6.1 Understanding the Organisation

The Durgapur Projects Limited (DPL), established on 6th September, 1961, is comprised of Thermal Power Plant, Coke Oven Batteries, By-products Plant, Gas Grid Project and Water Works. The organisation has been referred to as “an industry for industries”. DPL’s three distinctive businesses are power (electricity generation, transmission and distribution), coke production and water (supplied to industrial and household units). The organisation being a public sector undertaking is under the administrative control of the Department of Power, Government of West Bengal. DPL started its activities with an initial capital investment of Rs. 15 crores and has presently expanded its activities with an investment of more than Rs. 1500 crores till date. With reverberant industrial activities in and around Durgapur region, DPL adequately prepared itself to cater to the demands of the industries in the region and act as a growth partner of the industrialisation initiatives in the region.

In line with Ansoff’s (1968) analysis, the organisation’s strategic action orientation can be segregated into logistic and management process. The organisation’s production (logistic) process can be conceived from the three business units i.e. power plant, coke oven and water works. In the power plant business unit, the logistic process involves the generation of power and transmission and distribution of the same and the three conventional domains of power utility functions—Generation, Transmission and Distribution are involved. The logistic process of the

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1 Discussion in this section is based on the interaction with the executives, information available from the company website http://www.thedurgapurprojectsLtd.com/, company publications DPL-Marching Ahead, Annual Reports 2002-03 to 2007-08.
coke oven involves the conversion of coking coal into five types of coke through more than 100 ovens. Finally the logistic process of the water works unit entails treatment and distribution of water for domestic (drinking) and commercial (industrial) use in a water treatment plant and captive water storage facility.

DPL enjoys the advantage of being strategically located and is therefore able to carry out major functions of its logistic process and value-chain (Porter, 1985) by serving its industrial customers and procuring inputs through the vital linkages in the three major forms of transportation- rail, road and sea. The organisation has rail and road linkages to Kolkata, North Bengal, and northern and eastern parts of the country that include the coal belt and sea linkages to the port at Haldia, Vishakhapatnam and the other parts of India.

In the power plant business, the organisation has a group of six electricity generation units of varied capacities and has more than 300 distribution transformers for distribution of power to different categories of consumers in and around Durgapur. Among the units the largest one is having a capacity of 110 MW capacity, followed by three with medium capacities of 77 MW each and two of relatively smaller capacities of 30 MW each. After the renovation and upgradation carried out recently, the organisation’s total power generation capacity is presently 401 megawatt (MW). After meeting the needs of its industrial buyers and household consumers, the surplus power generated by the organisation is transmitted through the WBSETCL grid. The organisation has felt the need to develop distribution system and mechanism for meeting the needs of the expected increasing demand for power in the region. To meet anticipated power needs in the catchments area of
DPL, mainly for upcoming power intensive industries, it planned to install a new thermal power unit of 1 x300 MW at Durgapur in early 2004 and this unit has started functioning since April 2008. DPL enjoys the advantage of offering comparatively cheaper power tariff than many other organisations that are in the power utilities business. It meets local demand through its own transmission and distribution networks. DPL has the strength of possessing India's largest 'Merchant Cokery' that produces quality coke that can meet the global standards. It also has a 170-kilometre-long gas grid for urban consumers. The Cokery has three high recovery type Coke Oven Batteries with 100 ovens of 400 mm width along with Coal Washery and By-products Plant. The existing production capacity of coke oven division stands at 27,000 M.T. The present installed capacities of the Coke Oven Complex are 0.5 million tonnes of Gross Coke per annum, 20,000 tonnes of Crude Tar per annum and 90 million NM3 of Coke Oven gas per annum.

The organisation has its captive water storage facility and water treatment plant. With these facilities in water works, it supplies water for industrial use and drinking water primarily to the DPL township. The organisation's water pumping capacity stands at 35 million gallon per day (MGD), and its water treatment capacity has been enhanced from 6 MGD in 1960 to 41 MGD in the present period.

In terms of the management process, that involves the governance structure comprising the Board of Directors, the management and employees. The Board of Directors comprises eleven members reflecting the composition of boards of PSU with large representatives of the Government of West Bengal that include bureaucrats and others.
Until recently, the performance of the organisation has not been very impressive and it incurred continuous loss since 1977 and the accumulated loss amounted to the tune of 500 crores before it was able to pursue a successful turnaround in the year 2003-04. Although the organisation has been able to pursue a successful turnaround since 2003-04, its accumulated loss stood at Rs. 355.70 crores as on 31.3.07. However, the organisation has been able to continuously reduce the accumulated loss over a period of time due to improved performance. In order to arrest the negative trend in performance, the organisation took up the basic challenge of instilling commercial and production discipline so that environmental opportunities could be properly exploited. Moreover the net worth of the organisation that was once completed eroded has been restored mainly due to generation of continuous operational surplus since the year 2003-04 coupled with organisations effort to convert loan to equity. The reasons behind the successful turnaround could be ascribed to a number of positive strategic responses in the light of a favourable environment. Each of the three sectors (coke oven, power plant and water works) were successful because of the organisation's ability to cater to the higher demands of the market by pursuing appropriate business strategy. The important environmental influences and the strategic action orientation pursued by the organisation have been analysed in the next sections.

6.2 Understanding the Important Environmental Influences

The organisation is under the direct control and regulation of the Government of West Bengal. Thus, the Regulatory and Legal framework in the business environment has a considerable impact on the sustenance of the organisation.
Further, the changes in the economic, market and competitive and technological sectors of the organisation’s external environment have offered some significant opportunities for the three businesses of DPL in different forms and perspectives. Moreover, the distinctively favourable changes in business environment of public sectors especially in the post-liberalisation period are relevant to DPL as well. In the regulatory environment, the Electricity Act 2003, National Tariff Policy, National Electricity Policy and National Electricity Plan have had a significant influence on the organisation. It can also be averred that the sustainability and growth of DPL largely depends upon the demands of the industries in the region, since, DPL is primarily “an industry for industries”. There has been an unprecedented boom in the steel market since 2002-03 and huge amount of investments have been made in the iron and steel sector because of the region’s rich industrial base. The steel industry is a direct consumer of the two key products of the DPL namely LAM coke and electricity\(^2\). Here, the concept of “derived demand” is applicable to DPL in the sense that increasing demand for products produced by the industries using DPL’s products (coke, electricity etc.) determines the demand for DPL’s product. During the 1980-1990 there was deceleration in the industrialisation process in the Durgapur region which marked the sickness and closure of several manufacturing units especially in the public sector. After witnessing this declining trend in the region in and around Durgapur during the past decade, it is burgeoning with a lot of focus on the manufacturing industry in general.

\(^2\) Business Line, 2008, the Hindu Business Line, Kolkata, Feb. 6 Shortage of coking coal hits steel, coke companies
and the steel industry in particular. All these changes have, over the years, influenced DPL’s business strategy.

