

## Job Information

Job #: 94579

Date: August 23, 2018

Priority: —

Authorized OT: No

Authorized by:

## Customer Information

Name: Search Waste Water

Reason:

Contact:

Motor#:

PO#:

Application: —

Special notes:

## Name Plate Information

Manufacturer: Siemens

Enclosure : Open Drop Proof (ODP)

Enclosure Type image

Serial#: 1-51S9-LR61272-1

Model#: RGZZ

Service Factor: 1.0

Frame: 256T

Horsepower/kW: 15/7.5

Rated RPM: 1750/860

Rated Amps: 19/14.5

Rated Voltage: 460

Phase: 3

Cycles: 60

Special design: No



Nameplate

DE

ODE

F1

F2

Top



## Mechanical Inspection

Inspect bolt holes and fasteners. Validate correct fasteners.

Does the shaft turn freely?: Yes Contaminant(s): None

Shaft rotation: Bi-directional Contaminant(s) Amt: None

Shaft grounding device present?: No Contaminant Image:



Type of grounding device:

Shaft runout(TIR-Inbound): N/a

Bearings DE: Worn Bearings DE make: NACHI

Insulated: No Bearing DE Size: 5215 Z/C3

Bearings ODE: Worn Bearings ODE make: Koyo

Bearing Type: Ball Bearing ODE Size: 6313

Bearings Retainer: Yes Thermal Protection: No

Retainer condition: Good Thermal Protection Type: —

Bearing Type Image



Bearing Make Image



Bearing Retainer Image



Thermal Protection



## Mechanical Inspection (Continued)

Lubrication Type: Grease

Thermal Protection device DE: —

Lubrication brand inbound: Unknown

Thermal Protection device ODE: —

Lubrication brand outbound: Unknown

Grease Amt DE: Full

Grease Cond. DE: Hard

Grease Amt ODE: Full

Grease Cond. ODE: Hard

Seals DE type: Slinger

Seals Image:

Seals DE size: PHLNE 2820-88-13-1

Seals DE (inbound) condition : Worn



Seals ODE type: Slinger

Seals Image 2:

Seals ODE size:

Seals ODE (inbound) condition :  
:



Shaft damage cause: None

Shaft Image:





## Mechanical Inspection (Continued)

Brg. Image:



Bushings/sleeves image:



Water jacket: Ok

Not  
Available

Fan: Ok



Frame cond.: Good



Motor Mount Position: Horizontal/Foot mount

Endbell type: Single piece

Missing parts?

☐ J-Box cover ☐ O-rings ☐ J-Box☐ HH cover ☐ Glands ☐ None

Endbell Image:



Other missing parts

## Mechanical Inspection (Continued)

### Air Gap Measurements (N/A on Single Piece Endbell)

Does Air Gap Meet Customer or EASA spec(<10% variation)?

DE @ 0

ODE @ 0

—

DE @ 90

ODE @ 90

DE @ 180

ODE @ 180

DE @ 270

ODE @ 270

## AC Electrical Inspection

Number of leads: 3

Terminal Markings:

Length of leads: 12"

REF: NEMA Stds. MG 1-2009, Rev. 1-2010, 2.41-Terminal Markings Identified By Color:

Size of leads:

1-Blue  
2-White  
3-Orange  
4-Yellow

5-Black  
6-No color assigned  
7-No color assigned  
8-Red

P1-No color assigned  
P2-Brown

Lead condition: Good

Lug type:

Connections As Received:

Lug Condition: —

Terminal

Lugs

Lug size:

Not  
Available

Lug Attachment: —



## AC Electrical Inspection (Continued)

Rotor Type: Cast Aluminum

Rotor Condition: Ok

Num rotor bars: 60

Num broken bars: 0

Rotor



### Rotor Test Results

Visual: Pass

Growler: Pass

Single phase: Pass

Stator type: Factory

If other, stator type:

Stator condition: Ok

If other, stator condition:

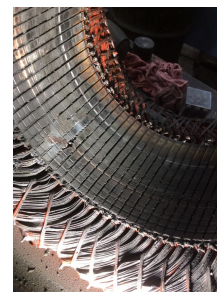
Failure location: In slot

If other, stator failure:

Stator Image:



Failure Image:



#### WEST TENNESSEE

7030 Ryburn Drive  
Millington, TN 38053  
Phone 901-873-5300  
Fax 901-873-5301

#### CENTRAL ARKANSAS

6812 Lindsey Rd.  
Little Rock, AR 72206  
Phone 501-375-9178  
Fax 501-375-4254

## AC Electrical Inspection (Continued)

Winding color: Still has color

Winding image

Winding Thermal Protection: No

Winding condition : Charred

Winding Thermal  
Protection DE: —Winding Thermal  
Protection ODE: —

Stator test results: Rewind

Not  
Available

Megs incoming: Bad

Surge incoming: Bad

Hi-pot incoming: Bad

### Winding Resistance Incoming

Phases A to B

Phases B to C

Phases C to A

Resistive imbalance

Incoming

Leads/jumpers: Ok

Lead jumper Image. :

If other, leads/jumpers:



## Conclusion

### Component Failure

Drive end bearing and grease contamination.

### Cause of Failure

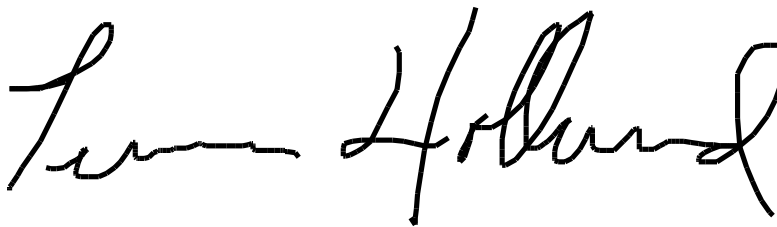
Drive end bearing failure led to rotor dropping on the stator iron, which caused the windings to fail.

### Comments

Drive end shaft is severely worn and needs to be repaired or replaced. The opposite drive end end bell housing fit measures too large and needs repair. Additionally there are some minor discrepancies including the drive end bearing lock nut and star washer need replacing, the fan blade has one missing blade, and the connection box outer cover box has a corner broken off. There is also some core repair needed on the stator iron.

Service Tech name: Terrence Holland

Service Tech signature:

A handwritten signature in black ink, appearing to read 'Terrence Holland', written in a cursive style.