PROBLEM STATEMENT: Line-stop caused by a bearing (BRG) failure on the Drive End of Zone 4 Upleg Cooling Fan Motor.

ANALYSIS

INVESTIGATION
Specifications: WEG 330kW AC Motor, Serial Number BE53913, Non Drive End (NDE) BRG 6319C3 Drive End (DE) BRG NU322, driven by a VVVF Siemens drive. 1505RPM direct drive.

Inspections: DE bearing inner race moved on the shaft and allowed the stator to drop onto the windings causing a short. The earthing ring had split in two. The inner race BRG and the shaft were that hot that it was coloured black, the outer race of the BRG was still clean and showed little colour change. There was evidence of burnt connections in the terminal box with evidence of arcing.

CDT: Vibration data was taken on 20/05/07, by shift trades and there was no evidence of a BRG defect on either the DE or NDE bearings. All vibration details were well below alert alarms. This is a 28-day cycle but was not checked before the failure.

Lubrication: Motor NDE greasing conducted every 182 days as per schedule, completed 21/1/07 MP 80011408 Shell Alvania R3
Motor DE greasing conducted every 91 days as per schedule and was last done 30/4/07 MP 80011409 Shell Alvania R3

Maintenance Practices: AC Motor Current inspection covered on Maintenance Plan (MP) 80011046, last completed 07/05/07
AC Motor Insulation resistance testing every 364 days, last completed 28/9/06, MP 80011410

Spares: 330kW AC Motor Serial Number -

References: TDM6-115

ROOT CAUSE:

CORRECTIVE ACTION FOR THIS PROBLEM:

PREVENTATIVE ACTION

ACTIONS REQUIRED TO PREVENT RECURRENCE:
(Refer to prompts on back of sheet before completing this section)

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Prepared by: ___________________________       Date: ____________

Reviewed by: ___________________________       Date: ____________