

DIRECTORS

Mr. N VENKATARAMANI	Chairman
Mr. A VENKATARAMANI	Managing Director
Dr. R MAHADEVAN	Director
Mr. YOSHIO ONODERA	Director
Mr. P M VENKATASUBRAMANIAN	Director
Dr. R NATARAJAN	Director
Dr. SANDHYA SHEKHAR	Director
Mr. J. SHIVAKUMAR	Director
Mr. R VENKATARAMAN	Chief Financial Officer
Mrs. S PRIYAMVATHA	Company Secretary

AUDITORS

Messrs. R.G.N. Price & Co.,
861, Anna Salai, Chennai 600 002

COST AUDITORS

Raman & Associates
No. 1, Muthukumara Swamy Salai
Baby Nagar, Velacherry, Chennai 600 042

LEGAL ADVISORS

S Ramasubramaniam & Associates
6/1, Bishop Wallers Avenue (W), Chennai 600 004

BANKERS

Central Bank of India
Standard Chartered Bank
The Karur Vysya Bank Limited
HDFC Bank Limited

REGISTERED OFFICE & FACTORY

D 11/12, Industrial Estate
Maraimalai Nagar
Kancheepuram Dist. 603 209
Tel: 044 - 2745 2816 / 2745 2929
E-mail: iprmmn@iprings.com

SHARE TRANSFER AGENTS

BTS Consultancy Services Pvt. Ltd.
I Floor, M S Complex
Plot No. 8, Sastri Nagar
Nr. 200 Feet Road RTO
Kolathur, Chennai - 600 099
Tel: (044) 2556 5121 Fax (044) 2556 5131
E-mail: helpdesk@btsindia.co.in

C O N T E N T S

	Page
Notice to Members	2
Directors' Report	6
Auditors' Certificate on Corporate Governance	17
Report on Corporate Governance	18
Management Discussion and Analysis Report	23
Secretarial Audit Report	24
Report of the Auditors to the Members	28
Accounts	33
Cash Flow Statement	59

NOTICE TO THE MEMBERS

NOTICE is hereby given that the **TWENTY SIXTH ANNUAL GENERAL MEETING** of the Members of **IP Rings Ltd.** will be held at 11.30 a.m. on Thursday, 27th July 2017 at the Registered Office of the Company at D-11/12, Industrial Estate, Maraimalai Nagar 603 209, to transact the following business:

ORDINARY BUSINESS:

1. To receive, consider and adopt the Audited Financial Statements for the year ended on March 31, 2017 and the Report of the Directors' and of the Auditor's thereon and to pass the following Resolution as an Ordinary Resolution:

"RESOLVED that the Statement of Profit and Loss for the year ended on March 31, 2017, the Balance Sheet as on that date and annexure thereto, the Statement of changes in Equity and the Cash Flow Statement for the year ended on March 31, 2017, the Reports of Auditors and Directors thereon be and are hereby received and adopted."

2. To elect a Director in place of Dr R Mahadevan (DIN 00001690), who retires by rotation and, being eligible, offers himself for re-election and to pass the following Resolution as an Ordinary Resolution:

"RESOLVED that Dr R Mahadevan (DIN 00001690), who retires by rotation from the Board pursuant to the provisions of Section 152 of the Companies Act, 2013 be and is hereby re-elected as a Director of the Company."

3. To consider and if thought fit to pass with or without modification(s), the following resolution as an Ordinary Resolution.

"RESOLVED that pursuant to the provisions of Section 139 and other applicable provisions, if any, of the Companies Act, 2013 and the Companies (Audit and Auditors) Rules, 2014, as amended from time to time, Messrs. M S Krishnaswami & Rajan, Chartered Accountants, Chennai (Firm Regn No.001554S) be and is hereby appointed as Auditors of the Company in place of retiring Auditors M/s R G N Price & Co., Chartered Accountants (Firm Registration No.002785S), to hold office from the conclusion of this Annual General Meeting till the conclusion of the 31st Annual General Meeting of the Company to be held in the year 2022 (subject to ratification of their appointment at every Annual General Meeting, if so required under the Act) on such remuneration as may be fixed in this behalf by the Board of Directors of the Company."

SPECIAL BUSINESS:

4. To consider and if thought fit, to pass with or without modification(s), the following Resolution as an Ordinary Resolution.

