

INTERNSHIP REPORT
IN PT. COLA-COLA AMATIL INDONESIA (CCAI) UNIT
BALINUSA



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INTERNATIONAL INDUSTRIAL ENGINEERING PROGRAM
FACULTY OF INDUSTRIAL TECHNOLOGY
UNIVERSITY OF ATMA JAYA YOGYAKARTA
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APPROVAL SHEET

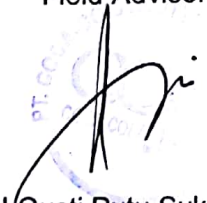
Industrial Practice Report that has been held at PT. Coca-Cola Amatil Indonesia
Balinusa Plant from July 3rd 2017 until August 5th 2017 written by:

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Yang bertanda-tangan dibawah ini, atas nama Management PT. Coca-Cola Amatil Indonesia Balinusa menerangkan bahwa :

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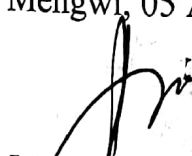
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Memang benar melakukan Praktek Kerja Lapangan (PKL) di PT. Coca-Cola Amatil Indonesia Balinusa, yang berlokasi di Jl. Raya Denpasar Bedugul Km 21 Mengwi Badung sejak tanggal 03 Juli 2017 sampai dengan 05 Agustus 2017 dengan materi Demand Operational Planning dan Supply Chain di PT. Coca Cola Amatil Indonesia Balinusa

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagai mana mestinya.

Mengwi, 05 Agustus 2017


I Gusti Putu Sukarya
SC.Trainer

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CHAPTER 1

INTRODUCTION

1.1. Background

The Study Program of Industrial Engineering, Faculty of Industrial Technology, University of Atma Jaya Yogyakarta (PSTI UAJY) requires all their student to do practical work corresponding to the curriculum in PSTI UAJY. PSTI UAJY sees practical work as a tool for the students to identify the atmosphere of the industry and to grow, improve, and develop a professional work ethics as a candidate of the bachelor of Industrial Engineering.

Practical work can be said as an event for the student to do simulation of the profession of Industrial Engineering. The paradigm that must be implanted is that during the practical work, the student should work in the company that they choose. The word working, in this context, is including the activity of planning, designing, improving, implementing and problem solving. Therefore, the activity that will be done by the students in the practical work are as follows:

- a. Recognizing the scope of the company
- b. Following the work process in the company continuously
- c. Doing the task given by the superior worker, supervisor, or the field advisor
- d. Observing the system behavior
- e. Writing the report in the form of written text.

1.2. Objectives

Things to be achieved through the implementation of this practical work are:

- a. Practicing self-discipline.
- b. Practicing the ability of interact with the subordinate worker, work partner, and the superior worker.
- c. Practicing the ability to adapt with work environment.
- d. Directly observing the activity of the company in production and running the business.
- e. Completing the theory acquired in lectures with existing practice in the company.
- f. Increasing insight about the production system and business system.

1.3. Place and Time of Practical Work

The practical work is held from July 3rd until August 5th 2017, taken place at PT. Coca-Cola Amatil Indonesia Balinusa Plant with the address on Jalan Raya Denpasar – Bedugul Km 21, Dusun Sayan Baleran, Desa Werdi Bhuwana, District of Mengwi, Regency of Badung, Bali. On this practical work, the students are placed according to the predefined schedule according to the existing departments which are department of water treatment, syrup making, waste water treatment, bottling process (washing, mixing, filling, inspection, packing), quality control, employment, Demand Operation Planning (DOP), also warehousing and product distribution.



CHAPTER 2 GENERAL REVIEW OF THE COMPANY

2.1. History of The Company

2.1.1. Company Location

The plant of PT. Coca-Cola Amatil Indonesia (CCAI) Balinusa Plant is located on Jalan Raya Denpasar – Bedugul Km 21, Dusun Sayan Baleran, Desa Werdi Bhuwana, District of Mengwi, Regency of Badung, Bali. The headquarter is located on Jalan Nangka No. 196, Denpasar.

The area of CCAI Balinusa Plant is 10.952 m² with the details listed as follows:

- a. *Main plant building: 2509 m²*
- b. *Plant covered warehouse: 2140 m²*
- c. *Plant office & social facilities: 566 m²*
- d. *Utility equipment building: 1353 m²*
- e. *Open empties yard: 4379 m²*

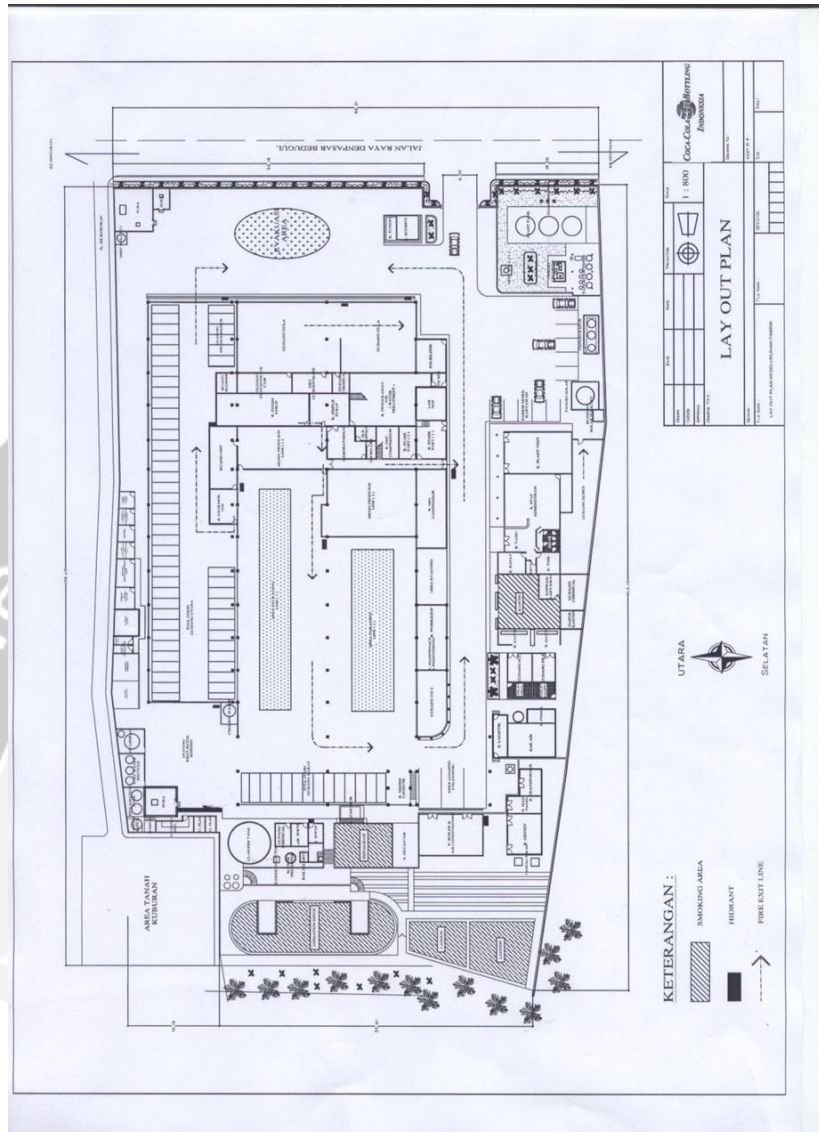


Figure 2.1. Layout of PT. Coca-Cola Amatil Indonesia unit Balinusa

2.1.2. Company History



Figure 2.2. Coca-Cola's Logo

PT. Coca-Cola is a company who produces a beverage with the type of drink that has been recognized as soft drink. The growth of Coca-Cola as soft drink has made it as the most famous soft drink in the world. The history of Coca-Cola is found by

a pharmacist from Atlanta, Georgia, United States of America named Dr. John Styth Pemberton on May 8th, 1886. He made a caramel syrup colored in a brass kettle at the backyard of his house. Dr. Pemberton's work partner and financial manager, Frank M. Robinson in 1887 suggested to use the Coca-Cola font with the flowing letters which now has become famous.

Before he died, Dr. J.S Pemberton in 1888, pass down his invention to Assa Candler an expert manager, who then in 1892, established a company named Coca-Cola Company in Atlanta, Georgia, United States of America which now has become the headquarter of Coca-Cola all over the world. Over the time, Coca-Cola become more developed and liked by the society. Upon that condition, came the idea from Joseph Beidenham to bottled the Coca-Cola.

Coca-Cola bottling plant is established in 1899, this company bought the basic ingredients which is concentrate of the Coca-Cola from The Coca-Cola Company, then process the ingredients with clean water, pure sugar, and CO₂ gas becoming the beverage of Coca-Cola which then packed in the form of bottle. Other than that, Root Glass Co. in Indiana create the typical Coca-Cola bottle which easy to recognize from the visual and touch. The nowadays bottles also follow the original shape although the shape of the bottle has changed over the time. Since 1900, the distribution of Coca-Cola convincingly extends to abroad. On 1907, the construction of Coca-Cola Bottling Plant abroad began to be activated. This construction was developed by using the Franchise System which is a cooperation system between two companies who are mutually beneficial to each other and between two separate companies who has their own asset and ownership also the management system.

On 1930, was established The Coca-Cola Export Corporation with the purpose of building the concentrates plant abroad and guide the Coca-Cola bottling plant (bottlers) around the world. All of the Coca-Cola bottling company (bottlers) around the world stand on its own whether it is The Coca-Cola Company or Coca-Cola Export Corporation, however, wherever it is, it will always have the same taste, quality because those plants have worked according to the terms, recipe, technique which has been specified by The Coca-Cola Company. Other than that, it is also closely monitored by the Coca-Cola Export Corporation.

Coca-Cola has began to be introduced in Indonesia on 1927. On 1932, Coca-Cola started it first trading in Indonesia by "De Nederlands Indische Minerals Water

Fabrick” in Jakarta under the management of Bernie Vonings from the Netherlands. After the proclamation of independence which was on 1953 this company change its name to become Indonesian Beverages Limited (IBL) managed by the Indonesians. In its operations, IBL experience a lot of difficulties on producing Coca-Cola, it is caused by:

- a. The import of the raw materials and supporting materials is restricted
- b. There was a confrontation with the outsider, so the connection to abroad was partly closed.
- c. Lack of sufficient capital to develop the plant
- d. Production capacity only 500 cases a day
- e. Frequent power outages, so the production is stopped.
- f. Hard to gain dividend because Coca-Cola is still considered as luxury goods.
- g. In Indonesia is hard to get raw materials and supporting materials in accordance with the standards defined by Coca-Cola Export Corporation.

To overcome those problems, on 1971 IBL established cooperation with three Japanese companies which are Mitsui Toatsu Chemical Inc, Mitsui & Co. Ltd, and Mikuni Coca-Cola Bottling Co. thus forming PT. Djaya Beverages Bottling Company (DBBC). Then, PT. DBBC succeed on increasing the production capacity followed by addition of products in various size of packaging. Other than producing Coca-Cola beverages, there was development on the other soft drink product which are sprite and fanta with various flavors.

Beside PT. DBBC, in some areas were established Coca-Cola Bottling Plant that in 1972 Coca-Cola Export Corporation established its representative in Indonesia named PT. Coca-Cola Indonesia (PT. CCI). PT. CCI has supplied concentrates to the bottling plant in Indonesia which are PT. Coca-Cola Tirtalina with the marketing area such as Bandung, Surabaya, Kalimantan, and Bali, PT. Coca-Cola Pan Java with the marketing area such as Semarang, Medan, Padang, Lampung, and Ujung Pandang also PT. DBBC with the marketing area in Jabotabek. With the brighter business development cause in 1987 the majority of the stock has already owned by Indonesians. On October 12th 1993, the Australian plant which is the world’s biggest company invested for the fabrication, distribution, and the product marketing. On 1993, those three bottling company entire shares has been taken over by Coca-Cola Amatil (CCA) Australia. The Coca-Cola Company taken over the ownership of DBBC and changed its name into Coca Cola Amatil Indonesia.



Figure 2.3. Logo of Coca-Cola Amatil

Until today there are 10 registered Coca-Cola plant which operated in many provinces in Indonesia, which are:

- a. Coca-Cola Amatil Indonesia, Jakarta
- b. Coca-Cola Amatil Indonesia, Jawa Barat
- c. Coca-Cola Amatil Indonesia, Jawa Tengah
- d. Coca-Cola Amatil Indonesia, Jawa Timur
- e. Coca-Cola Amatil Indonesia, Balinusa
- f. Coca-Cola Amatil Indonesia, Lampung
- g. Coca-Cola Amatil Indonesia, Padang
- h. Coca-Cola Amatil Indonesia, Medan
- i. Coca-Cola Amatil Indonesia, Banjarbaru
- j. Coca-Cola Amatil Indonesia, Ujung Pandang

On 1995, Coca-Cola Amatil owned by Australia were the biggest bottling company in the world for fabrication, distribution, and product marketing. The Coca-Cola Company taken over all of the Coca-Cola Bottling company in Indonesia except Manado. The development of this beverage company is very fast. And to improve their efficiency and competitiveness, on January 1st 2000, those ten company who are under the management of Coca-Cola Amatil Indonesia change its name to PT. Coca-Cola Bottling Indonesia for the bottling company and PT. Coca-Cola Disribution Indonesia for the distribution company.

