

REPORT ON CORPORATE GOVERNANCE

1. COMPANY'S PHILOSOPHY ON CODE OF GOVERNANCE

Corporate Governance is a systemic process by which companies are directed and controlled to enhance their wealth-generating capacity. Since large corporations employ a vast quantum of societal resources, your Company believes that the governance process should ensure that these resources are utilized in a manner that meet stakeholders' aspirations. This belief is reflected in your Company's commitment to contribute towards the conservation and development of the nation's economic, social and environmental capital.

Your Company has consistently practiced good Corporate Governance practices and adheres to the values of transparency, professionalism and accountability. The philosophy of the Company in relation to Corporate Governance is to ensure transparency in all its operations, make disclosures and enhance stakeholders' value within the framework of laws and regulations.

Your Company is driven by its core values viz. ethical practices, concern for people at work, delight of customers. Your Company is committed to sound corporate practices based on transparency, fairness, professionalism and accountability in building trust and confidence of its various stakeholders for paving the way for its long term success.

In commitment to practice sound governance principles, your Company is guided by the following core principles of Corporate Governance:

- Strategic supervision by the Board of Directors
- timeliness of flow of information between the company management and the Board
- comply with the applicable laws, rules and regulations in letter and spirit
- conducting business in ethical manner
- systems and processes for internal controls

The Board of your Company constantly endeavors to set goals and targets aligned to the Company's Vision and Mission.

2. BOARD OF DIRECTORS

The Board of your Company is a combination

of Executive (Whole time) and Non-Executive (Part-time and Part-time non-official/Independent) Directors. Whole-time Directors are involved in day-to-day management of the Company, whereas Part-time Director(s) (Government Nominee) are representative(s) of administrative Ministry of Government of India and Part-time Non-

official (Independent) Director(s) are appointed by Government of India to take care of interest of stakeholders including minority shareholders.

The Board reviews the overall functioning of the Company and has set strategic goals to achieve its vision statement. The Board defines the Company policies and review its

Name and Designation of the Director	No. of Board Meetings attended during the Tenure	Attendance at last Annual General Meeting	Directorships held in other Public Limited Companies	Committee Membership in other Companies	Chairperson of Committees of other Companies
I. Whole-time Directors					
Sh. B. C. Tripathi Chairman and Managing Director	11	Yes	03	Nil	Nil
Sh. R. D. Goyal Director (Projects) (upto 28.02.2014)	08	Yes	Nil	Nil	01
Sh. S.L. Raina Director (HR) (upto 31.05.2013)	01	NA	03	02	Nil
Sh. Prabhat Singh Director (Marketing)	11	Yes	01	Nil	Nil
Sh. S. Venkatraman Director (Business Development)	11	Yes	04	01	Nil
Sh. P.K. Jain Director (Finance)	11	Yes	02	01	01
Sh. M. Ravindran Director (HR) (w.e.f. 01.06.2013)	09	No	03	01	Nil
Dr. A. Karnatak Director (Projects) (w.e.f. 01.03.2014)	01	NA	01	Nil	Nil
II. Part-time Directors (Government Nominee)					
Sh. Sudhir Bhargava (upto 08.05.2013)	NA	No	02	Nil	Nil
Sh. Rajive Kumar (w.e.f. 26.06.2013)	06	No	02	Nil	Nil
Dr. Neeraj Mittal (upto 10.04.2013)	NA	No	01	Nil	Nil
Sh. P.K. Singh (w.e.f. 10.04.2013)	10	No	01	Nil	Nil
III. Part-time non-official (Independent) Directors					
Sh. Arun Agarwal (upto 23.02.2014)	09	Yes	Nil	Nil	Nil
Smt. Shyamala Gopinath	09	No	06	02	03
Dr. A.K. Khandelwal	09	No	03	Nil	Nil



implementation in attaining its goal. The Board has constituted various committees to facilitate the smooth and efficient flow of decision making process.

Apart from statutory sub-committees viz. Audit Committee, Shareholders /Investors Grievance Committee, Remuneration Committee and Corporate Social Responsibility Committee, there are other 11 (Eleven) Board sub-Committees for implementing the overall business strategy and creating value for the stakeholders. The minutes of sub-Committees of the Board are placed before the Board from time to time. The approved minutes are circulated to the members of the Board/Committee and also to concerned department/group for implementation. The minutes of Board /Committee are further placed in the next meeting for confirmation of the members. Action Taken Report requiring action to be taken with information to the Board is also put up to the Board periodically. Details of various sub-Committees of the Board are forming part of Annual Report separately.

In line with sound Corporate Governance framework statutory, significant and material information including as enlisted in the listing agreement, Companies Act etc. is placed before the Board.

• Composition

Your Company, being a Government Company, appointment/ nomination of all the Directors is being done by the President of India, through the Ministry of Petroleum & Natural Gas (MoPNG). The Articles of Association of the Company stipulates that the number of Directors shall not be less than 3 (three) and not more than 20 (twenty).

As on 31st March, 2014, there were 10 (Ten) Directors on the Board comprising of 6 (Six) Whole-Time Directors including the Chairman & Managing Director, 2 (Two) Part-time Directors and 2 (Two) Independent Directors. The details wrt attendance, number of other Directorships and Chairmanship/ Memberships of Committees of each Director are as under:

Notes:

1. 29th Annual General Meeting was held on 25.09.2013.
2. Based on disclosures received from concerned Director(s):
 - i) Directors inter-se are not related to each other. Independent directors have declared that they meet the criteria of independence as provided in

the listing agreement and the Companies Act, 2013.

- ii) None of the Director(s) on the Board is a Member of more than 10 (Ten) Committees or Chairman of more than 5 (Five) Committees across all the companies in which he/she is a Director. Membership/Chairmanship in Committee is reckoned pertaining to Audit Committee and Shareholders /Investors Grievance Committee.
- iii) None of non-executive Directors hold any Equity Shares in the Company.
- iv) None of the non-executive Directors has any pecuniary relationship or transactions with the Company during the FY ending on 31st March, 2014.

3. A separate meeting of Independent Directors was held on 06.01.2014.

• Meeting Details

During 2013-14, 11 (Eleven) meetings of the Board were held - 28th May, 13th June, 25th July, 23rd September, 9th October, 25th October, 10th December and 19th December, 29th January, 6th February and 20th March.

3. AUDIT COMMITTEE

• Terms of Reference

The terms of reference of the Audit Committee are in accordance with provision of the Companies Act, Listing Agreement and the Guidelines on Corporate Governance for Central Public Sector Enterprises issued by the Department of Public Enterprises. It, inter-alia, includes oversight of financial reporting process, recommending fixation

of fees for auditors, reviewing annual and quarterly financial statements, reviewing performance of statutory/internal auditors and adequacy of internal control system, reviewing adequacy of internal audit function, discussion with internal auditors, reviewing findings of internal investigations, discussion with statutory auditors and reviewing whistle blower mechanism etc.

