

CHAPTER VI

IMPLEMENTATION

Aiming to achieve the ultimate improvement, the proposed new warehouse design is impelled to be implemented and other relevant improving activities are necessary to be carried out. Therefore, this chapter will present the implementation campaign of warehouse improvement.

6.1 Technique Applied

As mentioned in the section 3.9.1, Japanese 5S is the most widely accepted and used technique for workplace improvement, but its successful implementation, to a large extent, relies on manager enthusiasm and employee attitude. Thus, the working culture is a critical determining issue. Based on the research of working culture noted in section 3.9.4, Thai managers are willing to appeal to the technique to solve problems and Thai employees are loyal to obey the employer orders. This fact allows the feasibility of implementing 5S practice in the Company.

Due to the experience of successful and efficient practices as well as the feasible implementation in Thai company, thus, 5S technique is deployed as the elementary concept to guide the current warehouse improvement.

6.2 Improvement Campaign

No sooner has the decision of selecting 5S technique been made than the implementation activities set out, with the aim of stopping the value of raw materials from losing in the shortest period. Considering that the section 3.9.2 has illustrated the steps of 5S introduction into workplace, the progress of improvement action generally follows this framework.

6.2.1 5S Promotion Organization

In accordance to the 5S introduction model, the first step is establishing the 5S promotion organization. As a response, a 5S campaign promotion panel for warehouse function containing Company's managing director and ordinary warehouse employees is formed. (See figure 6.1)

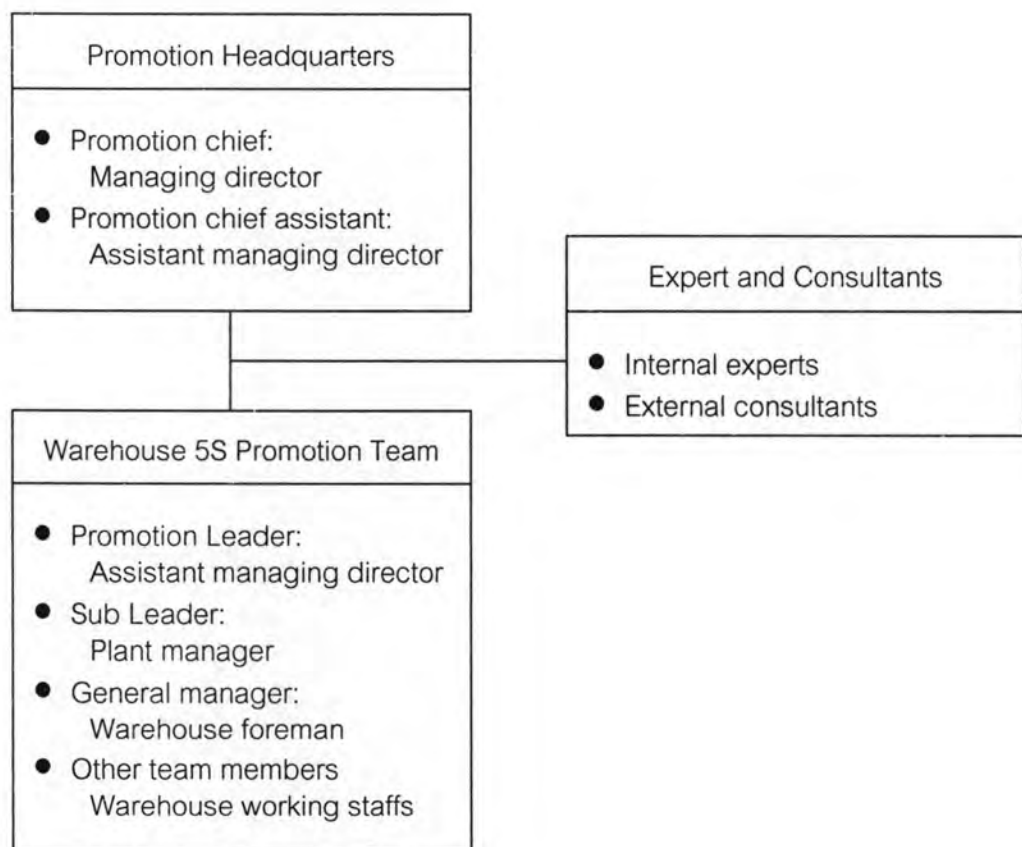


Figure 6.1: Company's 5S promotion organization

Observed from figure 6.1, at the top level, the promotion headquarters consists of the Company's managing director and assistant managing director whose responsibilities are organizing the relevant and necessary personnel to develop the 5S promotion panel as well as offering the effective leading.

