

## **Study on Employee Welfare and Safety Measures at a Power Generation Plant**

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## **Comments by the Faculty**

Employee welfare and safety at the workplace is one of the important measure of life at work place. Organizations ensure that employees are exposed to a risk level which do not affect their physical, emotional and mental health. Also the organizations do not entertain any activity in its premises that will disturb the work life of the employees. Employees are trained appropriately about the work and about all precautionary measures that will prevent accidents at the work place. In addition to these, all the organizations have rigorous checking process that avoid intrusion of outsiders into the office premises. It is sincerely thought that the welfare notion will help the organizations to maintain harmonious industrial relations and more lasting industrial peace to tackle effectively the social problems and attain human welfare.

Employees at the power generation plant are exposed to high risk due to the working conditions. They need more training and have to be aware of safety measures that prevent them from accidents. For example, they should be aware of how to use gloves, helmets etc., to protect themselves from fire and smoke. The present study is aimed at observing the satisfaction level of the employees with respect to the safety and welfare measures adopted by a power plant\*. It not only includes studying the awareness of the employees about the safety measures at the work place taken up by the power plant to ensure that its employees work under safe conditions but also the utilization of the same by the employees.

The study was carried out by Ms.Sai Anusha at a power plant in Andhra Pradesh. The power plant where the study has been under taken is one of the power plants which has good system that ensures the safety of the employees. It also has a track record of managing such provisions effectively and efficiently. Safety and Welfare schemes are provided to create efficient, healthy, loyal and satisfied employees. Therefore, the study tried to explore how an employee is continuously motivated and focused to do duties with safety and welfare measures at the organisation.

The power plant has employees at various levels starting from senior engineers to daily labourers. To understand whether the employees are aware of the safety and welfare measures adopted by the management, a questionnaire was designed. The sampling method used to collect the responses from the employees at various levels was a convenient sampling technique.

The results of the study showed that the employees are happy with the management in terms of the welfare and safety measures taken to ensure better work life.

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## Study on Employee Welfare and Safety Measures at a Power Generation Plant

### Company Profile

Andhra Pradesh (A.P.) state is the 4th largest state in India and occupies an important position in the country's economy. Electricity plays an important role in the attaining development and growth in all sectors. At the time of formation of A.P. during 1956 the installed capacity was 99 MW. By 1974 it crossed 660 MW and today it is 8924 MW.

The study was conducted at a Thermal Power Station, located near Vijayawada which is well known as model thermal power station in India. It has all along been a source of pride to the state of Andhra Pradesh and ever for the country, with its highest P.L.F. (plant load factor) in the world. It received "Meritorious productivity Award" for the 16th time in succession for its cleanliness and Gold Medal for 5th time in succession given by the central Electricity authority and Ministry of Power, Government of India

### Introduction

Employee welfare and safety has seen as one of the important measures of performance of an organization. The changes in the work life of employees and changes in the business environment internal as well as external has brought tremendous transformation in the organizational behaviour. Globalisation, Technology and other work-design factors have forced organizations to focus on employee Safety and Welfare. Organizations have set standard measures to take care of the employees' professional and personal careers. Increase in reliance on technology, distributed work arrangements, increase in pace of work, and diversity in the work environment creating several challenges for Human Resource Management personnel. First, potential new hazards are emerging from the introduction of new technologies and through the performance of work in a more virtual organization. Second, businesses are becoming smaller and flatter and are redefining the content of work and the nature of the employment relationship.

**Safety:** Safety in the workplace means having an environment free from injury and hazards. Proper processes and procedures will allow employees to work without worrying about the safety.

**Labour Welfare:** The concept of **labour welfare** is necessarily dynamic and has been interpreted in different ways from country to country and from time to time and even in the same country, according to social institutions, degree of industrialization and general level of social and economic development. Labour Welfare includes under it "Such services, facilities and amenities as adequate canteens, rest and recreational facilities, sanitary and medical facilities, arrangements for the travel to and from and for the accommodation of workers employed at a distance from their homes, and such other services, amenities and social facilities including security measures as contributing to conditions under which workers are employed" Welfare activities influence the sentiments of the workers. When workers feel that the employers and the state are interested in their happiness, his tendency to grouse and grumble will steadily disappear. The provision of various welfare measures such as better housing, canteen, medical and sickness benefits etc.

## **Need for the Study and its Significance**

Safety and Welfare is the main concern for the employees in the power generation plants. Minor neglects may also cause irreversible hazards. Hence, the malfunctions in day to day activities should be checked in every function.