Coca-Cola started to get in to Bali on 1975 through the Surabaya branch. On that time, there was only one Stock Point or marketing office and distribution. With the growing of Coca-Cola's market share especially in Bali then established the bottling plant in Banjar Sayan, Mengwi in 1983. Started the production in 1985 with the initial production capacity of 280 bpm (bottle per minute). Today's production capacity is 880 bpm which have various policies including quality policy, which are: always do the right thing, meeting the standard of food safety regulations, satisfying the customers, doing a continuous improvement to improve quality, environment

policy including meeting the standard regulation for environment, prevent and minimize environmental damages, doing a continuous improvement for the quality, occupation health and safety aspects including meeting the standard regulation for occupational health and safety, prevent accidents and the onset of illness during work, and doing a continuous improvement to improve the quality of Occupational Health and Safety.

Coca-Cola Amatil Indonesia Balinusa, as well as international leading company, determined to achieve and show good quality performance by controlling the impact from the activity of beverages making towards the quality. The quality standard which applied in almost every country where CCAI Balinusa operated is based on international standard ISO 9001 : 2008 therefore Coca-Cola Amatil Indonesia Balinusa has adopted ISO 9001 : 2008 as the basis for their quality management system, reflected from KORE where the content of KORE has met the terms of ISO 9001 : 2008 about the terms of quality management system by SGS-ICS (Societe Generale de Surveillance Internasional Certification Service) and LRQA (Lloyd's Register Quality Assurance).

2.2. Organization Structures

Organization structure is a figure about division of tasks and responsibility to individual as well as certain part of the organization. Organization structure has important role for the company to determine and accelerate the way of the company. The distribution of tasks, authority, and responsibility also the relationships with each other could be drawn in the company's organization structure. So that the employee would know clearly what is their tasks and where they get the order from and to who they suppose to be responsible for.

With the existence of organization structure and job description that has been set will create a good work environment because the order that is received by a subordinate from their superior will not overlap with the other order from another superior to that subordinate.

Organization structure used by PT. CCAI Balinusa is a functional line organization structure. The company's organization structure can be seen below.

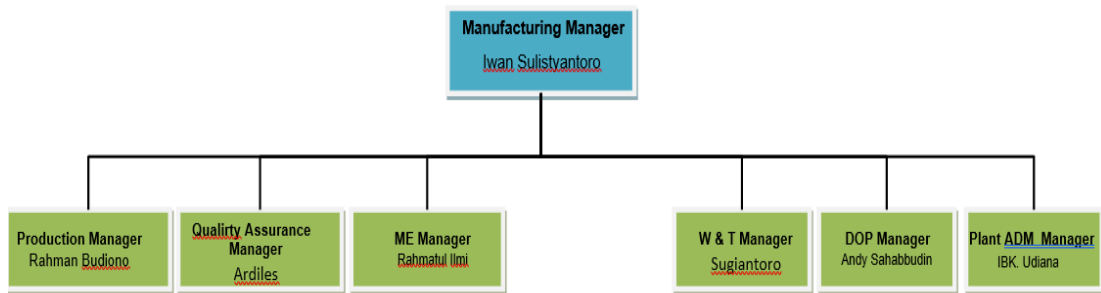


Figure 2.4. Organization Structure of PT. Coca-Cola Amatil Indonesia unit Balinusa

2.2.1. Job Description

a. Technical Operation Manager

Responsibility:

- Organize, coordinate and be responsible for all production activities from planning to the products produced in accordance with the specified rules and procedures.
- Controlling and directing budget usage in all production activities and in meeting cost and quality standards and procedures
- Directing and ensuring all materials, that company assets have been used and in good maintenance to support the implementation of the target and the use of raw water to the maximum
- Directing and ensure all raw water / material, finished good has been stored well and safe and distribution to all sales center.
- Directing and ensuring the production has met the quality standards that have been determined
- Direct and ensure that Quality Management Assurance, Environment Management System, and Occupational Health Safety are implemented in accordance with the requirements.

Authority:

- Controlling, organizing all activities in the Plant
- Controlling the annual budget of production activities
- Assess the work of subordinates
- Giving permission / leave for subordinates
- Provide verbal and written warnings

b. Quality Assurance Manager

Direct Position: *Technical Operation Manager*

Sub department : *Quality Assurance*

Main responsibility:

- Responsible for the quality of all raw materials and auxiliaries that enter into the plant meet the quality standards set by the company and Coca-cola Indonesia
- Responsible for product quality contained in warehouse SC (Sales center) and dister / outlet (market place)
- Responsible to assist and respond to complaint (consumer respond program) delivered by consumers and customers
- Responsible for control and monitoring activities during production processes and ready-to-sell products to meet the TCCQS standards The Coca-Cola Quality Management System, ISO 14001 and SMK3
- Responsible as a Quality Journey member in the framework of system implementation (TCCQS) The Coca-Cola Quality Management System, ISO 14001 and SMK3.

Authority:

- Organize work schedules for working groups
- Assess the work of subordinates
- Reprimand employees (All section) when viewing mismatch both material, process, behavior, products related to quality
- Stopping the production process in case of out of spec.

c. Supervisor

Direct position: QA manager

Subdepartment : Quality Assurance

Department : TOL

Responsibility:

- Incoming Test Activity

Prepare and supervise when inspecting the quality of all raw and auxiliary materials entering the plant and selecting and determining that all raw materials received can meet the standard of quality set by the company

- External Activity

Conducting survey and monitoring of product quality that has been distributed to SC / CP warehouse (Sales center) / (consumer response program) and dister /

outlet (market place), serving and responding to complaint (consumer response program) related to product quality delivered by consumers and customers

- Internal Activity

Carries out control and monitoring activities during production processes and ready-to-sell products and products to meet quality standards as per the requirements of The Coca-Cola Quality Management System (TCCQS), ISO 14001 and SMK3.

Authority:

- Organize work schedules for working groups
- Assess the work of subordinates
- Reprimand employees (All section) when viewing mismatch both material, process, behavior, products related to quality
- Stopping the production process in case of out of spec.

d. Operator

Responsibility:

- Checking the quality of raw materials and auxiliary materials upon arrival (incoming material)
- Checking the quality of all water, raw water, softwater and processed water before, during and after the bottling / production process takes place
- Checking the process of syrup pembuautan (check color, smell, taste, brix, authenticity of concentrate)
- Conducting quality checks on washing of bottles and yields before, during and after the bottling / production process takes place
- Checking the quality date coding (expired date) code on each product packaging during the production process takes place
- Conduct quality check of sanitary processes of all equipment related to the product
- Conducting quality checks of sanitation and hygiene practices in bottling and packaging rooms
- Checking the quality of finished product beverage on CO₂ content of gas volume, sugar (brix), odor, taste and color and addition during bottling process
- Conducting quality inspection of raw materials, gas, CO₂ → and monitoring of gas quality, CO₂ during production
- Conduct quality checks of crimping crown, filling height, and on product during bottling process

- Conduct microbiological checks according to microbiological monitoring program on Q-Bulletin 24 and Q-Bulletin 49
- Conducting inspection / quality survey of products that have been distributed to warehouse SC / CP and dister / outlet (market place)

Authority:

- Stopping the production process in case of out of spec on the material / process
- Reprimand employees (All section) when viewing mismatch both material, process, behavior related to quality

e. Implementers

Responsibility:

- Sorting bottles that are not standard on the pre-inspection post so it does not enter the washer machine
- Sorting bottles that are not standard on the empties inspection post so it does not go into the filler
- Incorporate uniform product bottle in full good inspection post so that nonstandard product does not pass to logistic plant
- Lifting empty bottle from pallet to empties conveyor
- Doing paletting of product result and paletting remaining empty bottle of production
- Maintain Good Manufacturing Practice Index at work as specified target
- Implement Quality Management System requirements, Assurance Quality Management, Environment Management System, and Occupational Health Safety.
- Implement enterprise regulations.

Authority:

Stopping the production process in case of out of spec on the product and the process of washing the empty bottle.

f. Manager of Warehouse and Transportation, DOP (Human Resource and Development).

Responsibility:

- Analyze the planning of delivery of products and factories to the sales center, stock, stock point and amc so that the product is available in the right amount in accordance with the requirements and requirements
- Analyzing production planning
- Perform bottle procurement planning

- Analyze the planning of OWP product requirements (CAN, PET, ades, frestea, TWA, Sunfill etc.) in particular products not manufactured by the manufacturer itself, to be available in appropriate quantities in accordance with the requirements and requirements
- Perform sourcing product planning analysis (product delivery to other operation) in accordance with the provisions and needs
- Analyzing production planning
- Conduct planning analysis of bottle procurement from sales, warehouse to supplier
- Evaluate the achievement of key performance DOP (Human Resource and Development).

Authority:

Deciding to change production plan to product delivery based on actual change of sales requirement.

g. Logistic Manager

Responsibility:

- Implement standard of policies, business strategy and transportation (including good warehouse practice)
- Implement warehousing and transportation business applications
- Provide regular monitoring of conformity results for WT National Office managers
- Developing various analyzes of warehousing and transportation formation and communicating and integrating feedback to related parties.
- Identify driving performance and opportunities for improvement
- Organizing and integrating all work-related functions as one team continuously improving performance warehousing and transportation along with their suitability level

Authority:

- Organize work schedules for working groups
- Assess the work of subordinates
- Give a reprimand to subordinates.

h. Logistics Supervisor

Responsibility:

- Ordering, receiving, storing and discharging raw materials, auxiliaries, chemical, and spare parts in accordance with applicable SOP

- Ensure the accuracy of the availability of raw materials, auxiliaries, chemical, and spare parts in accordance with the need to support the production process.
- Make periodic reports of materials and spare parts to direct supervisors
- Responsible for coaching and development of subordinates to improve the ability and potential work.

Authority:

- Organize work schedules for working groups
 - Assess the results of subordinates
 - Give a reprimand to subordinates
- i. RM (Raw Material) logistics managing & SP (spare part)

Responsibility:

- Responsible for the acceptance, storage and expenditure of materials and spare parts in accordance with applicable SOP.
- Registration of material data and spare part to direct superior.

Authority:

Refuse material and spare parts if not in accordance with SOP.

j. Executor of Material Logistics

Responsibility:

Produce stock administration reports in a complete, neat and guaranteed accuracy (conformity stock balance with physical evidence)

Authority:

Revise the report if it is incorrect

k. Executor of Bottle Logistics

Responsibility:

- Loading and unloading activities, transfer to a place to store and return the stock of content / empty, raw material and machine spare parts so that it is neat and quality can be maintained in accordance with the standards set by the company.
- Ensure smooth operation by paying attention to quality, layout and storage procedures as well as effective / efficient both from time and fuel use.

Authority:

Stopping the forklift operation if the condition of the forklift is less from the standard

l. Maintenance and Engineering Manager

Responsibility:

- Ensure that all production and supporting facilities are functioning properly

- Upkeep of building, room and factory environment in accordance with standard set in GMP (Good Manufacture Practice) Manual
- Coordinate orally and in writing with other parts of TOL in performing machine maintenance
- Ensures saving of the use of electrical energy through effective control over its usage
- Upon coaching and development of subordinates to improve the ability and potential work.

Authority:

- Organize work schedules for working groups
- Assess the work of his subordinates
- Give a reprimand to subordinates

m. Maintenance and Engineering Supervisor (ME)

Responsibility:

- Preparing RK maintenance in maintenance / maintenance of machinery in production line and utility in accordance with the standard MMS (schedule maintenance)
- Coordinate orally and in writing with other parts in the factory in the maintenance of the machine
- Upon coaching and development of subordinates to improve the ability and potential work
- Ordering spare parts & tools required
- Provide a report on the condition of the machines in production and utility
- Increase the performance of production line machine both mechanical and electrical with the cost as optimal as possible
- Performs calibration of all measuring instruments

Authority:

- Organize work schedules for working groups
- Assess the work of his subordinates
- Give a reprimand to subordinates

n. Executing Utility Supervisor

Responsibility:

- Performing and replacing lubrication on production line and utility machine using oil / grease in accordance with standard that has been set with the aim of smooth all mechanical part of machine

- Conducting oil and grease management in accordance with GMP (Good Manufacture Practice) and ISO 140001
- Conducting preventive maintenance according to schedule
- Maintain smooth conveyor lubrication nozzle in production line
- Repairing small factory / office buildings to improve the standard of Good Manufacture Practice (GMP).
- Improved water and sewage installation system in toilet, washtable, WT, syrup, manufacturing, WWTP, office, eastern warehouse, production line, Lab and washtafel

Authority:

Stopping the machine operation if the lubrication system is not suitable with the procedure

- o. Executing line maintenance supervisor

Responsibilities:

- Carrying out preventive maintenance electric issued by MMS to Ensure smooth production line, and utilities
- Carrying out repair /corrective maintenance of electric utilities and production line so it can be operated smoothly.
- carry out the work Electric in the project and the workshop when needed.

p. Implementing MMS Supervisor

Responsibilities:

- Carrying out the calibration in accordance with a predetermined standard TCCQS.
- Creating a calibration schedule and perform periodic
- Selecting measuring instrument of the which fits well with the needs of the production line and utility
- Caring tools used for calibration in accordance with TCCQS
- Keeping accuracy entire measuring instrument (Thermometer, pressure, gauge, flowmeter)
- monitor outcomes calibration and filing calibration report that a third party will do

Authorities:

- Specifies the calibration schedule
- Calibration rejecting transaction with external parties if not in accordance with the procedure.

q. Production Administration

Responsibilities:

- Recapitulating production reports daily, weekly, monthly correctly
- Helping to achieve the program

r. Filler operator

Responsibilities:

- To operate and supervise the machine *mix processing* unit and the filler in order to Achieve quality, *efficiency* and productivity of the targeted
- Controlling the condition of the engine of the disorder, with machines that cause *rejection* and Facilitate the machine operation
- Implement *Good Manufacture Practice* on machines operated
- Responsible for procedures of material requirements.

