



ELABORATED BY	SIGNATURE	DATE
	SEE CHART BELOW	<b>08</b>
		<b>09</b>
REVIEWED		<b>2008</b>
APPROVED		

**TRADUÇÃO NÃO CONTROLADA**

**1 GENERAL**  
**1.1 PRESENTATION**

This Manual establishes and formalizes the requirements of the Quality Management System, fixed by the ISO 9001:2000 standard, in order to assure the compliance with both the specified requirements for the products and the clients' satisfaction. It must be accomplished by the E.G.S. – WELDED PIPES PLANT areas in Campos dos Goytacazes city in the state of Rio de Janeiro – Brazil,

The Quality Management System (QMS) Manual is the linking element between E.G.S. – WELDED PIPES PLANT and the industrial market. It constitutes the main publishing way for the QMS of the company, presenting the Quality Policy and the management requirements assumed in view of our clients' necessities.

It presents the Quality Management System structure and it refers to all of your applicable procedures.

The contents of this Manual is mandatory and must be followed by all the E.G.S. – WELDED PIPES PLANT collaborators aiming at the continuous improvement of the processes efficacy regarding the compliance with the clients' requirements, as well as with the regulatory specifications in force and the statutory requirements.

**2 HISTORY**  
**2.1 SCHULZ HISTORY**

For over 50 years, SCHULZ has been a synonym of a business philosophy of continuously searching for optimizing all the activities range.

Our experience and success concerning results, as well as our continued efforts to maintain our line of products for industrial pipelines towards specific demands of our clients have originated new technological standards, thus positioning the SCHULZ Group among the international market companies.

SCHULZ and its main units are capable of offering customized solutions in industrial pipeline components with the highest quality standards, both regarding exclusive products supply and coordinating a complex project.

Both the development of innovative technologies and the establishment of an international distribution network have caused SCHULZ to have its name internationally renowned regarding high quality products.

Due to SCHULZ Group permanent expansion worldwide, it is in a position to comply with optimized services to its clients, also counting on units located in Brazil

In 2006, two SCHULZ Latin America Distribution Centers were raised in Brazil, one in São Gonçalo, in the state of Rio de Janeiro, and the other in Camaçari, in the state of Bahia. Both of them have conquered the ISO9001:2000 certification in 2006.

In 2007, SCHULZ inaugurated its first fittings plant in Campos dos Goytacazes, in the state of Rio de Janeiro, and it also started the building up of its second plant there, this time for welded pipes, which was latter inaugurated in 2008.

**2.2 CLIENT MARKET**

E.G.S. – WELDED PIPES PLANT is capable of acting in all industrial market segments for manufacturing and supplying WELDED METAL PIPES AND PIPELINE COMPONENTS, according to the applicable technical standards.

REVISION:	The shaded texts reffer to the alterations from Revision 00 to Revision 01.
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**3 QUALITY MANAGEMENT SYSTEM (QMS) SCOPE**

Manufacturing of welded metal pipes and pipeline components.  
 Services on welded metal pipes and pipeline components.

**Note:** The following activities are considered as services which may be requested by the clients and which are part of the pipes manufacturing process flowchart, but which may also be performed independently of the pipe manufacturing, for instance: cutting ladles, beveling, weld repair, performing X-ray tests, hydrostatic test, heat treatment, performing weld services on pipeline components and similar processes, according to the procedures which are established on the QMS of E.G.S.

**3.1 QMS EXCLUSION**

Requirement 7.3 from NBR ISO 9001:2000 – Project and Development, do not apply to the QMS of E.G.S. – WELDED PIPES PLANT, considering that there is no project and development of products with special specifications. The pipes manufacturing follow the specified requirements of the applicable technical standards.

**4 QUALITY MANAGEMENT SYSTEM**

**4.1 QMS DOCUMENTATION STRUCTURE**

In order to grant the planning, the operation and the effective control of its processes, the E.G.S. Quality Management System is established according to the documentation structure which is presented in the chart below, and its contents must be in conformance to the following descriptions:

**Quality Policy** – It defines the documented intentions and guidelines related to the Quality Management System which are formally stated by the Board of Directors.

**Quality Objectives and Goals** – It is a formal document which includes what is searched for or aimed at in relation to the Quality.

**Quality Management Manual (QMM)** – It defines the Quality Management System structure and it refers to the procedures, the processes and their interactions, the Quality policy and the Quality Objectives, containing the normative requirements and the applicable management criteria, and also the authority and responsibility levels at E.G.S.