• Composition

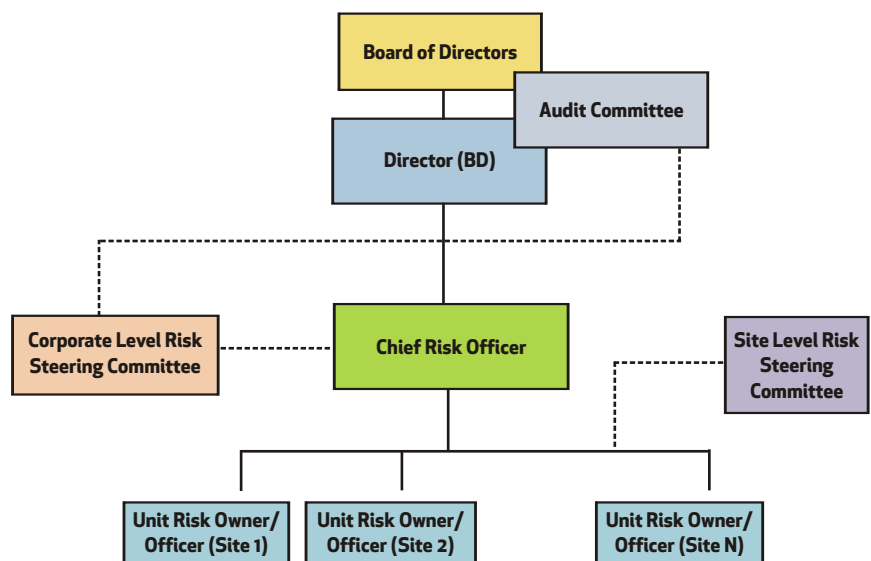
As on 31st March, 2014, the Audit Committee comprised of Smt. Shyamala Gopinath as the Chairperson, Dr. A. K. Khandelwal and Sh. Prabhat Singh as the members.

Director (Finance), Statutory Auditors of your Company and Head of Internal Audit are the permanent invitees to the meetings of Audit Committee. Audit Committee hold post-audit discussions jointly with statutory auditors on accounting practice, policies followed by the Company etc. Other Functional Directors and other senior functional executives are also invited, as and when required, to provide necessary information/clarification to the Committee. The Company Secretary acts as the Secretary to the Committee.

During the year, there were no instance, where the Board had not accepted the recommendation(s) of the Audit Committee.

• Meeting Details

During 2013-14, 09 (Nine) meetings of Audit Committee were held: 8th May, 28th May, 14th June, 25th July, 27th August, 18th September, 25th October, 6th January and 29th January. The attendance of the Members at the meetings was as follows:



S. No.	Members	No. of Meetings	
		Held during the tenure	Attended
1	Sh. Arun Agarwal (upto 23.02.2014)	09	09
2.	Smt. Shyamala Gopinath	09	08
3.	Dr. A.K. Khandelwal	09	09
4.	Sh. Prabhat Singh	09	09

• Risk Management Framework

Risk Management Framework was institutionalized in your Company in the year 2007. A robust Risk Management Framework supports your Company's business strategy and operations. Risk Management Framework is constantly updated for new and emerging risks emanating from business expansion and interests.

Key risks under Risk Management Framework are reviewed by CMD & Functional Directors, before putting up the same to Audit Committee on quarterly basis. The Board along with the Audit Committee reviews the effectiveness and performance of risk management across Company's operations.

Management and Discussions Analysis section of Annual Report contain details on Risk Management Framework.

• Vigil Mechanism - Policy on Whistle Blower and Fraud Prevention

Your Company has implemented 'Whistle Blower Policy' wherein employees are free to report any improper activity resulting in violations of laws, rules, regulations or code of conduct by any of the employees, to the competent authority. Central Vigilance Commission is authorized to inquire into the complaints from 'Whistle Blowers' and take requisite action.

The policy allows direct access to the Chairperson of the Audit Committee in exceptional cases. Further, while inquiry of any complaint, under the whistle blower policy, the identity of the complainant/informant is not disclosed by designated agency entrusted for investigation even to the Chairperson of the Audit Committee except the contents of the complaint.

"Excellence with Ethics" is the mantra of your Company in conduct of its business. Your Company has established various preventive and predictive measures to detect

fraudulent activity(ies). To enhance stakeholders' confidence, your Company has framed the Fraud Prevention Policy to foster an honest and transparent environment amongst the employers and other stakeholders dealing with the Company. The policy endeavors to prevent, detect and allow for speedy disposal of fraud or suspected fraud.

Audit Committee reviews the complaints received under whistle blower mechanism and report on status of fraud on quarterly basis. During the year under review, no complaints were received under Whistle Blower Mechanism and Fraud Prevention Policy.

4. SHAREHOLDERS/INVESTORS GRIEVANCE COMMITTEE

• Terms of Reference

The terms of reference of the Committee is to, inter-alia, look into investor's grievances and matters relating to Registrar & Share Transfer Agent (R&TA).

• Composition

As on 31st March, 2014, the Shareholders /Investors Grievance Committee comprised of Smt. Shyamala Gopinath, as the Chairperson, Sh. Prabhat Singh, and Sh. M. Ravindran as the member(s). The Company Secretary acts as the Compliance Officer of the Company.

• Meeting & Other Details

During 2013-14, a meeting of Committee was held on 6th November, 2013, which was attended by all the members.

Letters of shareholders received through SEBI/Stock Exchanges/MCA/Depositories /other statutory authorities are considered as 'Complaints'. The day to day requests received from the shareholders are taken up by MCS Ltd., R&TA directly and are not included in the complaints. Status of the Complaints received and redressed during the respective quarters is being placed to the Audit Committee and Board.

During the year 2013-14, 30 complaints were received from the shareholders/investors through SEBI/Stock Exchanges and other statutory bodies, which pertained to matters like non-receipt of dividend, annual report, etc. and all the 30 complaints were resolved.

R&TA/Company has taken various steps to ensure that the shareholder related matters/issues are given due priority and are resolved within a reasonable period of

time except the grievance relating to 'Offer for Sale' of equity shares by Government of India and/or grievance constrained by incomplete documentation and/or legal impediments against the Company.

R&TA has designated exclusive e-mail id (s) viz., admin@mcsdel.com and mcsgail@mcsdel.com to facilitate investors to register their complaints, requests etc if any. Further, there is a separate dedicated section on the Company's website www.gailonline.com captioned 'Investor Zone' to make aware the shareholders about latest developments and updated information about shareholding pattern, dividend declaration, IEPF transfer, unpaid dividend etc.

5. REMUNERATION COMMITTEE

Your Company being a Government Company, the remuneration of its Whole-time Directors is determined by the President of India, through Ministry of Petroleum & Natural Gas. The Part-time Director(s) (Government Nominee) do not receive any remuneration from the Company. Further, the Part-time non-official (Independent) Directors are being paid sitting fee of ₹ 20,000/- and ₹ 15,000/- (₹ 20,000/- w.e.f. 25.10.2013) for attending each meeting of the Board and Committee respectively in addition to expenses incidental thereto.

• Terms of Reference

The terms of reference of this Committee is to deliberate and decide on Performance Related Pay (PRP) pool and policy of distribution of PRP to employees in the pay structure and examination of issues relating to pay and perks other than PRP prior to consideration by the Board.

• Composition

As on 31st March 2014, the Remuneration Committee of the Company comprised of Dr. A. K. Khandelwal as the Chairman, Sh. P.K. Singh and Smt. Shyamala Gopinath, as the member(s). Director (Finance) and Director (HR) are the permanent invitees to the meetings of Remuneration Committee.

• Meeting & Other Details

During 2013-14, a meeting of Remuneration Committee was held on 23rd September, 2013, which was attended by then members Dr. A.K. Khandelwal, Chairman, Sh. Arun Agarwal and Smt. Shyamala Gopinath (through video conferencing).

The details of remuneration paid to Whole-time Directors of the Company for 2013-14, are as below:



(₹ in Lakhs)

S. No.	Name of the Director	Salary & Allowances	Contribution to PF	Other Benefits and Perquisites	Performance Related Payment	Total
1.	Sh. B. C. Tripathi Chairman and Managing Director	27.19	5.40	8.13	19.93	60.65
2	Sh. R. D. Goyal Director (Projects) (upto 28.02.2014)	32.41	14.52	14.48	13.73	75.14
3	Sh. S.L. Raina Director (HR) (upto 31.05.2013)	28.73	10.78	4.77	13.67	57.95
4	Sh. Prabhat Singh Director (Marketing)	22.92	2.14	4.98	13.46	43.50
5	Sh. S. Venkatraman Director (Business Development)	32.06	4.90	7.52	13.57	58.05
6	Sh. P.K. Jain Director (Finance)	24.26	4.80	14.47	11.96	55.49
7	Sh M. Ravindran Director (HR) (w.e.f. 01.06.2013)	24.88	4.76	6.26	6.30	42.20
8	Dr. A. Karnatak Director (Projects) (w.e.f. 01.03.2014)	0.95	0.18	0.90	2.10	4.13

The payment made to Whole-time Directors did not include provision for leave, gratuity and post retirement benefits as per AS-15 since the same were not ascertained for individual employee (Refer note no. 39 to the accounts in Annual Report). During the year under review, your Company had not introduced any stock-option scheme.

