

**EMERGENCY LIGHTING INSTALLATIONS
TASK 236 TEST BATTERIES/GENERATOR OPERATION****1. HEALTH & SAFETY**

- 1.1 Comply with any specific warning notices or site restrictions as identified within the site safety plan held by the responsible person, and with any other specific/temporary hazards identified during site induction/at time of visit.
- 1.2 Be aware of actions that might affect other people. Take appropriate measures to ensure the safety of persons in hazardous areas (e.g. stairs etc.) or undertaking activities (hot processes, machine tool users) should the emergency lighting fail to operate when the test is started.
- 1.3 Beware hazards associated with batteries, e.g. electric shock, explosion from charging gases, short circuit from metallic objects, and acid spillage.
- 1.4 On systems with standby generators beware of moving parts and surfaces at high temperature. Under no circumstances must any attempt be made to work on such equipment without a valid permit to work.
- 1.5 During the inspection, the opportunity should be taken to identify dangers that might arise during the testing. Any location and equipment for which safety precautions may be necessary should be noted and the appropriate steps taken
- 1.6 On completion of work, a final check should be made to ensure that all covers etc. to live parts have been securely re-fixed and all doors closed and locked Ensure all normal lighting services are restored before leaving the job.
- 1.7 A specific 'risk assessment', to satisfy *The Management of Health & Safety at Work Regulations 1999*, must be carried out. Due consideration to this and any other statutory regulations e.g. COSHH 1999, Manual Handling Reg's 1992. Etc. must be made prior to carrying out any task detailed below. Risk assessments are to be carried out by the operative's employer.

2. GENERAL REQUIREMENTS

- 2.1 Liaise with the building manager before starting and finishing work.
- 2.2 Discuss with the building manager any reported equipment problems and give particular attention to such equipment.
- 2.3 The start of the full duration test should be arranged so that failure of the normal lighting, after completion of the discharge test but before the recharging time is completed will present a minimum hazard to the building occupants
- 2.4 For self-contained luminaries with sealed batteries, after the first 3 yearly test the 3 yearly test should be carried out Annually. Please adjust checklist frequency as required
- 2.5 Obtain the Responsible Persons comments and complaints (if any) on the performance of the system.
- 2.6 A Log Book is to be created for each building with an Emergency Lighting system, Log Book page No 1 is to be completed for each building Emergency Lighting system. Log Book page No 2 is to be completed on each occasion that maintenance, servicing or repair is carried out on the system. The building Log Book may be use to retain other Log Book pages for systems such as Fire Alarms
- 2.7 Checklists 3 will also perform the function of being the Certificate of Testing Emergency Lighting System and is to be carried out at 3 yearly intervals, and as such must be retained in the building file. **NOTE item 2.4 above** applies here for self contained luminaries with sealed batteries
- 2.8 Record all inspection/maintenance findings. Any defects considered to adversely affect safe operation of the equipment shall be reported to the responsible person.
- 2.9 Manufacturers technical literature shall, where held or obtainable, be made available to the operatives by the responsible person. Any instructions within the manufacturers literature that contradict this task sheet shall be followed in preference.
- 2.10 The work described in this task sheet is only to be undertaken by suitably skilled and experienced operatives having the correct knowledge and equipment to perform this task.
- 2.11 Record all inspection findings. All items requiring repair shall be listed on the PPM work docket, any repairs carried out under the Contract Lump Sum shall be indicated as such, any other items in this category requiring shut downs or spares shall be carried out following agreed procedures. Any deviation from accepted operation or any defects considered to present a safety or operational hazard shall be reported to the responsible person, who shall arrange any remedial actions, and who will advise the client as required.
- 2.12 The attached task instructions highlight the basic elements that should be carried out as a minimum requirement. The sub-contractor may adopt these instructions or submit there their own method statements for approval. The task instructions provided are generic in form and will require modifying to suit specific equipment/systems being maintained. It should be noted that the full

requirements of the relevant reference documents must be complied with; the list provided here is not exhaustive. Lead reference' documents: -

- BS 5266:Part 1:1988 "Code of Practice for emergency lighting".
- BS 5266:Part 1:1999 Code of Practice for emergency lighting of premises other than cinemas and certain other specified premises used for entertainment.
- BS 764:1990 Specification for automatic changeover contactors for emergency lighting systems.
- BS EN 60598-2-22:1999 Luminaires. Particular requirements. Specification for luminaires for emergency lighting.
- PSA MEEG Vol. 6 Section 25.101:1992
- BS7671: 1992 "Requirements for electrical installations (16th Ed.)
- BS7671: 2001 Requirements for electrical installations IEE Regulations (16th Ed.)
- IEE Guidance Note 3:"Inspection and Testing": 2000
- HSE Guidance Note GS 38-Electrical test equipment for use by electricians 1995
- HSG 85 Electricity at Work. Safe working Practices 1993
- HS(R) 25 - Memorandum of Guidance on the Electricity at Work Regulations 1989.