The Electricity Act 2003, a central statute that unlocks the power sector to competition by making its services more efficient is having a significant influence on DPL. As the Price Water House Coopers study for optimum restructuring of the power utilities of state government in West Bengal states “Post Electricity Act 2003, power sector entities are going through a dynamic phase of evolution. This necessitates significant organisational focus and capacity for adopting “Next Generation Solutions”. The Act necessitates the bifurcation of the transmission activities of power from distribution. DPL has thus been required to adhere to the relevant provision that called for necessary strategic action orientation in the right perspective. The provisions of the West Bengal Electricity Regulatory Commission (WBERC) have to be strictly adhered to. The power tariff for different industrial buyers is determined by the power department, Govt. of West Bengal since May 1999 in line with the tariff ascertained by WBERC. The Government of West Bengal (GoWB) has taken serious effort in carrying out structural changes in the power sector under an evolving legislative framework. The government has tried to bring about operational efficiency and better management of DPL in line with the recent developments in the power sector of the country. Since the year 2001, a number of measures aimed at enhancing the commercial efficiency in the power sector have been undertaken by GoWB. The GoWB has targeted 100% rural

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electrification in the state by 2010 and hence the number of rural electricity consumers is to likely be around 70 lakh which is more than double the present number. This coupled with the state government’s commitment to provide electricity to the upcoming industries in the state, has actually resulted on higher emphasis on increasing electricity generation in the different power utilities under the GoWB of which DPL is an important component. This initiative on the part of GoWB calls for higher emphasis on capacity building and utilisation. The state government has also highlighted the issue of inculcating a “performance-driven culture” in the power generating organisations under its control and has aimed toward the achievement of the vision of “improved access, competitive supply and enhanced consumer service levels”. The government has therefore felt the need of restructuring the 3 State-owned power utilities viz. West Bengal State Electricity Board (WBSEB), West Bengal Power Development Corporation Limited and DPL. The restructuring of WBSEB into 2 corporate successor entities has been successfully completed. The GoWB has further planned to spin-off the Coke Oven business into a separate company and has proposed to share interest in this business with a strategic investor in the form of a joint venture. It has also planned to relocate the water works business to Durgapur Municipal Corporation. These proposed moves will ultimately result in DPL focusing on its line of business of power generation and distribution and this exercise is likely to take a 3 year transition period. According to the information available from the organisation, there has been substantial increase in demand for power in the DPL command area
it presently stands at about 20% per annum. The current demand for power is about 70% of the total power generation capacity of the units of DPL.

The increasing demand from the infrastructure, housing, real estate and automobile sectors, has led to a considerable increase in the domestic demand for steel⁴. During the last few years since the beginning the new millennium, about 10 to 15 medium to large scale industrial units in iron and steel manufacturing sector that produce value added products like sponge iron, TMT bar, iron casting powder etc have started operations. The prominent organisations are MB Group, Balaji Group, SPS group, Adhunik Group of Industries, Neo Metaic, Stolberg India, Super Smelters Ltd, Shyam Steel, Ultratec Cement etc⁵. Moreover, Durgapur Steel Plant, a division of Steel Authority of India Limited, has made turnaround and is presently operating successfully. DPL being an “industry for industries” has been able to successfully utilise the positive developments in the region vis-à-vis its business environment.

With resurgence in industrialisation in Durgapur, DPL received request to establish contract with 22 industrial buyers for procurement of power during the financial year 2002-03. There has been inclusion of new industrial consumers with a contract demand of about 30 MVA. This is expected to increase by another about 50 MVA in near future. Presently some of the important industrial buyers of DPL are – Rastrya Ispat Nigam Ltd, Rourkela Steel Plant, IDCOL Kalinga Iron Works, Kudremukh Iron and Steel Ltd., Visvesaraya Iron and Steel Ltd., Electro Steels Casting Ltd., Kajaria Iron Castings Ltd., Jindal Steel & Power Ltd., Usha Martin Ltd., Tata Metalik’s Ltd., Ispat Alloys Ltd., etc.

⁵ www.en.wikipedia.org/wiki/Steel
In the light of the above environmental influences DPL has to formulate and pursue an appropriate business strategy. The basic challenge is to exploit environmental opportunities and meet the threats by utilising resources and capabilities and repairing weaknesses all aimed towards ensuring sustainability in the long run. How DPL has been able to follow this route has been analysed in the next section.

6.3 Strategic Action Orientation: Understanding the Business Strategy

The previous two sections highlight the fact that DPL being a public sector, has to undertake operations in a regulated environment. However, the regulated environment doesn’t guarantee success unless the areas of strategic action orientation are appropriately pursued and the business objectives are achieved. The organisation has tried to pursue its business strategy in line with the changes in its external environment6. After incurring continuous loss since 1977 the organisation has been able to achieve a successful turnaround. After the successful turnaround, it has travelled along a path of growth strategy. A number of reasons can be put forward in order to explain as to why the organisation was unable to do well before the turnaround. Discussions with different stakeholders highlight the fact that the organisation’s incapability to realise full capacity utilisation coupled with demand side constraints, low product quality, low productivity, poor culture, ineffective employee attitude and orientation, etc. resulted in loss for a continuous period of time. In order to arrest this negative trend and to utilise the emerging environmental opportunities identified in the last sub-section, appropriate strategic actions have

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6 Discussion on strategic action orientation is based on the interview with executives, trade union leaders and information available from Annual Reports 2002-03 to 2007-08. Information from Internet, publications etc have been supplemented.
been initiated. In this context the organisation has embarked upon the following areas in the context of its strategic action orientation-

i) Restoration of plant capacities

ii) Augmentation of plant & facilities

iii) Addition of production/ generation

These responses coupled with the cost reduction activities have helped the organisation in first overcoming the negative trends and then facilitating in its stride towards an intensive growth strategy. Appropriate alignment of human resource practices with the organisation’s business direction like labour cost reduction, attitude and commitment of employees, employee development etc. has also been forged. As part of these strategic response areas, unit-wise alignment initiatives have been undertaken. These initiatives helped the organisation to get back to the positive net profit track in the year 2003 after suffering loss since its inception. One interesting observation that can be made in this context is the fact that the organisation’s return to the profit track is synchronised with the important changes in its business environment (like upsurge of industrialisation in Durgapur region, boom in steel industry, increasing demand for two of DPL’s important products power and coal etc) that have taken place in almost the same period. This support the research finding in the field business strategy that organisation’s sustenance heavily depends upon environmental influences.

In the financial year 2002-03, the organisation earned gross profit of Rs. 16.638 crores as against a gross loss of Rs. 39.712 crores during the previous year\(^7\). The

\(^7\) Data relating to financial performance have been collected from the Annual Reports 2002-03 to 2007-08.
organisation suffered a net loss of Rs. 74.803 in that year which was however considerably less compared to the previous year. This negative trend got reversed from the year when it started to earn net profit. The profitability pattern during the period 2003-2007 has been shown in the Table 6.1 below:

<table>
<thead>
<tr>
<th>Table 6.1: Profitability Trends of Durgapur Projects Limited during 2003-07 (Rs. Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power plant</td>
</tr>
<tr>
<td>Coke Oven</td>
</tr>
<tr>
<td>Water works</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

* includes net loss 0.02 crores in spun pipe that has been divested in subsequent years, ** Less FBT

In the year the 2002-03, the organisation was able to reduce the employee cost to the true of Rs. 10.19 crores because of the decision not to fill-up different positions on account of retirement. Moreover, the organisation has been able to earn additional revenue of Rs. 124.76 crores because of higher sale in the year 2002-03. Since the time of earning positive net profit in the year 2004, the organisation’s profit earnings got more than doubled in the subsequent years. In the year 2007 there has been partial reduction in net profit earned compared to the previous year which was primarily due to reduced profitability in coke oven. Otherwise the organisation has been in a controlled growth stride pursuing an intensive growth strategy coupled with cost reduction.

