



Power Generation Maintenance Electrician

L1 POWER GENERATION MAINTENANCE ELECTRICIAN



LEVEL 1

Curriculum Notes

- 225 Hours (Includes 100 hours of Power Industry Fundamentals which is a prerequisite for Level One completion and must be purchased separately. See above for more information.)
- Published: 2010
- Includes full color insert
- Please note that these modules are drawn as is from various other craft areas. To order modules individually, refer to the specific craft page for ISBNs.
- Instructor's Guide includes access code to download TestGen software, module exams, and performance profiles from www.nccerirc.com.

PAPERBACK	ISBN
Trainee Guide: \$65	978-0-13-215421-5
Instructor's Guide: \$65	978-0-13-215422-2

Product Supplements

PowerPoint® Presentation Slides (in color) ISBN 978-0-13-215993-7	\$40
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MODULES

Tools of the Trade (5 Hours)

(Module ID 40102-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614613-1
Instructor \$19	ISBN 978-0-13-614626-1

Fasteners and Anchors (5 Hours)

(Module ID 40103-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614614-8
Instructor \$19	ISBN 978-0-13-614627-8

Oxyfuel Cutting (17.5 Hours)

(Module ID 40104-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614615-5
Instructor \$19	ISBN 978-0-13-614628-5

Gaskets and Packing (10 Hours)

(Module ID 40105-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614616-2
Instructor \$19	ISBN 978-0-13-614596-7

Craft-Related Mathematics (15 Hours)

(Module ID 40106-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614617-9
Instructor \$19	ISBN 978-0-13-614597-4

Construction Drawings (12.5 Hours)

(Module ID 40107-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614618-6
Instructor \$19	ISBN 978-0-13-614598-1

Pumps and Drivers (5 Hours)

(Module ID 40108-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614619-3
Instructor \$19	ISBN 978-0-13-614599-8

Valves (5 Hours)

(Module ID 40109-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614620-9
Instructor \$19	ISBN 978-0-13-614600-1

Introduction to Test Instruments (7.5 Hours)

(Module ID 40110-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614621-6
Instructor \$19	ISBN 978-0-13-614601-8

Material Handling and Hand Rigging (15 Hours)

(Module ID 40111-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614622-3
Instructor \$19	ISBN 978-0-13-614602-5

Mobile and Support Equipment (10 Hours)

(Module ID 40112-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614623-0
Instructor \$19	ISBN 978-0-13-614639-1

Lubrication (12.5 Hours)

(Module ID 40113-07; from *Industrial Maintenance E&I Technician Level One*)

Trainee \$19	ISBN 978-0-13-614624-7
Instructor \$19	ISBN 978-0-13-614640-7

SMAW Equipment and Setup (5 Hours)

(Module ID 29107-09; from *Welding Level One*)

Trainee \$19	ISBN 978-0-13-610533-6
Instructor \$19	ISBN 978-0-13-610547-3

L2 POWER GENERATION MAINTENANCE ELECTRICIAN

LEVEL 2

Curriculum Notes

- 167.5 Hours
- Published: 2010
- Please note that these modules are drawn as is from various other craft areas. To order modules individually, refer to the specific craft page for ISBNs.
- Instructor's Guide includes access code to download TestGen software, module exams, and performance profiles from www.nccerirc.com.

PAPERBACK	ISBN
Trainee Guide: \$94	978-0-13-215423-9
Instructor's Guide: \$94	978-0-13-215424-6

Product Supplements

PowerPoint® Presentation Slides (in color) ISBN 978-0-13-230588-4	\$40
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MODULES

Industrial Safety for E&I Technicians

(12.5 Hours)
(Module ID 40201-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604701-8
Instructor \$19	ISBN 978-0-13-604716-2

Managing Electrical Hazards (12.5 Hours)

(Module ID 26501-09; from *Electrical*)

Trainee \$22	ISBN 978-0-13-608661-1
Instructor \$22	ISBN 978-0-13-608663-5

Introduction to the National Electrical Code® (5 Hours)

(Module ID 40202-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604702-5
Instructor \$19	ISBN 978-0-13-604717-9

Electrical Theory (15 Hours)

(Module ID 40203-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604704-9
Instructor \$19	ISBN 978-0-13-604718-6

Alternating Current (20 Hours)

(Module ID 40204-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604705-6
Instructor \$19	ISBN 978-0-13-604719-3

E&I Drawings (10 Hours)

(Module ID 40303-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19	ISBN 978-0-13-604697-4
Instructor \$19	ISBN 978-0-13-604747-6

E&I Test Equipment (10 Hours)

