S6 Upgrade for Woodward

**Product Description**
- Latest software update incorporates all current Software Action Requests (SARs) revisions for LM6000 turbine line, collectively called “S6 Software Block Change” or S6.
- New classes of “No Start” faults/alarms introduced to keep engine running despite equipment faults.
- New faults/alarms prevent restarts without operator intervention to clear fault.
- S6 Core logic will communicate type of fault to operator.
- S6 also contains significant changes to SPRINT and NOx water logic.
- Additional hardware upgrades necessary if using Motorola 68000 based processors:
  - New CPU.
  - Serial input/output module with 4 communication ports.
  - Ethernet interface, cable, and hub.
  - Local HMI upgrade included in base price to ensure proper functionality of system (Windows platform).

**Customer Value**
- Newly incorporated SARs improve reliability, availability, and performance of LM6000 gas turbines.
- Allows turbine to continue operation without compromising protection on gas turbine despite failure of large amounts of controls and accessory equipment/instrumentation.
- 25+ software improvements on SPRINT & NOx water optimization:
  - Reducing chance of water in turbine lube oil.
  - Expanded operating ranges on PS3, T2 (120 to 140 OF), and T3 (1008 to 1010 OF).
  - Improved trip reduction
  - NOx water active during fuel transfers, yielding 2-3% savings on NOx water.
  - Up to 15 gpm water savings with variable SPRINT system at lower power.
  - S6 reduces failed starts attributable to flame detector faults.
  - Minimizes need to do seasonal NOx water mappings and minimizes water erosion on compressor airfoils and sprint nozzles.
  - Improved heat rate at lower power settings.
  - New HMI ensure proper function in Windows platform

**Applicable Units:**

<table>
<thead>
<tr>
<th>LM6000</th>
<th>✓</th>
<th>LM2500**</th>
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<tbody>
<tr>
<td>LMS100</td>
<td></td>
<td>LM5000</td>
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<td>LM1600</td>
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<td>TM2500</td>
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S6 New Upgrade Interface

**imagination at work**