

## Aged DC Adjustable Speed Drive System – Upgrade or Convert to AC System

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A need to replace aged direct current (DC) drives or connected motors often results in a conversation of converting the DC adjustable speed drive (ASD) system with an alternating current (AC) ASD system mainly due to lower AC motor maintenance cost and ASD system improved efficiency.

The following items should be included in to the evaluation as a minimum:

- Capital costs including items like the purchase of the new equipment, a total of direct and indirect costs to get it installed and operational cost, including training and operational downtime.
- Long term operational cost based on input from equipment suppliers and the plant's past experience.
- Debottlenecking evaluation based on the demand of the produced product and operational personnel feedback.

This paper focuses on the differences between approximately 1000 HP DC ASD system and comparable AC ASD system and the overall impacts of upgrading only the DC drive vs converting the electrical-to-mechanical power train to AC ASD system.