Training Curriculum – Wind Technician
Morning sessions / Afternoon sessions

Day 0 – Electrical theory, meter, Wind farm orientation (for non-electrical education, experience)* L0

Day 0 training is CBT, not instructor led, to be completed in one contiguous session.

**Prior accredited electrical education/experience exempts Day 0 completely or partially.*

**New hires with electrical education/experience without any electrical safety experience or older than three years take afternoon session*

**New hires with electrical education/experience without wind experience take Module 4 only.*

- Basic Electrical Theory 1 – Voltage, Current, Resistance, Capacitance
- Basic Electrical Theory 2– Ohm's Law, Kirchoff's law, Power, Power factor
- Basic Electrical Theory 3 – Generation, Batteries, Transformers, Multimeter
- Multimeter Training theory – use of Volts, Amps, Ohms ranges
- Electrical Safety overview - OSHA, NFPA 70E, Laws & Regulations, Statistics
- Shock Hazard, Dalziel studies, harmful thresholds and effects
- Incident review – with primer on safe work practices
- Wind Turbine System Introduction
- Wind Turbine Evolution, Detail explanation
- Permanent Magnet Generators v/s Excitation Generators with Gearbox

Day 1 – ESQEW + arc/shock + Lab 05 label reading (00, 01 morning, 02, 08 afternoon) L1

- Introduction, round table, assessment of audience experience, expectations.
- Review of overview (Day 0 material), wind training videos if required.
- The three hazards of electricity – mitigaton of Shock, Arc Flash, Arc Blast
- The three boundaries for 70E – Limited, Restricted and Arc Flash, rules, distances
- Requirements of the Qualified Electrical Worker – Limitations of OSHA/70E definitions
- Discerning best practices and the lack thereof by observation (training video)
- The Canadian perspective – absence of OSHA and the CSAZ462 standard.
- Training videos on application of boundaries/rules, meter/provers, absence of voltage testing, use of rescue hook.
- Practical Exercise – Lab 05, reading and interpretation of Arc Flash Labels
- Portable Tools, Flexible cords, use of GFCIs, Neutral to Ground monitoring

Day 2 – ESQEW + Lab 02 JHA + Lab 03 PPE (03, 04, 05) L1

- Personal Protective Equipment – Selection, classification & Inspection overview
- Study of Electrical shock gloves, hard hats, safety glasses, face shields, hoods
- Videos on glove inflation, glove testing and inspection, test dates.
- Study of arc rated fabric and clothing, difference between FR and AR clothing
- Cleaning, maintenance and laundering of Arc rated fabric.
- Review of footwear, overshoes, dielectric mats and blankets
- Lab 03 – Inspection of PPE
- Risk Assessment (of all hazards) before performing electrical work
- Definition of Normal operating conditions, evidence of impending failure
- Human factor mitigation and peer evaluation prior to work
- Steps in Risk mitigation – Elimination, Substitution, Engineering Controls, Awareness, Administrative Controls and PPE your last line of defense. Examples
- Requirement for second person, examples of poor risk assessment.
- Using the label and computational table method to determine category of arc flash clothing selection prior to performing electrical work
- Training videos for application of PPE inspection
- Job Hazard Analysis Lab 02

Day 3 – ESQEW + Lab 04 absence of voltage, Lab 07 Reading & interpretation of schematics, Lab 01 EEWP (06) L1

- Difference between Safe Work Zone and Electrically Safe Work Condition
- Electrically Safe Work Condition by LOTO – Definition of Complex LockOut
- Lockout/Tagout Procedural Steps, use of Tags where lockout is not possible
- Case study – Incident due to failure to Notify before/after initiation, completion of LOTO
- LOTO training and demonstration video – Test before you Touch
- Revisit – boundary rules for Safe work zone
- Energized Electrical Work Permit
- Lab 04 – Job briefing, revisit with Risk assessment for preparation of work
- Lab 07 – Reading and interpretation of Schematics from Goldwind turbines for study of electronic circuit protection techniques, distribution and isolation.