Authorities:

Stopping the production process when out of spec on the process and interference with the machine

s. Operator WWTP (Waste Water Treatment Process)

Responsibility:

- Doing the wastewater treatment process in order to meet the requirements of the quality standards set regulations
- Preparing materials/chemicals for the use of wastewater treatment processing
- Monitoring wastewater analysis during the process
- Implement GMP(Good Manufacture Practice) in the area of waste processing
- Recording and reporting of wastewater treatment process

Authority:

Stop the process when the process waste that deviate from the standard

t. WWTP Helper (Waste Water Treatment Process)

Responsibilities:

- Preparing Chemical for WWTP (Waste Water Treatment Process) with moving the sludge processing results from decanter to the catchment area of solid waste of the plant
- Cleaning the area of the WWTP (Waste Water Treatment Process) by maintaining the quality of waste water according to the standards.

Authority:

Stopping the WWTP (Waste Water Treatment Process) when process deviate from the standard

u. Administration and Security

Responsibilities:

- Updating the validity period of the company's permits
- Ensuring the cleanliness of the area of administration (Good Manufacture Practice (GMP) admin area)
- Optimize function means of the employees (canteen, changeroom, and plan tvisit)
- Setup file / document plant Mengwi
- Removing drikage for employees
- Coordinating the implementation of housekeeping

v. Implementing section of Human Resource Department

Responsibilities:

- Ensuring the employment situation and the office Environment is safe and smooth
- Conduct inspection against employees / guests coming in and out of the factory to ensure the security and asset of the plant
- Explaining the regulations of the company to the incoming guests
- Doing control of all areas in the factory to ensure a safe condition

Authority:

Reprimand guest employees in case of violation of procedures established by the company

w. Implementers

Responsibilities:

- Receiving the documents for transactions in and out of the goods and distribute to the relevant sections
- Doing the employees' payroll and overtime and control of absenteeism
- Receiving telephone / fax from the outside and connect telephone / fax out to the employees in order of full importance

Authorities:

- input data for overtime when it is legitimate
- Keeping corporate codes and communicate with the internal / external party.

x. Manager OHS

Responsibilities:

- Ensure the requirements SMK3 has been applied and maintained its continuity
- Ensuring customer expectations and compliance with laws and regulations K3
- Viewing adherence to K3 TOL through the audit
- Participate in defining aspects of the K3 in TOL on business planning
- Ensuring the implementation of continuous improvement of the management system of K3 in TOL
- Help in prevention and repair mismatches and facilitate the business activities

Authority:

Directly implement SMK3 requirements and company policies through the audit, the review, consultation and training.

2.3. Management of the Company

In this section contains vision and mission of the company, the value of the company, employment, marketing, as well as facilities in PT. Coca-Cola Amatil Indonesia Balinusa Plant.

2.3.1. Vision and Mission of the Company

Below is the vision and mission of Coca-Cola Amatil Indonesia:

a. Vision

Being the best beverage company in Southeast Asia

b. Mission

Serving, giving freshness and energy to our customers and consumers vigorously every moment, everyday.

2.3.2. Values of the Company

Below are the values upheld by PT. Coca-Cola Amatil Indonesia, which are:

a. Human Resources

Develop human resources, appreciate achievements, and enjoy what we do.

b. Customers

Win for customers and for ourselves.

c. Passion

Passion to act, responsible and success.

d. Innovation

Always looking for better ways.

e. Excellence

Always doing a good job.

f. Good citizenship

Doing the right thing from the company, the community, and to others

2.3.3. Employment

2.3.3.1. Employment and Total Number of Labors

Labor in PT. Coca-Cola Amatil Indonesia Balinusa plant is recruited from the Indonesian people themselves, most of the production and marketing labor is recruited from the population around the plant.

The total number of labors in PT. Coca-Cola Amatil Indonesia Balinusa Plant can be seen in Table 2.1.

Table 2.1 Employment and Total Number of Labors

Position	Total
Plant Operation Manager	1
General Affair Manager	1
Administrator	1
Distribution Planner	1
EMS Officer	1
Forklift Operator	5
Inventory Administrator	6
Inventory Supervisor	1
Learning Officer	1
Line Crew	23
Maintenance & Engineering Supervisor	2
Maintenance & Engineering Technician	10
Maintenance Management System Planner	1
Operation Supply Planning Manager	1
Demand Operation Planning	1
Operator	17
Production Manager	1
Production Supervisor	1

Production Team Leader	1
Quality Assurance Manager	1
Quality Assurance Analyst	7
Quality Assurance Supervisor	1
Productivity and Improvement (OE)	1
Syrup & Water Treatment Supervisor	2
Syrup Processing Operator	8
Utilities Operator	3
Warehouse Supervisor	4
Warehouse Operator	11
Waste Water Treatment Operator	3
Water Treatment Operator	3
Total	120

Source: PT. Coca-Cola Amatil Indonesia unit Balinusa

2.3.3.2. Working Hours

To make the company can work well on doing its jobs as well as achieving its goal needed a good time management. Corresponding to the rules from DEPNAKER is that the working hours of an employee is 40 hours/week. The rest is considered as overtime. The time management in PT. Coca-Cola Amatil Indonesia Balinusa Plant is listed as bellows:

- a. For the all employees except department of marketing, Human Resource and Development which is security and production department. Workdays are from Monday to Friday with working hours such as:
 - 08.00-12.00 WITA : working time
 - 12.00-13.00 WITA : break time
 - 13.00-17.00 WITA : working time
- b. For employees of marketing, the working hours from Monday to Friday are:
 - 08.00-12.00 WITA : working time
 - 12.00-13.00 WITA : break time
 - 13.00-17.00 WITA : working time
 while on Saturday the working hours is from 08.00-13.00 WITA.

c. For Human Resource and Development Department which are security and production department, the working hours is divided into 3 shifts which are:

shift I : 08.00-16.00 WITA

shift II : 16.00-24.00 WITA

shift III : 24.00-08.00 WITA

For security consists of 4 people with the change of shift is once in every 2 days, while for the machine room the change of shift is once in every 5 days with 1 employee for 1 shift.

2.3.4. Marketing

Besides acting as the producer and distributor, this company is also marketing and selling the products of Coca-Cola through more than 120 selling centers spread around Indonesia, ensuring that their products is always available wherever and whenever. Those products are transported using big size trucks, and then distributed to the retailers with smaller vehicles. Estimated more than 80% of the company's products is sold through the retailers and wholesalers where 90% of it is coming from the category of small businesses. Adapted with the development and market demands until this year PT. CCAI Balinusa have marketing offices including:

- a. Bali: Kuta, Denpasar, Singaraja, Klungkung, Negara, dan Tabanan.
- b. NTB: Mataram, Sumbawa, dan Bima.

PT. Coca-Cola Amatil Indonesia already have more than 18000 retailer of Coca-Cola's products. This makes the products of Coca-Cola easier to get wherever with affordable price by every layer of society. From area of marketing which become the product distribution target, Bali is a fairly strategic area and potential because of the high demand of products reckoning Bali is also an area of tourism.

2.3.5. Wage System and Other Facilities

Salary / wage is an acceptance in return of the company to the workers for the work already done assessed in the form of treaties and laws. Many method / system of remuneration / salary that is used by the company. Every company has a way of remuneration different. On the basis of such a system would bring good luck to the company without harming workers or employees

Wage system in PT. Coca-Cola Amatil Indonesia Balinusa units distinguished by:

- a. For monthly labor or honorarium received a monthly salary every 25th day of the month which is to General Manager Office. Department of Accounting and Human Resource
- b. For daily labor received the salary every 2 weeks for a salesman namely Marketing and production managed by cooperatives. For every worker that are outside the normal hours will be rewarded with the following conditions:
 - i. wages are fixed
 - ii. overtime = basic salary / 173 x number of hours of overtime
 - iii. wages of casual workers and salaries
 - iv. overtime 2/30 x amount of overtime work

Overtime hourly wage determination is as follows:

- a. for a normal day

first of overtime	hours:1.5 x wages / hours
hours	rest:2 x wage / hour
- b. for a Saturday / holiday

first 7 hour	:2 x wage / hour
8 th hours	:3x wage / hour
9 th hours onwards	:4 x wage / hour
- c. Aside from getting overtime pay, labor earn money for foods and *extra fooding* including instant noodles and eggs.

Especially for *marketing* employees and staff when working outside working hours that have been determined not counted as overtime but given incentives.

The company also provides allowance to employees in the form of:

- a. Lunch is provided
- b. Daily transport Money
- c. Substitution treatment costs are regulated by Decree, including the cost of care, maternity, glasses and others.
- d. Housing (for the post of section chief and above)
- e. Allowance (THR)
- f. Clothing and equipment offices
- g. Labor Social Security (Jamsostek)
- h. Funeral money or funeral
- i. Funds for leave and leave one month for pilgrimage
- j. Bonus / *profit sharing* amount depends on company profits annually
- k. Pension fund

- l. Sports e.g. *Aerobics* or hire a tennis court
- m. Pension fund
- n. Annual Recreation
- o. Polyclinic
- p. Cooperative



CHAPTER 3 COMPANY SYSTEM OVERVIEW

3.1. Business Process of the Company

Business process at PT. Coca-Cola Amatil Indonesia unit Balinusa generally consist of five phases which are planning, production, quality control, storage of finished goods, and distribution. The flow of business process of PT. Coca-Cola Amatil Indonesia unit Balinusa are listed as below:

- a. National Demand and Operational Planning (Jakarta) make the production planning for one week (weekly MPS).
- b. Local Departemen Demand and Operational Planning (Balinusa) accepts weekly MPS from the national DOP which next is processed to become daily production planning.
- c. Production department will produce the goods based on the daily plan MPS, on every phase of the production there is also quality control activities by Department of Quality Assurance.
- d. The finished goods transferred to the Warehouse Department to be stored and sent according to the demand from the distribution center.
- e. Distribution center will send the product to the stores according to the order made by Sales Department.

3.2. Products Produced by the Company

In this section will be explained on a list of products and product specifications produced by the company.

3.2.1. Product List



Figure 3.1. Beverage Owned by PT. Coca-Cola Amatil Indonesia

PT. Coca-Cola Amatil Indonesia is a manufacturing company engaged in the manufacture of beverages in containers. The following are trademarks and beverage categories owned by PT Coca-Cola Amatil Indonesia:

Table 3.1. Trademarks of PT. Coca-Cola Amatil Indonesia

No.	Trademarks	Category
1.	Coca-Cola	Sparkling Beverage
2.	Coca-Cola Zero	
3.	Diet Coke	
4.	Sprite	
5.	Fanta	
6.	A&W	
7.	Schweppes	
8.	Minute Maid Pulpy	Still Beverage (Tea, Juice, dan Isotonic)
9.	Minute Maid Nutriboost	
10.	Frestea	
11.	Aquarius	
12.	Ades	Water

Source: PT. Coca-Cola Amatil Indonesia

3.2.2. Product Specification

Plant of PT. Coca-Cola Amatil Indonesia unit Balinusa is a plant that produces CCA products in the form of RGB (Returnable Glass Bottle) and PET (Polyethylene Terephthalate). Below is listed the product of CCA Produced by PT. Coca-Cola Amatil Indonesia unit Balinusa:

- a. Coca-Cola (PET 200 ml, 1 liter, 1.5 liter; RGB 295 ml)
- b. Sprite (PET 200 ml; RGB 295 ml)
- c. Fanta Soda Water (RGB 295 ml)
- d. Fanta Strawberry (PET 200 ml, 1 liter, 1.5 liter; RGB 295 ml)
- e. Frestea Jasmine (RGB 220 ml)

3.3. Production Process

3.3.1. Operation Process of Treated Water

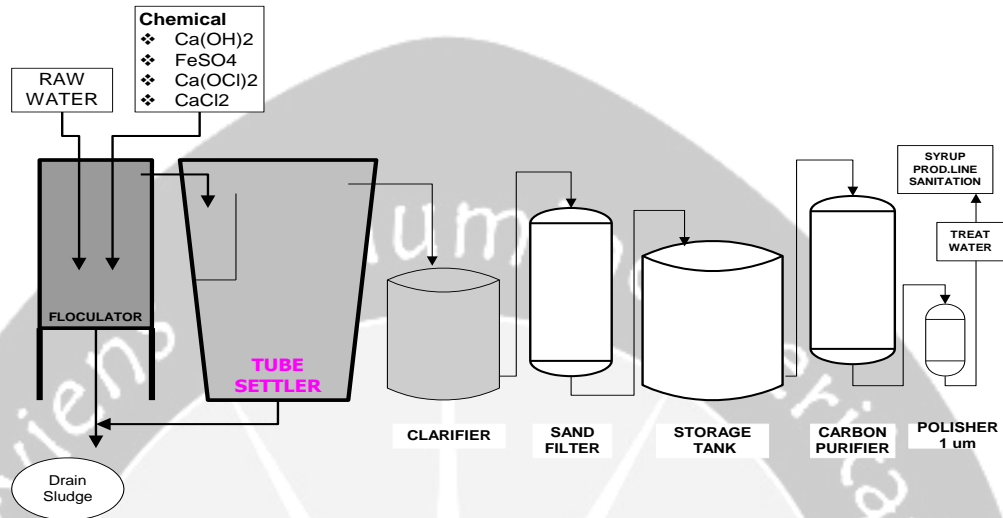


Figure 3.2. Treated Water Treatment Process

stage process: water from *deep well* 1 immediately accommodated in a tub reservoir or Raw Water tub with a goal when the water contains particles or sand that settles in the injection (Ca(OCl)_2) with a concentration of 1-3 ppm to kill bacteria. Detailed analysis deep well water carried out by external lab performed a minimum of once a year, and to check the M-alkalinity, *odor* and *appearance* every day and also did the depletion of the reservoir basin once every 6 months after that the water from the reservoir basin in pump it into the tank *Flocculator*, *tank Flocculator* a tank with a capacity of 4m^3 where there is a process of adding flocculants as the beginning of the process. The tank is also equipped with a stirrer agitator therein. The injection of the chemicals next to the *tank tube Settler*, *tank tube settler* is where the process of mixing the particles slowly into flocks in order to get clean water mains pipe equipped with *Nozzle* hole to get a more perfect binding and at the top there is fiber glass honeycomb-shaped function when there are no lumps *flock*, in order to solve blob floating flock and also checking samples of PMA, Cl 2, and the minimum Fe checking first time. also checking the percentage of *flock* at *start* operation is performed every day, draining is done every 6 months. From the *tank tube settlers* do *Blow Down* when the percentage of *flock* reaches 35% by using a measuring cup how to take samples in the *tank*

tube settlers poured into a measuring cup wait 5 minutes then will precipitate and can be read, then this water will be stored in the *tanks clear well 1* goal for the storage and deposition of water, here the water will run into the deposition when the particle *flock*, then is filtered using a *sand filter* using silica sand which serves to filter out particles that escaped from the *clear well 1* samples were tested at the *Tank sand filter*, then the water will be channeled to *well clear 2*, then the water will pass through filtration *carbon tank (carbon filter)* filtering function is to bind to the taste, color and smell. Continued filtering using a *filter cartridge* that serves to filter out particles that escaped from the *carbon filter*.