"RESOLVED that the remuneration of Rs.1,50,000/- (Rupees One lakh fifty thousand only) in addition to reimbursement of out of pocket expenses payable to M/s. Raman & Associates, who were appointed as Cost Auditor of the Company for the year 2017-18 as recommended by the Audit committee and approved by the Board of Directors of the Company, in terms of Section 148 and all other applicable provisions of the Companies Act, 2013 read with the Companies (Audit and Auditors) Rules, 2014 be and is hereby ratified."

5. To consider and if thought fit, to pass with or without modification(s), the following Resolution as an Ordinary Resolution.

"RESOLVED that pursuant to the provisions of Section 181 of the Companies Act, 2013 and all other applicable provisions, if any, of the Act, the consent of the shareholders for the donations amounting to Rs. 3,00,000/- made to charities during the financial year 2016 - 2017, be and is hereby accorded."

Chennai
May 25, 2017

Registered Office:
D-11/12, Industrial Estate
Maraimalai Nagar 603 209
CIN: L28920TN1991PLC020232

By Order of the Board

S PRIYAMVATHA
Company Secretary

NOTES:

- A MEMBER ENTITLED TO ATTEND AND VOTE IS ENTITLED TO APPOINT A PROXY TO ATTEND AND VOTE INSTEAD OF HIMSELF AND THE PROXY NEED NOT BE A MEMBER. A proxy cannot act as proxy on behalf of members not exceeding 50 and holding in the aggregate not more than ten percent of the total share capital of the Company.
- The relative Statement pursuant to Section 102 of the Companies Act, 2013 in respect of business under item nos.4 & 5 as set out above is annexed hereto.
- The proxy form duly completed should be deposited at the Registered Office of the Company / Office of the Share Transfer Agents not later than 48 hours before the commencement of the Meeting.
- The Register of Members and Share Transfer Books of the Company will remain closed from Thursday, July 20, 2017 to Thursday, July 27, 2017 (both days inclusive).
- Members / Proxies should bring the attendance slip duly filled in for attending the Meeting.
- Members / Proxies are requested to bring their copy of Annual Report to the Meeting.
- Members who have multiple Folios in identical names or joint names in the same order are requested to intimate to the Company those Folios to enable the Company to consolidate all such Shareholdings into a single Folio.
- Under Section 124(5) of the Companies Act, 2013, the amount of dividend remaining unpaid or unclaimed for a period of seven years from the due date is required to be transferred to the Investor Education and Protection Fund (IEPF), constituted by the Central Government. The Company had transferred Unclaimed Dividend to the account of Investor Education and Protection Fund as per the Provisions.
- The Ministry of Corporate Affairs (MCA) on 10th May, 2012 notified the IEPF (Uploading of information regarding unpaid and unclaimed amounts lying with Companies) Rules, 2012 (IEPF Rules), which is applicable to the Company. The objective of the IEPF Rules is to help the shareholders ascertain status of the unclaimed amounts and overcome the problems due to misplacement of intimation thereof by post, etc. In terms of the said IEPF Rules, the Company has uploaded the information in respect of the Unclaimed Dividends in respect of the financial years from 2008-09, as on the date of the 25th Annual General Meeting held on the 28th July 2016 on the website of the IEPF viz. iepf.gov.in and on the Website of the Company viz. www.iprings.com
- The Securities and Exchange Board of India (SEBI) has mandated the submission of Permanent Account Number (PAN) by every participant in securities market. Members holding shares in electronic form are, therefore, requested to submit the PAN to their Depository Participants with whom they are maintaining their demat accounts. Members holding shares in physical form can submit their PAN details to the Company. SEBI has also mandated that for registration of transfer of securities, the transferee(s) as well as transferor(s) shall furnish a copy of their PAN card to the Company.

Appointment / Reappointment of Directors:

- At the ensuing Annual General Meeting, Dr R Mahadevan, Director (DIN 00001690), retires by rotation and being eligible offers himself for reappointment.

As per SEBI (LODR) Regulations, 2015, the brief background, functional expertise of the Director proposed for re-appointment are furnished below along with details of Companies in which he is a Director and the Board Committees of which he is a member:

- (i) Dr R Mahadevan (DIN 00001690), aged about 74 years has been a Director of the Company since July 1995. He is an Engineering Graduate and holds a Ph.D from IIT, Chennai. He has held various senior level management positions and retired as a Whole Time Director from India Pistons Limited.

