

Moisture Separator and Reheater Training

September 27-29, 2022

Course will be conducted to accommodate both in-person (recommended) and virtual attendance. Please specify desired option on Registration Form below.

OVERVIEW

Due to the aging nuclear fleet many utilities are needing to replace their Moisture Separator and Reheaters (MSRs). This course is designed to support those engineers, involved with a replacement project, to better understand the component they are working, its subcomponents, and key aspects of a replacement project.

COURSE CONTENT/MSR TRAINING OUTLINE

- Thermodynamic Fundamentals
- Introduction to MSRs
- Overall design styles
- Sub-Components & Function
- Specification Sheet
- MSR Systems
- Instrumentation
- Exercise - Calculations
- Replacement: Shipping & Installation
- Operation
- Failure Modes
- Performance Monitoring
- Troubleshooting & Exercise
- Maintenance
- ASME PTC 12.4 MSR Testing
- Uncertainty Analysis & Exercise

SCHEDULE AT A GLANCE - September 27-29, 2022

Tuesday	8:00am 4:00pm*
Wednesday	8:00am 4:00pm
Thursday	8:00am 4:00pm

*All times are Mountain

CONTINUING EDUCATION UNITS (CEU)

Each attendee will receive a Certificate of Completion for 2.0 Continuing Education Units (CEU) credits to qualify for 20 Professional Development Hours (PDH) needed to fulfill Professional Engineers' continuing education requirements. The credits will be awarded without authorization. It is the attendee's responsibility to keep and present the certificate to any organization that requires the certificate.

FEE: \$2,695

*Lunches and beverage service will be provided.

** Calculator, Heat Balance Diagram and/or Thermal Kit of your Plant

TRAINING LOCATION

The Bridges Golf & Country Club
2500 Bridges Dr
Montrose, CO 81401

ACCOMMODATION SUGGESTIONS

Holiday Inn Express
1391 S. Townsend Ave.
Montrose, CO 81401
(970) 240-1800

The Bridges Golf & Country Club
2500 Bridges Drive
Montrose, CO 81401
970-252-1119 (rooms are limited)

Hampton Inn
1980 North Townsend
Montrose CO 81401
970-252-3300

ABOUT THE INSTRUCTORS

Graig Pattison, P.E. | graid.pattison@gses.com | 970.964.2754

Graig serves as Senior Consultant at GSE True North. Graig has over 15 years of experience in the nuclear industry. His experience includes thermal performance modeling and analysis and component engineering at the station and fleet levels.

Frank Todd | frank.todd@gses.com | 970.964.2753

Frank serves as Chief Technical Consultant at GSE Programs & Performance, formerly True North Consulting. Frank is highly skilled in the use of analytical tools designed to evaluate thermal performance and improve plant efficiency and reliability. These tools include a variety of approaches using computer-based plant modeling with strong emphasis on problem analysis and resolution. Additionally, Frank has developed a wide spectrum of test specifications, procedures, and testing configurations in support of thermal performance improvements.

Joe Wooten | joe.wooten@gses.com | 970.964.2757

Joe serves as Senior Consultant at GSE Programs & Performance, formerly True North Consulting. Joe has over 40 years' experience in the nuclear industry including Startup Engineering and Testing, System Engineering, Plant Design, Component Engineering, Thermal Performance Testing, Analysis, Troubleshooting, and Modeling.

QUESTIONS - Contact Carrie Briggs at carrie.briggs@gses.com.

REGISTRATION FORM

MSR Training
Sept 27-29, 2022
DEADLINE – September 2, 2022

E-mail: carrie.briggs@gses.com

Mail to: Carrie Briggs, GSE Programs & Performance
150 Merchant Drive | Montrose, Colorado 81401

Or **Register Online at:** www.gses.com/training-registration/

Name:	
Job Title:	
Company: Plant:	
Telephone:	
Email:	
Materials/Attendance	<input type="checkbox"/> In Person <input type="checkbox"/> Online
Payment Information	
Check one form of payment:	<input type="checkbox"/> CREDIT CARD <input type="checkbox"/> CHECK # _____ <input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> American Express <input type="checkbox"/> Other
Card #	
Exp. Date:	
Cardholder Name:	
Credit Card Billing Address	
Signature:	
Cardholder's Email Address/Phone Number:	
<ul style="list-style-type: none">• Remittance of payment is due one week prior to the first day of training.• Receipt for payment will be emailed to you as your confirmation.• If your company or another party will be compensating GSE Programs & Performance for your registration fee via check or credit card, please	
If you have any questions about registering, please email carrie.briggs@gses.com.	

Instructions for Virtual Thermal Performance Training:

1. Please minimize multitasking and be engaged as if all were together in a common training facility. We will be engaging everyone as we teach the class (and we may ask a question or two) so stay on your toes.
2. Required to have a video connection so we can see you
3. Attire is your choice, but remember you are on camera.
4. Background noises such as pets and family are understandable. Minimize if you can but no worries when the dogs bark at the doorbell. We might draw the line at Elephants, snakes or really big spiders.
5. Zoom will be the platform used to facilitate the virtual training week. Zoom has web-based versions as well as free desktop apps. If you haven't used Zoom on the computer you will use for the training, it would be good to either load Zoom or to explore/test the web version prior to the training.
6. If you have a question, you can ask at any time. We greatly encourage questions.
7. We will send hard copies of the exercises.
8. We will be doing the exercises together and you will be expected to actually do them with a pencil and a calculator.
9. We will be taking hourly breaks (feel free remind us if we get too carried away, we love thermo)
10. The class will start at 8:00 am. MDT so y'all in the east get to sleep in.
11. The class will end at 4:00 pm. MDT so y'all in the east get to work a little late.
12. We will take a 45-minute lunch break sometime around 12:00-12:45 MDT.