

SUPPLY SYSTEM ANALYSIS IN POŁUDNIOWY KONCERN ENERGETYCZNY S.A.

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Abstract: Analysis worked out in enterprises of PKE (the Southern Energy Concern) shows the importance of the activities taken in order to reorganization of supply management are also important part of the work. Finally, some threats in transport development are shown.

Keywords: supply, reorganization, power concern, supply model

1.Introduction

The performed analysis concerns mainly such issues as: determination of the company's needs in terms of material supply, semi-finished products and services, diagnosis of ordering system, organizational structure and formal document management in supply divisions, status and structure of human resources, identification and estimation of inventory cost, analysis of warehousing infrastructure.[4]

The investigations encompassed PKE (Południowy Koncern Energetyczny - The Southern Poland Power Company) comprising the following investigated units:

- Bielsko – Biała Combined Heat and Power Plant,
- Blachownia Combined Heat and Power Plant,
- Halemba Power Plant,
- Jaworzno III Combined Heat and Power Plant,
- Katowice Combined Heat and Power Plant,
- Łagisza Power Plant,
- Łaziska Power Plant,
- Siersza Power Plant.

Analysis focused on supply management and warehousing in the investigated units in terms of purposefulness of actions within this area.

Execution of orders by power plants and combined heat and power plants is done on the basis of the documents such as:

- Yearly plan of resources,
- Immediate and emergency request for supplies.

Yearly plan of resources is a comparison of yearly demand for property components prepared every year by individual organizational units in power plants and combined heat and power plants. The document is prepared on the basis of PKE guidelines on budget plan for next year and approved by Deputy Technical Director and Vice-President of the Board –

Technical Director. The documents for immediate and emergency needs are handed in to the purchasing managers in each power plant or combined heat and power plant. Immediate requests for expenditure can be drawn up for the materials and spare parts which have not been considered within yearly plan of demand and can not exceed 10 % of this plan.

Suppliers of the power plants and combined heat and power plants are listed in the 'List of Qualified Suppliers' (Lista Kwalifikowanych Dostawców - LKD) which are assessed.

Supplies for power plants and combined heat and power plants are made on the basis of orders in one of the following modes:

- non-tendered order,
- selection of tender.

Non-tendered orders concerns orders with the value not exceeding net value EUR5000. Up to net value of EUR 300,000 the orders can be executed in this mode or in emergency situations which required immediate actions or in case of existence of only one supplier in the market or if supplier is a documentation owner. Choice of supplier, in case of supplies of property components contained within LKD is made by manager of supply department in agreement with organizational unit manager on the basis of yearly plan of demand or immediate request. In emergency situations, in justified cases, the order can be executed at the supplier not listed within LKD.[2]

Systems of orders in individual power plants and combined heat and power plants in PKE indicate the following abnormalities in their operations:

- too extensive system for creating and circulation of documents, particularly concerning orders and requests. It is common practice to follow the same route for circulation of documents for orders and requests: order placed on the basis of the request accepted by the General Director must be accepted by General Director. This procedure is particularly burdensome during minor supplies when the order could have been neglected in favour of the request documents only.
- Nuisance of creation of 'paper' system of filing, whose imperfectness is attempted to be levelled by the employing through creation of their own registers which function different than formally accepted procedures of document circulation. Non-formalized exchange of information is thus created (especially intensive between trader and supplier, which indicates improper organization of document circulation system.
- Need for more consistent use of PZ/D/05 and PZ/D/60 procedures which concern the supply executed in individual power plants and combined heat and power plants within the company. Proper functioning of the supply procedures is limited mainly by inefficient computer system. Insufficient number of computers and difficult access to electronic mail hinder efficient and fast placing orders.
- Necessity of attaching detailed and comprehensive description of parts and materials during placing orders is next obstacle to free flow of information. The documents are generated manually by the employees, which is connected with appearance of numerous errors, time consumption and other drawbacks. While making attempts to eliminate them, some divisions give up the detailed description of product features, mainly on the basis of experience and the knowledge of employees working for Material Management Department.
- The implemented system of indexing is an information database incomplete due to diversified nomenclature in part indexes and materials supply for each power plant or combined heat and power plant. Discrepancy in terms of nonconsolidated names is a reason for lack of communication between the links within the company, crucial to ordering system, e.g. during using procedure of selection of qualified supplier.
- Lack of compatibility between computerized system of management, on the basis of which the Material Management Department operates, and a new system of settlements

in the Accounting Department. Lack of coordination between these departments is especially burdensome during accounting for supply goods (they should be settled up by the end of the year and then the supply should be limited) and accounting for cash advance (obtaining new cash advance depends on accounting for the previous one).

- Difficulties with using the procedure of qualified suppliers, due to the division of activities connected with supply in individual power plants or combined heat and power plants. Independent execution of orders by each unit within the company limits such benefits as: discounts, free shipment, negotiations on prices or terms of payment.

Giving up supply from qualified supplier due to the fact of finding cheaper supplier in the vicinity of the particular power plant suggests groundlessness of the selection of supplier that had been made and looking for another one or change in terms of cooperation.