The service contract of Whole-time Directors is for five years or till superannuation, whichever is earlier. The notice period of three months or salary in lieu thereof is required in case of severance of service. Part-time non-official (Independent) Directors are usually appointed for three years period by Government of India. Further, Part-time Director (Government Nominee) representing administrative Ministry of the Government of India ceases to be the Director of the Company on ceasing to be an official of the Ministry.

During the year, the details of sitting fees paid to the Part-time non-official (Independent) Directors, excluding service tax paid as reverse charge mechanism by the Company, for attending the meetings of the Board of Directors and Committee(s) thereof, is given below:

(₹ in Lakhs)

S. No.	Name of the Independent Director(s)	Amount
1	Sh. Arun Agarwal (upto 23.02.2014)	7.85
2	Smt. Shyamala Gopinath	6.55
3	Dr. A.K. Khandelwal	7.65

7. CORPORATE SOCIAL RESPONSIBILITY (CSR) COMMITTEE

• Terms of Reference

The terms of reference of this Committee is to deliberate and decide on CSR proposals.

• Composition

As on 31st March, 2014, the CSR Committee of the Company comprised of Sh. B. C. Tripathi as the Chairman, Sh. M. Ravindran, Smt. Shyamala Gopinath and Dr. A. K. Khandelwal as the member(s).

• Meeting & Other Details

During 2013-14, 05 (Five) meetings of CSR Committee were held: 15th May, 24th June, 05th August, 20th December, 20th February. The attendance of the Members at the meetings was as follows:

S. No.	Members	No. of Meetings	
		Held during the tenure	Attended
1	Sh. B. C. Tripathi	05	05
2	Sh. S. L. Raina (upto 31.5.2013)	01	01
3	Sh. M. Ravindran (w.e.f. 01.06.2013)	04	04
4	Smt. Shyamala Gopinath	05	04
5	Dr. A.K. Khandelwal	-	-

8. GENERAL BODY MEETINGS

• Location and Time – Last Three AGMs

The location, time and details of special resolutions passed during last three AGMs are as follows:

Year	2010-11	2011-12	2012-13
AGM	27 th	28 th	29 th
Date & Time	07.09.2011 10:30 am	05.09.2012 10:30 am	25.09.2013 10:30 am
Venue	Air Force Auditorium, Subroto Park, New Delhi-110010	Air Force Auditorium, Subroto Park, New Delhi-110010	Manekshaw Centre, Parade Road Delhi Cantonment, New Delhi-110010
Special Resolution passed	None	None	None
Details	N.A.	N.A.	N.A.

No item warranted the postal ballot as stipulated under the Companies Act, 1956. No special resolution is proposed to be passed by postal ballot at the ensuing Annual General Meeting.

9. DISCLOSURES

- a. Annual Financial statements 2013-14 are in conformity with applicable Accounting Standards. During the year, there have been no materially significant related party transactions that may have potential conflict with the interest of the Company at large. The details of "Related Party Disclosures" are being disclosed in Note no. 44 to the accounts in the Annual Report. Being a State Enterprise, no disclosure has been made in respect of the transactions with state enterprises, including subsidiary companies in line with AS-18 on related party transactions.
- b. Your Company has filed report on Corporate Governance in specified format(s) to Stock Exchanges, MoPNG/DPE within stipulated time.
- c. CEO and CFO of the Company, inter-alia, confirmed the correctness of the financial statements, adequacy of the internal control and certified other matters to the Board and Audit Committee, as required under clause 49 of the Listing Agreement..
- d. Board Members and Senior Management Personnel have affirmed compliance with the Code of Conduct of your Company for the financial year ending on 31st March, 2014.
- e. In pursuance of the Securities Exchange Board of India (Prohibition of Insider Trading) Regulations, 1992, the Board has laid down "Code of Conduct for Prevention of Insider Trading" with an objective of preventing purchase and/or sale of shares of the Company by Directors /Officers/ Designated Employees on the basis of unpublished price sensitive information, available to them by virtue of their position in the Company. The objective of this Code is to protect the interest of the shareholders at large, to prevent misuse of any price sensitive information and to prevent any insider trading activity by dealing in shares of the Company.
- f. Your Company has implemented online legal compliance management system which covers the compliance of the applicable laws to your Company.
- g. Your Company has formulated a Training Policy for Board Members of your Company is in place. Your Company's Directors are nominated to attend conferences on corporate governance and other industry related matters conducted

by DPE, SCOPE and other reputed Institutes at regular intervals.

- h. Your Company has complied with the requirements of Clause 49 of the Listing Agreement except the mandatory requirement of composition of Board of Directors of the Listing Agreement as specified in clause 49 IA of the listing agreement. Your Company is regularly taking up the matter with Ministry of Petroleum & Natural Gas, Government of India for appointment of requisite number of Independent Directors on the Board of the Company.

There has been no instance of non compliance with any stock exchange, SEBI on any matter relating to capital market over the last 3 years.

- i. During the year under review, no Presidential Directives have been received by your Company.
- j. Department of Public Enterprise has formulated Guidelines on Corporate Governance for Central Public Sector Enterprises, 2010. Your Company is complying with these guidelines except composition of Board of Directors.
- k. No item of expenditure has been debited in books of accounts, which are not for the purposes of the business and no expenses, which are personal in nature, have been incurred for the Board of Directors and Top Management.

Further, the administrative & office expenses and financial expenses constitutes 2.38% and 0.70 % respectively of total expenses for 2013-14 as against 2.79% and 0.46% in 2012-13.

- l. Your Company nominates its representatives on the Board of subsidiary companies and periodically monitors their performance. In terms of Clause 49 of the Listing Agreement and DPE guidelines on Corporate Governance, performance of the subsidiary companies is, inter-alia, reviewed by the Audit Committee and the Board as under:
 - i) consolidated financial statements comprising of financial statements of subsidiary companies etc., are reviewed by the Audit Committee and Board.
 - ii) minutes of the meetings of the Board of Directors of subsidiary companies are put up to the Company's Board, from time to time.

iii) investments made by unlisted subsidiary companies are also reviewed by the Audit Committee and Board.

iv) statement of significant transactions and arrangements periodically entered into by the subsidiary companies are also reviewed by the Audit Committee and Board.

The Company does not have any material unlisted subsidiary companies in terms of Clause 49 of the Listing Agreement and DPE guidelines on Corporate Governance.

10. MEANS OF COMMUNICATION

Timely disclosure of relevant and reliable information on financial performance is at the core of good governance. Towards this end, major steps taken are as under:

- Quarterly/ Annual Results: The unaudited quarterly results and audited yearly results of the Company were announced within stipulated 45/60 days respectively from the end of respective quarter. In order to attain maximum shareholder reach, the financial results of the Company during the year 2013-14 were published in leading English and Vernacular dailies having wide circulation across the country.
- News Release, Presentation etc.: Official news/press releases and presentations made to analysts are also hosted on the Company's website from time to time and also informed to Stock Exchanges.
- Website: The Company's website www.gailonline.com contains dedicated section 'Investor Zone' having updated relevant information for shareholders.
- Annual Report: Annual Report containing inter-alia, Audited Accounts, Consolidated Financial Statements, Directors' Report, Management Discussion and Analysis, Auditors' Report, Corporate Governance Report including information for the Shareholders and other important information is circulated to the members and others entitled thereto.
- In terms of the Green initiative launched by the Ministry of Corporate Affairs, to allow service of documents to the members through electronic mode, your Company from the last few years have been sending various communications/documents like Annual Report, Notice of AGM, NECS intimation etc. through e-mail to those shareholders who have registered their email id with the DP / R&TA.

