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DRIVING **SUSTAINABLE** GROWTH

SUSTAINABLE DEVELOPMENT REPORT 2012-13
NUMALIGARH REFINERY LIMITED



REPORT HIGHLIGHTS

01 REPORTING PERIOD	This report comprises the sustainability performance of Numaligarh Refinery Limited (NRL) for the fiscal year 2012-13
02 REPORTING BOUNDARY	The report covers the refinery operations of NRL at Numaligarh, Golaghat, Assam. Retail outlets, joint ventures, subsidiaries, and administrative office is not included in this Report.
03 REPORTING GUIDELINES	The report has been developed in line with the requirements of the GRI G3.1 guidelines and the GRI's oil & gas sector supplement for the oil and gas sector organisations. The report has been such aligned to address GRI G3.1 Application Level of A+.
04 REPORTING PROCESS AND APPROACH	The report highlights NRL's economic, environmental and social performance. In addition to highlighting data-based inputs of the GRI indicators, it also reflects viewpoints and expectations of internal and external stakeholders of the Company. The stakeholder inputs have been used to arrive at material sustainability issues for the Company. Detailed discussion with the senior management of NRL were drawn upon for prioritising critical issues and demonstrate the management approach towards key environmental, social and economic parameters.
05 DATA MANAGEMENT	Data reported in the report was collated through MS Excel-based data collection templates. Values for each of the select indicators were collected either on a month-wise basis or on an annual basis depending on the type of indicators. While actual numbers have been presented in most cases, there are some indicators for which estimated numbers have been collected.
06 EXTERNAL ASSURANCE	The report has been externally assured by an independent assurance provider – Bureau Veritas Certifications India Pvt. Ltd. The limited assurance has been performed adhering to principles of AA 1000 AS (2008) and ISAE 3000.

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FROM THE MANAGING DIRECTOR'S DESK

Amidst pursuing business plans and strengthening bottom lines, we have all along endeavoured to lend a personal touch and humane approach to our CSR initiatives.

Dear Stakeholders,

It gives me utmost joy and pleasure to share with you NRL's 2nd Sustainable Development Report – 'Driving Sustainable Growth'. The Report delineates the Company's performances on the principle of triple bottom line viz. economic, environment and social for the financial year 2012-13.

The financial year 2012-13 ended on a positive note with appreciable results despite formidable challenges. On the physical front, the refinery achieved a record distillate yield of 91.11%, the highest amongst all public sector refineries in the country. Specific energy consumption – a mark of energy efficiency in operations was limited to the level of 53.19 MBN against the MOU target of 68.0 MBN. Utilisation of natural gas in lieu of naphtha as fuel and feed during the year has brought down operating costs besides improving distillate yield and generating redeemable carbon credits.

On the safety front, cumulative loss time accident-free man-hours as on 31st March, 2013 crossed 11 years, which is continuing.

We are well on track to achieve the completion of some of our key ongoing projects. The Wax project involving a project cost of INR 577 crores is under active implementation and is scheduled for completion during the financial year 2013-14. In order to supply petrochemical grade naphtha to Assam Gas Cracker Project, a naphtha splitter project at a cost of INR 87 crores under the non-plan head has been completed and the same is presently under commissioning.

We continue to explore opportunities for growth in the years ahead. The Company is actively pursuing its refinery expansion plans from its current capacity of 3.0 MMTPA to 9.0 MMTPA. To meet the proposed enhanced crude oil requirement, sourcing and transportation of imported crude oil through a

pipeline from Dhamra Port in Odisha is being arduously pursued.

The Company forges ahead in its quest of achieving continual environmental excellence by adopting industry best practices. It continues to achieve zero wastewater discharge from its refinery and township by reusing 100% of the treated effluents within its boundaries. In its pursuit of tapping new and renewable energy sources, a slew of initiatives have been taken up to utilise solar energy from within the refinery and the township premises. NRL has replaced conventional street lights with solar powered lights in several places within its Township. Further, installation of solar water heaters in guest houses, canteens and other buildings has been taken up. NRL has also initiated steps for installation of a 100 KWH solar PV panel on the rooftop of the administrative building which is expected to meet the entire power requirement of the building. Further, generating 20 KW solar power for DPS Numaligarh in order to reduce conventional power consumption has been envisaged. Extending its solar power initiative to benefit the community in its neighbourhood, NRL is in the process of powering seven nearby schools in the vicinity during the first phase of its CSR programme,

'Suryajyoti'.

Our Company bagged several awards pertaining to sustainability during the financial year 2012-13 viz. the Green Tech Environment Award 2012, CSR Award 2012 by the Subir Raha Centre of Corporate Governance, the IPE CSR Corporate Governance Award from the Institute of Public Enterprises and the Shrestha Suraksha Puraskar 2012 by the National Safety Council. This gives reason to strengthen our belief that awards are a natural outcome in the quest for excellence. Amidst pursuing business plans and strengthening bottom lines, we have all along endeavoured to lend a personal touch and humane approach to our CSR initiatives. Expanding our beneficiary base by implementing meaningful CSR schemes is becoming a continual process. Expenditure on CSR activities during 2012-13 was worth INR 5.5 crore.

We have prepared this report based on Global Reporting Initiative (GRI™) G3.1 guidelines. The relevant indicators and technical protocols have been followed for reporting on the various factors.

This report reflects the material issues, which have significant economic, environmental and social impact that can substantially influence the

assessments or decisions of our stakeholders.

As we take relevant steps in achieving our goals towards sustainable growth, we will strive to focus on identification of stakeholder concerns and ways of engaging with them. We consider our stakeholders to be the pillars of our enterprise.

I express my sincere appreciation for the invaluable contribution and cooperation of my colleagues on the Board in charting the sustainable roadmap of the Company mediates towards continuous growth and profitability thereby steering it to greater heights. As I conclude, I sincerely thank each and every one of our stakeholders, for the confidence and trust reposed upon us. We remain committed to sustain growth, improve our performance continually and live up to your expectations.

Sincere regards,



Dipak Chakravarty

Managing Director

Place: Guwahati



VISION, MISSION AND OBJECTIVES

Corporate Vision

To be a vibrant, growth oriented energy company of national standing and global reputation having core competencies in Refining and Marketing of petroleum products committed to attain sustained excellence in performance, safety standards, customer care and environment management and to provide a fillip to the development of the region.

Corporate Mission

- Develop core competencies in Refining and Marketing of petroleum products with a focus on achieving international standards on safety, quality and cost.
- Maximise wealth creation for meeting expectations of stakeholders.
- Create a pool of knowledgeable and inspired employees and ensure their professional and personal growth.
- Contribute towards the development of the region.

NUMALIGARH REFINERY LIMITED: AN OVERVIEW

The 3 MMTPA Numaligarh Refinery Limited was dedicated to the nation by the erstwhile Hon’ble Prime Minister Shri A. B. Vajpayee on 9th July, 1999. NRL has displayed creditable performance since the commencement of commercial

production in October, 2000. With its concern, commitment and contribution to socio-economic development of the state combined with a track record of continuous growth, NRL has been conferred the status of Mini Ratna PSU.

The refinery is located at Golaghat, Assam, India. The nearest airport is Jorhat, 70 km away from NRL site. The nearest railhead is at Furkating Junction which is 35 km from NRL.

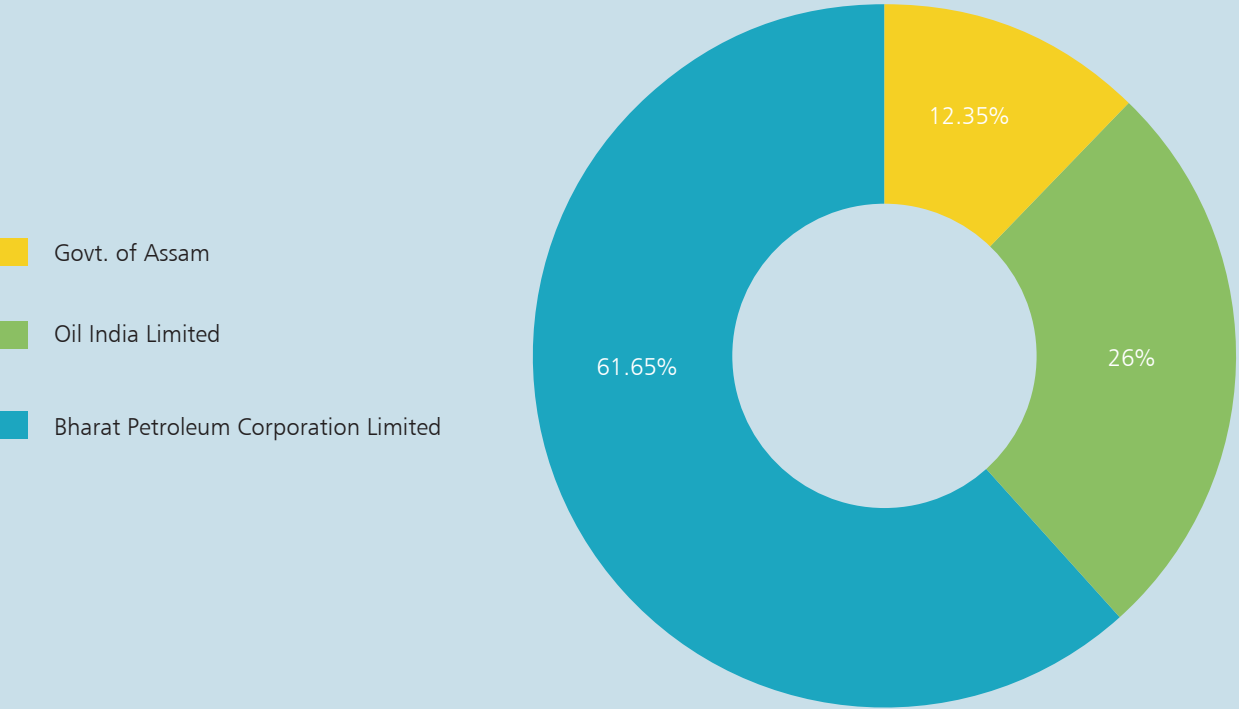
The major units at NRL are as follows:

Major Units	Capacity
Crude Distillation Unit (CDU)	• 3.0 MMTPA
Vacuum Distillation Unit (VDU)	• 1.32 MMTPA
Delayed Coker Unit (DCU)	• 0.306 MMTPA
Hydrogen Unit (HGU)	• 48600 TPA
Hydrocracker unit (HCU)	• 1.45 MMTPA
Sulphur Recovery Block (SRB)	• 19.3 TPD
Coke Calcination Unit (CCU)	• 0.104 MMTPA
Motor Spirit Plant (MSP)	• 225 TMTPA

Corporate Objectives

- Maximise refinery capacity utilisation and optimise product pattern by efficient refinery operation.
- Ensure smooth and timely evacuation of products, create a sound customer base and necessary marketing infrastructure.
- Achieve highest standards in product quality, safety, health and environment protection.
- Manage and operate the facilities in an efficient and cost effective manner
- for generation of adequate internal resources.
- Inculcate best business practices through the use of ERP and E-commerce.
- Focus on development and growth of Human Resource through proper training and career planning.
- Plan for production and marketing of low volume, high value products.
- Remain at the technological forefront by continuous upgradation of in-house expertise and absorption of the latest technologies.
- Establish strong corporate identity and brand equity.
- Facilitate the economic and industrial development of the region.

SHAREHOLDING PATTERN



HIGHLIGHTS

Refineries	Pipelines	Crude throughput	Market sales	Gross sales
01 Nos	660 Km	2.478 MMTPA	2.41 MMTPA	8,752 INR Crores

PRODUCT RANGE

Product	Sales Volume (MMTPA)
Naphtha	0.119
Liquefied Petroleum Gas (LPG)	0.0476
Motor Spirit (MS)	0.310
Aviation Turbine Fuel (ATF)	0.062
Superior Kerosene Oil (SKO)	0.134
High-Speed Diesel (HSD)	1.67
Sulphur	0.003
Calcined Petroleum Coke (CPC)	0.058
Raw Petroleum Coke (RPC)	0.009

The above mentioned products are mainly marketed through Bharat Petroleum Corporation Limited (85.3%), Indian Oil Corporation Limited (7.1%) and Hindustan Petroleum Corporation Limited (1.4%). Products are also sold through direct and retail sales (4.2%) and others (1%).

JOINT VENTURES

Brahmaputra Cracker and Polymer Limited
NRL has 10% equity participation in the joint venture (JV) company Brahmaputra Cracker and Polymer Limited.

DNP Limited
NRL has 26% equity participation in the joint venture company DNP Limited.





BOARD OF DIRECTORS

Member	
Shri R. K. Singh	Chairman
Shri Dipak Chakravarty	Managing Director
Shri S.R. Medhi	Director (Technical)
Shri S.K. Barua	Director (Finance) [w.e.f 01-05-2013]
Shri Nilmoni Bhakta	Director (Finance) [up to 30-04-2013]
Shri J.P. Rajkhowa	Director [up to 11-12-2012]
Shri H.S. Das	Director [up to 24-07-2013]
Shri R T Jindal	Director
Shri S K Srivastava	Director
Shri K. K. Gupta	Director [up to 24-07-2013]
Shri B.K. Dutta	Director [up to 24-07-2013]
Shri L. Rynjah	Director [w.e.f 28-06-2013]
Shri B. P. Rao	Director [w.e.f 28-06-2013]
Dr. A. K. Ghoshal	Director [w.e.f 28-06-2013]

MANAGEMENT TEAM

Member	Designation
Mr. Amit Mohan Prasad, IAS	Chief Vigilance Officer
Mr. A. K. Bhattacharya	Marketing, Business Development and Corporate Planning
Mr. B. Ekka	General Manager (HR)
Mr. D. Ghosh	General Manager (Operation)
Mr. M. R. Baruah	General Manager (Technical Services and Project)
Mr. S. D. Maheshwari	General Manager (Finance)
Mr. A. K. Senapati	Deputy General Manager (Fire and Safety)
Mr. A. P. Chakravortty	Deputy General Manager (Commercial and Legal)
Mr. D. Choudhury	Deputy General Manager (Internal Audit)
Mr. G. N. Sarma	Deputy General Manager (Maintenance)
Mr. N. Borthakur	Deputy General Manager (Co-ordination)
Mr. P. K. Barua	Deputy General Manager (Finance)
Mr. Pankaj Kumar Baruah	Deputy General Manager (Maintenance Planning)
Mr. S. Chakraborty	Deputy General Manager (Project)

CORPORATE GOVERNANCE

NRL pays special and sustained emphasis on conducting its affairs within the policy framework of the Government of India, statutory regulations and the internal procedures in a transparent manner. Being an undertaking of the Government of India, we are periodically reviewed by several external authorities such as the Comptroller & Auditor General of India (CAG), the Central Vigilance Commission (CVC) and several Parliamentary Committees. NRL also has an independent mechanism of monitoring and auditing its processes through various internal departments such as the internal audit and vigilance departments.

NRL has a lean and compact vigilance department which plays a proactive role by focusing attention on preventive vigilance and ensuring streamlining of rules and procedures

in every area which requires attention. Its work area encompasses handling and investigation of complaints received from individuals, the Central Vigilance Commission (CVC), Ministry of Petroleum & Natural Gas (MOP&NG), and other sources, undertaking preventive vigilance initiatives like surprise inspections, regular scrutiny of procurement and contract files, scrutiny of property return of employees among others and maintaining a dialogue with the Governmental and statutory authorities and other departments.

The department is headed by the Chief Vigilance Officer (CVO), Mr. Amit Mohan Prasad, IAS. The CVO advises the management on vigilance matters and acts as a link between the Company and the government as well as the statutory bodies like CVC, CBI, MOP&NG and other central

- organisations on issues related to vigilance.
- In addition to complying with the requirements, our governance structure also ensures:
- Safe running of our operations;
 - Maintaining fair compensation for our workforce;
 - Meeting the nation’s energy demand through achieving the MOU targets;
 - Engaging responsibly with our stakeholders through different means of communications;
 - Ensuring the health and safety of our employees.

Governance structure at NRL:
To oversee different functions, NRL has appointed various committees of the Board. The detail pertaining to the committees is presented below.

Committee name	Oversight responsibility
Audit	• Review of annual financial statements • Review of efficacy of internal control systems • Review of internal audit function • Interaction with internal auditors • Review of issues related to internal fraud and irregularities • Review of business risk and policies
Remuneration/HR policies	• Review of issues related to remuneration, compensation and benefits for employees
Sustainable development	• Review and guidance of activities related to CSR



The cross functional internal audit team at NRL conducts periodic internal audits to ensure effective implementation of the management systems.

Seeking feedback from stakeholders:

NRL has constituted an Investor Grievance Committee to review the status of investor grievances and accordingly accommodate their recommendations. The Company engages with its shareholders through different means of communications like Annual General Meetings, letters, circulars and investor meets.

NRL encourages its employees to provide feedbacks and suggestions through suggestion schemes like feedback boxes to share their views with the top management.

Incidents concerned with conflict of interest:

During the reporting period i.e. 2012-13, there were no such cases of material transactions with Directors or their

relatives which are in potential conflict of interest with the Company.

Performance evaluation:

The different departments in the organisation is rated or evaluated on their performance based on the achievement of targets outlined in the MoU inked during the previous year. Based on the evaluation, ratings are provided to each department.

Management systems:

NRL has developed and implemented various management systems for ensuring quality, environmental performance, occupational health and safety performance and information security. The refinery is certified to ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 and ISO 27001:2005.

Third party agencies carry out periodic surveillance audits to ensure compliance

with the requirements of different management systems. The cross functional internal audit team at NRL conducts periodic internal audits to ensure effective implementation of the management systems.

NRL is currently implementing an Energy Management System under ISO 50001:2011 for which a certifying agency has been engaged.

NRL has carried out a study, through a reputed consultant, for estimation of Green House Gas (GHG) inventory and GHG footprint of the refinery for the base year 2009-10 and reporting year 2010-11 and 2011-12. Action has been initiated to become an ISO 14064:2006 certified organisation through verification of the GHG estimation study.