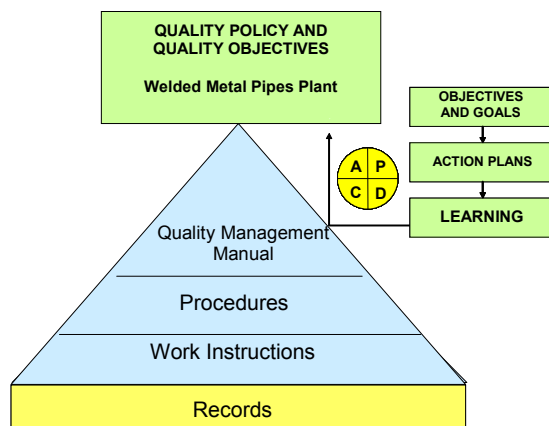
The QMM has been elaborated, checked and approved in a management level, being adequately established, controlled and documented and also being the base for the proper implementation of the quality procedures.

**Work Instruction (WI)** – It unfolds the activity of the operational level for the performance of specific tasks, be it by means of tables, drawings or some other way to comply with the production or any other processes needs.

The work instructions are elaborated, checked and approved by the evolved areas and activities, being adequately established, controlled and documented.

**Records** – They demonstrate, as objective evidence, that what has to be done is being performed and is in compliance with the requirements specified by the QMS of E.G.S. They must be kept.

**E.G.S. QUALITY MANAGEMENT SYSTEM STRUCTURE**





## 4.2 QMS MANUAL – QMM

E.G.S. defines the QMM as general guidelines for the compliance with the requirements of the Quality Management System and of the Quality Policy for the proper implementation of the quality specific procedures and of the work instructions which complement such guidelines in an objective and systemic way.

This manual:

- defines the QMS scope and the explanation for exclusions is on item 3.1;
- connects the Quality Management System procedures along its contents and on its item 9;
- describes the Quality Management System processes for the defined scope and such processes interaction on the macro flowchart of Annex 1.

## 4.3 DOCUMENTS CONTROL

E.G.S. establishes a documented procedure defining the controls which are necessary for the preparation; checking; alteration; approval; issuance and distribution of the QMS documents, in order to assure that the activities developed based on such documents always be performed according to updated documents.

E.G.S. keeps a controlled list of documents containing identification, document title and updated review, assuring:

- Documents approval in relation to its adequacy before its issuance;
- Critical analysis of the documents yearly, or whenever it be deemed necessary, being such documents updated and reapproved;
- Proper identification of the performed alterations and of the current review;
- That the documents be available at the places where they are used in the latest review;
- That the documents remain legible and easy to be identified;
- That the obsolete documents be readily collected back from circulation or impeded through any other way of being utilized.

The procedure PGQ 01 – Documents Control, unfolds and complements this item.

## 4.4 RECORDS CONTROL

The quality records are established and kept by E.G.S. in a way to provide evidences of conformity with the specified requirements and the operation efficacy of the Quality Management System, in order to demonstrate the conformity with the specified requirements and the Quality Management System effective operation.

E.G.S. establishes and keeps documented procedures defining the responsible functions for filing and maintaining the records by means of physical or electronic way, as well as the controls necessary for identification, storage, protection, recovery, keeping and discard of records, assuring that they be kept legible, easy to be identified and collected back.

The procedure PGQ 21 – Records Control, unfolds and complements this item.

## 5 BOARD OF DIRECTORS' RESPONSIBILITY

### 5.1 BOARD OF DIRECTORS' COMMITMENT

The E.G.S. Board of Directors evidences its commitment with the Quality Management System development and implementation as well as with the continuous improvement of its efficacy through the communication to all collaborators about the importance in complying with the clients' requirements, statutory and regulatory requirements, the establishment of the declared Quality Policy and Quality Objectives described, performing periodic critical analysis where the measurements performed through the Quality Management System are analyzed as well as processes measurement and monitoring, products measurement and monitoring and the measurement results of the Quality Management System (Internal Audit, Nonconformities, Preventive Actions and Corrective Actions, Client's Satisfaction), making available the resources which are necessary for the continuous improvement of the QMS of E.G.S.



## 5.2 FOCUS ON THE CLIENT

The E.G.S. Board of Directors assures that the clients' requirements, the legal and regulatory requirements which are applicable to their products are identified by the Commercial, Production and Quality sectors in order to assure that the requirements are properly defined and documented and that they must be complied with the purpose of increasing the clients' satisfaction.

## 5.3 QMS POLICY

The commitment and the objectives related to QUALITY are formally stated in the "Quality Policy" which is presented in the beginning of this Manual, being appropriated for the organization purpose and it allows a structure for the establishment and critical analysis of the Quality Objectives. Such Policy is periodically critically analyzed for its adequacy maintenance and it is approved by the E.G.S. Board of Directors.