- Regular reminders are being sent to Shareholders for claiming unpaid/unclaimed dividend every year.

11. CORPORATE BENEFITS

Dividend

During 2013-14, the Board of Directors approved the payment of dividend, for which the Record Date / Book Closure and dividend payment dates were fixed, as per the following details:

S. No.	Dividend Declared	Dividend (%)	Record Date / Book Closure	Dividend Payment Date
1.	Interim Dividend	45% (₹ 4.5/- per share)	11.02.2014	14.02.2014
2.	Final Dividend (Proposed)	59% (₹ 5.9/- per share)	30.08.2014 to 17.09.2014	25.09.2014

With this, your Company has proposed a total dividend of 104% (₹ 10.40/- per equity share) on the paid-up equity share capital, for FY 2013-14.

Investor Education and Protection Fund (IEPF)

Pursuant to Section 205C of the Companies Act, 1956, dividend amount(s) remaining unclaimed and unpaid for a period of seven years, from the date they became due for payment, is required to be transferred to IEPF established by the Central Government in this behalf.

During the year, your Company has transferred an amount of ₹ 8.65 lacs, ₹ 17.21 lacs and ₹ 7.03 lacs in the IEPF for unclaimed/unpaid final dividend for FY 2005-06, interim dividend and special interim dividend for FY 2006-07 respectively. Till date ₹ 1.42 crores has been transferred to IEPF.

The subsequent due dates of transfer of unpaid/unclaimed dividend to IEPF for the imminent financial year are as under:

S. No.	FY	Type of Dividend	Dividend (%)	Last date for claiming Unpaid Dividend	Due date for transfer to IEPF
1	2007-08	INTERIM	40	16.12.2014	16.01.2015
		FINAL	60	03.09.2015	03.10.2015

After the transfer of unpaid/unclaimed amount to IEPF, no claim shall lie against Company/R&TA. Members who have not yet encashed their Dividend Warrant(s) may approach the R&TA/Company for issuance of demand draft(s) upon completion of necessary formalities in the said behalf in lieu of such warrant. However, shareholders whose unpaid/unclaimed dividend has been transferred to IEPF shall be entitled to get refund in respect of such claims in accordance with rules framed by Government of India.

The Company has uploaded the information in respect of the Unclaimed Dividends till the date of the 29th AGM on the website of the Company as

per IEPF (Uploading of information regarding unpaid and unclaimed amounts lying with companies) Rules, 2012.

Other Details

For change of address/bank details/dividend mandate/ email Id, if any, members may approach-

- If shares are held in physical mode, to the R&TA/Company.
- If shares are held in electronic mode, to their Depository Participant (DP). The R&TA/Company will not entertain such requests, if any.

Bank Account details and 9-digit MICR Code of their Bankers, as noted in the records of their DP are used for the purpose of overprinting on Dividend Warrants or remittance of dividend through National Electronic Clearing Service (NECS), wherever applicable. A detailed reference note on dividend related activities is also available at Company's website under 'Investor Zone'.

12. GENERAL SHAREHOLDER INFORMATION

Forthcoming AGM: Date, Time and Venue

30th Annual General Meeting of the Company is scheduled for **Wednesday, the 17th day of September, 2014 at 10.30 a.m. at Manekshaw Centre, Parade Road, Delhi Cantonment, New Delhi-110010.**

Financial Year

The Company's Financial Year is from 1st April to 31st March.

Listing on Stock Exchanges

Stock Exchange	Security Code	Type of Security
BSE Limited (BSE)	532155	Equity Shares
National Stock Exchange of India Limited	GAIL-EQ	Equity Shares
London Stock Exchange	GAIDL I GAILY US	GDRs

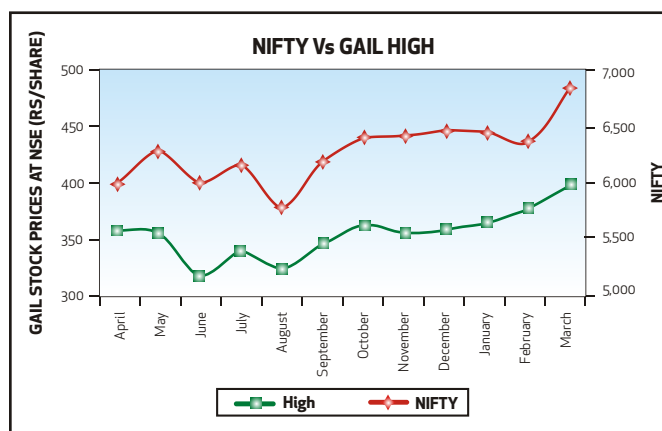
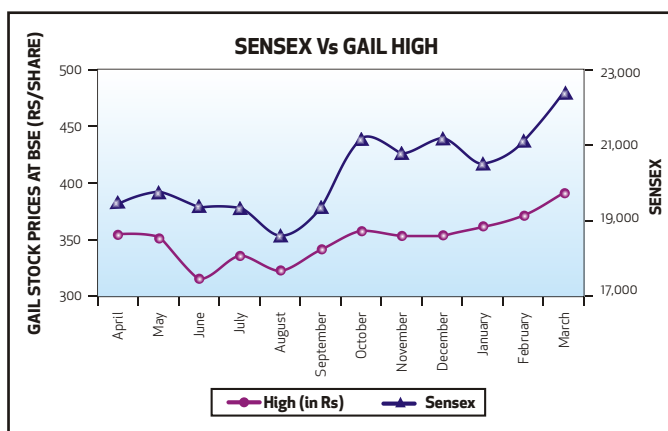
Further, the Non-Convertible Redeemable Bonds – Series – I (6.10%), Bond Series – I, 2010 (8.80%) and Bond Series – I, 2012 (9.14%) of the Company are listed at the Wholesale Debt Market (WDM) segment of NSE. State Bank of India, Delhi is the Bond Trustee for the Bonds – Series – I (6.10%) and IDBI Trusteeship Services Limited, Mumbai is the Bond Trustee for the Bond Series – I, 2010 (8.80%) & Bond Series – I, 2012 (9.14%). During the year, third series of Bond Series – I (6.10%) having ISIN code INE129A07032 and fifth & last series of Bond Series – II (5.85%) having ISIN code INE129A07107 were redeemed on 22nd August, 2013 and 25th March, 2014 respectively.

The Annual listing fees for the listed equity shares and Bonds of your Company, pertaining to the year 2014-15 has been paid to the concerned Stock Exchanges on demand. Your Company has also made the payment of the Annual Custody Fees to National Securities Depository Limited (NSDL) and Central Depository Services (India) Limited (CDSL), for the FY 2014-15, based on the average folio/ISIN positions during 2013-14.

