Project welfare measures

INTRODUCTION India is a developing country. This means that majority of the population belong to the working class. They have to struggle to make both the ends meet. In their struggle for daily living, they loose sight of the individual development, productivity, selfactualization etc. There are certain special characteristics with regard to the Indian labourer, such as coming from villages to city in search of work, being away from loved ones, having to accept work at poor working conditions, low wages, etc.

The present scenario in India, is that the employers are becoming aware of their workers needs and are taking effective measures to improve their morale and self worth by the various Labour Welfare measures both the statutory and voluntary. The reason being the increasing awareness created globally, by the initiative of ILO, and other organizations, the charismatic leadership of some Indian and international labour union leaders like Shri N. M.

Lokhande and initiatives taken by the Indian Government to enact various legislations concerning the good of the working class and to punish the defaulters. In such a context, I thought it is worthwhile doing this project on the employee welfare facilities provided in AREVA T&D. Employee welfare is a comprehensive term including various services, facilities and amenities provided to employees for their betterment. Employee welfare means “ the efforts to make life worth living for workmen. According to Todd “ employee welfare means anything done for the comfort and improvement, intellectual or social, of the employees over and above the wages paid which is not a necessity of the industry. ” NEED FOR THE STUDY: • The project entitled “ A study on the level of satisfaction among the employees on the welfare

facilities with special reference to AREVA T&D, tends to find the inner perception of the employees with regards to the welfare measures provided by the company, In addition what they are expecting from the company to improve their production capacity and level of satisfaction, • And also to devise a methodology to gauge the effectiveness of the various welfare measures provided by the organization to its employees. SCOPE OF THE STUDY: The study helps to find the level of satisfaction among the employees on the welfare measures provided in the organization. OBJECTIVES OF THE STUDY: PRIMARY OBJECTIVE: • To study the level of satisfaction among the employees on the welfare facilities provided in AREVA T & D, Padappai.

SECONDARY OBJECTIVE: • To know the intramural facilities provided in the organization like safety & cleanliness, good housekeeping, compound walls, lawns, convenience & comfort seating arrangements, illumination, visible posters & warnings, canteen, restrooms. • To study the facilities within the organization like medical, drinking water, safety shoes, caps & uniform etc. • To know the extramural facilities provided in the organization like accommodation, transportation, educational facilities, recreational facilities , Leave Travel Allowances(LTA) , interest free loans etc. To devise a methodology to gauge the effectiveness of the various welfare measures (EHS, Welfare, Payroll standpoint) provided by the organization to its employees. STATEMENT OF THE PROBLEM: “ To devise a methodology to gauge the effectiveness of the various welfare facilities (EHS, Payroll, Welfare standpoint) provided by the organization to its employees. Currently there is a system called “ Employee Opinion Survey” which gauges the

effectiveness at the macro-level from a global standpoint only. ” PROJECT PLAN INTERMS OF ACTIVITY CHART: ACTIVITY | PROPOSED DATE OF COMPLETION | ACTUAL DATE OF COMPLETION | | | | | | | | | | | | | | | | | I. REVIEW OF LITERATURE A Literature Review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic.

Literature reviews are secondary sources, and as such, do not report any new or original experimental work. Most often associated with academic-oriented literature, such as a thesis, a literature review usually precedes a research proposal and results section. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as future research that may be needed in the area. A well-structured literature review is characterized by a logical flow of ideas; current and relevant references with consistent, appropriate referencing style; proper use of terminology; and an unbiased and comprehensive view of the previous research on the topic. INDUSTRY PROFILE:

The electric power industry provides the production and delivery of electric energy, often known as power, or electricity, in sufficient quantities to areas that need electricity through a grid connection. The grid distributes electrical energy to customers. Electric power is generated by central power stations or by distributed generation. Many households and businesses need access to electricity, especially in developed nations, the demand being scarcer in developing nations. Demand for electricity is derived from the requirement for electricity in order to operate domestic appliances, office equipment,

industrial machinery and provide sufficient energy for both domestic and commercial lighting, heating, cooking and industrial processes.

Because of this aspect of the industry, it is viewed as a public utility as infrastructure. Although electricity had been known to be produced as a result of the chemical reactions that take place in an electrolytic cell since Alessandro Volta developed the voltaic pile in 1800, its production by this means was, and still is, expensive. In 1831, Michael Faraday devised a machine that generated electricity from rotary motion, but it took almost 50 years for the technology to reach a commercially viable stage. In 1878, in the US, Thomas Edison developed and sold a commercially viable replacement for gas lighting and heating using locally generated and distributed direct current electricity.