Task Numbers AD-PPM 234-235 to be shown on all PPM dockets as appropriate

***Mandatory Frequencies to individually assessed per site, approved through Authorising Engineers * Table below guideline only.**

Item Description	Task No	Task	Lead Ref.	Status	Frequency	Remarks
EMERGENCY LIGHTING INSTALLATIONS Some wiring modifications may be necessary for implementation in some buildings operated 24 hours/day	236	Test batteries/generator operation	BS5266	Mandatory	MONTHLY (M)	As BS5266 "Monthly inspection & test"
	236	Part Discharge tests	BS5266	Mandatory	6 MONTHLY (6M)	As BS5266 "Six Monthly inspection & test"
	236	Full Duration tests	BS5266	Mandatory	3 YEARLY (3Y)	As BS5266 "Three yearly inspection & test"

TASK 236 (M) TEST BATTERIES/GENERATOR OPERATION**PROCEDURES****1. INDEPENDENT LUMINAIRES**

- a) Verify the location of all emergency lighting luminaires and check that each is marked with an appropriate identification number. Record any deficiencies of identification
- b) Obtain where possible the rated battery duration of each type of luminaire from maintenance records. Assess whether lights can be isolated in groups to minimise disturbance to client and avoid interruption to the work.
- c) Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s).
- d) Inspect each luminaire and internally illuminated sign to verify correct operation and functioning, by simulating a failure of the supply to the normal lighting using test facility provided in the installation or luminaire/sign, for a period sufficient only to verify that each lamp illuminates. The test period is not to exceed one quarter of the rated duration of the luminaire or sign.
- e) If it is not possible to examine every luminaire/sign during the test period, the test is to be terminated at the end of the period. The batteries are then to be fully recharged and the test repeated to enable the remaining luminaires/signs to be examined.
- f) On completion of the inspection, restore the normal power supply and verify that non-maintained luminaires extinguish, and that indicator lights where fitted, are functioning.
- g) Record all findings and report any serious defects to the responsible person.

2. CENTRAL BATTERY SYSTEMS

- a) Verify the location of all emergency lighting luminaires and check that each is marked with an appropriate identification number. Record any deficiencies of identification
- b) Obtain where possible the battery rated duration from maintenance records.
- c) Note and record the battery voltage and charge current from installed metering and compare these to the commissioning data to determine state of battery charge. Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s). Note the battery voltage immediately the test period has commenced.
- d) Inspect each luminaire and internally illuminated sign to verify correct operation and functioning, by simulating a failure of the supply to the normal lighting using test facility provided in the installation or luminaire/sign, for a period sufficient only to verify that each lamp illuminates. The test period is not to exceed one quarter of the rated duration of the luminaire or sign.
- e) Immediately before completion of the test record the final value of the battery voltage. Restore the normal power supply and verify that non-maintained luminaires extinguish. Note the battery voltage and charging current to confirm recharge is taking place.
- f) Inform the building manager that the work has been completed. Obtain signature of building manager to confirm work is complete. Where the building manager holds a logbook on the premises, complete the relevant entries to confirm work carried out.
- g) Record all findings and report any serious defects to the responsible person.

3. STANDBY GENERATOR SYSTEMS

- a) Where a backup battery is installed, inhibit the engine from starting. Simulate a failure of the normal supply using either the test facility provided or by isolating the appropriate electrical circuit. Note whether a changeover to the battery supply occurs. This test should be completed, and the normal supply restored as quickly as possible.
- b) Where applicable, remove any engine start inhibit fitted in (a) and then repeat the normal supply failure. Verify that the standby set starts, and that the lighting is restored. Inspect each luminaire to verify correct operation and functioning. The generator shall be run on-load for at least 1 hour. Check and record any deviations from normal operating conditions or for any unusual noise, vibration or smells.
- c) On completion of the test, restore the normal power supply and verify that non-maintained emergency light fittings extinguish. Where a backup battery is installed, note the battery voltage and or charging current to confirm that the battery is being recharged.
- d) Allow the engine set to stand at rest for at least 30 minutes after shutdown and then check and refill as required the daily service fuel tank, engine lubricating oil and engine coolant. Check engine starter motor battery for re-charge.
- e) Record all findings and report any serious defects to the responsible person.