The Quality Policy is communicated and understood in all organization levels, thus assuring that the objectives be comprehended and complied.

## 5.4 PLANNING

### 5.4.1 QUALITY OBJECTIVES AND GOALS

The Board of Directors assure that the Quality Objectives, including those which are necessary for complying with the product requirements are established in the pertinent functions and levels at E.G.S. being they measurable and compatible with the Quality Policy.

The goals are established according to management, commercial, operational and financial guidelines.

The QMS objectives are defined in an appropriate document, periodically revised according to the changes of contingences. Performance indicators are defined in order to measure the Quality Management System efficacy in achieving such objectives.

The procedure PGQ 03 – Quality Objectives and Performance Indicators, unfolds and complements this item.

### 5.4.2 QMS PLANNING

The QMS Planning is done through the procedures and manuals to which there is reference along this manual, where the activities performed to comply with the specified requirements for products/services and with the QMS are detailed.

The above mentioned planning is revised during the Board of Directors critical analysis meetings, where the QMS objectives and policy are evaluated, aiming at maintaining the system integrity whenever there changes in the Quality Management System are planned and maintained.

The procedure PGQ 02 – Board of Directors Critical Analysis, unfolds and complements this item.

## 5.5 RESPONSIBILITY, AUTHORITY AND COMMUNICATION

### 5.5.1 RESPONSIBILITY AND AUTHORITY

The responsibility, the authority and the inter-relation of the various organization levels are defined in the Organizational Structure on the Annex 2, related to the compliance with the requirements of the standards on which the QMS of E.G.S – WELDED PIPES PLANT is based. The detailing of such responsibilities and of the evolved functions with the range of activities are defined on specific documents – Position Description, kept by the Human Resources area and in the procedures which unfold this Manual.

The responsibilities and authorities are communicated at the organization by means of the QMS documents.



### 5.5.2 BOARD OF DIRECTORS REPRESENTATIVE – BR

The BR is designated by the E.G.S. Board of Directors, by means of a nomination record, and is give attributions and responsibilities to:

1. Assure that the processes which are necessary for the SGQ be established, implemented and maintained;
2. Report the Quality Management System performance to the E.G.S. Board of Directors in order to promote critical analysis and any necessary improvement;
3. Assure and promote the awareness in all levels of the organization about the necessity to comply with the clients' requirements and achieve the conformity with the Quality Policy and the QMS requirements.

### 5.5.3 INTERNAL COMMUNICATION

The QMS efficacy may be communicated by means of notice boards, meetings, trainings, electronic mail and other means deemed pertinent

The internal communication has the objective of:

- Informing about the Quality Management System processes.
- Informing about the results of the improvement indicators proceeding from the system measurement.
- Informing the internal audits results.

### 5.6 CRITICAL ANALYSIS BY THE BOARD OF DIRECTORS

Aiming at checking and assuring the continuous pertinence, adequacy and efficacy of the Quality Management System, the E.G.S. Board of Directors performs critical analysis meetings annually.

The QMS critical analysis performed by the E.G.S. Board of Directors evaluates improvement opportunities, changes in the QMS, including the Quality Policy and the Quality Objectives.

The procedure PGQ 02 – Board of Directors Critical Analysis, unfolds and details this item.

## 6 RESOURCES MANAGEMENT

### 6.1 RESOURCES PROVISION

The E.G.S. Boards of Directors assures the provision of the adequate resources to maintain and continuously improve the QMS, as well as to comply with the clients' requirements, improving their satisfaction. For that reason, it utilizes the Human Resources, Administrative/Financial and Maintenance support processes.

### 6.2 HUMAN RESOURCES

E.G.S. assures that the personnel committed to the QMS have their competence based on trainings, education, ability and experience and they are aware of the importance of their activities and how they contribute to the achievement of the established objectives.

The necessary competences are determined and the training necessities are surveyed based on the information supplied by the various sectors of E.G.S. and the analysis of the positions requirements defined on the Manual of Position Description, being they coordinated by the Human Resources supply process.

Based on such survey, the Human Resources department elaborates the Training Plan, controls its execution, evaluates its efficacy and keeps the records of all phases which evolves the collaborators' training and development, in compliance with procedure PGQ 08 – Competence, Awareness and Training.



### 6.3 INFRASTRUCTURE

The Board of Directors of E.G.S. – WELDED PIPES PLANT assures the provision and the maintenance of the resources it needs to obtain the compliance of its services with the specified requirements, including, where necessary:

- Budget resources;
- Equipment, hardware and software;
- Proper installations and buildings;
- Preventive and corrective maintenance;
- Others deemed pertinent.