The world’s first public electricity supply was provided in late 1881, when the streets of the Surrey town of Godalming in the UK were lit with electric light. This system was powered from a water wheel on the River Wey, which drove a Siemens alternator that supplied a number of arc lamps within the town. This supply scheme also provided electricity to a number of shops and premises. Coinciding with this, in early 1882, Edison opened the world’s first steam-powered electricity generating station at Holborn, Viaduct in London, where he had entered into an agreement with the City Corporation for a period of three months to provide street lighting. In time he had supplied a number of local consumers with electric light. The method of supply was direct current (DC).

It was later on in the year in September 1882 that Edison opened the Pearl Street Power Station in New York City and again it was a DC supply. It was for this reason that the generation was close to or on the consumer's premises as Edison had no means of voltage conversion. The voltage chosen for any electrical system is a compromise. Increasing the voltage reduces the current and therefore reduces resistive losses in the cable. Unfortunately it increases the danger from direct contact and also increases the required insulation thickness. Furthermore some load types were difficult or impossible to make for higher voltages. Additionally, Robert Hammond, in December 1881, demonstrated the new electric light in the Sussex town of Brighton in the UK for a trial period.

The ensuing success of this installation enabled Hammond to put this venture on both a commercial and legal footing, as a number of shop owners wanted to use the new electric light. Thus the Hammond Electricity Supply Co. was launched. Whilst the Godalming and Holborn Viaduct Schemes closed after a few years the Brighton Scheme continued on, and supply was in 1887 made available for 24 hours per day. Nikola Tesla, who had worked for Edison for a short time and appreciated the electrical theory in a way that Edison did not, devised an alternative system using alternating current. Tesla realised that while doubling the voltage would halve the current and reduce losses by three-quarters, only an alternating current system allowed the transformation between voltage levels in different parts of the system.

This allowed efficient high voltages for distribution where their risks could easily be mitigated by good design while still allowing fairly safe voltages to be supplied to the loads. He went on to develop the overall theory of his

system, devising theoretical and practical alternatives for all of the direct current appliances then in use, and patented his novel ideas in 1887, in thirty separate patents. [pic]In 1888, Tesla’s work came to the attention of George Westinghouse, who owned a patent for a type of transformer that could deal with high power and was easy to make. Westinghouse had been operating an alternating current lighting plant in Great Barrington, Massachusetts since 1886. While Westinghouse’s system could use Edison’s lights and had heaters, it did not have a motor.

With Tesla and his patents, Westinghouse built a power system for a gold mine in Telluride, Colorado in 1891, with a water driven 100 horsepower (75 kW) generator powering a 100 horsepower (75 kW) motor over a 2. 5-mile (4 km) power line. Almarian Decker finally invented the whole system of three-phase power generating in Redlands, California in 1893. Then, in a deal with General Electric, which Edison had been forced to sell, Westinghouse’s company went on to construct the Adams Power Plant at the Niagara Falls, with three 5, 000 horsepower (3. 7 MW) Tesla generators supplying electricity to an aluminium smelter at Niagara and the town of Buffalo 22 miles (35 km) away. The Niagara power station commenced operation on April 20, 1895.

Tesla’s alternating current system remains the primary means of delivering electrical energy to consumers throughout the world. While high-voltage direct current (HVDC) is increasingly being used to transmit large quantities of electricity over long distances or to connect adjacent asynchronous power systems, the bulk of electricity generation, transmission, distribution and retailing takes place using alternating current. POWER INDUSTRY-AN

OVERVIEW: The Indian Power Industry is one of the largest and most important industries in India as it fulfils the energy requirements of various other industries. It is one of the most critical components of infrastructure that affects economic growth and the well-being of our nation.

India has the world’s 5th largest electricity generation capacity and it is the 6th largest energy consumer accounting for 3. 4% of global energy consumption. Due to the fast-paced growth of the Indian economy, the country’s energy demand has grown at an average of 3. 6% p. a. over the past 30 years. In India, power is generated by State utilities, Central utilities and Private players. The share of installed capacity of power available with each of the three sectors can be seen in the pie-chart below: [pic] As per the latest Report of CEA (Central Electricity Authority) i. e. as on 31-03-2011, the Total Installed Capacity of Power in India is 173626. 40 MW.