3.3.2. Operation Process of Soft Treated Water

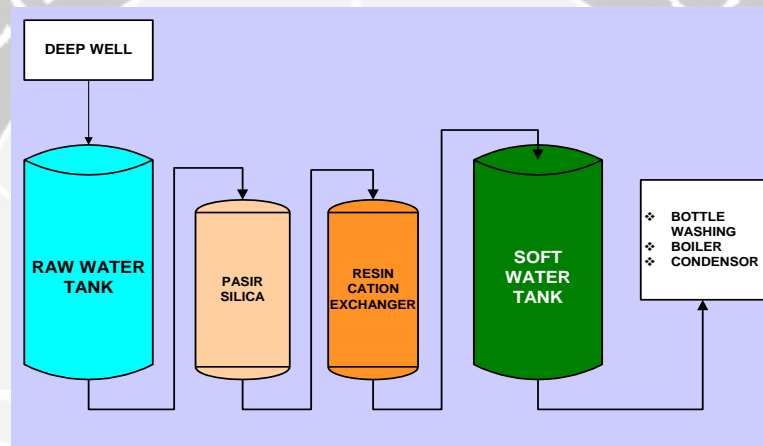


Figure 3.3. Soft Treated Water Processing

Soft Treated Water treatment process is the process of water treatment done on the source of Deep Well 1 using resin to lower the TH (TH should be <1.5 ppm) to produce products such Frestea and Green Tea. The process is the same as Treated Water only in the start phase of the Carbon Filter Tank. Water from the tank carbon tank supplied to the resin after the resin tank filled, drain until it reaches TH <1.5 ppm. Water subsequently transferred to the cartridge filter housing, in the drain until free of taste, odor, appearance. Then the water is ready for producing Frestea, Further examination of taste, odor, appearance and Frestea is every 4 hours. TH soft is being checked at least every 1 hour and stop water usage after TH reached 1.5 ppm and do regenerate, Backwash and drain when it is saturated or TH maximum of 1.5 ppm. Complete water analysis carried out by external lab performed once every year and the inspections of resin is every 6 months and the addition of resin when the resin volume <60%.

3.3.3. Softener Water Processing

Water softener processing is a process of water treatment done for washing bottles (Washer), for boilers (steam) and Evacon. Water from Deepwell II or PDAM accommodated in the raw water tank with the aim of precipitating particles or sand. TH, odor, appearance test is done every day and draining the reservoir tank once every 6 months. The water from the raw water tank (coke tank) is pumped through the filter sand. Backwash of the sand tank is done when it has filtrate 300-400 m³. Furthermore, the water of Sand Filter is pumped through resin tank that aims to reduce water TH (standard <100 ppm) but the Coca-Cola Balinusa wear TH <20 ppm, TH checking minimum of 1 hour. Test taste, odor and appearance done once a day. Then the resin inspections are conducted every 6 months and will be add more if <60%. Most of the water softener is stored on a storage tank soft water I and II which will be used for washing bottles in washer machines which are injected with a solution of chlorine 1-3 ppm with the frequency of inspection (free chlorine) every 1 hour and partly is stored at storage water (Softener III) for the purposes of the water boiler, NH₃ and evacond for the purposes of NH₃ and evacond boiler water. Boiler function as a water heater (Steam) before going into production, Evacond whose function is to cool the glycol, and the function of glycol is to cool the CSD (carbonation soft drink) product. The chlorine and TH-out reservoir (tank fanta and sprite) checking is performed every 4 hours, draining the softener tank 1 is done once every one year, softener I and II performed every 4 hours. Continue further if you want to regenerate by using 380 liter salt (NaCl), the purpose is to clean up the residual sludge flock inherent in the resin so that it could escape from the resin so that the TH is lower, while Evacond and boiler used a water softener without the use of chlorine. The other part is stored in water boiler storage (reservoir tank), Inspection of chlorine and TH of out reservoir (Fanta and Sprite tank) is performed every 4 hours, did the depletion of the reservoir tank once a year. For water leading to Evacond and Boiler without containing chlorine while water softener coming into the washer (line 1 and line 2) containing chlorine whose function is to kill microorganisms or bacteria in the water.

3.3.4. Alkalinity dan Total Alkalinity Inspection and Checking

The purpose is to test and determine the levels of alkalinity and total alkalinity
Preparation: prepare a solution of H₂SO₄ 0.002N, beakers 50 ml, 250ml Erlenmeyer, P indicator, Mr indicator, T solution, the funnel and filter paper.

Steps:

- a. prepare a solution of H_2SO_4 in the burette, enter the sample 50ml into the flask for samples that are still murky filtered with filter paper
- b. Add T solution 3 drops (for samples containing chlorine)
- c. Add 3 drops of P indicator was titrated with H_2SO_4 0, 02N drops by drop while shaken up in blue to red, then log ml H_2SO_4 0.02 N as total alkalinity in mg / L / M alkalinity.
- d. A alkalinity = 2p - M alkalinity
- e. Completed analysis make sure all equipment is clean and used water analysis and the rinse water to the WWTP (Waste Water Treatment Process)

3.3.5. Free dan Total Chlorine Inspection and Checking

Tools to prepare:

- a. Prepare a test tube in a clean state, a measuring cup 50ml, 250ml erlenmeyer, reagent Cl_2 , tissue and scissors.
- b. Take a sample of 25 ml with a measuring cup 50ml (when the sample turbid filtered with filter paper) enter into erlen meyer and enter reagent Cl_2 , then shaken until dissolved, insert a sample of 5ml of the test tube to the comparator base between tubes containing aquadest put color slides on the base comparator stancar while reading a tool to get to the light. After that make sure all clean packaging reagent Cl_2 at leisure in a special place, the water to the WWTP.

3.3.6. Hardness Inspection and Checking

Tools used: EDTA solution 0.02 N. measuring cup 50 ml, 250 ml Erlenmeyer buffer hardness, hardness indicator, T Solution, the funnel and filter paper.

- a. Softener Water: do once every hour (operation) with TH max 20 ppm when more do regeneration
- b. Soft treated Water: once every hour (operation) with TH max 1.5 ppm, if TH 1.5 ppm do regeneration.

Step-by-Step:

Add 5 ml of HCl 6 N, heat until boiling and let cool, add 0.2 N $KMnO_4$ solution drops by drop while shaken while permanent color last for 5 minutes, add 5 ml of

potassium thiocyanat (KCNS) 2% shake until homogeneous if there is no color content of FC = 0 ppm, if there is a fill color test test tube taylor water analyzer with the sample solution to the mark and another 2 tubes filled with distilled water (aquadest), place the slide comparator standard Fe at the base of the comparator while reading tool on the light source, observed a mirror at the bottom of the test tube.

3.3.7. Syrup Making Process

In the making of syrup there are two stages of process which are, simple syrup and finish syrup. Simple syrup is the result of condensation of refined sugar in the treated water by using agitator at a temperature of 45-50°C. while finish syrup is a mix between simple syrup with the composition of the product to be manufactured.

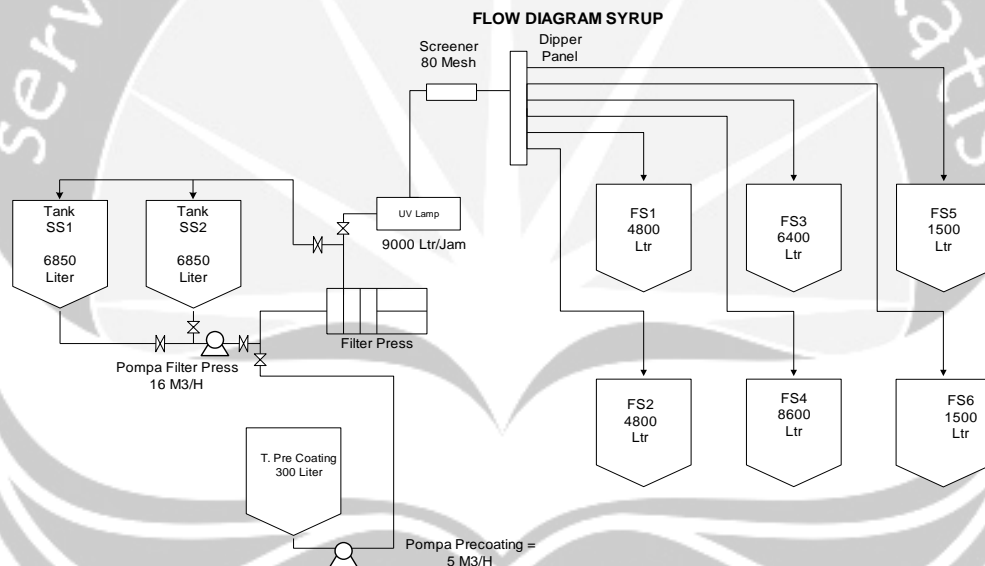


Figure 3.4. Syrup Making Process

Dumping Sugar is a process of pouring sugar into the *simple syrup* tank, using refined sugar from PT. Jawamanis Rafinasi. Refined sugar that is added to *simple syrup tank* containing syrup. The water used to dissolve the sugar is *soft treated water*. Soft treated water is used to make syrup for production line 1 (*Frestea*) and treated water used to make syrup for production line 2 (*Carbonated Soft Drink*). Sugar dumping process is done by the operator in the syrup making department in the sugar dumping room located above simple syrup room. The sugar is put into the tank through the upper tank hole using strainer. The function of the strainer is

to prevent the entry of plastic into the simple syrup tank. Here are the calculation used to determine the total need of volume of water.

$$\text{Total Volume Air} = \frac{\text{jumlah gula (sak)} \times \text{berat bersih gula per sak}}{\text{standar brix syrup}} - \text{jumlah gula (kg)} \quad (3.1)$$

Calculation of sugar needed, namely:

$$C = A \times B \quad (3.2)$$

Note:

A = Number of units to be produced

B = The amount of sugar needed per unit

C = The amount of sugar needed

3.3.8. Production Process

Quality control on the production process begins with the process of bottling, bottle washing, inspection, filling, and packaging of products. Each of these processes have guidelines and standards of each aiming to maintain the quality of products as well as product quality assurance efforts towards consumers. The flow of the production process can be found in appendix 2.

a. Bottling process

The process starts from the entry of an empty bottle to bottle out. The production process at PT.CCBI Balinusa begins with the transport of empty bottles. Where the transport of the bottles complete with plastic crates is done by forklift to the production room. At the time of production, crates containing the bottles are manually placed on the conveyor that moves toward a centrifuge bottles from the crates (Uncaser). This process called manual depalletizing.

Machine (uncaser) serves to separate the bottles from plastic crates automatically. This machine operates by clamping mouths of bottles which are still in plastic crates. Then the bottles move upwards while plastic crates conveyor continues to run following the crates. Tweezers used can be adapted to the bottle to be separated from the crates. Uncaser machine has a capacity of 72 bottles brace on the first line and 96 on the second line. The maximum operating capacity of the uncaser machine is on the first line for RGB 260 bpm and 180 bpm for PET bottles at the line II whereas the maximum capacity of 600 bpm.

Crate machine (casewasher) is used to wash the plastic crates out of the machine uncaser. The working mechanism of this machine is the plastic crates of uncaser

entered on line washer case next sprayed with residual water from the washer then crates get to the packing machine (casewasher). While the empty bottles that have been separated are placed on a conveyor table for inspection of its original bottle pre-inspection.

b. Bottle washing process on washer machine

In the bottle washing process is done automatically with Bottle Washing Machine (Bottle Washer). This machine is used to wash the bottles before the bottles go into the filler (filler). All packaging used for production must be clean and sanitary. Especially for recycled packaging (bottles) and crates obtained from the consumer need to be cleaned first. Leaching conditions (caustic concentration, temperature and contact time) must kill yeast, mold, and bacteria pathogens such that subsequently rinsed clean of bottle from residual caustic.

Empty bottles from *the conveyor table* after pre-inspection enter to each *pocket* in the *washer machine*. *Carrier* is a collection of *pocket* arranged in one row. The number of *the pocket* in the first carrier are 17 *pocket* on the first line and 23 *pockets* on the second line. In the washer machine I there are 317 *carrier* with a *carrier* that can be used 247 while in the *washer machine II* there are 412 *carrier* capable of carrying as many as 312 bottle carrier. *Carrier* is spinning from washing machines to bottle up and down as she sprayed by water vapor.

