



Occupational Profile / Examination Specification

For

*Electrical Contractor
Superintendent*

Scope of Work

Electrical Contractors Superintendent

The electrical superintendent provides the overall on-site administrative and technical management for a project. Possessing wide-ranging technical and managerial skills, the superintendent's role is normally one of independent project supervision for small to medium-sized projects or directing one major segment of a more extensive project. It is a position above the job-site foreperson. The superintendent ensures the total construction efforts is in accordance with design, budget and schedule, and reports to the project manager or owner.

**ELECTRICAL CONTRACTOR
SUPERINTENDENT
EXAMINATION SPECIFICATION**

This examination will be developed based on the following format:

<u>SECTION I</u>	<u>VALUE</u>
(1) 80 Multiple Choice Items	80%
(A) Related Management Skills	18%
(B) Pre-Construction/Post-Award Functions	18%
(C) Project Coordination	42%
(D) Post Construction	2%
 <u>SECTION II</u>	
(1) Communication	10%
 TOTAL VALUE	100%

ELECTRICAL CONTRACTORS SUPERINTENDENT OCCUPATIONAL PROFILE / EXAMINATION SPECIFICATION

SECTION: RELATED MANAGEMENT SKILLS

18 ITEMS
VALUE: 18%

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#1 5 items	Communicate clearly with own forces, client, consultant, regulatory agencies and other contractors (30)	a) Communicate the various types of contracts to field staff. b) Produce written correspondence and reports. c) Make oral presentations. d) Electronically communicate by telephone, internet, etc. e) Free-hand draw. f) Maintain good relations with owner, client and consultants. g) Understand the architect's/consulting engineer's role. h) Know the contractual responsibilities of the owner, client and consultant. i) Know the authority and legal responsibilities of government inspectors. j) Understand the code requirements for specialty trades. k) Know the contract documents and progress information usually required by owner/ client/ consultants. l) Use computer software packages. m) Identify and communicate cost implications of legislation to management. n) Respect the company's policies and procedures and understand the levels of authority. o) Resolve complaints and grievances between own forces and other parties, (i.e., subcontractors, consultants).
#2 5 items	Maintain good labour relations, recognize labour conflicts, and mediate conflicts involving company's own forces. (99)	a) Maintain cooperative relations with labour representatives. b) Know the contractual and legal responsibilities of employer and employees. c) Understand the jurisdictional practice of trade union locals. d) Confer with crew to resolve complaints and grievances.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#3 3 items	Maintain job site diary. (40)	<ul style="list-style-type: none"> a) Understand the legal implications of a properly kept diary. b) Prepare a record of the workday. c) Know the key diary entries.
#4 2 items	Assist in planning and initiating training for field staff. (35)	<ul style="list-style-type: none"> a) Conduct an orientation program for new employees. b) Identify the training needs of field staff. c) Train field staff. d) Research the availability of courses and seminars. e) Identify the shortcomings of staff and take remedial action.
#5 1 item	Keep abreast with technological changes in the industry. (46)	<ul style="list-style-type: none"> a) Maintain a current library of codes and regulations. b) Keep current with estimating practices. c) Maintain current catalogues.
#6 2 items	Ensure a list of acceptable suppliers, carriers and rental companies is maintained. (43)	<ul style="list-style-type: none"> a) Assess the reliability of service. b) Evaluate the cost in comparison to reliability.

