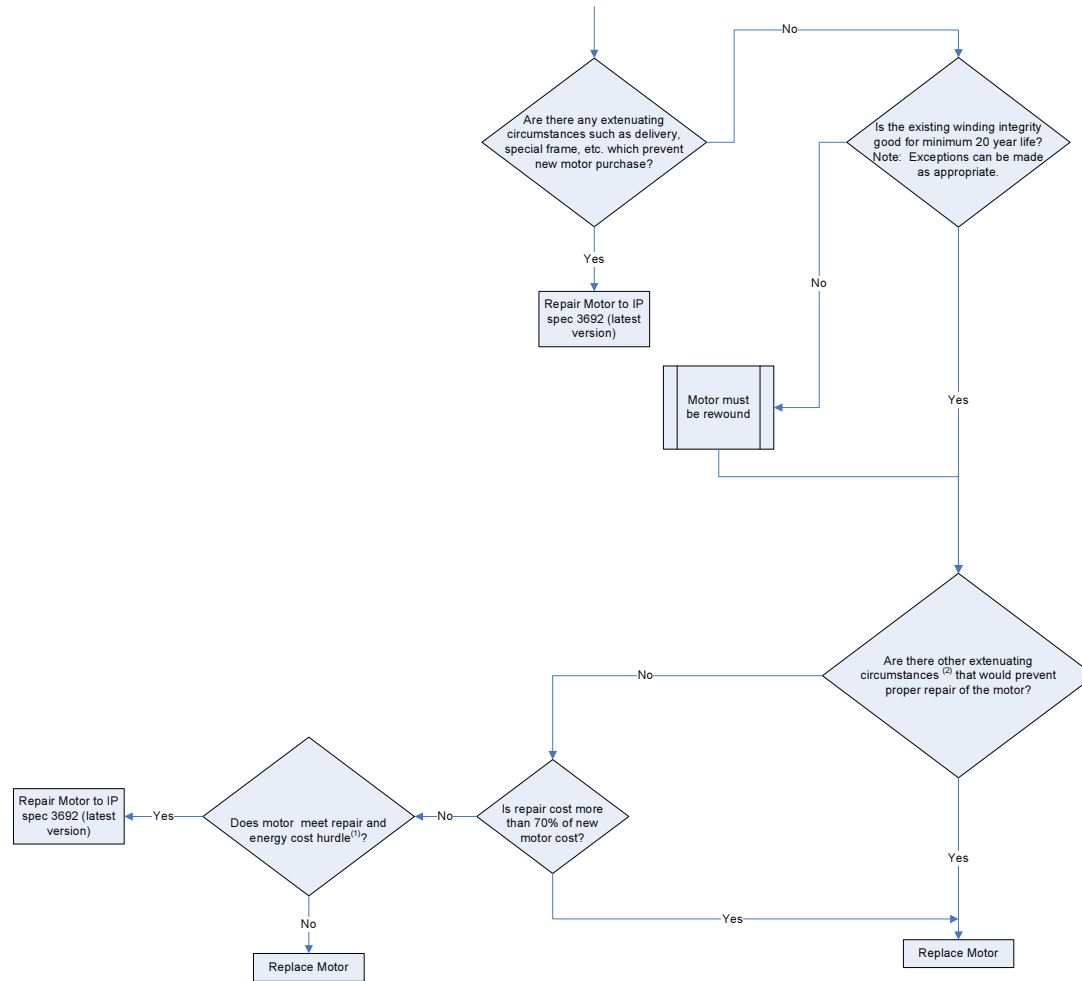


Above NEMA Frame Motor Repair vs. Replace Model

Wednesday, October 13, 2010



⁽¹⁾ repair and energy cost hurdle = $[(\text{new motor cost} - \text{repair cost}) - (2 \times \text{annual energy savings})] > 0$

annual energy savings = $[\text{new motor efficiency (\%)} - \text{old motor efficiency (\%)}] \times \text{motor hp} \times \340

Note: Use OEM motor vendor supplied efficiency estimation data to estimate old motor efficiency if not available from nameplate.

example: 100 hp motor - - new motor efficiency = 95.1% old motor efficiency = 93.2%
 annual savings = $[0.951 - 0.932] \times 100 \times 340 = \$646/\text{year energy savings}$

⁽²⁾ extenuating circumstances include:

- frame casting is broken and needs repair or has been welded in past
- other major mechanical issues including damaged shaft, bad rabbit fits, excessive rust, rotor damage/issues, etc.
- motor has been rewound previously at least 2 times
- motor has history of poor reliability
- motor is misapplied for application and different motor should be used; old motor can be considered for service as a spare for other applications