As part of its basic business strategy, restoration of plant capacities have been pursued by the organisation by undertaking renovation and modernisation activities and an investment upto the tune of Rs.400 crores was made in the year 2001. This amount has been utilised in technology up gradation and technology redundancy
was done away with. Efforts have been taken for renovation and augmentation of
the transmission and distribution, water works and Railway siding.
With increasing demand for power, DPL has emphasised the need for increasing the
installed capacity in the power station. In the year 1984 the sixth unit was started
with a comparatively better production capacity. As a strategic response to the
increasing demand for power, a 300 MW power unit was commissioned in 2004
which culminated in the establishment and operationalisation of new 7th unit
power station. The 7th unit extension activities have been awarded to Dong Fang
Electric Corporation of China. This unit has been developed keeping in mind the
basic strategies identified earlier. For example, the dry bottom ash handling system
has been introduced with the objective of reduction in coal and water cost. Again,
natural draft cooling tower has been installed for saving auxiliary power
consumption of the unit. Approach to zero discharge has been envisaged in the
water system and a fully electrified and automated system with merry-go-round
system has also been introduced. Alliances have been formed with Development
Consultants Private Limited (DCPL), for design engineering services and National
Thermal Power Corporation (NTPC) for construction management and field quality
assurance services. Effort has also been taken to use technology that would help in
reducing heat rate which would result in lesser consumption of coal and ultimately
lead to lower cost of production of power.
In line with the identified business strategy, the top management felt that generation
and distribution of power are supposed to move side by side. The T&D System has
also been augmented and emphasis has been given on the distribution side in order
to support the intensive growth strategy of the organisation. An objective of 100% metering has been set and appropriate action has been taken. Augmentation of the Bus Bar System of switchyards for distribution of power to various industrial buyers has been carried out. Further more, with a view to increase production, the organisation has been able to achieve the all-time highest daily and monthly generation of 35 MW on 12.08.2003 and 159 MU in the month of July 2003. This record has been outshined in the subsequent years. The highest daily and monthly generations stated above were surpassed on the 01/10/2003, 01/102004, 02/12/05 and December 2003, April 2004, December 2005 respectively. The organisation holds 6% of the paid-up capital of Bengal Emta Coal Mines and with this arrangement, the availability of coal for power plant has been ensured. In line with the provisions of The Electricity Act, 2003, DPL the management has felt the necessity of carrying out structural changes within the ambit of a regulatory and legislative framework. The basic objective of this exercise is maintain a trade-off between improved levels of consumer service and operational efficiencies and avoiding the creation of any 'tariff shocks' for its consumers. For this the management looks forward to the directive from the GoWB.

As part of the strategic objective of enhancing the production capacity, a number strategic initiatives have been taken in the coke oven sector. First, rebuilding battery no. 2, 3 and 4 and coke oven and renovation of coal washery have been undertaken. Secondly, production of Low Ash Metallurgical (LAM) Coke has been carried out since 2001 by utilising 100% imported low ash coking coal. The product has been brand named as ‘DPL LAM Coke’. The coke oven earlier utilised Indian
coal which was of low standard and had high ash content and the water content was high as well. Hence production of new type of LAM coke was emphasised in view of the rising steel production and growing demand of metallurgical coke. The organisation got positive feedback from the industrial buyers of the product and there was an increasing demand as well. DPL has been successful in becoming a market leader for the LAM coke. The low Ash coking coal required for producing the LAM coke, has been procured in alliance with MSTC Ltd., TMIL Ltd. etc. The RUM and LEP of units 1 to 5 carried out with an investment of Rs. 330 crores have been completed with a view to augment the production capacity. One successful and strategically important action of DPL was the signing of conversion agreement with the Durgapur Steel Plant under Steel Authority of India Limited. According to the agreement, DSP, would provide imported coking coal and it would be converted into blast furnace grade metallurgical coke by DPL. In the opinion of experts, the agreement is likely to facilitate in the enhanced production of steel by the DSP. The conversion agreement with SAIL had a considerable confluence on the organisation's production and profitability and sustenance. The agreement covers the provision for conversion of twenty five to thirty thousand metric tonnes (MT) of imported coking coal from Australia into Low Ash Coke. The conversion charge of Rs. 1950/- per MT was set. The organisation has been trying to revive the coal washery with an aim towards improvement of quality of coal by decreasing the ash content and enhance the efficiency of the boilers. With this, the dependence on imported coal could be reduced considerably. Moreover, with a view to reduce the dependence on imported coke, production of a new product Medium Ash
Metallurgical Coke (MAM) Hard Coke has also been planned. The organisation has been trying to utilise the surplus gas produced from coke oven for power generation through gas turbine. This has actually resulted in the effective linkages among the different sectors.

The intensive growth strategy pursued by the organisation especially in the power plant can exemplified with the help of Tables 6.2, 6.3 and 6.4 that exhibit the trends in production, revenue earnings and return on capital employed (ROCE) during the period 2003-2007. It can be observed from Table 6.2 that there has major increase in production of the different products during the period of turnaround. Trends towards reversal of the negative trend were conspicuous in the year 2003 when the increase in production was close to 50% compared to the previous year. The increase although not at an increasing rate has continued upto the year 2006 before it became marginally negative in 2007.

Table 6.2: Production Trends in DPL during 2003-07

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<tbody>
<tr>
<td>Power (MU)</td>
<td>1359 (32%)</td>
<td>1921 (41%)</td>
<td>2029 (6%)</td>
<td>2176 (7%)</td>
<td>1781 (-18.15%)</td>
</tr>
<tr>
<td>Coke (MT)</td>
<td>264663 (45%)</td>
<td>286758 (8%)</td>
<td>333748 (16%)</td>
<td>362216 (8.5%)</td>
<td>317498 (-1.84%)</td>
</tr>
<tr>
<td>Gas (Mcf)</td>
<td>2576 (56%)</td>
<td>3097 (20%)</td>
<td>3613 (17%)</td>
<td>3953 (9.4%)</td>
<td>3734 (-3.8%)</td>
</tr>
<tr>
<td>Tar (MT)</td>
<td>6264 (35%)</td>
<td>8235 (31%)</td>
<td>11620 (41%)</td>
<td>11620 (2.1%)</td>
<td>9619 (-19.43%)</td>
</tr>
<tr>
<td>Water</td>
<td>47968 (15%)</td>
<td>49611 (3%)</td>
<td>48143 (-3%)</td>
<td>50541 (5%)</td>
<td>45067 (-10.83%)</td>
</tr>
<tr>
<td>M Ltr</td>
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(Figures in bracket indicate percentage increase (decrease) compared to previous year)

The revenue figures presented in Table 6.3 also highlight the fact the organisation has been able to pursue intensive growth strategy by continuously increasing the revenue during the period 2003-2007 in the power plant. In the power plant,
although there has a decrease in production in the year 2007 compared to the previous year the revenue earning has continued to increase. The revenue earnings in the coke oven and water works have also been on the increasing side during the period 2003-2005. However the revenue earnings have got substantially reduced in coke oven during the years 2006 and 2007. The basic reason behind this decrease in revenue can be ascribed to the fact that there was lack of availability of inputs (imported coal) which resulted in lesser production and hence reduced revenue.