SUSTAINABLE DEVELOPMENT COMMITTEE

Sustainable Development Committee of the board was constituted on 1st February, 2012 to approve the Sustainable Development Plan and oversee the performance of the Company comprising Shri J.P. Rakhowa, Independent Director as Chairman and Shri N. Bhakta, Director (Finance) and Shri S.R. Medhi, Director (Technical) as members. Sustainable Development Committee at NRL primarily comprises of four members.

Name	Designation
Mr. Nilim Kumar Borthakur	Chief Manager (Health Safety and Environment)
Mr. Pallav Kumar Das	Senior Manager (Sustainable Development and Research & Development)
Mr. Pranab Kumar Sarma	Manager (Corporate Social Responsibility)
Ms. Babika Deori Borah	Deputy Manager (Technical Services)

The primary role of the committee is to monitor and implement economic, social and environmental projects.

Standing against Corruption

The Company's vigilance function is continually focused towards preventive and proactive vigilance activities for ensuring transparency, fairness and sound business practices. As part of preventive vigilance activities, the function carried out inspections and organised orientation programmes for employees to keep them abreast of circulars and guidelines issued by statutory authorities like the Central Vigilance Commission (CVC).

Vigilance Awareness Week was observed at all locations of the Company from 29th October to 3rd November, 2012 with active participation from employees and stakeholders. Several programmes including slogan writing, essay competitions, interactive sessions were held to promote probity in public life and generate awareness on importance of vigilance across all spheres. During

the year we received two complaints and necessary investigations were carried out and recommendations were furnished to the authorities. During the reporting period, we also received 140 RTI applications and we have been able to resolve 123 cases amongst them as on 31st March, 2013.

Our stakeholders – pillars of business

We have adopted diverse approaches towards engaging with stakeholders. We engage with them through different means and engagement practices.

Through these engagements, we identify their issues and concerns and which accordingly help us in determining the material issues for our business. Over the years, we have maintained and enhanced our existing channels of dialogue with our stakeholders. We adopted structured engagement mechanisms to cater specific stakeholders and their requirements. The issues and concerns as raised by stakeholders are also identified and resolved through mechanisms which are ad hoc in



nature and depend on day to day requirements and dynamic stakeholder needs. Stakeholder engagement has become an integral part of our business strategy. We are exploring opportunities to strengthen our existing practices on stakeholder engagement. In the years to come, we intend to devise structured stakeholder engagement strategy and plans to engage with stakeholders effectively.



Stakeholder group	Means of engagement	Key concerns or priorities identified	Reference to our response in SDR
Shareholders and lenders	- Annual general meetings - Annual reports and regulatory filings	- Financial performance - New ventures and major projects - Crude oil prices - Change in governance structure - Compliance	- Creating prosperity - Corporate Governance
Government and regulatory authorities	- Memorandum of Understanding – setting targets and communicating progress - Annual reports and regulatory filings - Meetings on ministry directives and policy development - Facility inspections	- Annual performance planning and major projects - Anti-corruption practices - Regulatory compliance and timely regulatory filings - Safety and security - Resolution of public grievances - Payment to exchequers for state development	- Creating prosperity - Corporate Governance
Employees	- Work-related interactions - Training - Annual performance review - Employee health check-up - Employee volunteering in engagement activities - Company website, intra-links, annual reports - Employee welfare schemes - Employee recognition activities - Employee satisfaction surveys - Meeting with unions	- Career development - Skill development and training - Work satisfaction - Health and safety - Individual performance	- Responsible employment practices - Healthy and safe workplace

Stakeholder group	Means of engagement	Key concerns or priorities identified	Reference to our response in SDR
Industry associations	- Industry meetings - Joint implementation of industry-wide initiatives - Coordination for disaster management - Facility visits	- Sectoral policy development - Setting and upgrading of standards - Health and safety	- Creating prosperity - Corporate Governance
Customers	- Customer satisfaction surveys - Customer community meets - Company website for product information - Customer complaint redressal - Queries through RTI route - Product campaigns and roadshows - Customer oriented initiatives like 'Beyond LPG'	- Timely and efficient complaint redressal - Product quality - Product safety - Timely availability of bulk product (for bulk consumers) - Product pricing	Product stewardship
Suppliers	- Contract procedures - Contract and project review - Facility inspection - Business review meetings - Vendor interaction meets	- Product quality - Product pricing - Timely payments - Business performance - Compliance to company directives and policies - Local employment generation	- Product stewardship - Creating prosperity
Business and JV partners	- Corporate presentations, annual reports - Business review meetings	- Business performance - Future project plans and company strategy - Market acquisition	- Creating prosperity - Corporate governance
Community	- Community needs assessment - Community development programmes - Health clinics - Disaster management workshops - Community visits by company representatives	- Safety awareness - Health - Education - Water scarcity - Local livelihood generation	Strengthening relations with the communities
Dealers and distributors	- Distributor and dealer advisory panels - Dealer meets - Quarterly and annual review meetings - Customer complaint escalation	- Product demand - Compliance with Company directives and policies - Product availability - Product and service quality - Customer grievance redressal	Product stewardship
Contractors	- Contract procedures - Task de-brief meetings - Work review meetings - Training - Health check-ups	- Health risks like HIV/AIDS - Worker payments - Safety and security - Skill development	- Responsible employment practices - Healthy and safe workplace

DRIVING SUSTAINABLE GROWTH

We shoulder the great responsibility of securing the energy supplies of the country without compromising on the well-being of the environment or the society. NRL has always been responsible in its approach towards sustainability. As a conscious corporate citizen, we have made all efforts towards

maintaining ecological balance. We believe that serving the nature is not a one-time activity – rather we believe in continuous improvement and striving towards creating more sustainable business operations that minimises any adverse impact on the society. We strive towards bringing a

smile on the faces of the people through our social development initiatives. Sustainability is a key aspect considered while making any decision across all our operations and every aspect of our business. This underlines our constant effort towards 'Driving Sustainable Growth'.

SUSTAINABLE DEVELOPMENT POLICY

We aspire to be a responsible corporate citizen deeply committed to enhance value-creation with regard to the sustenance of the organisation. We aim to attain sustained excellence in refinery operation by using resources optimally, by means of reusing and recycling wherever possible, to achieve our legitimate business objectives and at the same time try to ensure that there will be sufficient resources for future generations. While we strive to create value for our stakeholders we shall continue to contribute to the communities in which we, our suppliers as well as our customers live

- OBJECTIVE**
- To help NRL remain focused on its SD vision.
 - To ensure increased commitment at all levels of the organisation and to operate its business in an economically, socially and environmentally sustainable manner. This is to ensure that the communities will be enabled in a manner that will have a sustained developmental impact.

TOP SUSTAINABILITY PRIORITIES

We have imbibed various practices to be able to identify and focus on issues of critical importance to our business. While our able senior management lends its experience to identify focus areas for our business, we also seek feedback and inputs from our stakeholders on issues that are relevant for them.

Over the years, we are carrying out materiality determination procedures to make it more consistent and effective.

We encourage participation across all levels of the organisation and across various stakeholder groups. As we move forward to define our business strategy, we incorporate these core issues and develop our business strategies and accordingly undertake planned initiatives. Our sustainability reporting process shares the same framework, and is thus structured around these core issues.

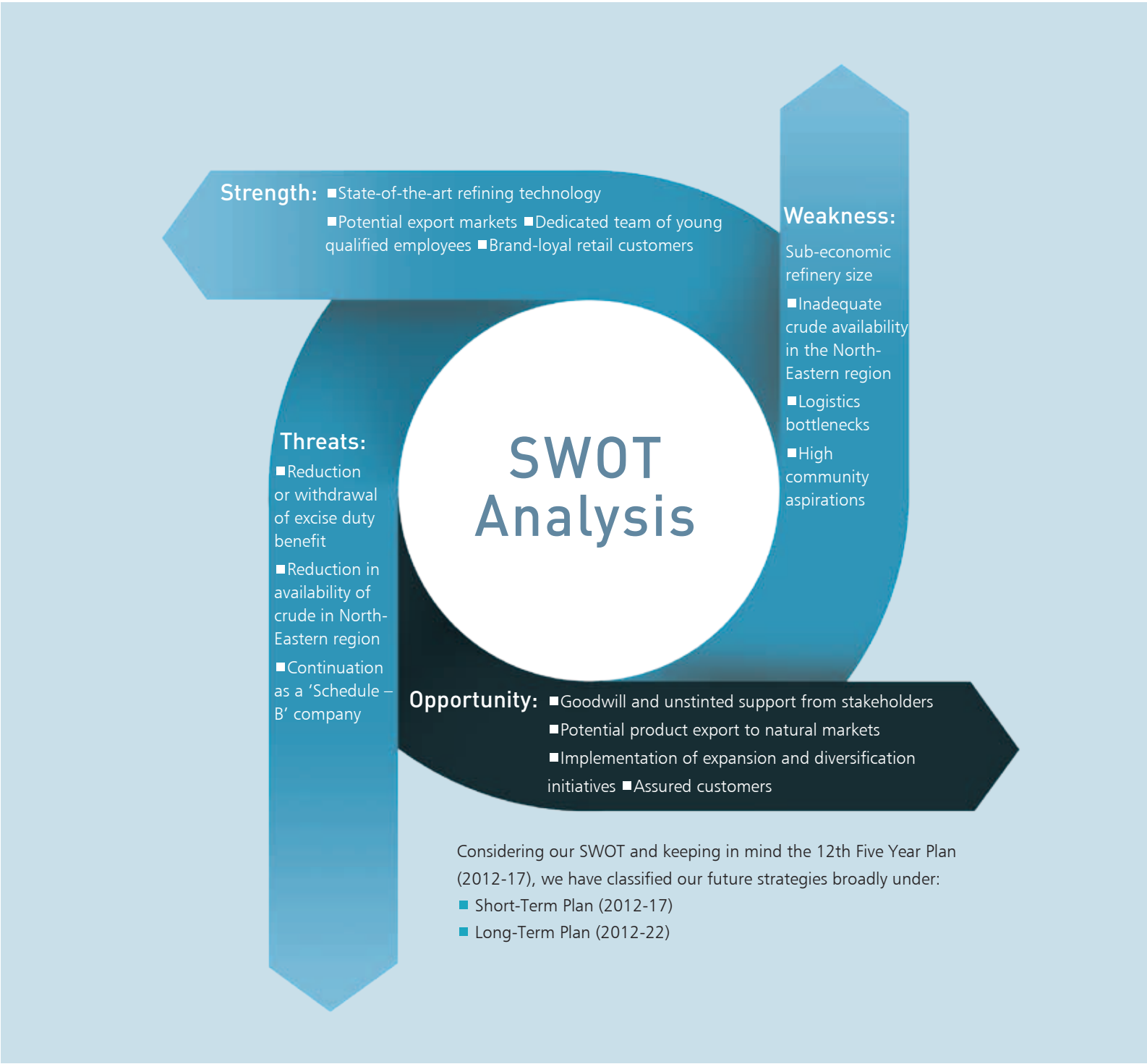
Based on our efforts on materiality

determination, we anticipate 'energy and climate change', 'health and safety', 'CSR and sustainability' and 'environment management' to be the core sustainability issues and accordingly have detailed out our efforts with regard to each of the four core issues. We also interact with our top management and key stakeholders to update the relevance and importance of these material issues on a regular basis.

CORE SUSTAINABILITY ISSUES	SUSTAINABILITY TARGETS 2012-13	PROGRESS	SUSTAINABILITY TARGETS 2013-14
Energy and climate change	• Specific energy consumption of 68 MBN • Installation of 100 KW solar photovoltaic panel on the rooftop of our administrative building	• NRL achieved 53.19 MBN which was best in the country amongst all public sector refineries. • Evaluation study conducted. Purchase Order for purchase and installation of 100 KW solar photovoltaic panels to be placed.	• Providing 20 KW solar power at DPS, Numaligarh to reduce consumption of power from conventional sources.
Health and safety	• Zero Loss-Time-Accidents (LTA) per million hours worked • 20 mock drills conducted to cover offsite and onsite disasters; major and minor fires • 840 man-days of safety training to employees, CISF/security personnel and POL drivers • All contracted workmen to be imparted with safety training	• Zero LTA per million hours worked was achieved • 21 mock drills were conducted in 2012-13 • 937 man-days of training were imparted to employees, CISF/security personnel and POL drivers • All contracted workmen were imparted with safety training	• Zero LTA per million hours worked • 20 mock drills to be conducted covering offsite and onsite disasters; major and minor fires • 882 man-days of safety training to employees, CISF/security personnel and POL drivers • All contracted workmen to be imparted with safety training

CORE SUSTAINABILITY ISSUES	SUSTAINABILITY TARGETS 2012-13	PROGRESS	SUSTAINABILITY TARGETS 2013-14
Health and safety	Eight safety awareness training camps to be conducted for neighbouring communities	Eight safety training camps were organised in 2012-13	- Eight safety awareness training camps to be conducted for neighbouring communities 12 safety awareness programmes to be conducted for workers in different units of refinery
CSR and sustainability	189 'Niramoy' mobile medical camps for providing healthcare in villages surrounding the refinery 53 sanitation facilities to be constructed as part of the project 'Parichhannata': creation of hygienic villages 'Prerona' scholarship award to 293 girl students for promoting the education of the girl child 368 beneficiaries as part of project 'Swa Nirbhor' – promotion of livelihood for educated unemployed youths 37 beneficiaries as part of project 'Khel Prashikshan': training and development of talents of budding football players below 15 years.	229 mobile medical camps were organised during 2012-13 70 sanitation facilities were constructed during 2012-13 - Prerona scholarship was awarded to 295 girl students during 2012-13 370 beneficiaries were covered under Swa Nirbhor during 2012-13 40 students were covered under the project Khel Prashikshan campaign during 2012-13	- Five workshops/seminars to be organised for workers to sensitised them regarding various aspects of CSR and sustainability - Formulation of corporate communications strategy involving engagement of employees and people living in villages surrounding the refinery. 7,200 beneficiaries from CSR project 'Niramoy' implemented in collaborated with NRL hospital. 1,000 beneficiaries from the CSR project 'Surya Jyoti' for installing solar power in seven schools in the neighbouring community.
Environmental Management	- Reuse of contaminated rainwater and storm water in the refinery - Reuse of treated effluents to ensure zero wastewater discharge in the refinery - Carrying capacity study for the receiving atmosphere - Bio-remediation of tank bottom oily sludge amounting to a total quantity of 250 MT.	- Detail engineering was completed on 31st January, 2013 100% effluents were reused - The study was successfully completed in December, 2012. - Bio remediation of a 250 MT tank's capacity bottom oily sludge was completed in June, 2012.	- Implementation of flare gas recovery system - Installation of double roof seals in five floating roof tanks to contain vapour loss into atmosphere.

OUR SWOT ANALYSIS AND PLANNING THE WAY FORWARD





Short-Term Plan (2012-17)

Plans	Description
Plan Projects	
Euro – IV MS/HSD production	Based on the requirement for producing entire volumes of MS and HSD conforming to Euro – IV specification, we have planned to install additional process units such as diesel hydro treating.
Refinery capacity expansion from 3.0 MMTPA to 8.0 or 9.0 MMTPA	During the 12th Five Year Plan period, NRL has planned for enhancing refining capacity from 3.0 MMTPA to 8.0 or 9.0 MMTPA.
Foray into power generation	We have identified the potential in power generation sector in the State of Assam and have strategically decided to enter into joint ventures with the Assam State Electricity Board. We are expecting an initial investment of INR 300 crore.
Natural gas pipeline to Guwahati	In the near future, NRL is looking to act as an equity participant of the extension of Duliajan – Numaligarh Natural Gas pipeline to Guwahati. This has been thought of keeping in mind the potential market for compressed natural gas at Guwahati and industrial consumption centres between Numaligarh and Guwahati.
Foray into oil exploration and production	In view of logistical difficulties in importing crude oil, NRL is exploring the possibility of securing ‘equity oil’ through participation in JVs with the State Government. NRL anticipates an investment on INR 700 crore during the 12th Five Year Plan period.
Non-plan projects	
Setting up of R&D centre	NRL is exploring opportunities to establish a dedicated R&D centre for research and development in areas such as refining technology, reducing energy consumption, crude evaluation, data management, waste minimisation among others.

Long-Term Plan (2012-22)

Plans	Description
Import of crude oil	As NRL intends to expand its refining capacity from 3 MMTPA to 8 or 9 MMTPA, it is imperative that NRL imports low-sulphur crude oil with assistance from BPCL. A new pipeline would have to be laid at an estimated cost of INR 2,000 crore for transportation of imported crude oil to Numaligarh.
Venturing into the petrochemical sector	Assam Petrochemicals Limited, a profit-making State Government undertaking is seeking out collaboration with NRL for modernising and augmenting their production facilities. NRL is optimistic with the venture and discussions are going on with the Company.
Shale oil	NRL is exploring opportunities into exploration and production of shale oil through a tie-up with Oil India Limited. Shale oil is projected to have a good potential in the state of Assam. The reserves of shale oil in Assam is reported at 100 MMTPA oil equivalent for the next 100 years.
Tourism and hospitality sectors	North-Eastern India has a huge potential in the tourism industry. NRL is exploring opportunities for JVs with the Assam State Government for promoting the tourism industry.



CREATING PROSPERITY

**OUR ECONOMICAL
PERFORMANCE**

CREATING PROSPERITY

During the year 2012-13, 2.478 MMT of crude oil was processed against 2.825 MMT in the previous year. The crude processing was lower than the target set down in the MOU of 2.710 MMT, primarily due to the major fire incident at HCU on 7th April 2012. The Company has demonstrated utmost resilience in

mitigating challenges arising out of a major refinery fire incident on 7th April of the current financial year. The fire was controlled within a short time with minimal damage to equipment and significantly, without any injury or casualty. The lower crude delivery than the allocation in the subsequent period also contributed to the shortfall in crude

processing during the year. Crude oil receipt during the year was 2.447 MMT, against 2.82 MMT received last year. The capacity utilisation of the refinery during 2012-13 was 83% vis-a-vis the MOU target of 92%.

