

## **6.4 Personnel Training**

### **6.4.1 Recommendation for Personnel Training**

#### **(1) Promotion of On the Job Training (O.J.T)**

The fundamental concept of the personnel training should be based on O.J.T. (work experience study), through which an engineer learns in his day-to-day work, and if an engineer understands theories but is not applying them practically through hands-on experience, this does not constitute technical acquisition.

The training for engineers based on real experience from the field of maintenance management of the power plant is very important. Therefore, O.J.T. should be the focus of personnel training from now on, and the following are proposed as a goal.

- 1) To harness OFF. J. T. a senior instruction employee shall educate each new employee, and it is recommended that the instruction system classified by individual lectures on an O.J.T. basis executed by an instructor who has instruction responsibility shall be continuously conducted in TES4.
- 2) O.J.T. is directly linked with works conducted in the power plant, and as a result, work based on O.J.T. is different from that of OFF.J.T; it is directly linked with the production of the power plant, so the pressure on a participant is high and the educational effect also increases. Thus, training, which concentrates on O.J.T. and understanding through hands-on experience, should be performed.
- 3) By using an expert dispatching system from external assistance including Japan, a supervisor who has advanced repair technology and management experience shall be dispatched to the power plant. And during a fixed period (at least two or three years), instruction on the daily repair works shall be performed by a supervisor as O.J.T. for the power plant staff with the aim of improvement in repair technology and maintenance management.

#### **(2) Proposal of the Definite Training Items**

##### **1) Training on operation administration**

The most important item for this training is to support the capability of the following items, which are required in operation administration of the power plant, and will lead to stable operation of the power plant.

- Preparation, maintenance and mastery of operation manuals and proceeding for special operation
- Planning of the management target value on operation and management, early detection of abnormal operation, countermeasures
- Checking and analyzing the daily operation record (log sheet, chart, investigation, and taking-over operator with necessary information), and informational communization, early detection and quick management for abnormalities
- Early detection and action for initial abnormalities in equipment by round-check (patrol) of the whole power plant area
- Scheduled change-over of the power plant auxiliary equipment and checking

## 2) Training on maintenance administration

- Practice of minor administration through daily repair work
- Planning and administration of details for a periodic inspection (major and middle overhaul) and its items, and a cycle
- Safety control of repair work (industrial accident prevention, work safety measures)
- Preventive measures of similar failures (analysis of a failure part, permanent measure, etc.)

## 3) Training on power plant efficiency administration

- Early detection of an abnormal part and the communication of this to staff concerned with the creation of efficiency management.
- Thorough understanding of the actual age deterioration of equipment, calculation of thermal efficiency, analysis of an efficiency variation factor, and selection of a suitable substitute and procedure by creation of a monthly efficiency management.
- Actual result of the efficiency in the fiscal year, implementation item, planning of efficiency in the following year and the maintenance and rehabilitation plan of parts that affect efficiency deterioration by the creation of efficiency management for a fiscal year

## **6.4.2 Change of Mind-Set into the Work Place**

### **(1) Recommendation for Change of Mind-Set of the Work Place**

As a part of organization strengthening for TES4, the promotion of change of mind-set of the work place is expected through the following concrete actions.

#### **1) Establishment of the corporate philosophy of the power plant**

By the new energy law in 2001, each electric power company became a corporation under the management of the EA respectively, and is managed as a state-owned enterprise. Although, TES4 is a corporation, in which a government-related organization holds 100% of the stock, its management can be compared to that of a commercial company, in which acceptance of independence is considerable.

The corporate philosophy of the company should be made clear inside and outside of the company, which shows the significance of directivity in the existence of TES4 as corporation.

#### **2) Elicitation of a common issue**

Capability and improvement, the issues of which the management representative of each section solves from the perspective of power plant management, in addition to the throughput of the operation and maintenance, is required.

For the purpose of the above issue, which shall be activated by the management representative of each section, the issue shall not be dependent on indirect access to the information through reports or meetings. The matter shall be devoted to by the on-site principle on the basis of the site investigation, and opinions, if any, should be exchanged candidly with an employee, and an attitude, which listens to the opinion on-the-scene, is also needed.

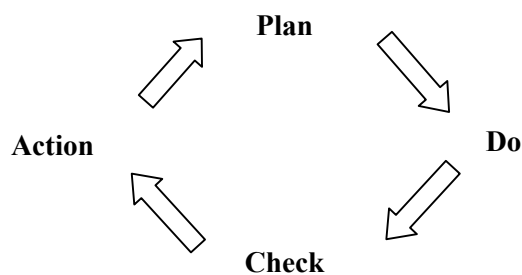
#### **3) Thoroughness of the management by objective system**

To carry out the power plant operation together with the sufficient responsibility of each department and/or section, the premise is that the executives shall delegate the authority and responsibility related to power plant management to each department and section. And then, each leader of each department and section should recognize his role and should identify the type of management that is necessary, which should be done by himself,, and the leaders should assume the duty and responsibility for attaining the target of the power plant management by objectives.

Specifically, by repeating the PDCA (Plan – Do – Check – Action) cycle during the enforcement stage, as shown in the following figure, the employment status should be appropriately analyzed based on the issue and environmental changes, which are generated in the enforcement stage.

And the gaps produced in the opinions among employees and each section should be corrected.

Moreover, the fiscal year plan of the power plant and the organization should be established, which eventually leads to contributing to the target achievement, and it is important for such practice that every employee works while always being conscious of the PDCA cycle.



#### 4) Promotion of an improvement proposal system

Establishment of an improvement proposal system and/or small group activity is expected to lead to employees outgrowing the situation where they wait for the direction of executives and/or leaders decisions to take action in their daily activities, and thus lead to the emancipated and positive independent actions of employees.

In this regard, promotion of the improvement proposal system as part of the incentive system being advanced now is recommended in TES4. And each company member can propose comfortably examples that were solved by originality and creativity in the work place, provide an occasion for proposing ideas and aim at improvement in an employee's independent and autonomous volition.

Moreover, to expand the above system, system improvement should be carried out by small-group activities, such as the 5S campaign and zero-defects campaign, and should raise independent and autonomous talented staff to deploy the improvement proposal system, making it possible for all members to participate.

## 5) Reexamination of performance evaluation

In view of the wage system (salary and bonus), incentive scheme and penalty system, which is currently being activated in TES4, the self-evaluation of each employee's activities has been estimated by short-term achievements only, and the results have a great effect on the monthly salary. And with the demerit system, employees' actions tend to become conservative and constructive opinions are not easily obtained.

Although, evaluation on a short-term basis is naturally required from the management aspect of the company, in terms of stoking the need for an effective economic solution in TES4, it is necessary to manage the evaluation system of each section's activity and the self-evaluation of each employee's activity on a long-term basis.