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Reflection Paper 1

Date: 05/27/2025

ODU Summer 2025

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Internship Reflection Paper: First 50 Hours

Virginia Dept of State Police

Working as a Communications Technician for 50 hours has given me an incredible overview of the networking operations that take place behind the scenes for the state police. It was slightly intimidating as I was placed in an environment unfamiliar to myself, and the fact that all my coworkers and peers are far more advanced in their knowledge and experience than I am up to this point. I am by far the youngest and least experienced, but the team around me has been phenomenal in taking every opportunity to teach me hands-on tasks and concepts as well as being incredibly patient as I go through the learning process. My team is tasked with supporting both the hardware and software necessary to facilitate communications operations.

Our first major project was the installation of inverter systems to convert DC power to AC power, allowing network devices such as routers and switches to function properly. The installation process requires a few steps that provide experience beneficial for a future in cybersecurity. The most important step is the alarm setup for the inverter device, as implementing an alarm provides a direct connection with the state police network operating center. Network operators are immediately notified if there is any adverse event affecting the operation of the device – this is where my team comes into play. The alarm is created by terminating a cat 5e cable to the back of the inverter as well as to a phone block, with blue

strands being designated as a “major” alarm and orange strands as a “minor” alarm. The entire alarm process is done in close collaboration with the network operating center, as they are charged with always monitoring the alarm state and must know the corresponding designated numbers (i.e #23 and #25 are commonly used out 1-50 possible alarm spots on the block).

The inverter device must also be programmed, a task that was bestowed upon me. All new inverter devices are given a generic Ip address, on my laptop I proceed to engage manual IPv4 settings which allows me to set my laptop IP address to be within range of the device. After setting the correct IP address – I then can access the inverter software through direct ethernet connection and inputting the device’s IP address into the DNS. Once inside, I am also tasked with establishing secure parameters by setting the inverter password as well as alarm thresholds. Once finished – I lastly change the device’s IP address to the designated site location (which has been pre-selected before the project began). This process has allowed me to gain experience and comfort with alarm manipulation, password management, and IP addressing.

The value of teamwork and humility are the most important things I have learned thus far. This position is far from independent, everything we do requires close collaboration with others across different IT sectors of the state police. I also have learned to always remain acceptive of any constructive criticism or coaching, this approach has provided my leadership with confidence that I can always continue to learn and grow. Aside from work, professionalism is also incredibly admirable and encouraging. This is certainly an environment that I wish to work in once my cybersecurity career is off and running. The integrity and accountability of all here is second to none I have ever witnessed.

Overall, the first 50 hours were very productive and informative. The type of teaching and coaching that I am receiving is incredibly insightful and will only lead to me strengthening

my weaknesses and refining my strengths. I certainly have confidence that this experience will prove beneficial for the furthering of my studies. This opportunity will open new doors and set me up for a path to success!