Our performance on the economic front is a reflection of our commitment towards sustainable growth and sharing prosperity with our stakeholders

Economic value generated, distributed and retained

Particulars	Description	Amount in INR crore		
		FY 2012 – 13	FY 2011-12	FY 2010 – 11
Economic value generated				
Revenues	Net sales plus revenues from financial investments and sales of assets	8,269.27	13,462.69	8,365.45
Economic value distributed				
Operating costs	Payments to suppliers, non-strategic investments, royalties, and financial payments	7,727.24	12,782.65	7,646.90
Employee benefits and wages	Total monetary outflows for employees	129.92	143.28	138.01
Payment to the providers of capital	All financial payments made to the providers of the organisations capital	132.96	112.14	139.50
Payment to the Government	Gross taxes	215.16	319.35	284.84
Community expenditure	Voluntary contributions and investments of funds in the broader community (includes donations and subscription)	5.80	7.05	5.18
Economic value retained	Investment, equity release, among others. ((calculated as economic value generated less economic value distributed)	58.20	98.21	151.02

Financial assistance from the Government of India
During the reporting period FY 2012-13, NRL has not received any financial assistance from the Government of India.

Local hiring and procurement
Being a Public Sector Undertaking (PSU) organisation of Government of India, we abide by statutory regulations governing employment practices and thereby encourage in giving equal opportunity to the entire eligible

candidates from across the country. As per NRLs recruitment policy, the vacancies in Group ‘C’ and ‘D’ posts are filled with local residents through a notification on the local employment exchange. Being a PSU, NRL procures materials from various locations, as per

the requirement, from the open market under the policy of ‘Open Competition’ from technically accepted bidders on a competitive basis. The organisation does not have any preference for any locally-based suppliers and follows the basic principle of technically acceptable goods and services procurable at the lowest prices.

During 2012-13, 58.59% of the total goods and supplies in terms of monetary value were purchased from suppliers based out in India.

Financial implications due to climate change

We recognise climate change as one of the prime business and environmental issue and we give immense importance to issues concerned with climate change. We are into the business of energy and we are working towards mitigating the adverse impact of climate change through multiple initiatives mediated towards energy conservation, energy efficiency and usage of cleaner fuels. We have carried out studies for estimation of Green House Gas (GHG) inventory and GHG footprint of the refinery. We

have made efforts on focussing on tapping renewable energy. NRL has replaced conventional street lights with solar powered lights in several places within its township. Further, installation of solar water heaters in guest houses, canteens and other buildings has been taken up. NRL has also initiated steps for installation of a 100 KWH solar PV panel on the rooftop of our administrative building which is expected to meet the entire power requirement of the building. Further, generating 20 KW of solar power for DPS Numaligarh is being envisaged in order to reduce conventional power consumption. Extending its solar power initiative to benefit the community in its neighbourhood, NRL is in the process of powering seven nearby schools.

Investing in community development

As a responsible corporate citizen and a PSU, NRL is dedicated to the development of our nation. We invest in the communities surrounding our operations through various initiatives like infrastructure, health, education and other community development

solutions.
We work to create values for the communities in the vicinity of the refinery. We have undertaken multiple initiatives for uplifting the living standards of the neighbouring communities. We give priority to schemes where indirect employment and entrepreneurship opportunities can be created for the underprivileged. Some of the initiatives creating indirect economic impacts for the neighbouring communities include:

- We introduced the System of Rice Intensification (SRI) to the farmers of Golaghat district to enhance food security, with technical help of the Rashtriya Gramin Vikas Nidhi (RGVN).
- Under the Dronacharya scheme, financial contributions were made to the Teachers’ Welfare Fund of 28 schools on the basis of number of students passing in 1st division in Class X exams from respective schools in the nearby areas.
- Contribution of funds to self help groups under the scheme of ‘Swa – Nirbhor.

Swa- Nirbhor – Creating Sustainable Entrepreneurs

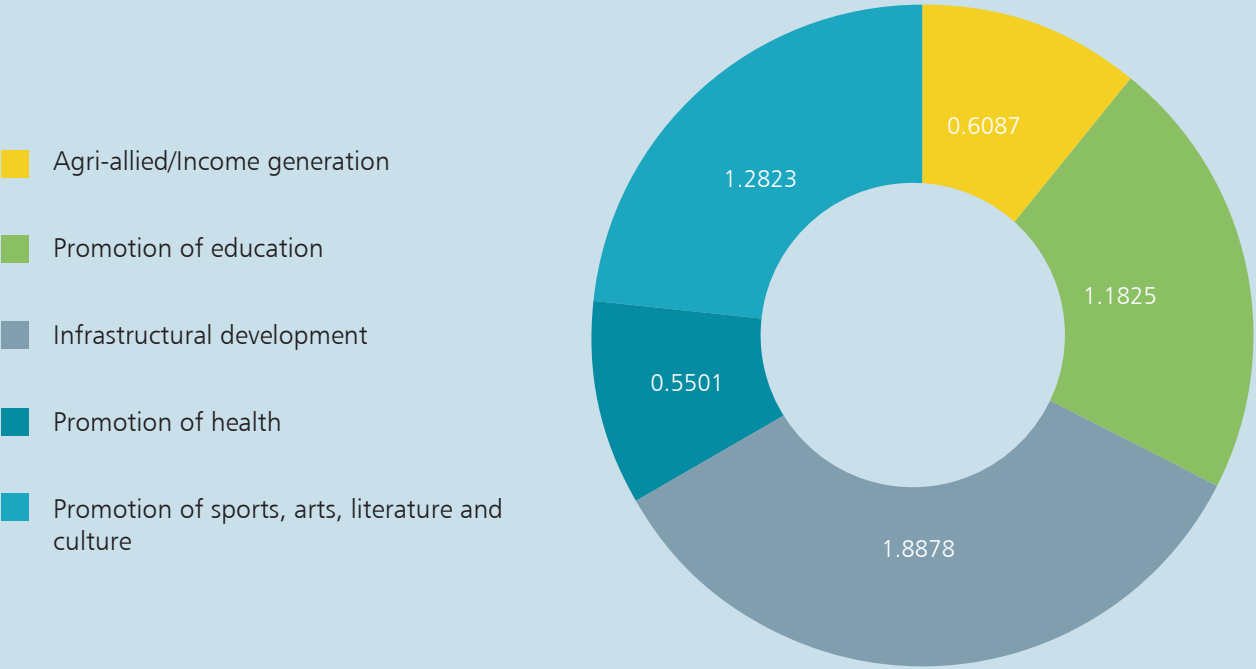
In order to motivate local unemployed youth to venture into self-employment activities as well as to provide them with adequate financial support to encourage them to indulge in such activities, the scheme Swa –Nirbhor was introduced in the year 2006-07. Under this scheme self-help groups of the nearby areas are provided with financial assistance for taking up income generation activities.

NRL under its Corporate Social Responsibility scheme, ‘Swa-Nirbhor’ organised a meeting at the Marangi Block Development Office on 13th March, 2013, where financial assistance of INR 75,000 each were provided to 37 self-help groups covering 370 beneficiaries.



This year we have invested INR 5.51 crore in community development activities.

COMMUNITY INVESTMENT IN 2012-13 in INR Crores



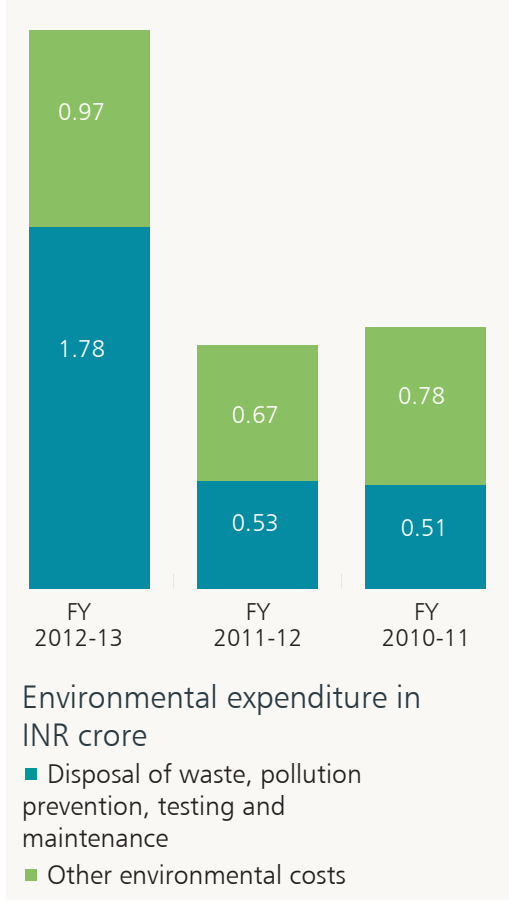
Environmental expenditures

We at NRL are very much aware of the fact that our operations have an impact on the environment and its components. We continually strive to reduce any adverse impact on the environment by investing in cleaner technologies and sound environmental management systems. Our processes and systems include identifying and managing environmental and social impacts and risks of certain type of projects. Increase in efficiency has the potential to reduce the overall amount of energy used and hence the carbon that is emitted globally, without inhibiting economic growth. We undertake measures in waste disposal, emissions treatment, and prevention of environment degradation. Expenditure was also incurred during the celebration of World Environment Day at the plant, where the importance of conservation of environment was demonstrated. In 2012-13, we spent INR 2.75 crore as expenditure towards environmental

management.

Environmental expenditure includes amount spent on license to operate, external services for environmental management, treatment and disposal of waste, depreciation and maintenance cost of equipment used for environmental purposes, personnel costs, annual certification costs and installation of cleaner technologies.

Other environmental costs as depicted relates to expenditures incurred in external certification of management systems; salary and compensation for employees employed for environmental management activities and fees paid to local pollution control board for consent renewal etc.



ENVIRONMENTAL RESPONSIBILITY OUR ENVIRONMENTAL PERFORMANCE

ENVIRONMENTAL RESPONSIBILITY

Over the years, NRL has undertaken multiple initiatives on environment management to make it an environmental conscious refinery. As a part of the corporate policy on environment management, NRL commits itself to ensure compliance to all stipulations as encoded in statutes, applicable codes of practices and relevant guidelines, Minimal National Standards (MINAS), Oil Industry Safety Directorate (OISD) standards among others. apart from our own policies and manuals. In its quest towards environmental excellence and continual improvement, NRL has been pursuing a focused program towards environment protection with well-defined objectives and has taken up several initiatives that are being implemented in a systematic manner.

During the reporting period, all environmental monitoring parameters including treated effluent quality and quantity, stack flue gas emissions, ambient air quality, noise level among others were found to be well within the stipulated limit set by regulatory bodies.

The Company’s management has been proactive regarding the environmental impacts of the new initiatives and products. We conduct periodic risk assessment studies pertaining to the environment arising out of our operations. Our focus continues to be on organising efforts directed towards eliminating oil spills, improving energy efficiency, reducing waste and pollution and optimising facility design to minimise negative environmental impact from our operations.

To reduce the environmental burden of our operations, we are taking measures for improving the efficiency of our processes. This also ensures optimal use of energy resources. Enhanced energy efficiency reduces cost, has a positive impact on climate change and stimulates innovation across operations that help us in performing better.

Managing resources responsibly

Distillate yield during FY 2012-13 was 91.11% against 91.52% in the previous year; it was higher than the target set in the MOU of 90.65%. The higher distillate yield could be achieved due to strict monitoring and control of fuel and loss and heavy end generation, despite of receiving less NG than the quantity envisaged as a part of the MOU. NG received during the year was 125.7 TMT against 160.6 TMT envisaged while fixing the MOU target for 2012-13.

The refinery fuel and loss during the year was 9.33% with hydrocarbon loss performance at 0.347%. Specific energy consumption (SEC) for the entire year could be contained at 53.19 MBN against the MOU target of 68.0 MBN. The revised methodology for specific energy consumption calculation has been adopted in line with the other

industries after getting the necessary approvals from the Centre for High Technology.

Despite of the lower crude throughput, NRL excelled in the MS production during FY 2012-13. The MS production was 298.8 TMT against the target set in MOU of 240.0 TMT. The higher MS production could be achieved due to utilisation of Methyl tert-butyl ether (MTBE) and imported reformat as a blending component.

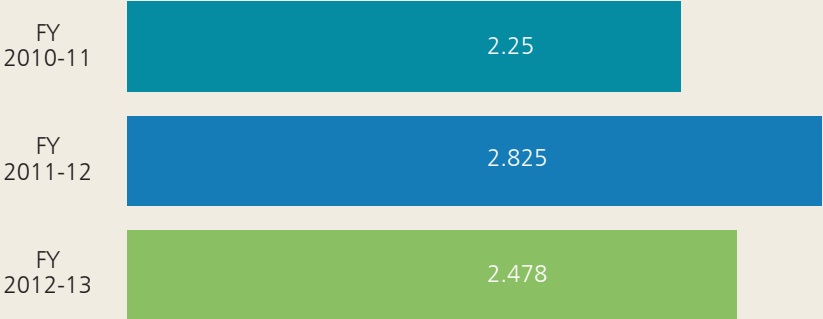
During 2012-13, we consumed 12,502.7 MT of natural gas and 3,160.63 MT of associated chemicals. We reprocessed 2,292.84 MT of slop at our refinery which decreased from

At NRL, we perceive environmental sustainability as:

- Managing resources to optimise overall consumption
- Improving our operational efficiencies to reduce generation of waste, emissions and impacts on biodiversity

Materials consumed	Unit	FY 2012-13	FY 2011-12	FY 2010-11
Crude oil	MMT	2.478	2.825	2.250
MTBE and py gas	MT	49,022.56	20,989.45	26,794.68
HDPE bags	No. of 50 kg bags	1,098,297	1,090,450	1,109,019

Crude oil consumed in MMT



36,838 MT last year. The decrease is attributed to the reduction in slop generation due to the exercise of more controlled operations resulting in lesser waste generation.

Waste Management

We look out for opportunities to reduce waste generation from our operations through operational efficiency and identify opportunities to recycle and reuse the generated waste in a responsible manner. We ensure safe and efficient disposal of hazardous wastes being generated from our operations and abide by all the regulations pertaining to the handling and disposal of hazardous waste.

NRL has taken up number of innovative and environmental-friendly steps towards treatment of hazardous waste.

One such process is cleaning of tank bottom oily sludge is being done by adopting BLABO process which is a closed loop process and by which nearly 100% recovery of hydrocarbon can be achieved. Oily sludge, thus generated, is being disposed off through the bio-remediation process in an environment-friendly and efficient manner. The existing secured landfill facility having 1,200 m3 of capacity, is in operation. Action has also been initiated for installation of another secured landfill facility of 6,000 m3 capacity for safe disposal of residual hazardous wastes with project cost of 2.15 INR crore.

The other non-hazardous wastes are disposed in solid waste management yard. Waste like papers and cartons are incinerated through the incinerator and

other solid wastes are disposed through a secured landfill. The quantity of non-hazardous solid wastes incinerated in the FY 2012-13 was 1,000 m3. Canteen wastes are disposed by the means of its usage in bio gas plant. During the year, there was no disposal of lead acid batteries.

Managing spills

We engage with villagers residing along our pipelines on a regular basis. These engagements are aimed towards building their awareness and knowledge levels on the operational safety of our pipelines running through their village premises. This interaction with them has enabled us to solicit their help in keeping vigilance on the pipelines. This also helps us in remaining updated on any spillage or accident at the pipeline location.

For oil products transported via roadways, several measures have been taken to ensure safe and incident-free delivery. We are taking the necessary steps to ensure safe transportation of the product with zero spillage. Some of these are regular check-ups and maintenance of vehicles to provide training.

During the reporting year 2012-13, we observed no such reportable oil spills as a result of our operations.

Hazardous waste category	Storage of Hazardous waste	Method of treatment/disposal	Quantity disposed in 2012-13	Unit
Tank bottom sludge	Sealed drums	Disposed off through bio-remediation by applying oil-zapper in the bio-remediation site located inside the refinery	480	MT
ETP Sludge	Sealed drums	Disposed off in secured landfill facility inside the refinery	118.9	MT
Spent Catalysts	Sealed drums	Sold to CPCB approved recyclers	47.14	MT

Water management

Water is a limited resource and with the increasing stress on the world’s fresh water resources, conservation of water resources has become a critical issue for a sustainable future.

Most of NRL’s water consumption happens during processes related

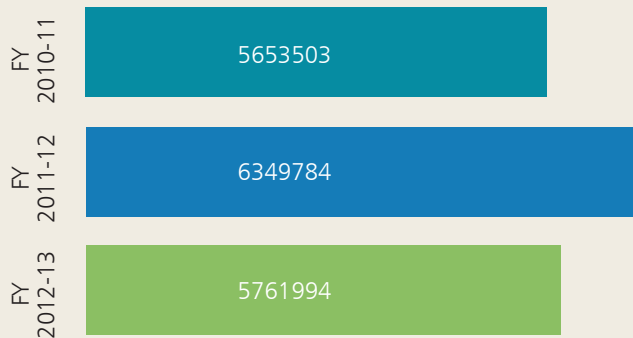
to refining. The water withdrawal is from surface water resources. Our water requirement is met through withdrawing water from nearby Dhansiri River. In 2012-13, the total water withdrawal by the refinery was 57,61994 kL of water.

The water intensive operations in our

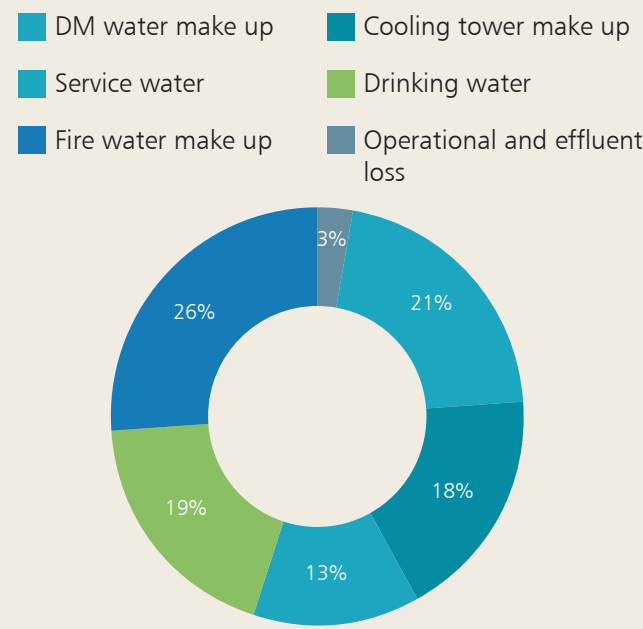
refinery are DM water make up, cooling tower make up, service water, fire water make up and drinking water.