**EMERGENCY LIGHTING INSTALLATIONS
TASK 236.1 – (6M) PART DISCHARGE TEST****PROCEDURES****1. INDEPENDENT LUMINAIRES**

- a) Verify the location of all emergency lighting luminaires and check that each is marked with an appropriate identification number. Record any deficiencies of identification
- b) Obtain where possible the rated battery duration of each type of luminaire from maintenance records. If not available assume the rated duration is equal to 1 hour. Assess from the records whether the lights can be isolated into groups to minimise disturbance to client and avoid interruption to the work.
- c) Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s).
- d) Inspect each luminaire to verify correct operation and functioning. The test duration shall be not less than 15 minutes for a 1 hour rated battery and 1 hour for a 3 hour rated battery.
- e) On completion of the inspection, restore the normal power supply and verify that non-maintained luminaires extinguish, and that indicator lights where fitted, are functioning.
- f) Inform the building manager that the work has been completed. Obtain signature of building manager to confirm work is complete. Where the building manager holds a logbook on the premises, complete the relevant entries to confirm work carried out.
- g) Record all findings and report any serious defects to the responsible person.

2. CENTRAL BATTERY SYSTEMS

- a) Verify the location of all emergency lighting luminaires and check that each is marked with an appropriate identification number. Record any deficiencies of identification
- b) Obtain where possible the central battery rated life (L) from maintenance records. If not available assume the rated life L is equal to 1 hour.
- c) Note and record the battery voltage and charge current from installed metering. Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s). Note the battery voltage immediately the test period has commenced.
- d) Inspect each luminaire to verify correct operation and functioning. The test duration shall be not less than 15 minutes for a 1 hour rated battery and 1 hour for a 3 hour rated battery. Record all findings.
- e) Immediately before completion of the test record the final value of the battery voltage. Restore the normal power supply and verify that non-maintained luminaires extinguish. Note the battery voltage and charging current to confirm recharge is taking place. Record all findings.
- f) Inform the building manager that the work has been completed. Obtain signature of building manager to confirm work is complete. Where the building manager holds a logbook on the premises, complete the relevant entries to confirm work carried out.
- g) Record all findings and report any serious defects to the responsible person.

3. STANDBY GENERATOR SYSTEMS

Task 236.1 is not applicable to these installations.

**EMERGENCY LIGHTING INSTALLATIONS
TASK 236.2 - FULL DURATION TESTS****PROCEDURES**

It must be noted that only a proportion of self-contained units should be tested at any one time, as the re-charge time is approximately 12 hours.

1. INDEPENDENT LUMINAIRES

- a) Verify the location of all emergency lighting luminaires and check that each is marked with an appropriate identification number. Record any deficiencies of identification
- b) Obtain where possible the rated battery duration of each type of luminaire from maintenance records. Assess whether lights can be isolated in-groups to minimise disturbance to client and avoid interruption to the work.
- c) Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s).
- d) Inspect each luminaire to verify correct operation and functioning. The test duration shall be not less than the rated duration of the battery. If the rated duration cannot be determined assume a 1-hour duty. Note whether the luminaire is still functioning at the end of the test period.
- e) On completion of the inspection, restore the normal power supply and verify that non-maintained luminaires extinguish, and that indicator lights where fitted, are functioning.
- f) Record all findings and report any serious defects to the responsible person.
- g) For self-contained luminaries with sealed batteries, after the first 3 yearly test the 3 yearly test should be carried out Annually. Please adjust checklist frequency as required

2. CENTRAL BATTERY SYSTEMS

- a) Verify the location of all emergency lighting luminaires and check that each is marked with an appropriate identification number. Record any deficiencies of identification
- b) Obtain where possible the battery rated duration from maintenance records.
- c) Note and record the battery voltage and charge current from installed metering and compare these to the commissioning data to determine state of battery charge. Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s). Note the battery voltage immediately the test period has commenced.
- d) Inspect each luminaire to verify correct operation and functioning. The test duration shall be not less than the rated duration of the battery. If the rated life cannot be determined assume a 1hour duty. Note whether the luminaire is still functioning at the end of the test period.
- e) Immediately before completion of the test record the final value of the battery voltage. Restore the normal power supply and verify that non-maintained luminaires extinguish. Note the battery voltage and charging current to confirm recharge is taking place.
- f) Inform the building manager that the work has been completed. Obtain the building managers signature to confirm work is complete. Where the building manager holds a logbook on the premises, complete the relevant entries to confirm work carried out.
- g) Record all findings and report any serious defects to the responsible person.

3. STANDBY GENERATOR SYSTEMS

Task 236.2 is not applicable to these installations.

