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SERVICE INFORMATION LETTER

COMPONENT MAINTENANCE RECOMMENDATIONS

Date: May 10, 2012

Subject: Scheduled Maintenance on Woodward Auxiliary Components

The following recommendations regarding Woodward Auxiliary Components have been developed to properly ensure the reliability, availability, and "safety of operation" expectations established for turbine engines. These recommendations include Woodward gas valves, actuators and mechanical controls. While there are electronic control systems designed to monitor and diagnose the operational performance of these components, control monitoring cannot replace normal preventative maintenance practices. It is important to follow these recommendations in order to avoid unnecessary and unscheduled shutdowns.

A detailed analysis has compared repair records of returned units, field data and design criteria to determine the following recommendations. An overhaul of the component should be completed when the unit reaches either the "Operating Hours" or "Years in Service" interval, whichever comes first. Recommendations are based on "normal" operating conditions, fuel quality, past maintenance and environment. At specific installations that do not meet "normal" operating conditions, the required maintenance cycles may be different. Contact your local Woodward representative for a detailed evaluation of your site conditions and component inspection to determine alternative maintenance cycles, as required.

Upon reaching the maintenance recommendation listed in the attached table, Woodward recommends the components be returned to a Woodward distributor or authorized service facility for overhaul. Completion of overhaul to Woodward's factory standards will return the unit to "like-new" condition and allow for another full operating cycle before maintenance is required. The unit will receive standard new part warranty equal to 18 months. Woodward distributors and authorized service facilities can be found on the Woodward website (<u>www.woodward.com</u>) by going to the support directory at <u>www.woodward.com/support/directory.cfm</u>.

Wade Burdick Product Line Manager Woodward Turbine Systems



Woodward Product Maintenance Recommendations Revision 2 Date: May 10, 2012

Product Name	Maintenance Recommendation (Operating Hours)	Maintenance Recommendation (Years in Service)
Hydraulic Control Unit	50,000 Hours	6 Years
Variable Geometry Hydromechanical Control	50,000 Hours	6 Years
Variable Geometry Electromechanical Control	50,000 Hours	6 Years
Variable Stator Vane Actuators	50,000 Hours	6 Years
1907 Small Liquid Valves	25,000 Hours	3 Years
1907 Large Liquid Valves	50,000 Hours	6 Years
Liquid Shutoff Valves	50,000 Hours	6 Years
LQ25 & LQ25T Liquid Metering Valves	50,000 Hours	6 Years
1907 Small Gas Valves	25,000 Hours	3 Years
3103/3171 Gas Valve with Hydraulic Actuator	50,000 Hours	6 Years
3103/3171 Gas Valve with Electric Actuator	50,000 Hours	6 Years
Gas Shutoff Valve	50,000 Hours	6 years
GS3/GS10 Gas Metering Valve	25,000 Hours	3 Years
GS6/GS16 Gas Metering Valve	50,000 Hours	6 Years
3151 Water Metering Valve	50,000 Hours (See Note 1)	6 Years
CIT/CDP Sensor	50,000 Hours	6 Years
2057 Pump	50,000 Hours	6 Years
Hydraulic Globe Valve	50,000 Hours	6 Years
2-Way Hydraulic Liquid Fuel Globe Valve (Bypass and Throttle)	50,000 Hours	6 Years
2-Way Hydraulic Water Metering Valve	50,000 Hours	6 Years
2-Way Electric Water Metering Valve	50,000 Hours	6 Years
3- Way Liquid Fuel Valve	50,000 Hours	6 Years
Hydraulic IGV/VGV Actuator	50,000 Hours	6 Years
SonicFlo Metering Valve	50,000 Hours	6 Years
Hydraulic Rotary Control Valve	50,000 Hours	6 Years

Note 1: Per the product maintenance manual complete sleeve indexing maintenance procedure as recommended.

Manual 40120 "3151A Water Valve/TM-40LP Actuator Assembly for Gas Turbine Water Injection System"

Manual 40181 "3151A Water Valve EML100 Actuator Assembly for Gas Turbine Water Injection System"