Wastewater Handling Procedure

1.0 Purpose

The purpose of this procedure is to define responsibilities and different activities that are conducted by National Beverage Company which fall under the requirements of the Coca –Cola Company as stated in the KORE system. The purpose of this procedure is to be certain that wastewater is examined properly before being released into the environment. This will help in record building for establishing a wastewater plant.

2.0 Scope:

The scope of this procedure applies to all departments that use water and discharge the wastewater to drainage.

3.0 Responsibility:

3.1 Q.C.Supervisor:

Q.C.Supervisor is responsible of demonstrating his support and commitment to the development, implementation and continual improvement of the wastewater procedure. This support and commitment to the procedure is evidenced by communicating the eKO system and the ISO requirements.
He is responsible for conducting the normal activities in compliance with the restrictions of ISO 14001.

3.2 Environmental Coordinator:

Keep all records updated and maintain proper diagrams for the water pipe connections and the drainage system.

3.3 Quality Controller:

Quality Controller is responsible of collecting samples from main outlets at different intervals (once a week) and conducts a test of the wastewater.

3.4 *Employees:*

All of the wastewater from any water sources or processes is to be disposed of onto a building drain. This waste water *must not* be dumped out side of the building.

4.0 DEFINITION

4.1 *Drainage:*

The "Drain" is any wastewater channels inside of the building such as a floor drain, or any other drain connected to the sanitary sewer system "Outside of the building".

4.2 *Water Sources:*

The "Water Sources" are those activities, facilities or equipments that generate wastewater. Such sources in the plant are:

- Water Treatment.
- Washer.
- Syrup preparation
- CIP… Etc.

1.0 METHOD

5.1 *Wastewater:*

The available type of wastewater release is direct discharge of wastewater to local wastewater treatment plant. Which is consist of two types industrial & sanitary and they are separated from each other.

5.2 *Sample nalysis :*

All samples collected by the quality controller in a professional way that does not affect the results of the test. The collected samples are taken from the main effluent of wastewater treatment plant.
Test of the collected samples are sent to an external laboratory to carry out the listed tests within short time after the collection .

The external tests are carried out quarterly according to KORE requirement for secondary treatment within the first year of installation, if the results are complied with requirements then PH, BOD, COD, Nitrogen (N) , phosphorus(P), and the total suspended solids(TSS) to be tested quarterly.

5.3 *Wastewater standards:*

The wastewater standards as per the KORE Requirements and local regulation are shown below:

Contents	**TCCC**	**LOCAL**
Aluminum (mg/l)	<1.5	5
Ammonia – unionized (mg/l)	*<2*	
BOD_5 (mg/l)	<50	200
COD (mg/l)	<150	150
Chlorine – residual or free (µg/l)	*<0.1*	
Chromium (mg/l)	<0.1	0.1
Color (Pt/Co units)	<100	
Dissolved oxygen (mg/l at ambient T)	>4.0	>0.5
Cadimium (mg/l)	<0.02	0.01
Iron (mg/l)	*<0.1*	*5*
Lead (mg/l)	<0.1	1
Nitrogen, total	<5	50
Oil and grease (mg/l)	<10	5
pH	*6.5-8*	*6-9*
Phosphorus (mg/l)	<2	30
Solid, total dissolved mg/l)	*<2000*	*1500*
Solid, total suspended (mg/l)	<50	200
Sulphate (mg/l)	<250	500
Surfactants (mg/l)	<0.5	15
Fecal Coliform (MPN/100ml)	Absent	Absent

5.4 *Integrity drainage system*

From examining the site drainage map it was decided that the most practical way to test the pipe lines was to divide it up in to sections and then hydrostatically test each section.

The pipe lines were divided up into a number of sections from manhole to manhole . the inflow process was controlled by turning off certain processes during the test period.

The pipe section was blocked at the out flow manhole for the pipe section, the process water was then allowed to back up to the first manhole were the liquid level was monitored for a period of time, any drop in water level during this period would indicate a leak in the pipe line and result in a noncompliance with the company requirements, this monitoring period varied for some of the pipelines and depends on how long certain processes in the plant could be turned off for, when the processes had to resume normal operation the pipelines had to be unblocked to allow floe of effluent however although the time period may have varied, it was never less than two hours.
This is to be tested every 5 years.

6.0 CORRECTIVE ACTION

Any deviations to the procedure or practice need to be referred to the environmental coordinator and he initiates the corrective action. Following will be considered to take a corrective action:

- Identification, evaluation and investigation of non-conformance.
- Implementation of corrective and preventive action.

7.0 TRAINING

Task	Responsible person	Competency required
- Fully awareness in taking samples, when and from where. - Ability to do tests and data analysis. - Full knowledge in all specifications.	Quality controller (chemist)	Compete

8.0 Records :

Man hole and pipe line integrity test records

9.0 References:

Wastewater quality requirements ES-RQ-225
Local regulation for treated wastewater MF 742-2003