SECTION: PRE-CONSTRUCTION/POST AWARD FUNCTIONS
18 ITEMS **VALUE: 18%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#7 4 items	Review project details. (160)	a) Review drawings and specs <ul style="list-style-type: none"> ▪ detect early determination of any discrepancies, ambiguities, omissions, etc. in contract documents. ▪ being aware of any environmental conditions of the contract. ▪ understand the liability of errors or omissions in drawings and noting such to management and owner/consultant. b) Analyse out-of-town conditions <ul style="list-style-type: none"> ▪ assess local labour situations, accessibility to site, travel requirements, lodging, local bylaws, availability of material and equipment, climate, etc. ▪ analyse local labour availability and productivity. ▪ perform on-site analysis of work and methods. ▪ conduct a risk analysis of taking the project. ▪ assess construction methods and systems to be used in project. c) Identify potential risk. d) Review the labour allocation for the project.
#8 2 items	Participate in an internal job start-up meeting. (100)	a) Evaluate staff requirements in relation to: size, duration and complexity of job, and type of client. b) Select key personnel. c) Assist in establishing contract milestones and project strategy for construction. d) Understand the technical and cost aspects of methods and sequences. e) Understand the technical and cost aspects of materials and equipment selection. f) Know material handling techniques. g) Know the factors which limit or foster productivity. h) Understand of union regulations on crew composition if applicable. i) Know the schedule requirements.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
		<ul style="list-style-type: none"> j) Know contract requirements. k) Know the contract objectives. l) Evaluate staff capabilities in relation to the project. m) Know alternative methods of construction.
#9 2 items	Participate in preparation of construction operations plan. (104)	<ul style="list-style-type: none"> a) Know the project schedule. b) Know the project equipment requirements. c) Know the project labour requirements. d) Know the project material requirements. e) Know the project speciality requirements.
#10 2 items	Consult with project manager in analysing project in detail to realize cost savings through redesign. (102)	<ul style="list-style-type: none"> a) Understand the alternative methods of construction. b) Know alternative products and materials.
#11 3 items	Plan availability and allocate own forces, equipment, material and subcontracts. (106)	<ul style="list-style-type: none"> a) Understand the cost/benefit analysis for labour and equipment requirements. b) Know how to calculate quantities of material required. c) Know the standard units and methods of measuring site work. d) Understand how to effectively workforce organization. e) Know equipment capabilities. f) Know personnel capabilities. g) Know material requirements. h) Establish production levels.
#12 1 item	Conduct pre-construction site inspection in conjunction with project management. (51)	<ul style="list-style-type: none"> a) Assess existing structure, utilities, storage space, obstructions, site access, etc. b) Conduct a job site analysis (notes, pictures, and reports).
#13 1 item	Expedite required inspection/testing. (67)	<ul style="list-style-type: none"> a) Know the testing requirements included in contract documents. b) Understand the procedures for inspections/testing. c) Compile a list of private testing agencies. d) Know the types of permits and information required by regulatory agencies. e) Know the federal, provincial and municipal by-laws affecting construction.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#14 2 items	Participate in an external job start-up meeting. (103)	<ul style="list-style-type: none"> a) Know the contract documents. b) Know the contract milestones and contract strategy for construction. c) Review the contract schedule. d) Know the contract objectives. e) Identify critical operations of the project requiring extra cooperation or special attention. f) Know the construction decisions requiring approval/review of owner's representative.
#15 1 item	Ensure a site-specific Health, Safety and Environment (HSE) plan has been established. (101)	<ul style="list-style-type: none"> a) Know the health and safety legislation. b) Communicate to staff their responsibility and accountability roles.