### 6.4 LABOR ENVIRONMENT

E.G.S. – WELDED PIPES PLANT determines and manages the labor environment conditions necessary to achieve the compliance with the product requirements.

## 7 PRODUCT MANUFACTURE

### 7.1 PRODUCT MANUFACTURE PLANNING

E.G.S. – WELDED PIPES PLANT plans its products manufacturing in accordance with its QMS requirements. This planning is based on the QMS documents. The specific conditions for the products manufacturing, include, where applicable:

- The QMS objectives for the product;
- The necessity of documented procedures which identify the quality characteristics required for the process and the provision of the specific resources for the products;
- Control, verification, validation, inspection, tests and monitoring of the acceptance criteria required and specified for the product;
- Records which are needed to promote trust on the compliance with the processes and resulting products.

### 7.2 PROCESSES RELATED TO THE CLIENTS

#### 7.2.1 DETERMINATION OF THE REQUIREMENTS RELATED TO THE PRODUCT

The E.G.S. – WELDED PIPES PLANT commercial process establishes a strategy, defining the focus for the product which must be commercialized and for which markets.

These plantings are the guidelines for what E.G.S. – WELDED PIPES PLANT must supply the market with.

E.G.S. performs contracts critical analysis according to the documented procedure in order to assure that the specified requirements, including the delivery and after delivery activities requirements, are in adequately defined and documented; requirements which are not formally declared by the client, being it necessary for the intentional or specific use, be known; capability to comply with the contractual, statutory and regulatory requirements related to the product.

#### 7.2.2 CRITICAL ANALYSIS OF THE REQUIREMENTS RELATED TO THE PRODUCT

The E.G.S. – WELDED PIPES PLANT commercial process is responsible for the sale and the critical analysis of the issued sales orders.

E.G.S. – WELDED PIPES PLANT assures that the clients' orders are critically analyzed before its approval, in order to grant that the supply requirements be complied.

The procedure PGQ 10 – Commercial, unfolds and complements this item.

#### 7.2.3 COMMUNICATION WITH THE CLIENT

E.G.S. – WELDED PIPES PLANT maintains communication channels with the client in order to inform the data related to the product, to comply with the consultations, contracts or orders, to comply with the client's feedback, including their complaints. See Procedure PGQ 10 – Commercial.



### 7.3 PROJECT AND DEVELOPMENT

Not applicable. See item 3.1.

### 7.4 PURCHASE

#### 7.4.1 PURCHASE PROCESS

E.G.S. – WELDED PIPES PLANT assures that all the purchased products or services are in compliance with the applicable Technical Rules and specifications.

The E.G.S. – WELDED PIPES PLANT acquisitions are performed by the “Purchase” process. According to the necessity, the suppliers are evaluated and approved according to the established criteria, considering the importance that the product or service being purchased has and what it represents to the product itself or to the manufacturing process. For this kind of purchase, records of the approved suppliers are kept and are made available in a physical or electronic way.

#### 7.4.2 PURCHASE INFORMATION

E.G.S. – WELDED PIPES PLANT establishes and keeps documented procedures in order to assure that the acquisition of products and services is in compliance with the specified requirements before the communication with the supplier.

The acquisition information must contain the required product or service description, including where applicable:

- Requirements for the approval or qualification of the product procedure, equipment, process and personnel.
- Quality management System rules to be applied.

#### 7.4.3 VERIFICATION ON THE PURCHASED PRODUCT AND SERVICE

E.G.S. – WELDED PIPES PLANT establishes and maintains the receiving inspection, where applicable, to the product or service acquired in compliance with the importance such product or service represents to the product itself or to the manufacturing process, in such a way to assure the compliance with the specified acquisition requirements.

When necessary, E.G.S. or our client checks the purchased product or service at the suppliers' installations, according to a previous documented agreement for verification and releasing method.

Applicable procedures: PGQ 11 – Purchase. PGQ 19 – Suppliers' Qualification.

### 7.5 PRODUCT MANUFACTURE AND SUPPLY

#### 7.5.1 PRODUCT / SERVICE SUPPLY CONTROL

E.G.S. – WELDED PIPES PLANT deems as fundamental for the product supply the “Production” process for which the macro flowchart is represented in Annex 1.

The procedures which are established and implemented in the QMS of E.G.S. assure that such process occurs under controlled conditions, including:

- Information which describes the product characteristics specified by the client;
- When necessary, availability of work instructions in the places of use assuring the compliance between the manufacturing and the specified quality requirements;
- Adequate equipment maintenance assuring the continuous capability of achieving the planned results;
- Continuous measurement and monitoring of the products and processes parameters characteristics in a way to assure the conformity with the acceptance criteria specified in appropriate phases of the product manufacturing process;

The finished product conformity evidence is obtained through the final visual inspection and the verification of the performance of all the tests during the products packing.