Meanwhile, both internal experts and external consultants are invited to give the support on 5S campaign in the fact that the Company has never experienced

5S before. Since the other companies in the BESCO Group have the experience of 5S campaign, their internal experts are requested to offer basic 5S knowledge and training. Also, the consultants from external companies where have gone through the 5S movement are invited to offer the suggestions and share the experience.

Subordinating to the promotion headquarters, the warehouse 5S promotion team is grouped, which is principally charged by the assistant managing director for the sake of giving more concerns and good support to the team. The promotion team also involves the production plant manager as the result of his partial responsibility for the warehouse management since the warehouse is located in the corner of production plant. The warehouse foreman is doubtlessly assigned to this team due to his job commitment and he simultaneously shoulders the task of managing and promoting the warehouse 5S specific activities. Warehouse staffs, play as the fundamental resources of this team, are desperately enrolled. Without their participation and concerns, the 5S campaign is doomed to fail.

6.2.2 5S Promotion Plan

A promotion plan is formulated based on this study duration after the establishment of 5S promotion organization. (See figure 6.2) The promotion schedule is divided into three stages: education and training, practice, and continuous development. Each promotion topic is distributed the corresponding tasks which comprise the entire campaign.

6.2.3 5S Campaign Materials

On the completion of creating the 5S promotion organization and plan, the start of 5S is subsequently announced by the 5S leaders. The announcement includes the Company's current situation, the goal and the intent to use 5S to achieve the goal. Following is the announcement made by the Company's managing director.

Month/2006- 2007 Promotion Topic	Education and Training		Practice					Continuous Development				
	7	8	9	10	11	12	1	2	3	4	5	6
5S Months	5S campaign materials		Organization month	Orderliness month	Cleanliness month	Discipline						
5S Staff activities	Establish promotion organization	5S Study Schedule draft	Make Campaign Poster	Standardized Cleanup			Draft schedule for the future					
Education and training	5S Basic knowledge	Organization education	Orderliness education	Cleanliness and cleanup education	Discipline education	Case study						
5S Factory visit and study	Factory visit and study 1		Factory visit and study 2		Factory visit and study 3							

Figure 6.2: Company's one year 5S promotion plan

"By all employees' hard working during the past period, our company has achieved the good performance at almost every aspect. However, the competition is ever intensive and maintaining the current position and achieving the even better outcome is required, but always a difficult mission. Our company has long suffered from the warehouse messy condition which makes the troubles for both individual employee and entire organization. People frequently spend a large amount of time fetching the steel bars, which, in return, decreased the operation efficiency.

Warehouse is doubtless important and the goods it stores represent the company's investment. In order to address the warehouse problem, I decide to implement 5S to improve it. I am not capable enough to complete this task, so I need your help and participation to the campaign."

6.2.4 In-house Education

The 5S education and training is an important and continuous stage along the whole process. It aims to make the employees understand the 5S contents and its importance as well as create the 5S environment and stimulate employee enthusiasm.

With regard to the principle of 5S education and training, promoting poster is hung in the plant to remind the employees of the 5S Campaign (See figure 6.3)



Figure 6.3: 5S slogan

5S bulletin is post up as well, and then working staffs including the part-time or temporary employees can easily read and understand the content of 5S (See figure 6.4) The 5S experts from both Group and other external companies are invited to the Company to give the lessons and seminars as well as share experience. Besides the consultants, 5S videos are used to illustrate and 5S articles are distributed to the warehouse employees for self learning.

