QUAL8346 – Assignment #2 – Narrative

Note to students:
Please refer to the PowerPoint materials and in-class notes and refrain from using internet sources (such as Google). Multiple different methodologies exist for building process flow diagrams, often with conflicting information and requirements. Ensure that the process flow contains only actionable tasks and follows the expected written structure documented within the provided in-class materials.

Process Observations

Canadian Coffee Bean Roasters (CCBR Ltd) wishes to see the full view of activities being conducted within their new custom-built facility, starting with the receipt of raw materials ending with product packaging. The process flow diagram requested by CCBR Ltd will document only the 'current state' of activities with no improvements or modifications made to the design of the process. This document (an AS-IS diagram) will serve to benchmark current performance so that CCBR Ltd can, at a future date, implement enhancements and measure the effectiveness of future changes made against the current performance.

On-site Analyst Observations:

Unit:
When processed, the coffee beans are referred to as a 'unit' of production. The exact measurement was 20Kg of coffee beans (post-processing) per unit. Therefore, each time a 'unit' is processed, exactly 20Kg of coffee beans were processed.

Supporting Materials
To aid your understanding of the process, note the following supporting materials:

- A **floorplan** of the facility; to help with visualization of the process execution
- A **Product Processing Tracking (PPT)** Ledger Sheet to help with comprehension of process tracking. This ledger is a book and used to track the ins and outs of coffee beans from the various locations within the factory.
- **Stockroom Inventory** is a online database (CCBR-INV-SYS) that records the type and quantity of coffee beans.
- A **Warehouse Inventory & Sales Tracking** Spreadsheet to show how inventory and sales are current tracked and managed. Data from this spreadsheet comes from the CBR-INV-SYS database.

These files will not contain unique information required to build the process flow, the information within is contextual to assist in understanding the conceptual nature of the narrative, functionality of the facility and employee work.

Process observations (In order of execution):

The weekly shipment of raw coffee beans will arrive from supplier at the loading bay in the Shipping Department (SD), where the *Processing & Receiving Department (PD)* will receive the order. Coffee beans are stored in stockroom until ready for processing.

The *PD worker* will retrieve the pump truck and picks up the Product Processing Tracking (PPT) ledger sheet. The PD Worker will then transfer 20 KG (ie a skid) of product onto the pump truck and bring the units to the main temporary Storage area in PD. Then pump truck is immediately returned to its designated bay. The PD worker will update the stockroom inventory system (CCBR-INV-SYS) to reflect the units removed.

Figure 1= Pump Truck

PD worker next calibrates the **Huller Machine** and will step through a repetitive series of steps wherein the *PD worker* will need to add 1 unit at a time to the machine that is currently being utilized. Here is how they add 1 unit:

Figure 2- Calibrating the Machine

1) Retrieve 1 unit of Coffee Beans from PD Temporary Storage area.
2) Add 1 unit of Coffee Beans to the machine's hopper[1]
3) Process unit through the machinery
4) Remove the processed unit from machinery and transfer the processed unit of coffee beans into the transfer bin.
5) Record processing result(s) in **Product Processing Tracking** Ledger sheet[2]
6) Place transfer bin in *temporary storage*

After the Huller Machine processes each unit in that manufacturing cell, there will be an amount of waste produced, which the machine automatically separated from the product. This waste must be discarded in the nearby waste bin. After all the 20 units have been processed, this waste bin will be emptied in the dumpster located outside the Receiving Department loading bay.

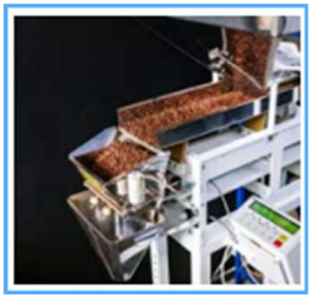

Figure 3- Huller Machine

PD worker will proceed to calibrate the Cleaning Machine. To clean the beans, the steps are similar to the Huller machine but adding one additional step. After steps 1 – 6 has been completed, *PD worker* will be required to check the Cleaning Machine for any areas where the machine may have become clogged. If the machine is clogged, then *PD worker* will utilize an automatic washer to clear out any blockages. The cleaning cycle may take up to 10 minutes, upon completion the worker will double-check to ensure that the machine has been properly cleansed. If it remains clogged, then the cleaning cycle will repeat.

Upon completion of cleaning, a member from the *Quality Control Department (QCD Worker)* will retrieve a 2-gram sample from each of the units' transfer bins. This sample will be added to the Grading Machine, which will automatically test the coffee beans for acidity level, roasting level and quality.

Once the Grading Machine has provided the results, a Pass/Fail grade will be assigned to the corresponding coffee bean 20Kg unit. The 2-gram sample is then dumped into the nearby waste bin. This process will continue until all the units have been tested.

After Grading, the *Roasting Department* will next preheat the roasting machine and begin the same steps as outlined within the 'Huller machine' activity, using the roasting machine.

After the roasting has been completed, the *Coffee Packaging Department (CPD)* will retrieve 1 unit of roasted beans at a time and add them to the conveyor belt. *CPD* will next turn on the Packaging machine and insert an empty 1Kg bag for packaging. The machine will slowly auto-feed beans into the packaging bag; once the bag is filled (20 units total), the *CPD* will turn off the packaging machine manually as it would continually add more beans if not shut down.

The *CPD* will use the sealer to seal the 1Kg bag of finished coffee beans and place it on the sales storage shelves. The *CPD* will continue these steps until twenty 1Kg bags have been filled, at which point the *CPD* will update the **Product Processing Tracking** Ledger Sheet.

Once all 20 units of coffee beans have been processed, the *CPD* will update the inventory system to show the new number of processed and packaged coffee beans.

Process End