Revision 1, June 2005 DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 1 of 24



**Frontier Charcoal** 



# Quality Management System



Packaging Service Company, Inc. Solvents and Chemicals, Inc. Frontier Charcoal Company



January 6, 2006

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**Frontier Charcoal** 



Approved By:

Effective Date: 1/6/2006 Page 2 of 24

# **TABLE OF CONTENTS**

<u>1.0</u>	SCOPE	. 4
2.0	THE BUSINESS DESCRIPTION	4
<u>3.0</u>	The Quality Policy	.7
<u>4.0</u>	QUALITY MANAGEMENT SYSTEM	. 8
4.1 4.2	GENERAL REQUIREMENTS DOCUMENTATION REQUIREMENTS	. 8 . 9
4.2 4.2	<ul> <li>2.1 General Requirements</li> <li>2.2 Quality Assurance Manual</li> <li>2.3 Control of Documents</li> <li>2.4 Control of Quality Records</li> </ul>	10 10
<u>5.0</u>	MANAGEMENT RESPONSIBILITY	10
5.1 5.2 5.3	MANAGEMENT COMMITMENT CUSTOMER FOCUS QUALITY POLICY	10
5.4 5.4	QUALITY MANAGEMENT SYSTEM PLANNING	11 <i>11</i>
5.4 5.5 5.3	<ul> <li>QMS Planning</li> <li>MANAGEMENT RESPONSIBILITY</li> <li>71 Responsibility and Authority</li> </ul>	11
5.6 5.6 5.0		13 13 13
5.0	6.2    Review Input      6.3    Review Output	14
<u>6.0</u>	RESOURCE MANAGEMENT	
-	PROVISION OF RESOURCES. HUMAN RESOURCES. 2.1 Assignment of Personnel 2.2 Competence, Awareness and Training INFRASTRUCTURE	14 14 14
6.4		-
<u>7.0</u>	PRODUCTION PROCESS	
7.2	PRODUCT REALIZATION CUSTOMER RELATED PROCESSES	16 16 16 17
7.3	PRODUCT DESIGN AND DEVELOPMENT	17

Revision 1, June 2005

DOC. ID.: QAM2005

Solvents Chemicals



**Frontier Charcoal** 



Approved By:

Effective Date: 1/6/2006 Page 3 of 24

7.4 PURCHASING	17
7.4.1 Purchasing Process	17
7.4.2 Purchasing Information	17
7.4.3 Verification of Purchased Product	
7.5 PRODUCTION AND SERVICE PROVISION	
7.5.1 Control of Production	
7.5.2 Validation of Processes	
7.5.3 Identification and Traceability	
7.5.4 Customer Property	
7.5.5 Preservation of Product	
7.6 CONTROL OF MEASURING AND MONITORING DEVICES	
8.0 MEASUREMENT, ANALYSIS AND IMPROVEMENT	20
<u>0.0</u> <u>MEASONEMENT, ANALTSIS AND IMI NOVEMENT</u>	
8.1 GENERAL REQUIREMENTS	
8.2 MONITORING AND MEASUREMENT	
8.2.1 Customer Satisfaction	
8.2.2 Internal Audit	
8.2.3 Monitoring and Measurement of Processes	
8.2.4 Monitoring and Measurement of Product	
8.3 CONTROL OF NONCONFORMITY	
8.4 ANALYSIS OF DATA FOR IMPROVEMENT	
8.5 IMPROVEMENT	
8.5.1 Continual Improvement	
8.5.2 Corrective Action	
8.5.3 Preventive Action	
REVISION HISTORY QUALITY ASSURANCE MANUAL	04
REVISION HISTORT QUALITT ASSURANCE MANUAL	







Approved By:

Effective Date: 1/6/2006 Page 4 of 24

# <u> 1.0 - Scope</u>

Packaging Service Co., Inc., Solvents and Chemicals, Inc., and Frontier Charcoal (hereto referred to as "the Company") has expressed a mission statement that embodies the Company's establishment goals.

# To exceed the service expectations of our Customers

# To achieve Company's profit goals

# To provide stability and growth for our Employees

# To always treat each other with concern and respect

To achieve the pertinent elements of this mission statement, a quality management system is developed to comply with the requirements of the International Standard for Quality, ISO 9001:2000.

The Company also maintains membership in the National Association of Chemical Distributors (NACD). Solvents & Chemicals, Inc. and each of its company members is committed to the NACD Responsible Distribution Process® and to ongoing improvements in chemical distribution safety.

