

Andrew Boggs

September 13, 2021

Dear Intern of the Year Committee,

In February 2021, Texas experienced a Winter blizzard that not only brought snow, historically low temperatures, and freezing rains but hardships for Texan families. Areas of Texas reached temperatures as low as 5 degrees Fahrenheit, power plants throughout Texas struggled to provide power to heat homes, and cases of Hypothermia soared into the hundreds. What was just an ordinary arctic cold front, turned into what would be an historic blizzard that impacted Texans for almost 9 days. However, through those nightmarish 9 days, the Panhandle area homes remained warm, hardly experiencing the harshness of the blizzard in contrast to the rest of Texas. This tremendous accomplishment was due to the extraordinary team of Harrington Station, which I had the opportunity to be a part of and support the effort of providing power to the families of the Panhandle. During my time with Xcel Energy, I have worked to increase the reliability of the power plant systems to continually provide power to the Southwestern Public Power pool. Through my internship, I am able to affect people's life directly and develop skills to trouble shoot motors and generators, lead projects, and to increase the reliability of the power grid to ensure families never go without power.

Starting my internship, I didn't know the impact I would be making to my community, nor did I understand how my internship would affect me personally and professionally. My first week of my internship was comparable to drinking from a fire hose. I began amid a complete unit overhaul to prepare for the summertime power demand. During overhauls, all major equipment from the steam driven turbine to the boiler feed pumps used to drive the condensate

fluid through the system are taken apart and worked on. Instantly, I began my training on the fundamentals of the steam cycle by supplementing engineers on projects. During this time, I was instrumental to developing the work control forms used to plan the project essential items such as materials, labor, redlining drawings, and creating procedures for the crews to complete the projects. Specifically, during this time in my internship, I took the initiative to lead project and system inspections that provided critical insight into the health of the equipment to determine planned maintenance initiatives and create future project proposals.

This period in my internship was short lived. Soon after, COVID-19 spread across the globe, and Harrington's engineering staff changed dramatically due to promotions and internal advancements in the company. Through these changes and global pandemic, the need for reliable power remained. During this time, I was entrusted into a role similar to a full-time engineer to support Harrington. As a project manager, I have been able to work on the installation of an automatic Soot-blowing air compressor system to reduce the parasitic power demand from the air compressors to provide instrument air to our control valve actuators. This project required the redesign of the instrument air piping, installation of controllable actuators, and implementation of control logic for operation. Most importantly, this project enabled me to develop real relationships with the crews, vendors, and further supplemented my communication skills. I also have had the chance to work on projects such as the installation of automatic Seal Oil temperature control valves, pivot flow totalizers, and the balancing of a coal mill. These technical projects have been pivotal to Harringtons environmental, regulatory, and economic compliance initiatives.

My experience with Xcel Energy has been more than fulfilling and I have loved being a part of something more than just a company. Without my internship, I would not have had the

opportunity to help offset the harshness of the February storm, nor would I have had the chance to give back to the community that I grew up in. Xcel Energy has taken my skills and knowledge that I have gained from West Texas A & M and shown me how to utilize it to impact the world around me. I am now determined to succeed in my studies here at West Texas A& M and become a Power Engineer with Xcel Energy. I am grateful for both WT and Xcel Energy for such a great experience and an opportunity to share it.

Thank you,

Andrew Boggs



## College of Engineering

01 October 2021

Dear Mr. Sellars and Selection Committee,

It is my honor to write this letter of support for Mr. Andrew Boggs for the intern of the year Award. I have known him since Fall of 2019 when he took one of my classes. During the period, I had the opportunity to observe and appreciate his academic caliber, as well as the versatility of his personality.

During the summer of 2021, I had the opportunity to mentor Andrew in his internship with Xcel Energy, both from his reports and personal observation, I was really impressed with his ability to perform multi-disciplinary tasks in his workspace, he learnt quite a bit of mechanical drafting software like AutoCAD, Autodesk and Inventor modeling while also working in circuit and controller programming and simulation environments like SEL, GE programming, and MATLAB programming. He was in regular interaction with me during the entire time of internship. Andrew, quickly learned to manage his time, work in group situations under strict deadlines, and recognize the importance of a strong work ethic, persistence, and intellectual integrity.

Andrew possesses great communication skills which was well demonstrated through the various technical presentations presented by him over the course of summer 2021. They demonstrated his organizational skills as well. He is a highly motivated student, keen in his career advancement. He shows a great deal of interest in widening the horizon of his knowledge.