Details of other Directorships / Committee Memberships held by him:

Directorship	Committee Membership
IP Pins & Liners Limited	
India Pistons Limited	
Amco Batteries Limited	
Amalgamations Valeo Clutch Pvt. Limited	
IPL Green Power Limited	
Simpson and Company Limited	Nomination and Remuneration Committee – Chairman

- The Company has appointed Mrs Lalitha Kannan, Partner, M/s. LK & Associates, Practicing Company Secretaries, Chennai to act as the Scrutinizer for conducting the e-Voting Process (including the Ballot Form received from the members, who do not have access to the e-Voting process), in a fair and transparent manner.
- Members who do not have access to e-Voting facility may send completed Ballot Form (enclosed with this Annual Report) so as to reach the Scrutinizer appointed by the Board of Directors of the Company, at the Registered Office of the Company not later than Wednesday, July 26, 2017. Ballot paper received after this date will be treated as invalid.
- In compliance with the provisions of Sections 108 and 110 of the Companies Act, 2013 read with The Companies (Management and Administration) Rules, 2014, the company is pleased to offer e-Voting facility to all the Shareholders of the Company. For this purpose, the Company has entered into an agreement with NSDL for facilitating e-voting to enable the Shareholders to cast their votes electronically.

The instructions for Shareholders for e-Voting are as under:

A. In case of Shareholders' receiving e-mail from NSDL:

- Open e-mail and open PDF file viz., "IP Rings e-Voting.pdf" with your Client ID or Folio No. as password. The said PDF file contains your user ID and password for e-Voting. Please note that the password is an initial password.
- Launch internet browser by typing the following URL: <https://www.evoting.nsdl.com>
- Click on Shareholder – Login.
- Enter the user id and password as initial password noted in step (i) above. Click Login.
- Password change menu appears. Change the password with new password of your choice with minimum 8 digits / characters or combination thereof. Note new password. It is strongly recommended not to share your password with any other person and take utmost care to keep your password confidential.
- Home page of e-Voting opens. Click on e-Voting: Active e-Voting Cycles.
- Select "EVEN" (E-Voting Event Number) of IP Rings Ltd.
- Now you are ready for e-Voting as Cast Vote Page opens.
- Cast your vote by selecting appropriate option and click on "Submit" and also "Confirm" when prompted.
- Upon confirmation, the message "Vote cast successfully" will be displayed.
- Once you have voted on the resolutions, you will not be allowed to modify your vote.
- For the votes to be considered valid, the institutional shareholders (i.e., other than individuals, HUF, NRI, etc.) are required to send scanned copy (PDF/JPEG Format) of the relevant Board Resolution / Authority Letter etc., together with attested specimen signature of the duly authorized signatory(ies) who are authorized to vote, to the Scrutinizer through e-mail at kannan.lalitha@gmail.com with a copy marked to evoting@nsdl.co.in

B. In case of Shareholders' receiving Ballot Form by Post:

- Initial password is provided as below at the bottom of the Postal Ballot Form

EVEN	USER ID	PASSWORD/PIN

- Please follow all steps from Sl. No. (ii) to Sl. No. (xii) above, to cast vote.