Of this, more than 75% of the installed capacity is with the public sector (state and central), the state sector having the largest share of 48%. WORKING OF THE POWER INDUSTRY: [pic] [pic] Thermal Power: – In India, major proportion of power is generated from thermal sources where the main raw material used is coal. Around 83% of thermal power is generated using coal as a raw material whereas 16% of thermal power is generated with the help of Gas and 1% of thermal power is generated with the help of Oil. Hydro Power: – Hydroelectric power or hydroelectricity is electrical power which is generated through the energy of falling water. India has hydro power generation potential worth 1, 50, 000 MW, of which only 25 % has been harnessed till date.

Nuclear Power: – A Nuclear Power Plant is a thermal power station in which the heat source is one or more nuclear reactors. A nuclear reactor is a device to initiate and control a sustained nuclear chain reaction. In the process, heat is generated which is then used to generate electricity. Renewable Energy Sources: – The energy obtained from renewable sources like sun, wind, biomass can be converted into power. Renewable energy sources have great potential to contribute to improving energy security of India and reducing green-house gas emissions. India is among the five largest wind power generators in the world. WHAT DOES THE PAST SAY? How has the relationship between India’s economic growth and Power generation growth been? pic]As seen in the graph below, there is a positive correlation between the GDP Growth rate and the growth in Power Generation. As will be seen in the later part of this Shastra, India is currently facing acute shortage of power. The Indian growth story looks positive which will lead to higher economic growth and more demand for power. In order to sustain the growth in GDP, India needs to add power generation capacity commensurate with this pace. [pic] PLANT LOAD FACTOR- A MEASURE OF EFFICIENCY: Plant Load Factor, a critical efficiency parameter in the power industry is a measure of the actual output of a power plant compared to the maximum output it can produce. [pic]

The State sector, that has the highest installed capacity is the least efficient. The private sector utilities have clocked good efficiency rates and the Central utilities have managed to achieve competent efficiency rates. Going forward, with private players being encouraged to enter the Power Sector, the state utilities will be required to work on improving their efficiency. PERFORMANCE

OF THE TOP SECTOR PLAYERS IN THE PAST: Looking at the table below, it can be clearly observed that hydro-power producers like NHPC and SJVN operate at substantially higher profit margins than thermal power producers. This is because thermal power producers are required to spend a lot on Fuel (Coal, Gas, Oil).

Looking at the companies with a diversified portfolio of power, NTPC is the largest company (on Net Sales), but Tata Power has registered the highest growth rates in Sales and Net Profit. Among hydro power producers, NHPC's performance has been very good, its Net Profit growing at a CAGR of 28%. [pic] WHAT ARE THE GROWTH DRIVERS OF THE INDUSTRY? 1) Demand-Supply Gap: – [pic] India has always been a power-deficient country. The demand for power is huge in India. As seen in the above graph, the supply of power in India has not been able to meet its demand. Under the Government's " Power for all by 2012" plan, it has targeted per capita consumption of 1000 kWh by the end of the 11th Five Year Plan (2007-2012) as compared to levels of 734 kWh in 2008-09.

In order to provide per capita availability of over 1000 kWh of electricity by year 2012, it is estimated that capacity addition of more than 1, 00, 000 MW would be required. This shows that huge capacity additions are required at good efficiency rates, indicating that the opportunities available in this sector are huge. 2) Government: – The role of the Government in the development of Indian power industry has been very crucial. Government's policies aim at protecting consumer interests and making the sector commercially viable. Government regulates this industry in various ways (Tariff control, Subsidies, environment norms, etc.) due to its linkages to

various industries and to the growth of the economy. Regulatory role of Government: – As far as regulation is concerned, Electricity Act, 2003 is a very important Act as it allowed private sector participation in the generation of power, thus creating competition. It also allowed 100% FDI participation in the power generation, transmission and distribution, thus inducing investments in the power sector. – Government Schemes: – The Government is investing in this industry through various development schemes: – • The Rural Electrification Program is an effort to lighten up villages which have faced acute shortage of Power over the years. • ‘ Power for All by 2012? plan aims at a per capita consumption of 1000kWh by the end of the 11th Five Year Plan (2007-12). The Accelerated Power Development and Reform Programme (APDRP) programme is being implemented so that the desired level of 15 per cent AT (Aggregate Technical and Commercial) loss can be achieved by the end of 11th plan (Currently it is 30%). – Projects under pipeline: – The Government of India is planning nine Ultra Mega Power Projects (UMPP) of 4 GW each with an estimated individual investment of US$ 4 billion (Rs. 192 billion). Four of these projects are expected to be commissioned between 2011 and 2017. The UMPP is an initiative by the government to collaborate with power generation companies to set up 4, 000 MW projects to ease the country’s power deficit situation. 3) Raw Materials: – Thermal power segment, which has the largest capacity generation share in the Indian power industry, is dependent on inputs like coal, oil and gas for the generation of power.