Andrew on top of being a great student, has also participated in several extracurricular activities like EWB Officer/ASME Member and IEEE President and received multiple awards like NAACP Scholar, NSF Scholar, Dean & Akademia Scholar, Xcel Intern of the Summer and Undergraduate Researcher.

On top of all these, during his internship in Xcel Energy, over the period of 3 years, he has successfully completed multiple projects like, H1 C Mill Vibration Balance Shot, Automated Pivot flow totalizers, Installed Dissolved Oxygen Analyzers, Installed Cation Conductivity Degassers, Cooling Tower Cell 3 Motor Rewind, Seal Oil Temperature Controller Replacement, DCS Alarm Rationalization, and Installed Automated SBAC Control Valve.

I believe he is certainly an example and role model to engineering students in demonstrating excellence in academic, career and co-curricular skill. Out of several of the interns that I managed, I can certainly say that Andrew is one of the best and certainly very well motivated in the right direction towards greater success.

If you have questions or need additional information, feel free to contact me.

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13 September 2021

Dear Intern of the Year Committee,

I am writing on behalf of Andrew Boggs, who served as the Performance Optimization Reliability Engineering Intern at the Amarillo, Texas Harrington Station Power Plant from 2020-2021.

As an intern Andrew is evaluated based on his technical knowledge, his performance balancing competing priorities, his ability to transfer knowledge through effective cross-functional communication, and his ability to identify problems and specify solutions to those problems. As for his results, Andrew has been exceptional and from the feedback I gather from the other site managers, crew foreman and engineers he may very well be one of the most productive, self-driven, and competent interns we've had come through Harrington Station.

Andrew started his internship responsible for providing engineering support to the electrical, instrumentation, and controls departments at Harrington Station. This involves gaining the trust and cooperation of multiple crews, many times simultaneously to organize cross-departmental efforts and support project implementation. I mention this first because often this alone is a strong indicator of how well an engineer will perform his/her duties since much depends on the cooperation of other departments. This is a soft skill that most interns and even some full-time engineers struggle with at Harrington Station. However, Andrew has made strong and lasting favorable impressions on the crews he's worked with by consistently asking how he can be most helpful, listening, and then following through with solutions all while providing periodic progress updates to the stakeholders he holds himself responsible to. Andrew's duties at this point are indistinguishable from that of a full-time engineer. While it's been a challenging task, he's been a support role and a lead role in several instrumentation, analyzer, and control valve projects. As a project manager he specifies technical solutions to maintenance problems, requests funds for capital projects, budgets, forecasts cash flows for

external services and material purchases, interfaces with the procurement and contracting departments, determines the appropriate division of responsibilities and ensures projects are completed on time and on budget. As a lead project engineer, he identifies technical specifications, reviews engineer drawings, makes redline markups for the drafting department to alter and have issued for construction, as well as oversees the demo and construction phases of engineered projects to provide ongoing support. Recently Harrington's already small Engineering department lost two engineers to promotions to Manager positions in other departments. For about a month Andrew stepped up in a big way and served as one of only two engineers assigned to Harrington and successfully shouldered a great deal of the engineering department duties while hiring replacements took place, which was noticed by all plant managers and crew foremen.

Andrew constantly takes initiative and does not shirk responsibility. Most recently Andrew found a weak point in the plant's understanding of the valving configuration and location of the irrigation pond and pivot water lines. Which under the right condition could lead to environmental violations. Andrew mapped out water lines covering several sections of land, identifying locations and valving configurations needed to redirect blowdown water to the appropriate blow down ponds. This will enable Harrington environmentalists to respond quickly when needed. Before that Andrew asked to learn about vibration analysis for rotating equipment which led to him learning how to evaluate sources of vibration in coal mill exhauster fans as well as how to balance them to reduce vibration to acceptable levels which is a function he now handles on his own.

Andrew has provided separate formal presentations over his role in Optimizing Alarms in Harrington's Distributed Control System, his role in upgrading control valves for Harrington Unit 2's Seal Oil Temperature Control system, and an overview of his internship. Andrew's presentations earned him the Top Intern Presentation award in 2021 which allowed him to present his presentation to Xcel Energy's CEO Ben Fowke.

As for community involvement Andrew serves as President of the WTAMU chapter of IEEE and serves as an officer with WTAMUs Engineers Without Borders. As an Xcel Intern he continuously provides constructive feedback on the ups and downs of his internship which enables us as mentors and managers to make changes to improve our program. In my two years of working with Andrew I've been very impressed with his initiative, work ethic, and results. I enthusiastically recommend him for Intern of the Year.

Sincerely,

Adam Ramos

Operations Manager, Harrington Station

Xcel Energy

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