

THE QUALITY MANAGEMENT SYSTEM FUNCTIONS OCCUPIED BY THE ENGINEER ECONOMISTS IN THE MARKETING OF PETROLEUM PRODUCTS

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Abstract— After the moment 1989, the Romanian economy suffered radical changes, the barriers of the centralized economy were shattered, the market economy taking its place. This opportunity allowed firms to extend their markets and supply resources considerably. The changes led to the fact that the people's needs today are higher than ever before, lacking however, the means necessary for procuring the goods they needed. The imperatives of environmental protection represented another factor which influenced the process of marketing petroleum products at the levels of consumer and business markets. The company for commercializing petroleum products must have specialists that understand the changes occurred within the quality requirements at the market level and the necessity of realizing a competitive offer. In the marketing process, the company must assure customer satisfaction through quality, services and value in commercializing petroleum products. Implementing a quality management system assures the firm for marketing petroleum products with great success and a substantial profit.

Keywords— quality management system, engineer economist, marketing petroleum products, occupations, quality assurance engineer, quality assurance referent.

I. INTRODUCTION

In the analysis, we took into consideration, on the one part the importance of marketing petroleum products and on the other hand the objective necessity of implementing a quality management system in the process of commercializing petroleum products and last but not least the importance of the occupations of the engineer economists in the fields of electric, electronic and energy in the development, implementation, maintenance and continuous improvement of this system [9]. The occupational offers for engineer economists in the quality management systems are: quality assurance engineer and quality assurance referent registered in the National Registry of Qualifications in Higher Education.

In the marketing process of petroleum products, the value offered to the client represents the difference between the total value offered (product value, service value, personnel value, image value) and the total cost at the client (financial cost, time cost, energy cost, moral cost). The satisfaction of a buyer of petroleum product is perceived as a sentiment, resulting from comparing the perceived performances (results) of a product with its expectations. The level of satisfaction is a function determined by the difference between expectations and perceived performances.

There is a close relation between the quality of petroleum products / services regarding their marketing, sales, customer satisfaction and the profitability of the firm for commercializing petroleum products. Quality represents the ensemble of the characteristics of a marketing process, of a product or of a service which lies in the ability to satisfy the needs expressed by the customer.[9],[6].

Further on, our analysis is strictly centered on the marketing activity of petroleum products, excluding their exploration, refining and transportation activities. What have appeared in the last decades in assuring the satisfaction of petroleum products customers are the design, documentation, implementation, maintenance, continuous improvement and certification of the company's quality management system. This being a guarantee of the fact that the production and marketing of petroleum products are done in accordance with customer requirements, quality and legal standards. These mutations in the management of the company for marketing petroleum products raise issues regarding the change of employee behavior, in the sense of increasing the efficiency of this behavior, whether it is the behavior of managers, or that of persons, groups or the entire firm.

Those who can resolve these problems in the companies for marketing petroleum products are the engineer economists in the fields of electric, electronic and energy that can access the quality management system's occupations registered in the COR

(Classification of Occupations in Romania) and the National Register of Qualifications in Higher Education, namely: quality assurance engineer and quality assurance referent.[8]. These occupations can be accessed by engineer economists because they gained through the initial formation professional and transversal competences.

II. THE OCCUPATIONS OF ENGINEER ECONOMISTS IN QUALITY MANAGEMENT SYSTEMS IN THE PROCESS OF MARKETING PETROLEUM PRODUCTS

In our studies, we arrived at the conclusion that in the commercialization process in consumer and business markets of petroleum products is an objective necessity for the implementation of the quality management system. The implementation of this system must be done according to the international standards. The international standards set the requirements for the quality management system when the company for marketing petroleum products needs to demonstrate its capacity to consistently supply products that meet customer and applicable regulatory requirements and aims to increase customer satisfaction through the efficient application of the system, including the processes for the system's continuous improvement by ensuring compliance with customer needs and applicable regulatory requirements.

In the international standard, the term "product" refers only to the product destined for the client or requested by the client. This "product" defined by the interface between petroleum products, both on the business and consumer markets, and clients, is the categorical distinction between the production and marketing of petroleum products.

The determinants of the decision to implement the quality management systems in companies for commercializing petroleum products are: the desire to offer confidence to customers; the firm's requirement; the desire to penetrate in new markets; the desire to leap from the competition; the simplification or maybe even the reduction of the number of supervisory audits from clients; the highest level of management policy to have faith in the own firm. Among the advantages of implementing the quality management system we find: customer satisfaction; the company's efficiency; the decrease of mistakes and losses; cost decrease; productivity and efficiency increase; profit increase; employee motivation and engagement increase; competitiveness increase; the conquest of new markets.