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<tbody>
<tr>
<td>Power plant</td>
<td>257.24</td>
<td>368.15</td>
<td>400.38</td>
<td>414.46</td>
<td>475.29</td>
</tr>
<tr>
<td>Coke Oven</td>
<td>156.63</td>
<td>243.38</td>
<td>297.14</td>
<td>108.59</td>
<td>86.47</td>
</tr>
<tr>
<td>Waterworks</td>
<td>14.9</td>
<td>18.42</td>
<td>19.51</td>
<td>18.7</td>
<td>17.15</td>
</tr>
<tr>
<td>Inter segment elimination</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-20.64</td>
<td>-20.47</td>
</tr>
<tr>
<td>Total</td>
<td>428.77</td>
<td>629.95</td>
<td>717.03</td>
<td>521.11</td>
<td>558.44</td>
</tr>
</tbody>
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During the period when the organisation was able to achieve a successful turnaround and the following period, there has been an increase in sales by 48%. The increase in sales of the three divisions were approximately 44%, 56% and 23% respectively. The organisation has formulated revised tariff for different categories from June 2004. The organisation has also increased the tariff for water by Rs. 3.50 per kilo litre from April 2004. These have actually resulted in enhanced revenue earnings for the company as shown in the Table 6.3. Pattern of Return on Capital Employed (ROCE) which is sometimes considered as a primary measure of profitability that compares the inputs (total capital invested into the organisation) with the outputs (profits generated by the organisation) exhibit a healthy picture and the growth strategy oriented trend (Table 6.4). Coke Oven and water works have shown higher values of ROCE compared to power plant. This may be because of
the fact that there has been more capital employment in the power plant sector in view of the organisation's future emphasis in the power sector.

### Table 6.4: Pattern of Return on Capital Employed in Dugapur Projects Limited

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<tbody>
<tr>
<td>Power plant</td>
<td>-0.09459</td>
<td>-0.01741</td>
<td>0.008794</td>
<td>0.029853</td>
<td>0.019288</td>
</tr>
<tr>
<td>Coke Oven</td>
<td>-2.90514</td>
<td>0.820266</td>
<td>0.491893</td>
<td>0.538672</td>
<td>0.30056</td>
</tr>
<tr>
<td>Water works</td>
<td>0.394875</td>
<td>0.530746</td>
<td>0.437375</td>
<td>0.227246</td>
<td>0.321085</td>
</tr>
<tr>
<td>Total</td>
<td>-0.15638</td>
<td>0.036051</td>
<td>0.069194</td>
<td>0.046836</td>
<td>0.02612</td>
</tr>
</tbody>
</table>

Another major strategic action of the organisation pertains to the receiving of ISO 9001 : 2000 and ISO 14001 : 2004 for the coke oven, power plant and water works. As part of the corporate social responsibility area coupled with ISO 14001 : 2004 specifications, the organisation has envisaged environment protection as a thrust area. The consideration of ISO in the context of business strategy of an organisation is established in existing literature (Guier et al., 2002). In line with this exercise, environmentally beneficial and techno-economically feasibility areas vis-à-vis daily operations have been emphasised. Necessary awareness and compliance areas have been identified and appropriate interventions have been executed. Environment management programmes aimed at achieving objectives have been formulated by DPL. The organisation has developed a formal system for internal and external communications with regard to the information exchange relating to environment management system. It has however decided not to communicate proactively regarding the environmental aspect to external stakeholder. Thus, the focus has been on making the internal stakeholders aware of the environmental aspects in
every activity. The organisation has emphasised upon the availability of EMS and operational procedure to the concerned employees and has provided appropriate feedback on environmental performance to the head of departments. Effort has been taken to organise awareness programmes for classifying the roles of supervision for smooth implementation to be coordinated with the Sr. Manager (Personnel). The organisation has taken effort aimed at obtaining ISO certification for the Quality Management System in the three units. As par of this exercise, the management responsibility of establishing and communicating quality policy, objectives, resource requirement and the system of understanding customer requirement, have been clearly stated. Annual Performance Plans (APPs) have been prepared on the basis of market feedback and objectives have been derived from APPs. The quality objectives have emphasised upon effective contribution from the present levels of production. Moreover, a minimum of 75% level capacity utilisation and not less than 70% in a day has been set as target. As part of this exercise, works have been clearly delineated and necessary HR alignment areas have been emphasised which have been discussed in the next section.

Presently, as part of corporate restructuring strategy a proposal for a joint venture between SAIL and DPL for the coke oven is under serious consideration of the top management. Moreover, in future, restructuring effort would also include the power plant in tune with the restructuring initiatives of the power sector in West Bengal. For this Price Water House Coopers has carried out a study and submitted their report to the Govt. of W.B. The issue of tariff becomes a contentious issues and the organisation has to resort to legal course for redressal of the issue. During the
financial year 2006-07 a number of strategic initiatives have been undertaken by the organisation. The word ‘undertaking’ under Govt. of West Bengal as been substituted with ‘Enterprise’ which arguably marks the beginning of providing more autonomy to the organisation. It has also been decided to form a joint venture with SAIL for the coke oven plant. The joint venture would involve 50% equity participation and management control by SAIL as would culminate in the formation of a subsidiary company. As part of intensive growth strategy, DPL is also planning to pursue a market development strategy (David, 2003) in the countries like Bangladesh, Sri Lanka, Bhutan etc. It has already been pointed out that demand for power has been on the rise in the catchments area of DPL. DPL has to satisfy the demand by increasing more than its enhanced capacity. At the same time, the top management has felt that old units of DPL that are having an average age of 45 years or more need to be replaced with new ones with the latest technology. To satisfy the increasing demand for power as noted above, one additional 300 MW (Unit-7A) has been proposed to be installed in 11th Five Year Plan. The required clearances from Govt. of West Bengal and Govt. of India have been received. Besides this strategic initiative, DPL is also planning to install one additional unit of 500 / 660 MW (Unit no. 8). These initiatives indicate that DPL is trying to pursue and intensive growth strategy especially in the power plant. In conclusion it can be said that the organisation’s strategic action orientation is not foolproof. Presently, an area of serious concern for DPL is the shortage of coking coal used for the production of LAM coke. This has actually resulted in reduced production and revenue earnings in the coke oven. The organisation is trying to get coal imported
from China to meet its requirements. The supply of low ash content-coal that used to be imported from Australia has been severely constrained due to closure of coal mines in that country. Since the availability of imported low ash coal is becoming scarce, the prices have increased almost three times. It remains to be seen how DPL is able to meet the challenge of identifying alternative source of getting coal with low ash content. Since availability of low ash content coal has been one of the important factors behind the successful turnaround of DPL, it has to identify alternatives options for procurement of this strategically important input.

In brief therefore, in the turnaround trajectory and period after that, the areas focussed by the organisation as part of its business strategy are maximisation of capacity utilisation, enhancement of production capacity, increase in plant availability, quality enhancement and environmental process enhancement in line with ISO guidelines, resource utilisation, minimisation of loss etc. Documents available from the organisation and interviews with the HR executives of the personnel department highlight certain critical areas of human resource management practices that have been aligned with identified areas of business strategy. These different aligned areas have been analysed in the next section.