In the washer machine there are 5 stages of the washing process, namely:

- *Pre spraying*

The process of giving water softener by spraying with a temperature of 30°C. With the aim to soften the dirt and provide a thermal shock on the bottle so that it doesn't streaked with the high temperature of the next process.

- Washing with caustic (NaOH)

On this washer machine, it has two compartments where each compartment bottle washer is coated with a solution of soda caustic (NaOH) at different temperatures. Temperature checking of NaOH in each compartment is done in every start-up and every hour while for the concentration of NaOH is done every start-up, every four hours and each additional caustic. If the NaOH concentration is too low, there are possibility of less clean bottle washing whereas if the level of NaOH is high there are possibility of the leftovers of NaOH on the bottle besides it is also a waste and the temperature of each compartment should be checked routinely. If the

temperature is too low then sterilizing bottles cannot be guaranteed but if it is too high then the resulting experience crack even broken bottles. Therefore the need for inspection and testing of the temperature and the concentration of NaOH conducted by the Quality Assurance so that bottle washing process goes well and effective. The standard temperature, NaOH concentration and the contact time is the temperature at compartment 1 and 2 of 70-80°C, 2.5-3% concentration and contact time of 6.5 minutes. Other than that examination carbonate of total Caustic and addictive concentration is done.

- Warm spray

Warm spray is one of the initial rinsing process after the caustic bottle washing with hot water at the temperature of 50°C aim to eliminate / sweep debris / former NaOH remaining in the bottle.

- Cold water

Cold water is used in addition to flushing also balance the temperature of the bottle after washing in the previous process. In this process the water flushing is done with softwater who had normal temperature (10°C).

- Final rinser

Final rinser is water rinsing process using softwater that have been injected with a solution of chlorine which has a concentration of 1-5 ppm. This process is an effort to unblock / remove residual caustic that may still remain on the bottle. To keep the chlorine remained at concentrations of 1-5 ppm, the QA testing and inspection of the content of chlorine in the final rinse every 4 hours.

c. Bottle Inspection Process

Inspection conducted in order to provide quality assurance and product packaging to customers in accordance with the requirements of TCCC, which the inspection is done visually. The process of inspections carried out consists of three kinds, namely pre inspection, inspection empties, full good inspection.

- Pre Inspection

Pre inspection commonly called sort bottling usually applied to the RGB products, which inspectors need to select the empty bottles from the market based on the condition of the bottle. Pre-inspection must be conducted on all bottles passing for activation laundering washer. In this section of empty bottles that have been separated from plastic crates inspectors investigated by officers.

- *Empties Inspection*

In this part of inspection process consists of two stages of the examination, the examination conducted by the first user (manpower) and the so-called empty bottle inspection process (*empties inspection*). The second inspection using an electronic device called *Optiscan*. This tool uses a prism and infrared light to detect foreign objects left on the bottle.

The way of this object works is that it illuminates the bottle from the under part of it and then the upper part will be captured by the prism. The rays that is caught should be in the form of full circle. When there are objects blocking the light path prism beam will be forwarded to the diode that will turn the switch on a Reject coil. The switch on the reject coil activates vacuum pump to suck the dirty bottles separately from bottles clean. Dirty bottles are automatically entered into the shelter dirty bottles (reject table). This system has disadvantage namely the use of pump a vacuum as a bottle separator, pump vacuum will suck the bottle when it is actually attached to the bottle, so there is no room for air. While the condition of the bottles are squiggly which makes it sometimes less stick, so often dirty bottles are not sorted by this system. Therefore, the inspector should manually do it before passing the tool is to be done properly. For clean bottles continue to walk through the conveyor to the filling machine to be filled with the beverages.

- *Full Good Inspection*

Full Good Inspection performed after coming out of the filler and date coding. The purpose of the Full Good Inspection is to separate defective products, high content of non-standard, without the lid / cover damaged (scratch), wrong/missing date coding, broken bottles, empty bottles and the availability of foreign objects and debris that cause contamination mismatch brix and CO₂ (in CSD). If it has met all the standards then full good go on to the case packer. It is the responsibility of Quality Assurance in explaining the duties and responsibilities of inspectors in inspections in this process.

In an effort to guarantee the quality of bottles which have been inspected, then QA inspectors need to know the effectiveness of performance in inspecting the bottle by doing dummy test bottle. Dummy test bottle is an inspector accuracy test in inspecting bottles to provide minimum 2 bottles that do not meet the specifications of the inspection path deliberately without the knowledge of the inspector. Dummy test bottle conducted at least once a month and done by the chairman squad

inspector. At the end of the post, supervisor and chairman of the QA team should evaluate the percentage of them are sorted bottle test dummy and not sorted, and finding the cause is not sorted test dummy bottle based on the result of observations during the dummy bottle (either from the post condition, the condition inspector etc.).

The maximum speed of the bottle can be inspected by the inspector is 200 bpm (bottles per minute) for a bottle of 500 ml whereas the maximum size to a size above 500ml with the maximum speed of 150 bpm. If inspection of the bottle also uses EBI (Electronic Bottle Inspection) then the speed of the bottle maximum per inspector is 250bpm (max. 500 ml) and 200 bpm for sizes over 500ml. In the implementation of the inspection are inspectors rotation with a ratio of 1: 1, that the inspection time max. 15 minutes and rest periods. However, at the turn / rotation, the inspections should have no substitute in other words there must be inpektor bottle. To maintain eye health inspectors every eye health examination once a year and do training and refreshing training.

If it happens / find any complaints from consumers about the discrepancy of products it is necessary to search each inspector who is tasked with communicating by superiors through briefings/written depending on the problem in accordance with CAP (Corrective Action Program) were made. If an increase in the number of bottles rejected that go on daily reports Pre Inspection must be submitted to part Warehousing & Transportation and Sales Center through QA External and acted upon by the sales. However, if the increase in the number of bottles rejected on the Inspection empties immediately communicated the report to the operator washer in accordance with procedures washing and rinsing packaging program. Whereas if the daily reports section Full Good Inspection there is an increasing number of bottles reject passing it must be communicated to the relevant sections (filler/washer). If from each part of the problem recurring then given CAP, where the results of the implementation of the CAP has always controlled and monitored by a supervisor QA to see the effectiveness of the corrective action.

At the turn of the cycle of the production process is made position of crew in accordance with the predetermined time. It is intended as an effort to improve the effectiveness of labor, which in line 1 the turnover of line crew by 4 positions. Each

position describes the shape of the work, and the movement of the crew on line 1 is conducted each generate three pallets.

Position 1 AB (Area Cleaning) moved to CD (Empty Inspection)

Position 2 CD replaces EF (Pre-Inspection)

Position 3 EF replace GH (Full Good Inspection)

Position 4 GH back to the position of AB (Area Cleaning)

On line 2 movement of the crew performed each produce 5 pallet.

Position A 1,2,3,4 (Area Cleaning) moved to 4,5,6,7 (Empty Inspection)

Position B 4,5,6,7 replace 8,9,10,11 (Pre-Inspection)

Position C 8,9,10,11 replace 12,13,14,15 (Full Good Inspection)

position D 12,13,14,15 back to position 1,2,3,4 (Area Cleaning)

d. Beverage Mixing Process

Process paramix is the process of mixing water, syrup and CO₂ in order to obtain a soft drink (beverage) that are ready to be filled package. Treated water and finish syrup at the same into the mixing machine. Air earlier in daerasi in dearator. Dearasi an expenditure process air from the water used to make beverages so as to facilitate the carbonation process and help expedite the filling. So daerasi aims to separate the oxygen gas in the water so that the CO₂ dissolved therein young. Water entered into dearator where pressure dearator is 0.8 bar and then the CO₂ would be pumped into the water.

Finish syrup is directly inserted into a glass of syrup. With a certain ratio, water and syrup finish. The mixture of finish syrup will be measured the degree of sweetness (brix). This measurement is done by using a density meter (DMA). When the degree of sweetness complies with the standards, then the mixture is poured into the cooling carbonator (carbocooler). Results mixing more or less cooled so that the temperature of the cooling medium approximately 0-1°C with glycol and the plates are carbonator cooling (cooling plate) which contains ammonia as a refrigerant gas. This is done because the lower the temperature the higher the mixture absorbs CO₂. The mixture is then put into carbonator in the form of water droplets (spray) so that the surface area is larger. The greater the surface area the faster the process of cooling drinks and CO₂ it dissolves faster into the drink. The solubility of CO₂ in the beverage depends on the temperature and pressure in carbonator. Carbonation is the process of dissolution of CO₂ in a liquid. CO₂

Purified put into carbonator where its pressure is controlled by means of Taylor equipment. It measures the temperature of the liquid mixture and converted into CO₂ necessary pressure so that the water can absorb CO₂ to a certain content. Carbonator products that come out of a finished beverage for CSD products are then freely distributable to the filler machine. Team Quality Assurance (QA) should examine the levels of CO₂ in the beverage so that the finished product has met the standard levels of CO₂ that have been determined. This examination using methods automatic shaker and sampling carried out after the filler. The frequency of this inspection performed every start-up and every 15 minutes. Before using the equipment need to be considered regarding the temperature, the value of measurement has been calibrated and hygiene tools. Levels of CO₂ in the beverage must comply with the standard levels of CO₂ each (table 4.4). Sample to be examined is placed on the tool Zahm carbonation tester on automatic shaker. Sample should be closed tight / tightly, frequency inverter automatic shaker 32 Hz. After 60 seconds the shaker will stop automatically, and can be seen the results of temperature and pressure.

For the line I, when the process is finished Beverage completed and adjustment has been made then finished beverage is transferred to the balancing tank. In balancing tank beverage finish checking the brix 8,25-8,40°brix the temperature of finish Beverage 40°C. When QA stated that finish Beverage has met the standard brix and temperature then finish Beverage distributed to the filler. The temperature at the time was on the filler $\pm 93^{\circ}\text{C}$, if the temperature has not reached the standard is then automatically flow from the finish Beverage heading to the filler will be halted until well into the standard temperature.

Checks carried out again to check the brix size *brix* drinks on the bottle this as a finished product quality assurance. temperature *Beverage finish* at the time of the bottle should be at 91°C with UHT method. UHT is a method of making a drink / *beverage* with pasteurization processes which are then packaged in hot conditions and the closing process is then performed before the cooling process. RGB bottle when it will be done filling the flow through the sterilization process, and the temperature of the bottle at a temperature of 85-90°C so that the bottle does not experience *thermal shock* which will result in broken bottles. QA is responsible for inspection of temperature and pH of the product. Standard Frestea product pH is 6.7 ± 0.5 . In the event of *trouble* against the beverage Frestea and Frestea jasmine in an effort to avoid products charred and muddy then steps should be taken to

close the flow of beverage from UHT to filler with a way to off right AV5, filling beverage to the bottle to beverage in the bowl out, and the transfer of beverage to balance tank if there are leftover beverage in the bowl. If repairs > 9 minutes then must close and circulation of steam towards UHT *UHT-Balance Tank* \pm 5 minutes. If the repair time > 1 hour then do sanitation with hot water circulation with 93-99°C temperature for 15 minutes. If the *trouble* have been settled then *start* back UHT.

e. Beverage Filler Machine (Filler) and Bottle Cover (Crown/Capper)

The empty bottles carried by conveyors and automatically filled with beverages in the filler. Filling is a process of filling the beverages into sterile bottles using filler machine. These beverages in the filler is streamed from carbon cooler in a cold state. The cleanliness of the area of Frestea's filling room and filling equipment is always kept and monitored by using cleaning format checklist. The implementation of area cleaning and equipment is done daily on the start up, stop, or change batch. Streaming the beverage into the bottles using gas pressure. The filling is done by the filling valve. The empty bottles before the filling process is being pushed with water cylinder then the tube vent go inside the bottles. This process is done with the absence of air with pressure of 40 psi. Because of the different pressure in the inside and outside of the bottle filling valve to be open so that the beverages flowed through the side of the vent tube into the bottles. When the pressure becomes the same, the filling valve become closed and the vent tube is released from the bottles. The flow of the beverage into the bottle is in the shape of letter U (union) so there will not be any foam forming which will result in differences in the height of beverage filling.

The oxygen content in the products is highly undesirable and the required content is as low as possible in the headspace, because oxygen content could result in changes of taste and accelerate the changes of the beverage caused by lights, heat and microbes, enzymes and other chemical content in the beverage.

f. *Crowning*

The bottle closing using crown is used on RGB products to maintain the beverage integrity. The density of the crown crimp is controlled by doing checking during operation and density of crowns from seal. Checking is done on every head crowner at least once every shift. While on the PET products, the process of closing the products with closure according to the standard torque. The bottles that has

been filled will be closed directly with the crowner. Crowner consists of 20 headcrowners which work automatically to close the bottles immediately. While capper only have 10 head capper and after the capper closed the bottles, the bottle should have went through threads machine to tighten the bottle cap.

On the crowner machine, there is UV lamp used for removing the microbes contained in the crown. So that the crowns are free from microbial contamination and finally the product quality assurance can be achieved. After the product being given the cap (closure or crown) then the finished products will go through date coding and through the full good inspection and sprayed with hot water with the intention of removing remaining beverage attached at the outside of the bottles.

g. *Date Coding*

Date coding is an attempt to ease problem tracking, distribution, storage also to enforce FEFO (First Expired First Out) system. Other than that, to prevent forgery, reduce losses, minimize the number of expired beverages and ease the collection of the product if there is any problem both from the customers or internally. Production coding system used by CCAI Balinusa plant is following the rules from CCI (Coca-Cola Indonesia) where CSD (Carbonated Soft Drink) products in RGB, can, PET, and Frestea package.