- C. In case of any queries with respect to e-Voting, you may refer the Frequently Asked Questions (FAQs) for Shareholders and e-Voting user manual for Shareholders available at the Download section of www.evoting.nsdl.com
- D. If you are already registered with NSDL for e-Voting then you can use your existing User ID and Password for casting your vote.
- E. You can also update your mobile number and e-mail id in the user profile details of the folio which may be used for sending future communication(s).
- F. Kindly note that the Shareholders can opt only one mode of voting, i.e., either by Physical Ballot or e-Voting. If shareholders are opting for e-Voting, then they should not vote by Physical Ballot or vice-versa. However, in case Shareholders cast their vote both by Physical Ballot and e-Voting, then voting done through e-Voting shall prevail and voting done by physical ballot form will be treated as invalid.
- G. Shareholders desiring to exercise vote by physical Postal Ballot are requested to carefully read the instructions printed in the Postal Ballot Form and return the Form duly completed and signed in the enclosed self addressed business reply envelope to the Scrutinizer so as to reach the Scrutinizer on or before the close of working hours on Wednesday, July 25, 2017. However, envelopes containing Ballot Form(s), if deposited in person or sent by courier or registered / speed post at the expense of the Shareholder will also be accepted.
- H. The e-voting period for e-Voting module commences on Monday, July 24, 2017 @ 9.00 a.m. and ends on Wednesday, July 26, 2017 @ 5.00 p.m. The e-Voting module shall also be disabled by NSDL at 5.00 p.m. on the same day.
- I. The Scrutinizer will submit her report addressed to the Chairman of the Company, after completion of scrutiny of Ballot in a fair and transparent manner. The results of the Ballot will be announced within two days of the passing of Resolutions at the 26th AGM at the Registered Office of the Company and communicated to the Stock Exchange.
- J. The declared results along with Scrutinizer's Report shall be placed on the Company's Website and on the website of NSDL within 2 days of passing of the Resolutions at the 26th AGM of the Company.

EXPLANATORY STATEMENT PURSUANT TO SECTION 102 OF THE COMPANIES ACT, 2013:

ITEM NO. 4

The Board, on the recommendation of the Audit Committee, has approved the appointment and remuneration of the Cost Auditors M/s. Raman & Associates, amounting to Rs.1,50,000/- (Rupees One lakh fifty thousand only) per annum, to conduct the audit of the cost records of the Company for the financial year ending March 31, 2018.

In accordance with the provisions of Section 148 of the Companies Act, 2013 read with Companies (Audit and Auditors) Rules, 2014, the remuneration payable to the Cost Auditors has to be ratified by the Shareholders of the Company and hence the Resolution.

The Board of Directors recommends the Resolution for your approval as set out under item no.4.

None of the Directors / KMPs / their relatives is interested or concerned in the proposed Resolution.

ITEM NO. 5

During the financial year 2016-17 the Company had contributed a sum of Rs.3,00,000/- towards Charity. In as much as the said payment requires the consent of the Shareholders in conformity with Section 181 of the Companies Act, 2013 the Resolution is placed for approval.

The Board of Directors recommends this resolution as set out under item no. 5.

None of the Directors / KMPs / their relatives is interested or concerned in this Resolution.

Chennai
May 25, 2017

Registered Office:
D-11/12, Industrial Estate
Maraimalai Nagar 603 209
CIN: L28920TN1991PLC020232

By Order of the Board

S PRIYAMVATHA
Company Secretary

DIRECTORS' REPORT

Your Directors have pleasure in presenting the **Twenty Sixth Annual Report** together with the Audited Financial Statements for the year ended March 31, 2017 and the Auditor's Report thereon.

FINANCIAL RESULTS

	2016-2017	2015-2016
	(₹ in Lakhs)	
Profit before Finance charges, Depreciation and Tax	1541.03	1572.38
Finance Charges	996.32	852.35
Depreciation	801.09	695.37
Profit / (Loss) before Tax	(256.38)	24.66
Provision for Taxation (Net)	(111.64)	3.31
Profit / (Loss) After Tax	(144.74)	21.35
Other Comprehensive Income	(34.25)	(15.29)
Total Comprehensive Income	(178.99)	6.06

DIVIDEND

Your Directors do not recommend any Dividend for the year ended March 31, 2017.

REVIEW OF BUSINESS OPERATIONS

In continuation of the revival in economy recorded during the year 2015-16, the year under review 2016-17 also witnessed a satisfactory growth for the automobile industry. However the company faced many challenges during the year mainly arising out of the effects of demonetization in November-16 and Vardha storm in Chennai. The company was able to meet the challenges successfully due to dedicated efforts from all the employees and was in a position to develop new high quality and cost competitive products for the domestic as well as the export markets.

As a result, your Company has recorded a sale of Rs.190.05 crores, 44.32 % growth over the previous year. The growth was mainly driven by exports. In order to keep up with the growing demand, your Company has invested heavily in capital equipment during the last few years. The high cost of capital has resulted in increased finance cost and drop in profit levels. The capital equipments are all commissioned with the least delay resulting in higher volumes of business and improved absorption of overheads. The successful completion of the rights issue of Rs.50 crores has also helped the company in repayment of high cost loans, reduction in finance cost and improvement in potential profitability for the future. The benefits of reduction in interest cost and increase in volumes is being progressively realized as evident in the results achieved during the last quarter of the year.