For the implementation of the quality management system in the firms for marketing petroleum products a few basic conditions must be met, namely: understanding their own business, understanding customer requirements, coordinating the implementation project by the highest level of management; involving all staff; replacing subsequent detection with the principle of

prevention; flexibility to adapt to the pace of development / business modification.

The engineer economists acquired during the initial training the above mentioned competences can occupy the positions of quality assurance engineer and quality assurance referent in the quality management system in the companies for marketing petroleum products.[6],[1],[8],[2],[7].

II.1. THE OCCUPATION OF QUALITY ASSURANCE ENGINEER

This position can be found within the quality management department / service / office, and the engineer economists in the fields of electric, electronic and energy that access this position must meet its general task which represents the answer to the general requirements of international standards regarding the quality management system regarding its establishing, documentation, implementation, maintenance, continuous improvement as well as documentation requirements.[1],[6],[8],[3].

The quality assurance engineer within the quality management system fulfills prevention attributes underlining points that need corrective actions and ensures that the petroleum product which meets the specified requirements gets delivered to the customer. Regarding the organization, he plans and organizes the internal quality audits. He coordinates the audit activities onsite according to the audit plan and reports the changes that may occur to those involved. He provides the training on quality issues.

Within his activity he develops and maintains the manual for the quality management system up to date for the firm and the system procedures: document control, records control, internal audit, nonconforming product control, corrective actions, preventive actions and specific quality management actions of the department / service / office. The forms generated by the system's procedures are also developed by the quality assurance engineer.

Another action that he carries out is that of distributing the quality manual and system's procedures: document control, records control, internal audit, nonconforming product control, corrective actions, preventive actions and specific quality management actions of the department / service / office in accordance with the distribution list for all the departments of the firm for marketing petroleum products and all interested bodies, respecting the quality manual's stipulations. The records in accordance with the stipulations of the system procedure records control, on the basis of archive evidence established and recorded in accordance with the specific requirements.

In his activity, he uses the quality manual as base document in the field of quality which serves as reference to all the hierarchical levels. He changes the quality manual and system procedures only after analyzing them by officials which have analyzed and approved the initial document. The records resulted from

his ongoing activity. He destroys the records at the end of the archiving period.

The quality assurance engineer develops the quality manual with the objective to reflect the firm for marketing petroleum products' policy in the field of quality, as well as the function of the quality management system in this firm. In accordance with the activity profile of the firm a reference can be chosen for the quality management system and by default for the quality manual, that international standard (e.g. SR EN ISO 9001:2006) which is considered adequate to the main activities that derive from the process of marketing petroleum products. The quality manual represents the frame document of the ongoing activity of the company's employees in the quality management system and represents the presentation document and the firm's business card in front of customers, as well as suppliers and certification bodies of the quality management system. As frame document for the ongoing activity of the company's employees it serves at informing each one of them about the quality policies promoted by the firm's management, it describes the processes going on in the company, their succession and interaction. It is used as reference document in internal audits for verifying the conformity of the quality management system with the international standard requirements, which is considered as adequate. It briefly describes the way that the international standards' requirements are met, while specifying exclusions. Where appropriate, references are made to the documented procedures.

The system procedure "documentation control", developed by the quality assurance engineers, establishes the unitary elaboration, drafting and control ways of the quality management system's documentation in conformity with the requirements of the chosen personnel. The procedure describes, also, the way through which the control of the other documents and data of the quality management system is assured, so that, the persons interested can have prompt access to the data and information which are necessary to satisfy the specific conditions for the activity they undertake and for its results.

"The records control" within the quality management system is a procedure system developed by the quality assurance engineer, governing the records control in this system. The measures established in this procedure refer to the following types of records, and are valid for the entire company: the effectiveness and efficiency of the quality management system; process control, products / services control; machinery, equipment and measuring and monitoring device classification; supplier classification; evidence for staff training; records of customer relations.

The system procedure "nonconforming product control" developed by the quality assurance engineer, establishes the way the control of the nonconforming product / service is realized, detected in any of the phases of the marketing of petroleum products cycle, as to ensure the non-delivery to the client of the ordered /

contracted product that doesn't comply with the specified conditions and realized services specifications.

"The preventive action" is a system procedure, developed by the quality assurance engineer governing the methodology of initiating, applying and tracking preventive actions, as well as setting the responsibilities for this activity, to assure the prevention of nonconformities.

The system procedure "corrective action" developed by the quality assurance engineer, governs the methodology of initiating and tracking the realization of corrective actions, of establishing the actions and responsibilities for these activities, to eliminate the causes and repetition of nonconformity occurrence as well as for issuing, completing and finalizing a report for corrective action.

