

OCCUPATIONAL PROFILE FOR LINEMAN (HIGH VOLTAGE)

| Workers Behaviour | | General Knowledge and Skills | |
|--|--|---|--|
| <ul style="list-style-type: none"> • Energetic • Active • Committed to work • Co-operative • Creative • Determined • Energetic • Enjoy outdoor work • Flexible • Hard working • Honest • Innovative • Patient • Physically fit • Punctual • Responsible • Safety conscious • Self controlled • Sincere • Team work • Technical oriented | | <ol style="list-style-type: none"> 1. Basic construction knowledge 2. Basic electrical knowledge 3. Knowledge on environmental conservation 4. Knowledge on first aid 5. Knowledge on power line and power system 6. Knowledge on reading drawings 7. Knowledge on safety precautions 8. Knowledge on signs and symbols 9. Knowledge on tools and equipment 10. Knowledge on tower location and type 11. Knowledge and skills on fabrication 12. Basic skills of reading and writing 13. Skills in climbing / erection of tower 14. Skills in communication 15. Skills in cutting trees / branches 16. Skills in decision making 17. Skills in fault finding 18. Skills in handling tools and equipment 19. Skills in joining conductor and earth wire 20. Skills in problem solving quickly 21. Skills in stringing of wire | |
| TOOLS AND EQUIPMENT | | CONCERNS AND FUTURE TRENDS | |
| <ul style="list-style-type: none"> • Bridge • Conductor drum lifting jack • Dee and ring spanner • Files • Hack saw • Hammer • Hydraulic compressor • Hydraulic cutter • Max puller • Megger • Pulleys • Roller • Rope • Safety gear • Screw driver • String • Torch • Wrench machine | | <ul style="list-style-type: none"> • Lack of proper safety gear at present • Lack of reliable communication facilities at present • Lack of training at present • Frequent refresher courses required • Better transportation facilities needed in remote areas • Computerised system required in future for transmission line • More job opportunities for linemen in future • More qualified linemen in future • New technology in future • Required hot line training in future | |
| <ul style="list-style-type: none"> • Allen keys • Axe • Binocular • Centre punch • Combination plier • Drilling machine • Dynamometer • Earth tester • Earthing rod • Grinding machine • Knife • Measuring tape • Power chain • Ramming bar • Spirit level • Template setting jack • Thermometer • Vibrator machine • Welding machine • Wrench | | | |

Endorsed by Technical Advisory Committee (TAC) for Power sector (TAC - PS) on 22nd May 2008
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Printed at YOEZ graphics, Thimphu / 17113779 / 336088



Occupational Profile for **LINEMAN (High Voltage)** Level 2

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Royal Government of Bhutan

Produced for

**Training Providers, Employers, Employees,
 Trainees and Interested General Public.**

Developed by
**Department of Occupational Standards
 Ministry of Labour and Human Resources
 Thimphu**

07 - 08 March 2008

ISCO - 88 Code: 724
 DOS Code: OP - 026

LINEMAN (High Voltage) : Duties & Tasks

07 - 08 March 2008

| Duties | | Tasks | | | | | | | | | | | | |
|----------|---|--|---|---|--|---|---|---|--|---|--|--|---|--|
| A | Maintain safety at worksite | A1 Obtain work permit | A2 Clean work site | A3 Refer safety instruction | A4 Display safety signs | A5 Use safety gear | A6 Discharge line after switching off | A7 Provide temporary earthing | A8 Handle tools and equipment safely | A9 Dispose defective parts in designated safe place | A10 Maintain first aid box | A11 Administer first aid | A12 Provide anti-climbing devices / fence | |
| B | Construct transmission tower | B1 Assist to conduct survey | B2 Assist in pit marking of tower foundation | B3 Assist in setting of stub template | B4 Assist in setting of casting and foundation of tower | B5 Refer drawing for specific detail | B6 Segregate tower members | B7 Fabricate tower members if necessary | B8 Receive tools, equipment and materials from store | B9 Erect main tower body as per drawing | B10 Fit cross arm | B11 Check tower members as per drawing | B12 Tighten nut and bolt | B13 Lock nut and bolt (punch / tag weld) |
| C | Perform stringing of transmission line | C1 Check insulation resistance of insulator | C2 Hoist insulator | C3 Lay out conductor | C4 Maintain tension between wires as per sag chart & mark it | C5 Cut conductor | C6 Crimp conductor / earth wire at dead end | C7 Perform fitting of transmission line | C8 Fit conductor / earth wire accessories | C9 Fit jumper | C10 Inspect final fitting | C11 Test line with megger | B15 Fit tower accessories | B14 Provide earthing |
| D | Dismantle transmission line | D1 Remove jumper | D2 Remove disc insulator | D3 Remove cross arm | D4 Erect deric / gin pole | D5 Remove tower members | D6 Prepare list of dismantled tower parts | D7 Hand over tower parts to store | | | | E16 Submit maintenance report | E15 Repair tower bench, wall and drain | E14 Maintain access road |
| E | Maintain transmission line | E1 Obtain instruction for patrolling | E2 Inspect damage on tower / power line | E3 Report condition of line | E4 Replace flashover / damaged disc insulator | E5 Tighten loose hardware fitting / tower parts | E6 Clean insulator | E7 Join conductor / ground wire | E8 Replace conductor / ground wire | E9 Replace tower parts | E10 Plant tree to prevent soil erosion | E11 Paint rusted part with cold zinc paint | E12 Inform station to charge line | E13 Maintain right of way corridor |
| F | Carry out emergency work | F1 Obtain clear order / instruction | F2 Perform phase to phase / phase to earth megger | F3 Patrol transmission line | F4 Locate fault | F5 Report fault to superior | F6 Prepare list of materials and tools required | F7 Erect Emergency Restoration (ER) tower | F8 De-string conductor / earth wire from damaged tower | F9 Re-string conductor to ER tower | F10 Inform station to charge line | F11 Restore fault | | |
| G | Maintain tools and plant | G1 Check condition of tools and plant periodically | G2 Replace damaged tools and equipment | G3 Check availability of required number of tools and equipment | G4 Keep records of tools and equipment | G5 Indent required tools and equipment | G6 Maintain cleanliness of tools and equipment | G7 Store tools and equipment safely | G8 Prepare sling rope as per required length | G9 Sharpen cutting tools | G10 Ensure condition of hydraulic compressor | G11 Ensure proper condition of power chain | | |
| H | Upgrade knowledge and skills | H1 Seek advice from seniors | H2 Undertake study tours | H3 Perform practical work at site | H4 Interact with colleagues | H5 Attend training / seminars | H6 Read books on transmission | H7 Refer manuals | H8 Surf internet | H9 Develop creative solution to problems / issues | H10 Attend refresher courses | | | |