Your Company ended the year with a loss of Rs. 144.74 lakhs against a marginal profit after tax of Rs.21.35 lakhs for the previous year.

As already mentioned during the year under review, your Company had successfully offered Rights Shares and the Shareholders have reposed their confidence on the Company by oversubscribing to the Shares. Majority of the borrowings were repaid out of the issue proceeds.

FUTURE PROSPECTS

The Indian Auto Industry is one of the largest and most competitive in the world. India is also a prominent auto exporter and has strong export growth for the near future. Several initiatives by the Government of India and major automobile players in the Indian market are expected to make India a leader by 2020. The Government of India encourages foreign investments in the auto sector and allows 100% FDI under the automatic route. Your Company has carefully understood the environment and is trying to convert all the challenges into opportunities.

Your Company has already enhanced its capacities & capabilities and is well poised to meet the challenges and achieve healthy rates of growth in sales and profitability in the coming years.

DIRECTORS

In accordance with the provisions of the Companies Act, 2013, Dr R Mahadevan (DIN 00001690), retires by rotation and is eligible for reappointment.

All the Independent Directors of the Company have affirmed that they meet the criteria for independence as provided in Section 149(6) of the Companies Act, 2013. Formal Annual Evaluation of Directors was done as per the requirements of the Companies Act, 2013.

COMPANY'S POLICY RELATING TO DIRECTORS APPOINTMENT, PAYMENT OF REMUNERATION AND DISCHARGE OF THEIR DUTIES

The provisions of Section 178(1) relating to constitution of Nomination and Remuneration Committee are applicable to the Company and hence the Company has devised a policy relating to appointment of Directors, payment of managerial remuneration, Directors qualifications, positive attributes, independence of Directors and other related matters as provided under Section 178(3) of the Companies Act, 2013. The said policy is posted in the website of the Company.

OTHER POLICIES

In accordance with the requirements of the Companies Act, 2013 and SEBI (LODR) Regulations, 2015, the Board of Directors of the Company has framed all applicable policies.

The above policies where mandated are up-loaded on the Company's website, under the web-link <http://www.iprings.com>.

DIRECTORS' RESPONSIBILITY STATEMENT

In accordance with the provisions of Section 134(5) of the Companies Act, 2013, the Board hereby submits its responsibility statement:-

- in the preparation of the annual accounts, the applicable accounting standards had been followed along with proper explanation relating to material departures;
- the Directors had selected such accounting policies and applied them consistently and made judgments and estimates that are reasonable and prudent so as to give a true and fair view of the state of affairs of the Company at the end of the financial year and of the loss of the Company for that period;
- the Directors had taken proper and sufficient care for the maintenance of adequate accounting records in accordance with the provisions of the Companies Act, 2013, for safeguarding the assets of the Company and for preventing and detecting fraud and other irregularities;
- the Directors had prepared the annual accounts on a going concern basis;
- the Directors had laid down internal financial controls to be followed by the Company and that such internal financial controls are adequate and were operating effectively; &
- the Directors had devised proper systems to ensure compliance with the provisions of all applicable laws and that such systems were adequate and operating effectively.

RISK MANAGEMENT POLICY

The Company has an adequate Risk Management Policy commensurating with its size and operations. The risk management includes identifying types of risks and its assessment, risk handling and monitoring and reporting.

CORPORATE GOVERNANCE

A Certificate from the Auditors of the Company regarding compliance of conditions of 'Corporate Governance' as stipulated under LODR is attached to this report.

Pursuant to Regulations of Chapter IV of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, a separate section on Corporate Governance is included in the Annual Report. A Management Discussion and Analysis Report forms part of this Directors' Report. All the mandatory requirements under the Code of Corporate Governance have been complied with.

AUDITORS

Messrs. R.G.N Price & Co., Chartered Accountants (Firm Registration No.002785S) retire from the conclusion of this Annual General Meeting and Messrs. M S Krishnaswami & Rajan, Chartered Accountants (Firm Registration No.001554S), are being appointed as the Statutory Auditors of the Company for a period of 5 years from the conclusion of the 26th Annual General Meeting till the conclusion of 31st Annual General Meeting.

