



# 2017 PROTECTION TRAINING

Doble and ENOSERV offer a wide range of **protection training courses** that will help prepare you for a modern grid, power plant and industrial facility. We can conduct these courses at your facilities, or at one of our training facilities.

READ FULL COURSE DESCRIPTIONS AT [events.doble.com/protection](http://events.doble.com/protection)

## PROFESSIONAL CREDITS

Most of our protection training courses are eligible for NETA Continuing Technical Development Credits (CTDs) as well as IACET certified Continuing Education Units (CEUs). For more information visit <http://www.doble.com/earning-ceus/>

Doble Engineering Company and ENOSERV, a division of Doble, are accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET).

## COURSES

### ENOSERV RTS ESSENTIALS TRAINING

- Two-day training on the basics of RTS and routine creation  
**NETA CTD credits: 16 | \$750**

### ENOSERV RTS DEVELOPER

- Two-day training on how to create and modify automated relay test routines with the FasTest system & learn RTS commands that are beyond the FasTest system  
**NETA CTD credits: 16 | \$1800**

### ENOSERV RTS ADVANCED DEVELOPER

- Three-day training on advanced techniques to develop advanced and custom test procedures that are tailored to specific class needs  
**NETA CTD credits: 24 | \$2500**

### 2016 ENOSERV CLIENT TRAINING SEMINAR

- Three-days of software training taught by industry experts, customer presentations, hands-on learning lab and networking opportunities.  
**\$1495**

### 2016 PROTECTION TESTING USERS GROUP MEETING

- Training on all Doble's Protection Suite and ProTeST software, as well as updates on protection testing from the industry's foremost experts.  
**Free with your Doble Protection Suite or ProTeST License**

### SCHEMATIC ELECTRICAL PRINT READING

- Three-days of training on electrical print terminology, symbols, device numbers, & abbreviations, AC/DC control schematics, and power circuit breakers | **\$1650**

### SUBSTATION MAINTENANCE

- Three-day training on the hazards and safety in a substation, concepts of switching in a high voltage yard **\$1650**

### PROTECTIVE RELAYING APPLICATION & TESTING

- Three-day training on protective relay testing applicable for utilities, industrial plants, commercial facilities and power plants  
**NETA CTD credits: 24 | \$1650**

### BASICS OF PROTECTION FOR INDUSTRIALS

- Three-day training on protection basics as it applies to industrial plants, commercial facilities and power plants  
**NETA CTD credits: 24 | \$1650**

### BASICS OF PROTECTION FOR UTILITIES

- Three-day training on protection basics for power utilities  
**NETA CTD credits: 24 | \$1650**

### HARMONICS SIMPLIFIED

- One-day training to gain a working knowledge of harmonics, simple methods to calculate distortion levels, quick hand calculations to calculate resonant frequencies, detailed analysis using software, and a detailed procedure of designing harmonic filters  
**NETA CTD credits: 8 | \$800**

### BASIC HANDS-ON TRAINING FOR THE APPLICATION AND TESTING OF ELECTRO-MECHANICAL & MICROPROCESSOR RELAYS

- Three-day training on testing of simple overcurrent relays such as time overcurrent, under/overvoltage, and over/under frequency electromechanical relays  
**NETA CTD credits: 24 | \$1400**

### INTERMEDIATE HANDS-ON TRAINING FOR THE APPLICATION & TESTING OF ELECTRO-MECHANICAL & MICROPROCESSOR RELAY

- Three-day training on testing of distance, differential, rate of change of frequency, loss of field, reverse power and synchronizing relays  
**NETA CTD credits: 24 | \$1650**

### ADVANCED HANDS-ON TRAINING FOR THE APPLICATION AND TESTING OF ELECTRO-MECHANICAL & MICROPROCESSOR RELAY

- Three-days of advanced testing training involving communication assisted protection, analysis of event reports, COMTRADE and ss1 files, line current differential, relays, bus differential and out-of-step protection testing  
**NETA CTD credits: 24 | \$2000**

### IEC 61850 APPLICATION AND TESTING

- One and a half days of training on IEC 61850  
**NETA CTD credits: 12 | \$1200**

### FAULT CALCULATION & SYMMETRICAL COMPONENTS

- Two-day training covering fault calculations for various types of short circuit faults that can occur in a power system  
**NETA CTD credits: 24 | \$1200**

### GENERATOR PROTECTION APPLICATION & TESTING

- Two-day training on the basics of generator protection testing, including all elements that are typically used in power plant applications  
**NETA CTD credits: 12 | \$1200**

# PROTECTION TRAINING CALENDAR

## JANUARY

24	25	26
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		
ENOSERV RTS Essentials		

## FEBRUARY

7	8	9
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		

21	22
ENOSERV RTS Developer	

28	1	2
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		

## MARCH

7	8	9
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		

21	22	23
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		

## APRIL

4	5	6
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		

18	19
Generator Protection Application & Testing	
ENOSERV RTS Essentials	

## MAY

9	10
Schematic Electrical Print Reading	
Fault Calculation & Symmetrical Components	

16	17
ENOSERV RTS Developer	

23	24	25
Basics of Protection for Industrials		

## JUNE

13	14	15
Basics of Protection for Utilities		

20	21	22
ENOSERV RTS Advanced Developer		

27	28	29
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		

## JULY

11	12	13
Substation Maintenance		
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		

18	19
ENOSERV RTS Essentials	

25	26	27
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		

## AUGUST

8	9	10
Protective Relaying Application & Testing		

15	16
ENOSERV RTS Developer	

22	23	24
Application & Testing Electro-Mechanical & Microprocessor Relays (Intermediate)		

## SEPTEMBER

12	13
IEC 61850 Application & Testing	
Schematic Electrical Print Reading	

19	20	21
ENOSERV RTS Advanced Developer		

26
Harmonics Simplified

## OCTOBER

3	4	5
Substation Maintenance		

17	18
ENOSERV RTS Essentials	

24	25	26
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		

## NOVEMBER

14	15	16
ENOSERV RTS Developer		
Basics of Protection Course for Utilities		

## DECEMBER

5	6	7
Application & Testing Electro-Mechanical & Microprocessor Relays (Basic)		

12	13	14
Application & Testing Electro-Mechanical & Microprocessor Relays (Advanced)		
ENOSERV RTS Advanced Developer		

- Event Hosted at ENOSERV Training Facility in Tulsa, OK
- Event Hosted at Doble Training Facility in Morrisville, NC

**VISIT [EVENTS.DOUBLE.COM/PROTECTION](https://www.doble.com/protection) TO LEARN MORE & REGISTER**

If you have 8 or more people that your company would like to send to a course, consider hosting it at your facility. Email [Doble Events](mailto:doble.events@doble.com) at [events@doble.com](mailto:doble.events@doble.com) to find out more information.