PLANNING & IMPLEMENTATION 'A' GRADE OF SAPCO IN DANA PISHRO POUYA COMPANY

INTRODUCTION

CE3.1. PLANNING & IMPLEMENTATION 'A' GRADE OF SAPCO (engineering design company supplying parts to IKCO Company) had started in 27th of August 2011 and had finished in 8th of February 2012 in Dana Pishro Pouya (Dana) Company. Central office of Dana Company was located NO93, 9th Floor, NO10, ZOMOROD Tower, GOLNABI and PASDARAN ST Intersection, Tehran, Iran. The project has planned in central office & implemented in Dana Pishro Pouya Factory which was located in Shams Abad industrial town, Tehran province, Iran. The employer of the project was Iran Khodro (IKCO) Company and Dana Company as the supplier of IKCO Company was going to register in the list of 'A' Grade of IKCO. As an industrial engineer in Dana Company, I was working as an Industrial Engineer in the field of production planning and quality assurance in the project.

BACKGROUND

CE3.2. Dana Pishro Pouya Company has established in 2006 with the purpose of activity in manufacturing and supplying auto parts, especially systems for CNG (Compressed Natural Gas). Dana Company benefits the cooperation of foreign suppliers in the field of CNG such as the OMB, EMER, MAFLOW and Landi Renzo as well as several local suppliers under sustains supervision & technical standards. Dana Company has been successful in obtaining licenses to cover the auto parts according to the existing capabilities and implemented systems such as ISO TS 16949:2009 certification & car company grades to supply CNG kits for manufacturing car as IKCO, Saipa, Zamyad & Bahman Group.

CE3.3.IKCO Company to encourage suppliers to obtain the 'A' Grade took action to define incentive packages. The most stimulus package was to redeem some of the suppliers demand. Due to financial problems that surrounded Dana Company, also because Dana Company was the 'B' grade supplier of IKCO Company which had ISOTS16949 certificate, managing director of Dana Company advocated obtaining of 'A' grade of SAPCO.

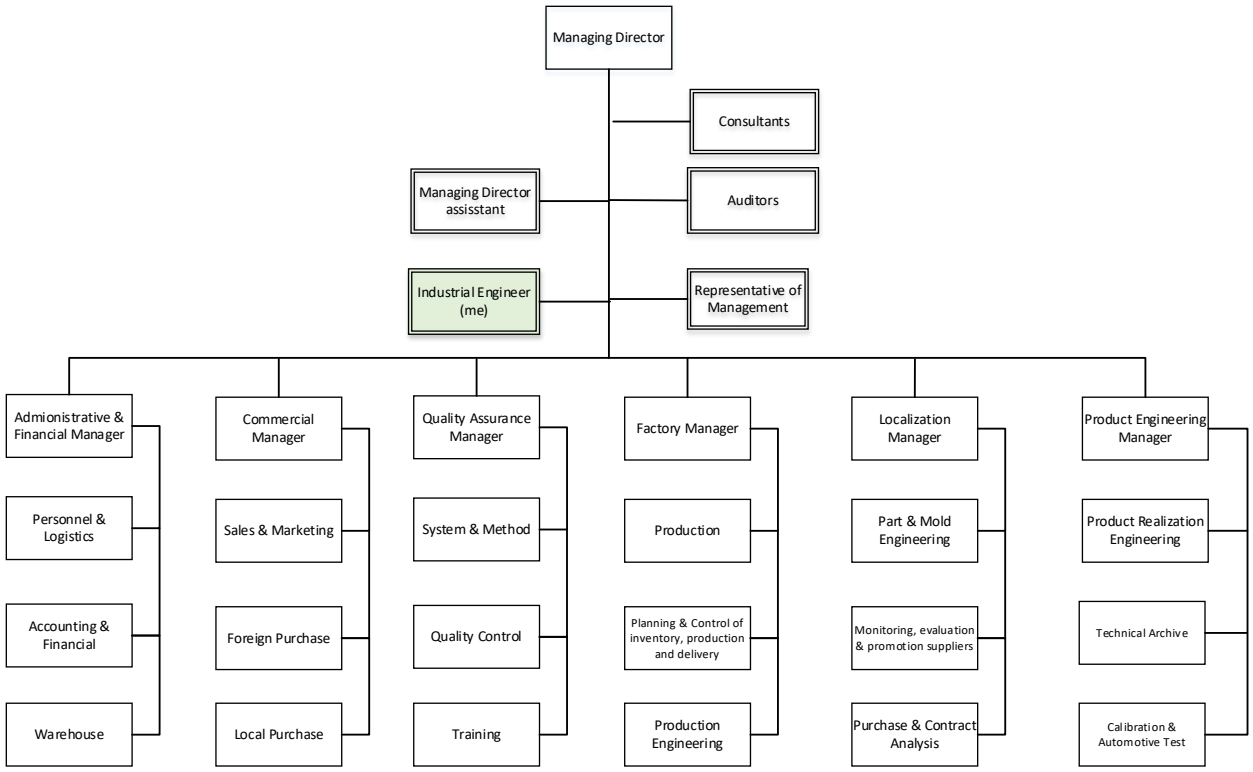
CE3.4. Project management and executive team were defined after defining the project in Dana Company. Then the project management has taken action registered the project in SAPCO & representatives of SAPCO determined to Audit requirements. With the purpose of reducing warehousing costs & supplying parts as the JUST IN TIME (JIT) method, in the meetings it was revealed that the most significant change that should be created in the company's current processes was adding the logistic processes. For this purpose, reforms in the following processes should be carried out:

