

Generator - Diesel/Gas (Non Hospital) D&E services

Activity		Type Of Service				
		A	B	C	D	E
1	REPLACEMENT OF THE BATTERIES - Refer to Special Comments a) Only Vented (also referred to as Flooded or Wet-Cell) Lead Acid Batteries complying with AS4029.1 are to be used; and b) Write the installation date on the batteries and the calculated date for replacement.					Y
2	Check resilient mounts, all nuts, bolts and clamps.				Y	Y
3	Clean the engine and remove all excess grease, oil, dirt, etc.				Y	Y
4	Analyse the engine oil quality and if required, replace and record.				Y	Y
5	Replace air filters (if necessary).				Y	Y
6	Replace engine oil filters and the by-pass oil filter.				Y	Y
7	Replace the fuel filters				Y	Y
8	Check condensate trap drain, if applicable.				Y	Y
9	LUBRICATION OIL: a) Test & check lubrication oil for evidence of contamination and/or deterioration; & b) Provide a written report including the sample with name of installation, plant identification & date.				Y	Y
10	Check and service all generator set drive equipment.				Y	Y
11	Check earthing connections and continuity and all other electrical connections.				Y	Y
12	Check cable terminations, especially for: a) Integrity. b) Cleanliness. c) Signs of overheating.				Y	Y
13	Check brushes, sliprings and commutator, where applicable.				Y	Y
14	Check bearing lubrication, where accessible.				Y	Y
15	Check circuit breaker and trip setting.				Y	Y
16	Clean and flush cooling system including: a) Pressure test new coolant. b) Flow test on radiator and engine block.				Y	Y
17	Test that the diesel fuel is to the specification of the generator manufacturer. If required, replace or clean the fuel and flush the fuel and pipes. Note: 1/ The total cost of the fuel replacement or cleaning and flushing of the tanks and pipes is an additional cost. 2/ The cleaning option is to be approved by the site and the cleaned diesel must meet the manufacturer's fuel specification.				Y	Y
18	Undertake a general inspection of the area, including:				Y	Y

**Disclaimer** - This TDS is intended to provide guidance only to support Preventative Maintenance servicing activities. All TDS users are encouraged to read and understand the full [Conditions of Use](#) provided on the final page of this document and on the DPTI website.

For more information please contact the applicable Facilities Management Service Provider.



Government of South Australia  
Department of Planning,  
Transport and Infrastructure

Download Date: 22/12/2020

Generator - Diesel/Gas (Non Hospital) D&E services

Last Issue Date: 21/01/2020		Type Of Service				
Activity		A	B	C	D	E
	a) Check the lighting; b) Check the ventilation openings are clear and any mechanical ventilation is operating correctly; c) Check the condition and location of the safety signage; d) Check for general cleanliness; and e) Check the communications (phone lines etc.) operate correctly.					
19	AUTOMATIC TRANSFER SWITCH (IF FITTED) (This service has the same restrictions as the load tests). a) Check the condition and operation; b) Simulate a mains power failure allowing the generator set to start and checking that the automatic change over sequence operates correctly; & c) After mains power is restored check that the generator runs on for the preset period and that the automatic change over resets itself to its normal operating position.				Y	Y
20	ANNUAL LOAD TEST: a) Check on the oil, cooling water and fuel levels before commencing. b) Refer to the manufacturer's Operational Manual for the Test procedure and intervals to record results. With the generator running: - Load the generator to 100% (or as close as practical) of its rated output and run for a minimum 2 hours (ideally 4 hours) to check the overall performance of the system. - Where the standing load is below 100% (or as close to as practical) of its rated output an external load bank must be connected to make up the shortfall. c) Provide a written report. Record as a minimum: - Voltage. - Load amps. - Water temperature. - Oil pressure. - RPM. - Oil used. - Diesel used. - The date, duration and performance of the generator. d) Once the test is done check the oil, cooling water & fuel levels. LOAD TEST NOTES: 1/ If a manual changover switch is installed, extra time and care is to be taken where large motors are installed to avoid excessive inrush currents while energising back to mains supply. For example, a 10 sec delay for a 40kW motor is considered adequate. 2/ Site approval is required before the load test is undertaken.				Y	Y
21	Check shutdown of system by simulating operation of safety devices including: a) High water temperature. b) Low water level. c) Low oil pressure. d) Over-voltage output of generator. e) Over-speed.				Y	Y

**Disclaimer** -This TDS is intended to provide guidance only to support Preventative Maintenance servicing activities. All TDS users are encouraged to read and understand the full [Conditions of Use](#) provided on the final page of this document and on the DPTI website.

For more information please contact the applicable Facilities Management Service Provider.



Government of South Australia  
Department of Planning,  
Transport and Infrastructure

Download Date: 22/12/2020

Generator - Diesel/Gas (Non Hospital) D&E services

Last Issue Date: 21/01/2020		Type Of Service				
		A	B	C	D	E
Activity						
22	Check, measure and record load current of generator output per phase during load test.				Y	Y
23	Check actual oil pressure against motor gauge indication.				Y	Y
24	Check exhaust smoke colour and density against 'Ringleman' Chart.				Y	Y
25	Check condition and operation of injectors, including adjustments.				Y	Y
26	Check manifold, especially gasket condition and torque of nuts & bolts.				Y	Y
27	Check breathers.				Y	Y
28	Gas fueled type (if applicable): a) Check gas mixing valve for correct operation. b) Check and clean mixture intercooler. c) Check condition and operation of exhaust gas turbocharger. d) Replace gas filter on module. e) Check condition and operation of all gas regulation and safety devices.				Y	Y
29	Check that all systems are back to their normal positions.				Y	Y
30	Provide a written report on the condition and operation of the generator including any costed remedial work.				Y	Y
31	Record all readings and results in the log book.				Y	Y

**Disclaimer** -This TDS is intended to provide guidance only to support Preventative Maintenance servicing activities. All TDS users are encouraged to read and understand the full [Conditions of Use](#) provided on the final page of this document and on the DPTI website.

