INTERSTATES

Updates to NFPA 70B

AND WHAT IT MEANS FOR YOU

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- Instrumentation Service Manager for 18 years
- Industry experience: oil seed, biodiesel, ethanol, value-added ag
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WHAT'S THE DIFFERENCE?

NFPA 70	NFPA 70E	*NFPA 70B*
Covers safe installation of electrical wiring and equipment	Addresses worker and electrical safety	Sets the standard for preventative maintenance of equipment

What is NFPA 70B?

What is NFPA 70B?

- Provides best practices for electrical equipment maintenance
- Aims to enhance safety and efficiency

Applicability

- Applies to industrial facilities
- Applies to commercial facilities
- Applies to institutional facilities

Scope

- Emphasizes preventative maintenance
- Extends equipment lifespan
- Reduces downtime
- Minimizes hazards

How is this Enforced?

NFPA is enforced by local governments, fire departments, building inspectors, and insurance companies

Nationally, OSHA incorporates NFPA into its standards

UNDERSTANDING NFPA 70B

NFPA 70B

In 2023, NEC updated NFPA 70B. Here are three things to keep in mind with this change

- Changed code from a *recommendation* to a *standard*
- Recommendations are based on the criticality of the equipment
- Start planning now for this change

Topics in NFPA 70B

- Developing a maintenance program
- Detailed equipment procedures
- Frequency and types of tests and measurements
- Maintaining detailed maintenance records
- Ensuring One Lines, Reliability Studies, and Arc-Flash Studies are up to date

Equipment Condition Assessment

(9.3.1.1, 2, and 3)

Condition 1: like new, clean, no issues, previous maintenance performed per program

Condition 2: had or has issues

Condition 3: has missed the last two maintenance cycles, had issues the last two checks, currently has urgent issues

Appy to NFPA 70B Table 9.2.2 to determine how often checks should occur.

Who Can Perform NFPA 70B Work?

NFPA 70B work should only be performed by qualified, trained, and authorized personnel.

- **Qualified individuals** with the knowledge and skills to maintain electrical equipment safely
- **Trained on electrical hazards** including shock, arc flash, PPE, and lockout/tagout
- **Authorized by the employer** to perform the specific task
- **Competent for the job scope** — inspection, testing, maintenance, or troubleshooting
- **Compliant with applicable code and site requirements**

Examples of Visual/General Checks

Visual Inspections

- Check for signs of wear
- Look for corrosion
- Identify overheating issues

Tightening Connections

Cleaning

- Remove dust
- Clear debris
- Ensure optimal performance

Exercising of Breakers

LOTO Required

Power Down – Utilities

- Load Shedding
- LOTO
- Ground Cluster Installation

Examples of Electrical Testing

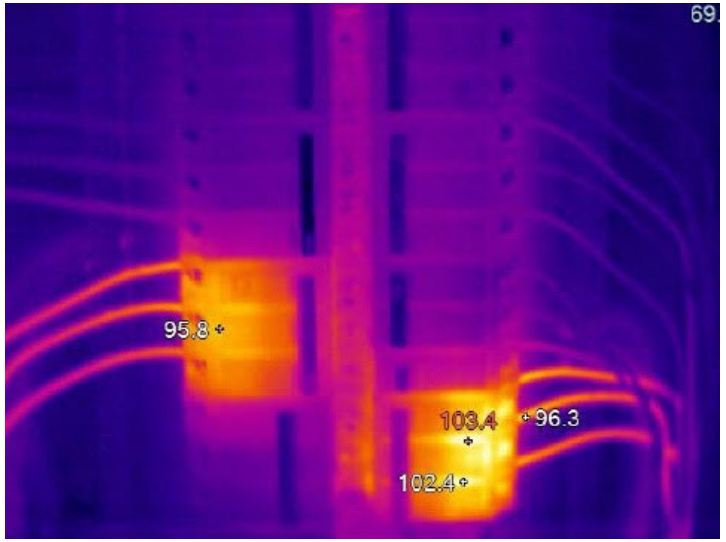
IR Scans (Thermography)

Transformers
- Check oil quality

Cables and Bus Bars
- Megging vs. DLRO

Motors

Grounding and Bonding



EPM Breaker Testing

With specialized predictive and preventative services, we identify electrical components that are not operating as they should or are nearing failure.

Why test your breakers?

- To ensure they will operate properly
- To ensure they trip at the set point
- To prevent future down time
- To fulfill requirements of NFPA 70B
- Safety- removing energy, limiting human exposure

Documentation and Record Keeping

EQUIPMNT TYPE	DESCRIPTION	LOCATION	Visual Inspection	Cleaned	Exercised	Comments (Condition as Found)	Recommended Action	Action Taken	Signature	Date
MAIN MCC	FEED FROM UTILITY	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	GH	11/11/2023
MAIN MCC	MCC2 MAIN	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	GH	11/11/2023
MAIN MCC	SPARE BREAKER	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	GH	11/11/2023
MAIN MCC	MCC1 MAIN	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	GH	11/11/2023
MAIN MCC	HP-1	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	GH	11/11/2023
MCC1 FEED FROM SB-1	LADDER GATE (RO2A)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	GH	11/11/2023
MCC1 FEED FROM SB-1	LADDER GATE (RO3A)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	FAN (RO2C)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	FAN (RO3C)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	FAN (RO5C)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	RECEVING BUCKET ELEVATOR(R05)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	DRAG CONVEYOR (R10)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	R10A VORTEX SPOUT	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	R108 VORTEX SPROUT	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	R10C VORTEX SPROUT	MAIN MCC ROOM	X	X	X	BAD RESET SWITCH	REPLACE RESET SWITCH	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	DRAG CONVEYOR (R11)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	DRAG CONVEYOR VFD (RO4)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	DRAG CONVEYOR (R09)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	ELECTRIC GATE (R09E)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	ELECTRIC GATE (R09A)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	ELECTRIC GATE (R09B)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	ELECTRIC GATE (RO9C)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023
MCC1 FEED FROM SB-1	ELECTRIC GATE (R09D)	MAIN MCC ROOM	X	X	X	ACCEPTABLE	NONE	NONE	BB	11/11/2023

6 Year Plan

Task/Activity	Year 1 (2026)	Year 2 (2027)	Year 3 (2028)	Year 4 (2029)	Year 5 (2030)	Year 6 (2031)
Breaker Injection Testing	x					x
Infrared Scanning	x	x	x	x	x	x
Grounding Audit and Testing	x			x		
Switchgear, Panel, and MCC Bucket Cleaning		x		x		x
Arc Flash Assessment	x	x	x (5 Year Audit)	x	x	x
Liquid Filled Transformer Oil check	x	x	x	x	x	x
Remediation and Documentation	x	x	x	x	x	x

Instrumentation Preventative Maintenance

NIST calibration of critical devices:

- Pressure
- Temperature
- Level
- Flow
- Analytical (pH Conductivity)
- Fixed gas detection
- Alarm Set Point Verification / Shutdown Interlock verification

Learn More

Scan for the slide deck and additional NFPA 70B resources.

THANK YOU!

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