This Manual describes the activities undertaken by the Company in satisfying the requirements of the International Standard for Quality.

# 2.0 – The Business Description

The main activities of the Company are production and marketing of solvents and chemicals, packaging services, the production of charcoal products and service in connection with specifications and applications of the products.

Packaging Service Co., Inc. (PSC) packages and markets various lines of products such as paint related solvents, paint removers, charcoal, charcoal lighter fluid and lamp oils. PSC produces its own brands as well as producing private label brands for customers. PSC's customers include wholesale distributors, supermarket chains, paint companies and mass merchandisers.

Solvents & Chemicals (S&C) distributes solvents and industrial chemicals to a variety of industries. S&C is an authorized distributor for Dow, Shell Chemical, and others. S&C has established branches in Dallas, East and South Texas. S&C may also perform contract (third party) packaging.

Frontier Charcoal (FTR) manufactures several kinds charcoal briquettes in a variety of packages for the marketing and distribution arm, PSC. Customers include wholesale distributors, supermarket chains and mass merchandisers.



Revision 1, June 2005 DOC. ID.: QAM2005







Approved By:

Effective Date: 1/6/2006 Page 6 of 24







Approved By:

Effective Date: 1/6/2006 Page 7 of 24

# 3.0 QUALITY POLICY

Revision 1, June 2005

DOC. ID.: QAM2005

The Company states as a Quality Policy:

# To achieve continuous, measurable improvement in the quality and consistency of our products and services for our customers.

The Company has chosen as a measure of quality management effectiveness a reduction in cost of quality metrics. The specific metrics chosen may vary from time to time.

Quality objectives are established annually in order to reduce complaints, rejected products and mis-shipments. These Quality objectives are monitored and addressed during Quarterly Management Reviews.

To implement the quality management system, the Company maintains this Quality Manual and Operating Procedures specific to each department within the Company. The organization of the Procedures will be described in section 4 of this manual.

Documented procedures are available and are updated as necessary to support the system and its continual improvement. Other Business Procedures and Processes are available on the company document control systems, both electronic and paper based.

Documented procedures in the form of flow diagrams are present in many of the locations where work is performed. This ensures employees have ready access to their procedures. Additionally the procedures are available in Spanish, the native tongue of many of our employees.



**Frontier Charcoal** 



Approved By:

Effective Date: 1/6/2006 Page 8 of 24

Revision 1, June 2005 DOC. ID.: QAM2005

# <u>3.1 - QUALITY ASSURANCE MANUAL – DEFINITIONS</u>

Solvents Chemicals

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Term	Definition				
Chempax	The Chempax system encompasses all data and records within our				
	business software.				
Contract	Used within the sales department as a customer sales order placed to purchase Company products				
EDI	Electronic Data Interchange. A technology utilized to transmit orders				
	from customers to Company and invoices back to the customers.				
Quotation	A request from a customer, or potential customer or warehouse for a				
	quotation or for the availability of the Company product. A quotation will include, but is not limited to, price and delivery for a specified product.				
Manufacturing	Term used to generate the planning, production, storage and supply of our product line.				
Supplier	An outside supplier to the Company that supplies parts or services. May				
	also be called a Vendor.				
Customer	An entity that purchases product or service from the company.				
	Customers include end users.				

# 4.0 QUALITY MANAGEMENT SYSTEM

# 4.1 GENERAL REQUIREMENTS

The Company has defined and manages processes necessary to ensure that products and processes conform to established requirements including the requirements of an ISO 9001:2000 compliant Quality Management System.

- Processes needed for the quality assurance management system are identified in this quality manual and in associated operating procedures and work instructions.
- The Quality system documentation defines criteria and methods needed to ensure that the operation and control of quality system processes are effective. This usually includes assignment of responsibilities and allocation of resources for the process, instructions on how to carry out (or operate) the process, and definition of methods for monitoring and/or measuring the effectiveness of the process.
- The Quality Assurance Manager is responsible for determining resource and information requirements necessary to support the operation and monitoring of quality system processes, and for communicating these requirements to the top management. The top executive management is responsible for ensuring the availability of necessary resources and information. Section 6.1 of this quality manual, provision of resources, explains in more detail how resource requirements are identified and satisfied.
- The performance of the quality system processes is systematically monitored and/or measured. This is to ensure their effectiveness and identify opportunities for

Revision 1, June 2005

DOC. ID.: QAM2005

4 Solvents Chemicals





Approved By:

Effective Date: 1/6/2006 Page 9 of 24

improvement. Monitoring and measuring activities are defined in Sections 8.1 and 8.2 of this quality manual, and in corresponding operational procedures.

