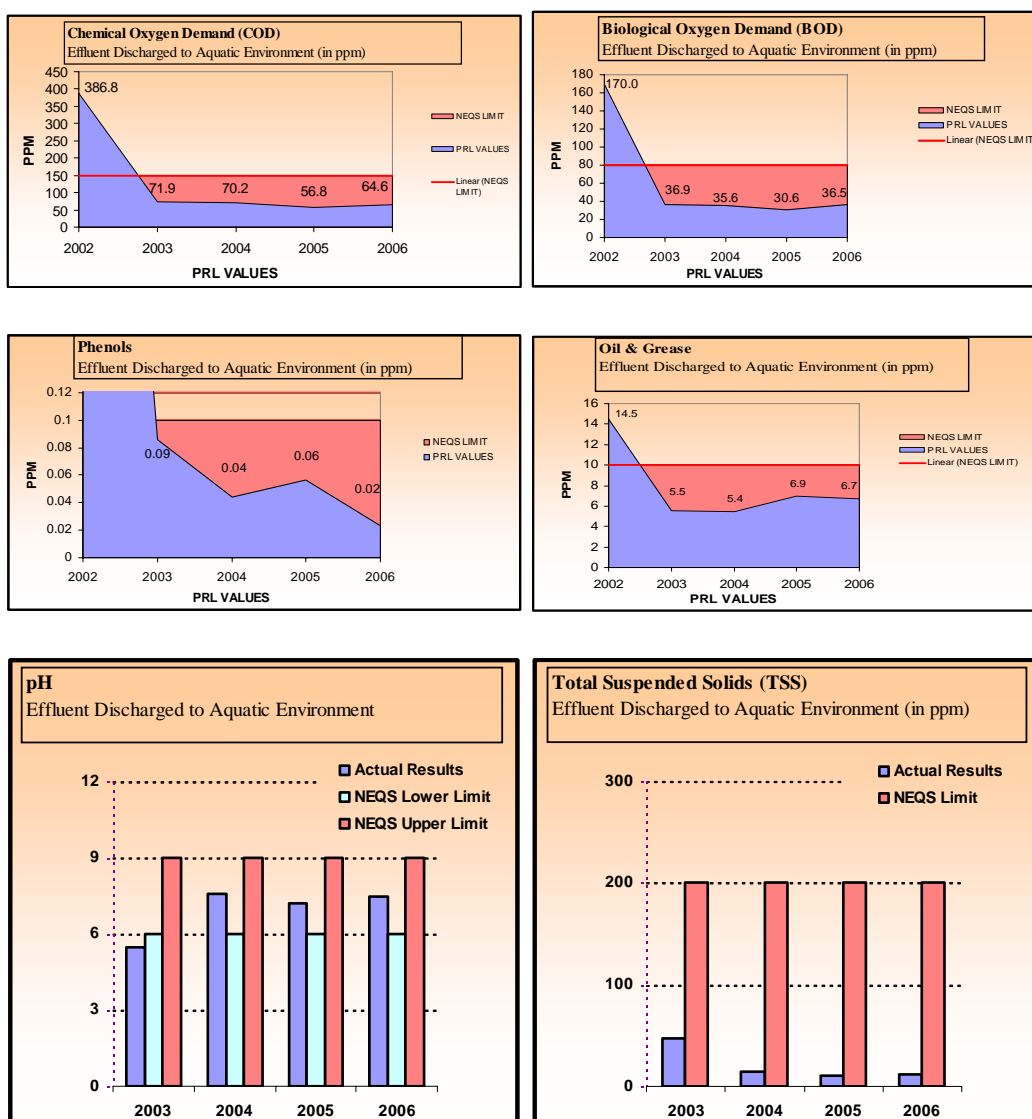
Vehicular Emission Test Report

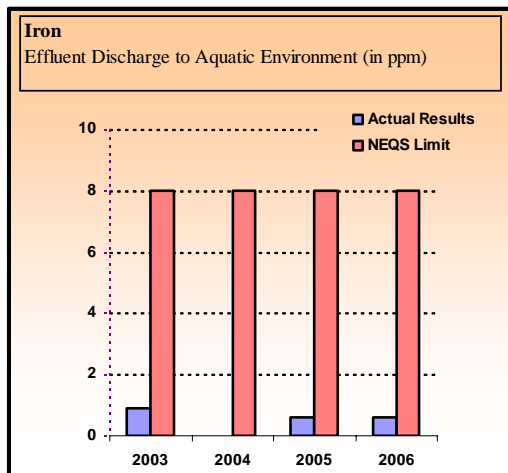
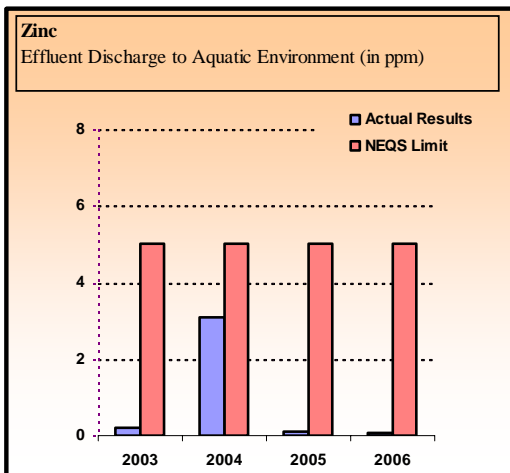
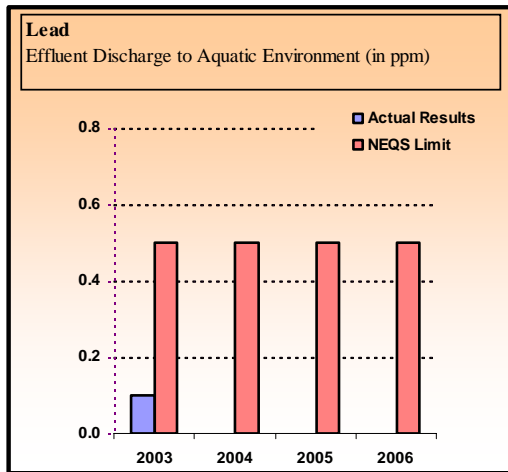
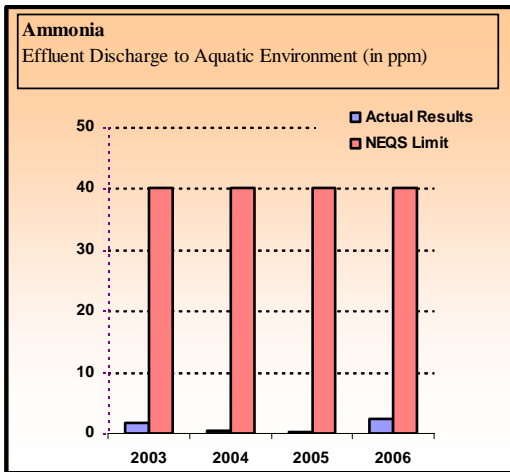
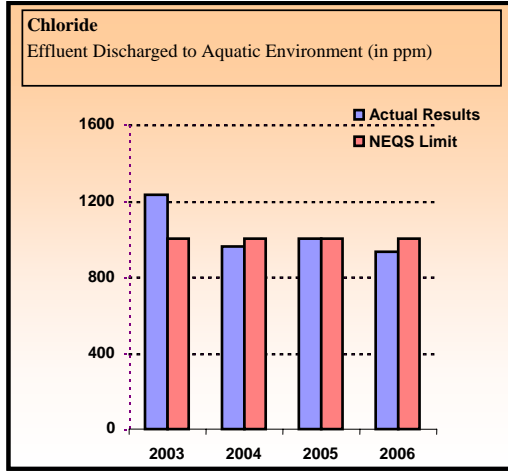
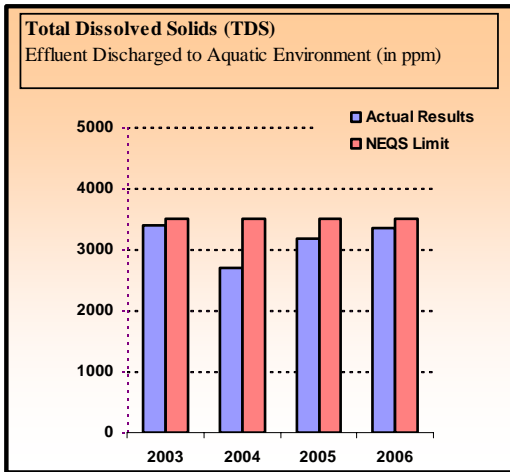
Vehicle Emission Test Results of year 2006 (Range)			
	Smoke (Ringleman / Equivalent scale)	CO (ppm)	Noise (dBA)
Vehicles Operated for Company Business	00 - 01	85 - 710	65 - 84

