EBBD EMAIL – for Internal Use Only

To: You

From: Danny Wilco <*dwilco@ebbd.com*>

Subject: Re: Deliveries clogging the loading dock area

You asked for the specific details regarding the delivery process at the receiving dock. Since you’ve been busy at your other jobs, I had this information determined for you.

* Receiving dock open from 7am to 3pm, 8 hours, or 480 minutes.
* The average number of arrivals on any given day is 28, which is 3.5 arrivals per hour, average.
* The data we have collected indicate that we can unload 4.2 trucks per hour.

This should help you get started to think about how to approach this problem. I will get back to you with your specific assignment shortly.

~DW, VP LogOps.

**Learning Wizard**

**Case 4 Resources**

Queuing systems are “stochastic”, which means based on random variables. The arrival rate of the customers is random but is theorized to follow a specific probability function. The key to analyzing queues is using the theory and equations that allow you to determine the probabilities

This website provides a good general overview of Queuing and waiting lines in business.

Queuing Theory. (n.d.). Encyclopedia of Business, 2nd Ed.; Reference for Business, retrieved from:[*http://www.referenceforbusiness.com/encyclopedia/Pro-Res/Queuing-Theory.html*](http://www.referenceforbusiness.com/encyclopedia/Pro-Res/Queuing-Theory.html)

Download this PowerPoint file [[*Waiting Lines Queues*](https://tlc.trident.edu/content/enforced/6833-LOG501/Modules/Module4/Waiting%20Lines%20Queues.ppt?_&d2lSessionVal=o27AgRpV2y03cSvUMUpm3YY3s&ou=6833&_&d2lSessionVal=udq6NrHHAzYtqTv0boWcAryXr&ou=77468)] (Attached) which provides lecture notes on queuing and queuing equations. It also has Exercises for you work on.

**\*\*\*\*WATCH THESE TWO VIDEOS THAT EXPLAINS THE POWERPOINT** - IN YOUTUBE:

PART 1: [*http://youtu.be/xxlixF0deqE*](http://youtu.be/xxlixF0deqE)

PART 2: [*http://youtu.be/NQdt2ldymaM*](http://youtu.be/NQdt2ldymaM)

Download the Excel file [[***Excel QueueCalc***](https://tlc.trident.edu/content/enforced/6833-LOG501/Modules/Module4/Excel%20QueueCalc.xlsx?_&d2lSessionVal=o27AgRpV2y03cSvUMUpm3YY3s&ou=6833&_&d2lSessionVal=udq6NrHHAzYtqTv0boWcAryXr&ou=77468)] (Attached). There are two Tabs - the first is for Single Server models, and the second is for Multi-Server models. You enter the relevant information of a queuing problem and it will calculate the pertinent results. The values shown in this worksheet when you open it are the Phlebotomy Examples in the PowerPoint.

You can use the QueueCalc spreadsheet to try all of the examples and exercises in the PowerPoint.

Once you have mastered the examples and exercises you should be ready to tackle the EBBD problem. You can use the QueueCalc for the EBBD problem in the Case.