Actions necessary to address actual or potential problems and to improve the quality system are implemented through corrective and preventive actions and management improvement projects. Sections 5.6 and 8.5 of this quality manual and corresponding operational procedures define how management reviews and corrective/preventive actions are used to ensure conformance and improvement.

When processes that affect product conformity are outsourced, special controls are implemented to ensure that these processes meet specified requirements. These process providers are selected and evaluated according to practices determined by the Purchasing Department and Quality Assurance (see 7.4 and 8.2.3).

# 4.2 DOCUMENTATION REQUIREMENTS

# 4.2.1 GENERAL REQUIREMENTS

The scope of the quality system documentation is defined. Establishment and revision of documents, and their distribution, are controlled. New documents and revisions are reviewed and approved prior to issue; and are identified with respect to their revision level. Appropriate documents are available at locations where they are used. Obsolete documents are removed from points of use. Documents of external origin are identified and their distribution is controlled.

Quality records are identified and indexed to facilitate their retrieval, and are stored in a suitable environment to minimize deterioration. Quality records are retained for a period of five years.

The Quality Assurance Manual defines the overall quality management system. The Management Team is responsible for preparation and maintenance of this document.

New documents and document changes may be initiated by anyone in the organization, but approval and issuance is controlled. Document changes are reviewed and authorized by the same department that issued the original document. Revised documents are distributed with changes to locations and personnel where they are used.

The Document Control Procedure and Record Control Procedure detail the process whereby documents are issued and records are controlled. Control is exerted electronically.

The Company quality system includes the following types of documents:

- Quality Assurance Manual (This Manual)
- Quality Operating Procedures
- Operational Procedures per department.

Quality records are established and maintained to provide evidence that:

DOC. ID.: QAM2005







Approved By:

Effective Date: 1/6/2006 Page 10 of 24

- Materials, components, and production process meet specified requirements
- Finished products conform to specifications
- The quality system is operated in accordance with documented procedures.

# 4.2.2 QUALITY ASSURANCE MANUAL

The quality manual includes the scope of the quality control system. Justification for excluding any part of ISO 9001:2000 compliance are detailed

# 4.2.3 CONTROL OF DOCUMENTS

The Company has documented a system level procedure for controlling new and revised documents required for the operation of the QAM system.

Documents are maintained under control electronically. Paper copies of controlled documents are generally not issued. Operating procedures may be issued as flow diagrams available at work stations. The flow diagrams are controlled.

# 4.2.4 CONTROL OF QUALITY RECORDS

Quality records are documents specifically defined by The Company. Quality records are maintained to demonstrate conformance to requirements and effective operation of the quality management system.

The Company has documented a system level procedure for record identification, collection, protection, indexing, accessing, filing, storage, retrieval, retention time and disposition.

# 5.0 MANAGEMENT RESPONSIBILITY

# 5.1 MANAGEMENT COMMITMENT

The executive management is ultimately responsible for establishing the quality system.

- The Company has appointed a Management Representative who is responsible for implementing this commitment.
- Top management defines the purpose and objectives of the quality policy. The quality policy is stated in section 3.0 of this manual.
- Top management selects appropriate quality measurement metrics.
- The Company management will conduct quarterly reviews of these metrics.
- Top management is committed to provide resources for implementing, establishing and improvement of the quality system in order to meet objectives.

# 5.2 CUSTOMER FOCUS

The Management Team identifies customer needs and requirements and converts them into the form of defined requirements with the goal of achieving customer confidence in the company's products.

DOC. ID.: QAM2005







Approved By:

Effective Date: 1/6/2006 Page 11 of 24

All processes and elements of the quality system are designed and implemented specifically to ensure that customer requirements are met. This starts with provision of required training, adequate infrastructure and suitable work environment.

# 5.4 QUALITY MANAGEMENT SYSTEM PLANNING

# 5.4.1 QUALITY OBJECTIVES

The Company has established corporate quality objectives, which have been deployed throughout the organization. The quality objectives are consistent with the quality policy and the commitment to continual improvement. Quality objectives include those needed to meet requirements of The Company's products and processes as well as customer requirements.

# 5.4.2 QMS PLANNING

The Company has identified and defined the activities and resources needed to achieve quality objectives and to meet customer requirements. Planning is consistent with other requirements of the QMS and the results are documented.