No product is issued before the complete verification of the performance of all tests and inspections



which are determined in the procedures which are specific for the performance of such tests, unless it be approved by a pertinent authority and when it be applicable to the client.

### 7.5.2 MANUFACTURE PROCESSES VALIDATION

E.G.S. identifies and validates the processes of welding and heat treatment of the pipes, which takes place as a phase of the "Production" process through:

- Qualification procedures and monitoring methods of such process are formally established and maintained;
- Such processes are performed by qualified personnel;
- Process and personnel qualification records are documented and kept.

Applicable procedure: PGQ 13 – Production. PGQ 15 – Heat Treatment Process Qualification and Validation. PGQ 22 – Heat Treatment.

### 7.5.3 IDENTIFICATION AND TRACEABILITY

E.G.S. – WELDED PIPES PLANT establishes and maintains procedures which are documented and controlled for the products identification and traceability, since the receiving and during all manufacturing phases until the delivery to the client.

The products identification follows E.G.S. – WELDED PIPES PLANT own codification.

The procedure PGQ 12 – Receiving Inspection of Ladles, unfolds and complements this item.

### 7.5.4 CLIENT'S PROPERTY

Client's property is understood as the specifications, rules, drawings and data supplied by the client, which may be supplied together with the purchase documentation in order to assure the impeccable compliance with the client's requirements. There is also that pre materials and other items be supplied by the clients for the pipes manufacturing or services performance. E.G.S. – WELDED PIPES PLANT is committed to the preservation of the client's property and of keeping secret whenever it is required or applicable.

When any non-conformity is noticed it must be formally reported to the client and treated according to the PGQ 04 – Improvement Management, Corrective Actions and Preventive Actions.

### 7.5.5 PRODUCT PRESERVATION

E.G.S. – WELDED PIPES PLANT assures that the handling, storage, issuance and preservation of the products are performed in the most adequate way and according to the specified requirements.

The procedure PGQ 14 – Preservation, Handling and Storage, complements this item.

## 7.6 CONTROL OF MEASUREMENT AND MONITORING DEVICES

E.G.S. – WELDED PIPES PLANT establishes and maintains a documented procedure for control and calibration of the measurement and monitoring devices which are necessary for evidencing the compliance of the product with the specified requirements.

Such devices calibration may be performed internally or by external laboratories, traceable to the recognized standards, nationally or internationally. In special cases, the calibration may be performed by the devices manufacturers or their representatives, however, in the same way, traceable standards must be used and a copy of the certification of such standards must be requested.

The procedure PGQ 09 – Measurement Equipment Control, unfolds and complements this item.

## 8 MEASUREMENT, ANALYSIS AND IMPROVEMENT

### 8.1 GENERAL

E.G.S. – WELDED PIPES PLANT maintains monitoring, measurement, analysis and improvement



processes defined in the QMS documentation, in order to:

- Demonstrate the product conformity through analysis which assures the compliance with the specified requirements;
- Assure the QMS conformity by means of internal audits and critical analysis meetings by the Board of Directors;
- Improve the QMS efficacy by means of corrective, preventive and improvement actions.

Wherever indicators or other methods be necessary, measurement and monitoring must be used.

## 8.2 MEASUREMENT AND MONITORING

### 8.2.1 CLIENTS' SATISFACTION

E.G.S. monitors the information related to the client's perception regarding the compliance with the client's requirements by means of surveys, being periodically monitored and the results are critically analyzed by the Board of Directors aiming at taking action to improve the satisfaction index.

The procedure PGQ 06 – Customer Service, details and complements this item.

### 8.2.2 INTERNAL AUDIT

The method, which is used in the internal audit, comprehends the Quality Management System documentation analysis in order to check the adequacy to the audit criteria, being the implementation checked through evidences collecting on interviews, activities observations, measurements, records and conditions in the mentioned areas.

The QMS efficacy is verified, in a preventive way, through a internal audits program.

The responsibilities and requirements for planning and performance, record and form are established on a documented procedure.

The audits are performed by personnel qualified in performing Internal Audits, being performed by personnel who are independent from and have autonomy in relation to the activities of the audited areas.

The audit results are recorded on specific forms, containing the detected notes and nonconformities. Such results are reported to the E.G.S. Board of Directors which, together with the people in charge, establish guidelines and deadlines for the adoption of the corrective actions.