An environment should be created such that the employees work fearlessly, focusing on their work rather than safety issues. Welfare measures should be adopted by the organisations in a way to take utmost care of the employee and its family, in case anything happens. Organisation should make an attempt to make its associates aware of all the related issues. This in turn will improve the employee productivity and efficiency.

Organizational focus on employee safety can provide for higher morale and productivity in the workplace. This is due to the perception that the company truly cares about the health and well-being of its employees, thus creating a sense of pride for the organization. Increased productivity as it correlates to safety and morale is a difficult metric to measure, but forward-thinking organizations realize that it does exist and can therefore justify the costs of their safety programs as compared to the productivity benefits that they provide. In contrast to measuring productivity as it relates to safety, the indirect costs of employee injuries are much more measurable. For example, a death or severe injury on the job site can shut down a project for extended periods of time while it is under investigation, and lost time equals lost money. Additionally, there is the cost of lost productivity of the affected employee, increased insurance premiums, cost of replacing the injured worker, cost of training the new worker and potential fines. These costs can be so severe that they may make it difficult to run a profitable organization.

The above mentioned points stand as motivation factors to undertake the present study. Accordingly appropriate objectives are framed and studied using primary and secondary data.

## **Objectives of the Study**

1. To understand the awareness of safety and welfare facilities among the employees provided by the organization.
2. To find out the utilization of welfare facilities by the employees
3. To find out the level of satisfaction of employees with regard to labour welfare facilities.

## **Methodology**

In order to reach the objectives of the study, a sample survey was conducted inside the thermal plant and the responses were collected from the employees of the plant. A questionnaire was given to the employees and were asked to respond to the questions related to the safety and welfare activities of the thermal plant.

## **Sample Size**

Sample size of 100 employees has been taken in the thermal plant through a convenient sampling technique. This technique was adopted due to the fact that the plant has several employees and it is difficult to apply a random sampling technique.

### **Data Collection Method**

Data was collected directly from the respondents through questionnaires, personal interviews and discussions with officials and manager at Power plant. The responses of the employees towards worker “safety and welfare” measures in the organization is analysed using appropriate statistical tools which can be found in Levin and Rubin (2000).

### **1) Analysis of Data**

The data collected was analysed using appropriate statistical tools and the results are presented appropriately addressing the objectives mentioned above.

1. To understand the awareness of safety and welfare facilities among the employees provided by the organization.

The employees were asked to rate their awareness about the facilities provided by the thermal plant and the following gives the details

**Table 1 :**  
**Ratings for Awareness About Facilities**

Excellent	8
Very Good	25
Good	65
Poor	2
Total	100

Note that only 2% were unaware of the facilities provided by the thermal plant and 8% were excellently aware of the facilities. 90% of the employees sated that they were clear on the facilities. Using this we have constructed a 95% confidence interval, (0.8412, 0.9588), which shows that in future the proportion of employees who will be aware of the facilities provided by the thermal plant will increase to 95% or decrease to 84% based on the training programmes conducted by the plant.

We next examine whether the training programmes have any relation with the employee awareness. For this we have used Chi-Square test for independence of attributes. The hypothesis tested is the employee awareness depends on number of training programmes attended by the employees. Since the p-value  $>0.05$ , we do not reject the null hypothesis and conclude that the employee awareness is independent of the number of training programmes attended.

Similar hypotheses are studied on employee awareness of hazards, handling emergency situation at work place, use of first-aid treatment and the number of training programmes.

The hypotheses that handling emergency, aware of using first aid, and aware of hazards at work place is independent of number of training programmes is rejected (p-value $<0.05$ ) and hence employees are advised to attend the training programme as many times as possible so that they

gain necessary expertise to handle emergency situations, awareness of the first aid facilities at work place and hazards at work place. At the same time the thermal plant is also advised to arrange as many training programmes as possible to the employees to ensure safety of the employees.

## 2) To Find Out the Utilization of Welfare Facilities by the Employees.

Under this we check whether the employees are utilizing the welfare facilities like medical facilities, health insurance, and accident benefits.

**Table 2 :**  
**Ratings for the Medical Facilities**

	Frequency	Percent
Excellent	4	4.0
Very Good	24	24.0
Good	58	58.0
Dissatisfied	14	14.0
Total	100	100.0

From Table-1, one could see that 14% of the employees are dissatisfied with the medical facilities provided by the management. The 95% confidence interval for this event is (0.0720, 0.2080). If the organization takes necessary measures to address the grievances of the employees, then this percentage may come down to 7% and may go up to 20% in future if they do not address their problems. It is very important for the management to ensure that the percentage will come down below 7% in future.