*For more information please contact the applicable Facilities Management Service Provider.*



Government of South Australia  
Department of Planning,  
Transport and Infrastructure

**Download Date:** 22/12/2020

## Special Comments and Technical Data

---

D SERVICE ANNUALLY

E SERVICE REPLACEMENT OF THE BATTERIES - SEE BELOW.

THIS IS A SPLIT SERVICE TDS FOR SELECTED SITES ONLY. FOR THE B SERVICE REFER TO E03FM. FOR THE PRIMARY TDS REFER TO E03.

PRIOR TO EACH LOAD TEST APPROVAL IS REQUIRED FROM THE SITE. LOAD TESTS CAN ONLY BE UNDERTAKEN IF THERE IS NO SIGNIFICANT DISRUPTION TO SITE SERVICES.

NOTIFY THE SITE REPRESENTATIVE AND THE FACILITY MANAGER IF IT IS NOT POSSIBLE TO UNDERTAKE A LOAD TEST. LOAD BANKS CAN BE USED TO TOP UP THE LOAD ON THE GENERATOR FOR THE TEST BUT NOT AS A FULL SUBSTITUTE LOAD.

THE ACTIVITIES AND FREQUENCIES DETAILED ABOVE ARE OF A GENERIC NATURE AND MAY NEED TO BE VARIED TO SUIT THE MANUFACTURER'S RECOMMENDATIONS AND SITE REQUIREMENTS.

SEALED BATTERIES THAT CANNOT BE TOPPED UP WITH WATER & ARE ON CONSTANT CHARGE ARE NOT TO BE USED AS THEY MAY EXPLODE.

VENTED STATIONARY LEAD ACID TYPE BATTERIES COMPLYING WITH AS4029.1 ARE TO BE USED.

THE RISK WITH BATTERY FAILURE IS TO BE ASSESSED AND IF HIGH THE REPLACEMENT TIMEFRAME SHOULD BE LESS THAN THE NOMINATED DESIGN LIFE PROVIDED BY THE MANUFACTURER. FOR A 70% (DEFAULT) REDUCTION EXAMPLES ARE:

DESIGN LIFE OF 10 YEARS = REPLACE AT 7 YEARS (DEFAULT)

DESIGN LIFE OF 5 YEARS = REPLACE AT 3.5 YEARS (DEFAULT)

SERVICE TECHNICIANS MUST WEAR CORRECT PPE DUE TO THE POTENTIAL EXPOSURE TO BATTERY (SULPHURIC) ACID. APPLICABLE LEGISLATION AND STANDARDS: MINISTERIAL BUILDING STANDARD MBS002 AND AS3000.

**Disclaimer** -This TDS is intended to provide guidance only to support Preventative Maintenance servicing activities. All TDS users are encouraged to read and understand the full [Conditions of Use](#) provided on the final page of this document and on the DPTI website.

*For more information please contact the applicable Facilities Management Service Provider.*



**Government of South Australia**  
Department of Planning,  
Transport and Infrastructure

**Download Date:** 22/12/2020

# Conditions of Use

A TDS should be used as a generic guide for Facilities Management Service Providers (FMSP) to deliver Facilities Maintenance Services, specifically Preventative Maintenance in accordance with the DPTI [Agency Work Procedure Manual](#).

Users of a TDS should familiarise themselves with the following **Conditions of Use**:

1. You use the information and data contained in any TDS published by DPTI at your sole risk. DPTI-AGFMA does not have the expertise to provide complete or accurate technical data schedules and provides these technical data sheets merely as a starting point and/or guide.
2. If you rely on the information in a TDS you are responsible for ensuring, by independent verification, its accuracy, currency and completeness. DPTI cannot guarantee that the information contained in a TDS meets the standards or requirements of legislative requirements.
3. A TDS is not an exhaustive list of tasks or obligations that may be required and is generally generic in nature. DPTI does not oblige the user of a TDS to rely on it to the exclusion of other sources of information. For example, manufacturer's requirements may need to be followed for additional and / or alternative tasks and for additional and / or alternative servicing frequencies. You should always check the primary source of information such as the Australian Standards, manufacturer's specifications, legislation and other standards before undertaking any work to which a schedule may apply.
4. You must apply appropriate risk management principles and carry out all tasks in accordance with obligations under the [Work Health and Safety Act 2012](#).
5. You must not use a TDS unless you meet the specific competency requirements for preventative maintenance servicing works and are capable of applying the TDS to your trade or area of expertise. A TDS is only to be used by people who are specifically instructed by DPTI to use them and only for work undertaken in South Australia.
6. DPTI, its agents, instrumentalities, officers and employees make no representations, express or implied, as to the accuracy of the information, the data contained in a TDS or the suitability of a TDS for a particular purpose.
7. DPTI does not provide legal advice. DPTI accepts no liability, howsoever arising, for any loss resulting from the use of a TDS and any information or data or reliance placed on them.
8. DPTI may change information and data in a TDS without notice.
9. DPTI may revise this disclaimer at any time by updating these Conditions of Use.