**Referenced to Water Corporation Standards: DS26-05, DS26-27 AND DS26-45.**

|  |  |
| --- | --- |
| **1. GENERAL DATA** | |
| PROJECT NAME: | PROJECT NO: |
| IDENTIFICATION: |  |

|  |  |
| --- | --- |
| **2. GENERATOR DATA** | |
| MAKE: | KW/KVA: |
| SERIAL NO: | VOLTAGE: |
| TYPE/MODEL: | CURRENT: |
| FRAME: | FREQUENCY: |
| ENCLOSURE PROTECTION: | SPEED: |
| COOLING: | BATTERY VOLTAGE: |
| INSULATION CLASS: | ENGINE TYPE: |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3.** | **INSPECTION DIESEL ENGINE** | **YES** | **NO** | **N/A** | **COMMENTS** |
| 1 | Radiator water is at correct level. |  |  |  |  |
| 2 | Lubrication oil is at correct level and with replaceable filter. |  |  |  |  |
| 3 | Proper replaceable air filter has been installed. |  |  |  |  |

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| --- | --- | --- | --- | --- | --- |
| **4.** | **INSPECTION ALTERNATOR** | **YES** | **NO** | **N/A** | **COMMENTS** |
| 1 | Batteries electrolyte is at correct level. |  |  |  |  |
| 2 | Batteries output voltage is as specified. |  |  |  |  |
| 3 | The alternator output terminal is at correct phase sequence. |  |  |  |  |

| **5. TEST PROCEDURE** | | **YES** | **NO** | **N/A** | **COMMENTS** |
| --- | --- | --- | --- | --- | --- |
| 1 | Record cold winding and engine temperatures - confirm as expected. |  |  |  |  |
| 2 | Magger Generator including a Polarisation Index – confirm acceptable. |  |  |  |  |
| 3 | Check all switches and indicators on switchboard function correctly. |  |  |  |  |
| 4 | Energise Anti-Condensation Heaters and record winding temperatures after 24hrs. |  |  |  |  |
| 5 | Test oil pressure fault and water temperature fault. |  |  |  |  |
| 6 | Test Failure to start, over speed and low fuel level warning fault. |  |  |  |  |
| 7 | Test general alarm, general fault and charging alternator fault. |  |  |  |  |
| 8 | Run Generator no-load one hour. Record Volts, Amps, Power, and bearing/winding temperatures – confirm as expected. |  |  |  |  |
| 9 | After running 4hour record winding temp and engine temp. |  |  |  | Engine Temp\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10 | Confirm ATS connection and delay settings (phase sequence). |  |  |  |  |
| 11 | Confirm ATS functional test. |  |  |  |  |

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| **6.** | **FUNCTIONAL TEST** | | | |  |  |  | |  | |
| Control Function Test | | | | Function Test | | | | Setting | | Remarks |
| a. Starting | | Manual | |  | | | |  | |  |
| Simulate Mains  Failure | Test 1 |  | | | |  | |  |
| Test 2 |  | | | |  | |  |
| Delay Start Timer | |  | | | |  | |  |
| Delay Repeat Start | |  | | | |  | |  |
| b. Stopping | | Manual | |  | | | |  | |  |
| Resumption of Mains | |  | | | |  | |  |
| Delay Stop Timer | |  | | | |  | |  |
| c. Engine Protection | | Overload Trip (MCCB) | |  | | | |  | |  |
| Engine  Overspeed | HL |  | | | |  | |  |
| LL |  | | | |  | |  |
| Low Lube-Oil  Pressure (kPa) | HL |  | | | |  | |  |
| LL |  | | | |  | |  |
| Low Fuel cut-out | LL |  | | | |  | |  |
| High Water  Temp **(ºC)** | HL |  | | | |  | |  |
|  |  | | | |  | |  |
| Under Voltage Trip | |  | | | |  | |  |
| Overvoltage Trip | |  | | | |  | |  |
| Under Frequency (Hz) | |  | | | |  | |  |

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| **7. TESTS** | | | | | | | | | | | | | | | | |
| 7.1 Test Equipment | | | | | | | | | | | | | | | | |
| Megger | | | | | | | | | | | | | | | | |
| Manufacturer: | | | | | | | | Model: | | | | | | | | |
| Serial No.: | | | | | | | | Last Calibration Date: | | | | | | | | |
| Multimeter | | | | | | | | | | | | | | | | |
| Manufacturer: | | | | | | | | Model: | | | | | | | | |
| Serial No.: | | | | | | | | Last Calibration Date: | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| 7.2 Insulation Resistance Test | | | | | | | | | | | | | | | | |
| **Circuit Description** | | **Stator (1000V) 1min** | | | | | **Stator (1000V) 10 min** | | | | | | | **Heaters (500V)** | | |
| **Resistance (Ω)** | |  | | | | |  | | | | | | |  | | |
| **Polarisation Index** | |  | | | | | | | | | | | |  | | |
|  | | | | | | | | | | | | | | | | |
| 7.3 Winding RTD Measurements | | | | | | | | | | | | | | | | |
| **Description** | | | **Ambient** | | **UØ** | | **VØ** | | | **WØ** | | **U1Ø** | | **V1Ø** | | **W1Ø** |
| **Temp (ºC) – Cold** | | |  | |  | |  | | |  | |  | |  | |  |
| **Temp (ºC) – Heaters 24 Hours** | | |  | |  | |  | | |  | |  | |  | |  |
| **Temp (ºC) – 1 Hour No Load** | | |  | |  | |  | | |  | |  | |  | |  |
| **Temp (ºC) – 4 Hours** | | |  | |  | |  | | |  | |  | |  | |  |
|  | | |  | |  | |  | | |  | |  | |  | |  |
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| 7.4 Bearing RTD Measurements | | | | | | | | | | | | | | | | |
| **Description** | | | **Ambient** | | **DE Alternator** | | | | **NDE Alternator** | | | | **DE Engine** | | **NDE Engine** | |
| **Temp (ºC) – Cold** | | |  | |  | | | |  | | | |  | |  | |
| **Temp (ºC) – Heaters 24 Hours** | | |  | |  | | | |  | | | |  | |  | |
| **Temp (ºC) – 1 Hour No Load** | | |  | |  | | | |  | | | |  | |  | |
|  | | | | | | | | | | | | | | | | |
| 7.5 Bearing Measurements | | | | | | | | | | | | | | | | |
| **Description** | **DE Alternator** | | | **NDE Alternator** | | | | | |  | | | | | | |
| **Stationary** |  | | |  | | | | | |  | | | | | | |
| **No Load** |  | | |  | | | | | |  | | | | | | |
|  | | | | | | | | | | | | | | | | |
| 7.6 Generator Measurements | | | | | | | | | | | | | | | | |
| **Description** | **Volts** | | | | | **Amps** | | | | | **Power (kW)** | | | | | |
| **No Load** |  | | | | |  | | | | |  | | | | | |

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| **8. REMARKS / REMEDIAL ACTIONS** |
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| **9. SIGNOFFS** | |  | | |
| NAME (PRINT) | COMPANY / ROLE | | SIGNATURE | DATE |
| NAME (PRINT) | COMPANY / ROLE | | SIGNATURE | DATE |
| NAME (PRINT) | COMPANY / ROLE | | SIGNATURE | DATE |