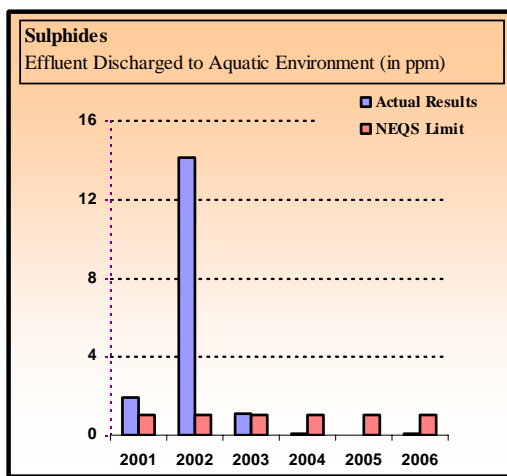
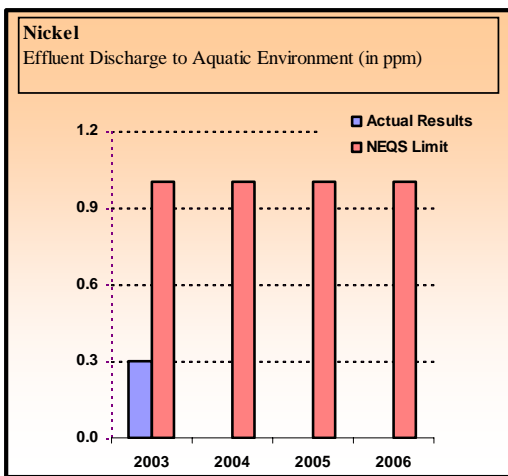
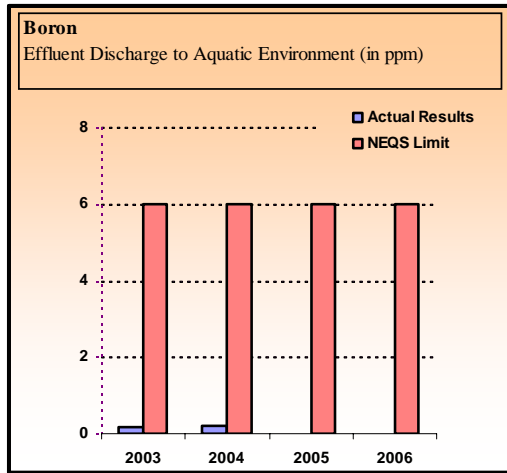
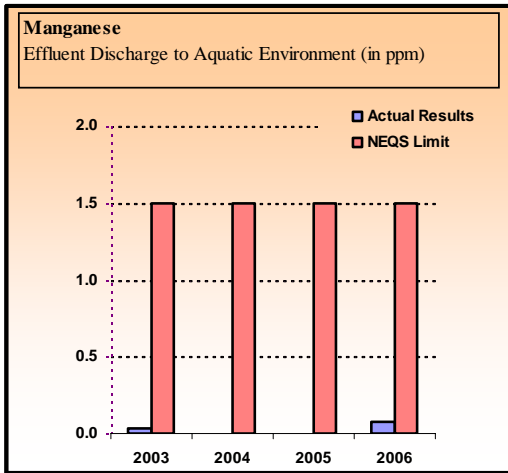
Effluent Discharges

Environmental Report 2006

The entire Refinery effluent including sewerage water is treated in PRL's wastewater treatment plant before final discharge to the sea. It is ensured that the water leaving the wastewater treatment plant is free of pollutants and complies with NEQS limits to protect marine water habitat life and maintain the natural ecosystem. The report of effluent discharge is sent to Pakistan EPA Sindh on monthly basis. The aggregate annual level of, oils, grease, phenols; BOD & COD in refinery effluent are graphically represented below.

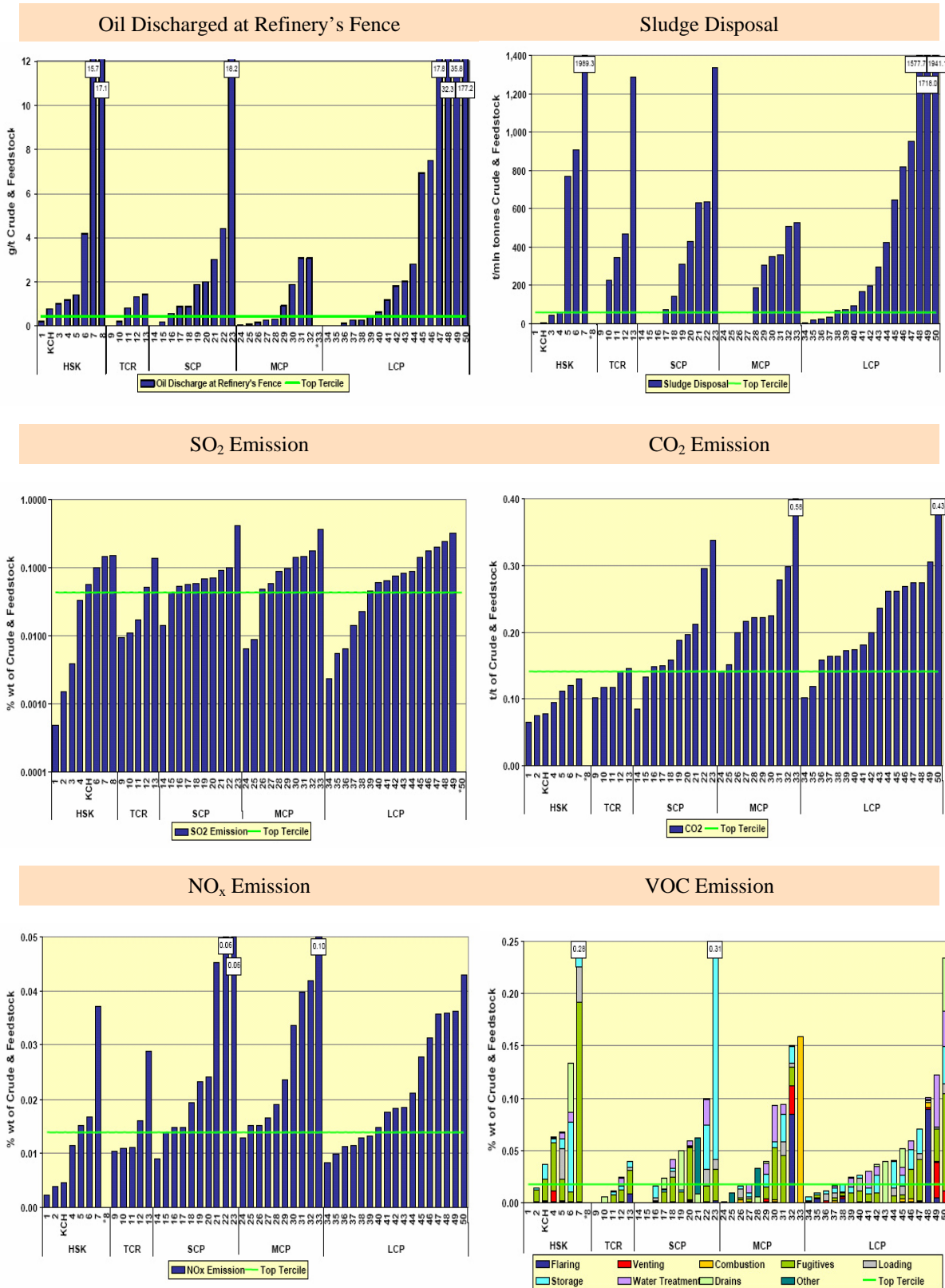






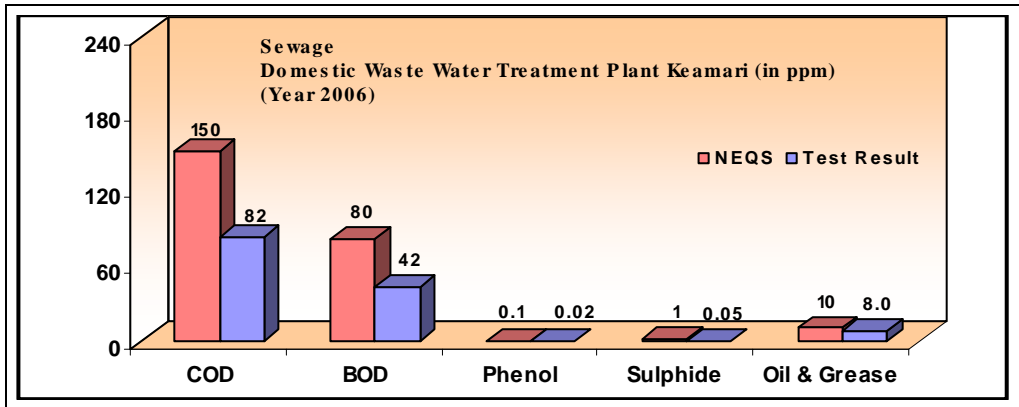
KPI's Benchmarking within Sector

Shell Global Solution "International" carried out benchmarking of Pakistan Refinery Limited against the top refineries of the world, with the aim to quantitatively assess our standing. KCH in the graphs represents Pakistan Refinery Limited, Karachi. Top Tercile is the average values for the group of best performers and selected as the target values for PRL.

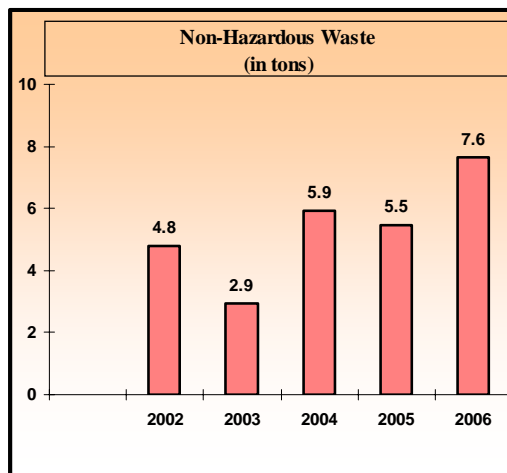


Sewerage Water

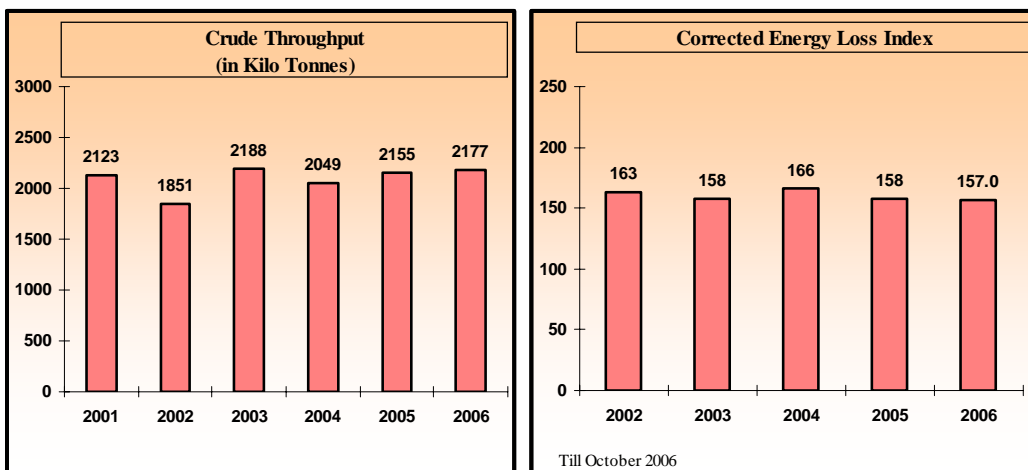
Testing of sewerage water is done after being passed through treatment plant to ensure that it is free of any contaminants that could cause ground water pollution /sea water.