6.4 Understanding the Relationship between Business Strategies and Human Resource Management Practices

The organisation has successful integrated the Human Resource Management areas with the general direction of its business and strategic action orientation. The different areas of strategic action orientation of the organisation vis-à-vis its business strategy, as discussed in the previous section pertains to cost reduction,
revenue generation capacity utilisation and expansion. Accordingly, the HRM areas have been appropriately aligned. This coupled with the information available from the discussion with the members of the top management, executives from the HR department, interview with leaders of trade union has been used in the discourse of this section. The relationship between the different facets of business strategies of Acclaris and Human Resource Management Practices has been analysed in this section. The entire discussion has been divided into four sections in terms of the four domains of HRM i.e. Acquisition and Employment, Development, Motivation and Maintenance

6.4.1

A closer look into the employment model signify the fact that the size of the workforce has slimmed gradually during the period 2003-2007. Presently as per data available, the organisation’s employees under different categories reveal that coke oven unit has the highest proportion of total employees (36%) followed by the service department (35%), power plant (25%), and water works (4%). Of the total workforce, officers and supervisors comprise nearly 25% and workers comprise the rest (75%). The organisation had nearly 600 contract labour since 1996. These labourers have been absorbed phase-wise over a period of time. Presently there are 184 contract labour working in the pay-roll of a cooperative. They have permanent nature of work and their pay structure has been decided by the DPL management and the contractor-employer. As part of the organisation’s initiative of cost reduction, the employees of the following departments have been redeployed to other departments and these have been outsourced to external agencies:
- The canteen
- Guest-house
- Central car pool
- Civil engineering

In order to support the strategic action orientation coupled with a objective of increasing the domain of existing knowledge-base and to bring-in new ideas and fresh ideas in the production activity, the promotion policy has been re-formulated whereby 30% of the internal vacancies would be filled-up through the external labour market that has been agreed to by the trade union. This corroborates with the research finding about staffing strategy vis-à-vis external recruitment (Mello, 2002). As part of the organisation’s activity aimed at cost reduction, the canteen that was once maintained and managed by the organisation has been outsourced. In lieu of this, employees are paid canteen allowance @ Rs. 5 per day for employees working 11 a.m.– 5 p.m. and employees working in shift are paid Rs. 9 respectively.

One of the important factors in the context of BS-HRMP relationship at DPL is the increase of employee productivity that has contributed to the successful turnaround and subsequent growth phase of the organisation. Whereas on one hand there was a substantial decrease in the size of the workforce, production has actually increased.

| Table 6.5 Trend in Change of Total Employees in Durgapur Project Limited |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Year           | 2003 | 2004 | 2005 | 2006 | 2007 |
| Total Number of Employees | 5002 | 4661 | 4451 | 4299 | 4105 |
| % change with respect to previous year | -3.88 | -6.81 | -4.50 | -3.41 | -4.51 |
over the period which signifies the positive contribution of employees. There has been a continuous declining trend in the size of workforce has shown in Table 6.5. It has been observed that whereas on one hand there has been a constant decline in the size of workforce, there has been an increase in production, revenue earnings and profitability. This indicates positive contribution of employees which is an excellent finding in the context of a state level PSU. More so because it is not long that many organisations of this type were known for lack of work culture which had a serious impact on profitability and sustainability. The positive contribution of the human resource is obvious from the Figure 6.1 below that depicts data pertaining to Revenue per employee and Profit per employee (lakhs/per employees).

It can be observed from the figure that revenue per employee has increased substantially from Rs. 8.57 lakhs in 2003 to Rs. 16.10 lakhs in 2005. This got reduced to Rs. 12.12 lakhs in 2006 and once again increased to Rs. 13.60 lakhs in the next year. A continuous improvement in profit per employee has also been observed during the period 2003-2006 with a marginal decline in 2007. Again during the same period the number of employees has been steady with no substantial increase although production and revenue earnings have increased by substantial amount. There has been a 20% and 17% decrease in

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employee cost and employee cost per employee respectively from the year 2001-2002 to 2002-03. It is also worth noting that as against prevalent practices in many organisations, there has been no downsizing exercise in the organisation. The organisation has not carried out staffing exercise and a small amount has been added to the total workforce in the form of graduate trainee engineers. Short manning in a department has been repaired with extra effort by the existing employees. These trends show that the human resource made a significant contribution to DPL’s success and business strategy.

6.4.2

Training data available for the period 2003-04 to 2007-08 provide important insight into the relationship between the different aspects of DPL’s business strategy with employee development practices through training. The annual training budget has been considerably increased from a meager amount of Rs. 65,000 in the 2002-03 to Rs. 60 lakhs since the year 2003-04 in the post turnaround phase and subsequently to Rs. 65 lakhs. The training budget has been considerably increased since the year 2004-05, the year in which DPL made a turnaround. The organisation has emphasised upon the training aspect with the view to develop the capabilities of the employees in order to serve the organisation better. According to the information available from the training department, it can be seen that there has been a considerable shift in the focus of training during the period. This trend is show in table 6.6.
From the table it is quite clear that in turnaround phase and prior to that, training was provided in areas like, general awareness, orientation and technical training. Training was simply a ritual barring a strategic focus concerning process after modernisation. With changes in business strategy, initiative to inculcate a sense of responsibility, commitment and accountability, training programmes involving attitudinal development have been organised. The training programmes aimed at attitudinal development have been organised since the last three years with a view to make the employees aware of the requirements of the strategic priorities of the organisation like capacity utilisation, plant availability, quality, cost etc.

Moreover as part of the organisation’s move towards getting ISO certification, 100% coverage has been achieved in the context of generating ISO awareness amongst employees. In line with ISO specification and to align the employees with the strategic objectives of plant availability and capacity utilisation, training
programmes involving areas of safety, health and hygiene have been organised. These areas were missing in the training programmes conducted prior to the turnaround phase. Moreover, in line with the organisational strategic objectives, certain other areas have also been emphasised like energy conservation, quality circle etc. As discussed in the previous section DPL has been concentrating on the power sector and the sector has exhibited better performance during the period. Training programmes have thus been organised in areas like power plant familiarisation, restructuring of power utilities etc.

A closer examination of the training calendar for the year 2007-08 reveals that the current strategic focus of training programme and the identified areas include attitudinal development, efficiency, different aspects of power plant etc. The organisation has made an arrangement with Dong Fang Electric Corporation that has constructed the 7th Unit of power station for imparting training to seven engineers sent in four groups.

In the context of EMS, the organisation has identified training needs and formulated training programmes in the light of the considerable impact of operations on environment. The training areas include the importance of conformance with environmental policy and procedure, environmental impact, etc. and effort has been taken to cover all employees and contractor-employees in the process. The Senior Manager (Personnel) has been entrusted with the responsibility for identifying the contents of the training programme. Accordingly training schedules and records have been prepared.
The relevant areas of HRM practices have also been successful aligned with the Quality Management System and Environment Management System that have been implemented by the organisation. The Senior Manager (Personnel) has been assigned the task of compliance of QMS for human resource development. In line with this, effort has been taken to encourage the growth of quality circles as well. The process of communicating the different thrust areas of QMS has been carried out through brochure, leaflets, etc. The internal communication areas include analysis and feedback on customer complaints, improvement action etc. Training areas vis-à-vis QMS have also been identified. For this, the process of identification of QC coordinators and facilitators has been effectively carried out. Again, system of QC registration and motivation of QC members through presentation, awards gifts etc. has been formulated. Areas of training and other human resource development intervention have been identified as per QMS and EMS. Training programme for engineers and coordinators of department are developed, annual and monthly training plans are framed and finally training modules are prepared. It is no denying the fact that the basic strategic action orientation cannot be achieved without active commitment of employees. For this, among other things, the appropriate communication of organisational initiatives and the concomitant employee response are areas that are strategically important. In the context of QMS, the organisation has set up formal procedure for internal and external communication. The internal communications comprise providing pertinent information to employees across department, units and functions. The other activities include receiving feedback of employees on environmental aspects and
recording them, assessing the feedback, providing the required information, generating awareness at a large scale and keeping record of the tools like circulars, meetings etc.