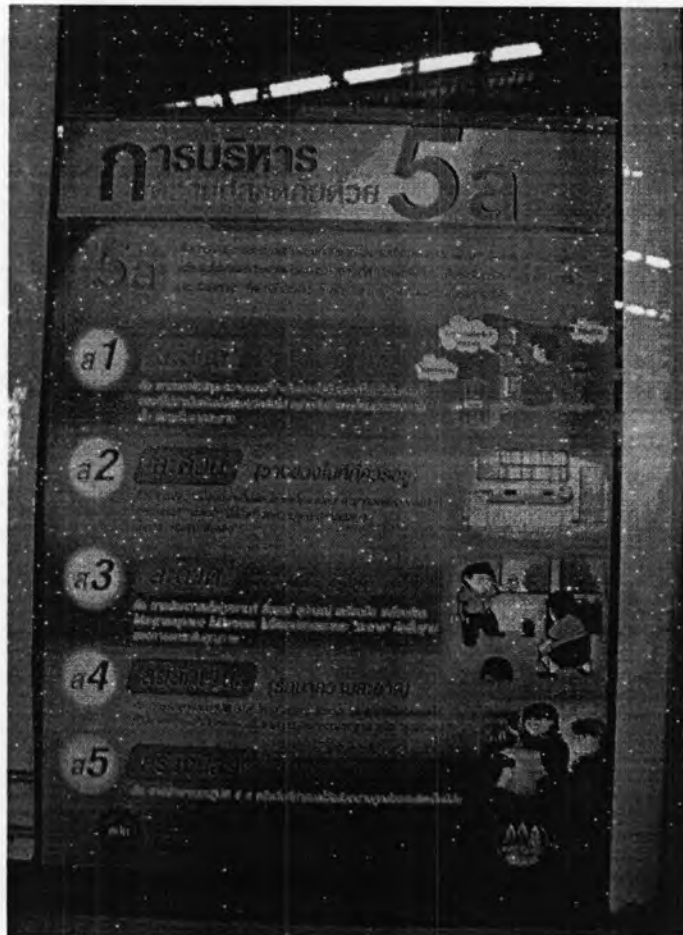


Figure 6.4: 5S bulletin

6.2.5 Implementation

Along with the start of education and training, 5S activities commence concurrently. In addition to the 5S activities aiming to improve the physical condition, the new warehouse design proposed is required to be implemented as well for the purpose

of realizing the ultimate improvement. Thus, the implementation action contains both the 5S activities and application of the new warehouse design.

1) Organization

According to the 5S implementation, the first stage is called "Organization" which means keeping the necessary things and removing the unnecessary ones. Following this concept, the first step is sorting out the useful raw materials and getting rid of useless components.

The Red-Tag technique is recommended to deal with the Organization process. Its conspicuous characteristics make it easy and clear for employees to identify the unnecessary things by labeling. Following the steps introduced in section 3.9.2, the red-tag project is carried out.

a) Launch the red-tag project

The 5S promotion panel established on the threshold of the campaign is also responsible to launch the red-tag project for the sake of avoiding extra personnel. The movement is supposed to last for one and a half months.

b) Identify red-tag targets

The red-tag items must be clearly bearing in mind before and during the project. In this case, the raw materials within the warehouse are the red-tag targets.

c) Set red-tag criteria

As being identified in the section 4.2.1, the raw steel bars, ever-machined steel bar and remnants are determined to be kept. In another word, any items out of these three types within the current warehouse need the red-tag.

d) Make the red-tag

Knowing the items to be tagged, the Red-Tag is made accordingly. The content includes the item name, quantity, disposal method and reasons. Thus, the red



tag used in this case is described in the figure 6.5 below.

Item name
Quantity
Date
Disposal method
Reason

Figure 6.5: Red-Tag

e) Attach the red-tags

After making the red-tag, they are then attached on the items falling in the red-tag criteria. Figure 6.6 below shows an example.



Figure 6.6: Attachment of red-tag

f) Evaluate the red-tag targets

Finally, the red-tag items are evaluated, and then are divided into two groups, retained stock and dead stock in light of service value. For the dead stock such as the big gear, they are disposed without hesitation. For the retained items, they will be still kept at the separated place within the warehouse for a period of time.