Non - Hazardous Waste



Plant Operation



Water Consumption

Environmental Report 2006

Raw Water

The annual water requirement of PRL is about 110 million US gallons. Water is supplied by Karachi Water & Sewerage Board to meet the Refinery's operational needs.

Ground Water

PRL has developed three 400 feet deep tube wells within its premises to meet its firewater & plant washing requirements. The well water is also treated in reverse osmosis plant to produce low TDS permeate to use as boiler feed water.

Drinking Water

Centralized Ultra Violet unit is installed at the main header of drinking water network. In addition to this all drinking water points are equipped with three-stage water purification system composed of suspended particle filtration, activated carbon & ultra violet rays treatment to provide purified portable water.

Testing of all sources of drinking water is carried out on regular basis to confirm that water being used at different sources is free of any contamination that can affect the health of employees.

Recycling / Re-use of water

There are two cooling towers in PRL for the process equipments. The total water circulating capacity of these cooling towers is around 40,000 - 45,000 MTD.

Refinery Area

Pakistan Refinery has around 200 acres of land for its Korangi Creek premises.



24° 48' 11.85" North
67° 07' 00.14" East

Waste Management

Environmental Report 2006



Waste at PRL is collected in a very organized manner before sending to its final disposal /destination determined on the basis of the type of material. All materials are initially segregated at source of generation and shifted to the specified cells of different categories of material (steel structure, damage instrument, /equipment, aluminum, wood, glass, piping, electrical fixtures & cables)) setup in scrap yard situated within the Refinery premises.

Reusable Scrap

Most of the scrap material is reclaimed for reuse in other ordinary nature & small-scale work.

Recyclable Waste

The material that cannot be used being completely damaged or deteriorated is sold to recycling vendors e.g. (steel structure, damage instrument, /equipment, aluminum, wood, glass, piping, electrical fixtures & cables).

Solid Waste

The trash is collected at bins specially developed for this purpose & is disposed to common point developed by a local authority.

Clinical Waste

The clinical waste generated at PRL dispensary is collected in a separate bin maintained exclusively for this purpose. The waste collected from this bin is weighed & sent for incineration. The total quantity sent for incineration this year is 10 Kg.

Oil Storage Tank Sludge

The oil sludge from tanks is recovered into cemented sludge pits constructed outside the crude tanks to avoid soil contamination. The recovered sludge is shifted to a prepared site for land farming. The biodegradation of sludge takes place after several weeks of time in an environment friendly manner. Studies are under way to improve the sludge circulation in the tank through improved agitator/mixer to eliminate/reduce the oil Sludge quantity in future.

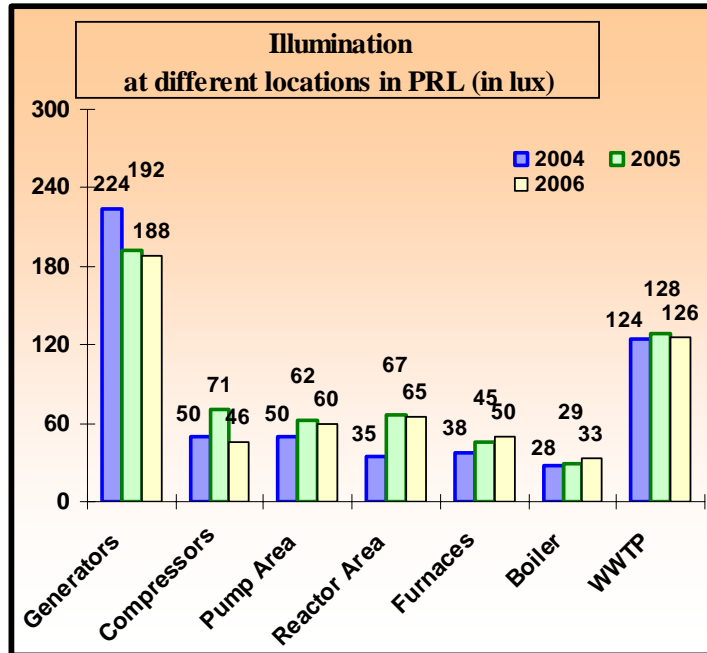
The total sludge quantity recovered this year from tanks for land farming is around 285 tons.



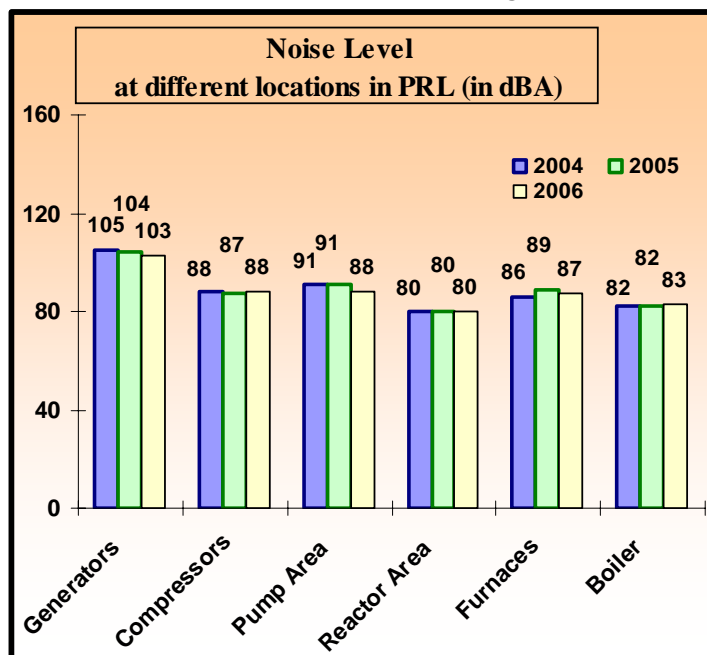
Other Monitoring & Measurement

As a proactive approach PRL has initiated to conduct survey of noise level at critical work areas of Refinery, illumination, ambient air quality, soil & ground water quality and vehicular emission test to confirm that the level of these parameters are within the permissible limits.

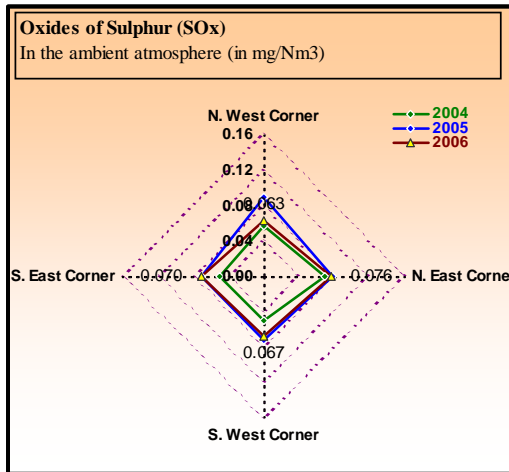
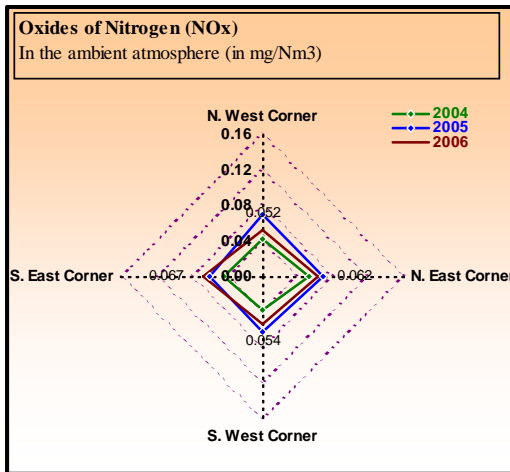
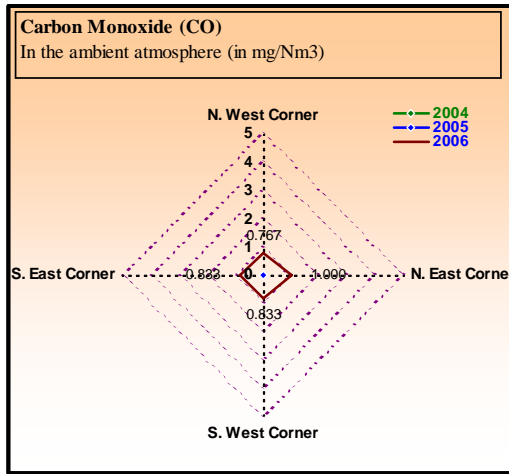
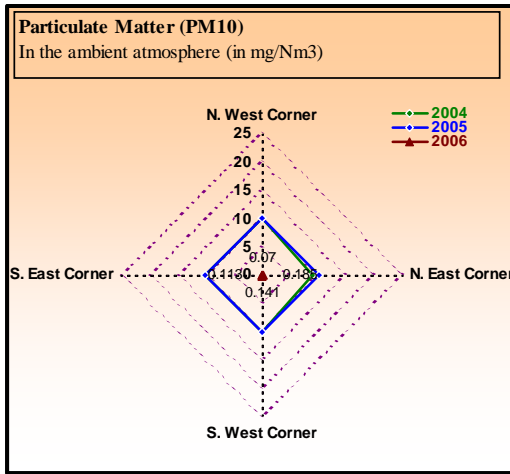
Illumination Monitoring



