

Internship: Nexus Engineering Group LLC.

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INTRODUCTION

Internship as a Process Engineer at Nexus Engineering Group LLC. Located in downtown Cleveland from May 2021 till May 2023. Full time hours over the course of the summer, and in between classes part time during school semesters.

MAIN PROJECT; DISCIPLINE LEAD

Converted an existing fixed roof storage tank to an API 650 internal floating roof tank. Installed a new larger pump to meet future plant capacity. The goal of the project was to complete modifications to move the tank into naphtha service so that the old tank can be retired

ROLES & RESPONSIBILITIES

- Owning and updating piping & instrumentation diagrams
- Interdisciplinary communication
- Communication with the client, both verbal and written
- Provided process data input to instrumentation and equipment data sheets
- Pump Calculations
- Pressure Safety Valve Calculations



Figure 2. Most Recent LinkedIn Photo

KEY TAKEAWAYS & TASKS

- Redlining & updating visuals of changes in the scope, optimizing instrumentation and location of pumps, valves, transmitters, etc.
- Staying up to date with each discipline involved in the project, internal status & diagram reviews, providing process information to others & requesting information from other members of the team
- Status meetings, piping and instrumentation reviews, requesting and producing process information, providing multiple design options
- Calculation of the work, power, pressure, etc. And different design specifications for the larger pump
- Providing up to date calculations and orifice areas for the pressure safety valve being installed to protect the tank



Figure 3. Pi Day!

CONCLUSIONS

Project was completed on time, and within budget. Turnover was scheduled for December and was completed in December of 2022. All deliverables were turned over with no problems and issued for construction. Gained experience & skill in pump and safety valve calculations, completely owning documentation, AutoCAD work, communication between clients and other disciplines. Tank modifications are complete. Piping and instrumentation has been installed. The new pump was shipped on March 10th.



Figure 4. Summer Intern Class of 2022

FUTURE WORK

I have accepted a job at Henkel in Warrensville Heights in the PRISM Rotational Program, beginning on July 31, 2023. The program is only a year long and allows candidates to try three different 'types' of jobs within the company; one more hands on, one more analytical, and one more involved in the plant floor process. After this year of learning and training, Henkel provides guidance of finding another job position, or bring transitioned into a full-time member of the company.

Acknowledgments

Thank you to Nexus for the incredible amount of knowledge and experience I have learned about the consulting world before being completely immersed in it. Thank you to CSU for four years of involvement and learning.



Figure 1. Cleveland Corporate Challenge Participation