SECTION: PROJECT COORDINATION**42 Items****VALUE: 42%**

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#16 3 items	Expedite on-site mobilization. (161)	<ul style="list-style-type: none"> a) Plan site layout in conjunction with management team and subcontractors. b) Plan effective location of job site office, material storage, access routes, hoarding, security, etc. c) Guard against damage to existing property. d) Requisition/order equipment and materials. <ul style="list-style-type: none"> ▪ Know procedures for field purchasing/requisitioning of tools, equipment and materials. ▪ Know shop production procedures and the time they require. ▪ Know material expediting procedures. ▪ Ability to prepare job equipment list. ▪ Knowledge of the applications, cost effectiveness and capacities of various types of equipment. e) Arrange temporary services. <ul style="list-style-type: none"> ▪ Knowledge of typical project requirements. ▪ Knowledge of requirements of regulatory agencies. ▪ Knowledge of typical procedures for arranging services. ▪ Ability to consult with subtrades on their service needs.
#17 3 items	Ensure the established control measures, which address health, safety, and environmental issues as outlined in the project safety plan are being monitored. (162)	<ul style="list-style-type: none"> a) Review incident/accident reports for correctness and completeness. b) Review incident/accident reports for root causation and recommend improvement measures. c) Review environmental and safety performance through observation during on-site project visits and inspections. d) Review internal inspection reports for prioritization of substandard acts and conditions, and confirm that corrective action has been completed. e) Review corrective action plans resulting from inspections, investigations, hazard assessments and program evaluations to ensure they are accurate and complete.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
		<ul style="list-style-type: none"> f) Follow-up with all inspection, incident/accident, audit, and other related reports to ensure follow through of corrective actions identified. g) Ensure statistics are compiled from reports and conclusions are drawn for improvement to the company HSE program. h) Work with others to identify how worksite situations can be effectively addressed. i) Give instructions to personnel to take prompt corrective action to control unsafe or unhealthy conditions. j) Verify that HSE services and equipment meet legislative criteria (i.e., first aid kits, spill kits, eye wash stations, medical person, fire protection, etc.). k) Verify that work procedures and practices are consistent with accepted incident/accident prevention techniques. l) Coordinate audits of sites to determine compliance with HSE plan and applicable legislation.
#18 3 items	Monitor job progress. (109)	<ul style="list-style-type: none"> a) Carry out visual inspections of job progress. b) Establish regular job site meetings. c) Compare job progress with schedule.
#19 2 items	Direct the allocation of project resources. (115)	<ul style="list-style-type: none"> a) Ability to give clear, oral and graphic instructions. b) Knowledge of quantitative and qualitative standards of performance. c) Ability to instruct workers on methods to be followed when carrying out work. d) Knowledge of skills required to work in trade. e) Knowledge of tools, equipment, materials, techniques, and methods used in the project.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#20 2 items	Establish and enforce job discipline. (118)	<ul style="list-style-type: none"> a) Know the rules of conduct established in company policy and construction contract. b) Understand the government by-laws, laws, and regulations. c) Ensure that foremen understand and enforce rules. d) Exercise fair and ethical practice. e) Understand procedures for hiring and firing. f) Know supervision's rights and responsibilities.
#21 2 items	Spot strengths and weaknesses of foreman and workers, and take appropriate action. (120)	<ul style="list-style-type: none"> a) Recognize training needs. b) Know where to access training/education. c) Observe personnel capabilities. d) Understand the importance of mentoring.
#22 2 items	Oversee work of foreman. (32)	<ul style="list-style-type: none"> a) Organize staff. b) Co-ordinate staff. c) Manage staff. d) Motivate staff. e) Maintain team morale. f) Lead staff.
#23 2 items	Oversee work of subcontractors. (73)	<ul style="list-style-type: none"> a) Know contract documents. b) Maintain co-operative relations with subcontractors. c) Ensure subcontractors submit required documentation. d) Supervise and monitor subcontract work.
#24 2 items	Co-ordinate with other trades to eliminate interference. (113)	<ul style="list-style-type: none"> a) Give clear oral and written instructions to subcontractors on where and when to do work. b) Maintain co-operative relations with general and other subcontractors. c) Know subcontract obligations. d) Understand systems and terminology for trades. e) Check and verify shop drawings. f) Know job schedule and priorities. g) Understand time and space required for work by other trades.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#25 2 items	Ensure proper storage and use of materials. (111)	<ul style="list-style-type: none"> a) Ensure quality of materials specified in contract. b) Establish delivery date in conjunction with schedule. c) Ensure material ordered is the correct quantity. d) Understand theft prevention.
#26 1 item	Ensure proper storage, use and maintenance of tools. (116)	<ul style="list-style-type: none"> a) Know the proper storage, use and maintenance of tools. b) Understand theft prevention. c) Identify defective tools.
#27 2 items	Process field instructions. (114)	<ul style="list-style-type: none"> a) Identify work not specified in contract documents. b) Know the implications of doing additional work without proper authorization from owner's representative. c) Consult on impact of change on cost and schedule. d) Know the methods for determining costs (time and material, unit price). e) Notify all parties of authorized changes.
#28 2 items	Assist in processing change orders. (125)	<ul style="list-style-type: none"> a) Identify work that is not specified in contract documents. b) Consult with supervision, project co-ordination and trade contractors on impact to change on cost and schedule. c) Understand the considerations in negotiating and obtaining approval of changes. d) Review change orders. e) Describe in detail the scope of work required identified by the change.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#29 2 items	Assist in the preparation of progress reports. (86)	<ul style="list-style-type: none"> a) Identify cost overruns and taking corrective action. b) Prepare periodic labour and equipment forecasts to completion. c) Understand the methods for assessing labour and equipment required. d) Review labour variance, equipment variance, material variance and progress reports in conjunction with supervision, and take corrective action. e) Determine cause for excessive variance. f) Assess budget and schedule constraints. g) Understand the shortcomings of overtime and shift work.
#30 2 items	Verify labour, material, equipment and subcontracts coding and cost allocations. (121)	<ul style="list-style-type: none"> a) Know the company cost coding systems. b) Assign activities to correct coding.
#31 1 item	Identify potential problems in the installation process, and plan solutions. (123)	<ul style="list-style-type: none"> a) Understand requirements and work methods of prime contractor, subcontractors, and requirements of own work forces. b) Understand specific requirements related to installation of specific systems.
#32 1 item	Monitor quality control program. (84)	<ul style="list-style-type: none"> a) Know construction standards established in the code, contract documents and company policy. b) Ensure inspection of custom-made materials at place of manufacture, and materials when delivered on site. c) Ensure quality control reports are completed and submitted. d) Understand typical quality control procedures.
#33 1 item	Manage purchasing system. (89)	<ul style="list-style-type: none"> a) Maintain expediting/purchasing records. b) Ensure that invoiced materials have been delivered to site and invoiced work has been done. c) Authorize invoices. d) Understand typical record maintenance procedures.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#34 1 item	Identify potential claims and take timely action. (49)	<ul style="list-style-type: none"> a) Maintain written (and photographic) records of all potential claim situations. b) Ensure that all concerned parties are informed orally and, where applicable, through correspondence. c) Know the contractual responsibilities of all concerned parties. d) Identify potential third party claims and take timely action (environmental, etc.). e) Know the company's obligation to provide a healthy and safe work environment for own forces and subcontractors.
#35 1 item	Co-ordinate and document back charges in conjunction with project management. (108)	<ul style="list-style-type: none"> a) Define services provided to and by subcontractors and general contractor. b) Know the proper recording and authorization of back charges.
#36 2 items	Assist project management in all activities directly related to project commissioning, from receipt of documents through to owner's final acceptance of the project. (122)	<ul style="list-style-type: none"> a) Understand all related drawings and specifications. b) Understand contract document implications. c) Know the schedule. d) Understand the procedures for preparing deficiency list and ensuring that all work is completed according to specification, and according to government codes and regulations. e) Co-ordinate activities with owner's representative, engineer, contractor, and subcontractors. f) Document test performance of all systems. g) Carry-out final commissioning of completed system to owner. h) Understand substantial performance requirements. i) Know the warranty requirements and responsibilities of subcontractor and owner. j) Understand operational documentation.
#37 1 item	Implement the substantial completion process. (126)	<ul style="list-style-type: none"> a) Organize a site meeting with owner. b) Generate the internal final inspection list.

