ETP Reflective Paper – Jonathan Mulcock

This Summer I participated in the veteran blogging pilot. After reading through my obligatory daily journal entries, I have discovered that the prevalent theme is technological challenges. It seems that weekly, if not daily, I experienced some form of set back in my work because of technical problems. Some of these problems were because of neophyte status, while others were truly computer system glitches. In the following paragraphs, I will highlight and summarize these challenges: challenges because of my status, challenges because of the computer system status.

The first grouping of challenges was first noted on June 5th (my 5th day of work) and continued through July 25th. The following are excerpts from my journal that reveal these experiences. July 5th: "I was told to run plots for a specified amount of time to look at the proton influx over the cusp region of the earth. Now that my mentor has arrived and has begun to take a look at the plots, it appears that they will all need to be redone. I am looking at the redoing of the work as a learning process." July 19th: "I did hit a stumbling point. For some reason some of the data that I wrote could not be recognized by another program." July 25th: "We went through all my questions and were able to resolve the issues. One of the resolutions requires me to go back and rerun programs. This is kind of a drag, but it is better to do it right than to have results that are not as good as they could be." This first category reflects the learning curve. Although, these excerpts reflect a loss of work time, due to redoing and revising, these experiences ultimately resulted in a more productive and educated employee.

The second grouping of challenges was first noted June 30th (my 3rd day of work) and continued through August 8th (today and probably beyond.) The following are excerpts from my journal that reveal these experiences. June 30th: "I am still in the process of getting a username and password to be able to sign into a computer. For that reason I have been having different people sign on for me. I also still do not have official Lockheed-Martin email." July 18th: "I began to log my computer back on for the week and have hit a wall. For some reason, I am unable to get the computer to run one of the programs. This is a program that I use to generate several different plots that are used as part of the data set. I cannot really proceed with my work at this point." July 27th: I have entered the Fro-zone. My computer screen has frozen and it can't boot up." July 28th: "Later in the day, one of the workstations on my UNIX computer froze. I

exhausted all my potential solutions and went on the search for help." August 3rd: "I am beginning my journal entry a bit early today because I am waiting for my computer to be usable once again. The system went down. I guess there are different levels at which the system could go down. This apparently was at a higher level so it affected quite a few people." August 8th: "When I left on Friday, I left my computer logged on. I was told previously to log off the computer each Friday. This process allows the computer systems to "rest". I guess the "idl" program that I use will bog down if it is logged on for too long of a period of time. Anyway, I did not log out because a program was running (and had been running for a long time) and I didn't want to interfere. I figured what could an extra couple days hurt (usually I have left the computer logged on for 5 days.) When I came in this morning the computer had not made any progress since when I last saw it on Friday. I attempted to kill the program, but it didn't respond to my command. I figured out a way around it and closed all of the programs and logged off (just as I would normally do on Friday.) I started from scratch on that same program that was "running" when I left, but the computer would not respond." The first noted journal entry in this category was not really a computer problem as much as a human resource problem. The second category reflects the fragility and unreliability that computer systems can possess.

Although this second category (just as the first) has resulted in a loss of work time, it is practically a necessary evil. The work that I have accomplished over the last couple of summers here at Lockheed Martin ATC could only be done through the use of computers. There have been a couple of times that less work time could have been sacrificed if there was an expert to resolve the issue immediately. It would be ideal to have my own personal UNIX/specific programs expert at my beckon call. Obviously, this is not feasible.

My IISME Fellowship at Lockheed Martin has been a win-win situation. Lockheed Martin has had an extra hand in the analysis of data and the accumulation of knowledge. I have had the pleasure of working with a group of very kind, educated, patient, helpful scientists and engineers. It has been through this experience that I have furthered my understanding of the relationship between the Earth and the Sun, and education and industry.