(Module ID 40205-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604706-3
Instructor \$19	ISBN 978-0-13-604720-9

Conductors and Cables (10 Hours)

(Module ID 40212-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604714-8
Instructor \$19	ISBN 978-0-13-604692-9

Conductor Terminations and Splices (10 Hours)

(Module ID 40213-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19	ISBN 978-0-13-604715-5
Instructor \$19	ISBN 978-0-13-604693-6

Motor Controls (15 Hours)

(Module ID 40304-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19	ISBN 978-0-13-604698-1
Instructor \$19	ISBN 978-0-13-604748-3

Hydraulic Controls (15 Hours)

(Module ID 40311-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19	ISBN 978-0-13-604742-1
Instructor \$19	ISBN 978-0-13-604757-5



Power Generation Maintenance Electrician Level 2 (continued)

Pneumatic Controls (15 Hours)

(Module ID 40312-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604739-1
Instructor \$19 ISBN 978-0-13-604754-4

Programmable Logic Controllers (17.5 Hours)

(Module ID 40409-09; from *Industrial Maintenance E&I Technician Level Four*)

Trainee \$19 ISBN 978-0-13-609136-3
Instructor \$19 ISBN 978-0-13-610441-4

L3 POWER GENERATION MAINTENANCE ELECTRICIAN

LEVEL 3

Curriculum Notes

- 222.5 Hours
- Published: 2010
- Please note that these modules are drawn as is from various other craft areas. To order modules individually, refer to the specific craft page for ISBNs.
- Instructor's Guide includes access code to download TestGen software, module exams, and performance profiles from www.nccerirc.com.

PAPERBACK

ISBN

Trainee Guide: \$94 **978-0-13-215425-3**
Instructor's Guide: \$94 **978-0-13-215426-0**

Product Supplements

PowerPoint® Presentation Slides (in color)
ISBN 978-0-13-230587-7 \$40

MODULES

Conductor Installations (10 Hours)

(Module ID 26206-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266135-5
Instructor \$19 ISBN 978-0-13-266146-1

Cable Tray (7.5 Hours)

(Module ID 26207-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266136-2
Instructor \$19 ISBN 978-0-13-266147-8

Grounding and Bonding (15 Hours)

(Module ID 26209-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266138-6
Instructor \$19 ISBN 978-0-13-266150-8

Hand Bending (10 Hours)

(Module ID 40208-08; from *Industrial Maintenance E&I Technician Level Two*)

Trainee \$19 ISBN 978-0-13-604709-4
Instructor \$19 ISBN 978-0-13-604723-0

Machine Bending of Conduit (15 Hours)

(Module ID 40310-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604741-4
Instructor \$19 ISBN 978-0-13-604756-8

Electric Lighting (15 Hours)

(Module ID 26203-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266132-4
Instructor \$19 ISBN 978-0-13-266143-0

Practical Applications of Lighting (12.5 Hours)

(Module ID 26303-08; from *Electrical Level Three*)

Trainee \$19 ISBN 978-0-13-293676-7
Instructor \$19 ISBN 978-0-13-293687-3

Hazardous Locations (10 Hours)

(Module ID 40301-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604694-3
Instructor \$19 ISBN 978-0-13-604744-5

Circuit Breakers and Fuses (12.5 Hours)

(Module ID 26210-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266139-3
Instructor \$19 ISBN 978-0-13-266151-5

Transformer Applications (7.5 Hours)

(Module ID 40306-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604735-3
Instructor \$19 ISBN 978-0-13-604750-6

Distribution Equipment (17.5 Hours)

(Module ID 40305-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604734-6
Instructor \$19 ISBN 978-0-13-604749-0

Power Plant Electrical Systems (12.5 Hours)

Trainee \$18 ISBN 978-0-13-272106-6
Instructor \$18 ISBN 978-0-13-272107-3

(Module ID 50301-11) Describes how the electrical power to operate a power station is developed and distributed in normal, shutdown, and emergency situations. Covers equipment used in power stations, including circuit breakers, switchgear, and motor control centers.

