

THE INFLUENCE OF THE QUALITY MANAGEMENT SYSTEM ON THE SUPPLY ACTIVITY WITH SPARE PARTS FOR THE MINING EQUIPMENT FROM THE LIGNITE

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Abstract: The present paper deals with the achievement of adequate quality in the business of providing spare parts and materials, ISO 9001 quality standards to ensure consistency between the characteristics of spare parts and materials purchased and requirements.

Keywords: quality, suppliers, spare parts, Quality Management System

1. GENERAL

For a purchaser who has implemented a Quality Management System according to ISO 9001:2008 standard, it is important that the supplier should also be certified according to ISO 9001 and that he should comply with the requirements that come with this certification.

The persons involved in selecting the suppliers and possibly responsible for the buying decisions, might have seen products and services promoted by reference to ISO 9001:2008 standard, or, shorter, "ISO 9001".

What does this mean? How can this help? How can you be sure that those suppliers are aware of what you expect from them and are capable of constantly offering you the products that you need?

ISO 9001:2008 reference standard indicates the fact that the supplier has a Quality Management System which complies with the requirements of ISO 9001:2008

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standard. This means that the supplier has established a systematic approach of the quality management in order to make sure that his customers' needs are clearly understood, approved and fulfilled.

In 2008 the last revision of ISO 9001:2008 standard appeared at an international level – the standard was adopted in Romania on 30 November 2008. ISO 9001:2008 standard does not bring new requirements; it only clarifies the already existing requirements.

More over, ISO 9001 is projected to be compatible with the management systems, other standards and specifications, like ISO 14001 (medium) and OHSAS 18001 (health and safety at work). They can be perfectly integrated through the Integrated Management System.

2. THE TASKS OF THE SUPPLY ACTIVITY REGARDING THE QUALITY PRODUCTS

The main requirement, from which all others concerning the supply derive, is ensuring the concordance between the characteristics of the raw materials, the spare parts and the purchased materials and the specified requirements.

In practice, the quality of the products is often expressed through *technical quality and commercial quality* of the goods.

The technical quality is defined as representing the conformity of the product to the technical norm documents like standards, operating sheet, etc.

The commercial quality is determined by factors like reliability, maintainability, guarantee period, maintenance costs, service granted during the functioning period.

ISO 9001:2008 defines four types of product quality:

- quality deriving from defining the needs referring to the product;
- quality of manufacture;
- quality of the conformity to the manufacture;
- quality which derives from sustaining the product during its life cycle.

ISO 9001:2008 does not mention the requirements for the products or the services that we want to purchase. It is up to us to establish this by expressing our expectations about the product, not only the needs of our organization.

It has been demonstrated that a relatively small number of spare parts and materials have a great influence on the economic activity of the firm and they condition in a decisive way the normal development of the production activity, the costs level (for example: speed reduction unit, support and rotation bearings, wheels from the band conveyers, rubber bands etc.), while quite a large number of products have a smaller influence on the basic activity, the classifications of the spare parts and materials being done according to certain criteria, the most important ones being the following:

- the economic importance for the firm's activity;
- the quantitative importance;

- the importance of the market which supplies them;
- the strategic importance for the firm's activity.

In order to ensure the efficiency and the finality of the supply process it is necessary to instill a preventive and constructive approach, conducting the analysis toward the main domains of the supply process, namely:

a) Conditions for specifications, drawings and contracts (orders) of supply:

These conditions are defined through the specification document which must contain technical specifications.

Technical specifications represent requirements, prescriptions and characteristics of a technical nature which allow every product to be objectively described so that it corresponds to the necessity.

Depending on the case and not only being limited to what follows, technical specifications define characteristics referring to:

- the precise identification of the products to be supplied;
- the accurate technical description (drawings, dimensions, terminology, symbols).

These two problems can be well solved if the organization which must operate the supply has a schedule of materials and spare parts.

The schedule of materials and spare parts actually represents a centralizing list of all the materials and spare parts necessary to the development of the economic activity of a firm. These materials and spare parts are set in order, according to certain criteria that refer to the place and the role of each item, the equipment they are used for, the physical and chemical characteristics and any other criteria which ensure the distinct individualization of each component or item.

The schedule of items groups the materials and spare parts that are dealt with in an organization, and the items are identified through a unique code at the level of the whole integrated management system. It is necessary to keep a unique schedule of items at the level of the organization.

- characteristics referring to the qualitative, technical and performance level;
- requirements regarding the impact on environment;
- requirements regarding the guarantee of the products and the safety in exploitation;
- conditions referring to tests and testing methods, packaging, labeling, marking and instructions for using the product;
- the size of the lots, transport and delivery;
- systems for quality assurance and conditions for certifying the conformity to relevant standards and others similar to them applicable at the supplier.

b) Selecting the qualified suppliers:

One of the most important activities here is the evaluation and the selection of the suppliers for the purpose of establishing their capability to supply products in accordance with the requirements.

In order to do this you must first establish the evaluation and selection criteria. Analyzing the suppliers' market aims at clarifying the priorities, the

advantages and the restrictions that appear and that must be taken into account when working on and deciding upon the supply strategies.