We tested the hypothesis whether the experience of the customers in the plant affects their opinion on the ratings. For this we have adopted Chi-Square test for independence of attributes and found that the two are independent ( $p\text{-value} > 0.05$ ). That is, experience of the employee didn't influence their ratings towards medical facilities.

**Table 3 :**  
**Ratings for Services from Doctors and Nurses**

	Frequency	Percent
Highly Satisfied	3	3.0
Satisfied	79	79.8
Dissatisfied	17	17.2
Total	99	100.0
Missing	1	
Total	100	

The positive aspect of the plant is that 82% employees are happy with the services provided by the doctors and nurses. This shows that the plant has taken necessary care to appoint good doctors and nurses who can take care of the employees' health properly. But, the problems of rest 17% who are dissatisfied should be addressed immediately so that they also receive better services from the doctors and nurses.

**Table 4 :**  
**Problems to Receive Medical Services**

	Frequency	Percent
Yes	10	10.1
No	89	89.9
Total	99	100.0
Missing	1	
Total	100	

89% of the employees do not have any problems and 95 % confidence interval (0.8287, 0.9513) suggest that if the management takes necessary steps as suggested in the recommendations, it can have 95% of the satisfied employees in the plant.

**Table 5 :**  
**Ratings for Health Insurance and Accident Benefits**

	Frequency	Percent
Excellent	10	10.1
Very Good	77	77.8
Good	10	10.1
Dissatisfied	2	2.0
Total	99	100.0
Missing	1	
Total	100	

From above table, we infer that the employees are receiving health and accident benefits regularly from the management and the management should continue the same standards in future.

### **3. To Find Out the Level of Satisfaction of Employees with Regard to Labour Welfare Facilities.**

Under this we consider leave policy, advances/ loans provided by the plant, grievance redresses, and sharing of new ideas with the management.

**Table 6 :**  
**Rating for Satisfaction on Leave Policy**

	Frequency	Percent
Very High	10	10.1
High	77	77.8
Low	10	10.1
Not at all	2	2.0
Total	99	100.0
Missing	1	
Total	100	

It is interesting and has to be noted that 87% of the employees are happy with respect to the leave policy adopted by the management.

**Table 7 :**  
**Ratings on Advances/ Loans**

	Frequency	Percent
Very Good	15	15.2
Good	60	60.6
Poor	18	18.2
No Idea	6	6.1
Total	99	100.0
Missing	1	
Total	100	

From tables-6, it is evident that management has to take appropriate measures to help employees get advances/ loans so that it improves their personal life.



**Table 8 :**  
**New Ideas**

	Frequency	Valid Percent
Very High	3	3.2
Moderate	65	68.4
Low	21	22.1
Very Low	6	6.3
Total	95	100.0
Missing	5	

Table-7 reveals that employees are not completely encouraged in sharing new ideas. It may not be possible to involve employees as the thermal plant is a government owned plant. It is the government that has to take the views of the employees and improve their work life.

### **Recommendations**

The study reveals that there is a positive relationship between the levels of satisfaction and the implementation of various employee safety and welfare measures, which should be properly implemented to improve so that it might increase employee satisfaction, which in turn may help increase productivity. An employee can feel safe in the organization to be happy with his employment. Employee welfare ensures health and safety, comfort and efficiency of the workers, in turn to have a positive impact on employee productivity in the organization.

- Company must provide smoking zone for the employee regarding safety in organization.
- Organization needs to conduct more safety training programs for the employees. Need to supply safety equipment wherever required and supervising to follow safety measures by the employees.
- Organization should implement safety in entrance gates with CC cameras installation, bomb detector equipment and electricity fencing around water canals.
- Organization should provide separate rest rooms and wash rooms for each department for both male and female employees.
- Organization should provide drinking water facilities near the plant or outside of plant for working labour as well as employees.
- Promotions and allowances should be provided to the employees based on their performance rather than their experience.
- Organization should improve medical facilities regarding services and treatment.
- Organization should provide liveries and PPEs for working labour and employee where ever it is required.

- Organization should facilitate basic safety and welfare measures for contract working labour.

## **Conclusion**

Every Industry sector is dynamic and different from each other therefore people policies and practices are different for the industries. When considering the Power industry, it is asset intensive and engineering driven. Interestingly, people in the power industry generally have a long term commitment towards the organization and this commitment goes on for generations.