Planning covers the following issues:

- To achieve the quality policy;
- To ensure and demonstrate our ability to provide consistent product that meets customer and regulatory requirements; (SQC/SPC)
- To ensure high level of customer satisfaction; (customer survey)
- To facilitate continual improvement; (cost of quality) and
- To comply with requirements of ISO 9001:2000 standard.

The output of the quality system planning is documented in this quality manual, in associated operational procedures, and in other referenced documents.

Changes to the quality system are planned within the framework of management reviews. These changes may be in response to changing circumstances, such as product, process, capacity, or other operational or organizational change; or improve the effectiveness and efficiency of the quality system

# 5.5 MANAGEMENT RESPONSIBILITY

The Company's functions and their interrelation within the company are defined and communicated.

Management reviews the quality system as needed to verify its compliance with the ISO 2001 standard and The Company's Quality Policy.

DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 12 of 24

# 5.51 RESPONSIBILITY AND AUTHORITY

Departments, groups and functions within the company and their interrelationships, responsibilities and authorities are defined within an organizational chart. All job descriptions, documented procedures and processes to facilitate effective quality management are communicated to relevant levels of the organization.

Issues regarding the quality system are communicated internally though distribution of pertinent documents, meetings, training and awareness programs and management reviews.

# Management Team & Job Descriptions

- Operations Manager Responsible for the daily operations and strategic planning of the company. Reports to the Board of Directors and has final responsibility for the quality system of the company.
- Plant Managers Responsible for operations including Production, Quality Control, Logistics, and Safety and Health. Direct management responsibility for manufacturing functions.
- Comptroller Responsible to prepare and evaluate financial statements, taxes, budgets, and forecasts. Also evaluate accounting, cost systems, benefits and insurance programs.
- Sales Manager- Responsible for planning, coordinating and directing the activities of the sales, marketing, customer service, and technical service departments to ensure continual sales growth while maintaining company profit margin goals.
- Production Supervisors Responsible for processing customer requests for product and maintaining product quality. Hires production personnel, determines equipment, materials and supplies needed along with controls and processes.
- Quality Assurance Manager Responsible for implementing and maintaining the quality system and quality manual. Assumes the role of Quality Management Representative and Lead Quality System Internal Auditor. Also ensures that quality functions, referenced documents and procedures are implemented and maintained.
- Purchasing and Supply Chain Manager Responsible for the negotiation and coordination of all purchases of raw material and supplies. Also responsible for maintaining supplier relations to ensure quality of purchased materials.
- EHS / Technical Manager Responsible for regulatory and technical services with the Company.
- Maintenance and Engineering Manager Responsible for all new construction and engineering maintenance of the facility, including preventive maintenance.
- Human Resources Manager: Responsible for personnel administration and policies, staffing, training and personnel development.

All the Company's employees have the responsibility to ensure that our quality objectives are met. Their responsibility may include steps necessary to identify and record any quality problems, recommend solutions and verify implementation of solutions. Job Descriptions have been developed to describe skills and tasks for all positions affecting the quality of products.





Approved By:

Effective Date: 1/6/2006 Page 13 of 24

Revision 1, June 2005 DOC. ID.: QAM2005

> Specific Level II procedures and applicable work instructions also identify responsibility for quality activities.

**Frontier Charcoal** 

# 5.5.2 MANAGEMENT REPRESENTATIVE

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The Executive Vice President appoints a member of the management team as the Quality Management Representative. The Quality Management Representative, irrespective of other duties, has the authority and responsibility to insure the quality system conforms to the requirements of ISO 9001-2000 and that the quality system is established. The Quality Management Representative is responsible to provide an assessment to the management team on the performance of the quality system and ensures the promotion of awareness of customer requirements throughout the organization.

The Quality Assurance Manager is responsible to implement and maintain the quality system in accordance with the aforementioned standard.

# 5.5.3 INTERNAL COMMUNICATION

The Company has established and maintains a process for internal communication between various levels and functions regarding the QMS and its effectiveness. Internal communications involve email, voice messages, company's employee meetings, company bulletin board, and company newsletter.

# 5.6 MANAGEMENT REVIEW

# 5.6.1 GENERAL

The Company has established and maintains a process for Management Review. The Management Team, at specified intervals, reviews the QAM to ensure its continuing suitability, adequacy and effectiveness. The review includes evaluation of the need for changes to the QAM, including the quality policy and objectives.