Coal shortages and the low thermal quality of coal supplies cause disruptions in power generation and result in lower plant load factors. When domestic

supply of coal is insufficient, coal is imported. This is unfavourable for power companies as it leads to rise in costs. With these problems associated with thermal power, the Power Companies enter in to Long Term Agreements (LTA) with coal suppliers or acquire coal mines to ensure regular supply of coal. Besides, currently coal players in India are adopting aggressive strategies by acquiring Coal mines outside India. Domestically, a good number of coal mines have received environmental clearances. Such actions will be beneficial for thermal power players.

Gas-based power plant face problems because of shortages in gas supply. The discoveries in the Krishna-Godavari Basin are expected to improve gas availability in India which is a big positive for India’s gas-based plants. 4) Transmission and Distribution: – Transmission of electricity is defined as the bulk transfer of power over a long distance at a high voltage. Transmission and Distribution is as important as generation. The capacity additions to meet India’s growing power demand should be supplemented by adequate transmission infrastructure. Globally, every dollar invested in generation has an equal amount invested in transmission and distribution.

However, in India traditionally every dollar invested in generation has a corresponding half a dollar invested in transmission and distribution. Due to this, transmission capacity in India lags behind the generation capacity. Huge investments are required in Transmission and Distribution if India’s power sector is to meet the rising power demand. 5) FDI Equity Flows in Power Sector: – [pic] In India, 100% FDI is allowed in the Generation, Transmission and Distribution segments of the Power Sector. The FDI inflow in the Power Sector has been on the rise in the last 5 years. This trend is

expected to continue in the coming years considering the huge opportunities available in the sector.

FDI inflow is important for the power sector because it brings in money and India’s power sector is in huge need of investments. More importantly, FDI also brings in advanced technology making the sector more efficient. Hence, this proves to be a major growth driver for the power sector. 6) Growth Drivers for Power from Nuclear, Hydro and Renewable Energy Sources: With the thermal power generation segment facing the issue of shortages of coal (major raw material), other power generation sources like nuclear, hydro and renewable energy sources will get attention in the coming years. Nuclear power projects account for 2. 75% of India’s total installed capacity which is about 4. 77 GW.

The Planning Commission’s expert committee on an Integrated Energy Policy has suggested in its report that there is a possibility of reaching a nuclear power capacity of 21-29 GW by 2020 and 48-63 GW by 2030. The hydro power segment offers investment opportunities as India is considered to have hydro power generation potential worth 1, 50, 000 MW; of which only 25% has been harnessed till date Using renewable sources to generate electricity has several advantages like a perennial energy source, potential for lower reliance on imported fossil fuels and lower CO2 emissions. However, at present the major hurdle facing rapid expansion of renewable power is high initial cost as compared to the competing fuels.

But taking in to consideration the environmental concerns, this segment receives encouragement from the Government. Its share in the country’s

total generation capacity has increased from 1. 1% in 2001-02 to 10. 63% as on 31st March, 2011 and is expected to increase in the future. These three non-thermal sources of power also offer good investment opportunities. Companies are diversifying their power portfolios to take advantage of opportunities available in hydro power and renewable energy sources. ROADBLOCKS(CHALLENGES): Power Sector is a highly capital-intensive industry with long gestation periods, before the commencement of revenue generation.

Since most of projects have a long time frame (4-5 years of construction period and operating period of over 25 years), there are some inherent risks which this sector faces. Availability of Coal: – Coal is the mainstay of the power production in India and is expected to remain so in the future. India has limited coal reserves, plus, availability of domestic coal is a challenge on account of various bottlenecks such as capacity expansion of Coal India Limited (the largest coal producing company in the world, coal block allocation, tribal land acquisition, environmental and forest clearances, etc Transportation of coal is a big concern in itself.