Example:

02 Jan 02

DPR2A 10:05

Description:

02 Jan 02 is the best before date, which means that the product should be used before 02 January 2002 and it also shows the production date 02 January 2001 (period of best before of Carbonated Soft Drink for 1 year). Period of best before can be seen as below:

Table 3.2. Period of Product Best Before

Type of Product / Packaging	Period of best before	Production Code Position
CSD/RGB	1 year	Bottle neck
CSD/Kaleng	1 year	Base of the can
CSD/PET 1-1,5 L	6 months	Bottle neck
Frestea/RGB	6 months	Bottle neck

Fretea/TWA	1 year	Top right section
PET, can, and TWA carton packaging	In accordance with the type of packaging	On one of the sides of carton written in one row

Source: PT. Coca-Cola Amatil Indonesia Balinusa plant

DPR is the code for the plant/bottler who produces the product

BKS : Jakarta

MDN : Medan

SB : Surabaya

SM : Semarang

BD : Bandung

PD : Padang

DPR : BaliNusa

BDL :Tanjung Karang

2 is the number of line of producer

A is the team of producer

10:05 is the time of production time

Coding should always be done and it is the most important thing, this is according to the CCBI Balinusa plant policy which “No Code No Production” (No production code, means that no production is running so that no product sold without code). If there is failure in printing date code on the products found both in the plant and outside then redate code will be done to the product according to the date and production time as long as the date code from the production can still be identified. The addition of the letter “R” after the production time according to CCBI procedure about implementation of corrective and preventive action. Moreover, to prevent an error on setting date code, then the QA team ensures the code of production on that day on the production start up as a confirmation for the suitability of date code during the production. QA also done checking and inspection towards the condition and the correctness of the production code from the printed letter, placement of code, and availability of the code on product (CSD and Fretea), this inspection is done every 30 minutes with 5 samples.

After the coding process is completed in the product line I still do advanced process that is cooling on a machine called a cooling tunnel. Water spray process in cooling tunnel is using a water softener which aims to lower the product temperature of

90°C to 40°C. Then do the Blower process, Sleeve label and label adhesion process at a high temperature in the Shrink Tunnel. The label heating process with the temperature of 95-100°C by using hot steam. This process aims to attach the label on the bottle with the help of the temperature of the hot steam.

RGB product packaging for the product is done automatically into crates(case). At this machine there is the slide plate which keeps the bottles when the bottle was being lifted so when the bottle being lowered to the case the motion become gentle and soft. This can reduce the damage caused by broken bottles. Machine case packer has a maximum operating capacity of 20 crates per minute. While PET product packing is done manually by human power which inserting PET product after labeling process to the cartons ready for use. In one carton there are 30 products PET. Furthermore, the process of closing or sealing cardboard on top and bottom of the box that had contained the product using the plastic type. After packing the product was carried out on each package, the next process is the preparation of products which have been packed on a pallet. Preparation of crates or cartons on a pallet is performed manually by human power. For product line I PET prepared 30 cartons per pallet while product RGB 54 crates per pallet. While on line II prepared 54 crates per pallet. At the time of the preparation of the relevant operator should do the coding. Coding is the process of identifying or additions in the production of cardboard boxes, which aims to facilitate the product search. At the time of the production units at the connecting line the first well at the beginning and end of production respectively of 1 pallet by a sticker "HOLD" to be followed through the examination and testing by QA.

3.3.9. Waste Water Treatment Process

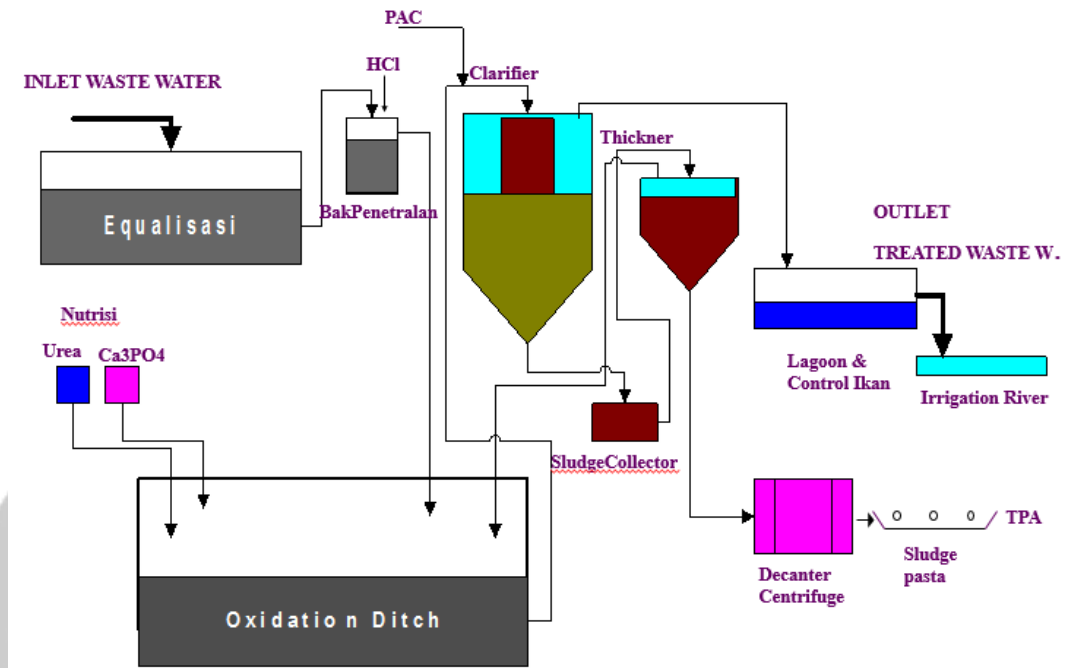


Figure 3.5. Waste Water Treatment Process

Wastewater first production into the oil bath to separate the oil separator (OG) or oil grease and water and wastewater that is free of oil flowed into the equalization basin. In the equalization basin is in addition given oxygen also conducted agitation (stirring) so that the pollution load evenly. Because the burden of pollution from factories, one of which is sodium hydroxide or caustic soda so that the pH tends to be high in the top 10. This requires the neutralization of acid chemicals such as chemical additions in the form of technical HCl is done is done manually and carefully controlled waste if pH of more than 9 then in neutralization bath will be added HCl using dosing pump. After the pH of wastewater through the stages of neutralization to pH ranging between 6-9 and then went into the biological process steps of this process using activated sludge with bacteria or activated Oxidation sludge in the tank ditch, this process added oxygen by means of aeration (oxygen delivery) and by nutrients such as TSP (urea) is balanced in order to stay alive and functioning bakteri active bacteria present in the oxidation ditch is expected to process the hydrocarbons dissolved in the waste water, thus effectively will reduce the BOD. This reaction results in the form of mud and water, to separate this waste is pumped into a tank Clarifier (purification) in the purification process is separated sludge and clear water are chemically by adding Poly Aluminum Chloride (PAC)

as coagulant as the ability to clot mud. Sludge is collected in the collecting sludge (Sludge Collector) and passed into thickener tank (concentrating). For further proceedings resumed partly restored to Oxidation Ditch to balance the bacteria in OD, On oxidation ditch wearing bacteria SGB (Super Group Bacteria) 102 or a group of bacteria in liquid form Rhizobacter plus urea and nitrogen as vitamins, clear water directly returned to Last control bath (Lagoon) to precipitate the sludge that escaped in the form of a fish pond to be discharged into the river, some of them returned to the tank back to be used as flooring and plant sanitation. The waste products in the form of sludge processed through a centrifuge sludge with system centrifuge (Decanter Centrifuge) with the help of polymer (Kurifix CP 490) to accelerate the separation of water and mud filtrate then contained in the sludge returned to the equalization basin for reprocessing. Mud paste result of this separation process used in the tank accommodated whilst henceforth dumped into landfills.

3.4. Production Facilities

Fasilitas produksi merupakan alat bantu yang digunakan pabrik dalam memindahkan material (*material handling*) dan juga dalam melakukan proses distribusi produk dari gudang ke gudang maupun dari gudang menuju *outlet-outlet* penjualan. Berikut adalah daftar fasilitas produksi yang digunakan oleh PT. Coca-Cola Amatil Indonesia Unit Balinusa: Production facilities are the tools used in the plant for material handling also in the process of product distribution from warehouse to warehouse and from the warehouses to the outlets. The production facilities used by PT. Coca-Cola Amatil Indonesia unit Balinusa for material handling inside and outside the plant are forklifts, hand pallettes, trucks, etc.

CHAPTER 4 STUDENT WORK REVIEW

4.1. Scope of Work

The activity of practical work is started in July 3, 2017 until August 5, 2017 at PT. Coca-Cola Amatil Indonesia unit Balinusa. On the implementation of this practical work, the student is placed in Supply Chain department on Demand Operation Planning (DOP) division. The scope of work of this division is production scheduling and delivery of product to another operational unit. In addition, DOP also arranging production planning and material delivery planning. Production planning and scheduling is done by using SAP software. As for the material, the planning is only being done for the material that is directly related to the products that are being produced by the plant.

4.2. Responsibilities and Authorities in Work

4.2.1. Task Details

The stages of practical work in PT. Coca-Cola Amatil Indonesia unit Balinusa is as follows:

a. Company Introduction

On this stage, the field advisor for Practical Work (I Gusti Putu Sukarya) describing the company profile and current condition of the company. In addition, the field advisor also provides an overview of the process flow of beverage production at PT. Coca-Cola Amatil Indonesia unit Balinusa.

b. Practical Work Implementation

Implementation of the practical work is set in accordance with the stages of beverage production in PT. Coca-Cola Amatil Indonesia unit Balinusa, an outline of the stages are followed by practical work held in July 3, 2017 until August 5, 2017 can be seen in the following table:

Tabel 4.1. Practical Work Schedule

No.	Description	Facilitator	Date
1.	Induction CCBI Management (QMS, EMS & SMK3) History of Coca-Cola, Production Process, Organization Structure	IGP Sukarya	3 July 2017
2.	Water Treatment Process	Sukarsa / Regig	3 – 5 July 2017

3.	Syrup Making Process	Sukarsa / Regig	6 – 8 July 2017
4.	Waste Water Treatment Process	Sukarsa / Regig	10 – 12 July 2017
5.	Bottling Process (Washing, Mixing, Filling, Inspection, Packing)	Dirgayasa, Suwendra, Partika	13 – 22 July 2017
6.	Quality Control Products of Incoming s / d Marketing and Sanitation	Ngakan	24 – 29 July 2017
7.	Employment	I B Udiana	31 July – 1 August 2017
8.	Demand Operation Planning (DOP)	Aga	2 August 2017
9.	Warehousing & Product Distribution	Rusyanta	3 – 4 August 2017
10.	Report Arrangement and Evaluation	IGP Sukarya	5 August 2017

4.2.2. Students Privileges

During the implementation of practical work at PT. Coca-Cola Amatil Indonesia unit Balinusa, the student is authorized by the field advisor, among others:

- a. Allowed to observe a system work units and allowed to take pictures (photos and video)
- b. Allowed actually take the data and gather information needed
- c. is allowed to conduct interviews and establish relationships the employee
- d. is allowed to use the office facilities in accordance with a given job

4.3. Work Implementation Methodology

There are stages of methods in implementing the practical work are as follows:

a. Observation and Data Collection

Observation is a core activity of practical work. At this stage, the students see the direct performance of the system in the field and collect the data required. The collection of data is accomplished by studying the documents of the company.

b. Interviews

Interviews were conducted to support the results of observation. Interviews conducted by the question and answer session with the staffs related to practical work.

c. Literature Study

Literature study was conducted to compare the data on observations and interviews with reference data.