# 5.6.2 REVIEW INPUT

The Company Management Reviews are conducted once per calendar quarter with the intent of determining current performance and improvement opportunities related to:

- Quality policy objectives
- Audit results (internal and external)
- Follow up and note on items from previous management review meeting
- Customer satisfaction, complaint and feedback
- Documented changes that affect the quality management system
- Process performance and product conformity
- Corrective and preventive actions

Revision 1, June 2005 DOC. ID.: QAM2005







Approved By:

Effective Date: 1/6/2006 Page 14 of 24

Frontier Charcoal

# 5.6.3 REVIEW OUTPUT

Management reviews are concluded with actions related to improvement of the quality management system, and improvement of the processes and products to better meet customer requirements.

The outputs from Management Reviews include actions and decisions related to:

- Improve on the management system and its process
- Improve in meeting customer requirements and expectations
- Fulfill customer satisfaction
- Changes in organization and resource requirements

Records of Management Reviews are maintained.

# 6.0 RESOURCE MANAGEMENT

## 6.1 PROVISION OF RESOURCES.

The Company determines and provides, in a timely manner, resources needed to establish, maintain and improve the effectiveness of the QAM.

The Quality Assurance Manager and other management personnel involved in the quality system are responsible for determining resource requirements for the implementation and improvement of the system.

The Sales Manager is responsible for determining that resources are applied to the organization, processes and projects to enhance customer satisfaction by meeting customer requirements.

# 6.2 HUMAN RESOURCES

## 6.2.1 ASSIGNMENT OF PERSONNEL

The Company identifies personnel training needs, provide required training, and evaluate the effectiveness of the training provided. Personnel assigned to perform specific tasks, operations, and processes are qualified on the basis of appropriate education, experience, or training.

## 6.2.2 COMPETENCE, AWARENESS AND TRAINING

The Company's identification of training needs and awareness programs:

- Departmental managers are responsible for identifying competency requirements and training needs in their departments, and for establishing departmental training programs.
- Human Resources department is responsible for identifying needs and awareness programs for company wide participation.

DOC. ID.: QAM2005





NACD Responsible Distribution Process Approved By:

Effective Date: 1/6/2006 Page 15 of 24

- Follow up performance evaluation of trained employees
- o Review of overall performance in areas relevant to particular training programs
- Consideration of competency and training when investigating causes of quality system failures and product or process nonconformities
- A review of all training and awareness programs, conducted within the framework of management reviews
- The Company provides or supports the following categories of company wide and departmental training and awareness programs:
  - General orientation and quality system awareness training
  - o Safety training
  - Use of company wide systems
  - External training
  - o Self study
  - Skill training in production and quality control

Training records are established for all types of training. Records are normally established and maintained by departmental managers.

# 6.3 INFRASTRUCTURE

The Company maintains suitable facilities, process equipment, support services and other infrastructure needed to ensure the conformity of product.

- Planning new construction or modification of existing facilities is usually conducted in conjunction with product or process change. Departmental managers are responsible for identifying the need and requirements in their departments.
- Key process equipment, machines, and software are regularly maintained in accordance with maintenance plans specified by equipment manufacturers or departmental managers responsible for equipment. – Preventive maintenance
- Supporting services including but not limited to transportation, communication and IT are provided by various Company departments.
- Supplier evaluation shall be in accordance with purchasing procedures. IT services shall evaluate both internal and external Company suppliers.

# 6.4 WORK ENVIRONMENT

The Company has defined and implemented those human and physical factors of the work environment needed to achieve conformity of product.

Factors identified include:

- Health and Safety Conditions
- Work Methods
- Work Ethics





Approved By:

Effective Date: 1/6/2006 Page 16 of 24

#### Revision 1, June 2005 DOC. ID.: QAM2005

# 7.0 PRODUCTION PROCESS

# 7.1 PRODUCT REALIZATION

The Company planning of product realization is consistent with other processes of the quality management system. In planning the processes for realization of product the Company has decided the following is appropriate:

- Quality objectives for product
- Product verification
- ✤ Acceptance criteria
- Records to provide evidence that the realization processes and resulting product conformity fulfill stated requirements

# 7.2 CUSTOMER RELATED PROCESSES

## 7.2.1 DETERMINATION OF REQUIREMENTS RELATED TO PRODUCT

The Company product requirements are determined to include customer requirements, legal, regulatory and other necessary requirements that may not be specified by customers.