Within the country, coal is transported by Indian Railways and in case of imports; coal is to be unloaded at ports. In both cases, India currently faces capacity shortage. Hence, a project developer has to account for and manage its logistics chain in a manner that ensures regular fuel supply which is a big challenge. Dependence on Equipment Suppliers: – The power sector is heavily dependent on Equipment suppliers. In fact, equipment shortages have been a significant reason for India missing its capacity addition targets for the 10th five year plan. While the shortage has been primarily in the core

components of boilers, turbines and generators, there has been lack of adequate supply of Balance of Plant (BOP) equipment as well.

These include coal handling, ash-handling plants, etc. Apart from these, there is shortage of construction equipment as well. Hence, inadequate supply of equipments is a cause of concern for the power companies. Aggregate Commercial and Technical Losses: – The Aggregate Technical and Commercial Loss (AT) is defined as the power lost due to inefficient transmission and distribution infrastructure. India’s AT losses are as high as 30% compared with 5-10% in the developed markets which means out of every 100 units produced, 30 are lost during transmission and distribution. Technical losses are due to inadequate investments over the years for system improvement works.

Commercial losses are mainly due to low metering efficiency, pilferage and theft of power. This is a huge problem for the power sector. Other Roadblocks leading to Demand Supply Gap: – The power sector has other concerns like shortage of skilled manpower for construction and commissioning of projects, contractual disputes between project authorities, contractors and their sub-vendors, delay in readiness of balance of plants by the executing agencies. Difficulties have been experienced by developers in land acquisition, rehabilitation, environmental and forest – related issues, inter-state issues, geological surprises (particularly for Hydro projects) and contractual issues.

These issues continue to pose challenges to maintain the pace of development of power projects. FUTURE PROSPECTS AND CONCLUSION:

India has stepped its development agenda and power is an inevitable element of economic growth and development. Growth in the power sector is related to India’s GDP growth rate and hence, in order to sustain the growth of 8-9% in GDP, India needs to continuously add power generation capacity to commensurate with this pace. Although, the Indian power sector is one of the fastest growing sectors in the world and energy availability has increased by around 36% in the past 5 years, the demand for power outstrips its supply. Nearly 60 crore Indians do not have access to electricity.

The energy and peaking deficits have been hovering around double digits for the past two years and the condition might worsen in the coming years considering the huge demand of power from India’s rising population and rapid industrialization and urbanization. Hence, there is no slowing down of demand for the Power Sector, thus offering ample scope for rapid capacity expansion. The Government is investing in this industry through various development schemes like Rajeev Gandhi Rural Electrification Program, ‘ Power for all by 2012? and Accelerated Power Development and Reform Programme (ARDRP), Ultra Mega Power Projects etc. It has also been is encouraging participation of private players in this Sector. Renewable energy sources are also being encouraged considering the growing environmental concerns. Hence, the future prospects of nuclear power, hydro ower and power from renewable energy sources are also good Looking at the above points, the long term future prospects of the Indian Power Sector appear to be Green (Very Good). It is very important that while investing in a company, an investor selects an industry, where the long-term future prospects are bright. We have seen that in the long run the Indian Power sector is expected

to have good growth. Also, it is equally important that the company has an excellent financial track record(i. e. Green 10 Year X-Ray) and its long-term future prospects are Green (Very Good). *The 10 YEAR X-RAY facilitates analysis of the financial performance of the company considering the five most important parameters.

A 10 Year period will normally encompass an entire business cycle. Analysing the performance over this time frame is essential to understand how a company has fared during the good as well as bad times. The five most important parameters that one needs to look at are Net Sales Growth Rate, EPS Growth Rate, Book Value Per Share (BVPS) Growth Rate, Return on Invested Capital (ROIC) and Debt to Net Profit Ratio. Given below is the MoneyWorks4me assessment for a few Power companies: At MoneyWorks4me we have assigned colour codes to the 10 YEAR X-RAY and Future Prospects of the companies, as Green (Very Good), Orange (‘ Somewhat Good’) and Red (Not Good). COMPETITIVE SCENARIO: [pic]

While investing, one must always invest in the stocks of a company that operates in an industry with bright long-term prospects. Further, the company’s 10 YEAR X-RAY and future prospects should also be Green. In the case of the power sector, though, it is poised for good growth in the future, it remains to be seen whether the above companies can completely take benefit of this growth and reflect it in their performance. Because of the very nature of the power sector (capital intensive+high debt), most of these companies have had muted growth in one or more of their parameters. Hence, investors with some appetite for risk can consider investing in these companies, but only at the right price. COMPANY PROFILE: