

NFPA 70B / ELECTRICAL EQUIPMENT MAINTENANCE

One of the leading causes of arc flash in the workplace is equipment failure. The proper preventative maintenance of electrical systems and equipment can reduce the inherent risks of death loss of equipment and production.

Learn recommended OSHA and NFPA 70B practices to reduce hazards to life and property.

Troubleshoot damage from power surges, spikes, transients and poor or no preventive maintenance. These events wear down components and eventually cause premature failure. The more power your facility uses, the greater the risk of failure.

Create an effective EPM (electrical preventive maintenance) program to identify negative factors such as hostile environments, overloads or service duty cycles, and provide a measure of coping with them. Apply this to new equipment to lessen process of normal deterioration and to existing equipment to repair and reverse damage.

CLASS FORMAT:

Classroom

STANDARD CLASS SIZE:

NTT recommends a class of no more than 35 participants for the best results.

NTT PROVIDES:

- 1 day (8 contact hours) of on-site instruction
- Textbooks
- Classroom consumables
- Completion certificates
- Shipping and instructor travel logistics

CLIENT PROVIDES:

- Classroom of 500 square feet or greater
- Projection screen, white board and/or flip chart(s)



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COURSE AGENDA | 1-Day Classroom

VALUES AND BENEFITS OF A PROPERLY ADMINISTERED ELECTRICAL PREVENTIVE MAINTENANCE (EPM)

- Reduce accidents
- Save lives
- Minimize costly breakdowns
- Minimize unplanned shutdowns
- Impending trouble can be identified
- Solutions can be applied before breakdown failure and costly errors

BENEFITS OF EPM

- Reduced cost of repairs
- Reduced equipment downtime
- Improved safety

MECHANICS OF EPM

- Inspection
- Testing
- Repair procedures
- Improve employees morale
- Better workmanship
- Increased productivity

BENEFITS

- Reduced absenteeism
- Reduced interruption of production
- Improved insurance considerations
- Reduce personnel injury
- Reduce property loss due to failure

DEPENDABILITY

- Engineered into system
- Direct measurable cost
- Equipment lasts longer

PLANNING

- Key to success
- Cost is minimal
- Maximum protection

SUPPORT

- Requires support from the top
- Economically profitable

WHAT IS AN EFFECTIVE ELECTRICAL PREVENTIVE MAINTENANCE (EPM) PROGRAM?

- Planning
- Main parts of EPM
- Survey and analysis
- Records
- Training
- Emergency procedures
- Outside contractors

PLANNING AND DEVELOPING FOR A ELECTRICAL PREVENTIVE MAINTENANCE (EPM) PROGRAM

- Four steps in development
- Responsibility
- Manager
- Work stations
- Running inspections
- Trends in failure
- Survey of electrical installation
- Diagrams and data
- Test and maintenance
- Identification of critical equipment
- Atmosphere and environments
- Inspection frequency
- Forms
- Planning
- Analysis of safety procedures
- Maintenance of imported equipment

FUNDAMENTALS OF ELECTRICAL EQUIPMENT MAINTENANCE

- Design to accommodate maintenance
- Scheduling maintenance
- Personnel and equipment safety
- Protective scheme
- Acceptance testing
- Inspection
- Equipment cleaning
- Lubrications

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MOLDED CASE CIRCUIT-BREAKER POWER PANELS

- Types
- Maintenance and cleaning
- Loose connections
- Mechanical exercising of breakers

FUSES

- Inspection
- Cleaning
- Replacement
- Interrupt rating
- Circuit limitations
- Over 1,000 volts

MAINTENANCE OF EQUIPMENT SUBJECT TO LONG INTERVALS BETWEEN SHUTDOWNS

- Constant production
- Analysis of failure

UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS

- Types
- Maintenance
- Ventilation
- Record keeping
- Neutral output
- Static systems
- Generation systems
- Testing

SYSTEM STUDIES

- Short circuit studies
- Coordination studies
- Load flow studies
- Reliability studies

EPM FROM COMMISSIONING THROUGH AN ACCEPTANCE TESTING

- Cost
- Result

PROTECTIVE DEVICE MAINTENANCE AS IT APPLIES TO THE ARC FLASH HAZARD

- Breakers
- Fuses
- Power breakers