Conductor Selection and Calculations (15 Hours)

(Module ID 40307-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604736-0
Instructor \$19 ISBN 978-0-13-604751-3

Motors: Theory and Application (20 Hours)

(Module ID 26202-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266131-7
Instructor \$19 ISBN 978-0-13-266142-3

Motor-Operated Valves (15 Hours)

(Module ID 40313-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604743-8
Instructor \$19 ISBN 978-0-13-604758-2

Control Systems and Fundamental Concepts (12.5 Hours)

(Module ID 26211-08; from *Electrical Level Two*)

Trainee \$19 ISBN 978-0-13-266140-9
Instructor \$19 ISBN 978-0-13-266152-2

Temporary Grounding (15 Hours)

(Module ID 40308-09; from *Industrial Maintenance E&I Technician Level Three*)

Trainee \$19 ISBN 978-0-13-604738-4
Instructor \$19 ISBN 978-0-13-604753-7

L4 POWER GENERATION MAINTENANCE ELECTRICIAN

LEVEL 4

Curriculum Notes

- 197.5 Hours
- Published: 2011
- Please note that these modules are drawn as is from various other craft areas. To order modules individually, refer to the specific craft page for ISBNs.
- Instructor's Guide includes access code to download TestGen software, module exams, and performance profiles from www.nccerirc.com.

PAPERBACK

ISBN

Trainee Guide: \$94 **978-0-13-215428-4**
Instructor's Guide: \$94 **978-0-13-215429-1**

Product Supplements

PowerPoint® Presentation Slides (in color)
ISBN 978-0-13-257325-2 \$40

MODULES

Load Calculations – Branch and Feeder Circuits (17.5 Hours)

(Module ID 26301-08; from *Electrical Level Three*)

Trainee \$19 ISBN 978-0-13-609290-2
Instructor \$19 ISBN 978-0-13-609302-2

Motor Calculations (12.5 Hours)

(Module ID 26309-08; from *Electrical Level Three*)

Trainee \$19 ISBN 978-0-13-609299-5
Instructor \$19 ISBN 978-0-13-609276-6

Overcurrent Protection (25 Hours)

(Module ID 26305-08; from *Electrical Level Three*)

Trainee \$19 ISBN 978-0-13-609294-0
Instructor \$19 ISBN 978-0-13-609307-7

Specialty Transformers (10 Hours)

(Module ID 26406-08; from *Electrical Level Four*)

Trainee \$19 ISBN 978-0-13-609319-0
Instructor \$19 ISBN 978-0-13-609333-6

Advanced Controls (20 Hours)

(Module ID 26407-08; from *Electrical Level Four*)

Trainee \$19 ISBN 978-0-13-609320-6
Instructor \$19 ISBN 978-0-13-609334-3

Motor Operation and Maintenance (10 Hours)

(Module ID 26410-08; from *Electrical Level Four*)

Trainee \$19 ISBN 978-0-13-609324-4
Instructor \$19 ISBN 978-0-13-609337-4

Generator Maintenance (20 Hours)

Trainee \$19 ISBN 978-0-13-266211-6
Instructor \$19 ISBN 978-0-13-266213-0
(Module ID 50401-10) Covers the operating characteristics and major components of AC and DC generators. Topics include generator connection methods; voltage regulators; auxiliary systems; and maintenance procedures.

Power Generation Maintenance Electrician Level 4 (continued)

Switchgear and Breaker Maintenance (25 Hours)

Trainee \$19

ISBN 978-0-13-266212-3

Instructor \$19

ISBN 978-0-13-266215-4

(Module ID 50402-11) Reviews the safety practices associated with power station electrical work. Explains how medium-voltage and low-voltage sources are developed and used in the power station, and how the station power system functions in a blackout or shutdown situation. Also describes the circuit breakers, switchgear, and motor control centers used in power stations, and provides instructions for maintenance of these devices.

Preventive and Predictive Maintenance

(10 Hours)

(Module ID 32401-09; from *Industrial Maintenance Mechanic Level Four*)

Trainee \$19

ISBN 978-0-13-610445-2

Instructor \$19

ISBN 978-0-13-610456-8

Medium Voltage Terminations/Splices

(10 Hours)

(Module ID 26411-08; from *Electrical Level Four*)

Trainee \$19

ISBN 978-0-13-609325-1

Instructor \$19

ISBN 978-0-13-609338-1

Fire Alarm Systems (15 Hours)

(Module ID 26405-08; from *Electrical Level Four*)

Trainee \$19

ISBN 978-0-13-609283-4

Instructor \$19

ISBN 978-0-13-609332-9

Heat Tracing and Freeze Protection (10 Hours)

(Module ID 26409-08; from *Electrical Level Four*)

Trainee \$19

ISBN 978-0-13-609323-7

Instructor \$19

ISBN 978-0-13-609336-7

Standby and Emergency Systems (12.5 Hours)

(Module ID 40401-09; from *Industrial Maintenance E&I*

Technician Level Four)

Trainee \$19

ISBN 978-0-13-609163-9

Instructor \$19

ISBN 978-0-13-609139-4