- Market Price Data

MARKET PRICE DATA: HIGH, LOW DURING EACH MONTH IN THE FINANCIAL YEAR 2013-14

Months	BSE			NSE			Market Capitalization (₹ In Crores)		Market Index	
	High (in ₹)	Low (in ₹)	Volume (No. of Shares)	High (in ₹)	Low (in ₹)	Volume (No. of Shares)	BSE	NSE	SENSEX	NIFTY
April	355	310	903760	356	310	15318483	44593	44543	19504	5930
May	352	305	1486800	353	303	23654452	38936	38822	19760	6187
June	317	276	1419306	318	276	21656051	39703	39741	19396	5939
July	336	293	1845936	337	292	2759541	38251	38207	19346	6078
August	324	273	1627591	324	272	24557621	37363	37477	18620	5742
September	342	291	1452233	344	291	2338442	41441	41581	19380	6116
October	358	322	2777931	359	322	18312524	44758	44853	21165	6299
November	354	310	943245	353	318	16315731	42906	42932	20792	6317
December	355	331	993208	356	331	15713320	43319	43420	21171	6364
January	362	332	2634752	361	332	18449746	45532	45450	20514	6346
February	372	347	970841	373	347	15197753	46883	47029	21120	6277
March	391	347	1905724	392	347	26910721	47663	47701	22386	6704



- Share Transfer System

The shares of your Company are being compulsorily traded in dematerialized form and are available for trading under both the depositories in India viz. NSDL and CDSL. MCS Ltd. is the depository interface of the Company.

Your Company has a Share Transfer Committee in place which considers the requests for transfer/ transmission of shares, issue of duplicate share certificates, re-materialization etc. All the transfer /remat /transmission request(s) are attended by R&TA after complying with KYC norms.

- Distribution of Shareholding

The distribution of shareholding of the Company as on 31st March, 2014 is detailed below:

No. of Equity Shares held	No. of Shareholders	% to Total	No. of Shares	% to Total
1	6,557	0.00	6,557	3.75
2-10	1,31,740	0.01	19,471	11.15
11-50	20,91,215	0.16	65,912	37.74
51-100	27,45,810	0.22	33,690	19.29
101-200	37,01,750	0.29	24,178	13.85
201-750	70,60,730	0.56	20,505	11.74
751-5000	55,79,611	0.44	3,499	2.00
5001-10000	17,48,025	0.14	246	0.14
10001-15000	9,74,587	0.08	77	0.04
15001 and above*	124,44,37,375	98.10	499	0.29
TOTAL	126,84,77,400	100.00	1,74,634	100.00

* includes 711,733,651 equity shares held by President of India

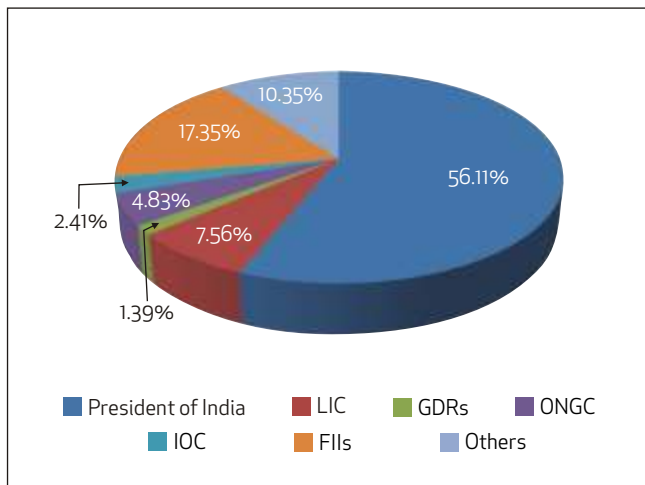


• **Top 10 Shareholders as on 31st March, 2014**

S.No.	Name of Shareholder(s)	Share(s)	%
1	President of India	71,17,18,023	56.11
2	Life Insurance Corporation of India	9,59,06,319	7.56
3	Oil and Natural Gas Corporation Ltd.	6,12,59,323	4.82
4	Indian Oil Corporation Limited	3,06,29,661	2.41
5	Matthews Pacific Tiger Fund	2,46,82,108	1.94
6	Deutsche Bank Trust Company Americas	1,77,25,920	1.39
7	CPSE ETF	1,56,72,024	1.23*
8	Aberdeen Global Indian Equity (mauritius) Limited	1,51,30,000	1.19
9	Orbis Sicav - Asia Ex-japan Equity Fund	1,23,53,009	0.97
10	ICICI Prudential Life Insurance Company Ltd	96,91,570	0.76

* Government of India disinvested 15,672,024 (1.23%) equity shares via CPSE ETF in the month of March, 2014.

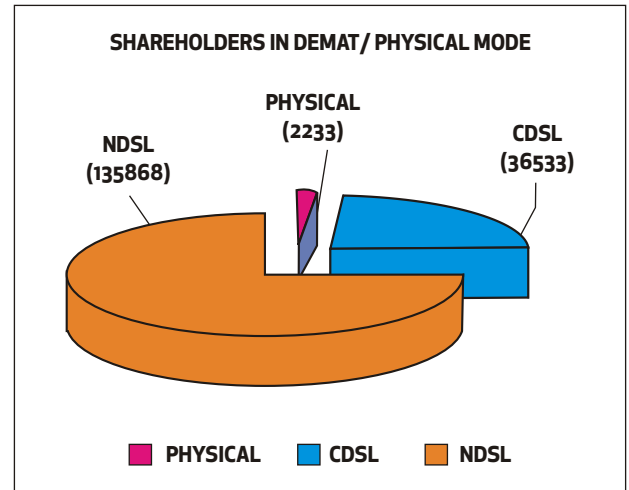
• **Shareholding Profile as on 31st March, 2014**



• **Dematerialization of Shares and Liquidity**

As on 31st March, 2014, your Company had 1,74,634 shareholders, out of which 1,72,401 shareholders were holding equity shares in demat mode and 2,233 shareholders were holding equity shares in physical mode.

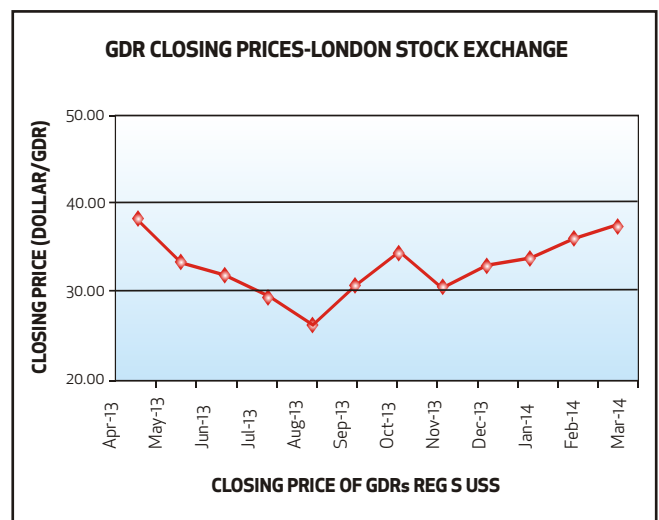
The demat ISIN of your Company's equity shares is INE129A01019 and Corporate Identification Number of Company is L40200DL1984GO1018976.



• **Outstanding GDRs/ADRs/Warrants or Convertible Instruments**

The Government of India had disinvested 135 million equity shares out of its holding in the international market through GDR mechanism in 1999-2000. A total no. of 22.5 million GDRs were issued, one GDR representing six underlying equity shares. As on 31st March, 2014, a total number of 29,54,320 GDRs representing 1,77,25,920 (1.39%) number of equity shares were outstanding. The conversion of GDRs into equity shares has no impact on total equity capital.

The performance of GDRs indicating the closing price of GDRs listed at London Stock Exchange is given as under:





CMD addressing the shareholders on Annual General Meeting 2013

• Major Plant Locations

The following are the major plant locations of your Company:-

U.P. Petrochemical Complex, PATA

P.O. Pata – 206241, Distt. Auraiya (U.P.)

LPG Recovery Plant, Vijaipur

GAIL Complex

Vijaipur – 473112, Distt. Guna (M.P.)