Noise Monitoring



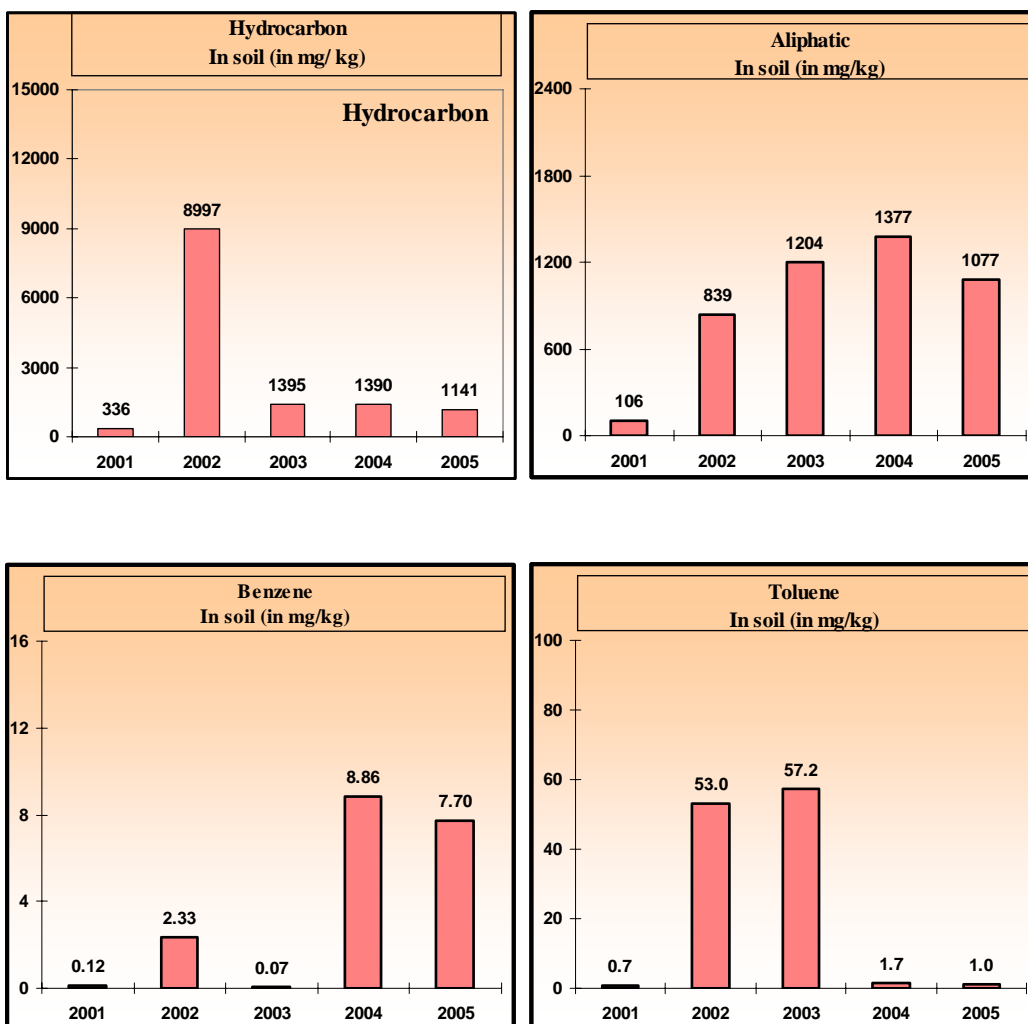
Ambient Air Quality Test Report

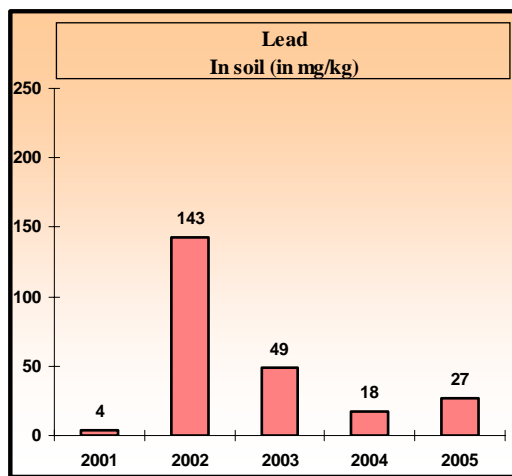
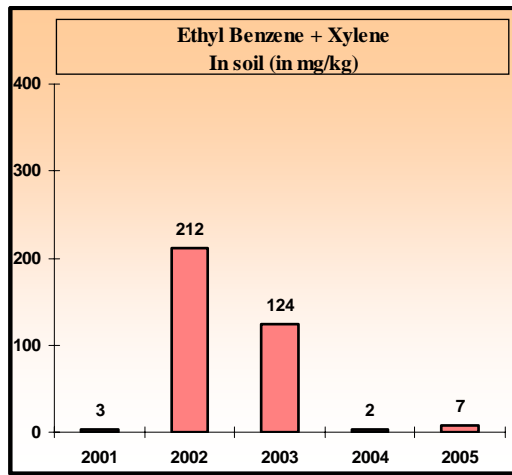


Soil Monitoring

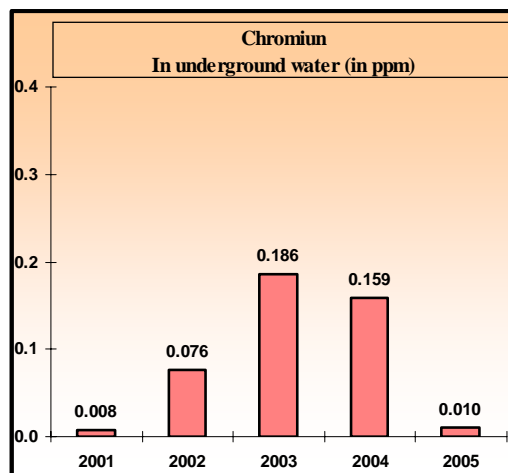
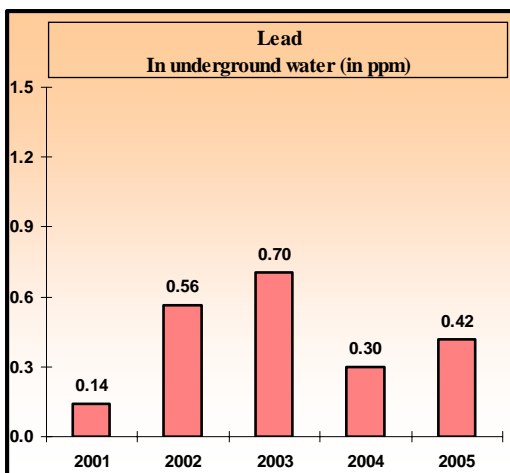
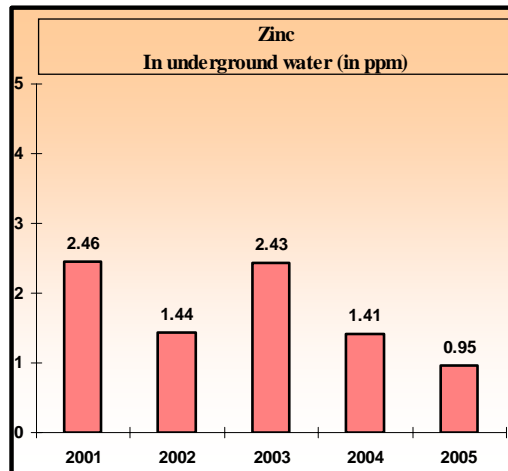
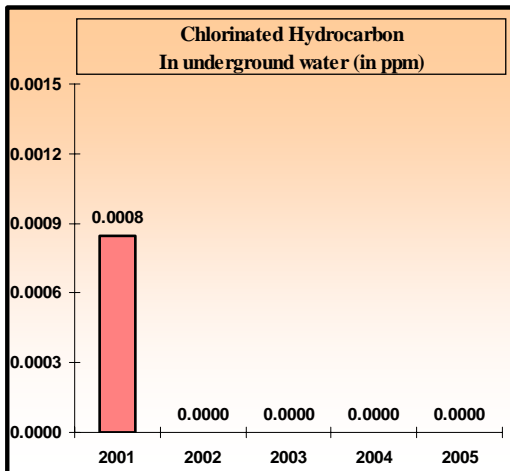
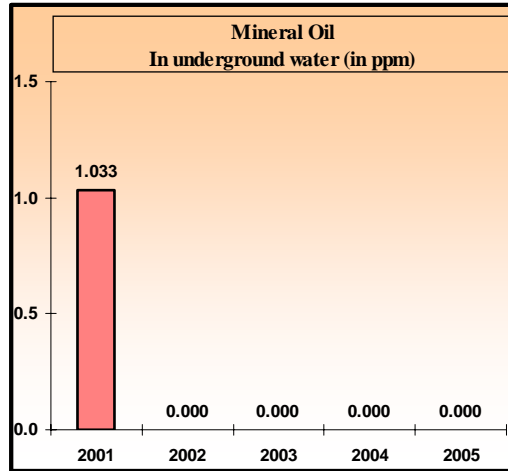
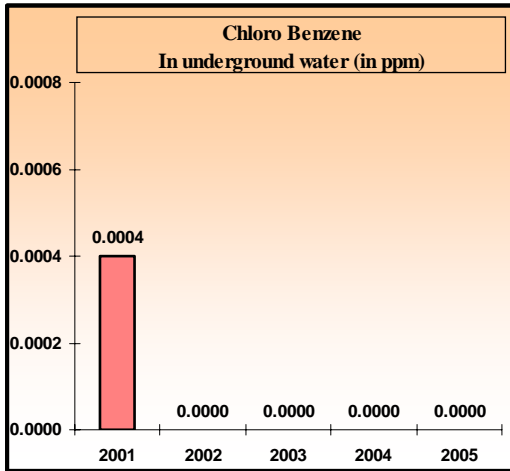
At PRL we ensure that leakages of hydrocarbons if any are effectively controlled, in order to minimize oil losses, degradation of soil and under ground water. The following steps have been taken in the recent years to reduce soil and water contamination:-

