Job Title	Entry Level Mechanical Designer	Date	8/22/2024
Department	Engineering	Manages Employees	☐ Yes ☒ No
Reports To	Engineering Manager	FLSA Status *(to be completed by HR)*	☒ Exempt ☐ Non-Exempt
Revision	A		

Summary (Main Purpose)

Under the direction of the Engineering Manager, the Entry Level Mechanical Designer will support and design structures and bussing for switchgear, panel boards and electrical power distribution equipment for safe, effective, and efficient operation of States Mfg. products and processes while meeting and exceeding company quality and production standards and customer documentation and delivery requirements.

Job Duties and Responsibilities *(Essential Functions)*

- Ideal candidate will have 0-2 years designing, or capable of designing, mechanical structures and bussing for LV and MV switchgear assemblies, developing and implementing engineering standards, complying with applicable codes and customer specifications within a project management structure to ensure workflow remains within schedule and budget requirements.
- Review and interpret customer specifications and sales agreements and receive direction from mentors to create designs.
- Experience using, or the ability to learn to design using 3D modeling software such as AutoCAD, PDM and SolidWorks mechanical tools and libraries.
- Improve the design process using standardized practices, tools and systems, improve the quality and productivity of the design and support process while reducing schedule and budget.
- Evaluate and design mechanical components and fabrication parts for bussing systems, switchgear, panelboards and control panels.
- Maintain a working knowledge of our factory equipment, its capabilities and performance criteria, including forming, punching, welding, milling, coating and finishing.
- Participate in cross-functional teams to address and resolve manufacturing, design and quality problems, and pursue continuous improvement of design and manufacturing and installation processes and methods.
- Attend training, review documentation, procedures and work instructions related to mentorship and growth of technical competencies within the engineering team.
- Support new product development initiatives by remaining up to date with new industry products, technologies and trends.
- Follow all housekeeping procedures and rules, comply with all quality and safety regulations.
- Able to stand or sit for extended periods of time, and safely lift 40 lbs.

Required Skills and Experience (*Minimum requirements in terms of educational background, work experience, licenses/certifications or other knowledge, skills, and abilities).*

- Ability to learn to support and design multi-phase and DC switchgear, switchboards, panelboards in accordance with customer's functional requirements for LV and MV equipment.
- Support design for product assembly, manufacturing and testing.
- Support the creation of product and project quotes with sketches and concepts.
- Experience using, or the ability to learn Microsoft Office products, including Outlook, Excel, Word, PowerPoint.
- Experience using, or the ability to learn PDM, SolidWorks, AutoCAD, 3D design tools.

Additional Skills and Experience *(Preferred or helpful)*

- AAS in relevant engineering discipline.

- Experience, schooling and coursework in sheet metal design, fabrication, machine design, GD&T, welding and coatings a plus.
- 0-2 years of engineering or technical experience.
- Ability to learn to design structures and bussing related to electrical power equipment.
- Ability to learn to understand and develop competencies across electrical, mechanical and software design and commissioning functions.
- Must be self-motivated, have good interpersonal skills, capable of analyzing and solving complex problems through collaboration, innovative thought and experience.
- Experience with AutoCAD, SolidWorks PDM or other CAD design tools a plus.
- Experience related to renewables, emerging energy markets, data centers, battery systems, stored energy and charging stations a plus.

This description covers the primary purpose and principal duties of the job. It is not designed to be a complete list of all the duties and responsibilities required of this position. Duties, responsibilities, and activities may change at any time with or without notice.

Demands and Conditions Analysis: Mechanical Designer

Working Conditions

The **essential functions** of this job involve the following working conditions.
(Place an **"x"** in the appropriate box.)

C = Continuously 75%-100% of time
F = Frequently 50%-74% of time
O = Occasionally 10%-49% of time
R = Rarely 1%-9% of time
N = Never 0% of time

	C	F	O	R	N		C	F	O	R	N
Environmental						**Physical Factors**					
Works alone			X			Sitting		X			
Works with others	X					Standing		X			
Customer contact				X		Walking		X			
Shift Work					X	Bending/stooping		X			
Extended Day			X			Squatting/Kneeling		X			
Keeping work pace/deadlines	X					Crouching/Crawling			X		
Performing repetitive tasks	X					Twisting at waist		X			
Noise (decibels) 91				X		Reaching above shoulders			X		
Vibration				X		Reaching below knees				X	
Abrupt temperature changes				X		Lift/carry up to 40 lbs.		X			
Heat (above 85 F)			X			Push/pull to 100 (force)			X		
Cold (below 65 F)				X		Climbing ladders			X		
Wetness				X		Climbing stairs			X		
Dampness				X		Sweeping/mopping				X	
Dryness				X		Operating foot controls					X
Odors & dusts				X		**Manual Tasks**					
Work with solvents					X	Grasping with one hand	X				
Work acids, bases					X	Grasping with both hands	X				
Work with oils					X	Manipulating with one hand	X				
Work with toxins					X	Manipulating with two hands		X			
Poor ventilation					X	Handwritten communication		X			
Fumes					X	Using keyboard	X				
Mechanical hazards			X			Using hand tools		X			
Electrical hazards			X			Twisting/wringing			X		
Sensory Tasks						Scrubbing/washing/ polishing				X	
Seeing close (reading)	X					Scraping				X	
Seeing far (observation)			X			**Equipment Operation**					
Peripheral vision			X			Driving car / light truck					X
Seeing colors			X			Driving heavy truck / van					X
Verbal communication	X					Operating forklifts, stackers					X
Hearing speech		X				Operating hoist equipment			X		
Hearing mechanical sounds			X			Operating shop machinery			X		
Sensing odors					X	Operating power tools	X				
Sensing by touch					X	Operating torch					X