- In determining and reviewing customer and product requirements, the Company distinguishes between orders for standard in stock retail products and custom products. Custom products are products manufactured or modified to unique customer requirements.
- Custom product requirements are reviewed with regard to application specified by the customer.
- Product obligations related to, including regulatory and legal requirements would be reviewed to meet application.
- Depending on the complexity of the order, various other departments may provide input.

# 7.2.2 REVIEW OF REQUIREMENTS RELATED TO THE PRODUCT

Customer requirements are reviewed if appropriate, before a commitment to supply a product is made to the customer (e.g. submission of a purchase order, acceptance of a contract or order).

- Identified customer requirements are clearly defined for production of product to meet all applicable requirements set by the customer.
- Any incomplete or conflicting requirements are resolved with customer before acceptance of the order.
- The Company has the ability to meet the customer requirements for the product.

The results of reviews and subsequent follow-up actions are recorded.

DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 17 of 24

Frontier Charcoal

# 7.2.3 CUSTOMER COMMUNICATION

The Company has implemented effective liaison with customers with the aim of meeting customer requirements. The Sales department oversees direct customer contact.

Communication requirements relate to:

- a. Product information;
- b. Inquiry and order handling, including amendments;
- c. Customer complaints and actions relating to nonconforming product;
- d. Customer responses relating to performance of product.

# 7.3 PRODUCT DESIGN AND DEVELOPMENT

Requirements of this element of the standard do not apply to the operation of The Company. The Company does not actively engage in basic product development.

The Company may however, introduce new products from time to time. The Company blends, packages, warehouses and ships formulations that may be given to The Company under contract blending and packaging agreements. New solvent packaging opportunities may be identified. These materials would be straight pass through packaging of existing market-place materials. Formulations may also be generated from salesmen's knowledge of competitor products using already proven formulations and information.

The Company has developed a "New Product Authorization Procedure" that assesses any new materials for plant capability, capacity, container compatibility and safety considerations.

# 7.4 PURCHASING

# 7.4.1 PURCHASING PROCESS

The Company selects suppliers and purchases only from those that can satisfy quality requirements. Quality performance of suppliers is monitored and evaluated. Purchasing documents clearly and completely describe ordered products, including quality requirements.

The Company purchasing manager selects from commercially available chemicals and components. Those companies that can meet our criteria of timely availability, cost effectiveness, and product compatibility are selected. When evaluating performance, consideration is given to those companies that most often meet the quality criteria established.

# 7.4.2 PURCHASING INFORMATION

Purchasing documentation contains information clearly describing the product and/or service(s) ordered, including, but not limited to:





**Frontier Charcoal** 



Approved By:

Effective Date: 1/6/2006 Page 18 of 24

Requirements for approval or qualification of product and/or service(s), procedures, processes, equipment and personnel
 Any management system requirements

c. Quality management system requirements

Purchase orders are to be reviewed and approved by purchasing personnel for adequacy of the specification of requirements prior to release.

## 7.4.3 VERIFICATION OF PURCHASED PRODUCT

The receiving department visually inspects the product for identity and quantity. A representative sample is selected for further inspection. Incoming Chemical sample retains are considered records and have a retention time. Incoming packaging materials are not retained except in order to show to a salesman subsequent to a complaint.

# 7.5 PRODUCTION AND SERVICE PROVISION

# 7.5.1 CONTROL OF PRODUCTION

Processes that affect product quality are controlled. The Company exerts control through the following mechanisms:

- 1. Procedures or work instructions and flow diagrams have been developed for most tasks performed.
- 2. Specifications for outputs have been determined and are available during testing.
- 3. Equipment used for production, packaging and testing is maintained.
- 4. Measurement points have been determined and measurement devices are available.
- 5. Procedures identify the measurements to be taken.
- 6. Measurements made are retained as quality records.

# 7.5.2 VALIDATION OF PROCESSES

The Company does not have processes for which the resulting output cannot be verified by monitoring and measuring. Should The Company elect to secure business to which this element of the Standard would apply, validation processes will be developed.

# 7.5.3 IDENTIFICATION AND TRACEABILITY

The Production Department has developed and maintains documented procedures to ensure the identification of each product through all stages of the processes. In general, product status is determined by location in the plant

Batch numbers are assigned to every product and are used to uniquely identify products through production to delivery of the final product.

Batch numbers per production are kept in the Chempax system.