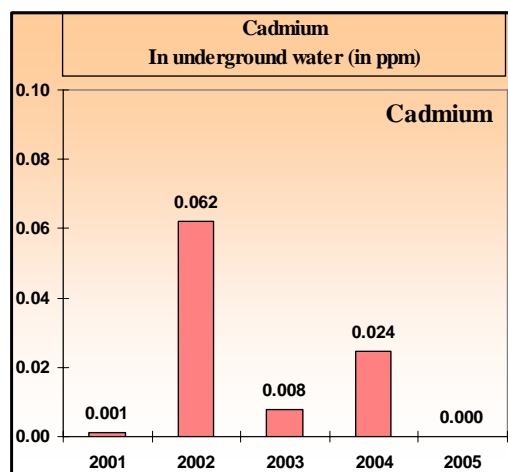
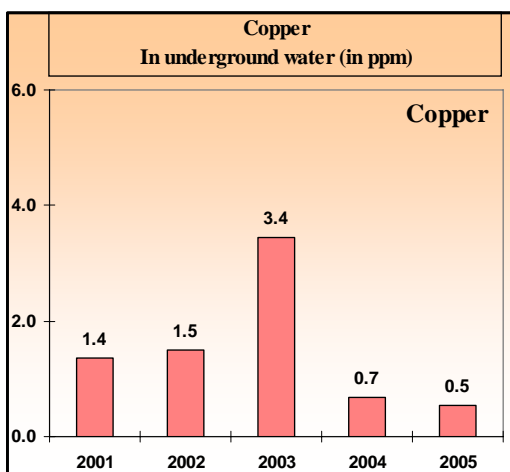
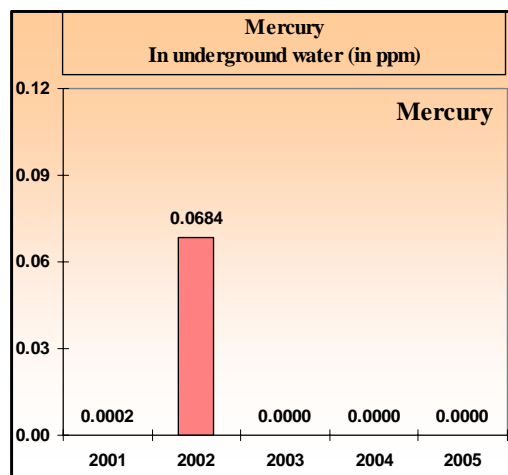
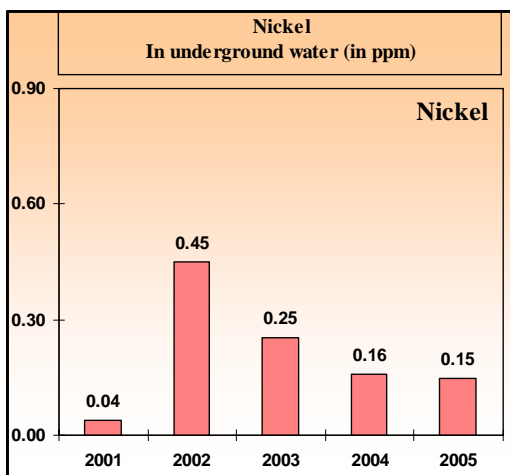
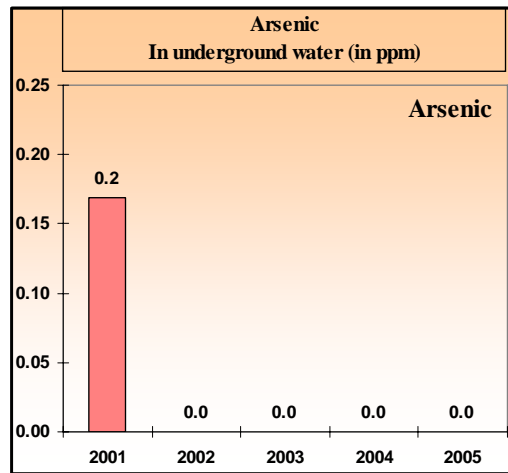
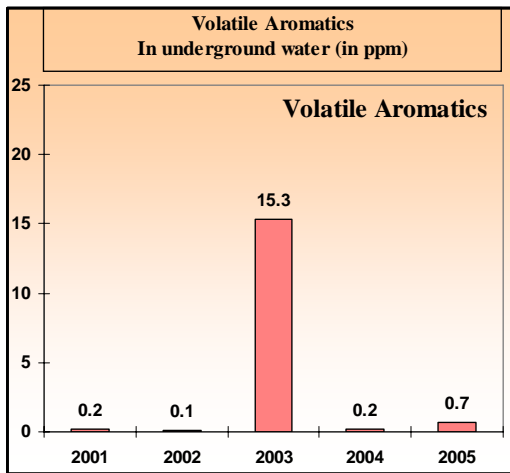
- Crude and products tanks sludge collection concrete pits.
- Routine inspection monitoring of tank farm area.
- Repair and maintenance of Oily drainage system.
- Predictive and preventive maintenance checks are conducted and ensured.
- All oil leakages are reported and corrective and preventive actions are taken promptly.





Underground Water Monitoring





HSEQ Targets & Objectives

Environmental Report 2006

The strong commitment of PRL towards HSEQ related matters can easily be judged in the form of accomplishment of several HSEQ targets & objectives every year. The targets and objectives are established to reduce / eliminate HSE hazards that are identified as critical on the basis of risk assessment review and surveys.

HSEQ Target 2003 - 04

1	Heat recovery from flue gases of platformer, hydro and crude furnaces.	Achieved
2	Replacement of six 3.3 KVA switchgears of BS-1 in main substation.	Achieved

HSEQ Target 2004 - 05

1	Installation of new heat exchanger to reduce the run down temperature of platformer.	Achieved
---	--	----------

HSEQ Target 2005 - 06

1	To increase T/A cycle length from 27 months to 48 months.	Achieved
2	To reduce hydro carbon losses during product manufacturing from 0.62% to 0.58% by September 2006. Aspect -I: Providing mechanical seal for two mixers. Aspect -II: Radar system at HSD tanks. Aspect -III: Installation of additional run down cooler.	In progress Achieved Achieved
3	To improve the UPI index from 1.02 to 1.022 by September 2006 after commissioning.	Achieved
4	Modify LPG treatment to ensure on spec product.	Achieved
5	Minimizing damage to Ozone layer by replacing CFC.	Achieved
6	Replacing blasting medium sand with grit to minimize free silica dust.	Achieved
7	Install public address system for emergency situation.	Achieved
8	Reduce soil contamination with sludge through constructing Sludge pits.	Achieved
9	Smoke detection system for an early and effective management of fire in the office building.	Achieved
10	Installation of vehicle speed monitoring system.	Achieved
11	Installation of new fire pumps for effective fire fighting.	In Progress
12	Commissioning of variable drive motor over compressor to conserve natural resources by effective use of electricity.	Achieved
13	Installation of pilot operated relief valve to reduce air pollution & soil contamination.	Achieved

HSEQ Target 2006 - 07

License to Operate and Sustained Profitability

The main objective of this project is to meet future quality challenges and enhance the production of High Speed Diesel by reducing fuel oil production. The target is to achieve Sulfur in High Speed Diesel from 1.0 wt% sulfur to less than 500 ppm of Sulfur.

The main units installed would be:

Vacuum Distillation Unit	24,000 bbl/day
Diesel Hydrotreater	16,000 bbl/day
Vis Breaking Unit	5,000 bbl/day
Sulfur Recovery Unit	25 tons /day
Sour Water Stripper	100 tons/day
Amine Treatment Unit	25 tons/day
Hydrogen Plant	15 tons/day



The Board of Directors and the Specialists deliberating the proposed up gradation project for PRL before approval.

Project Implementation Schedule

3rd week Aug, 2006	Project Approval
2nd week Sep, 2006	ITB for FEED/PMC Preparation
2nd week Sep, 2006	IFB issued
1st week Nov, 2006	Bids for FEED/PMC received
2nd week Dec, 2006	Bids evaluation completed
3rd week Dec, 2006	FEED/PMC Services approval
1st week Jan, 2007	FEED/PMC Contract award
1st week Oct, 2007	FEED Completion
1st week Dec, 2007	ITB for EPC Completion
3rd week Dec, 2007	EPC approvals
1st week Jan, 2008	EPCC Contract award
1st week Jan, 2010	Commissioning and start up

2	Re-routing of fire water and foam lines at K.P.T trench	In Progress
3	Construction of walkway at Keamari terminal for effective firefighting	In Progress
4	Procurement of new hydrocarbon analyzer for PONA testing	In Progress
5	Installation of air eliminator and relief valve at JP-1 network	In Progress
6	Extension of fire water network at west side of Tank-32	In Progress
7	Renewal of product pipelines at Keamari	In Progress
8	Replacement of crude tower reflux pump with large capacity	In Progress

Our Area Requiring Improvement

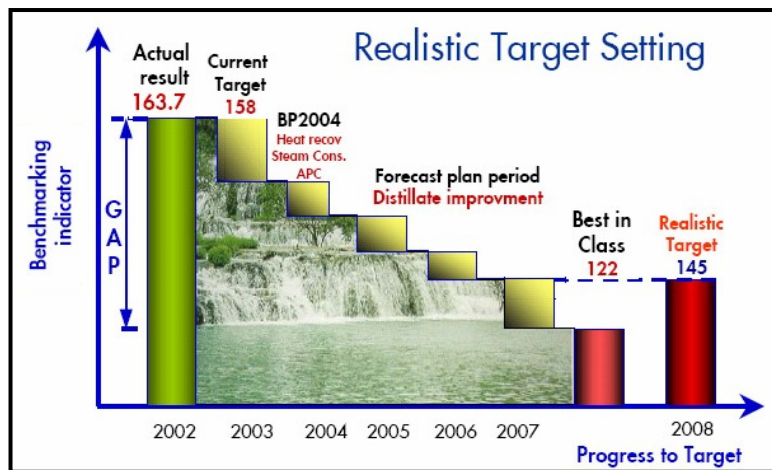
- Reduction in Volatile Organic Compounds (VOCs) from Oil Storage Tanks
- Recovery of Vapors released to atmosphere from relief valve
- Staff Training
- Mercury Tube Light Disposal

Flue Gas Heat Recovery

The objective of heat recovery from flue gases of Platformer, Hydro and Crude Furnaces achieved, during annual turn-around August 2006. As a result we are saving more than 12 million Btu /hr of energy, which is equivalent to 15,000 lbs of fuel/day.

The above completed objective will help the organization to significantly reduce the emission load from furnaces.

The corrected energy index reduction due to installation of the heat recovery unit is more than three points.