We realise that in order to reduce our fresh water withdrawal, we need to look at innovative ways to recycle and reuse the waste water being generated from our operations. NRL is a zero

Water withdrawal at NRL in kl



Water intensive operations at NRL during 2012-13



wastewater discharge refinery. We continue to maintain 100% reuse of treated effluent since implementation of the reuse scheme in 2006-07. Treated water from the ETP is reused in gardening, fire water makeup, green development activities among others. In 2012-13, we reused 1,037,246 kL of water which accounts to approximately 18% of the total water withdrawal.

Energy management

Energy has a direct impact on the economy and plays a huge role in propelling the growth of the country.

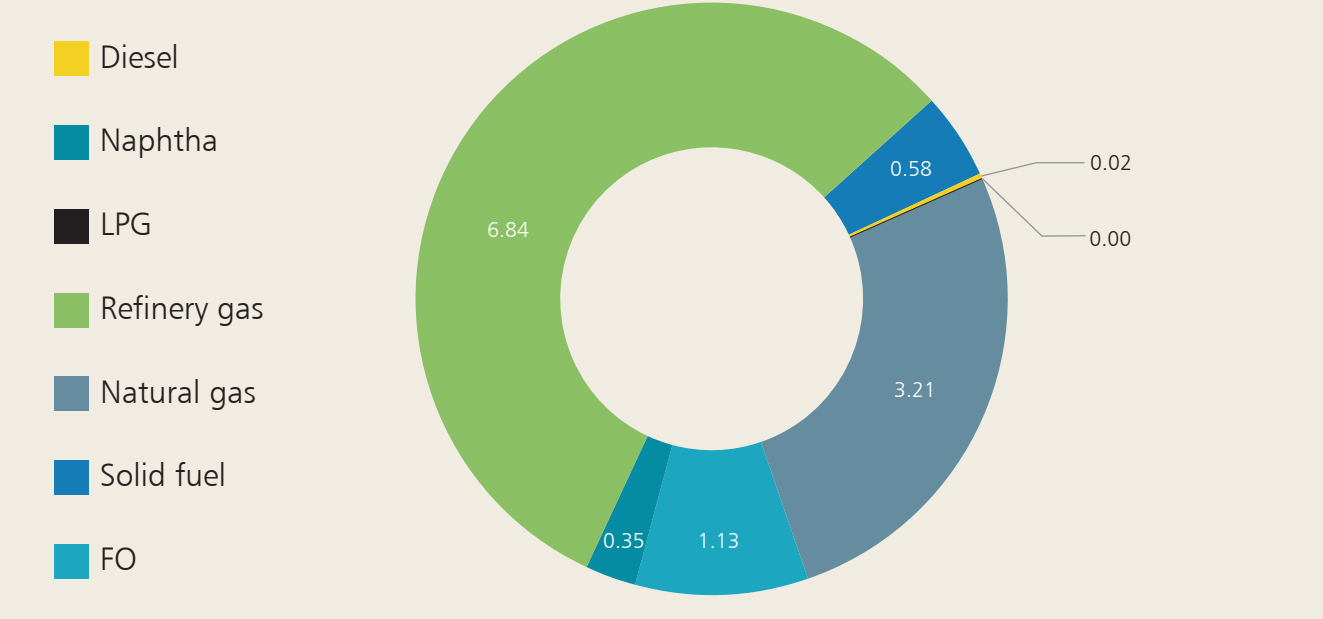
The demand for energy is growing exponentially worldwide and will go on increasing in years to come. This increase in demand provides the oil and gas industry with opportunities for business but at the same time, the growing concerns of climate change can prove risky for the businesses and the society at large. Oil constitutes over 30 % of the total primary energy requirement of India, of which more than 70% is met through imports. Thus for us at NRL, business continuity would require us to carefully track our energy

requirement processes.

We serve in the industry sector of selling energy but we also end up becoming its major consumer. During 2012-13, we consumed 12.14 million GJ from combustion of primary energy sources. Primary energy sources include diesel, LPG, FO, natural gas, naphtha, refinery gas and solid fuels. This year there was no indirect energy consumption as the energy demand for our operations were met by the energy produced through primary energy sources.

During 2012-13, we generated 209.74

Direct energy consumption in million GJ from direct energy sources



million kWh of electricity through the combustion of primary fuels at DG sets, gas turbines (GTs) and 12 MW steam turbine generator.

We give a lot of importance towards

ensuring energy efficiency and conservation. Our constant efforts have been directed towards reducing our energy consumption from primary fuels. During 2012-13, we saved 98,988 units of electricity through replacement

of conventional lamps with energy-efficient lamps. We installed 565 28Watt T-5 lighting fixtures replacing 40Watt tube fittings at various locations in the refinery.

During the year, due to our various energy conservation initiatives and processes, we managed to save 6,018.8 tonnes of fuel (SRFT/year) and thereby achieving reductions in GHG emissions.

Description of the energy savings initiative	Nature of the initiative	Fuel saved in SRFT/year
Modification of HGU steam export line to HCU by providing a shorter length line has been commissioned during the year.	Process modification	186.8
Replacement of EE-01 of HCU with a higher heat duty exchanger has reduced quantity of fired fuel at FF01 done during the year	Process modification	5,832
Total quantity of fuel saved in SRFT/year		6018.8

SRFT stands for Standard Refinery Fuel Tonnes. The same equals an annual saving of 251.58 GJ of energy.

In our years of operation, we have undertaken multiple initiatives in our refinery as measures for reduction in energy consumption adding to our continual benefit:

- Use of natural gas as fuel in GTG and process furnace and as feed and fuel in

HGU.

- Use of waste enriched oxygen stream available from Nitrogen plant in the sulphur recovery unit by replacing the conventional use of process air.

- Use of unique step-less control system in the make-up of the gas

compressor of HCU.

- Use of HTER-p (Heat Transfer Exchange Reformer-parallel) in HGU and thus accommodating enhanced capacity without additional fuel.

- CDU stabiliser off-gas diversion to DCU 2nd stage compressor to recover LPG.
 - Hydrocarbon Vapour loss reduction and reduction in slop oil generation by operational procedure changes in the delayed coker unit during chamber vapour heating and cooling cycle.
 - Telescopic insulation in bare portions
- of the HGU reformer.

 - Use of slop oil for quenching in the DCU
 - Installation of few solar lighting fixtures within the refinery premises.
 - Replacement of incandescent based indication lamps with LED based indication lamps.
 - Installation of the Prognost online
- monitoring system for off-gas and make-up gas compressor of the HCU. There has been an increase in productivity, safety and reduction of unplanned outages and maintenance costs.

 - Bio-gas utilisation in refinery canteen resulting in considerable savings of LPG.
 - Installation of improved insulation over the High Pressure (HP) steam line

Energy conservation measures planned for next few years:

- As a continuation of our energy conservation efforts, NRL has identified the following schemes for implementation:
- Implementation of flare gas recovery system
 - Installation of magnetic resonator in utility boiler of the CPP
 - Replacement of remaining conventional lighting fixtures by energy-efficient fittings
 - Installation of a 100 KWH solar PV panel on the rooftop of administrative building which is expected to meet the entire power requirement of the building
- Recovery of hot well gas of VDU
 - Installation of secondary seal in 19 of crude tanks and feed/product tanks
 - Implementation of energy management system ISO 50001:2011
 - Installation of two auto drain valves in crude and slop tanks for reduction of loss as well as slop generation

to reduce the heat loss.

- Combined heat and power tool from EEIS is in use for optimising the utility (steam and power) consumption.
- Regular LDAR programme being taken up for monitoring of all the valves connected with the flare system for any passing by acoustic leak detector throughout the year and timely detection and rectification of such passing valves has resulted in the saving of substantial amount of process/fuel gas from flaring.
- Fugitive emission survey for detecting and rectifying any minor leak from valve glands, flanges among others

was carried out on a regular basis throughout the year by using gas measuring instruments.

Greenhouse gas emissions

With the growing realisation about the imminence of the threat that climate change presents, business operations are driving transformation towards more sustainable alternatives. GHG emissions from our operations are mainly due to usage and combustion of direct energy sources and transportation of vehicles. During 2012-13, GHG inventory from our refinery operations accounted to 0.603 million tCO₂e. We have accounted our GHG emissions under following heads:

Scope 1 GHG Emissions: Direct GHG emissions
GHG emissions accounting from stationary combustion sources comprised of direct-fired heaters, boilers, flares and other sources, vented sources such as process vents, fugitive sources such as equipment component losses, wastewater treatment, and cooling towers.

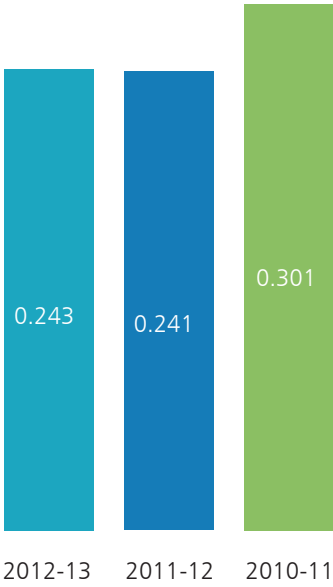
Scope 2 GHG Emissions: Indirect GHG emissions
Indirect GHG emissions from energy imports, or include electricity consumption from power imported from the grid or a third party supplier. Heat and steam imports from a third

GHG Inventory at NRL during FY 2012-13 in million tCO ₂ e		
A	Scope 1 GHG emissions	0.5972
B	Scope 2 GHG emissions	0
C	Scope 3 GHG emissions	0.0073
D	GHG sink	0.00147
GHG inventory (A+B+C-D)		0.603

GHG footprint at NRL ^[1]			
	FY 2012-13	FY 2011-12	FY 2010-11
GHG inventory (Million MT CO ₂ e/Yr)	0.603	0.681	0.677
Actual crude processed (MMT/Yr)	2.478	2.825	2.250
GHG footprint at NRL (MT CO ₂ e/MT crude processed)	0.243	0.241	0.301

^[1] GHG footprint data pertaining to FY 2011-12 and FY 2010-11 have been verified under the certification process of ISO 14064:2006. However, the data for FY 2012-13 is subjected to verification under the certification process of ISO 14064:2006. The data provided for GHG foot printing in NRL's SDR 2011-12 was not verified the certification process of ISO 14064:2006.

GHG footprint at NRL
tco2e/MT crude processed)



party have not been considered.

Scope 3 GHG Emissions: Other Indirect GHG emissions

GHG emissions accounting from crude loading, ballasting, feedstock and product transport, off-site catalyst regeneration, off-site waste disposal or landfill operations.

During 2012-13, GHG emissions from our refinery operations accounted for 0.603 million tCO₂e. We have calculated our GHG emissions as mandated by the WRI GHG protocol and the emission factors have been derived from Inter Governmental Panel on Climate Change (IPCC).

GHG Reduction CDM Projects (case studies)

12 MW STG project:
The objective of the project activity

is to reduce GHG emissions through installation of one 12 MW Steam Turbine Generator (STG) for captive power generation utilising the waste pressure energy across the steam pressure reduction valve as well as the waste thermal/heat energy of surplus

Fugitive emission survey for detecting and rectifying any minor leak from valve glands, flanges among others was carried out on a regular basis throughout the year by using gas measuring instruments.

high pressure (HP) steam generated from various processes in the refinery. The project is registered under the Clean Development Mechanism (CDM) has been under continuous operation since September 2010. The verification for first crediting period from Dec'09 to Dec'10 was successfully completed with issuance of 6741 CER (Certified Emission Reduction) from UNFCCC signifying GHG emission reduction of 6741 tCO₂ equivalent for the said crediting period under this project.

Flare gas recovery project:

NRL is implementing a flare gas recovery project to recover hydrocarbons from the flare system for using as fuel. The project is being pursued for registration as CDM project under UNFCCC, for which the Project Concept Note (PCN) and the Project Design Document (PDD) is under preparation. Around 5600 CER/ annum is estimated to be generated by the project.

Other air emissions

We meticulously and regularly monitor all our air emissions. Through our

online system, we continuously keep a watch at the air emissions through our air quality monitoring stations. We account the loading of air emissions from the 11 stacks in the refinery^[2].

Volume of flared hydrocarbon accounted to 0.000102045 mboe. At NRL, we have installed a sulphur recovery unit to minimise the SO₂ emissions from the refinery.

We are in the process of phasing out Ozone Depleting Substances (ODS) across our operations, and in doing so we are honouring the Gol's milestones set as per Montreal Protocol. This year our refineries consumed a total of 488 kg of R22 gas.

^[2] In last year's SDR for 2011-12, we have reported other air emissions as emissions due to sulphur mass balance. This year we have calculated based on stack emissions from all the 11 stacks in the refinery.

Managing impacts on biodiversity

NRL is committed to the management of ecosystems and biodiversity. With regard to biodiversity hotspots, our operations are in the vicinity

of the Kaziranga National Park and the Deopahar Ranges. In order, to keep a close watch on impacts of our operations on these biodiversity hotspots we carry out regular air quality and water quality studies. We have installed an ambient air quality monitoring system at the Kaziranga National Park. Moreover, we carry out detailed environmental impact assessment studies at these places whenever we come up with a new project^[3]. To avoid any adverse impact of the flare on animals in the Kaziranga National Park, a non-illuminating ground flare has been incorporated, which is one of the first in the country.

^[3] As a part of management approach, NRL will consider the impacts on the flora fauna in the nearby biodiversity hotspots. We will carry out impact assessment studies pertaining to flora and fauna for all the future upcoming projects.

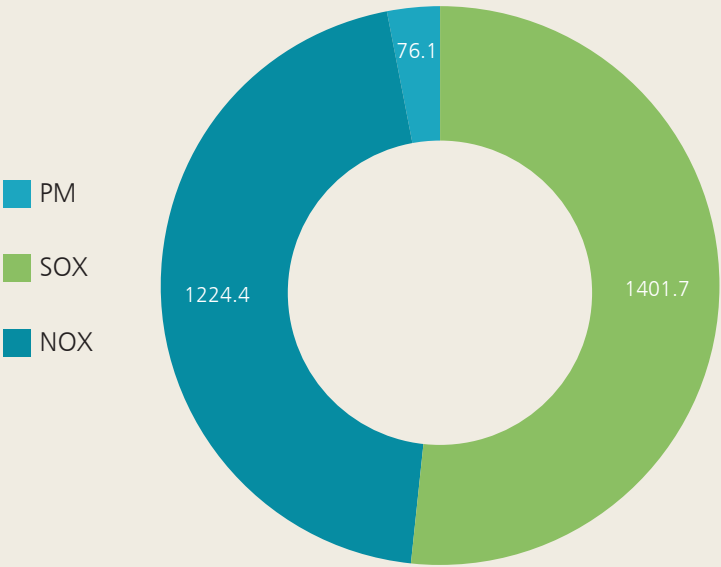
Some initiatives for conservation of biodiversity:

Butterfly park: Keeping environment as its prime concern, NRL envisaged an ambitious experimental project for the first time in the country. This unique plan involved the setting up of a 'Butterfly Ecosystem' in the township area which tries to provide a natural habitat for butterflies to come, stay and breed in their natural way.

Smritibon: A unique herbal garden of rare medicinal plants has been developed in the Township. This garden is aptly called the garden

NRL is implementing a flare gas recovery project to recover hydrocarbons from the flare system for using as fuel

Air emissions from all stacks at NRL during 2012-13 (in MT)



of remembrance, a noble idea of commemorating the memories of beloved ones by planting herbal plants in their names.

Unique ground flare system: To avoid any adverse impact of the flare on animals in the Kaziranga National Park, a non-illuminating ground flare has been incorporated, which is one of the first in the country.

Green belt: The Refinery and its



marketing terminal is surrounded by a green belt covering 60 hectares of

land, which, other than retaining and enhancing the greenery, renders a perfect natural barrier to the industrial noise and minor air pollutants from reaching the immediate surroundings, both human population and the rich flora and fauna.

Initiatives undertaken towards



environment management
Environment-friendly processes and equipment: Selection of efficient procedural technologies and equipment are a part of our special emphasis on environmental conservation and

mitigation measures. Hydrocracking technology was incorporated to produce low-sulphur products. Equipment like low-NOx burners and low-noise rotary equipment are considered during the time of selection of technologies.

Environment-friendly fuels: The refinery produces environment-friendly fuels complying with national and international standards to minimise environmental pollution due to vehicular emissions. As a part of our continuous efforts towards reduction of emissions, NRL also produces ultra-low sulphur High-speed diesel and motor spirit having less than 0.005 % sulphur conforming to the Euro - IV specifications. This contributes in reducing pollution from diesel and petrol vehicles due to the reduction in emission of Sulphur dioxide in the atmosphere.

Sulphur recovery plant: Despite of processing low-sulphur



Assam Crude a sulphur recovery unit was incorporated and capacity of which has been enhanced from 14.7 TPD to 19.3TPD during diesel

quality upgradation project to treat the additional sulphur from ultra-low sulphur fuel yield.

Effluent treatment plant with latest technology:
A centralised modern effluent treatment plant having tertiary treatment facilities has been installed. Also, the ETP includes a three-stage oil recovery system from the wastewater and high-efficiency centrifuge for recovering oil from the oily sludge. To avoid hazardous solid waste generation, more environment-friendly hydrogen peroxide treatment process has been introduced. As a measure of conservation of water, zero discharge of the treated effluents in our effluent treatment plant inside the refinery has been achieved since October 2006.
Further, zero discharge of the effluents



from the sewage treatment plant has been achieved since April 2007 has been sustained till date. The treated effluent from township is diverted to our ETP inside the Refinery by implementing suitable modifications in the disposal line in ETP, where the treated water from township STP is being received in the aeration tanks. The outlet at Numaligarh jetty in river Dhansiri has been blinded and the discharge of township treated water disposal pump will come to ETP aeration tank through the disposal line. So, no treated water will flow from either refinery or township to river Dhansiri.