6.4.3

A performance linked incentive (PLI) scheme has been put in place from June 2007 for motivating the employees. The fact that the incentives act as a tool for motivating employees has been substantiated in the literature (Armstrong, 2004). The incentive introduced by the organisation is an appropriate area in the context of the relationship between business strategy and HRM practices of DPL. Discussions with the management and employees have revealed the effectiveness of incentive as a tool for motivating employees. With the objective of aligning the areas of strategic action orientation, and to mould the performance of employees in line with these areas, the incentive scheme has been successfully implemented. The scheme has been so framed to strengthen employee attitude for achievement of higher rate of production coupled with minimisation of cost and resources. Moreover in order to minimise the grievance of employees of lower pay grade of getting lower incentive, 15 grades of employees have been amalgamated into three broad groups. Another interesting observation that can be highlighted in this perspective is the linkage of the parameters of the incentive with the different areas of strategic orientation of the organisation. The top management has felt the necessity to formulate different PLI for the different businesses. In the powerplant, the parameters considered for payment of incentive encompass the broad areas of strategic action orientation like production increase (plant load
factor), resource and cost reduction (specific oil consumption and auxiliary power consumption wherein lower values in these parameters imply higher incentive).

In the power plant, for a minimum level of performance in the 4 parameters identified, an employee gets an incentive of 8% that results in inflow of Rs. 153000 as against outflow of Rs. 1074800. For employees in the Transmission and Distribution section under the power plant, the parameters are mainly focused on the quality aspect and include areas like transformer dripping etc. Likewise in the coke oven, the parameters identified cover the important areas of strategic action orientation like production increase (oven pushing, CV, M10), quality (coal size and moisture). Employees in the common service get 70% of the PLI of COGP and DPPS. The basic strategic objective of growth strategy through concentration can be achieved by motivating employees is clear from the discussion with different internal stakeholder. With the strategy of improving performance, the organisation has instituted an award of giving gift vouchers of Rs. 2,500 per employee to all its employees. This, in the opinion of the management of the organisation, is an encouragement and appreciation for the employees role enhancing performance of the organisation.

6.4.4

DPL has a residential township, with nearly 3500 residential units and other amenities like schools, public transport facilities, market complex, clubs. As part of its objective of carrying out maintenance function, the organisation has decided to develop a modern township by proper utilisation of vacant land and existing township. A joint venture with West Bengal Housing Board and D. C. Properties
Pvt. Ltd. has been planned. The basic objective is to provide quality residential accommodation to the organisation's employees. This, in the opinion of the management, is going to motivate the existing employees which is very vital for achieving the strategic goal of the organisation. The organisation operates a 105-bed hospital, with both indoor and outdoor departments and facilities like latest diagnostic facilities and staff including doctors. The organisation maintains two Boys' High schools and two Girls' High schools, four Junior Basic Schools, one Nursery & KG School and two Hindi Primary schools for providing educational facilities to its employees.

Another area of HRM practices in the positive industrial relations prevailing in the organisation. The opinion of the three actors namely the management, employees and trade union are in consonance with the fact that healthy industrial relations is an important factor behind the success. The management follows the approach of involving representatives of various unions and associations in all relevant matters concerning employees' interest. Presently there is one recognised employees' union named as Durgapur Project Employees Union under the Centre for Indian Trade Union (CITU). However, there is another union which established its presence since the inception of the organisation. Apart from this, there are two associations – one for the engineers and the other for the officers. One important issue that has emerged from the discussion with union leaders is that of the awareness of union leaders and organisers about the strategic issues concerning the organisation. This is relevant for both the unions and although they have political differences, their way of thinking and awareness converge in the context of strategic issues and different
aspects of BS-HRMP relationship. Their sentiment communicates that on one hand they are responsive to the challenges of the industry and on the other hand are responsible in carrying out their function. Thus they are responsive as well as responsible in the light of the changing paradigm of employee relations. A transparent employee relations policy has been observed, which in other way, helps in ensuring least disruption of activities. Uninterrupted production activities, employee motivation and commitment can be considered as outcomes of healthy industrial relations. This has been achieved through a positive role of trade unions who have successfully carried out the task of educating the employees, generating awareness and bringing in attitudinal change in the light of emerging business imperatives. The trade union has taken leading role in instilling a sense of belongingness and urgency amongst the employees in the question of increasing their commitment to the organisation. The reasons as to why nearly industries have been closed down have been explained to the employees by the trade union. The trade union has been successful in making the workers understand that survival of the organisation is the necessary and sufficient condition for their individual survival. This has positively contributed towards enhancement of production capacity. It has also been observed that the union has taken the task of generating awareness amongst the employees about the organisation’s financial position, industry trends, stakeholders’ needs, cost etc which, as practiced by many organisations as part of internal marketing effort, is an exercise that is exclusively carried out by the management. The union leaders claim that the practice of making decisions related to work, employment and personnel policies in consultation with
the union helps to reduce the grievance of employees and helps towards the development of a healthy work environment with minimum disturbance in production activities. This is a unique finding of this organisation-specific study. The organisation has been setting the objective of union acceptance and in terms of its policy for employee relations. The basic objective has been to inculcate a "sense of belongingness" and in the opinion of management, would also facilitate in productivity enhancement. Accordingly, the organisation has set up several committees like Joint Management Committee, Plant Level Committee, Hospital Committee, Quarter Allotment Committee and Nagarik Committee. The joint management council has been an effective body that helps in facilitating achievement of optimum performance by identifying and analysing a developing workforce.

6.5 Understanding Employees' Line of Orientation vis-à-vis BS-HRMP Relationship

6.5.1 Introduction

Based on the discussion in the preceding two sections, the questionnaire on Employees' Line of Orientation has been constructed. The questionnaire developed in order to understand the employees' line of orientation contains 20 items comprising different aspects of the relationship between business strategy and human resource management practices of DPL. The questionnaire includes statements highlighting the different dimensions of the strategic action orientation as also the related and pertinent issues of HRM practices. Apart from the common areas like awareness about different organisational issues (item 1, 3), organisation's
personnel policies (item 9), physical environment (item 4), different specific issues relating to the organisation in the context of BS-HRMP relationship encompassing cost (item 17, 19), ISO (18), technological upgradation and adaptation (20), production (6,7,8), industrial relations (item 6), work environment (16), industrial relations (5) career opportunities (item 11), attitudinal change (8,) reward and compensation (11), grievance (12), employee services (item 14), incentive (15), training (13). For collecting data through the questionnaire, 2 departments each from four units (coke oven, power plant, water works and service) have been considered. Responses have been received from 85 employees.

**Reliability Statistics for the questionnaire:**

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.668</td>
<td>.683</td>
<td>20</td>
</tr>
</tbody>
</table>

The Cronbach’s Alpha value being .668 is accepted for the present study.

