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Author(s):	Mark Woods
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Approvals

Mark Woods 17 June 2020
Author Name - Author, Date

Lou Savell June 17, 2020
Approval Name – Approval, Date

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1. Terms and Definitions

<u>DELTA</u>	Inverter Module, Liquid or Air Cooled
<u>CDC</u>	Common Drive Controller
<u>SMPS</u>	Switched Mode Power Supply

2. References & Related Documents

Document Number	Document Title	Notes
T1689	MV3000 Air Cooled DELTA Manual	

3. Document Purpose and Overview

Recommendations for Maintenance of an MV3000 Air Cooled Delta based drive system.

4. Document Contents

Introduction

The approximate design life of the equipment is shown below:

Part Number	Description	Operational Design Lifetime
MVD500-4701-A	INVERTER (DELTA UNIT)	20 years
MVR1600-4601-A	RECTIFIER	25+ years
MVC3014-4001-A	HIGH PERFORMANCE FAN	5 years (50,000 hours)
MVC3003-4003	SMPS PSU	15 years
MVC3001-4003	CONTROLLER	20 years

Notes on Individual Components

Generally speaking, the MV3000 system requires little maintenance and has no user serviceable parts inside. Faulty parts are replaced using the instructions, safety procedures and guidance provided in the publication T1689 Air Cooled DELTA Manual – available from Avid Controls.

DELTA UNIT

The lifetime of the DELTA unit is determined by the capacitors in the DC link. The design life of 20 years is based on typical running duty and nominal ambient temperature of 45 C. Higher or lower ambients or different operational cycles will alter this figure.

RECTIFIER

The rectifier has no electrolytic capacitors and will have a longer life than the DELTA.

FAN UNIT

The fan unit has a lifetime of 50,000 hours continuous use and so non-continuous use will extend this figure. However, it is good practice to replace the fan every 5 years as its efficiency may reduce over time.

SMPS

The SMPS units use electrolytic capacitors and work at high voltages and replacement after 15 years is recommended.

CONTROLLER

The DELTA Controller has a small internal fan which aids cooling but is not dependant on it and so this component has an estimated lifetime of 20 years

5. General Maintenance Schedule

Operation	Every 6 months	Every 5 Years	15 Years
Ensure that all ventilation louvres to the cubicle are unobstructed;	●		
Ensure the airflow through the cooling ducts is unobstructed;	●		
Examine all power terminations for any signs of overheating;	●		
Check that all electrical connections are secure and to recommended Torque Settings;	●		
Remove any accumulated dust from the system, using a vacuum cleaner with a non-conducting nozzle;	●		
Vacuum the Controller's small fan aperture;	●		
Replace High Performance Fan		●	
Replace any filters on cabinet door inlets - if fitted		●	
Replace SMPS units			●

6. Revision History

Rev.	Date	Author(s)	Changes
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