Promoting environmental awareness – World Environment Day celebrations
World Environment Day is a powerful medium through which NRL fosters worldwide awareness on preservation and protection of the environment. Every year, as a run up to the celebration of the day, a week long



programme involving numerous activities in consonance with the objective of raising awareness on environment conservation and related issues is organised.
During the year, we reached out to the local schools in the vicinity to promote awareness on the Environment. Youth are the future and hence we chose school students and provided awareness on environmental issues through audio visual media.



We organised an essay competition, drawing competition and extempore competitions among others. The theme was on environmental awareness. We also distributed tree saplings to school students and local villagers. Prizes were distributed for each competition. Personnel from NRL delivered their knowledge thoughts and shared ideas on raising environmental awareness among school students.





OUR SOCIAL
PERFORMANCE

RESPONSIBLE EMPLOYMENT PRACTICES

Our people are at the core of NRL’s growth and it is because of their efforts and dedication, we have achieved success over the years. Nurturing talent and developing proficiency of our people at every stage of their career is at the heart of NRL’s approach towards managing human capital. Our focus remains on creating a conducive workplace environment which fosters excellence, innovation and quality. All our human resource programmes are designed with the basic aim of keeping

NRL is an equal opportunity employer and its policies are aimed towards ensuring equal opportunities being provided to all citizens with no discrimination whatsoever.

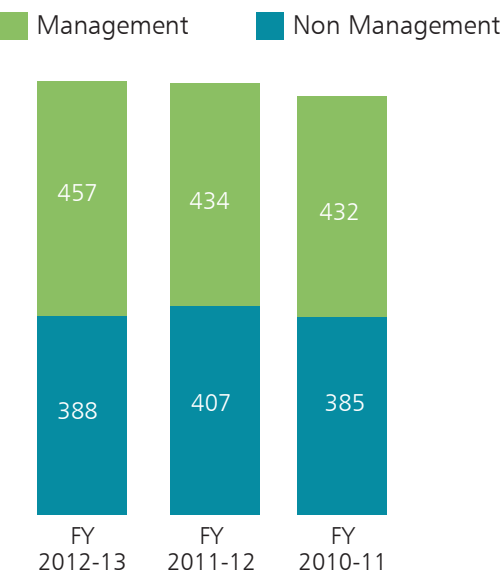
our employees satisfied and motivated.

Employment profile

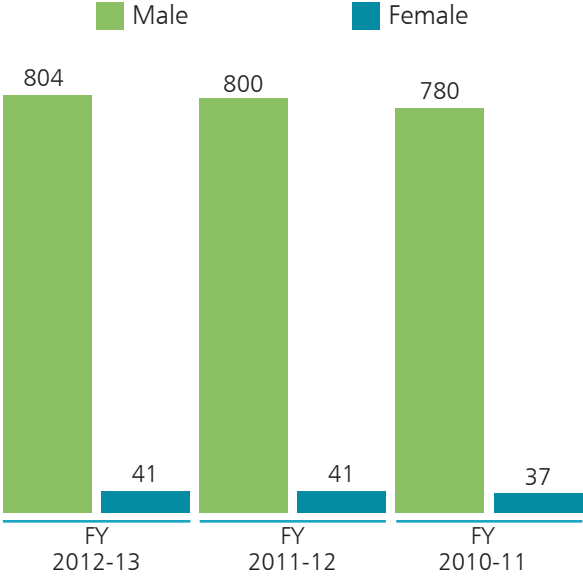
We are aware of our potential of empowering people by providing employment opportunities to the people from various segments of the society. Our employee strength, in 2012-13, stood at 845 employees out of which 41 were women. We also employ contractual labour for various operations. This is done through tendering process as per the government’s rules and regulations. The

Designation	2012-13			2011-12			2010-11		
	Number of Employees	Male	Female	Number of Employees	Male	Female	Number of Employees	Male	Female
Management	388	356	32	407	375	32	385	355	30
Non management	457	448	9	434	425	9	432	425	7
Total employees	845	804	41	841	800	41	817	780	37

Employment Workforce



Employment Diversity



Workforce categorised by age group

Age group	Number of employees	2012-13	
		Male	Female
<30	98	86	12
30-50	674	648	26
>50	60	55	3

Employee turnover by age group

Age Group	Employees turnover	2012-13	
		Male	Female
<30	0	-	-
30-50	8	7	1
>50	1	1	-

contracts are awarded for number of hours required for a particular activity. We employed 111,600 man-hours of contractual labour in the last financial year (Male: 932 and Female: 50). Our hiring of new employees corroborates with our vision of expansion and growth opportunities. In the reporting period we recruited 20 male and one female employee. Also nine employees, including one female employee, left our organisation in 2012-13. A total of six women employees were awarded maternity leave and all of them returned to work following their maternity leaves. Out of the total employees, 13 male employees are also part of the governing bodies at NRL.

Benefits to employees

NRL extends several benefits to its permanent employees in the form of policies and schemes. The benefits provided to our employees include, but are not limited to, gratuity schemes, provident fund schemes, medical insurance coverage, and support for employee higher education, scholarships for employee’s children, and housing and vehicle loans at lower

interest rates. This year we spent a total of 129.92 INR crore towards employee wages and benefits. The contractual workers of NRL are covered under the Employee’s State Insurance (ESI) scheme of the Government of India.

Our average salary per employee is significantly higher than the minimum wage requirement mandated by the Government of India.

Gratuity: The Company has a defined benefit gratuity plan managed by a trust. The contribution based upon actuarial valuation is paid to the trust which is invested with Life Insurance Corporation of India (LIC). Gratuity is paid to a staff member who has put in a minimum qualifying period of five years of continuous service on superannuation, resignation, termination or to his nominee on death.

Leave encashment: The employees are entitled to accumulate earned leave and sick leave, which can be availed during the service period. Employees are also allowed to encash the accumulated earned leave during the service period. Further, the accumulated earned leave and sick leave can be encashed by

the employees on superannuation, resignation, and termination or by nominee on death.

Pension: The Company has a defined contribution pension plan managed by a trust. The contribution is the differential figure of 30% of basic + DA minus PF + gratuity + post retirement medical scheme and paid to the trust which is invested with LIC. Pension is paid to the Staff member who has put

We employed 111,600 man-hours of contractual labour in the last financial year (Male: 932 and Female: 50). Our hiring of new employees corroborates with our vision of expansion and growth opportunities. In the reporting period we recruited 20 male and one female employee

in a minimum qualifying period of 15 years of service on superannuation.

Other defined benefits: These are non-funded defined benefit obligations -

- Post-retirement medical scheme benefit to employees, spouse, dependent children and dependent parents
- Long Service Award
- Resettlement allowance paid to employees to permanently settle down at a place other than the location of last posting at the time of retirement

We have two workers unions namely- Numaligarh Refinery Employees Union (NREU) and Petroleum Refinery Union Numaligarh (PRUN). All the workers are members of these two unions. We also have one officers’ association named Numaligarh Refinery Ltd. Officers Association (NRLOA) and 50% of our management employees are members of this association. NRL adheres to Industrial Disputes Act, 1947 for providing any notice prior to the implementation of significant

operational changes and in case of disputes cases are referred to Central Government Labour ministry. Any notice of change is served under Section 9 A of ID Act, 1947 where notice period is 21 days.

For detailed information on the benefits provided by NRL, we request our stakeholders to kindly refer our Annual Report available on <http://www.nrl.co.in>.

Investing in development of our people

Professional and personal development of our people is of utmost importance to us. We conduct regular training programmes for our employees at all levels to meet our skills development requirements. These training programs have proven to be of significant value in enhancing overall performance standards of the organisation. We also proactively engage with our employees through various platforms to get their feedbacks and understand the need for any particular coaching requirement. We strive to equip individuals to achieve their goals and facilitating their success.

NRL provides training on various technical and behavioural issues for the overall development of our workforce. We provided 16.54 average man-hours of training per employee in the reporting period to our permanent employees; this includes 21.27 average man-hours of training per women employee.

Creating awareness about safety amongst all our stakeholders including employees, contractors and their workers, security staff, drivers and community members living near to our refinery has been a major challenge for us. We adopt various modes of training and demonstration based on the target training group. We trained around 7,120 contract workmen in 2012-13 in addition to 937 man-days of training for NRL employees, POL drivers and CISF security staff.

Regular on-the-job training including trainings on safety are provided to the contractual labours. NRL also invests in external trainings for permanent



employees. We also encourage and support our employees to undertake professional trainings for enhancing their internal employability.

During 2012-13, all of our permanent employees underwent the performance appraisal process for career development.

HUMAN RIGHTS AND THEIR DISCRIMINATION

Everyone associated with NRL are required to respect the human rights of others. We forbid any discrimination based on race, gender, religion, physical capability, age or other reason. We have systems in place to prevent any act that could be interpreted as discriminatory. We have robust management systems across our value chain to uphold human rights of the people and ensure that our business is ethically conducted.

We have mechanisms in place to help employees register their grievances and also addressing them in a transparent manner. We have a formal ‘whistleblower policy which is duly approved by the Board of Directors. Anybody can register their grievances using this policy and be assured of due corrective action in a justifiable manner. The Company also follows directive of the GOI regarding prevention of sexual harassment of women employees at workplace. Our commitment is



underlined by the fact that there has been no incident of discrimination reported in the last financial year.

We encourage diversity in our workforce in order to promote the creation of a work environment which allows our employees to achieve their full potential and encourage them towards achieving

ambitious goals. Being a public sector enterprise, NRL refers to GOI guidelines for maintaining adequate number of women, employees from minority groups as well as physically handicapped employees. There is no difference in the basic salary and remuneration of women and men employed with our organisation.

All our operations are in accordance to the laws laid down by the constitution of India, pertaining to human rights and fundamental rights of the individual. All contract labour grievances pertaining to issues of human rights, employee rights and ethics are attended through bilateral discussions between the management and the unions representing contract workers. All the vendors and contractors who do business with us have to sign an agreement which has a clause on “compliance of regulations” which requires adherence to labour laws.

Respecting the internationally proclaimed human rights

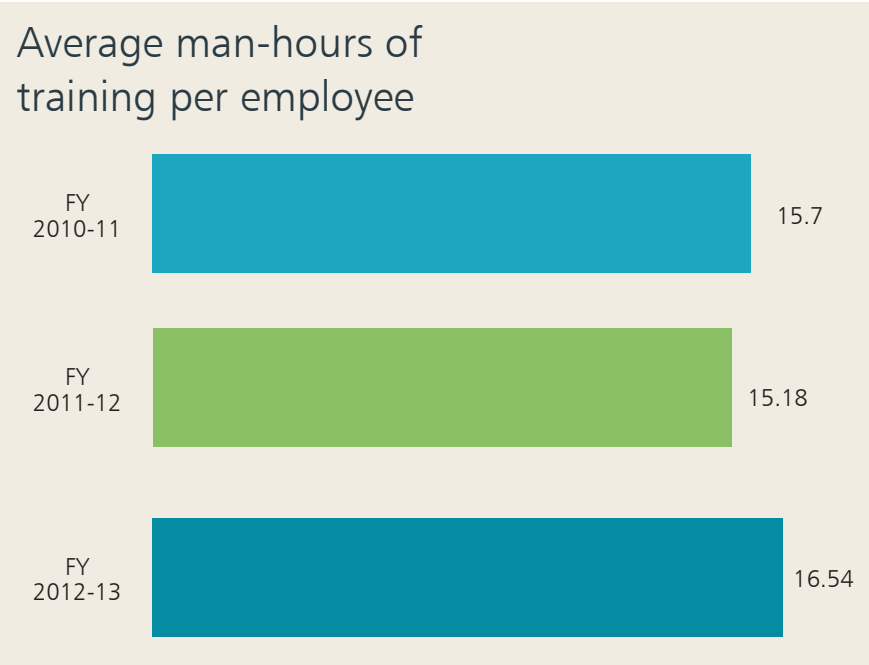
NRL supports and respects the fact that internationally-proclaimed human rights are never violated during the course of business operations. We emphasise to ensure safe working conditions for our employees and contractors and believe in investing in state-of-the-art technologies that improve safety. Regular maintenance of equipment is carried out to ensure safety of our workforce and the surrounding communities. We conduct regular training programmes for our workforce to inculcate in them safe work practices.

Freedom of association

NRL has formulated policies and practices that allow employees to exercise the freedom of collective bargaining on issues of common

interest. All the issues raised by our trade union are resolved through bilateral discussions and long-term

Integrity pact with Transparency International India (TII)
NRL further reinforced its commitment towards ethics and fair practice by signing an MoU with Transparency International India (TII) to implement an ‘Integrity pact’ with its business partners viz. suppliers and contractors of goods and services. This further strengthens and formalises our existing practices of fair and transparent dealings between the Company and its suppliers, contractors and customers. NRL is deeply committed towards fostering a corruption free business environment in all its dealings. This ‘Integrity pact’ will boost our pursuit of adopting the best corporate government practices.



settlements for salaries, wages, perks and settlements for career progression of employees.

Forced and compulsory labour

NRL does not support forced or compulsory labour of any form and adheres stringently to all labour laws of the country. Proper systems and procedures have been put in place to ensure payment of minimum wages and other benefits are provided under various laws to the contractual labour.

During the reporting year, no incident of forced or compulsory labour has come to light.

Child labour

NRL promotes abolition of child labour and adhere to the Government of India law on child labour (Prohibition and Regulation) Act 1986. NRL ensures that all workers (permanent and contractual) attains the minimum age of 18 years for serving NRL.

To ensure the above, we check relevant certificates of those working at our plant locations. Additionally, our security personnel have also been

instructed that no person under the age of 18 should be allowed inside the plant for any employment-related purpose.

Eliminating discrimination at the time of employment

NRL is an equal opportunity employer and its policies are aimed towards ensuring equal opportunities being provided to all citizens with no discrimination whatsoever. We follow Presidential Directives and Government of India legislations to ensure our recruitment policies accommodate

Regular maintenance of equipment is carried out to ensure safety of our workforce and the surrounding communities. We conduct regular training programmes for our workforce to inculcate in them safe work practices

scheduled castes/ scheduled tribes/other backward classes and the physically handicapped employees.

During 2012-13, there were no incidents of aforementioned discrimination.

HEALTHY AND SAFE WORKPLACE

NRL is committed to maintaining a safe working environment. Promoting employee’s health and safety is a top priority for us. Identifying potential issues or dangers by working proactively helps us in developing processes to address them and preventing accidents and thereby creating an accident free work environment. We strive for continual improvement in our HSE performance through dedicated efforts. During the year, there was no loss time accident (LTA). As on 31st march 2013, the refinery achieved 4,061 days of LTA free operation which is equivalent to 20.355 million LTA free man-hours since 18.02.2002 and stands as testimony to our relentless endeavour towards safe operations. There was one

- A Tier I process safety event is defined by API RP 754 as an unplanned or uncontrolled LOPC release of any material, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen or compressed air) from a process that results in one or more of the following consequences:
 1. An employee, contractor or sub-contractor ‘days away from work’ injury and/or fatality.
 2. Hospital admission and/or fatality of a third party.
 3. Community evacuation or community shelter-in place (officially declared by a local authority).
 4. Fires or explosions resulting in greater than or equal to US\$25,000 of direct cost to the Company.
 5. A pressure relief device (PRD) discharge results in one or more of four consequences—liquid carryover; discharge to an unsafe location; on-site shelter-in-place; or a public protective measure—and is in excess of the Tier I threshold quantities detailed in API RP 754.
 6. A release of material greater than the Tier I threshold quantities in API RP 754, in any one hour period.
- A Tier II process safety event is broadly defined as an order of magnitude less severe than the Tier II criteria above.

Health, safety and environment policy

Commitment

Together, we have the highest concern and commitment for protecting the health and safety of all our employees, contractors, customers and the communities in which we operate and for conservation of the environment.

We continue to comply with all statutory regulations and may even go beyond these for the benefit of our environment.

We consider health, safety and environmental aspects are an integral part of our business strategy as well as operation processes.

Policy

Based on these guiding principles, we shall:

Demonstrate our commitment by

- Providing and maintaining safe facilities and working conditions.
- Recognising that all employees have responsibility for their own

safety and actions which could affect the safety of others.

- Adoption of appropriate technologies to minimise the impact of our activities on the environment.

Establish clear objectives and targets to

- Improve continuously for prevention of accidents and occupational illnesses and minimising any impact of our activities on the environment.
- Promote learning through training and sharing of experiences and implementing industry best practices; including with contractors, customers and the public, wherever required.
- Including values and attitudes conducive to achieve excellence in health, safety and environmental performance.

Provide means to achieve our mission by

- Assigning clear roles and responsibilities at all levels and periodically reviewing and recognising contribution to HSE objectives.
- Allocating adequate resources.
- Fostering a spirit of participation by all employees in health, safety and environmental conservation efforts.
- Creating appropriate forums for deliberations on health, safety and environmental issues.

Monitor performance by....

- Periodically auditing work processes, systems and practices and promptly correcting deficiencies.
- Incorporating HSE performance as a parameter for assessing the overall performance of employees, business units, contractors and business associates.

Tier I and 10 Tier II process safety events (as per API RP 754 definitions) reported during 2012-13.

The safety management system of NRL is adopted as per:

- HSE policy
- OHSAS 18001:2007
- International Safety Rating System (ISRS) protocol
- OISD guidelines, recommended

practices and standards

We emphasise on top-down approach in creating a culture of safety across all our operations. The senior management is expected to encourage and lead from the front during the implementation on any safety-related processes. The status of various safety points implementation is reviewed at the directorial level every quarter. Our Managing Director takes stock of our safety performance during the monthly functional co-ordination

meetings. We conduct regular safety audits in accordance with OISD guidelines and status of OISD-related points are sent to OISD every three months. We provide incentives and various categories of awards to promote a safer work environment.

Some of the key initiatives that we have undertaken to improve our safety management system are as follows:

- On-site safety training for employees

- Safety evaluation by contractors for turnaround jobs
- Survey of fire-fighting and safety equipments
- Internal safety audit by members from Group Companies
- Hazard communication
- Contractors penalty clause
- Monthly awareness programmes
- Loss control tours

Health and safety committee

NRL has set up an Apex loss Control Committee having 36 members from the management staff and representatives from the non-managerial staff. This is the highest level safety committee chaired by the Technical Director. This committee is responsible for promoting OH&S initiatives at the workplace and implement industry best practices for a safer workplace. Apex Loss Control Committee meets every quarter to discuss on OH&S issues at different workplaces in the refinery.

NRL has also constituted five area safety committees for identification of

all potential hazard or abnormalities involving personal, equipment, material and environment and accordingly take necessary action. These committees have been formed in line with the requirements of Assam Factory Rule 1950. The five area safety committees comprise of 42 management staffs and equal numbers of non-managerial staff as members. The area safety committee meets every quarter to discuss issues related workplace health and safety.

Accident and incident investigation

NRL has a well-defined system for reporting, investigating and analysing all accidents and incidents so as to reduce losses through proactive measures.

1. All types of incidents and accidents are recorded and reported to five area safety committees within 24 hours of occurrence by the concerned area supervisor or sectional head where the incident took place.
2. Based on the risk evaluation (i.e. estimation of potential severity and probable frequency of occurrence), a multidisciplinary investigation team is formed which may be any one of Tier-I, Tier-II or Tier-III.
3. The team leader of the investigation committee submits the recommendations of the report within prescribe time to the concerned authority for review and approval.
4. Fire and safety conduct the follow up of compliance of the approved recommendations and the compliance status is reviewed by higher management in apex loss control meeting.
5. The analyses of all the incidents are carried out quarterly and yearly

for cause, control and consequence measurement. The apex safety committee reviews the critical problems identified by analysis and recommend remedial actions.

Fire-fighting facilities at the refinery

We have a modern and well-equipped fire station located near the main gate of refinery which is also away from the operating units. The fire station has the following facilities:

- Control room equipped with sophisticated communication system;
- Bays for housing foam tender, DCP tender and other fighting appliances like trailer pump, mobile water-cum-foam monitor, mobile foam unit among others;
- One gully sucker to recover spilled oil from drainage system;
- Stores for keeping fire fighting and safety items separately;
- A well-equipped disaster control room;
- Office for fire and safety officers;
- Workshop facilities for maintenance of fire-fighting items;
- Over-head foam storage tank having a capacity of 60 KL;
- Fire training ground located near flare area;

Occupational health department

There is a dedicated occupational health department (OHD) established with the objective of providing comprehensive healthcare services of preventive, curative and rehabilitative type to all our current and retired employees. The following activities are within the scope of OHD:

- Pre-employment medical examination
- Periodic health check-up
- First-aid services and medical attention
- Maintenance of infrastructure for occupational health monitoring

The prime responsibilities for implementation and maintenance of the above system lie with the occupational physicians having completed their P.G. certificate courses on AFIH from CLI Mumbai. Our employees undergo periodic health check-up examination at regular intervals after initial pre-employment examination. Apart from the regular employees of NRL, the OHD also conducts periodic health check-up for contractual workers (maintenance worker, food handlers, crane operators, riggers those who

are engaged for operation of heavy earth moving vehicles including their eye examination), security personnel, drivers, material handlers among others. The data from periodic health check-ups are analysed and a medical record of every individual is maintained. If any deviation from the prescribed norms is observed during these periodical health check-ups then the individual is informed as per our existing system and is advised to attend the



OHD for remedial measures. 471 permanent employees and 158 contract workers have undergone such check-up in 2012-13. There were no occupational diseases detected during the reporting period. OHD also organises awareness camps on health issues in the nearby villages. We also have Vivekananda Kendra- NRL Hospital (VK-NRL) which is a sixty bedded general hospital with round the clock emergency services for employees as well as community members. The hospital also conducts regular medical camps offering free medicines to nearby villagers and health check-up of school children. A total of 283 free medical camps were conducted during 2012-13. The frequency for periodic health examination is decided as per the below criteria

Sl. No.	Area	Frequency
1	Highly hazardous(like RPC & CPC handlers at CCU site)	Quarterly (only target organ)
2	Hazardous	Half-yearly
3	Less hazardous	Annually
4	Non-hazardous	Once in a year for employees of age 50 years and above. Once in two years for employees of age group 40 –50 years. Once in three years for employees’ age group 40 – 30 years.

The status of periodic health check-up examination for the year 2010-2011, 2011-12 & 2012-13 are given below.

NRL Employees

Year	Targeted	Achieved	Percentage
2010-2011	585	425	72.64%
2011-2012	591	434	73.43%
2012-2013	532	471	88.53%

Contractual Workers

Year	Targeted	Achieved	Percentage
2010-2011	236	186	78.81%
2011-2012	276	237	85.86%
2012-2013	212	158	74.52%

Till date, there has been no occupational health diseases detected.

We emphasise on top-down approach in creating a culture of safety across all our operations. The senior management is expected to encourage and lead from the front during the implementation on any safety-related processes

The hospital also conducts regular medical camps offering free medicines to nearby villagers and health check-up of school children. A total of 283 free medical camps were conducted during 2012-13

Spreading awareness on health and safety

To bring awareness among the nearby public, NRL regularly conducts Safety awareness programme. Total eight such programmes were conducted in 2012-13.

The ‘Road Safety Week’ held in the first week of January, ‘National Safety Week’ in March and the ‘Fire Service Fortnight’ in April are observed every year in NRL with involvement of NRL employees, CISF, security staff, contractors and their workers, nearby public and school students. Civil defence and GVK EMRI personnel were also engaged for training security staff and CISF apart from the nearby public time to time.

In addition to the above, NRL conducts periodic mock-drills on minor fires, major fires, on-site disasters and off-site disasters. During 2012-13, NRL conducted 13 minor fire mock drills, 4 major fire mock drills, 3 on-site disaster mock drills and 1 off-site mock drill on 23rd February 2013 with involvement of the District Authority, representative from the Disaster Management Institute, Bhopal, local public and media apart from NRL employees.



Many awards and incentive schemes have been introduced in NRL to promote safety. Every month one safety theme is selected and discussed among the workers so that awareness on that subject can be enhanced at all levels. A monthly award is also given to the workers who have found adhering stringently to the safety norms. A total of 13 inside awareness programmes were conducted during 2012-13.

To assess the safety awareness levels amongst employees, security staff, POL drivers, contractual workers, a ‘Safety Awareness Survey’ was conducted by the National Safety Council, Mumbai at the NRL premises, from 24th July



2012 to 27th July 2012. The survey fetched very good results confirming a substantial level of awareness amongst the employees, security staffs, POL drivers and contractual workers.

OISD external safety audit was successfully conducted in January 2013. The internal safety audit in 2012 was conducted with the help of external auditors from the BPCL Group companies.

PRODUCT RESPONSIBILITY

Customers are one of our key stakeholders. Our endeavour is to meet and exceed the expectations of our customers in terms of quality, safety and environmental performance. Ensuring product quality and safety is an integral part of our business operation and we adhere to all applicable regulations pertaining to product manufacturing, product labelling and transportation. We monitor and mitigate impacts and risks associated with the use of our products throughout their life cycle. We

periodically monitor legal and regulatory changes having potential impacts on our operation and products. NRL looks forward towards developing high standards in refining and marketing of our products with a focus on achieving international standard, wealth creation to meet stakeholders’ expectations and contribute towards development of the region. We aim to work with customers to reduce emissions and promote safe use and disposal of our products. We are critical of ensuring that our products comply with all the statutory regulations throughout the product life cycle. All our products come with relevant safety guidelines regarding their usage. Also we ensure our product labels display accurate and clear information and are in strict compliance with relevant national and international specifications.

Informing our customers about products’ health and safety

We provide our customers with all the required information to handle our products safely. This information is communicated through our specification sheets, service labels, display labels and brochures. The required information is provided as per the procedures regarding the type of product. All our marketing

communications are according to the laws, standards and codes. Laws, standards and voluntary codes related to marketing communications are strictly adhered to and there are no violations. The Corporation does not sell any banned products in any of the markets.

During the year, there was no fine or penalty imposed on us for non-compliance with laws and legislations.

Technology adaptation and innovation

We are constantly challenging ourselves to improve our operational efficiency with the help of technology. We take a keen interest in the research and development happening around the globe in our domain in order to stay ahead and play a leading role.

We are currently in the process of commissioning a Naphtha Splitter Unit (NSU) which will supply 160 TMTA petrochemical grade naphtha to the Brahmaputra Cracker & Polymer Limited (BCPL). Subsequent to NSU commissioning, naphtha produced after supplying to BCPL shall be planned for value-addition. Currently studies are being undertaken to develop a value-added project focused on producing motor spirit (MS) using this surplus naphtha which will conform to Euro-IV

specifications. Once implemented, this project will significantly increase MS production levels. The study considers 100% natural gas utilisation in hydrogen and power plant.

NRL is exploring technology in order to produce high speed diesel (HSD) conforming to Euro-IV specifications along with limited quantity of Euro V HSD at 100% refinery throughput. This will help NRL to produce better quality fuel in line with the requirements of the Auto Fuel Policy of India and cater to the rising demand of high-quality environment-friendly fuel. We are also in the process of implementing an advanced SO2 recovery system with an objective of increasing the sulphur recovery efficiency of the existing sulphur recovery unit from 97% to 99.9%. The process objective of Flue Gas Treating Unit (FGTU) is to absorb SO2 present in flue gas stream from the exit of incinerator by using specialised amine. The process has already been developed in the bench scale and now is being implemented at NRL as commercial demonstration unit. NRL has recently implemented Process Industry Modeling System (PIMs) which is being utilised to optimise the production and blending operation for an optimum product mix of the refinery.

Online monitoring and diagnostic tool installed in the hydrocracker unit

NRL, in its quest of adopting the latest in technological know-how, installed an online monitoring and diagnostic system for reliability enhancement of make-up gas compressors and off-gas compressors of the hydrocracker unit of the refinery. Condition monitoring and diagnostic tool is an add-on facility that improves compressor reliability, adds to its value which is very important in the contemporary market scenario. NRL became the first public sector refinery in the country to adopt this latest global technology. This technology will be of great assistance in increasing productivity and safety of our operations. This will also bring down unplanned outages and the long-term maintenance of cost of the compressors which are the main equipment in a refinery. At the same time, number of costly turn-around jobs can be avoided since the condition of the critical compressor components will be known well in advance. Consequently it will cut down the likelihood of catastrophic failures of this critical equipment. It would also mean multiple benefits in terms of reduced maintenance cost of compressor leading to reduced working expenditure because of less spare part inventory.

Research & Development policy

NRL believes that, innovation through a sustained process of research and development is the only cutting-edge tool for an organisation to thrive in today’s dynamic business environment. Accordingly, we are committed to attain sustained excellence by encouraging creative work undertaken in a systematic manner in order to create knowledge infrastructure and its use to devise new applications that maximises the economic, environmental and societal benefits for the stakeholders including people of the region.

In pursuance of the above vision, NRL shall:

- Ensure identification of the process that brings in commercial benefits to the organisation or/and bring about better management of environmental issues so that implementation of such process brings about benefit to all stakeholders including people of the region.
- Set up of own facilities to undertake research and development activities, outsourcing wherever need arises, to improve future performances and returns.
- Indentify a group of employees to spearhead the R&D activities and ensure the required competency is developed for the process by accomplishing objectives.
- NRL would gradually build its capacity through sustained allocation of resources.
- Ensure preservation of intellectual properties and efficient performance of relevant processes,
- Review of the policy periodically for continual improvement of the effectiveness of R&D activities.

Research and development

We undertake target-oriented R&D efforts aimed at maximising procedural efficiency and developing best in class products in terms of quality, safety and environmental performance. Some of the R&D projects that we carried out in the reporting period in line with the Department of Public Enterprise (DPE) guidelines on R&D are as follows:

- Installation of demonstration unit of Flue Gas Treating Unit (FGTU) to increase the efficiency of sulphur recovery unit
- Conducted simulation studies on blend components for MS production
- Developed the refinery model in PIMS (Process Industry Modelling System) to carry out simulation run for process units.

NRL achieved completion target for all the above R&D projects as per MoU excellent target levels. We incurred

₹10.3 million on R&D activities during 2012-13 as against targeted ₹9.2 million in line with DPE guidelines.

Engaging with regulators

NRL is a PSU company and maintain regular communication with the appropriate governmental bodies. Our primary oversight agency is the Ministry of Petroleum & Natural Gas. We consult with the government while taking strategic decisions like joint ventures, expansions among others.

The senior management of the Company is invited to participate in certain policy-making decisions, as the organisation does not have any policy on lobbying. The organisation does not contribute either monetarily or in kind to political parties, politicians or related institutions.

During 2012-13, there were no instances reported of non-compliance with the established laws and regulations.

STRENGTHENING RELATIONS WITH THE COMMUNITIES

It has been our constant endeavour to create long-lasting values for our neighbouring communities and achieve development in its true sense. We sincerely believe that our long-term

We are critical of ensuring that our products comply with all the statutory regulations throughout the product life cycle. All our products come with relevant safety guidelines regarding their usage

sustainable growth lies in the growth of society. We seek well-being for all the sections of society and hope that our actions are in sync with the needs of society. While we continue to focus on improving our economic and environmental performance, we are also genuinely committed to make a meaningful difference to the society in general and that of the local community in particular.

VISION

“NRL’s CSR vision is to be a responsible corporate citizen deeply committed to enhance value creation in the society and the community in which it operates, through its services, conduct and initiatives and also committed to attain sustained excellence in environmental management and also provide a fillip to the socio-economic development in its area of operation”

The objective of the NRL CSR policy is:

- To generate community goodwill, create positive social impact and visibility thus creating a positive image of the Company in the public perception
- To provide a basis of for the decision-making and execution of CSR initiatives
- To ensure gender sensitivity, skill enhancement, entrepreneurial skill development and employment generation by co-creating value with local institutions and people
- To directly or indirectly take up programmes to bring about tangible socio-economic development in a radius

of 10 kms of our ground operating areas.

We have a dedicated cross-functional committee (Community Development Steering Committee) to oversee all our CSR initiatives. The committee meets at least once a month and engages with local community to prepare an action plan for the implementation of various projects. The focus is always to ensure that the benefits reach the smallest units i.e. the village-level. The projects are identified, based on a base line assessment which is performed by an independent third party. With the help of this process and in consultation with district administration, local public bodies, recognised voluntary organisations and village development committee various socio-economic development projects are identified.

The functions of (CDSC) are as follows:

- CSR in-charge places all the proposals for discussion in the CDSC meetings which takes place twice a month. The CDSC is the co-ordinating agency for all development activities to be taken up by the committee;
- The group leader acts as the chairman and in-charge of CSR is the convenor of the steering committee and act as the nodal officer of the committee;
- The group leader distributes the areas of activities to individual members of the committee and members carry out their responsibilities in their assigned areas and are designated as area-coordinators;
- All applications, schemes or requests for development activities under CSR are examined by the steering committee;

and

- After discussion and clearance from the steering committee, respective area coordinators prepare the proposals with all relevant details and submit centrally to the convenor of the steering committee.

The CSR programmes are regularly monitored at the top-level. The head of the CSR department assesses the community development plan on regular basis and the managing director reviews the progress on a quarterly basis. Independent external agencies are hired to evaluate the effectiveness of our existing programmes. They basically assess whether the social issues that the initiatives are supporting are being fulfilled. The evaluation report determines about the continuation, termination or course correction of the CSR projects. Based on their feedback and inputs, action plans are formulated to improve those programmes further. Environmental and social impact assessments are important starting points before commencing any new operation. We mandatorily carry out these assessments in accordance with the national guidelines and based on these studies we develop mitigation measures to proactively avoid any future negative impacts.

Our CSR activities are aligned with the XIIth Five Year Plan (2012-17) and the Millennium Development Goals of Government of India. The details of various CSR projects undertaken by NRL are communicated to Tata Institute of Social Sciences which is a national repository. The CSR projects which involve considerable financial commitment and are undertaken on

We mandatorily carry out these assessments in accordance with the national guidelines and based on these studies we develop mitigation measures to proactively avoid any future negative impacts

a timeframe of more than a year are considered as a ‘flagship programme’ and accorded enhanced significance.

NRL takes proactive steps in identifying developmental projects in areas where we operate. We give priority to schemes where indirect employment and entrepreneurship opportunities are created for the underprivileged. We have identified five focus areas in which we carry out our CSR initiatives:

- Agri allied / income generation activities
- Assistance to educational institutions
- Infrastructural development
- Community health
- Promotion of arts, sports, literature and culture

Agri allied/income generation activities

The majority of the rural population of India are dependent on agriculture and allied activities for livelihood. It has a direct impact on poverty alleviation, containing inflation, rural incomes and employment generations. Given the scope it presents for bringing about positive difference in terms of livelihood

generation of the rural community, NRL has taken up agro-based initiatives proactively. We have made many interventions in the nearby villages to promote self-employment by assisting in



the establishment of piggeries, poultry farms, fisheries and small handloom units. We provided farmers with tractors, power tillers, seeds, fertilizers and pesticides to support various farming activities. We launched a special initiative to improve rice productivity with a focus on small and marginal farmers. We introduced the System of Rice Intensification (SRI) to the farmers of the Golaghat district to enhance food security, with technical help from the Rashtriya Gramin Vikas Nidhi (RGVN). The result of SRI are promising – productivity in most cases have doubled by using mostly organic manure in the SRI field.

Education

Education is critical tool for bringing about a transformation in the lives of the youth. It enriches them with confidence and opens up a plethora of opportunities to lead a dignified life. With this thought in mind, NRL has pledged to spread literacy and

information technology amongst the youth in the neighbouring areas of the refinery. We have commenced several schemes to further this cause. One such scheme is the Gyandeep scheme under

which one-time monetary awards were given to 185 students of Class X and XII within 10 kms of the refinery. Another such scheme is ‘Prerona’ under which 295 meritorious students were awarded monetary benefits.

Under the Dronacharya scheme, financial contributions were provided to the Teachers’ Welfare Fund of 28 schools on the basis of number of students passing in the 1st division in their Class X exams from respective schools in the nearby areas.

Many poor but brilliant students were sponsored to compete in competitive examinations and for taking up higher education. Some of the other activities are highlighted below:

- Imparting computer education to 100 girl students from nearby areas
- Construction of library-cum-laboratory building at the Numaligarh High School
- Construction of water supply system



at Pandit Hemchandra Goswami Vidyapith, Doigrong

- Construction of a classroom at the Bokakhat Jatiya Bidyalaya
- Construction of the school building at the Nagabali LP School
- Construction of a water filtration plant including installation of tube well and pump at the Paschim Dhodang LP School

Infrastructure

Infrastructure is a vital component of any developmental activity. It is essential to enable, sustain, or enhance societal living conditions. The physical infrastructure of a region has



a direct influence on the development of a region. A region with poor infrastructure cannot develop even if the area has ample natural resources. We, at NRL, not only appreciate the value of good infrastructure but have also contributed substantial resource towards the development of infrastructure in the nearby areas by embarking upon a series of pragmatic initiatives to bring about an improvement in the quality of life. Among others, development of roads is a thrust area, since communication link is vital for the development of a place.

Some of the activities are highlighted below:

- Development of infrastructural facilities like roads, drinking water in the nearby villages of the refinery.
- Providing street light facilities from Labanghat to Babathan along NH-39.
- Beautification work at the junction point of Numaligarh, Telgaram, Purabunglow and Rangajan.

- Construction of waiting sheds at Bishnupur Tiniali, Ponka, Lettekujan and Babathan on NH-37 of Golaghat district.
- Piped water project at Ponka village covering 1,000 families, adjacent to our refinery.
- Cremation ground at Labanghat village in Golaghat District.
- 70 sanitation facilities were constructed as part of the project ‘Parichhannata’ – to promote hygiene

Community health

Our aim is to play a key role in providing decent healthcare facilities to the people



of the community living in the nearby areas. We provide services in the form of regular mobile medical camps in remote villages supplementing the efforts of the existing health centres in the nearby areas. Our dedicated efforts are emphasised by the fact that almost one mobile medical camp a day is conducted in the nearby villages through the VKNRL Hospital. The medical camps serve the dual purpose of treating villagers and educating them about the importance of sanitation and hygienic practices.

Poor sanitation is one of the major reasons for various diseases in the rural areas. To address this issue we have constructed low-cost sanitary facilities and dug RCC ring wells. As a result of all these activities rural inhabitants are now an improved lot with better healthcare facilities available for them. Some of the initiatives are highlighted below:

- NRL Helping Hand to give honour and dignity to physically-challenged



persons and create awareness about their freedom and rights.

- Operation Smile- cleft lip palate surgery mission at Shillong, Meghalaya.
- Provided financial support to physically and mentally disabled persons who have no or insufficient income of their own.
- Constructed 70 low-cost sanitary latrines for below the poverty line families.
- NRL provided ambulance boats for the people of Majuli for flood relief.
- 229 'Niramoy' mobile medical



camps were conducted for providing healthcare in villages surrounding the refinery

Promotion of arts, sports, literature and culture

The rural parts of India have got tremendous potential in the field of arts, sports, literature and culture. We believe with decent facilities and support these talents can be groomed for the next level. We promote various sports by conducting various sports events. We also encourage cultural activities and are conscious about maintaining and preserving the rich cultural heritage of Assam. We sponsor professional and socio-cultural meets, conventions, seminars and workshops.

One of our prominent initiatives is the opening of the first-of-its-kind football academy in the state which envisions identifying and nurturing budding talents in Football to be groomed from a tender age through our flagship CSR scheme, 'Khel Prashikshan'. Forty young boys in the age group of 10 to 12 years within a 10 km radius of the refinery were selected and inducted in the academy. These young boys are being imparted professional European style training under the supervision of Mr. Oscar Bruzon Barrears, UEFA 'A' licensed professional coach from Spain who is also the Technical Director of the academy.



Some of the initiatives undertaken by NRL besides sponsoring various sporting and cultural events are given below:

- National Award in memory of late Dr. Bhupen Hazarika by instituting International Solidarity Award 2012
- Provided support to premiere literary bodies of the state for promotion of language and literature
- Constructed public auditorium in Bokakhat and Telgaram
- Development of play fields and parks in the neighbouring areas
- Construction of a tennis clay court in Bokakhat
- Installation of the life-size bronze statue of late Dr. Bhupen Hazarika at Tezpur

The benefits of our socio-economic developmental activities have started emerging. People living around the refinery now have better access to facilities and exposure to information technology. There is a definite

improvement in the living standards of the people. We wish to continue with our good work and adhere to our philosophy of inclusive growth.

'Oil & Gas Conservation Fortnight' – 2013: Promoting awareness

In order to generate awareness among the masses about the urgency of conserving petroleum products, the celebration of oil conservation week with the participation of PCRA and the entire oil industry under the guidance of the Ministry of Petroleum & Natural Gas was started in year 1991.

NRL celebrated the OGCF-2013 from 15th to 31st January, 2013 with many activities as a part of awareness campaign amongst the communities. The theme, 'Save Fuel yaani Save Money' of OGCF remained unchanged for a fifth year in the row because of its relevance and wide response from industries. A host of programmes were conducted to reach out to people with the message of oil and gas

conservation.

Steam leak survey
Steam leak survey for the refinery network was jointly carried out by the technocrats nominated by the Oil & Gas companies as per the guidelines of Centre for High Technology (CHT), an autonomous body under the Ministry of Petroleum and Natural Gas, Government of India, as a step towards energy conservation.

Cycle Rally
A cycle rally was organised which was flagged off from the nearby Marangi Mahavidyalaya, Letekujan by the principal of the college as part of the awareness drive on oil & gas conservation involving participation of





a large number of school and college students. Many children displayed placards on their cycles displaying slogans on conservation.

Essay and Painting competition

The cycle rally was followed by an art and essay competition on the theme of OGCF 2013. Around 150 students from the college and high & ME Schools of nearby locality participated in these programs. The best performers in the competitions were suitably awarded during the concluding function and Rally Cap with the logo and token gift distribute among all participants as well.

Workshop on safe and judicious use of fuels

A workshop on safe and judicious use of fuels like kerosene and LPG was organised at Rajabari High School, Letekujan which was attended by around 100 ladies of nearby localities. A quiz competition was also held among and on the spot prizes was also awarded to the ladies. Later, they interacted with the NRL members on various energy savings tips. Each lady was presented with a small token gift in this motivational campaign and the program turned out to be a great success.

Awareness program for drivers

An awareness campaign among drivers was conducted which was attended by 80 drivers operating in the refinery and adjacent marketing terminal areas. Efficient use of utilising vehicle fuel was harped upon during the drive.



Other programs

Apart from the above, various competitions like slogan, suggestion, essay in the field of oil & gas and energy conservation were organised amongst the employees of the refinery, including members of greater NRL family and CISF.

OVERVIEW ON OUR MANAGEMENT APPROACH

Economic

We are responsible towards our investors and shareholders. We devise strategies to face challenges met the industry for operations. Our focus remains to embed responsible development into our processes.

We continue our commitment to employee welfare as we firmly believe that the provision of adequate social security to employees is vital to the stability of an organisation.

Environment

Managing environmental impact is of importance to NRL. We have adopted an approach wherein we periodically identify environmental impacts associated with our business operations thereby incorporating the considerations in our sustainability strategy and decision-making process.

Our approach allows us to monitor, analyse and continually improve the environmental aspects of our direct operations. This helps us achieve our goal of reducing resource use.

Labour practices

At NRL, our people are our prime resources and their health and safety always remains as our top priority. Our long-term safety goal will always remain as ‘zero incident’ and we continuously take approaches in achieving the same.

NRL ensures health and safety of all its employees and implemented many initiatives to reduce exposure to risk for the employees. We also aim to create an inclusive work environment with equal opportunities. We do not differentiate amongst employees on the basis of gender, race, caste and age.

Human rights

Our business principles and code of conduct require our employees and contractors to abide by and respect human rights of other workers and communities where we work. We have incorporated elements of human rights in our agreements and closely monitor their performance to ensure that there are no violations.

We follow all laws and legislation on human rights applicable to our business operations. Violations of human rights and labour welfare clauses by a contractor are dealt with on a case-by-case basis; the punishment meted out

NRL ensures health and safety of all its employees and implemented many initiatives to reduce exposure to risk for the employees. We also aim to create an inclusive work environment with equal opportunities

ranges from the issuance of a warning to termination of the contract.

Society

NRL strongly believes in growing with social responsibility. NRL engages with communities on a time-to-time basis to carry out need assessment studies. We at NRL, has undertaken many developmental activities in the field of education, agriculture and empowerment as a part of community development. NRL will strive to undertake many such projects in years to come for upliftment of the nearby communities.

The SD Committee of NRL has been constituted to provide guidance on pursuing inclusive development for our local communities. We aim to minimise the impact on neighbouring communities and mitigating potential impacts as far as possible by conducting environmental and social impact assessment for all new operations, in line with the requirements by the Ministry of Environment and Forests. We also participate in various industry forums to promote the development and implementation of responsible business practices for companies in the oil and gas sector.

Product Responsibility

Customer satisfaction is very important for us. We devised multidimensional channels of gauging customer satisfaction of our products and services.

Product quality and safety is intricately embedded in our operations and we adhere to all applicable statues regarding product labeling and transportation.

Awards and Accolades: 2012-13

■ NSC Award: Numaligarh Refinery Ltd., has won the Shreshtha Suraksha Puraskar (Silver trophy and Certificate) in Group-A (Manufacturing Coke and



Refined Petroleum products) under the manufacturing sector category. This Award is conferred on Numaligarh Refinery Ltd., for developing and implementing effective OH&S management systems and procedures and achieving outstanding performance during the three-year assessment period (from 2009 to 2011).

■ Greentech Environment Award-2012 under ‘Gold Category’ by Greentech Foundation, New Delhi in recognition of its outstanding performance in Environment Management in the petroleum refining sector.

■ ‘IPE CSR Corporate Governance Award 2012’ for its persistent efforts in adopting and implementing Corporate Social Responsibility (CSR) schemes benefitting people residing in its neighbourhood as well as the region as

whole.

■ ‘Corporate Social Responsibility Award(CSR) 2012’ to NRL under the head ‘Community Development’ for its persistent efforts in adopting and implementing CSR schemes for the community in its neighborhood as well as the region as whole.

■ Managing Director of NRL, Dipak Chakravarty has been conferred with the coveted ‘CEO with HR orientation’ award at the Global HR Excellence Awards function organised by IPE. The award aims at benchmarking talent and HR practices and is conferred on individuals who have surpassed several levels of excellence and have set an example by being a role model and an exemplary leader through organisational development, leadership, innovation and change management.





INDEPENDENT ASSURANCE STATEMENT

Introduction and objectives of work

Bureau Veritas Certification India Pvt. Ltd (BVCIL) has been engaged by Numaligarh Refinery Ltd.(NRL) to conduct an independent assurance of its Sustainable Development Report 2012-13. This Assurance Statement applies to the related information included within the scope of work described below.

This information and its presentation in the Sustainable Development Report 2012-13 (hereinafter referred to as Report) are the sole responsibility of the Management of Numaligarh Refinery Ltd. Bureau Veritas was not involved in the drafting of the Report. Our sole responsibility was to provide independent assurance on its content.

Scope of work

The assurance process was conducted in line with the requirements of the Assurance Standard AA1000AS (2008). The scope of work was to -

- * Provide assurance statement on NRL's Sustainable Development Report 2012-13 adhering to principles of AA 1000 AS (2008) and International Standard of Assurance Engagement (ISAE) 3000 with limited assurance.

Methodology

As part of its independent assurance,

BVCIL undertook the following activities:

1. Interviews with relevant personnel of Numaligarh Refinery Limited including interaction with the Top Management.
2. Review of documentary evidence produced by Numaligarh Refinery Limited. Audit of performance data (30 % sample back to source basis).
3. Site visits covered the refinery operations of NRL at Numaligarh, Golaghat (Assam). Retail outlets, joint ventures, subsidiaries and administrative office are not included in this report.
4. Review of NRL's data and information systems for collection, aggregation and analysis. Review of stakeholder engagement mechanism and concern related to materiality.

Our work was conducted against Bureau Veritas' standard procedures and guidelines for external Assurance of Sustainability Reports, based on current practices followed in independent assurance. The work was planned and carried out to provide limited, rather than absolute assurance and we believe it provides a basis for our conclusions.

Our findings

On the basis of our methodology and the activities described above, it is our

opinion that:

- * The information and data included in Sustainable Development Report 2012-13 are accurate and free from material mistake. The Report provides a fair representation of NRL's refinery activities over the reporting period;
- * The Report properly reflects the organisation's alignment to and implementation of the AA1000 Assurance Standard (2008) principles of Inclusivity, Materiality and Responsiveness in its operations.
- * NRL has initiated the external verification of Green House Gas (GHG) accounting within the Refinery boundary. However, the same is not subjected to independent external verification for the reporting period of the Report.
- * NRL may deploy a systematic water measurement and accounting mechanism to ameliorate its endeavour towards water conservation and management in a sustainable manner.
- * NRL may review its strategy of consultation and engagement with its key stakeholders.

CONCLUSION

Inclusivity

NRL has identified key stakeholders

including socially responsible investors, government officials, local community and representatives from recognised Unions.

Materiality

The Report addresses the range of environmental, social and economic issues of concern that NRL has identified as being of highest material importance. The identification of material issues has considered both internal assessments of risks and opportunities to the business, as well as stakeholders' views and concerns. NRL have extended the stakeholder engagement process to formally capture stakeholders' concerns and views in a structured manner, across the organisation.

Responsiveness

NRL is responding to issues identified as material and demonstrates this in its policies, objectives, indicators and performance targets. The reported information can be used by the organisation and its stakeholders as a limited basis for their opinions and decision-making. The organisation

should consider development of Key Performance Indicators against areas and issues of concern where it does not already exist and incorporating or refining existing performance measures.

Based on our work, it is our opinion that Sustainable Development Report 2012-13 has been prepared in accordance with the GRI Reporting Framework including appropriate consideration of the Reporting Principles and necessary indicators to meet the requirements of GRI Application Level A+.

Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- * Activities outside the defined assurance period;
- * Positional statements (expressions of opinion, belief, aim or future intention by NRL and statements of future commitment);

There are inherent limitations faced in the review of performance data such

as that included within the Sustainable Development Report, which means it is not possible to reduce the risk of the failure to identify material misstatements down to zero. Therefore, this independent statement should not be relied upon to detect all errors, omissions or misstatements.

Statement of independence, impartiality and competence

Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with a history of over 180 years history of providing independent assurance services. Its assurance team has experience in conducting assurance over environmental, social, ethical and health and safety information, systems and processes. The assurance team for this work does not have any involvement in any other BVCILs projects with NRL. BVCIL has implemented a Code of Ethics across the business to ensure that their staffs maintain high ethical standards in their day to day business activities.

BUREAU VERITAS CERTIFICATION INDIA (P) LTD.

Rupam Baruah
Lead Assuror

General Manager – East
Mumbai, 11th October, 2013

Ronjoy Rajkhowa
Technical Reviewer

Director, Business Development-South Asia Region
Mumbai, 11th October, 2013

GRI Content Index

This index provides references to reporting of standard disclosures and performance indicators of GRI G3.1 guidelines.

	Standard disclosure	Page number	Supplementary explanation
1.	Strategy and Analysis		
1.1	Statement from the most senior decision-maker of the organisation	2-3	Message from the Managing Director
1.2	Description of key impacts, risks, and opportunities.	19	SWOT analysis
2.	Organisational Profile		
2.1	Name of the organisation.	Cover page	-
2.2	Primary brands, products, and/or services.	7	
2.3	Operational structure of the organisation, including main divisions, operating companies, subsidiaries, and joint ventures.	4,6	-
2.4	Location of organisation's headquarters.	Last page	-
2.5	Number of countries where the organisation operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.		NRL is a PSU company and operates within India.
2.6	Nature of ownership and legal form.	6	Shareholding pattern has been provided. For further details refer to our Annual Report.
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).		NRL primarily serves the Indian market.
2.8	Scale of the reporting organisation.		Scale of reporting organisation indicated in relevant sections of this report. Please refer our Annual Report for comprehensive financial information that extends beyond the coverage of this report.
2.9	Significant changes during the reporting period regarding size, structure, or ownership.		The level of reporting during the reporting period adheres to the A+ level as per GRI G 3.1 guidelines where as the report pertaining to 2011-12 was as per B+ level as per GRI G3 guidelines.
2.10	Awards received in the reporting period.	57	
3.	Report Parameters		
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	1	-
3.2	Date of most recent previous report (if any).		Please refer to NRL's SD Report 2011-12 and Annual Report 2012-13. Please refer to www.nrl.co.in
3.3	Reporting cycle (annual, biennial, etc.)		Our reporting cycle is annual
3.4	Contact point for questions regarding the report or its contents.		The contact point is provided in the last page of the report.
3.5	Process for defining report content.		Top management inputs and Stakeholders' concerns and issues are the basis for defining the report content.

	Standard disclosure	Page number	Supplementary explanation
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.	1	-
3.7	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope).		Specific limitations (if any) pertaining the performance indicators reported have been detailed in the individual sections.
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organisations.	6	-
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report. Explain any decisions not to apply, or to substantially diverge from, the GRI Indicator Protocols.	58-59	Relevant explanations have been provided in the individual section where necessary.
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.		No.
3.12	Table identifying the location of the Standard Disclosures in the report.		Provided.
3.13	Policy and current practice with regard to seeking external assurance for the report.	60-61	Please refer to assurance statement.
4.	Governance, Commitments and Engagements		
4.1	Governance structure of the organisation, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organisational oversight.	11-12	For more details please refer to our Annual Report. You may visit www.nrl.co.in to access the Annual report.
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.	11-12	Please refer our Annual Report for additional information.
4.3	For organisations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	11-12	For more details please refer to our Annual Report. You may visit www.nrl.co.in to access the Annual report.
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.		Please refer to our Annual Report for 2012-13. You may visit www.nrl.co.in to access the Annual report.
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organisation's performance (including social and environmental performance).	11-12	
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.		Please refer our Annual Report 2012-13 for details.