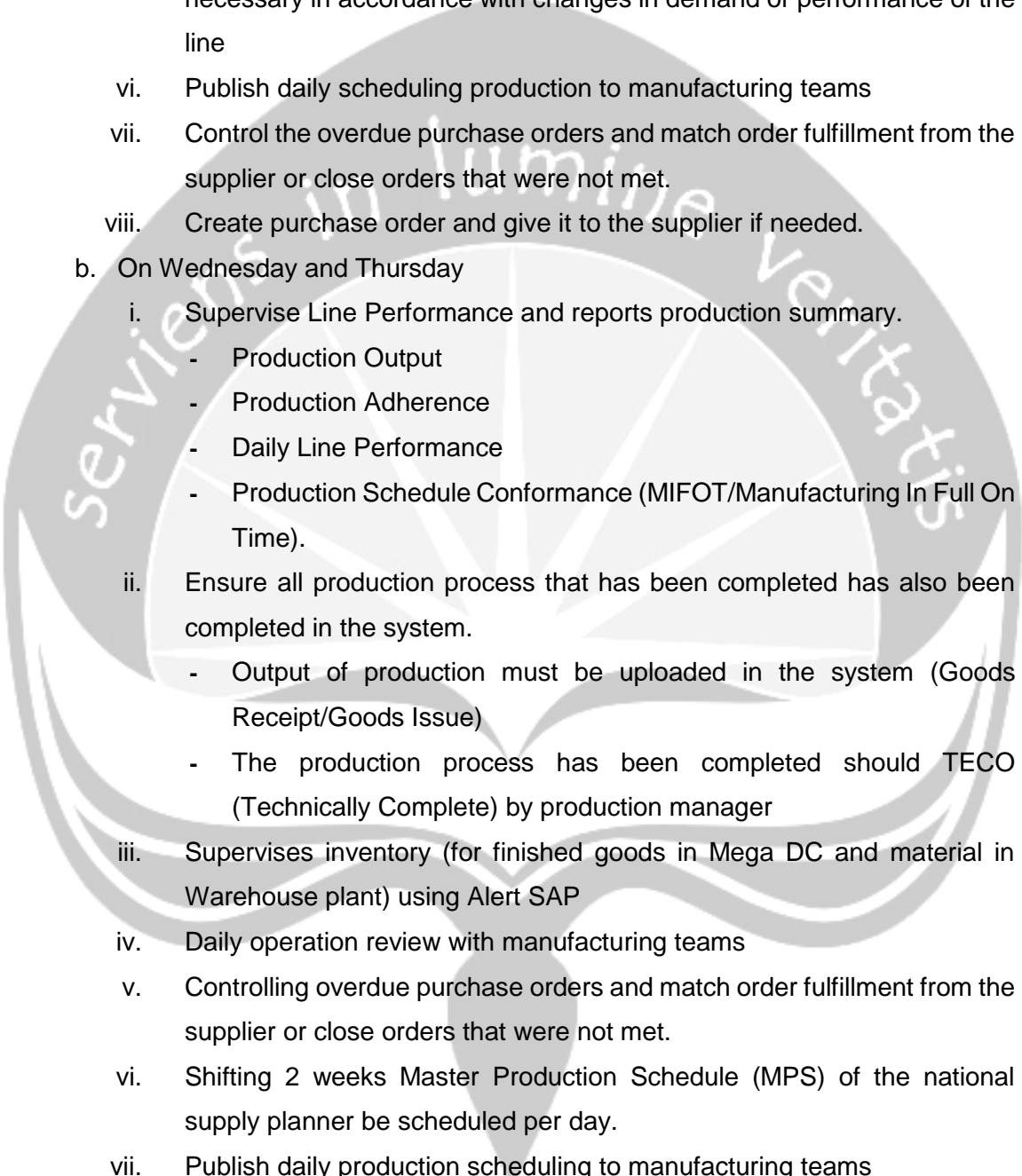
4.4. Job Results

Results obtained employment for carrying out practical work in PT. Coca-Cola Amatil Indonesia Balinusa unit focused on the department of Supply Chain, in the sub-department of Operation Demand Planning (DOP) / Supply Planning. In the sub department, the work done by the staff only focused on planning production of beverages and material directly related to the final product beverage packaging such as labels, bottle caps (closures for PET and crown for RGB), PET pre-form, carton layer, barcode, and plastic shrink wrap. For production planning, planning and scheduling is done in accordance with the forecast supply obtained from the national planner. In addition to planning and production scheduling, sub department is also planning other matters related to production activities and amenities such as cleaning (if any replacement beverage flavor) and also preventive maintenance.

4.4.1. Role of Supply Planner

Here are a few activities undertaken by the supply planner in doing his job. This activity is divided into two parts, divided by days, Monday, Tuesday, and Friday; Wednesday and Thursday. Here are the details:

- a. On Monday, Tuesday and Friday
 - i. Supervise Line Performance and making reports of production summary.
 - Production Output
 - Production Adherence
 - Daily Line Performance
 - Production Schedule Conformance (MIFOT/Manufacturing In Full On Time).
 - ii. Ensure all production process that has been completed has also been completed in the system.
 - Output of production must be uploaded in the system (Goods Receipt/Goods Issue)
 - The production process has been completed should TECO (Technically Complete) by production manager

- 
- iii. Supervises inventory (for finished goods in Mega DC and material in Warehouse plant) using Alert SAP
 - iv. Daily operation review with manufacturing team
 - v. Matching finish good alerts and initiate changes in production if necessary in accordance with changes in demand or performance of the line
 - vi. Publish daily scheduling production to manufacturing teams
 - vii. Control the overdue purchase orders and match order fulfillment from the supplier or close orders that were not met.
 - viii. Create purchase order and give it to the supplier if needed.
- b. On Wednesday and Thursday
- i. Supervise Line Performance and reports production summary.
 - Production Output
 - Production Adherence
 - Daily Line Performance
 - Production Schedule Conformance (MIFOT/Manufacturing In Full On Time).
 - ii. Ensure all production process that has been completed has also been completed in the system.
 - Output of production must be uploaded in the system (Goods Receipt/Goods Issue)
 - The production process has been completed should TECO (Technically Complete) by production manager
 - iii. Supervises inventory (for finished goods in Mega DC and material in Warehouse plant) using Alert SAP
 - iv. Daily operation review with manufacturing teams
 - v. Controlling overdue purchase orders and match order fulfillment from the supplier or close orders that were not met.
 - vi. Shifting 2 weeks Master Production Schedule (MPS) of the national supply planner be scheduled per day.
 - vii. Publish daily production scheduling to manufacturing teams
 - viii. Make a purchase order and give it to the supplier if needed.

4.4.2. Key Performance Indicators

Here are the key performance indicators of supply planner:

- a. People Engagement Score
- b. DIFOTAI – Delivery In Full On Time Accurately Invoiced
- c. OOS – Out Of Stocks at SKU location level, cases fill vs customer orders
- d. Forecast accuracy, Bias
- e. Full Goods & Raw Materials Inventory, working capital
- f. Total cost to serve (COGS +Delivery)
- g. Obsolete & Slow Moving Inventory
- h. Stock Durability (Full Goods & Ingredients)

4.4.3. Demand Operation Planning

Here is an explanation of the work done by demand operation planning or supply planner starting from the forecast provided by the national supply planner to the final result used as daily production planning at PT. Coca-Cola Amatil Indonesia unit Balinusa.

- a. to perform planning and scheduling, supply planners should receive the data supply demand forecast from the national planner to plant Balinusa in the form of slant charts.

	A	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	
1	Slant Chart DC SKU 2017															
2	Channel															
3	OPERATION															
4	DC Name															
5	Pack															
6	SalesGroup															
7	Flavour															
8	SAP Art															
9	FGDesc															
10																
11	Sum of SumOfReleased Cons Plan CS															
12	Submit Period	15.2017	16.2017	17.2017	18.2017	19.2017	20.2017	21.2017	22.2017	23.2017	24.2017	25.2017	26.2017	27.2017	28.2017	28.2017
13		4,294,784	5,227,514	5,527,520	3,325,761	4,793,254	5,374,963	6,294,496	3,992,451	4,421,104	4,754,711	5,512,040	4,407,162			
14			5,228,106	5,512,889	3,308,163	4,792,673	5,380,997	6,201,927	3,945,790	4,363,755	4,695,615	5,484,315	4,551,185	2,525,224	3,454,496	
15				5,516,480	3,226,046	4,621,999	5,273,848	5,996,442	3,924,386	4,357,871	4,694,713	5,478,963	4,562,132	2,525,912	3,455,115	
16					3,263,965	4,736,376	5,400,769	5,983,927	3,941,658	4,375,616	4,716,741	5,501,733	4,594,112	2,526,438	3,454,748	
17						4,595,988	5,871,483	6,209,598	3,733,454	4,471,481	4,986,254	5,117,777	4,168,449	1,937,025	3,260,376	
18							5,845,979	6,136,295	4,542,411	5,396,690	4,926,103	4,083,090	4,017,030	1,946,906	3,267,561	
19								6,166,894	4,841,699	5,851,072	5,674,031	3,883,155	2,673,946	1,928,296	3,238,946	
20									4,901,338	6,195,242	6,082,278	4,141,278	1,653,419	1,934,156	3,242,695	
21										6,175,932	6,084,245	4,245,756	1,839,733	2,221,805	3,509,473	
22											6,396,404	2,420,453	2,221,785	3,509,476		
23												6,396,404	3,574,390	2,198,045	3,453,531	
24													2,194,173	3,450,098	3,607,084	
25																
26																
27																
28																
29																
30	Actual	2,902,896	3,307,052	5,154,668	2,596,408	4,179,782	4,487,637	5,715,194	2,992,023	3,764,955	4,801,544	5,219,997	2,374,913	1,443,196	2,686,905	

Figure 4.1. Slant Chart Distribution Center in units of Stock Keeping Unit (SKU)

Units unit of slant of this chart is not just a SKU, can also be written in the form of units UCS (Unit Cases).

	A	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
1	Slant Chart DC SKU 2017														
2															
3															
4															
5															
6															
7															
8															
9															
10															
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Figure 4.2. Slant Chart Distribution Center in Units of UCs (Unit Cases)

Can be seen from the picture above that the closer the date forecasting more accurate the forecast and actual demand approaching.

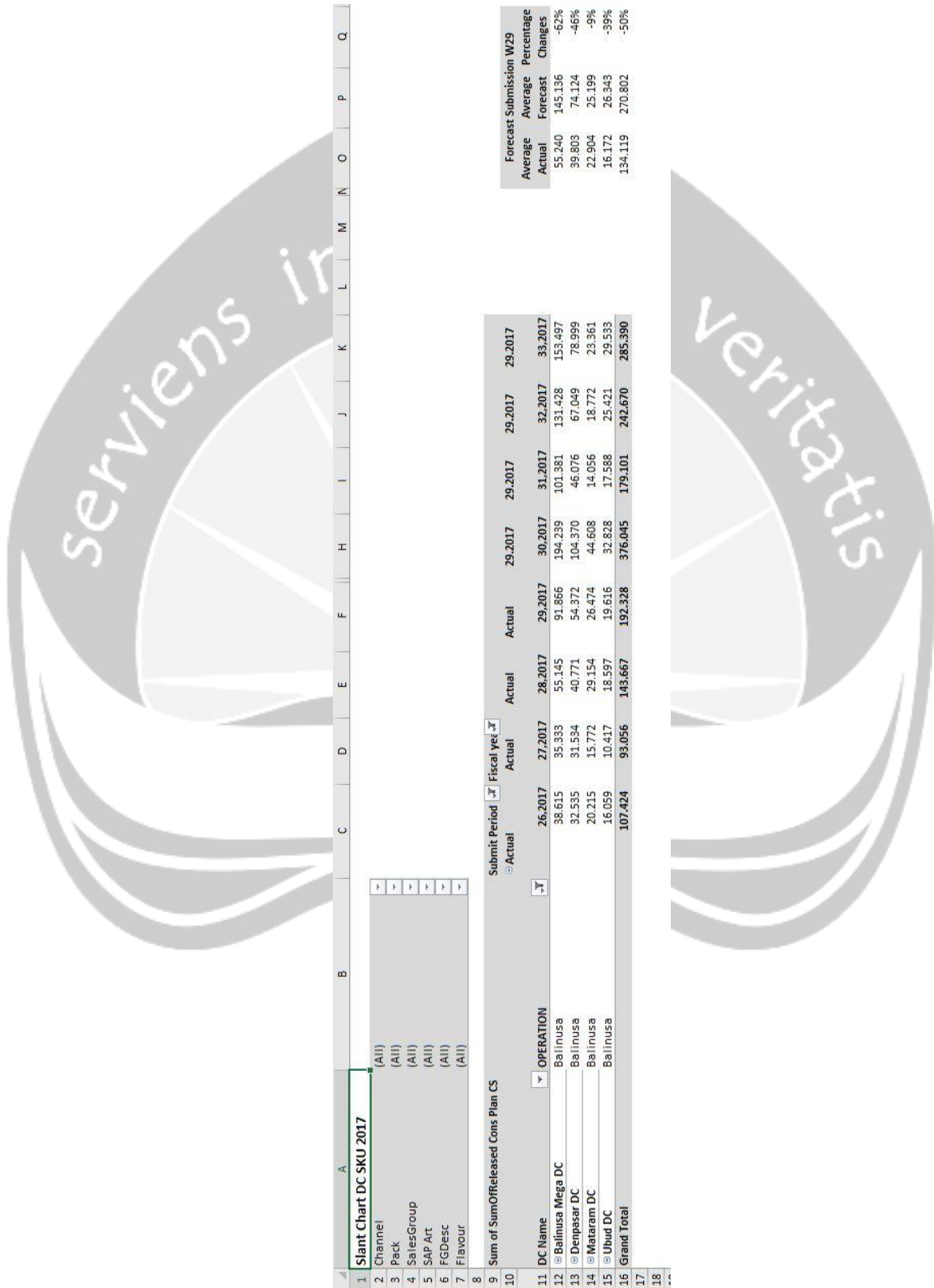


Figure 4.3. Slant Chart per Distribution Center in Unit of Cases

then can be viewed according to DC for operation Balinusa how many demand in units of cases. Bali plant has several distribution centers are Balinusa Mega DC, DC Denpasar, Mataram DC, and Ubud DC. From the chart above can be seen that the demand of each of the different DC. For example, in week 28, 2017, Balinusa Mega DC has forecast demand as much as 55145 cases later Denpasar DC has as many as 40771 cases forecast demand and forecast demand Mataram DC has as many as 29 154 cases and Ubud DC has forecast demand as much as 18597 cases. Therefore when the total number to 143667 cases so that the amount was to be made of scheduling to be produced at the plant Balinusa.

Besides demand sent by the national supply planner can also be based on the type of product. For example demand Coca-Cola 1 Liter PET for Balinusa.



	A	B	C	D	E	F	G	H	J	K	L	M
1	Slant Chart DC SKU 2017 - Cont.											
2												
3												
4	Channel	(All)										
5	Pack	(All)										
6	SalesGrou	(All)										
7	Flavour	(All)										
8												
9	Sum of Sun											
10												
11	SAP Art	FGDesc	OPERATION	DC Name	Submit P	Fiscal ye	Actual	Actual	Actual	Actual	Actual	Actual
12	970437	1.0 PET X12 COCA-COLA	Balinusa	Balinusa Mega DC	26.2017	27.2017	28.2017	29.2017	30.2017	31.2017	32.2017	33.2017
13	970437	1.0 PET X12 COCA-COLA	Balinusa	Denpasar DC	28	18	31	25	54	37	55	68
14	970437	1.0 PET X12 COCA-COLA	Balinusa	Mataram DC	-	-	-	-	5	5	5	5
15	Grand Total				28	18	31	25	61	43	61	74
16												

Figure 4.4. Slant Chart Distribution Center Based on Types of Beverages

- b. After a nationwide supply planner sends the number of demand (forecast and actual), the supply planner plant will break down the demand weekly into a daily demand or supply days.