The people in charge for the audited areas are notified and, before the deadline, they must take corrective actions to eliminate the detected nonconformities and their causes.

The corrective actions process is performed according to documented practices being the performed actions verified and the verification results reported.

The procedure PGQ 07 – Quality Internal Audit, unfolds and complements this item.

### 8.2.3 PROCESSES MEASUREMENT AND MONITORING

Adequate methods for monitoring and, when applicable, measurement processes of the QMS are applied, establishing objectives, goals and indicators in order to demonstrate their capability to reach the planned results. When the planned results are not reached, the corrections are performed as well as the appropriate corrective actions, as a way to assure the conformity of the processes and its improvement.

Such monitoring is defined on procedure PGQ 03 – Quality Objectives and Performance Indicators.

### 8.2.4 PRODUCTS MEASUREMENT AND MONITORING

E.G.S. establishes and specifies the measurement and monitoring requirements, including acceptance criteria for their products. Measurement and monitoring are performed at appropriate phases of the product manufacturing process, according to what is established on the instruction of Production and Record (IPR) which goes with the each pipe along the manufacturing process. The x-ray test phase is performed by an outsourcing service in accordance to the qualified procedure PSQ-75-4.2 – Radiography, pertaining to the outsourced company itself.



The stored products are monitors, depending on the case, through verifications of tests in order to assure their compliance with the specified requirements.

The products which will be distributed by E.G.S. – WELDED PIPES PLANT are released to the client only after the performance of the verifications and/or tests, thus assuring the quality of the commercialized product before its issuance.

The performed verifications and/or tests records are kept.

The identification of the status of the verifications and/or tests performed on the products in the distribution phases (for instance: receiving, storage and issuance) are assured. The records are kept.

The following procedures unfold and complement this item: PGQ 12 – Receiving Inspection of Ladles. PGQ 13 – Production. PGQ 14 – Preservation, Handling and Storage.

### 8.3 NONCONFORMING PRODUCTS CONTROL

E.G.S. establishes and maintains documented the controlled procedures to assure that the product which is nonconforming with the specified requirement is prevented from being used.

Nonconforming products are identified, documented, evaluated, separated, and actions are taken in order to eliminate the nonconformities and the evolved positions are notified.

The nonconforming products may be reworked or repaired, being then inspected once again in order to demonstrate the compliance with the requirements or they may have their use allowed or accepted by a pertinent person's concession and, where applicable, by the client. The concessions are documented.

The procedure PGQ 05 – Nonconforming Products Control, unfolds and complements this item.

### 8.4 DATA ANALYSIS

The data which is generated by numerous sources, for instance, quality indicators, client's satisfaction results, internal audit, process and product measurement and monitoring, including preventive actions, nonconforming products control and suppliers control are used to evaluate the E.G.S. Quality Management System performance and also to identify opportunities to promote continuous improvements, performing the due corrections by using the Quality Policy, Quality Objectives and Critical Analysis by the Board of Directors. The techniques which are used in the data analysis are identified in the procedures.

### 8.5 IMPROVEMENT

#### 8.5.1 CONTINUOUS IMPROVEMENT

E.G.S. – WELDED PIPES PLANT acts aiming at continuously improving its QMS efficacy through the implementation of its Quality Policy, Quality Objectives, data analysis, audits results, corrective and preventive actions and critical analysis by the Board of Directors.

#### 8.5.2 CORRECTIVE ACTION AND PREVENTIVE ACTION

It is assured that, according to the nonconformities magnitude and proportionally to the evidenced risks, the adequate corrective or preventive actions are taken, aiming at eliminating the real of potential nonconformity causes, in such a way to avoid the repetition or occurrence, respectively, and they must be appropriate for the evidenced nonconformities as well as for the potential problems effects.

All the necessary actions are treated and monitored comprising the nonconformities:

- in products, processes or management system;
- with suppliers;
- complaints of clients and other evolved parties;
- in the QMS planning;
- related to the Quality Policy;
- related to the critical analysis performed by the Board of Directors;
- internal and external audits.

E.G.S. establishes and maintains the documented procedure defining the requirements for:

- critical analysis of (potential or real) nonconformities and their causes;



- preventive or corrective actions evaluations;
- determination and implementation of the necessary actions;
- records of the performed actions results;
- critical analysis (evaluation) of the performed corrective and preventive actions.

The procedure PGQ 04 – Improvement Management, Corrective and Preventive Actions, unfolds and complements this item.