On the basis of the response received from the different categories of employees, the item-wise values indicating orientation of employees have been utilised to calculate the different mean orientation scores of employees on the basis of different background variables. These have also been combined to calculate the aggregate mean score on different background variables following the methodology discussed in section 3.4.

**6.5.2 Overall Orientation**

On the basis of the response received to the Employees Line of Orientation questionnaire some interesting insight may be drawn (Appendix E(b)). High line of
orientation has been observed in the context of the following strategically important areas identified in terms of mean scores:

1. Minimum disruption of work in the work place due to a healthy industrial relations
2. Successful effort has been taken to increase production capacity in the past period
3. Every time, employees feel encouraged to do extra work in case there is low manning in my unit in a particular day
4. Existence of an efficient and collaborative work environment where employees feel involved and motivated
5. The production-oriented incentive scheme introduced encourages better performance
6. Clear linkage between the work performed organisation's sustainability and growth
7. Effective utilisation of employees in its successful turnaround and growth
8. Organisational success exclusively depending upon its ability to minimise the cost of operations and loss
9. Quick response to concerns, grievances, suggestion
10. Skillfulness in avoiding wastage
11. The technology adapted and the management practices help to do job in a better way
Generation of awareness amongst the employees about the organisation's financial position, industry trends, stakeholders’ needs, cost etc by the management

High orientation has been observed amongst employees in a number of areas that are significant in the context of BS-HRM practices. Interestingly, in case of items where high orientation has been observed, the SD values have been low which signify greater convergence in case of items where employee orientation is high. Highest orientation has been observed in the perspective healthy industrial relations which signifies that awareness amongst employees is very high and SD value (0.6366) signifies convergence of opinion in this item. This assumes greater significance for the organisation in a public sector organisation where unhealthy industrial relations and trade unionism were sometimes held responsible for disruption of business activities. With a new paradigm in the industrial scenario the responsible role of trade union has been instrumental in smoothening the production process and this approach is percolated among the employees, signifying high orientation. There are certain areas that act as add-ons and support this area, and it is really interesting that high orientation has also been observed in these areas as well. These comprise the encouragement to do extra work in case of low manning which signifies the fact that employees take concerted effort to see that production is not hampered. Again, employees’ perception about the existence of an effective and collaborative work environment and clear linkage between the work performed and organisation’s sustainability and growth have helped towards the development of positive mental attitude. The other areas where high orientation has been
observed include awareness about increase in production capacity, utilisation of employees in turnaround and growth and minimisation of cost of operation. These connote employees' orientation about important areas of business strategy (growth, cost reduction, and turnaround strategy). Moreover, employees are also aware about the facilitators to such strategies like technology adaptation and incentive that are two important areas that support the business strategy of the organisation.

Comparatively lower orientation has been observed in the following areas which are important to the organisation in the context of BS-HRMP relationship:

- *Man and machine not remaining idle in the organisation on account of timely availability of raw-material in most of the cases*
- *Opportunities to develop skills, talent and career in my organisation*
- *Awareness about ISO specification*
- *Agreement with organisation's personnel policies*
- *Existing reward and compensation system*
- *The physical working environment and facilities.*
- *Appropriate training to do job well and to enhance capabilities*
- *Satisfaction about welfare and benefit facilities available in organisation (like canteen, medical, recreation)*

Lower orientation in the context of man and machine not remaining idle, which is a strategic necessity for the organisation, signifies the fact that availability of raw material is a constraint for the organisation which has to be appropriately addressed. Again certain areas of HRMP fall under the moderate orientation category. These are areas like *career opportunities, reward and compensation*. Thus the HRMP
areas need to be strengthened in the context of the business strategy of the organisation. These areas need to be strengthened in order to motivate and retain human resources within the organisation. Although the alignment of training with the business strategy of the organisation has been observed in the organisation and exemplified in the discussion, the employees possibly feel that more training needs to be imparted by the organisation and that these should be imparted in such a way so as to enable employees to do job well and to enhance capabilities. Improvement of the physical environment is perhaps a strategic necessity. This assumes greater significance due to the prevalence of “contrast effect” in the context of employees’ perception vis-à-vis the environment of similar organisations about which they are aware. This justification of “contrast effect” is also valid in the case of compensation and career opportunities. Moderate orientation has been observed in the context of ISO orientation which needs improvement since the area has been considered to be significant from the strategic perspective of the organisation.

The results of principal component analysis have yielded eight principal components. Weights of each of the principal component have been ascertained following the process identified in the methodology chapter. On the basis of the weighted scores that have been ascertained by multiplying the factor mean values with the respective weights, the overall orientation of employees is 74.25 percent (mean value 3.71) which is fairly satisfactory. The background-wise orientations are shown in appendix IV(c) and (d).

5.5.3 Orientation differences based on background variables

The various categorisations on the basis of different background variables are:
1. Designation-wise: Engineer-Officer and Non-Engineer-Non-Officer
2. Qualification-wise: Technical and Non-technical
3. Unit-wise: Coke-oven, power plant, water-works and service
4. Length of service-wise: Less than 1 year, 1 year up to 10 years and more than 10 years

Based on mean scores (composite as well as item-wise) on different background variables the different results have been analysed. Among the different categorisations based on different background variables, it is observed that employees having a stay in the organisation for more than 1 year but less than 10 years are having the highest orientation which can be justified on the ground that these are either the young employees or have understood the organisation better because of a longer stay. On the other hand, the overall orientation of employees under different background variables is more or less same, implying uniform overall orientation across different background, which is quite satisfactory from the organisational point of view. Among the employees of different background variables, marginally lower over-all orientation has been observed among employees in the service unit which may be because of the fact that they are not closer to the production activities and hence are not aware about the strategic issues of the organisation. There is considerable consistency in the opinion of employees. However, the item-wise difference can be identified on the basis of the results and the significant ones can be identified in a better way with the help of statistical tests. These have been attended to in the subsequent discussions.
In case of item-wise orientation, it has been observed that highest and lowest orientation are in item 5 and item 14 across employees of all backgrounds barring employees in water works where highest and lowest orientations have been observed in items 7 and 13. In case of engineers and officers lowest orientation has been observed in item 11. Thus perception of employees with regard to healthy industrial relations is highest across employees classified on the basis of different background variables which signifies the importance of this factor for the organisation. Again, commonality in terms of lowest orientation in the context of welfare and benefits signify the fact that employees across different classifications are not satisfied with the existing welfare facilities offered. Again, second highest orientation has been observed in item 7 for majority of the classified background variables barring non-engineers and non-officers, employee with non-technical qualification and employees in coke oven where highest orientation is in item 8.

6.5.4 Item-wise statistically significant differences on the basis of background variables: Results of Non-parametric tests

In order to know the item-wise significant differences between and among the groups in each of the categories Mann-Whitney test and Kruskal Wallis tests have been used. The results of tests on the basis of hypotheses drawn earlier have been analysed on the basis of different background variables.

Designation-wise: Engineer-Officer and Non-Engineer-Non-Officer

The results of the non-parametric on the basis of hypotheses drawn earlier have been analysed on the basis of different background variables. In the designation-wise classification (executive and members), significant difference (at 10% level of
significance) has been observed and null hypothesis has accordingly not been accepted for items 1, 2, 6, 10,11,18,19:

*Generation of awareness amongst the employees about the organisation's financial position, industry trends, stakeholders' needs, cost etc by the management*

Whereas the Engineer-Officer category believes that management has taken initiatives to generate awareness about the different aspects and they are also part of this initiative, the employees don't feel this to the same extent. This can be because of the fact that non-engineer and officers' category especially the workers category believes that trade union has played a leading role compared to management.