WHRU Modules



WHRU Ducting

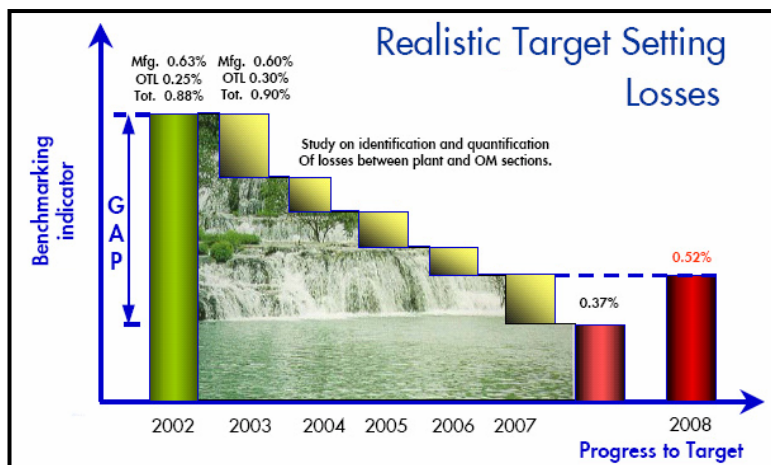


WHRU ID FAN

Oil Loss Control

The following is the progress on the objective.

1. Naphtha tank installed with screen
2. Radar Gauge installed on three diesel tanks
3. A series of test runs conducted to quantify the oil losses between plant and oil movement operations and the localized areas highlighted. A comprehensive program has been initiated to avoid oil losses at the following places:-
 - a. Reciprocating compressors liquid drainage system
 - b. Fugitive emission from the glands of the valves
 - c. Loss of oil from sampling points.



Zero Effluent

A study on the Zero Effluent completed and TOR finalized and vendors asked for quotations. The total installed cost of the project was much higher against the approved budget so the implementation of the project is deferred. The management has also asked the technical staff to find some low cost option or the other uses of the effluent water.

Contingency Planning & Risk Management

Environmental Report 2006

ACTIVITY	ASPECT	IMPACT	OBSERVATIONS
Crude Oil/ Products pumping through pipeline	<ul style="list-style-type: none"> Possible spillage Release of VOCs Possibility of fire Maintenance activities 	<ul style="list-style-type: none"> Contamination of land Contamination of sea/ water Loss of property / life Air Pollution Waste generation 	<ul style="list-style-type: none"> Marine oil spill response center formed to combat Tier-I and Tier-II oil spills Preventive maintenance plans in place Crisis Management Plan/ waste management plan in place
Crude Oil/ Product Storage	<ul style="list-style-type: none"> Tank bottom sludge Air emissions / VOCs Overflow/ leakage / rupture of tanks Maintenance activities Possible fire Effluent Odor / Radiography 	<ul style="list-style-type: none"> Soil contamination Degradation of air quality Water contamination Waste generation Loss of property Oil slippage to sea Health impact 	<ul style="list-style-type: none"> In house natural biodegradation Routine maintenance of tanks Periodic inspections are carried out Crisis Management Plan in place Standard Operating Procedures available
De-salting	<ul style="list-style-type: none"> Caustic +Amines Water discharge Crude test sample Sulphuric acid De- emulsifier (DS-950) Sediments during cleaning Empty chemical drums 	<ul style="list-style-type: none"> Contamination of water and soil Possibility of chemical Spillage Health & Safety Hazard Waste Generation 	<ul style="list-style-type: none"> Effluent water drained to API separator Acid handling and storage instructions are available Environment friendly disposal of waste
Crude Heating	<ul style="list-style-type: none"> Air Emissions Heat generation Energy use Furnace oil/ Refinery gases/ Natural gas Noise Steam condensate from the traps Odor & Maintenance 	<ul style="list-style-type: none"> Air pollution Depletion of natural resource Wastage of resource Waste generation 	<ul style="list-style-type: none"> Crisis Management Plan available Furnaces operation procedure available Steam condensate recovery options should be determined
Distillation	<ul style="list-style-type: none"> VOCs from pressure relief valves Noise Relief valve operation Maintenance activities 	<ul style="list-style-type: none"> Degradation of air quality / air pollution Waste generation 	<ul style="list-style-type: none"> Options should be explored to put the outlet of the relief valves in a closed system Study conducted but not feasible economically
Separation Vessels & Coalescer	<ul style="list-style-type: none"> Waste water from the Coalescers Absorbed H₂S in water Maintenance activities Fuel gases 	<ul style="list-style-type: none"> Contamination of water Degradation of air quality / air pollution Waste generation 	<ul style="list-style-type: none"> Absorbed H₂S in water is releasing to the surrounding air H₂S not stripped off from the water H₂S monitoring devices with operators Testing of H₂S above the drains is carried out

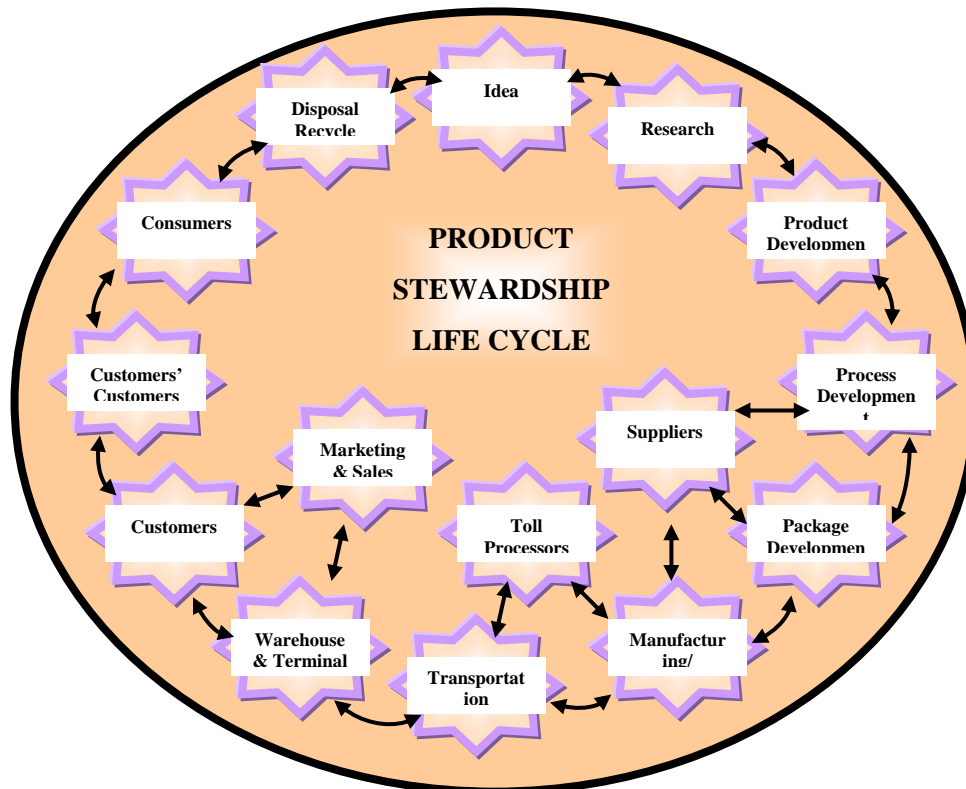
Reactors	<ul style="list-style-type: none"> Spent catalyst Ash and particulate matters during regeneration / off-loading of catalyst Maintenance activities Release of CO₂ during regeneration 	<ul style="list-style-type: none"> Waste generation Health hazard Degradation of air quality 	<ul style="list-style-type: none"> Used-Cobalt Molybdenum Catalyst dumped as per the available standards Safety measure incorporated for off-loading
LPG Treatment & Storage	<ul style="list-style-type: none"> Steam condensate Release of LPG Maintenance activities Water + Caustic + other impurities with Na₂S 	<ul style="list-style-type: none"> Air degradation Contamination of water Waste generation Depletion of natural resource 	<ul style="list-style-type: none"> Steam condensate recovery options should be determined Crisis Management Plan in place Explore possibility of caustic neutralization at source of discharge
Boiler	<ul style="list-style-type: none"> Flue gases Soot (Soot Blowing) Boiler blow down Natural gas / Furnace oil as fuel Noise Vibration Heat generation Fire Explosion Maintenance activities 	<ul style="list-style-type: none"> Air pollution Water pollution Causes increase in TDS level of discharging water Depletion of natural resource Degradation of air quality Damage to asset/ loss of life Waste generation 	<ul style="list-style-type: none"> Periodic and continuous blow down water goes to API Separator Testing of emissions and effluent is required for startup and shutdown conditions
Cooling Towers	<ul style="list-style-type: none"> Airborne water traces Blow down water Filter Washing <p>Use of Chemicals</p> <ul style="list-style-type: none"> Bio Depressant Corrosion Inhibitor <p>Solid Hazardous Waste</p> <ul style="list-style-type: none"> Empty chemical drums Possible chemical spillage Maintenance activities 	<ul style="list-style-type: none"> Degradation of air quality Water pollution Possibility of spillage causing land contamination Degradation of land/ health effect Soil / land contamination Waste generation 	<ul style="list-style-type: none"> Cooling Towers =2 Blow down water goes to the API Separator Cooling towers blow down water is collected in a tank, which can be used for fire fighting purposes
Shutdown Activities	<ul style="list-style-type: none"> VOCs from opened vessel Fugitive emissions Effluent due to flushing Oily water Flushing steam Water Metal scrapings Radiography 	<ul style="list-style-type: none"> Degradation of air quality Water pollution Degradation of land Health impact 	<ul style="list-style-type: none"> Adequate HSE staff is available in the area and also the area is properly made gas free before any hot job
Generator	<ul style="list-style-type: none"> Generator exhaust emissions Noise Oil drained from the air cleaner Possibility of spillage of diesel from the diesel storage tank 	<ul style="list-style-type: none"> Degradation of air quality Soil contamination Waste generation due to maintenance activities 	<ul style="list-style-type: none"> Total 03 standby generators Fuel used - Diesel Oil spillage is observed at the storage site of lube oil of the generator