1. Quality management systems & resource management
2. Feasibility and review customer requirements
3. Production planning

4. Production
5. Purchasing & Supplier evaluation
6. Preservation of product
7. Maintenance & control tools management

CE3.5. Central office of Dana Company is shared between administrative & financial unit and managing director's office. The factory of company has been constructed in land area of 5000 square meters in the Shams Abad industrial zone, located in Tehran-Qom highway, Iran; factory has indoor space that includes: warehouse, production and office units with approximately 2,000 square meters in the joint sovereignty. Also the company had already 30 personnel.

CE3.6. This is Organizational Chart of Dana Company:



CE3.7. During the project I was responsible for two tasks. Description of The tasks assigned to me during the implementation of project was as follow:

1. Duties as quality assurance expert:

1.1 Identify processes that must be changed & planning and re-define processes
1.2 The concept and use of logistics in the organization and processes and method to do it
1.3 Identifying logistics indexes with cooperation with unit specialists & adding them to documentation

1.4 Product realization processes and procedures change
1.5 Coordination with IKCO auditors to conduct ‘A’ grade Audit
1.6 Correcting non-compliance and provide improved documentation

2. **Duties as production planning expert:**
   2.1 Running new production planning system according to IKCO Kanban scheduling system
   2.2 Getting IKCO monthly sales plan of the IKCO website and determine production schedules based on JIT
   2.3 Planning purchase of raw materials and parts & keep track of purchase
   2.4 Production and inventory control
   2.5 Analysis of diversion and revise production planning

PERSONAL ENGINEERING ACTIVITY

CE3.8. firstly I hired in Dana Company as the quality assurance expert, because I was an industrial engineer & I have passed “production planning & inventory control “ courses in university and had experiences in this area, I was appointed as production planning expert at the same time. At the time of project definition due to my current responsibilities I was assigned as the production planning and quality assurance specialist in the project. After meeting with SAPCO representatives & because most of the required changes was related to product realization such as the entry of raw materials, production planning and product output, I tried to study ‘A’ grade & logistic requirements & perform the necessary training to project members. I also modified procedures and instructions which were related to my duties to flow them in the company & monitored documents implementation.

CE3.9. At the beginning of the project, I divided my duties into two sections. In the first section as the quality assurance specialist of the project I identified the requirements for obtaining ‘A’ Grade. I held a meeting with specialist members of the project and explained the logistic requirements in the company. Then I created logistic instruction which included all of the instructions and procedures that must be changed. I also explained the concept of JIT and methods to reduce inventories for members of the executive committee.