**Item 2: Effective utilisation of employees in successful turnaround and growth**

A possible explanation could be that while employees below engineer-officer category believe that they had an important role in turnaround and growth of organisation, the higher group believes that they have happened due to deliberate policy intervention.

**Item 6: Most of the time man and machine do not remain idle because of timely availability of raw-material (coke etc.)**

Non-engineers and officers who are more directly associated with the production activities negate this argument more vehemently than the engineers and officers. This also substantiates that availability of raw-material is a genuine problem for the organisation about which there is less awareness among engineers and officers.

**Item 10: Opportunities to develop skills, talent and career in organisation**
Item 11: *Satisfaction about existing reward and compensation system in organisation*

While the perceptions of both the groups are on the lower side, for both the items, the difference and lower value in case of engineers and officers category signify the fact that lesser opportunities are available for these employees and therefore appropriate intervention needs to be formulated. The reward and compensation system need to be modified and appropriately aligned with retention.

Item 18: *Awareness of the ISO specification*

Item 19: *Skillfulness in avoiding wastage of time and resources*

For both the above items, engineers and officers are aware of the strategic priorities of the organisations because of more awareness and attachment with the decision-making authority and effort needs to be taken to make the employees in the non-engineer and officer category aware of these priorities.

*Qualification-wise: Technical and Non-technical*

In the qualification-wise classification (technical and non-technical), significant difference (at 10% level of significance) has not been observed and null hypothesis has accordingly been accepted for majority of items i.e. 17 out of 20 items of the questionnaire signifying the fact that difference in terms of qualification does not have a considerable influence on employees' line of orientation vis-à-vis BS-HRMP relationship. However, significant difference has been observed and null hypothesis has accordingly not been accepted and alternative hypothesis has been accepted for the following items:
Item II: Satisfaction about existing reward and compensation system in organisation

Technically qualified employees are less satisfied about reward and compensation system of the organisation probably because of higher expectation and search for external equity in pay. Thus, as a retention strategy the organisation needs to reformulate its reward and compensation strategy and approaches like skill-based pay can be introduced.

Item 18: Awareness of the ISO specification

Item 19: Skillfulness in avoiding wastage of time and resources

In items 18 and 19 it is observed that the mean values for the employees having technical qualification are higher than employees having non-technical qualification for obvious reasons like more awareness, proficiency, etc. Hence they are more aware about the strategically important issues like ISO specifications and wastage reduction.

Unit-wise: Coke-oven, power plant, water-works and service

Results available from the Kruskal Wallis test show that significant difference exists among the units in case of majority of 13 items viz. 4, 5,6,7,10,12, 13,15,16,17,18,19,20. An effort has been taken to use the results of Kruskal Wallis test and relate them with the mean values of the four groups (units of the organisation) in the unit-wise background variable. While it is not possible to identify which two groups differ, some of the important results are discussed intuitively by the researcher on the basis of his personal judgement. In this perspective, there is difference in perceptions about the physical environment.
between employees of coke oven and power plant and between employees of power plant and water works. While the difference can be justified on the ground of variety of production arrangement, the environment of power plant needs improvement in future. In the context of man and machine not remaining idle because of timely availability of raw-material (coke etc.), difference has been observed between employees of water works and coke oven as well as power plant. In this context it can be averred that availability of raw material is a problem area for coke oven unit which needs to be addressed by the organisation. Again, difference has been observed between employees of water works and coke oven as well as power plant in the context of opportunities to develop skills, talent and career signifying the fact that fewer opportunities are available in the water works unit. In a single organisation such disparity should be done away with. One important finding of strategic importance is the question of response to concerns, grievances, and suggestions wherein no difference has been observed in the three core units, the only difference is between service and coke oven and also water works. In the question of employee training significant difference has been observed among units which, at the same time, is low for the entire unit. This thereby raises a serious concern in the context of BS-HRMP relationship. This assumes greater significance on the ground that in the previous section although the issue of training has been highlighted, in employees’ opinion, training initiatives have not been manifested. While uniformity of opinion and hence effectiveness of incentive scheme introduced has been established especially in the three core units, difference has been observed between service and the other units which is quite
natural in terms of organisation of work. In the question of existence of efficient and collaborative work environment where employees feel involved and motivated, significant difference has been observed between coke oven and power plant coke oven and water works, water works and service. Reasons like interpersonal relationship, supervision, effect of unit-wise contextual variables etc. may be put forward to explain these differences. Awareness of the ISO specification also varies across units. Difference has been observed between the orientation of employees of coke oven and water works, power plant and water works, power plant and service. It seems that the orientation water works unit differs from the other two units which may be because of the nature of work and less manifestation of initiatives in this regard. Since the ISO specifications are largely focused on production processes, the difference between power plant and service has been observed. In the context of skilfulness in avoiding wastage of time and resources and also in the context of technology to do the job better, difference has been observed between service and the other three core units basically due to the difference in the nature of work carried out in these units and the service unit.

Length of service-wise: Less than 1 year, 1 year upto 10 years and more than 10 years

Although three groups have been formed in terms of length of service comprising employees having less than 1 year service, 1-10 years service and greater than 10 years service, Mann-Whitney test has been applied since one group (less than 1 year service) has less than 2 items. Significant difference has been observed and null hypothesis has accordingly not been accepted and alternative hypothesis has been
accepted only in case of the items 6 and 9 which signifies the fact that length of service doesn’t affect the employees’ line of orientation in DPL and that, employees between the age group 1-10 years and greater than 10 years largely have the same orientation. In case of item 6 (man and machine do not remain idle in my organisation because of timely availability of raw-material) and item 9 (agreement with HR policies), the difference in orientation arises out of the perspective through which the statement (6) has been looked upon and the slightly negative perception of employees having a longer stay in the organisation regarding the HR policies (item 9).

6.6 Conclusion

As already discussed, the most interesting finding of this organisation-specific study is the positive contribution of employees in the turnaround and sustainability of the organisation. It has already been discussed that the organisation has been able to increase production, enhance revenue earnings and profitability through technological interventions and active involvement of productive and committed human resources. This has been realised with less number of employees. Further, the positive role of trade union has facilitated the entire process in the right direction. The study establishes that when attitudinal change of employees is brought about in the right direction, organisational success is ensured. This is an area that will give advantage to the organisation in future as well. The organisation has to be prepared to adjust itself with the changes in power sector in the country. Moreover, HR issues need to be aligned with the proposed structural change in the organisation. In the context of employees’ line of orientation it has
been observed that in general, there is high line of orientation vis-à-vis BS-HRMP relationship. High employee orientation towards issues like healthy industrial relations and encouragement to do extra work in case there is low manning signify the assertion just mentioned. However, HR issues like career opportunities, reward and compensation need to be developed in order to further motivate the human resources of the organisation. Moreover, on the basis of different background variables like education, length of service, significant difference has been observed in few areas which signifies that there is more or less uniformity among employees’ line of orientation. However, more difference has been observed in employees’ line of orientation on the basis of designation and unit wise segregation of employees which is quite justified in terms of degree of awareness and difference in organisation of work in different units.