Training Evaluation Request
Oregon Environmental Services Advisory Council
Watura
Components of a Motor Control Center

Course title: Components of a Motor Control Center

Drinking Water CEUs: 1.5 h

Wastewater CEUs: 1.5 h

Instructor bio: **Stacey W. GORDON, P.E.,** is currently the Director of Water Utility Services for Columbia County Georgia. He has been the Water Utility Director since April 2021 and served as an Engineering Consultant to Water Utilities across South Carolina and Georgia for 18 years before becoming the Director. He earned a Bachelor of Science in Electrical Engineering from The Citadel, in Charleston South Carolina and is a licensed Professional Engineer in Georgia and South Carolina.

Course description: Motor control centers (MCCs) are large, metal cabinets that contain several compartments. Each compartment contains electrical components used to control and protect motors. They centralize control, improve safety, and make maintenance more efficient. This course covers the main components of an MCC, including circuit breakers, fuses, contactors, overload relays, reduced voltage starters, variable frequency drives, auxiliary relays, HMI, and PLC. It explains the role of each device, how they work together to control and protect motors, and the basic safety practices needed when working around MCCs.

Learning goals:

- Explain the importance of MCCs in drinking water and wastewater treatment plants
- Identify the key components of a motor control center and explain their primary functions
- Describe the safety protocols to follow when working with MCCs

Tracking attendance method:

The e-learning platform offers a highly interactive experience designed to engage learners at every stage. It begins with an initial test to assess knowledge and tailor the learning journey. The course includes short, focused videos interspersed with mandatory training quizzes that reinforce key concepts and ensure active participation. Students are required to watch every video entirely and to answer practice questions before advancing to the next course module. Students cannot skip course content. A final quiz at the end of each chapter evaluates overall comprehension and certifies the learner's mastery of the material. Students must obtain a minimum score of 70% for every chapter's final quiz to successfully complete the course and obtain the certificate of attendance. The platform automatically tracks each learner's learning time. The real learning time is indicated alongside the delivered credits in the course completion certificate.

Course outline: Components of a Motor Control Center

Initial Test		12 min
1. Introduction to Motor Control Centers	1.1. Course Overview	1 min
	1.2. Purpose of MCCs in Water and Wastewater Systems	4 min
	1.3. Electrical Safety in MCCs	6 min
	1.4. Chapter 1 - Fact Sheet	1 min
	Chapter final test	4 min
2. Components of a Motor Control Center	2.1. MCC Structure and Compartments	6 min
	2.2. Circuit Breakers and Fuses	5 min
	2.3. Contractors and Overload Relays	6 min
	2.4. Reduced Voltage Starters	5 min
	2.5. Variable Frequency Drives (VFDs)	5 min
	2.6. Auxiliary Relays	6 min
	2.7. Human-Machine Interface (HMI)	5 min
	2.8. Programmable Logic Controller (PLC)	5 min
	2.9. Course Glossary	4 min
	2.10. Chapter 2 - Fact Sheet	3 min
	Chapter final test	12 min
Total Learning Time		90 min
Requested Contact Hours		1.5 h