INTERNAL AUDITORS

M/s. S K R and Company LLP, Chartered Accountants (LLP Registration No. AAB-9330) is the Internal Auditor of the Company with effect from April 01, 2017.

COST AUDITORS

In terms of Notification dated 31st December 2014, issued by the Ministry of Corporate Affairs, Cost Audit is applicable to the Company with effect from April 01, 2015. M/s. Raman & Associates, Cost Auditors, Chennai are the Cost Auditors of the Company.

SECRETARIAL AUDITORS

M/s. LK & Associates, Practicing Company Secretaries, Chennai are the Secretarial Auditors of the Company. A Secretarial Audit Report as required under Section 204 of the Companies Act, 2013 for the year under review is given in the Annexure forming part of this Report.

CAPITAL RAISING

During the Financial year ended March 31, 2017, your Company has successfully completed capital raising by way of further issue of equity shares to the eligible existing shareholders on Rights Basis raising Rs.50 crores by issuing 56,33,718 Equity Shares of Rs.10/- each at an Issue Price of Rs.88.75/- per equity share including a premium of Rs.78.75 per Rights Equity Share. The issue was oversubscribed by 1.26 times. Your Directors wish to thank the Shareholders for the confidence reposed on the Company and its Directors. Post allotment of Equity Shares as aforesaid, the Issued, Subscribed and Paid up Capital of your Company stands at Rs.12,67,58,650/- comprising of 1,26,75,865 Equity Shares of Rs.10/- each as on March 31, 2017.

USE OF PROCEEDS

The proceeds raised through the Rights Issue were used for the purposes of Repayment of certain Loans and General Corporate Purposes, as mentioned in the Letter of Offer dated January 12, 2017.

EXTRACTS OF ANNUAL RETURN

The extract of Annual Return pursuant to the provisions of Section 92 read with Rule 12 of the Companies (Management and Administration) Rules, 2014 is given in Form No. MGT-9, forming part of this Report.

RELATED PARTY TRANSACTIONS

All related party transactions that were entered into during the financial year were on arm's length basis and were in the ordinary course of the business. There are no materially significant related party transactions made by the Company with Promoters, Key Managerial Personnel or other designated persons which may have potential conflict with interest of the Company at large. The details of the transactions with related parties are given in the financial statements.

PARTICULARS OF EMPLOYEES

The disclosures pertaining to remuneration and other details as required under Section 197(12) of the Companies Act, 2013 read with Rule 5(1),(2) & (3) of the Companies (Appointment and Remuneration of Managerial Personnel), Rules, 2014 are provided in the Annexure forming part of the Annual Report.

Having regard to the provisions of Section 136(1) read with and its relevant proviso of the Companies Act, 2013, the Annual Report excluding the aforesaid information is being sent to the members of the Company. The said information is available for inspection at the Registered Office of the Company during working hours and any member is interested in obtaining such information may write to the Company Secretary and the same will be furnished free of cost.

INTERNAL COMPLAINTS COMMITTEE

Your Company has put in place a policy for prevention, prohibition and redressal against sexual harassment of women at the Workplace to protect women employees and enable them to report sexual harassment at the workplace. An Internal Complaints Committee headed by a woman employee has also been constituted for this purpose. No complaints were received during the year.

CONSERVATION OF ENERGY, TECHNOLOGY ABSORPTION, FOREIGN EXCHANGE EARNINGS AND OUTGO

The information pertaining to conservation of energy, technology absorption, foreign exchange earnings and outgo as required under Section 134 (3)(m) of the Companies Act, 2013 read with Rule 8 (3) of The Companies (Accounts) Rules, 2014 is given in the Annexure forming part of this Report.

PARTICULARS OF LOANS, GUARANTEES OR INVESTMENTS MADE UNDER SECTION 186 OF THE COMPANIES ACT, 2013

The company has not given any loans or guarantees covered under the provisions of Section 186 of the Companies Act, 2013. The details of the investments made by Company are given in the financial statements.

ACKNOWLEDGEMENT

Your Directors wish to place on record their appreciation of the Technical Assistance and also the support extended by M/s Nippon Piston Ring Co. Ltd., Japan and M/s. India Pistons Limited, Chennai, respectively.