The starting point of the analysis is represented by the classification of the suppliers according to several criteria, the most used ones being:

- the rapport between the supplier and the user;
- the weight of the suppliers in assuring the material resources;
- the concordance between the interests of the two parties.

You can request on the scene evaluation of the capability of the suppliers and of their quality system.

You can request as relevant information with a view to selecting the suppliers the following:

- previous experience with similar supplies which can include a list with the main product deliveries in the last 3 years, containing costs, delivery periods, beneficiaries. Product deliveries are confirmed by presenting some certificates or documents emitted or countersigned by the beneficiary customer;
- a declaration referring to the technical equipment and the measures taken with a view to assuring the quality, as well as, if need be, referring to the study and research resources;
- information referring to the existent specialized technical personnel, especially to assure the quality control;
- certificates or other documents emitted by structures qualified in this field, documents which attest the products' conformity, clearly identified by reference to relevant specifications or standards;
- the evaluation of the product's pattern by presenting samples, descriptions and/or photographs whose authenticity has to be proved in case of request;
- the economic and financial situation;
- the results of trying similar supplies;
- standards that assure the quality, certificates emitted by independent organizations, through which it is attested the fact that the economic agent complies with certain standards of quality assurance. Reference will be made to the systems of quality assurance based on the series of relevant European standards, certified by organizations in conformity to the European standards series regarding certification.
- environment protection standards.

c) Checking the quality of the delivered products

An important attribute of managing the supply process is checking the conformity of the supplied products.

In order to perform this activity in good conditions you must first establish the approval requirements for the supplied products, comprising the way checking is done, the place where this control is done, the existing agreements with the supplier, the control samples and the margin for accepted faults (these last ones are needed only in the case of a statistic control).

Concomitantly with the deliveries, the supplier will also present the specified inspection or trial data or the records of the processes control.

The buyer has the right to inspect and to test the products in order to check their conformity to the specifications from the annex to the contract; also, the places where the inspections and the tests will be done must be established (they will be done at the buyer's warehouse).

The purchaser can certify the fact that the products have been delivered partially or totally, after the reception, through the receiving signature of his authorized representative, on the documents emitted by the supplier for the delivery.

If the quantitative analysis is relatively simple, the qualitative control must begin with the reception of the input products, it must be continued as they are stored and used in production and it can be underlined through the following:

- complaints regarding the inadequate quality;
- the dynamics of the qualitative complaints;
- the way of solving the qualitative complaints;
- supervising the supplied products in exploitation;
- the volume and the weight of the qualitative refusals as considered on groups of products, suppliers and the entire supply activity;

In case we are not satisfied with certain goods that we receive, we should first inform the supplier.

This is usually done through the pre-established commercial communication channels.

In order to clarify the disputes regarding the quality, clauses must be specified in the supply contracts (orders).

These can contain the following requirements:

- the supplier is obliged to guarantee that the products supplied under the contract are new and unused;
- it is established the guarantee period offered to the products by the supplier, starting with bringing the products into operation or with their reception;
- the purchaser has the right to notify the supplier immediately, in writing, about any complaint or claim that appears in conformity to this guarantee. The supplier is obliged to investigate the complaint and he should take appropriate measures in order to avoid or diminish the chances of this happening again.
- there are established the supplier's obligations when he receives notifications regarding the guarantee of the products (the supplier is obliged to replace the product in maximum 15 days, without any additional costs for the purchaser). The products that during the guarantee period replace the faulty ones benefit from a new guarantee period beginning with the date the product has been replaced.
- there are established the actions to be taken in case the supplier, after having been notified, hasn't managed to rectify the fault in due time.

Usually, in this case, the buyer has the right to take remedy measures on the supplier's risk and expenses and without bringing any prejudice to other rights that the purchaser may have in relation to the supplier, rights that are stipulated in the contract.

Still, if we are dissatisfied with the general performance of the supplier (for example, in case he continues to offer unfit products, he does not respond to our complaints or he does not take appropriate corrective measures), then there is a problem in his system of quality management.

3. CONCLUSIONS

Achieving an adequate quality within the supply activity creates the conditions necessary to improve the economic parameters of the firm through the positive effects on the rise of the products reliability and the rise of the labour productivity.

Achieving an acceptable quality in the field of the supply activity with spare parts and materials requires the following actions:

- compiling technical documentation referring to quality (quality handbook, system procedures regarding the supply, procedures regarding the control of the unfit product, other documents on quality), which must be based on international ISO quality standards, quality standards set up by the firm and national quality standards pertaining to the field of supplied products;
- introducing the sale and purchase contracts, where there are also stipulated qualitative aspects, together with quantitative and economic aspects;
- for every qualitative characteristic of a supply that enters the firm, a control procedure must be set up and then applied;
- the employees in the field of supply must perfect their skills and they must develop a quality conscience.

While some companies use ISO 9001 Standard for internal purposes and as a means to simply increase the performance of the quality, those companies that also make efforts for the supply – integration chain will probably benefit from an increase of efficiency and customer satisfaction and they will finally manage to increase the large market share.

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