**Frontier Charcoal** 



Approved By:

Effective Date: 1/6/2006 Page 19 of 24

Revision 1, June 2005 DOC. ID.: QAM2005

# 7.5.4 CUSTOMER PROPERTY

The Company does inventory or manage customer-supplied product (raw materials) for incorporation into a finished product. Such product is subject to documented process control procedures.

Some customers return finished product for "restocking". Such product is also subject to documented process control procedures.

Some customers return finished product for "warranty consideration". Such product is subject to documented process control procedures.

Any customer owned items that are lost, damaged or become unsuitable for use while in the possession of The Company are recorded and reported to the customer.

## 7.5.5 PRESERVATION OF PRODUCT

Product release does not proceed until all specified activities have been satisfactorily completed and the related documentation is available and authorized.

The Production Department has established and maintains documented procedures to ensure product is protected and handled correctly throughout all processes from receipt through manufacture to storage and shipment in order to prevent damage. All appropriate employees are trained in material handling methods and equipment use where required.

Materials and products are stored in designated areas and clearly identified. Receipts into and dispatch out of designated areas are tracked through Chempax system. Cycle counts and full physical inventories are used to ensure the right quantities exist and the condition of the product is good.

Packaging is designed by The Company to meet customer expectations and regulatory requirements. Temperature, humidity, and shelf life for materials are included in determining storage and handling methods.

Delivery and scheduled delivery shall meet the customer's expectations. Only carriers on our approved list in our system will be used.

## 7.6 CONTROL OF MEASURING AND MONITORING DEVICES

The Company controls, calibrates, maintains, handles and stores applicable measuring and monitoring devices used to demonstrate conformance of product to specified requirements.

The Company provides methods of handling, preservation and storage that protect measuring devices from damage or deterioration.

DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 20 of 24

Measuring, inspection and test equipment is used in a manner, which ensures that all measurements, including accuracy and precision, is known and is consistent with the required measurement capability.

The Company ensures steps are taken to:

- a. Calibrate and adjust measuring, inspection and test equipment at specified intervals or prior to use, against equipment traceable to international or national standards. Where no such standards exist, the basis used for calibration is recorded
- b. Adjust or recalibrate as necessary.
- c. Identified measuring, inspection and test equipment with a suitable indicator or approved identification record to show calibration status.
- d. Safeguard measuring, inspection and test equipment from adjustment, which would invalidate the calibration.
- e. Instruments will be protected from damage and deterioration during handling, maintenance and storage.

# 8.0 MEASUREMENT, ANALYSIS AND IMPROVEMENT

# 8.1 GENERAL REQUIREMENTS

The Company has defined, planned and implemented measurement, monitoring, analysis and improvement processes to ensure that the QMS, processes and products conform to requirements. The Company management will:

- Demonstrate conformity of the product
- Ensure conformity of the quality management system
- Continually improve the effectiveness of the quality management system

The effectiveness of measures implemented is periodically evaluated. The Company will identify and use appropriate statistical tools. The results of data analysis and improvement activities are inputs into the management review process.

# 8.2 MONITORING AND MEASUREMENT

# 8.2.1 CUSTOMER SATISFACTION

Customer information is collected, analyzed and evaluated for necessary changes, resolution, etc for customer satisfaction. Customer information is collected from any of the following, but not limited to:

- Customer surveys
- Customer Feedback, Verbally or through documentation
- Customer requirements, as defined in the contract
- Delivery schedules being met

DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 21 of 24

• Customer satisfaction, coming from information such as complaints, direct communication, writing or verbal, various types of reports submitted or generated (quality ratings, nonconforming)

The Company will continuously monitor information and data on customer satisfaction and review during monthly quality meetings and Quality and Operations joint meetings.

# 8.2.2 INTERNAL AUDIT

The Company has established a documented procedure for performing objective audits in order to determine if the QAM has been effectively implemented and maintained and conforms to requirements.

The Company audit process, including the schedule, is based on the status and importance of the activities, areas or items to be audited, and the results of previous audits.

The procedure for internal audit covers the audit scope, frequency, responsibilities, and requirements for conducting audits, recording and reporting results to management. Follow-up activities include verification of corrective actions taken and the reporting of verification results. The management responsible for the area being audited ensures that actions are taken without undue delay to eliminate detected nonconformities and their causes.

Personnel are not allowed to perform audits of their own work as this creates possibilities of conflict of interest.

# 8.2.3 MONITORING AND MEASUREMENT OF PROCESSES

The Company applies suitable methods for measurement and monitoring of processes necessary to meet customer requirements and to demonstrate the process's continuing ability to satisfy its intended purpose. Measurement results are used to maintain and improve those processes.