In – Direct Impact of Raw Material and Explanation

Aspect	Impact	Scale	Life Cycle Impact Data	Common Effect	Required Actions
PRODUCTS (Fuel Oil , Diesel, Kerosene, Gasoline , LPG)					
Flue gases from exhaust of vehicles, Thermal Power stations, Aero planes etc upon combustion of the products like furnace oil, kerosene, diesel and jet fuels.	Global warming	Global	<ul style="list-style-type: none"> Carbon Dioxide(CO₂) Nitrogen Dioxide (NO₂) Methane (CH₄) Chloro fluoro carbon (CFCs) 	Global Warming Potential Note: Global Warming potential can be 50, 100 or 500 year potentials	<ul style="list-style-type: none"> Furnace burners to be changed with low excess air burners The vehicles to be well tuned
Raw Water	Depletion of natural resources	Global	<ul style="list-style-type: none"> Increased moisture rate 	<ul style="list-style-type: none"> Global warming Scarcity of water 	<ul style="list-style-type: none"> Efficient utilization Re-use of water
Electrical Consumption	Depletion of natural resources	Global	<ul style="list-style-type: none"> Increase in ambient air temperature 	<ul style="list-style-type: none"> Global warming 	<ul style="list-style-type: none"> Efficient utilization of energy Energy conservation

In – Direct Impact of Products and Explanation

Aspect	Impact	Scale	Life Cycle Impact Data	Common Effect	Required Actions
Leakages from Tanks and Fugitive emission	Photochemical smog	Local	Non-Methane Hydrocarbon (NMHC)	Photochemical oxidant creation potential	All the fixed roof crude and product tanks to be changed with floating roof and screens to minimize vapor escape
Accidental release of products from tanks	Aquatic toxicity Soil and ground contaminants Human health	Global/ Regional/Local	<ul style="list-style-type: none"> Toxic chemicals with a reported lethal concentration to fish Total releases to water and soil 	Sea water and ground water contamination	<ul style="list-style-type: none"> Regular monitoring Containments to be provided
Hazardous waste	Aquatic toxicity Soil and ground contaminants Human health	Global/ Regional/Local	Quantity disposed off in a landfill	Health Hazards	Methods being explored to get rid of hazardous waste in Environmental friendly manner



Stewardship of our products is our goal. Process through which our products are produced is certified against the system requirements of ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:1999. We are focusing on the following areas:

Product Stewardship Culture

So as to embrace, strengthen and ensure continuing product stewardship, we are committed to merge its values, policies and procedures with our company culture.

Understanding and Managing Potential Product Risks

The process of continuous identification, characterization and evaluation of potential risks associated with our products throughout their life cycle is used to manage as well as continuously improve health, safety, environment and quality system.

Marshalling the Process

In order to maintain product stewardship and our competitive edge in health, safety, environment and quality system, we continuously communicate with our employees, contractors, suppliers, and customers about product stewardship practices.

Environment Expenditure / Commitments & Implementation

Environmental Report 2006

To demonstrate the commitment & implementation of HSEQ policies on sustainable basis, PRL is committed to spend, allocated environment expenditure budget in the year 2006 - 2007.

Expansion – Project for Environmental Friendly Fuel

PRL has initiated a project to comply with the Environmental legislation, Euro II that requires the entities to reduce the sulfur content in HSD from 1 wt % to less than 500 ppm by year 2008.

After the installation of the new units, visbreaker, diesel hydrotreater, vacuum distillation, de-asphalting, hydrogen generation plant and an amine treatment unit, our plant will be able to produce fuel conforming to Euro II emission standards for the domestic market as well as for export.

Total Cost to be incurred for these projects is around Rs. 11 billion.

Occupational Health Management

Environmental Report 2006

PRL dispensary is equipped with medical facilities including Chief Medical Officer (CMO) & available equipments. Round the clock health care / first aid treatment is provided to employees & contractors' workmen.

Recording of all occupational accidents & disease is done. Typhoid & Cholera vaccination is also administered to staff.

The canteen hygiene condition, food quality & health of cook are examined on regular basis by the CMO.

As a proactive approach, all staff above 40 years of age are sent for comprehensive medical checkup.


Annual Health, Safety & Environment Profile

- PRL keeps the record of all incidents, accidents & near misses to investigate their causes and takes necessary corrective action to stop the recurrence in future. PRL believes that taking into consideration a near miss seriously means to stop serious nature of accidents in future.
- Man-hours achieved without lost time injury (LTI) up to 12th December, 2006 were 11.82. The target is 12.5 Million Man-hours.
- Refinery Turn-Around-2006 concluded safely. No incidents were reported.

Parameters	Actual Value
Lost Time Injury	00
Million Man-hours (Cumulative) without LTI Since June 1, 2001	11.82 (Target is 12.5)
Fatal Incident	00
TRCf	00 (2006 till date)
Critical Fire & Explosion	00
Near Miss	28
Process Safety Incident	1
Environmental incident	00


HIV / AIDS Policy

PRL has introduced a HIV /AIDS policy in its organization to protect staff and business interest and contribute to prevent spread of HIV/AIDS.



Pakistan Refinery Limited

HIV/AIDS Policy



The HIV/AIDS pandemic causes serious disruption of the societies. Currently Pakistan falls into "Low prevalence with High Risk" category. This policy intends to provide key principles to protect staff and business interests and contribute to preventing the further spread of the infection in our region.


Non-Discrimination
Company will not discriminate against employees with HIV/AIDS. The medical criteria used for employment remains fitness to work to fulfill the job requirements.

Workplace Behaviour
Company recognises that HIV/AIDS is not transmitted through routine, casual personal contact under normal working conditions. Therefore there should be no grounds for refusal to share a workplace with employee with HIV/AIDS. Acts to discrimination against, or harassment of employee with HIV/AIDS on the grounds of his or her infection shall be subject to disciplinary action.

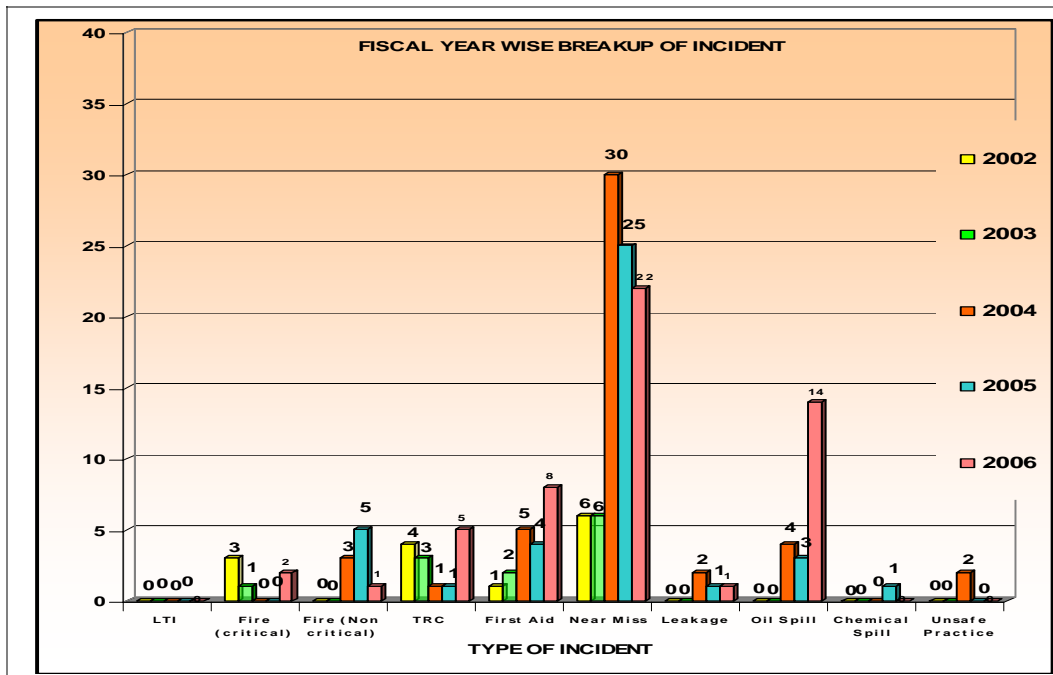
HIV/AIDS Education
Company endorses the principle that the education of employees with regard to HIV/AIDS is the most effective way of preventing the spread of the disease as well as managing HIV/AIDS at the workplace. The education programme will form part of an ongoing HIV/AIDS management process of the Company. The responsibility of healthy living and avoidance of exposure to risk nonetheless rests with employee themselves.

Confidentiality
The confidentiality of medical information related HIV/AIDS will be safeguarded by Company Medical Officer, as in the case for all other medical information, and will not be divulged without the written consent of the affected individual, unless when required by any law, order of court, or when informing others directly involved in the treatment or care of an employee with HIV/AIDS.

Legal Compliance & Local Customs
This policy and related practices and procedures will be reviewed and updated in accordance with any changes in local laws, regulations and prevailing local practices.


 Z. Hafeez
 MD & CEO
 Pakistan Refinery Limited
 November 1, 2006
 HVP-01/Rev 00

Log of Incidents / Accidents



HSE Requirements for Suppliers & Contractors

Environmental Report 2006

Suppliers

All Suppliers are required to provide the material safety data sheet (MSDS) as mandatory requirement of material purchase system for compliance by the users. The supplier of the materials provides all information related to HSE hazards / risks associated with the materials as follows:

- Compliance of HSE procedure for performing the activity
- Handling/Packing/Identification requirement
- Equipment of transporting carrier
- Information about the product composition
- Usage of protective gears
- Competence/Training requirements
- Handling and disposal of waste etc.



Contractors

Contractors are required to carry out their job without violating the prescribed HSEQ Management system requirements. It is also ensured through routine checks by the company representative during the entire phase of job that all necessary measures are undertaken by the contractors which are necessary for performing the job in a safe & environment friendly manner.

Performance Monitoring of supplier/contractor relative to environment component.

The criteria of contractors/ suppliers performance monitoring & re-evaluation includes the review of their performance in at least, the following areas to assess the ability of contractors/suppliers according to the integrated HSEQ management.