Precision is one of the most crucial skills in the power sector, where the work performed has to be virtually error-free with a zero margin error. Consequently, roles take longer to mature as an employee needs to spend three to four years in a particular job profile to become an expert in a particular domain. Normally, it takes four to five years to build a power plant.

The challenge is that technology in the power industry changes very rapidly and integration of new technologies is a very challenging task.

At present the safety condition in work place is satisfactory. Welfare facilities rendered to the employees are of good quality but there is a scope for improving safety & welfare measures for the employees to provide full range of amenities that may improve living standards of the employees in the organization. The effective and efficient safety policies and welfare facilities make the employee to perform the job better, which leads to effectiveness of the organisation.

Finally it can be said that when employees perceive that safety is not a priority of the company, their behaviours and attitudes are adversely affected. This can be a recipe for disaster leading to increased workplace injuries, lower morale and decreased profitability. An investment in a safety program that focuses on hazard identification, training, prevention and assessment will not only help reduce losses and increase overall safety compliance records, but it could be the difference between being an industry leader or just another run-of-the-mill company.

## **References**

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## Appendix : Questionnaire

1. To what extent you are aware of safety and welfare policy of your organization?  
(a) Excellent b) Very good c) Good d) poor
2. What are the safety measures you are following in your work place? (State any two)  
a. \_\_\_\_\_ b. \_\_\_\_\_
3. How far you are aware of hazards at your work place (if any)?  
(a) Fully b) Partially c) Not at all
4. To what degree you have trained for handling any kind of emergency situation in your work place?  
(a) Excellent b) Good c) Average d) poor
5. How much do you aware of First-Aid treatment for various ailments?  
(a) Excellent b) Good c) Average d) poor
6. How many safety training programs attended by you in the current year?  
(a) 1 (b) 2 (c) More than 2 (d) Nil
7. How do you rate medical facilities provided by your organization?  
(a) Excellent b) Very good c) Good d) Dissatisfied
8. Please appraise the round the clock services provided by the Doctors and the nursing staff at medical center to the employees and their dependents.  
(a) Highly satisfied (b) Satisfied (c) Dissatisfied (d) Highly dissatisfied
9. Do you face any problems in availing medical facilities?  
(a) Yes b) No  
If yes, please state reasons \_\_\_\_\_
10. How satisfied are you with present leave policy of your organization?  
(a) Very high (b) High (c) Low (d) Not at all
11. How far you have been satisfied with the following welfare measures mentioned below, in your organization? Request you to rate on following scale.  
(I) Outstanding (II) very Good (III) Good (IV) Fair (V) Dissatisfied
  - a) Drinking water facilities
  - b) Hygienic at workplace
  - c) Phone /Internet facilities
  - d) Transport facilities
  - e) Schooling facilities
  - f) Parks & greenery
  - g) Auditorium/Function hall
  - h) Liveries
  - i) Creche facilities
  - j) Work area (space)
  - k) Noise control & Lighting
  - l) Toilet facilities
  - m) Shelters, Rest rooms
  - n) Personal Protection eqp(PPE)
  - o) Gym/Recreation facilities
  - p) Hospital facilities
  - q) Co-operative stores
  - r) Gratuity

12. How do you rate the health insurance and accidents benefits?  
 (a) Excellent b) Very good c) Good d) Dissatisfied
13. Please give the ratings to Canteen facility provided by the organization (Please “ the appropriate box)
- | Subject     | Highly Satisfied | Satisfied | Neutral | Dissatisfied | Highly Dissatisfied |
|-------------|------------------|-----------|---------|--------------|---------------------|
| Cleanliness |                  |           |         |              |                     |
| Hygienic    |                  |           |         |              |                     |
| Serving     |                  |           |         |              |                     |
| Price       |                  |           |         |              |                     |
14. How do you rate the Advances / loans provided by your organization?  
 (a) Very Good b) Good c) Poor d) No idea
15. How do you rate with the present grievance redressal procedure system?  
 (a) Highly satisfied (b) Satisfied (c) Dissatisfied (d) Highly dissatisfied
16. How often you find the platform to express your ideas and to suggest further improvements for your betterment of your organization?  
 (a) Very high (b) Moderate (c) Low (d) Very low
17. Would you like to suggest any other safety and welfare methods for further improvement in your work place? if yes, please mention \_\_\_\_\_