	Standard disclosure	Page number	Supplementary explanation
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organisation's strategy on economic, environmental, and social topics.		Not reported.
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	5	Please refer our corporate website http://www.nrl.co.in/ for additional information.
4.9	Procedures of the highest governance body for overseeing the organisation's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	11-12	For more details please refer to our Annual Report. You may visit www.nrl.co.in to access the Annual report.
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	11-12	For more details please refer to our Annual Report. You may visit www.nrl.co.in to access the Annual report.
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organisation.		Precautionary principle aspects are implicit.
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organisation subscribes or endorses.		Not reported. To be included in years to come.
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organisations in which the organisation: * Has positions in governance bodies; * Participates in projects or committees; * Provides substantive funding beyond routine membership dues; or * Views membership as strategic.		Please refer to our Annual Report 2012-13 for details.
4.14	List of stakeholder groups engaged by the organisation.	13-15	
4.15	Basis for identification and selection of stakeholders with whom to engage.	13-15	This is our second year of reporting. We will develop a structured stakeholder engagement strategy for engaging stakeholders soon.
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	13-15	
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting.	13-15	
DM	Disclosure on Management Approach – all performance indicators	56-57	The same has detailed in the entire report in relevant sections highlighting performance indicators related to economic, environmental and society.

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
Economic Indicators				
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community invest-ments, retained earnings, and payments to capital providers and governments.	Creating Prosperity	24	
EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change.	Creating Prosperity	25	
EC3	Coverage of the organisation's defined benefit plan obligations.	Benefits to Employees	41-42	
EC4	Significant financial assistance received from government.	Financial assistance from Government of India	24	
EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation.	Benefits to Employees	41-42	Our wages are much above minimum wages as notified by central and state governments in our areas of operations.
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	Local Hiring and procurement	24-25	
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.	Local Hiring and procurement	24-25	
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	Investing in Community Development	25-26	
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	Investing in Community Development	25	
OG1	Volume and type of estimated proved reserves and production.	GRI Index		Not Applicable as NRL is only into the business of refining crude oil.
Environmental Indicators				
EN1	Materials used by weight or volume.	Managing Resources Responsibly	28	
EN2	Percentage of materials used that are recycled input materials.	Managing Resources Responsibly	28-29	

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
EN3	Direct energy consumption by primary energy source.	Energy Management	30-31	
OG2	Total amount invested in renewable energy.	GRI Index		NRL is exploring opportunities for investments in renewable energy sources and will report accordingly in years to come.
OG3	Total amount of renewable energy generated by source	GRI Index		
EN4	Indirect energy consumption by primary source.	GRI Index		Not Applicable as there is no indirect source of energy for NRL.
EN5	Energy saved due to conservation and efficiency improvements.	Energy Management	30-32	
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Energy Management	30-32	
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.	GRI Index	30-32	Not Applicable
EN8	Total water withdrawal by source.	Water Management	30	
EN9	Water sources significantly affected by withdrawal of water.	Water Management	30	
EN10	Percentage and total volume of water recycled and reused.	Water Management	30	
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high bio-diversity value outside protected areas.	Managing impacts on Biodiversity	34-36	
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	Managing impacts on Biodiversity	34-36	
EN13	Habitats protected or restored.	GRI Index		Not Reported
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	Managing impacts on Biodiversity	34-36	
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	GRI Index		Not Reported
OG4	Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored.	GRI Index		We will consider risk assessment pertaining to biodiversity studies for all of our future projects.

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
EN16	Total direct and indirect green-house gas emissions by weight.	Greenhouse Gas emissions	32-33	
EN17	Other relevant indirect green-house gas emissions by weight.	Greenhouse Gas emissions	32-33	
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	Energy Management	33-34	
EN19	Emissions of ozone-depleting substances by weight.	Other Air emissions	34	
EN20	NOx, SOx, and other significant air emissions by type and weight.	Other Air emissions	34	
EN21	Total water discharge by quality and destination.	Water Management	30	
OG5	Volume of formation or produced water	GRI Index		Not Applicable as NRL is into the business of refining of crude oil.
EN22	Total weight of waste by type and disposal method.	Waste Management	29	
EN23	Total number and volume of significant spills.	Managing spills	29	
OG6	Volume of flared and vented hydrocarbon	Other Air emissions	34	
OG7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal.	GRI Index		Not Applicable as NRL is only into the business of refining of crude oil.
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	GRI Index		Not Applicable.
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organisation’s discharges of water and runoff.	GRI Index		No significant impacts have been observed and reported due to discharge of water from our operations in any of the water bodies.
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	GRI Index		All the products produced by the Organisation are produced after following BIS specifications and are marketed only after strict quality controls and hence no adverse impact is expected by the use of these products. All the activities of the organisation with respect to manufacturing, storage and marketing are assessed for environmental related risks by qualified auditors periodically and suitable remedial steps, as recommended by these audits are implemented.

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
OG8	Benzene, lead and sulphur content in fuels	Some initiatives taken by NRL towards environmental conservation Informing our customers about products' health & safety	36, 49	Please refer to our website www.nrl.co.in for further details.
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	GRI Index		Not Applicable.
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	GRI Index		No such incidences has occurred and hence not reported for 2012-13.
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations, and transporting members of the workforce.	GRI Index.		Not reported.
EN30	Total environmental protection expenditures and investments by type.	Environmental Expenditures	26	
Labour Practices and Decent Work Indicators				
LA1	Total workforce by employment type, employment contract, and region.	Employment Profile	40	
LA2	Total number and rate of employee turnover by age group, gender, and region.	Employment Profile	41	
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	Benefits to Employees	41-42	
LA4	Percentage of employees covered by collective bargaining agreements.	Benefits to Employees	42	
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	Benefits to Employees	42	

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	Health and Safety Committee	46	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region.	Healthy and Safe Workplace	44-45	
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	Healthy and Safe Workplace	45-48	
LA9	Health and safety topics covered in formal agreements with trade unions.	Healthy and Safe Workplace	46	
LA10	Average hours of training per year per employee by employee category.	Investing in development of our people	42	
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	Investing in development of our people	42	
LA12	Percentage of employees receiving regular performance and career development reviews.	Investing in development of our people	42	
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.	Employment Profile	40-41	
LA14	Ratio of basic salary of men to women by employee category.	Human Rights and Discrimination	43	No discrimination.
LA15	Return to work and retention rates after parental leave, by gender.	Employment practices	40-41	
Human Rights Indicators				
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	Human Rights and Discrimination	43-44	

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	Human Rights and Discrimination	43-44	
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	GRI Index		Not reported. As we mature our sustainability initiatives, future reports will disclose our progress accordingly.
HR4	Total number of incidents of discrimination and actions taken.	Human Rights and Discrimination	43-44	No such incidents have been reported for 2012-13.
HR5	Operations identified in which the right to exercise freedom of association or collective bargaining may be at significant risk, and actions taken to support these rights.	Human Rights and Discrimination	43-44	
HR6	Operations identified as having significant risk for incidents of child labour, and measures taken to contribute to the elimination of child labour.	Human Rights and Discrimination	43-44	
HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of forced or compulsory labor.	Human Rights and Discrimination	43-44	
HR8	Percentage of security personnel trained in the organisation's policies or procedures concerning aspects of human rights that are relevant to operations.	Investing in development of our people	42	Partially reported. As we mature we would report in details in our future reports.
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	Human Rights and Discrimination	43-44	No incidence of violations has been reported during the reporting period.
OG9	Operations where indigenous communities are present or affected by activities and where specific engagement strategies are in place.	GRI Index		Our operations do not affect any indigenous community. Moreover, we carry out Social impact assessment studies for our upcoming projects.
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	Human Rights and Discrimination	43-44	

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
HR11	Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms.	Human Rights and Discrimination	43-44	No grievances were reported in the reporting year.
Society Indicators				
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.	GRI Index.		We are developing formal strategies and will report in our future reports. However, we have CSR policy in place. We also carry out impact assessment studies for communities.
SO2	Percentage and total number of business units analyzed for risks related to corruption.	Standing against corruption	12	
SO3	Percentage of employees trained in organisation's anti-corruption policies and procedures.	Standing against corruption	12	Data pertaining to employees trained on anti corruption policies to be reported in future reports. However, the trainings are carried out.
SO4	Actions taken in response to incidents of corruption.	Standing against corruption	12	No such incidents have been reported in 2012-13.
SO5	Public policy positions and participation in public policy development and lobbying.	Engaging with regulators	50	
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	Engaging with regulators	50	
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	GRI Index		No instances have been recorded during reporting period.
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	Engaging with regulators	50	
SO9	Operations with significant potential or actual negative impacts on local communities.	GRI Index		Our operations do not have significant adverse impacts on local communities. We carry out regular impact assessment studies for assessing impacts of our operations on the community.
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.			

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
OG10	Number and description of significant disputes with local communities and indigenous peoples.	GRI Index		No disputes with local communities and indigenous people have been reported for the reporting period.
OG11	Numbers of sites that have been decommissioned and sites that is in the process of being decommissioned.	GRI Index		No such incidents have been reported in 2012-13.
OG12	Operations where involuntary resettlement took place, the number of households resettled in each and how their livelihoods were affected in the process.	GRI Index		There was no involuntary resettlement during 2012-13 due to operations.
OG13	Number of process safety events, by business activity.	Healthy and Safe Workplace	44-45	
Product Responsibility Indicators				
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	Product Responsibility	48-49	
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.	Product Responsibility	48-49	
PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.	Product Responsibility	48-49	
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	Product Responsibility	48-49	
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Informing our customers about products' health & safety	48-49	

GRI Indicator	GRI Disclosure	Report Section	Page number	Supplementary Explanation
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	Product Responsibility	48-49	
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes.	Informing our customers about products' health & safety	49	
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	Informing our customers about products' health & safety	49	No cases of breach of customer privacy loss of customer data have been recorded during the reporting period.
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	Product Responsibility	48-49	
OG14	Volume of biofuels produced and purchased meeting sustainability criteria.	GRI Index		Not reported. There is no such obligation on NRL for producing or purchasing biofuels.

Core Indicators

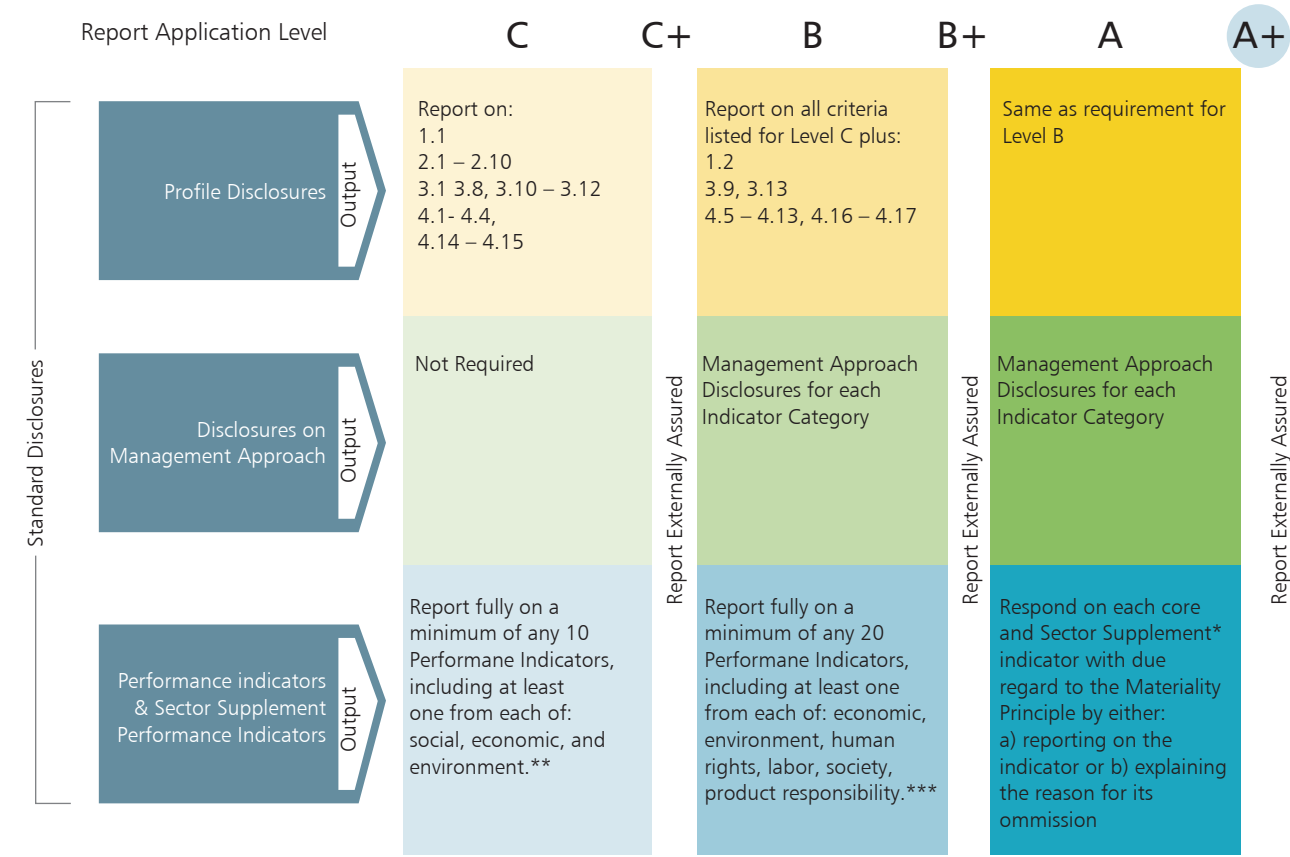
Additional Indicators



Summary of indicators reported as per GRI G3.1 Reporting guidelines

Parameters	Core Indicators		Additional Indicators		Oil and Gas Sector Supplement Indicators	
	Reported	Explanation provided for not reporting/ Not Applicable	Reported	Explanation provided for not reporting/Not Applicable/Not Reported	Reported	Explanation provided for not reporting/ Not Applicable
Economic	8		1			1
Environmental	16	4	4	6	1	6
Labour practices and decent work	10		5			
Human Rights	8	1	2			1
Society	5	3	1	1	1	3
Product Responsibility	4		5			1
Total	51	8	18	7	2	12
	59		25		14	

GRI G 3.1 Application Level



Abbreviations
AFIH – Associate Fellow for Industrial Health
AIDS – Acquired Immune Deficiency Syndrome
API – American Petroleum Institute
ATF – Aviation Turbine Fuel
BCPL – Brahmaputra Cracker & Polymer Limited
BIS – Bureau of Indian Standards
BPCL – Bharat Petroleum Corporation Limited
CAG - Comptroller and Auditor General
CBI – Central Bureau of Investigation
CCU – Coke Calcination Unit
CDM – Clean Development Mechanism
CDSC – Community Development Steering Committee
CDU – Crude Distillation Unit
CEO – Chief Executive Officer
CER – Certified Emission Reductions
CFC – Chlorofluorocarbon
CHT – Centre for High Technology
CII – Confederation of Indian Industry
CISF - Central Industrial Security Force
CLI – Central Labour Institute
CPC – Calcined Petroleum Coke
CPCB – Central Pollution Control Board
CPP – Captive Power Plant
CSR- Corporate Social Responsibility
CVC – Central Vigilance Commission
CVO – Civil Vigilance Officer
DCP – Dry Chemical Powder
DCU – Delayed Coker Unit
DG – Diesel Generator
DGM – Deputy General Manger
DPE – Department of Public Enterprise
DPS – Delhi Public School
ERP – Enterprise Resource Planning
ESI – Employee Insurance Scheme
ETP – Effluent Treatment Plant
FGTU – Flue Gas Treating Unit
FICCI – Federation of Indian Chambers of Commerce & Industry
FO – Furnace Oil

Abbreviations
GHG – Green House Gases
GJ – Giga Joules
GM – General Manager
GRI – Global Reporting Initiative
GT – Gas turbine
GVK EMRI – GVK Emergency Management and Research Institute
HCU – Hydrocracker Unit
HGU – Hydrogen Unit
HIV – Human Immunodeficiency Virus
HP – High Pressure
HR – Human Resources
HSD – High Speed Diesel
HSE – Health Safety and Environment
HTER – Heat Transfer Exchange Reformer
IAS – Indian Administrative Services
INR – Indian Rupee
IPEA - Institution of Public & Environmental Affairs
ISO – International Organization for Standardization
ISRS – International safety Rating SystemKL – Kilo Litre
LED – Light emitting diode
LICI – Life Insurance Corporation of India
LOPC - Loss of Primary Containment
LPG – Liquefied Petroleum Gas
LTA –Lost Time Accident
MBA – Masters of Business Administration
MBTU – One thousand British Thermal Units
MINAS – Minimal National Standards
MMT – Million Metric Tons
MMTPA –Million Metric Tons per Annum
MoP&NG - Ministry of Petroleum and Natural Gas
MOU – Memorandum of Understanding
MS – Motor Spirit
MTBE - Methyl Tertiary Butyl Ether

Abbreviations
MW – Mega Watt
NG – Natural Gas
NH – National Highway
NREU – Numaligarh Refinery Employees Union
NRL – Numaligarh Refinery Limited
NRLOA – Numaligarh Refinery Limited Officers Association
NSU – Naphtha Splitter Unit
ODS – Ozone Depleting Substances
OGCF – Oil & Gas Conservation Fortnight
OHD – Occupational Health Department
OHSAS – Occupational Health and Safety Assessment Series
OH&S – Occupational Health and Safety
OISD – Oil Industry Safety Directorate
PCRA – Petroleum Conservation Research Association
PIMS – Process industry Modelling System
PSU – Public Sector Undertaking
RPC - Raw petroleum Coke
RTI – Right to Information
R&D – Research and Development
SBU – Strategic Business Unit
SD – Sustainable Development
SEC – Specific Energy Consumption
SKO - Superior Kerosene Oil
SRB – Sulphur Recovery Block
SRFT – Standard Refinery Fuel Tonnes
STG – Steam Turbine Generator
TII – Transparency International India
TMT – Thousand Metric Tons
TPD – Tonnes per day
UEFA - Union of European Football Associations
UNFCCC – United Nations Framework for Convention on Climate Change
VDU – Vacuum Distillation Unit



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