**ENTS 656 Project**

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**Q1:**

1. 24 call drops due to low signal strength on Beta sector.
2. The percentage is around 1.33%.
3. The base station performs well.

**Q2:**

1. 413 call drops due to low signal strength on Beta sector;   
   1 call drops due to low signal strength on Alpha sector;   
   New percentage is around 22.66%.
2. Compared to Q1, the main cause of those additional problems is the lower signal strength. This is because the longer road length results in a larger path loss.

**Q3:**

1. 62 call blocked on Alpha sector;  
   21 call blocked on Beta sector;  
   1 call drops due to low signal strength on Alpha sector;  
   156 call drops due to low signal strength on Beta sector;  
   26 call drops due to not enough channel on Alpha sector;  
   14 call drops due to not enough channel on Beta sector;  
   102 hand off failure on Alpha sector;  
   296 hand off failure on Beta sector.
2. New percentage is around 5.6%. The main cause of those additional problems is the larger number of users. They result in more call attempts during the simulation. And thus, the capacity (channel) is not enough to handle them all.

**Q4:**

1. After comparing the three parts shown in Q4 worksheet in excel report, I find that effect of handoff margin is not significant. But clearly there is a trend that, the higher the handoff margin, the lower the number of handoff attempt.

**FYI:**

1. Details are given in Cellular.log file.
2. Hourly Report and Summary are recorded in the excel file, i.e. report.xls.

**HONOR PLEDGE:**

**I pledge on my honor that I have not given or received any unauthorized assistance on this assignment**

**Signature: Jihan Chen**