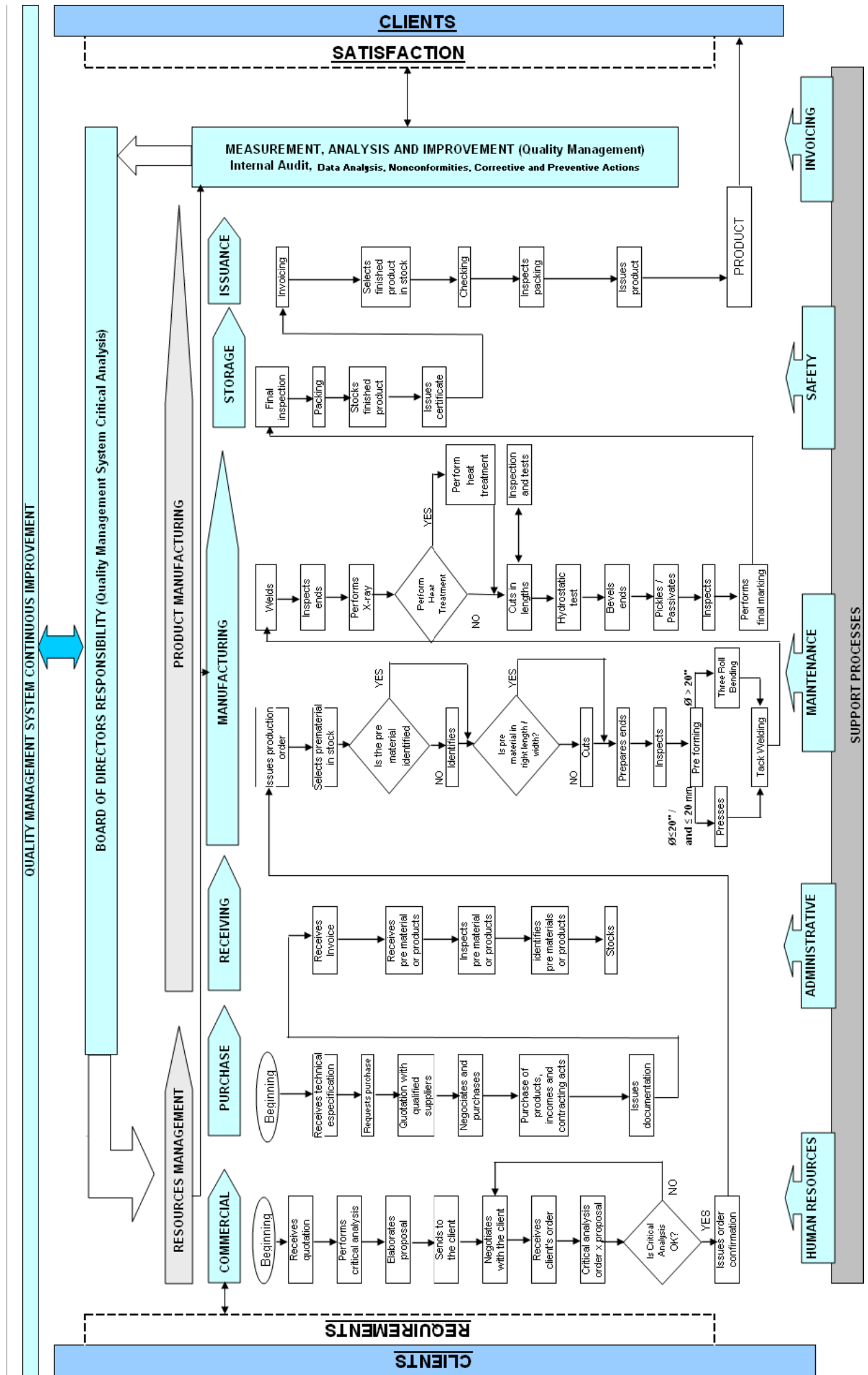
## 9 **QMS PROCEDURES LIST**

<b>PGQ 01</b>	Documents Control
<b>PGQ 02</b>	Board of Directors' Critical Analysis
<b>PGQ 03</b>	Quality Objectives and Performance Indicators
<b>PGQ 04</b>	Improvement Management, Corrective and Preventive Actions
<b>PGQ 05</b>	Nonconforming Products Control
<b>PGQ 06</b>	Customer Service
<b>PGQ 07</b>	Quality Internal Audit
<b>PGQ 08</b>	Competence, Awareness and Training
<b>PGQ 09</b>	Measurement Equipment Control
<b>PGQ 10</b>	Commercial
<b>PGQ 11</b>	Purchase
<b>PGQ 12</b>	Receiving Inspection of Ladles
<b>PGQ 13</b>	Production
<b>PGQ 14</b>	Preservation, Handling and Storage
<b>PGQ 15</b>	Validation and Qualification of the Heat Treatment Process
<b>PGQ 16</b>	Human Resources
<b>PGQ 17</b>	Administrative / Financial
<b>PGQ 18</b>	Maintenance
<b>PGQ 19</b>	Suppliers Qualification
<b>PGQ 20</b>	Invoicing
<b>PGQ 21</b>	Records Control
<b>PGQ 22</b>	Heat Treatment