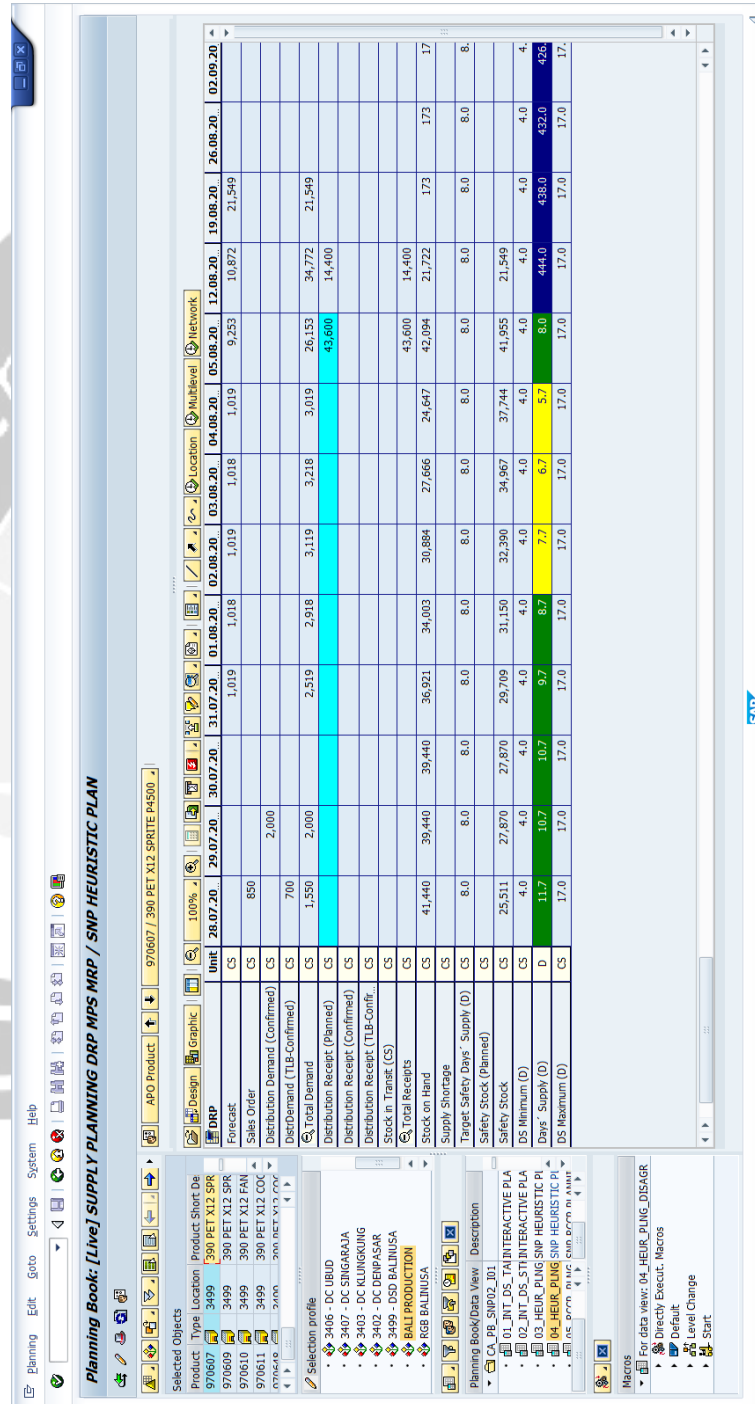


Figure 4.5. Weekly Demand Breakdown into Daily Demand

Supply planner takes into account the daily after demand, then the existing material should be matched to the draft schedule of production. Then after the production

schedule has been approved by the supply planner manager production will release final production schedule.

Plant	Week	Activity Start Date	Activity Start Time	Activity End Date	Activity End Time	Product Number	Product Short Description	Remarks	Order Num	Category	Short Text	Outstand PO Quantity	Sum of Conc. (unit)	Pallet	Sum of Req. hours	
BALINUSA	3045	Sat, 25-Mar	0:00	Sat, 25-Mar	2:36	979998	CIP FLAVOUR CHANGE		3005822	PIOrd. (F)		4,666	28.00	67	2.36	
1713		Sat, 25-Mar	2:36	Sat, 25-Mar	10:56	970038	1.0 PET X12 SPRITE P9000		1844882	PrOrd (R)		4,666	28.00	67	8.19	
		3/25/2017 Total										4,666	28.00	67	10.56	
		Sun, 26-Mar	28:59	Mon, 27-Mar	0:00	979997	NO PRODUCTION		28830473	PIOrd. (F)		-	-	-	0:00	
		3/26/2017 Total										-	-	-	0:00	
		Mon, 27-Mar	0:00	Tue, 28-Mar	0:00	979997	NO PRODUCTION		28830473	PIOrd. (F)		-	-	-	24:00	
		3/27/2017 Total										-	-	-	24:00	
		Wed, 29-Mar	0:00	Thu, 30-Mar	0:00	979997	NO PRODUCTION		29519757	PIOrd. (F)		-	-	-	24:00	
		3/29/2017 Total										-	-	-	24:00	
		Thu, 30-Mar	0:00	Thu, 30-Mar	7:00	979997	NO PRODUCTION		29519757	PIOrd. (F)		-	-	-	7:00	
		Thu, 30-Mar	7:00	Thu, 30-Mar	15:00	979996	PREVENTIVE MAINTENANCE		29808200	PIOrd. (F)		-	-	-	8:00	
		Thu, 30-Mar	15:00	Thu, 30-Mar	19:00	979998	CIP FLAVOUR CHANGE		29808199	PIOrd. (F)		-	-	-	4:00	
		Thu, 30-Mar	19:00	Fri, 31-Mar	0:00	970588	1.5 PET X12 COCA-COLA		30062162	PIOrd. (F)		2,625	3,199	24.61	66	4.59
		3/30/2017 Total										2,625	3,199	24.61	66	24:00
		Fri, 31-Mar	0:00	Fri, 31-Mar	1:05	970588	1.5 PET X12 COCA-COLA		30062162	PIOrd. (F)		574	3,199	5.38	14	1.05
		Fri, 31-Mar	1:05	Fri, 31-Mar	4:05	979998	CIP FLAVOUR CHANGE		3005819	PIOrd. (F)		-	-	-	3:00	
		Fri, 31-Mar	4:05	Fri, 31-Mar	10:01	970590	1.5 PET X12 SPRITE		3005535	PIOrd. (F)		3,111	3,111	28.00	78	5.55
		Fri, 31-Mar	10:01	Fri, 31-Mar	14:01	979998	CIP FLAVOUR CHANGE		3006066	PIOrd. (F)		-	-	-	4:00	
		Fri, 31-Mar	14:01	Fri, 31-Mar	16:27	970650	390 PET X12 SPRITE		1844608	PrOrd (R)		1,709	1,709	4.00	17	2.26
		Fri, 31-Mar	16:27	Sat, 01-Apr	0:00	970607	390 PET X12 SPRITE P4500		3006223	PIOrd. (F)		5,277	22,223	12.35	53	7.32
		3/31/2017 Total										10,671	30,242	49.73	162	24:00
1 Total												17,962	38,107	102.34	294	106:56

Figure 4.6. Example of The Daily production Schedule Sent to The Production Team

Production line	Production Date	Comment	Status	Start Time	Ord. Qty	UoM	Rept.	Qty	UoM	Order	Reqd Hrs	Pack	Dur	Syrup	Lit	Conc	Units	Caps/Labels	UoM	Cans/Btcls	PAL	FG	CHEP	PAL	
782	19-Jun-2017	Monday																							
970743	285	RET X24 FANTA SODA WATER	REL	09:00:58	2,259,000	CS	1861551	2.2	2.2	13297575	2,499.019	7.997	54,216	EA	54,216	EA	79,992	EA	79,992	EA	62				
970022	200	UREI X24 FANTA STRAWBERRY	REL	12:13:53	3,333,000	CS	1861550	3.3	3.3	13297576	3,209.839	7.999	79,992	EA	79,992	EA	62								
782	20-Jun-2017	Tuesday																							
974068	200	UREI X24 SPRITE	REL	09:00:59	3,333,000	CS	1861731	3.3	3.3	13307095	2,965.304	7.999	79,992	EA	79,992	EA	62								
974067	200	UREI X24 COCA-COLA	REL	13:17:04	3,600,000	CS	1861733	3.5	3.5	13297568	2,700.000	9.000	86,400	EA	86,400	EA	67								
782	21-Jun-2017	Wednesday																							
970739	285	RET X24 SPRITE	REL	08:48:52	3,389,000	CS	1861732	3.3	3.3	13307095	4,447.311	11.997	81,336	EA	81,336	EA	63								
* Total					15,914,000			15.6		15,821,473			381,936		381,936		296								

Figure 4.7. Example of The Daily Production Schedule Sent to The Production Team

CHAPTER 5 CONCLUSIONS AND SUGGESTIONS

5.1. Conclusions

- a. The scope of work of Demand Operation Planning is production scheduling and delivery of products to another operational unit.
- b. The planning that is made by the demand operation planner came from the national demand operation planner in the form of daily forecast.
- c. The demand operation planner uses SAP software for production planning and scheduling.
- d. Demand Operation Planner also arrange production planning and material delivery planning.

5.2. Suggestions


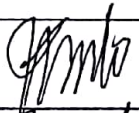

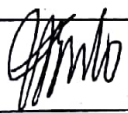
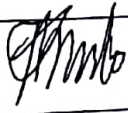
From the practical work done by the students, there is a suggestion for the company which is to improve their employees work performance so the company will become better.



Lampiran 2. Lembar Bimbingan Pelaksanaan dan Penyusunan Laporan Kerja Praktek

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
 Lembar Bimbingan Pelaksanaan dan Penyusunan
 Laporan Kerja Praktek

Nama Mahasiswa : YUAN PATRICIA LATUMAHINA
 NPM : 131407214
 Perusahaan tempat KP : PT COCA COLA AMATIL INDONESIA UNIT BALINUSA
 Tanggal pelaksanaan KP : 3 JULI - 5 AGUSTUS 2017
 Dosen Pembimbing : Ir. B. Kristyanto, M.Eng., Ph.D

No	Tanggal	Agenda	Tanda Tangan Dosen Pembimbing
1	16/6 2017	Penyerahan surat pembimbingan dan Konsultasi persiapan Kerja Praktek	
2		Laporan atau konsultasi tugas dari perusahaan	
	17/07 2018	Laporan pertama setelah pelaksanaan Kerja Praktek dan konsultasi penyusunan laporan	
	26/01 2018	Revisi	
	29/01 2018	Penyerahan draft laporan Kerja Praktek untuk pertama kali	
		Pengesahan laporan Kerja Praktek	

**PENILAIAN KERJA PRAKTEK OLEH PEMBIMBING/SUPERVISOR LAPANGAN
KERJA PRAKTEK PROGRAM STUDI TEKNIK INDUSTRI,
UNIVERSITAS ATMA JAYA YOGYAKARTA**

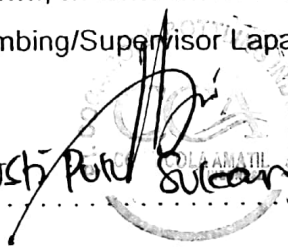
Nama Mahasiswa : XUAN PATRICIA LATUMAHINA
 No. Mahasiswa : 131407214
 Perusahaan Tempat Kerja Praktek : PT. COCA-COLA AMATIL INDONESIA UNIT BALINUSA
 Divisi/Departemen/Area Kerja : DEMAND OPERATION PLANNING
 Waktu Pelaksanaan : 3 JULI 2017 - 5 AGUSTUS 2017

Mohon Bapak/Ibu pembimbing lapangan memberikan penilaian atas prestasi mahasiswa peserta kerja praktek sesuai dengan aspek penilaian di bawah ini. Nilai terendah adalah 1 dan nilai tertinggi adalah 10.

No.	Aspek Penilaian	Nilai (1 - 10)
1.	Kedisiplinan	9
2.	Motivasi kerja	9
3.	Tanggung jawab	9
4.	Kerjasama dengan rekan sekerja	8
5.	Sopan santun dan tata krama	9
6.	Daya tangkap dan pemahaman terhadap tugas yang diberikan	9
7.	Kemampuan melaksanakan dan menyelesaikan tugas	9
8.	Keterampilan dalam menggunakan peralatan kerja	8
9.	Perawatan terhadap peralatan kerja	8
10.	Perhatian terhadap keselamatan kerja	9

Mengwi 05 Agustus 2017

Pembimbing/Supervisor Lapangan,


 (I Gusti Puji Sutearja)

Catatan:

- Nilai pada setiap aspek dikategorikan dalam peringkat sangat baik (nilai nominal: 9-10), baik (7-8), cukup (5-6), kurang (3-4), dan sangat kurang (1-2).
- Pembimbing/Supervisor Lapangan dimohon mengisi blanko penilaian ini apabila mahasiswa yang bersangkutan telah menyelesaikan Laporan Kerja Praktek di Perusahaan.
- Mahasiswa yang tidak menyerahkan blanko nilai yang sudah terisi oleh pembimbing lapangan tidak akan menerima nilai akhir Mata Kuliah Kerja Praktek.