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#38 1 item	Ensure deficiencies have been rectified. (124)	<ul style="list-style-type: none"> a) Understand all related drawings and specifications. b) Know the procedures for repairing deficiencies. c) Know the required documentation for final inspection.
#39 1 item	Assist in finalizing the contract and carryout transfer of project to owner. (78)	<ul style="list-style-type: none"> a) Assemble finalization documents (guarantees, as-built, warranties, etc.) b) Know the impact of partial take-over (liabilities, warranties, hold back). c) Ensure accounting has been supplied with all necessary cost information to finalize contract value. d) Know the project documents required (guarantees, as-built, warranties, quality control). e) Know the transfer procedures required (commissioning, instruction for equipment use, labelling, etc.). f) Ensure client's employees are trained.

SECTION: POST CONSTRUCTION 2 ITEMS

VALUE: 2%

TASK NO. & VALUE	TASK DESCRIPTION	SUPPORTING SUBTASKS
#40 1 item	Assist in securing release of all final payments. (98)	a) Know the final inspection procedures. b) Know the requirements of the contract. c) Understand the letter of completion process. d) Know the legal documents required to obtain final payment.
#41 1 item	Participate in a post-construction review in conjunction with construction team. (91)	a) Determine strengths and weaknesses in estimating, planning and implementation of project. b) Evaluate subcontractors, suppliers, clients, etc. c) Recommend measures to improve work methods, work performance, quality of work, and working conditions.

The essay component of the examination, worth 10%, consists of the candidate writing some form of correspondence for the purpose of demonstrating their comprehension and writing ability.