Moreover, there is a problem with quality materials for which the minimal levels of orders are determined, which means an obstacle to obtain them.

Information flow in supply process

Document flow in each purchasing department depends on many factors including:

- power plant specificity
- specificity and scope of activities performed by a particular purchasing department
- advancements in computerization of the department
- number of employees
- requirements and internal directives.

The most transparent and systematised one, from legal and functional point of view, is the figure for document flow in Jaworzno power plant. Implementation of IFS system and transparent organizational structure enable maximal limitation of the flow of sometimes unclear informal information and implementation of informational scheme which is the reason for significant limitation of probability of making wrong decisions.

Systematization of supply procedures enables elaboration of the model which significantly facilitates the operation of the department, gives the possibility of full control of tasks realized both by internal units of the department and company's management and limits possibilities of overuse. Application of solutions enabled Material Management and Purchasing Department to learn about the scope of their duties and all their activities are fully documented.

The supply procedures employed in Jaworzno enable efficient and proper organization of tenders and they make up a comprehensive and useful documentation of the tenders. It seems to be important that the supply procedure determines all decision paths and relates to individual legal regulations which define the possibilities of performing each task.

Moreover, they are transparent and clear and do not lead to copying the documents and signatures.

The system implemented in Jaworzno Power Plant combined with standardized supply procedures make up a useful system of information and organization. Generating of numerous analytical and statistical documents is one of the examples of possibilities of application of this system – these documents give image of the performed tasks and financial capacity of a particular department. What is important is that information generated by the system contribute to efficient planning of supply and thus to elimination of possible threats. An advantage of the system is elimination, if necessary, of informal flow of information and improvement in efficiency of the performed tasks.

In comparison to documents flow in Jaworzno Power Plant all the remaining power plants

have much less efficient systems at their disposal.

The reasons of such a status quo include mainly the fact that prevailing part of power plants have just started implementation of IFS system or is currently preparing to its implementation. Since the implementation is a long-term process, certain imperfectness or errors are a result of transformations to which employees have to get used to. A drawback of purchasing systems which are employed for most of the power plants within PKE is lack of mechanisms which enable documentation of the performed tasks. Lack of them causes usually lower efficiency of the performed tasks (mainly due to strongly limited possibility to perform statistical analysis and financial monitoring). In some power plants (Łagisza) employees create their own documents which enable tracking each event (notebooks for registration of supply, invoices, indexes or their own telephone directories), which significantly modernizes system of document flow.

Formal document flow in many power plants exists solely in connection with flow of informal information. In many units (Łagisza, Halemba) informal information prevail during contacts with suppliers and also with departments responsible for orders and they concern basically the whole range of the performed tasks.

Analysis performed in each power plant comprising PKE shows necessity of centralization of logistics functions in all the power plants within PKE. Nowadays there is no common system which enables efficient implementation of modern logistics solutions, which could significantly facilitate operation in terms of procurement. The performed investigations show that one of the possible solutions may be creation of common Procurement Centre which would execute the orders placed by individual departments in each power plant and would manage their warehousing.

Procurement Centre would take care both of execution of these orders which are convergent for all the power plants comprising PKE and of the parts and equipment which is used for planned repair works in each power plant. Another issue is assurance of continuity of production in case of breakdowns. In such situations supply should be executed according to their priority in order to make fastest possible supply.

Good solution, from point of view of the company operation is taking over, by Procurement Centre, of all the activities associated with purchasing of typical goods for individual power plants, and taking over the functions often performed by administration departments in terms of procurement of detergents and cleansing products, health & safety products etc. Centralization of these tasks could enable use of procedure of selection of qualified supplier with full consequences for this fact: purchasing performed at the same time for all the units within the company enables negotiation of prices and particular discounts or free transport from suppliers as well as opportunity to negotiate deferred payments.

Analysis performed in individual power plants indicates relatively big differences in equipment used for production of energy. This is caused mainly by different time of operation for these items. Thus it seems that centralization of tasks in terms of material purchasing for these elements may be a difficult initiative. However, there are materials and raw materials bought daily e.g. industrial gases, whose purchasing may be realized for the whole company. In spite of existence of selected qualified supplier who is obliged to deliver supplies for each power plant within the company there are some deviations from the supply from this supplier due to the fact of finding cheaper suppliers closer to a particular power plant (as in case of Łagisza Power Plant). The purposefulness of the selection of supplier should therefore be analyzed or even finding of another supplier or negotiation of lower prices should be considered.

The conducted investigations show necessity of reorganization of the ordering system. In case of implementation to the system of a new Procurement Centre, it is necessary to ensure communication between the Centre and individual links comprising the company. A useful thing can be implementation in all the power plants of IFS computer module [3] which, if

employed everywhere, could become an information database for Procurement Centre. A consolidation and unification of nomenclature seems to be necessary for all the parts and materials supply for each power plant since presently there is a wide divergence between individual power plants. Every reorganization solution introduced in the enterprise should solve economic and social problems as well. Described four suggested solutions are the first step for supply process reorganization.

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