LPG Recovery Plant, Lakwa

Sivasagar – 785688 (Assam)

LPG Recovery Plant, Usar

P.O. Malyan – 402203

Tal. Alibagh, Distt. Raigad (Maharashtra)

LPG Recovery Plant, Vaghodia

GIDC Industrial Estate

Vaghodia – 391760, Distt. Baroda (Gujarat)

LPG Recovery Project, Gandhar

Village Rozantankaria Tal. AMOD

Distt. Bharuch – 392140, (Gujarat)

• Address for correspondence

GAIL (India) Limited

16, Bhikaiji Cama Place,

R.K. Puram

New Delhi - 110066

Phone : 91-11-26172580/26182955

Fax No. : 91-11-26185941

Website : www.gailonline.com

Shareholders may approach to R&TA of the Company at:

MCS Ltd.

Unit: GAIL (India) Limited

F-65, Okhla Industrial Area

Phase-I, New Delhi - 110020

Phone : 91-11-41406149/50/51/52

Fax : 91-11-41709881

Website : www.mcsdel.com

E-mail : admin@mcsdel.com

mcsdail@mcsdel.com

13. COMPLIANCE CERTIFICATE

The statutory auditors of the Company have examined and certified your Company's compliance with respect to conditions enumerated in clause 49 of the Listing Agreement and DPE guidelines on Corporate Governance. The certificate forms part of this Report.

Secretarial Compliance Report confirming compliance by Practicing Company Secretary of the applicable provisions of Companies Act, 1956, Listing Agreement, DPE guidelines on Corporate Governance and other related rules and regulations relating to capital market forms part of the Directors' Report.



AUDITOR'S CERTIFICATE ON CORPORATE GOVERNANCE

TO THE MEMBERS OF GAIL (INDIA) LIMITED

We have examined the compliance of conditions of Corporate Governance by GAIL (India) Ltd. for the year ended 31st March, 2014 as stipulated in Clause 49 of the Listing Agreement of the said Company with Stock Exchanges and Guidelines on Corporate Governance for Central Public Sector Enterprises, 2010 issued by DPE.

The compliance of conditions of Corporate Governance is the responsibility of the management. Our examination was limited to the procedure and examination thereof, adopted by the Company for ensuring the compliance of the conditions of Corporate Governance. It is neither an audit nor an expression of opinion on financial statements of the Company.

In our opinion and to the best of our information and according to the explanations given to us, we certify that the Company has complied with the conditions of Corporate Governance as stipulated in clause 49 of the Listing Agreement and in DPE guidelines, except relating composition of Board as required under clause 49(I)(A) of the Listing agreement and in DPE guidelines. We state that no investor grievance(s) is pending for a period exceeding one month against the Company as per the records maintained by the Company.

We further state that such compliance is neither an assurance as to the future viability of the Company nor efficiency or effectiveness with which the management has conducted the affairs of the Company.

For G.S. Mathur & Co.
Chartered Accountants
Firm No.: 008744N

Rajiv Kumar Wadhawan
Partner
Membership No.: 091007

Place : New Delhi
Dated : 17.06.2014

For M.L. Puri & Co.
Chartered Accountants
Firm No.: 002312N

Navin Bansal
Partner
Membership No.: 091922

Place : New Delhi
Dated : 17.06.2014

SECRETARIAL AUDIT REPORT

ANNEXURE - D

The Board of Directors
GAIL (India) Limited
16, Bhikaji Cama Place
R.K. Puram
New Delhi-110066

We have examined the registers, records, books, papers and minutes of GAIL (India) Limited for the FY ended on 31.03.2013 maintained as per the provisions of:

- The Companies Act, 1956 (the Act) and the Companies Act, 2013 (the Act) (to the extent applicable) and the Rules made under these Acts;
- The Depositories Act, 1996 and the Regulation and Bye-laws framed under that Act;
- The Securities Contracts (Regulation) Act, 1956 and Bye-laws framed under that Act;
- Securities and Exchange Board of India (Buy Back of Securities) Regulations, 1998
- Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2009
- Securities and Exchange Board of India (Issue of Sweat Equity) Regulations, 2002
- Securities and Exchange Board of India (Employee Stock Option Scheme and Employee Stock Purchase Scheme) Guidelines, 1999
- Securities and Exchange Board of India (Issue and Listing of Debt Securities) Regulations, 2008;
- Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011;
- Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 1992;
- Equity Listing Agreement with BSE Limited and National Stock Exchange of India Limited and Debt Listing Agreement with National Stock Exchange of India Limited;
- DPE guidelines on Corporate Governance for Central Public Sector Enterprises, 2010 and
- Memorandum and Articles of Association of the Company.

I. Based on examination and verification of the registers, records and documents produced to us and according to the information and explanations given by the Company, we report that the Company has in our opinion, specifically complied with the enabling provisions, inter-alia, with regard to:

1. Maintenance of various statutory registers and documents and making necessary entries therein;
2. Closure of the Register of Members and Bond holders;
3. Declaration and payment of dividend including interim dividend;
4. Payment of interest on bonds and redemption of bonds;
5. Transfer of unpaid dividend amount as required under the Act to the Investor Education and Protection Funds;
6. Filing of requisite forms and returns with Registrar of Companies within stipulated time;
7. Service of document by the Company to its Members, Bond holders, Bond Trustees and the Registrar of Companies;
8. Convening and holding of Board and its sub-Committee meetings including passing of resolutions by circulation;
9. Appointment retirement and re-appointment of Directors;
10. Directors' Report including notice of AGM, annual account etc. within the stipulated time;
11. Convening and holding of Annual General Meeting;
12. Transfers and transmissions of the Company's shares;

13. Registration and modification of charges;
14. Investment of the Company's funds including guarantee, inter corporate loans & investments; and
15. Remuneration of statutory auditors, appointment and remuneration of cost auditors.

II. We further report that the Company has complied with:

1. Equity Listing Agreement with NSE & BSE, Debt Listing Agreement with NSE, GDR Listing Agreement with London Stock Exchange and DPE Guidelines on Corporate Governance for CPSE including filing of report on Corporate Governance in specified format(s) to Stock Exchanges, MoPNG and DPE within stipulated time; save and except composition of Board of Directors, as required under clause 49 (I) (A) of the Listing agreement and in DPE guidelines.

The Company has informed that GAIL being a Government Company, appointment/ nomination of all the Directors is being done by the President of India, through the Ministry of Petroleum & Natural Gas (MoPNG). The Government of India is in process of selecting requisite number of Independent Directors.

2. Depositories Act, 1996 and Regulations framed there under with regard to dematerialization/rematerialization of securities and reconciliation of records of dematerialized securities with all securities issued by the Company;
3. Securities and Exchange Board of India (Substantial Acquisition of Share and Takeovers) Regulations, 2011;
4. Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 1992;
5. Securities and Exchange Board of India (Issue and Listing of Debt Securities) Regulations, 2008; and
6. The Company has not bought back and not issued any shares.

III. We further report that:

1. Directors have complied with the requirements as to disclosure of interests and concerns in contracts and arrangements;
2. Board Members and Senior Management Personnel have affirmed compliance with the Code of Conduct of the Company for the financial year ending on 31st March, 2014;
3. CEO/CFO of the Company has certified the specified matters to the Board and Audit Committee, as required under clause 49 of the Listing Agreement.
4. Observed the Secretarial Standards issued by the Institute of Company Secretaries of India although recommendatory in nature; and
5. There was no prosecution initiated against or show cause notice received by the Company and no fines or any other punishment was imposed on the Company, its Directors and Officers during the FY 2013-14 for any offences under the Act.