## 10 **ANNEXES**

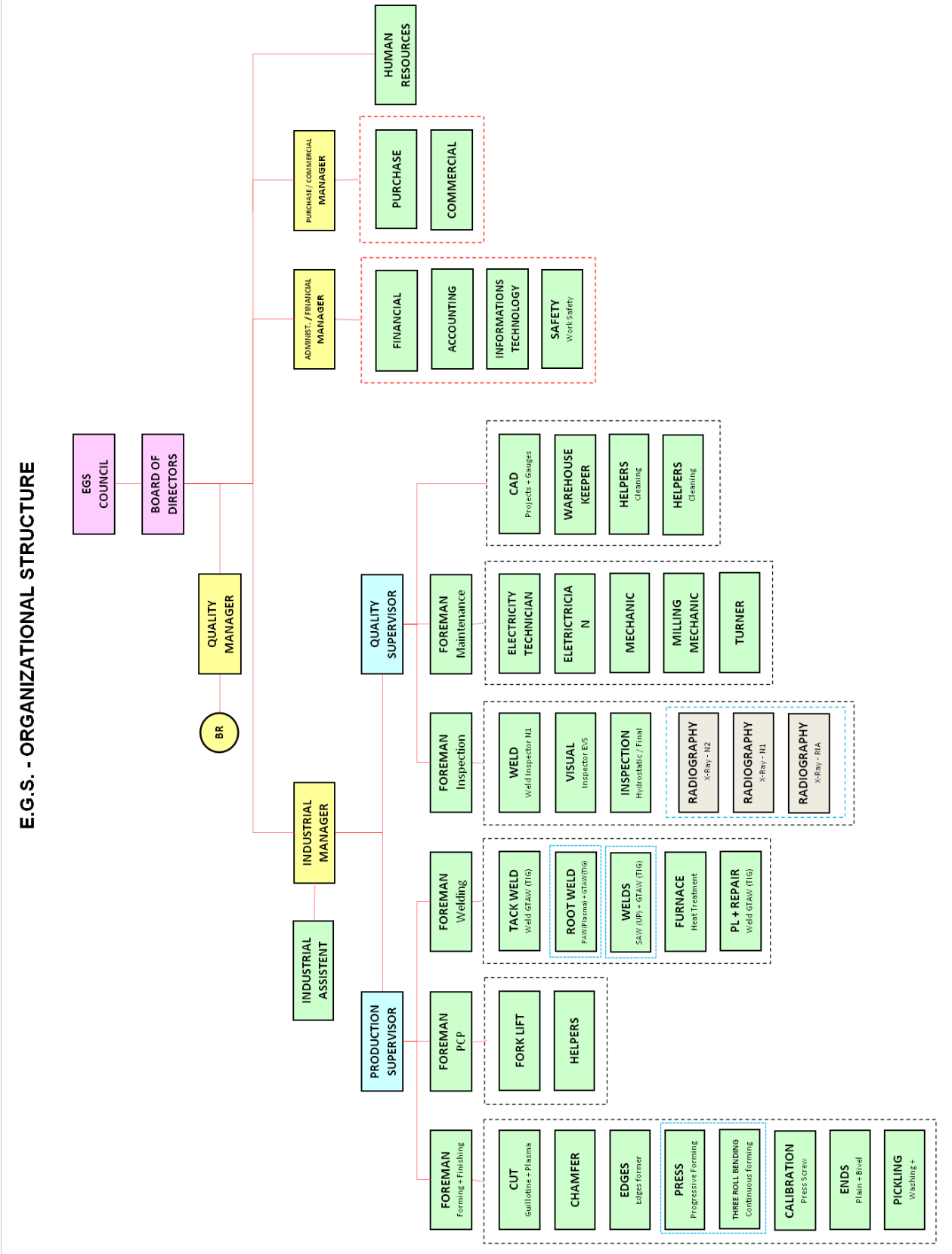
ANNEX 1 – Value Chain to the Client and Product Accomplishment Process Macro Flowchart (Page 12)

ANEXO 2 – E.G.S. – WELDED PIPES PLANT Organizational Structure (Page 13)



QUALITY MANAGEMENT MANUAL

E.G.S. - ORGANIZATIONAL STRUCTURE



TRADUÇÃO NÃO CONTROLADA

