

# On-Site Governor Training

## Operations, Maintenance & Troubleshooting



### Introduction

Emerson offers a full range of on-site training classes covering governor theory, operations, maintenance and troubleshooting for all types of governors. These courses include both classroom and hands-on sessions that are specially designed to cover your site's specific equipment and unique operating characteristics.

All Emerson training classes are taught by experienced governor specialists, many with decades of real-world hydro governor experience, who will impart both their extensive theoretical and practical knowledge. Each attendee will receive a training manual to use during the training course and for future reference.

On-site training classes generally last three to five days, depending on the number of students and the amount of hands-on time desired. The hands-on sessions are especially powerful, as attendees get to apply the theory learned in the classroom sessions to their own unit(s).

If you own more than one type of governor, several classes may be combined into one: for example, a cabinet actuator class may be combined with a gateshaft class. More cost-effective than separate classes, a combined training class offers complete training for all the governor types in a powerhouse or project.

### Training Information

Who Should Attend?	Topics	Governor Type
<ul style="list-style-type: none"> <li>▪ Mechanics</li> <li>▪ Electricians</li> <li>▪ Engineers</li> <li>▪ Operators</li> <li>▪ Supervisors</li> <li>▪ Consultants</li> </ul>	<ul style="list-style-type: none"> <li>▪ Governor Basics</li> <li>▪ Theory of Operation</li> <li>▪ Calibration Methods</li> <li>▪ Testing Methods</li> <li>▪ Troubleshooting</li> <li>▪ Auxiliary Systems</li> </ul>	<ul style="list-style-type: none"> <li>▪ Woodward</li> <li>▪ Pelton</li> <li>▪ Allis-Chalmers</li> <li>▪ General Electric</li> <li>▪ Other OEM brands</li> <li>▪ All PLC-based digital governors</li> <li>▪ Any type, any brand</li> </ul>

## Training Agenda

Course agendas can be customized to suit your preferences. Common training topics include:

- Governor theory
- Speed droop and load sharing
- Mechanical components and their operation
- Electrical components and their operation
- Regular maintenance activities
- Governor and pumping system adjustments
- Governor and pumping unit troubleshooting
- Human machine interface (HMI) programming and development
- Hands-on overhaul, calibration and/or troubleshooting sessions\*
- Focus classes: mechanical cabinet, gateshaft, digital PLC, and analog

\*Note: During hands-on training the subject unit must be off-line and available for class use for at least one day. If an overhaul is part of the hands-on training the unit will need to be de-watered.

Class duration can vary from two to five days depending upon desired content. The size of classroom sessions is limited only by practical concerns such as the space available in your training room. To maintain the effectiveness of the hands-on sessions we recommend limiting their attendance to no more than 12 trainees.

Class costs are based on the number of attendees, number of days, and travel/living expenses. Please contact us for a training quote at [hydro@emerson.com](mailto:hydro@emerson.com).

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