

ELECTRICAL SAFETY AND RELIABILITY AUDIT CHECK LIST  
FOR  
MOTORS

AREA/MOTOR LOCATION I.D. #: MP 156A  
AREA/MOTOR EQUIPMENT I.D. #: \_\_\_\_\_  
VOLTAGE: 2400  
HORSEPOWER: 450

Note: Review large or critical service motors individually.  
Generally, motors equal to or less than 100 HP in an  
identified process area can be considered as a group.

| MOTOR ENCLOSURE/MOUNTING<br>-----                                            | Yes                                 | No                                  | N/A                                 |
|------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Are the motors clean and free from corrosion?                             | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 2. Is the manufacturer nameplate in place and legible?                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 3. Are the motors properly labeled with the Dow location and equipment I.D.? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Are the motors suitable for the hazardous area classification?            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5. Are all motors suitable for the area classification?                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 6. Are the motors on Dow's approved equipment list?                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 7. In there predictive/preventive maintenance performed on the motors?       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 8. Are the motors bolted to foundation?                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 9. Are space heaters installed on the critical motors?                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 10. Do the vertical motors have rain shields?                                | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |

Motor Enclosure/Mounting Index Score: 4

MOTOR OPERATION/PROTECTION

Yes No N/A

1. Is there appropriate temperature monitoring/alarm/trip of the critical service motors? (i.e. bearings, windings) ☒ ☐ ☐
2. Are motors free of any signs of water leaks? ☒ ☐ ☐
3. Are vibration levels below the required minimum? ( 0.1 ins/sec ) ☒ ☐ ☐
4. Is there appropriate vibration monitoring/alarm/trip of the critical service motors? (i.e. bearings, windings) ☒ ☐ ☐
5. Is there a vibration monitoring program for the motors? (i.e. continuous or routine checks) ☒ ☐ ☐
6. Are the motor noise levels acceptable? ☒ ☐ ☐
7. Is there proper motor overload protection for the critical service motors? ☒ ☐ ☐

Motor Operation/Protection Index Score: 3

LUBRICATION

Yes No N/A

1. Are the motors free from apparent oil leakage? ☒ ☐ ☐
2. Is there a lubrication program for the motors? ☒ ☐ ☐
3. Is proper type of lubricant being used? (i.e. Roller v.s. Ball bearings) ☒ ☐ ☐

Lubrication Index Score: 3

POWER CONNECTIONS, CONDUIT, AND LOCAL SWITCH

Yes No N/A

1. Do all motors have side or bottom conduit entry? ☒ ☐ ☐
2. Are there any motors with top conduit entry? ☐ ☐ ☒

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GLOBAL

ADMINISTRATIVE GUIDELINE  
G7A-0099-06  
14-JUN-1996  
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- |                                                                          |                                     |                                     |                            |
|--------------------------------------------------------------------------|-------------------------------------|-------------------------------------|----------------------------|
| 3. Is flex conduit in good condition?                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>   |
| 4. Does flex conduit slope upward to junction box?                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>   |
| 5. Is there sufficient low point drains on the conduit?                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>   |
| 6. If motors in hazardous area, are proper conduit seals installed?      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>   |
| 7. Are all local control stations properly labelled?                     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>   |
| 8. Are all motor safety switches properly labelled and <u>lockable</u> ? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> * |
| 9. Are all control station free of corrosion?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>   |
| Power Connections, Conduit, & Local Switch Index Score: <u>4</u>         |                                     |                                     |                            |

GROUNDING  
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Yes No N/A

- |                                                                                                                                              |                                     |                          |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Are the ground conductors attached properly to the frame of the motor? (NOT End Bell Cover, Fan Cover, or Motor Junction Box Cover Bolts) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 2. Are there bonding jumpers across the flex conduits? (1.5" and larger)                                                                     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Grounding Index Score: <u>3</u>                                                                                                              |                                     |                          |                                     |

OTHER  
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Yes No N/A

- |                                                           |                                     |                          |                                     |
|-----------------------------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Are brushes being checked routinely on the DC motors?  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Is there a list of the motors in critical service?     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| 3. Are the DC motors in classified areas properly purged? | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other Index Score: <u>3</u>                               |                                     |                          |                                     |

Motors Average Index Score: 4

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