**For Agarwal S. & Associates
Company Secretaries**

**Place : New Delhi
Date : May 26 , 2014**

**Sachin Agarwal
Proprietor
CP No. 5910**



ANNEXURE TO THE DIRECTORS' REPORT ON CONSERVATION OF ENERGY, TECHNOLOGY ABSORPTION AND FOREIGN EXCHANGE EARNINGS & OUTGO AS PER COMPANIES (DISCLOSURE OF PARTICULARS IN THE REPORT OF BOARD OF DIRECTORS) RULES, 1988

A. CONSERVATION OF ENERGY

a) Energy conservation measures taken:

1. **Optimal Utilization of grid Power instead of Captive Power:** As Gas Turbine Generators of Captive Power Plant at Hazira Compressor Station are designed for maximum connected load, minimum load had to be ensured for smooth operation of GTG's. After ensuring reliable GRID power, some of the electrical load is being shed during silent hrs. which was previously not possible due to unstable operation of the GTG on part load. This measure has resulted in saving of approx 1.0 Lacs unit/month equivalent to approx. ₹ 98 Lacs/annum.
2. **Switching over of TEG/CCVT power to Grid/solar Power:** TEG/CCVT installed at remote RR stations to ensure reliable electrical power supply are less efficient source of power supply. Accordingly, TEGs/CCVTs have been replaced by Grid/Solar supply in Agra, Dibiyapur & VSPL. This has resulted in saving of approximately ₹ 75.0 Lacs in addition to improvement in carbon footprint.
3. **Modification for delivery of primary compressor discharge towards Aonla at Dibiyapur:** At Dibiyapur compressor station, lean gas available from Pata petrochemical plant is compressed in two stages by operating the primary and booster compressor in series to cater the pressure requirement of Auraiya - Jagdishpur pipeline consumers. The additional quantity of gas from booster compressor discharge was diverted in Auraiya - Aonla pipeline after pressure reduction. With modification completed in July 2013, gas quantity other than required for Auraiya Jagdishpur pipeline, is diverted directly from primary compressors discharge in Aonla pipeline, resulting in saving in 5% fuel gas in booster compressors to the tune of 1.4 MMSCM corresponding to ₹ 1.4 Cr/annum.
4. **PLC Based Burner Management System in RG Heater:** PLC based Burner

management system has been installed in RG Heaters to replace earlier inefficient burners with manual control at GPU Usar in month of April'13. The new automated Burner management system will result in 15% fuel saving due to stoppage of pilot burner and enhance efficiency due to better Air Fuel Ratio control. It additionally enhances operational safety and environment friendliness. The modification will result in reduction of fuel gas consumption to the tune of 0.054 MMSCM/annum, corresponding to approximately ₹ 5.9 Lacs/Annum.

5. **Initiative to reduce specific fuel gas consumption through purge flow control to Flare:** Close monitoring adopted to reduce the purge gas flow to flare header at GPU Usar, by installing the CCTV camera. This has resulted in change in specific fuel gas consumption to flare from 0.057 MMSCM/month to 0.043 MMSCM/month. The saving during 2013-14 is approximately 0.068384 MMSCM gas which corresponds to ₹ 7.5 lacs.
 6. **Modification done in lighting system:** The Automation of lighting system at Jhabua compressor station and replacement of conventional lighting systems (HPMV/T8/GLS) with more energy efficient T5/ LED lighting systems at various locations of GAIL has been done to improve energy efficiency.
 7. **Blinding of HRSG-1/2 duct to stop seal air fan:** In the original design of Heat Recovery Steam Generation (HRSG) unit no. 1&2 of Pata, Seal air fans are provided for sealing the gate of FD fan. As HRSG is running in Gas Turbine (GT) -Mode only and running in FD fan mode is highly unlikely. Therefore, duct of FD fan has been blinded and fans have been stopped. The expected saving in electricity for running FD fans is ₹ 13.26 lacs per annum.
- b) Additional investments and proposals, if any, being implemented for reduction of consumption of energy**

Implementation of Automatic blow down system in HRSG-2: An automatic blow down system will be implemented in HRSG-2 of GPU plant at Pata to switch over from manual blow down to automatic blow down, which will result in reduction of blow down quantity due to better control of TDS level in steam drum water. The expected monetary savings due to this modification will be around ₹ 18.00 lacs per annum.

c) Impact of the measures at (a) and (b) above for reduction of energy consumption and consequent impact on the cost of production of goods

Energy conservation measures taken so far have resulted in an improvement in energy efficiency as detailed at (a) and (b) above.

d) Total energy consumption and energy consumption per unit of production:

As per **Form A** annexed.

B. TECHNOLOGY ABSORPTION

e) Efforts made in technology absorption:

As per **Form B** annexed.

C. FOREIGN EXCHANGE EARNINGS AND OUTGO

f) Activities relating to exports; initiatives taken to increase exports; development of new export markets for products and services; and export plans

There have not been any exports during 2013-14. However visits have been made to Myanmar, Bangladesh, and Thailand and discussions held with buyers in Pakistan, Bangladesh, Nepal, Bhutan, etc for deepening the understanding of these markets. Some buyers from these countries have evinced interest for importing GAIL's polymers. The company is also holding discussions with OPaL and BCPL for exporting their products. The company plans to export small quantities during 2014-15.

g) Total foreign exchange used and earned

During the year, foreign exchange earnings were ₹ 210.01 Crores and foreign currency outgo was ₹ 9,229.22 Crores.

FORM A

FORM FOR DISCLOSURE OF PARTICULARS WITH RESPECT TO CONSERVATION OF ENERGY

A. POWER & FUEL CONSUMPTION

	2013-14	2012-13
1. ELECTRICITY		
a. Purchased		
Unit (KWH)*	34,16,34,156.25	31,60,93,396.56
Total Amount (₹ in lacs)	22,083.90	18,339.70
Rate/Unit (₹/KWH)	6.46	5.80
b. Own Generation		
(i) Through Diesel Generator		
Unit (KWH)	6,00,950.03	8,61,259.55
Units per liter of Diesel Oil (KWH/Litres)	2.97	2.70
Cost/Unit (₹/KWH)	19.06	17.75
(ii) Through Steam/Gas Turbine/Generator		
Units (KWH)	17,92,11,958.00	19,61,98,159.00
Unit per 1000 SCM of Gas (KWH/1000 SCM)	2,899.05	2,891.02
Cost/Unit	7.73	5.54
2. COAL	NIL	NIL
Quantity (tonnes)		
Total cost		
Average rate		
3. FURNACE OIL	NIL	NIL
Quantity (K. ltrs.)		
Total amount		
Average rate		
4. OTHERS/INTERNAL GENERATION		
Natural Gas Consumption (SCM/ Year)	27,88,578.00	26,74,296.00
Total Amount (₹ in lacs)	424.21	306.24
Cost of natural gas / SCM (₹/SCM)	15.21	11.45

* The Purchase units are inclusive of wind energy consumption at Gandhar, Vaghodia, Kandla & Samakhiali and exclusive of discount on account of wind power consumed.

B. CONSUMPTION PER UNIT OF PRODUCTION

	2013-14	2012-13
ETHYLENE		
Production (MT)	4,50,870	4,48,534
Electricity (KWh/MT)	67.46	54.79
Furnace Oil	Nil	Nil
Coal	Nil	Nil
Others - Fuel Gas (MT/MT)	0.233	0.252
- Steam (MT/MT)	0.89	0.95
HDPE & Low Polymers		
Production (MT)	2,25,844	2,30,616
Electricity (KWh/MT)	324.5	327.07
Furnace Oil	Nil	Nil
Coal	Nil	Nil
Others - Steam (MT/MT)	0.678	0.7794
LLDPE & Polymer Shreds		
Production (MT)	2,14,283	2,10,386
Electricity (KWh/MT)	241	2,46.678
Furnace Oil	Nil	Nil
Coal	Nil	Nil
Others - Fuel Gas (MT/MT)	0.036	0.0376
- Steam (MT/MT)	0.783	0.670

Note:-

- Actual figures have been noted for Total Polymer which includes
 - HDPE production= HDPE Pellet, low polymer wax and poly lumps for HDPE-I&II
 - LLDPE production= LLDPE pellets+ Polymer shreds
- Increase in power consumption for Ethylene production from 54.79 KWh/MT to 67.46 KWh/MT is due to additional power consumption in newly commissioned Mist Cooling System (MCS). However, there has been significant reduction in overall energy of Gas Cracker Unit (GCU) for ethylene production due to savings in steam & fuel.