- Product quality
- Delivery reliability
- Warranty/Guarantee
- Technical Strength
- HSE Compliance

Contractors / Suppliers Performance Monitoring & Re- evaluation

The purpose of performance re-evaluation is to confirm the ability and reliability of contractors/suppliers to perform the work according to the prescribed procedures & HSEQ requirements of the job on continuous basis. The following areas are considered for this purpose:-

1. Product quality
2. Delivery reliability
3. Warranty/Guarantee
4. Technical Strength
5. HSE Compliance

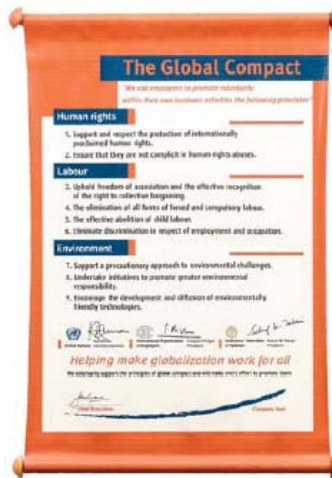
Corporate Social Responsibility

Environmental Report 2006

PRL as a Global Compact Partner

Pakistan Refinery Limited is a signatory to the United Nations led Global Compact, a network of companies, governments, non - governmental and labor organizations who have agreed to work with the UN to support its principles in the areas mentioned below.

- Human Rights
- Labor standards
- Environment
- Anti-corruption

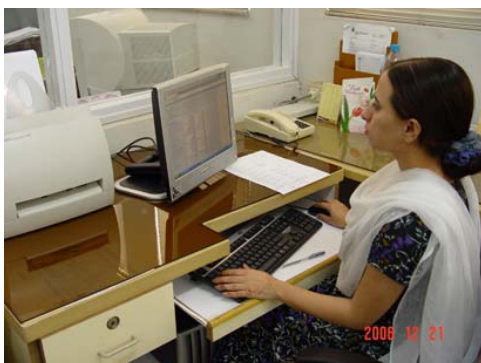


Information in this regard is available on PRL website mentioned link below.

http://www.prl.com.pk/gc_pres.html

Equal Opportunity Employer

PRL is an equal opportunity job provider company. It encourages female staff to work in every discipline of Refinery.



Communication with Employees

It is the forum at which higher management and the employees interact with each other. Managing Director deliberates the picture of Company profit & loss and listens to the employee problems and gives follow up on the previously received suggestions or complaints.



Ethics Committee

PRL has an Ethics Committee which deals with the matter / complaint received regarding harassment on the basis of gender, cast, creed color & political basis. The responsibility of this committee is ensuring that all employees freely perform their duties without fear of any prejudice among them.



Ethics Committee with MD & CEO

Helping Community

PRL is actively participating in helping the community to promote and upgrade educational institutes, hospitals & roads. The projects completed in year 2006 are as under.

- 1) Renovation of Government Ibrahim Hydri Hospital .The total cost incurred for renovation of hospital is around Rs 4.0 million that includes Rs 2.0 million for civil work & Rs 2 million for hospital equipments. This project was inaugurated by Provincial Minister of Health, Mr. Shabbir Ahmed Qaimkhani on Thursday 29th June, 2006.
- 2) PRL has completed the renovation of Government Boys Secondary School in Bhattai Colony Secondary School at the total cost of Rs 1.2 million.



3) Construction of one classroom in Government Boys Ibrahim Hydri School at the total cost of Rs 0.8 million has also been completed.

4) PRL has also donated around Rs. 2 million to different schools and other welfare societies around its locality in the form of uniforms, school books & furniture etc.



Awards

PRL received ACCA-WWF best environment reporting award for year 2005 for the second year in succession, Annual Environmental Excellence Award, 2006 and OH & S Award 2006.



ACCA - WWF 2004 & 2005 (Best Environmental Reporting Award)



AEEA, 2006



OH & S Award, 2006

Emergency / Crisis Management Plan

Environmental Report 2006

PRL has established an emergency response organization which clearly states the responsibilities during any accident and emergency situation at Refinery, Keamari terminal that develops as a result of PRL's activities. Mock drills are executed periodically to check the effectiveness of these plans & create awareness among the staff having defined role under different scenarios.



Pakistan Refinery Limited has a documented Crisis Management Plan, which is applicable to emergency / crisis situation arising from PRL's direct / indirect activity. The document is based on the following fundamental principles: -

- i. Minimizing harm to people
- ii. Minimizing environmental impacts
- iii. Protecting the reputation of Refinery
- iv. Minimizing liabilities
- v. Minimum damage to the property

The purpose of the document is to:

- i. Define responsibilities and provide guidance for appropriate response to emergency/ crisis situation.
- ii. Ensure the principles of prevention, preparation, mitigation and restoration are met.
- iii. Ensure that all concerned / PRL Staff receives prompt and accurate information about the emergency / crisis situation in order to expedite response, control and decision-making.

Accreditation (Third Party Assesor's Statement)

Environmental Report 2006

Certification Objectives and Scope

Bureau Veritas Certification was appointed as independent assessor to carry out the third party assessment of Health, Safety, Environmental and Quality Management System of Pakistan Refinery Limited in accordance with requirements of international Standards ISO 14001: 2004, OHSAS 18001: 1999 and ISO 9001: 2000 during the month of November 2006. The main objective of this assessment was to evaluate PRL's commitment towards the establishment and adherence of the said standards as they are committed to manage its operational activities and resources to protect environment, safety and health of employees, customers, contractors, stakeholders and community at large, and also to verify the compliance of various regulatory and statutory requirements such as National Environment Quality Standards (NEQS) 2000, and the others to which PRL subscribes.

The assessment carried out in the year 2002 resulted in the Certification of Pakistan Refinery Limited towards ISO 14001: 1996 and OHSAS 18001: 1999 valid for a period of three years and after the continuous contract with PRL the re-certification audit towards ISO 14001: 2004 and OHSAS 18001: 1999 along with certification audit towards ISO 9001: 2000 valid for another three years was performed in the year 2005 followed by the subsequent surveillance audit to verify the compliance against the requirements of the above mentioned standards.

The scope that was covered during the assessment included refining, storage and distribution of crude oil and petroleum products in the Refinery at the Korangi Creek and Keamari Terminal.

Continuous Monitoring

As per the certification policy and IAF (International Accreditation Forum) Guidelines, it is obligatory for organizations to undergo continuous monitoring by the certification body to ensure compliance to requirements on an ongoing basis. Bureau Veritas Certification has been performing regular surveillance audits every year and found the implementation of the requirements in full effect. Also major improvements were observed in the areas of health, safety and environment, providing evidence to the core theme of the standards, which require organization to continually improve its HSEQ Management System once it subscribes to certification.

Verification Method

The assessment scheme is based on review of environmental aspects identified by PRL, which have significant impact on environment, all health and safety hazards having associated significant risks and interaction of the processes are reviewed. Representative samples are selected from activities of PRL and audited for compliance against requirements of ISO 14001: 2004, OHSAS 18001: 1999 and ISO 9001: 2000.

A detailed site tour of Refinery and Storage Areas in Korangi and Keamari is also performed in every visit to ensure that operational controls are effectively established and implemented. Crisis Management / Emergency Preparedness and response plans are also tested to ensure that organization is well equipped to respond to any untoward incident. The continuous monitoring of

PRL's HSEQ system has provided confidence to Bureau Veritas Certification that the system is effectively and efficiently functioning in compliance to recognized regulatory and statutory requirements as well as requirements of ISO 14001: 2001 and OHSAS 18001: 1999 and ISO 9001: 2000.

Responsibilities of Executive Management and Verifier

As per PRL's HSEQ Management Manual, the ultimate responsibility of ensuring the adequacy of the HSEQ Management system lies with the Chief Executive Officer and Managing Director who is responsible for continuous observance to stated and implied requirements of health, safety, environment and quality at all times.

Bureau Veritas Certification has not been involved in the development or consultation of PRL's HSEQ Management System at any point in time and has maintained the independence and credibility during the entire certification process.

Opinion

Transparency and Completeness

The management system in response to requirements of ISO 14001: 1996, OHSAS 18001: 1999 and ISO 9001: 2000 intends to cover significant environmental impacts and health and safety risks and quality issues. The management programs cover minute details to meet the objectives and targets established by the organization in order to continually improve its HSEQ performance. The objectives and targets are regularly assessed and management programs are reviewed and audited by Bureau Veritas Certification to ensure progress towards meeting HSEQ commitments.

The Environmental Report 2006 clearly reports objectives, programs, and measures taken by PRL to ensure its continued commitment and it is Bureau Veritas Certification's opinion that the text and data have been presented in a fair and balanced manner.

The stakeholders are regularly informed through effective communication procedures about the health, safety, environmental and quality performance and key issues which require their attention. We look forward to stakeholders' opinions on the issues covered in this written report and the process for this being presented in a transparent manner.

Accuracy

The Health, Safety, Environment and quality performance reporting system is effective, generating data which when aggregated at a corporate level is generally accurate and reliable. The system is well incorporated in the business processes, with a high level of commitment noted during the assessment process.

Health, Safety, Environment and Quality Strategy

Noted progress has been accomplished in implementing the PRL's HSEQ strategy which resulted in commissioning of effluent treatment plant, effective solid hazardous waste management, continuous monitoring of soil and underground water contamination, elimination of low density asbestos, installation of CFC free air-conditioner, replacement of glands with mechanical seals on pumps, review of shipping standards, products conformity and procurement of oil spill equipment, resulting in compliance towards the requirements of ISO 14001: 2001, OHSAS 18001: 1999 & ISO 9001: 2000 and strong adherence to PRL's own commitment of being an environmental friendly, employee health and safety and products conformity conscious organization. PRL also has taken initiative for expansion to produce environmental friendly fuel.

As a proactive measure towards meeting the future challenges and maintaining company's image and credibility, Bureau Veritas Certification proposes PRL to publish their individual / separate report on Corporate Social Responsible (CSR) and Cleaner Development Mechanism (CDM), where they already initiated during the years.



M.S. Saqib
Certification Manager
Bureau Veritas Certification – Pakistan

For any further information and to know more about us you may visit our website and for any query regarding this report please feel free to contact.



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