CE3.10.I identified processes that should be reformed under the influence of logistic resources planning in the meeting with the executive committee and have offered them to the unit managers to do reforms and determine new indexes to evaluate. Then as the production planning expert of the project I redesigned the following processes which were in my responsibility area to determine logistic indexes to cover ‘A’ grade requirements:

1. Production planning process
2. Production process
3. Preservation of product

CE3.11. Due to change of customer needs and providing production schedule on weekly periods in the Client Web site, I changed production planning so that it was presenting every 3 days. Also according to the customer's monthly production plan, I announced the need for parts and raw materials in Excel files on monthly periods. Also because most parts were supplied in Kanban method, I had planned production

planning in such way that always one Kanban of the parts and assemblies has been required. I used various Indexes including, realization of production, on time delivery, production per capita & added transportation costs to evaluate the performance of the production planning process. Then I set logistics resource based on major customer's production schedule and according to the changes in client schedule and offering monthly schedule in customers website I had checked and updated it. Then I specified production & logistics resource planning flow chart with the duration of each activity.

CE3.12. I attended to the monthly production resources in the calculation of resources depending on the type of production, shared equipment and production space and not exclusively lines on different sets of production. In case of production space, assuming maximum 3 lines simultaneous production (that needs most space) I calculated this space. In the feeding lines I ordered the parts according to LOM (list of material) which was calculating in the Excel file. Then I changed production procedure in a way that the packaging of each piece of equipment to be collected that fed into the line proportional to the number of pallets. Then I held a meeting with factory manager & production engineering and determined deviation of human resource planning, deviation from the machine planning, deviation from the predicted cycle time indexes to evaluate the production process.

CE3.13. In order to cover the requirements of the project I divided preservation of product to the following procedures:

1. Packing procedure
2. Receiving procedure
3. Sending procedure
4. Transportation procedure

CE3.14. In packing procedure I determined method of controlling inputs from suppliers and input from factory production line. Then I defined containers which must be used to transport uncompleted products between the production lines and defined Kanban and containers location in factory layout, then I prepared the standard package table for each of the products. I also prepared containers sort standard at the time of transferring the product to the customer and in order to ensure its implementation I printed it in large pages and installed in the warehouse. After determining receiving & sending procedure I defined the duration of each activity.

CE3.15. I divided product transportation as the follow:

1. Transportation outside the company: In a meeting with factory manager and warehouse expert, I have specified vehicles that used for transporting goods.
2. Transportation of entering cargo to the company: I determined at a meeting with business manager and factory manager, the location of customer's pallets in the factory layout and the placement of the pieces that are ready to send to the production line.
3. Handling and storage procedures: In a meeting with production supervisor I defined devices that used for the movement of goods, pallets and raw material in the production hall.

Then, I set the emergency plans of transportation and determined emergency cases for the deficit in customer line & stoppage in transport due to accident.

CE3.16. In this Project due to the need for computerizing transportation within the company which was so expensive for the company and because of numerous financial problems in the company, there was the challenge that changes only be implemented in documentation & production activities does not change actually in accordance with the requirements of project. So I used industrial engineering methods to define low cost methods such as 5S & kaizen and competitors benchmarking. I have traced the movement of vehicles such as hand trucks and forklifts car path and put barriers to prevent from disrupting the path. I placed signs to characterize the location of the various products and semi-finished goods and imposed the least cost to the company.

CE3.17. Considering that carrying some of the equipment should be done by hand, this might be caused bodily injury to personnel. Therefore I prepared transport and working ergonomics instruction and installed it in the production hall, then in a meeting with the head of production insisted on paying attention to it and reducing safety risks that caused damage.

CE3.18.I formed a committee consisted of representatives of commercial units, quality, engineering, factory and me as production planning expert, then I prepared contingency instruction which dealt with the description of the methods in order to determine the critical logistical resources, prioritize them, amount of risk and planning required actions.

CE3.19. Because the most important change needed was related to the logistics process as the project's industrial engineer my strategy was to do project tasks that the improvement of logistics processes be implemented practically in production planning, production and warehousing. In addition I tried to make sure that new processes was completely replaced the previous processes with continuous monitoring, doing multiple Audits and holding frequent meetings with unit managers and supervisors.

SUMMARY

CE3.20. Holding several meetings with production unit experts, employer representatives & visit several partner companies which had previously done the project, helped me to rise my knowledge in production process. The implementation of this project upgraded my knowledge regarding logistical processes of the supply of raw materials to product delivery to the customer. I also prepared contingency instruction in order to deal with emergencies which increased my experience about production risks, critical points in the supply chain and determining potential failures and way to analyze them.