FORM B

FORM FOR DISCLOSURE OF PARTICULARS WITH RESPECT TO ABSORPTION

1. Specific areas in which R&D carried out by the Company

GAIL is pursuing many R&D projects in the identified thrust areas pertaining to natural gas storage, transmission, CO₂ utilization, unconventional energy resources and waste recycling etc. Few of the important projects being pursued are:

- a. Setting-up a unique first-of-its-kind Pilot Project for extraction of Land Fill Gas (LFG) from an un-scientificallly managed landfill site in Delhi.
- b. Conversion of waste plastics to hydrocarbons.
- c. Development of new polymer grade.
- d. 2D and 3D Seismic data processing and interpretation, unconventional resource exploration and exploitation, formation evaluation & field studies, oil and gas production, oil & gas field development etc. in E&P blocks where your Company has participating interest. An expenditure of ₹ 7.81 Crores has been made on E&P activities like Seismic data processing & interpretation and Formation Evaluation and Field Studies for finding new sources of hydrocarbons.
- e. Development of Metal Organic Framework (MOF) based adsorbent for storing of natural gas at low pressure.
- f. Development of novel Nano-Composite materials for Hydrogen storage.
- g. Development of light-weight Composite Cylinders for storage of CNG.
- h. Development of condition based monitoring of Pipelines using wireless sensor networks.
- i. Development of a Pipeline Health monitoring Robot.
- j. CO₂ capture through microbial route.

2. Benefits derived as a result of the above R&D

- a. The LFG is being successfully extracted and is being flared in an enclosed Flare System. The Project is eligible for getting carbon credits under CDM as it helps to reduce the emissions of methane which has a global warming potential of 25 times of CO₂. The Project has been successfully validated and registered with UNFCCC in Feb'2014.
- b. Successful development of process technology shall help in proper disposal of waste plastics by improving its economic value and also generate fuel from the same.
- c. A new polymer grade (T50A010) has been developed. This Grade is suitable for making Tarpaulin, Mosquito-net, Fishing-net etc. and was launched in June'13. It has been well received in the market.
- d. To improve the prospects of discovery during drilling.
- e. The other Projects are in development phase.

3. Future plan of action

- a. Many R&D projects in the company's business areas like Natural Gas transportation & Storage, Fuel Cells & Nano-composites, CO₂ and unconventional energy utilization etc. are being pursued

through various Engineering Institutes / Laboratories. The successful Projects shall be carried forward till commercialization.

- b. Setting-up of Pilot Project on 'Waste Plastics to Hydrocarbons' for validating the bench-scale results for eventual commercial-scale operations.

4. Expenditure on R&D

- | | |
|--|-----------------------|
| a. Capital | : ₹ 32.77 crores (*) |
| b. Recurring/Revenue | : ₹ 21.11 crores (**) |
| c. Total | : ₹ 53.88 crores |
| d. Total R&D expenditure as a percentage of total turnover | : 0.09% |
- (Turnover 2013-14: ₹ 57,245 crore)

(*) This amount includes an expenditure of ₹ 3.81 Crores towards R&D in E&P as per DPE Guidelines.

(**) This amount includes an expenditure of ₹ 4 Crores towards R&D in E&P as per DPE Guidelines but excludes an amount of ₹ 11.34 crores which was accounted towards LFG project during 2012-13 as CWIP.

TECHNOLOGY ABSORPTION, ADAPTATION AND INNOVATION

1. Efforts, in brief, made towards technology absorption, adaptation and innovation

i) DCS of GREP control room at Vaghodia compressor station was upgraded with new DCS system. The Upgraded system has the following advanced features:

- User-friendly interface with faster response and better controllability.
- Multi window Environment
- Better trends and reporting system with print supporting display.
- Easy to configure new input/output loops and backups in latest media CD/DVD/USB
- Connectible with ERPSAP system for real time data transfer.
- Better Preventive Maintenance and troubleshooting

ii) Modified back flushing scheme for heat exchanger for effective in service removal of scales (dirt) at GPU Vijaipur:

Heat exchangers (11-E-122 and 12-E-125) which are placed at more heights than other heat exchangers of GPU Vijaipur and often clogged resulting in reduced heat transfer were provided with modified back flushing scheme with cooling water suction header instead of return header as the return header pressure was not sufficient due to these exchanger being located at almost the same level as that of cooling tower riser.

iii) Installation of New PSV test Bench at GPU Vijaipur:

The old PSV test bench used for calibration of safety valves at GPU Vijaipur has been replaced with new test bench fitted with high pressure booster and low power air compressor with auto cut system.

iv) Upgradation of Fire & Gas detection and Suppression control system in HVJ:

At HVJ compressor stations namely at Hazira, Jhabua, Vijaipur and Auraiya, fire & gas detection systems have been provided in Allison gas turbine enclosures and in compressor sheds for safety reasons because of flammable environment. These systems were installed in late nineties and are more than 20 years old and have become technologically obsolete. Thus, a conscientious decision was taken to upgrade these fire & gas detection and suppression control systems with presently available state of the art systems. The work has been awarded and phase wise implementation is in progress starting from at Hazira.

2. Benefits derived as a result of the above efforts, e.g., product improvement, cost reduction, product development, import substitution, etc.

i) Benefits of Up-gradation of DCS at GREP Control Room, GAIL-Vaghodia:

- Single point monitoring of all the station parameters and operations of station valves.
- Instrument Air Compressor parameters have been taken into the system.
- Communicating with GTCs system, Station ESD Panel, Flow computers, GEG & Load sharing controller with start/stop/prep start/ loading/ unloading/venting/ GAC fan (start/Stop) for all GTC.
- Efficient control with SLPC loops and separate graphics.
- Generation of Shift Report/Daily report/Alarm configuration /Trending of important parameters.

ii) Modified back flushing scheme for heat exchanger for effective in service removal of scales (dirt)

Implementation of the scheme enabled smooth online back-flushing of the mentioned heat exchangers without any disturbance in plant parameters thereby providing operational flexibility. Additionally, improvement of heat transfer rates in these exchangers has resulted in improved product quality and process performance.

iii) Installation of New PSV test Bench:

The new PSV test bench has the benefits in terms of reduced power consumption due to compressor auto cut system and is also safer.

iv) Upgradation of Fire & Gas detection and Suppression control system:

The upgraded fire & Gas detection and suppression control system is not only based on state of the art technology but have many advanced features which are mentioned below:

- Based on digital network based technology.
- Lesser hardware and cabling. Easy to maintain, lesser no. of system components and hence cost effective in long run.
- Signals don't travel through individual pair of wires, but are looped through single redundant digital cabling network.
- Digital network enables all device information up to control room including the signal output and provide healthiness status of detectors.

3. In case of imported technology (imported during the last five years reckoned from the beginning of the financial year), following information may be furnished:

- | | |
|---|--|
| a. Technology imported | <ul style="list-style-type: none"> i) Ethylene Cracker Technology, from Shaw Energy & Chemicals International Inc. (now Technip Stone & Webster Process Technology), USA for GAIL Petrochemical Complex II at Pata for addition of 450 KTA ethylene capacity. ii) LLDPE/HDPE Swing Technology, from Univation Technologies, USA for GAIL Petrochemical Complex II at Pata for addition of 400 KTA polyethylene capacity iii) Butene-1 Technology, from Axens (IFP Group Technologies), France for GAIL Petrochemical Complex II at Pata for addition of 20000 TA Butene-1 production capacity |
| b. Year of import | : 2010 for (a)(i) & (a)(ii) and 2011 for (a)(iii) |
| c. Has technology been fully absorbed? | : In process |
| d. If not fully absorbed, areas where this has not taken place, reasons therefore and future plans of action | : N.A. |