

System Process Engineer – Fairfield, OH

Who we are.

Demand for critical minerals to power the energy transition is growing exponentially. Yet, we know mining deeper and broader, and building landfills higher and wider, works against our fight to save the planet. At Nth Cycle, we see the path forward. We believe the critical minerals needed for the energy transition are already in circulation today. We just didn't have a clean, profitable way of retrieving them, until now.

Nth Cycle is a metal processing technology company. Our electro-extraction technology helps recyclers and miners capture more critical minerals—for use in lithium-ion battery manufacturing, among other things—while dramatically reducing costs and emissions. We are the heart of metals processing; we are the crucial step that profitably separates critical minerals from other elements, transforming them into production-grade feedstocks for the energy transition.

Our Culture.

You won't find another team like ours. We believe in open, honest communication, and enjoying our work while changing the world. We work quickly but with intention—we've scaled our technology in size 100x in the past year. We're mission-oriented and think big—we're focused on reducing *gigatons* CO2 emissions from the atmosphere by 2050. And we value the perspectives and opinions of our colleagues while pushing each other to excel.

We're a dynamic team looking for a new team member who's also passionate about addressing climate change and advancing the clean energy industry. Consistent with our commitment to diversity & inclusion, we value colleagues with the ability to work on diverse teams and with a diverse range of people. If this is you, keep reading.

Position description.

This position will focus on engineering and operations of our commercial scale system in Fairfield Ohio enabling the recovery of critical minerals with our proprietary electro extraction technology. Bridging the gap between Nth Cycle's engineering headquarters and commercial operations, you will help safely accelerate technology scale-up from lab to field in Fairfield. Clear communication with a broad audience will allow you to filter critical information between Nth cycle engineering, plant operations, and the outside world. You will work closely with Nth Cycle engineers, operators, and plant management as well as external suppliers, EPCs, and consultants to maintain safe and effective plant equipment commissioning and operation. You will analyze design & test data, P&IDs, and schedules to acquire a deep understanding of 'the science', engineering, and project management to help drive design, implementation, and operating decisions on the commercial scale system. This role has the unique opportunity for broad impact from the lab to new equipment. As Nth Cycle targets aggressive growth milestones, your motivation and organization skills will help Nth Cycle deliver on fast timelines. Additional responsibilities may include training, and troubleshooting. As a team member, a leader, and

technical contributor you will shine at Nth Cycle along with our friendly, humble, passionate, intelligent, and capable team!

Key responsibilities and accountabilities.

- Daily plant operations oversight – work together with plant manager troubleshooting and solving issues.
 - Go to person for whenever equipment or process issues arise.
- Oversee day to day operation and maintenance of control systems.
 - Troubleshoot PLC hardware issues and instrumentation issues.
 - Develop control scheme changes to assist operations.
 - 24/7 support of plant; first line of defense.
- Lead all control systems integration during capital project installation.
 - Collaborate with Process Engineers on needs and design.
 - Manage purchasing and receiving of equipment.
 - Work with vendors to establish and maintain internal standards.
- Lead preventative maintenance and recommend solutions.
- Eyes on data on a regular basis for system performance trends, recognition of failure modes.
- Analyze production or test data to gain insights for process and/or design improvements.
- Inform continuous improvement and make recommendations for future plant design.
- In collaboration with EHS help with maintaining safe procedures in the lab and on the plant floor.
- Assist in managing small to large capital projects for delivering needed results within budget and schedule.
- Help design and improve our system for data collection and processing, help inform best practices for monitoring the health of our system.
- Demonstrate understanding of established manufacturing processes and equipment.
- Assist design, develop, and commission chemical processing equipment and instrumentation based on R&D optimizations.
- Demonstrate safety leadership particularly with chemical operations (gas generation, pressure vessels, exothermic reactions, corrosive materials, etc.).
- Assist in implementing environmental improvement initiatives particularly with respect to emissions, pollutants identification, effluent control, neutralization of caustics/acids, etc.
- Assist in managing EPCs, sub-contractors, vendors and other contributors and hold them accountable for contract liabilities, regulatory compliance, and Nth Cycle safety quality standards.
- Develop test validation protocols to assess the efficacy of new processes, equipment, and products.
- Establish and document process methods, processes, manuals, and training.
- Review and/or develop P&IDs, PFDs, functional specifications, SOPs, and commissioning plans.
- Lead or participate in safety reviews such as PHA & HAZOP for safe & effective plant design.
- Support new to plant start-up activities including FATs, check-outs, PSSRs, and commissioning.

Qualifications and experience.

Qualified candidates will possess a strong combination of the following:

- PLC Programming in Rockwell environment
- BS or MS in Chemical or Mechanical Engineering, or equivalent
- Demonstrated process engineering experience.
- 5+ years direct experience in chemical plant operations and commissioning.

- Familiarity with chemical processes scale up.
- Familiarity working with applicable codes and regulations (at least to know when/where compliance issues may arise) OSHA, NFPA, API, CGA, ASME, IEE
- Attention to detail and deadline and budget aware.
- Ability to work in a fast-paced environment.
- Strong technical skills and analytical understanding.
- Flexible thinking especially while problem solving.
- Strong verbal and written/digital communication skills.
- Training and mentoring experience – Engineers and Operators

Ideal candidates will possess some or all of the following:

- Experience in electro-chemical processing, e.g. H₂ production, chlor-alkali.
 - Electrode design & manufacturing, fluidic architecture, membranes.
- Hazardous gas experience.
- Experience with environmental permitting.
- Acidic reactions and metal dissolution experience.

Nth Cycle does not discriminate in employment on the basis of race, color, religion, sex (including pregnancy and gender identity), national origin, political affiliation, sexual orientation, marital status, disability, genetic information, age, membership in an employee organization, retaliation, parental status, military service, or other non-merit factor.

Where we are and what we offer:

- Greater Cincinnati Area
- Full-time position
- Eligible for Medical, Dental, and Vision benefits.
- Paid time off, 13 company holidays, and a Holiday Break at the end of the year

Closing Statement.

Consistent with our commitment to diversity & inclusion, we value people with the ability to work on diverse teams and with a diverse range of people. We especially encourage members of traditionally underrepresented communities to apply, including women, people of color, LGBTQ people, veterans, and people with disabilities.

We know the right candidate might not check every box in this job description. You could also have important skills we haven't thought of. If you think you're a great candidate for this role, apply and tell us why. To apply, send us a resume and a few sentences about why you are interested in this position and what you bring to the table. We're looking forward to hearing from you.

Please send your resume to careers@nthcycle.com or contact Pat Perillo in HR directly at perillo@nthcycle.com.