"The internal audit" is the system procedure developed by the quality assurance engineer that governs the methodology of application and conduction of internal quality audits with the goal to determine if the specific requirements of the referential are found in the quality management system's elements of the firm; to verify if the activities regarding quality and the related results are in accordance with the set regulations; to highlight the potential problems; to investigate if the problems identified as violations were corrected; to identify the possibilities to improve the quality management system in the company for marketing petroleum products.[6],[1],[7],[8].

II.2. THE OCCUPATION OF QUALITY ASSURANCE REFERENT

The engineer economist in the fields of electric, electronic and energy that accesses this position is placed in the company for marketing petroleum products within the quality management department / service / office.[1],[6],[8],[3].

The general purpose of this position is to monitor and verify the conformity of the quality management system implemented within the company with the requirements of the quality standard chosen as reference. The objectives to be achieved are: identifying the level of implementation and efficiency of the system within the company for the purpose of certification, maintainance and continuous improvement of the system; verifying and analyzing documents regarding the quality management system and preparing audit reports; verifying the implementation level of preventive and corrective measures to maintain and continuously improve the quality management system in the company.

In order to achieve the goals and objectives of the position of quality assurance referent, the engineer economists ensures the preparation of the audit by scheduling it, preparing checklists, studying applicable documentation and informing the audited; performing the internal audit through the investigation realized on the checklists previously prepared; verifies the conformity level of the quality management system with the

applicable procedures; solves the unexpected situations, during the audit, with tact and promptness to achieve the audit's objectives; coordinates the opening and closing sessions of the audit; verifies the documents regarding the quality management system and prepares the verification report; verifies through discussions with the audited, all the nonconformities identified for validation on the basis of objective proof; presents, within the closing sessions, the audit's conclusions and eventual nonconformities identified in the audited zone; develops the audit report and the nonconformities report (when needed) on the base of the results obtained after the audit.

For the purpose of the audit, the quality assurance referent applies the criteria to be taken into consideration at determining the audit's plan; the results of previous audits; the importance and complexity of the process within the company for marketing petroleum products; the revision of applicable documents; major changes within the company; the nonconformities noticed in the department's activity.

When he's the chief author and he's vested with the general responsibility of the audit, the quality assurance referent conducts for each audit, an audit team formed from two or three members. He prepares, as chief auditor, the audit's plan on a form that has a certain code within the quality management system's documents; he prepares a series of other work documents necessary for the auditing activity. He analyzes the checklists before he begins the audit to make sure that it accurately reflects the requirements applicable to the audited process and that he's based on the latest approved version of the quality documents applicable. He uses the checklists prepared beforehand to verify if the system's processes are fully documented, controlled and prepared as described in the applicable documents, by selecting at random one aspect from the evaluated process or activity. He inspects, tests and evaluates products / services to ensure the adequacy of the implied process, as well as the efficiency of the quality management system of the company. He evaluates as auditor / chief auditor the degree of coverage of the adequate referential requirements and applicable documents following the analysis of objective proof resulted from browsing the questionnaires. He develops and manages the audit report. He follows the corrective actions.

"The internal audit" is the system procedure developed by the quality assurance engineer that governs the methodology of application and conduction of internal quality audits with the goal to determine if the specific requirements of the referential are found in the quality management system's elements of the firm; to verify if the activities regarding quality and the related results are in accordance with the set regulations; to highlight the potential problems; to investigate if the problems identified as violations were corrected; to identify the possibilities to improve the quality management system in the company for marketing petroleum products. The quality assurance referent follows this system procedure in his activity.

The annual audit program includes all the processes that are part of the quality management system in the company for marketing petroleum products. The selection of auditors and the building of auditing teams can be made by the quality assurance referent and he must take into account that at the selection of one person for a position of internal quality auditor, that person must meet the following criteria: to be a person from within the company for marketing petroleum products; to be employed for at least one year within the company to ensure that he has sufficient experience regarding the undertaken activities and that he knows the implemented quality management system; to possess a good understanding of basic techniques of auditing as result of a previous experience or as result of internal auditor training; to be available to perform audits of other departments then that of origin, whenever it's necessary; to have personal competences, such as: objectivity, integrity, analytic approach, tact, etc. The team members are assigned by the quality assurance referent from the selected auditors at the company's level, so that they can be independent of the audited activity. The responsible with quality management designates the chief auditor for each team, depending on the experience regarding the undertaken activities, the knowledge of the quality management system implemented, previous experience as internal auditor or as a result of auditor training.[6],[1],[7],[8].

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