Examples of measurement may include any of the following, but not limited to:

- Capabilities,
- Dependability,
- Yield of production,
- Effectiveness and efficiency of personnel
- Technology, usage and knowledge,
- Conscious effort of waste and cost reduction,
- Conformity with defined standards, practices, etc.

Monitoring and measurement methods may be scheduled with records documented and monitored per paragraph 4.2.4, Control of records.

DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 22 of 24

When planned results are not achieved, corrective action is taken to ensure conformity of the product.

# 8.2.4 MONITORING AND MEASUREMENT OF PRODUCT

The Company applies suitable methods for measurement and monitoring of the characteristics of the product to verify that requirements for the product are met. Evidence of implementation of required measurement and monitoring and conformance with the acceptance criteria used is recorded. Records indicate the authority responsible for release of product.

Product does not proceed or is not released for shipment until all specified activities have been satisfactorily completed and the related documentation is available and authorized.

## 8.3 CONTROL OF NONCONFORMITY

The Company shall ensure that product that does not conform to requirements is identified and controlled to prevent unintended use or delivery.

Nonconforming product may be identified at any inspection stage of the process and when identified one of the following methods will be followed:

- Repair of the product to meet requirements
- Rework of the product into other conforming specifications
- Rejection of the material for disposal

Any reworked material is to be re-inspected and re-tested in accordance with the quality plan or documented procedures. Responsibility and authority for reviewing and resolving nonconformities are defined. The description of any rework, adjustment, accepted nonconformity; product repair or modification is recorded.

Where it is necessary to repair or rework product, verification requirements are determined and implemented.

When nonconforming product is detected after delivery or use is started, The Company will take action appropriate to the effects or potential effects of the nonconformity.

# 8.4 ANALYSIS OF DATA FOR IMPROVEMENT

The Company shall determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the quality management system can be made. The Company uses as a base line metric for gauging effectiveness certain Cost of Quality data.

The analysis of data shall provide information relating to:

- Customer satisfaction following paragraph 8.2.1, Customer Satisfaction.
- Conformance to product requirements following paragraph 7.2.1, Determination of Requirements Related to Product.

DOC. ID.: QAM2005





Approved By:

Effective Date: 1/6/2006 Page 23 of 24

- Characteristics and trends of processes and products including opportunities for preventive action.
- Suppliers.

#### 8.5 **I**MPROVEMENT

# 8.5.1 CONTINUAL IMPROVEMENT

The Company shall continually improve the QAM by evaluating the use of the quality policy, objectives, internal audit results, analysis of data, corrective and preventive action and management review. Every employee within the company is empowered and encouraged to submit suggestions or ideas and bring forth any other information that will help improve areas within the company.

# 8.5.2 CORRECTIVE ACTION

The Company has established a documented procedure for responding to customer complaints or internally identified opportunities for improvement (OFI).

The system level procedure for the corrective action process includes, but is not limited to:

- Identification of nonconformities (including customer complaints);
- Determination of causes of nonconformities with a complete investigation to provide root-cause where applicable
- Evaluation of the need for actions to ensure that nonconformities do not recur;
- Implementation of any actions determined necessary to ensure that nonconformities do not recur,
- Recording results of actions taken;
- Follow-up to ensure corrective action taken is effective and recorded.

# 8.5.3 PREVENTIVE ACTION

The Company has established a documented procedure for eliminating the causes of potential nonconformities to prevent occurrence. QAM records and results from the analysis of data are used as inputs for preventive action, as applicable.

The system level preventive action procedure addresses:

- a. Identification of potential nonconformities;
- b. Determination of the causes of identified potential nonconformities and recording the results.
- c. Determination of preventive action needed to eliminate causes of potential nonconformities.
- d. Implementation of preventive action;
- e. Review to ensure preventive action taken is effective and recorded.
- f. Review of all stock to identify potentially affected inventory.



**Frontier Charcoal** 

Approved By:

Effective Date: 1/6/2006 Page 24 of 24

Revision 1, June 2005 DOC. ID.: QAM2005



# REVISION HISTORY QUALITY ASSURANCE MANUAL

REV	DESCRIPTION OF CHANGE	Changes	Approval	Date
00		All Depts.	JPB	1/5/06
00	Issued Copy Revision to Revision page General Review and Update	All Depts.	51.5	1/5/00
00	General Review and Undate	All Depts.		
01				