2) Implement safety and security plan

Since the danger of materials and equipments movement, the safety policy is directly implemented after Organization action. The operators are trained with the safe operating procedure by their superiors. Safety rule is also imparted to the warehouse staffs. Additionally, the safety warning signs of danger caution, "crane Stop Point" "wear helmet", and "danger overhead crane" (figure 6.7), are post up on the obvious place of warehouse wall to remind any people of the warehouse dangers. Beside the safety attempts, the security plan is also implemented at the same time to prevent steel stock from being stolen during the warehouse improving activities.



Figure 6.7: Safety warning signs



3) Moving out all items

On the completion of the Organization and safety and security plan implementation, all items within the warehouse, including useful raw materials and useless items, are moved out. This aims to spare the space for storage equipments installation and cleaning activity. For this purpose, all of the utilizable raw materials are primarily sorted out from the useless components, and then are moved and gathered in a certain area where is out of warehouse. Afterwards, the remaining items are divided into retained stock (figure 6.8) and dead stock (figure 6.9), and then are removed to the separated area.

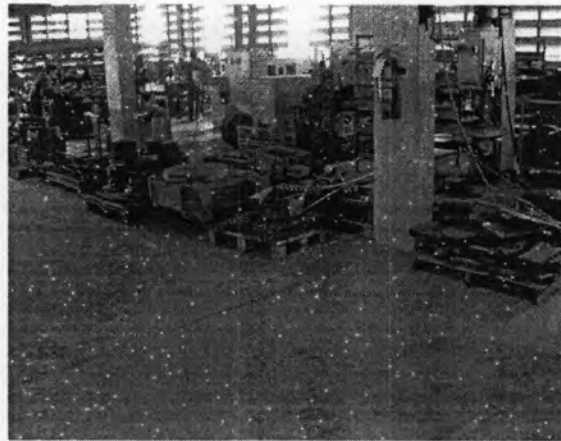


Figure 6.8: Retained stock



Figure 6.9: Dead stock

4) Cleanliness

This step regards to the 5S's third stage, "Cleanliness", which refers to

thoroughly sweep the floor. After all useful and unnecessary components are moved away, the floor of the present warehouse is swept.

5) Setup the warehouse layout

With a clean and empty environment, the warehouse layout is setup subsequently according to the proposed design. Thus, the storage area and aisles are established.

6) Orderliness

This is the 5S's second stage, "**Orderliness**", which implies to make things in order so that everybody can easily use and find them. Regularly, it should be done before the cleanliness step. Due to the particularity of this case, it is conducted at this stage.

As indicated in the 5S introduction model, the signboard strategy is suggested to implement the Orderliness. For this reason, signboard strategy is employed to guide the implementation of this stage.

a) Determine locations

The location of each category of raw materials is determined firstly. As proposed in the materials storage equipment design, three categories are assigned to the rack and shelf according to the individual size.

b) Prepare locations

Afterwards, the storage equipments made are moved into its due area with regard to the warehouse layout setup. The inspection on their profile and structure is conducted before and after the installation.

c) Indicate locations and items name

At this stage, the name of material type and alphabet are jointly used to indicate the location where the item belongs. For example, the section signboard with

the alphabet such as A and B are applied to indicate the address of shelf. The signboard with the name of raw materials are then made and posted on the storage equipment to indicate individual location.

7) Moving back the raw material

After the storage equipments and signboard are ready for action, the useful steel bars are moved back onto the storage equipments where they deserve in the light of tag marked on the equipment body. Before movement, they are required different color printing to distinguish different material type. Moreover, the Machinery Steel, Cold Work steel and Carbon Steel are located nearest to the I/O point

8) Standardized cleanup organization

The previous step might be regards as the final stage of the implementation campaign, but the fact proved it is not. The organization, orderliness and cleaning activities are repeated regularly every day. The training is keep moving on for both current and new employees. All of these activities are trying to maintain the 5S campaign.