Your Directors also wish to place on record their appreciation of the contribution made by the employees at all levels.

For and on behalf of the Board

Chennai
May 25, 2017

N Venkataramani (DIN 00001639)
Chairman

Annexure to the Directors' Report for the year ended 31st March 2017
Information pertaining to Conservation of Energy, Technology Absorption and Foreign Exchange Earnings and Outgo as required under the Companies Act, 2013 read with Companies (Accounts) Rules, 2014

I. CONSERVATION OF ENERGY

Various energy conserving/saving measures at all points of manufacturing are continuously being implemented.

A. POWER & FUEL CONSUMPTION

Electricity:

	2016-2017	2015-2016
(a) Purchased :		
<i>Units in Lakhs</i>	87.31	67.28
<i>Total Amount (₹ in Lakhs)</i>	584.23	508.33
Rate / Unit - ₹	6.69	7.56
(b) Own Generation :		
Through Diesel Generator		
<i>Units in Lakhs</i>	5.58	2.68
<i>Units per litre of Diesel</i>	2.67	2.55
Cost / Unit - ₹	22.98	22.60

B. CONSUMPTION PER UNIT OF PRODUCTION (ELECTRICITY)

Products	Standards if any	2016 – 2017	2015 – 2016
Piston Rings	No Standards	0.20 kwh / ring	0.24 kwh / ring
Differential Gears Pole Wheels & Transmission Components	No Standards	0.67 kwh / comp	0.83 kwh / comp

II. TECHNOLOGY ABSORPTION AND INNOVATION

RESEARCH & DEVELOPMENT:

- Specific areas in which R&D is carried out by the company:

Continuous Research is being undertaken in the following areas:

Piston Rings:
 Developed bigger diameter rings like 128 etc for Top & Oil Ring.
 Developed Piston Ring for smaller diameter thru wire and bar route. Trials under progress.
 Developed Ring Pack for SUV range of vehicles in Diesel segment.
 Developed preformed steel wire design for process improvement and Quality improvements

Orbital Cold Forming:
 Developed hypoid gears for truck application through Orbital Cold Forming process.
 Developed Torus profile bevel pinion and differential gears with a groove in the Spline.
 Developed Interspace broach for differential gear

**II. TECHNOLOGY ABSORPTION AND INNOVATION
RESEARCH & DEVELOPMENT:**

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

Piston Rings:

Development of bigger diameter rings like 128 etc for Top & Oil Ring has given an entry into export market.

Development of Ringpack for SUV range of vehicles in Diesel segment is under testing and evaluation at NPR. This has given us entry into Toyota. Customer audit completed and it is in HVPT STAGE.

Development of preform steel wire design has improved the quality levels in supplies of 2W rings & passenger car applications.

Orbital Cold Forming:

Hypoid gear is under testing and evaluation at the customer end. Development of Torus profile bevel pinion and differential gear with a groove in the Spline, has resulted in leap bound entry to General Motors by Dana and inturn exports for IPRL.

Development of interspace broach for differential gear has given an entry for supply of transmission gears to Force Motors .

3. Future Plan of Action:

Piston Rings:

Development of smaller diameter rings (10 to 20 mm) for Turbo Charger Engine.

Development of bigger diameter rings (150 and above) for Top ring.

Development of new low friction coating (DLC, Resin Coating, Tetrahedral amorphous Carbon, Composite coating etc) for meeting Euro V and VI norms.

Development of step land oil ring, 2mm thickness for diesel segment.

Development of GN PVD side rails.

Development of rings with close tolerance specification for critical parameters like Closed gap, tanload and width.

Orbital Cold Forming:

Development of lower EDL teeth height differential gears.

Die life improvement for all the runner parts.

Improvement in heat treatment process to minimise the distortion levels.

4. Expenditure on R&D:

Capital	₹	Nil
Revenue	₹	31,98,676/-
Total	₹	31,98,676/-
Total R & D Expenditure as a % of Total Turnover		0.17%

III. FOREIGN EXCHANGE EARNINGS AND OUTGO

(i) Activities relating to Exports	Exploring further opportunities for export of Transmission Components
(ii) Total Foreign Exchange used and earned	
Foreign Exchange earned	₹ 41,87,01,511/-
Foreign Exchange outgo	₹ 22,76,02,812/-