Establishment_____

Location_____

Task Group 38
Emergency Lighting Installation
Checklist No1
Task-236

Area Covered

Frequency- (M) Record S/NS. NS record action taken

Record any defects here: -

Date-Week Comm.	Week No.	
Task-236 (M) Test batteries/generator operation in accordance with BS 5266		
Check that defects recorded in the log book have been corrected.		
Confirm location of all emergency lighting. Check all have identification number. Record any missing.		
Obtain where possible the rated battery duration of each type of luminaire from maintenance records.		
Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s). Minimum disruption to client.		
Inspect each luminaire. Verify correct operation and functioning. The test period is not to exceed one quarter of the rated duration of the luminaire or sign. Clean the exterior of luminaires and signs.		
If it is not possible to examine every luminaire/sign during the test period, the test is to be terminated at the end of the period. The batteries are then to be fully recharged and the test repeated to enable the remaining luminaires/signs to be examined.		
Check correct operation of engine driven generator(s) and carry out the manufacturer's recommended maintenance Check fuel tanks, oil and coolant levels and top up as necessary Check level of electrolyte in batteries of central battery systems and generator starter batteries Check that all indicator lamps are functioning Complete Generator Log Book pages		
On completion of the inspection, restore the normal power supply and verify that non-maintained luminaires extinguish, and that indicator lights where fitted, are functioning.		
Complete the Emergency Lighting Log Book.		
Record all findings and report any serious defects to the responsible person.		

Signed.....Name.....Date.....

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(Sub-Contractor)

Establishment_____

Location_____

Area Covered

Frequency- (6M) Record S/NS. NS record action taken

Record any defects here: -

Task Group 38
Emergency Lighting Installation
Checklist No2
Task-236

Date-Week Comm.	Week No.	
Task-236 (6M) Test batteries/generator operation in accordance with BS 5266. Part Duration test		
Confirm location of all emergency lighting. Check all have identification number. Record any missing.		
Obtain where possible the rated battery duration of each type of luminaire from maintenance records. If not available assume the rated duration is equal to 1 hour		
Simulate normal supply failure by isolating the supply using either the test facilities provided or by isolating the appropriate circuit(s). Minimum disruption to client.		
Inspect each luminaire. Verify correct operation and functioning. The test duration shall be not less than 15 minutes for a 1 hour rated battery and 1 hour for a 3 hour rated battery.		
If it is not possible to examine every luminaire/sign during the test period, the test is to be terminated at the end of the period. The batteries are then to be fully recharged and the test repeated to enable the remaining luminaires/signs to be examined.		
On completion of the inspection, restore the normal power supply and verify that non-maintained luminaires extinguish, and that indicator lights where fitted, are functioning.		
Where the building manager holds a logbook on the premises, complete the relevant entries to confirm work carried out.		
Record all findings and report any serious defects to the responsible person.		

Signed.....Name.....Date.....
(Sub-Contractor)

Establishment_____

Location_____

Area Covered_____

Task Group 38
Emergency Lighting Installation
Checklist No3
Task-236

Test Certificate Emergency Lighting

Frequency- (3Y) Record Yes or No when No record action taken

Note – For self-contained luminaires with sealed batteries, after the first 3 yearly tests the 3 yearly tests should be carried out Annually. Please adjust checklist frequency as required

Date-Week Comm.	Week No.	
Task-236 (3Y) Test batteries/generator operation in accordance with BS 5266. Full duration test.		
See Note above		
Carry out Monthly maintenance with regard to generator maintenance	Yes/No	
Are correct entries made in the log book?		
Are record drawings available?		
Are record drawings correct?		
<i>Signs.</i> 1) Are the signs correctly positioned? 2) Are details of the signs correct? 3) Do the self-luminous signs (if any) need changing before the date of the next scheduled inspection		
<i>Luminaires</i> Are luminaires correctly positioned?		
<i>Illumination for safe movement</i> 1) Are the correct lamps installed in the luminaires? 2) Has there been any change in the decor or layout of the premises since the last inspection, which has caused any significant reduction in the effectiveness of the lighting system? (Any changes to be stated under COMMENT below.) 3) Is the installation in a generally satisfactory condition?		
<i>Marking</i> 1) Are the category and nominal operating voltage of the system clearly marked or readily identifiable? 2) Are luminaires clearly marked to indicate the correct lamp for use? 3) Is information available to ensure correct battery replacement?		
<i>Wiring systems</i> 1) Are the results recorded on the last inspection and test certificate satisfactory? 2) State the date of this inspection and test		
<i>Power Services</i> 1) Are the charging arrangements for batteries satisfactory? 2) Do changeover devices operate satisfactorily upon simulation of failure of the normal supply?		
<i>Central battery systems including backup batteries.</i> 1) After operation for the rated duration i) do all luminaires operate? ii) are all signs illuminated and visible? 2) Following the restoration of the system to normal: i) is the battery charger functioning? ii) are the levels and the specific gravities of the battery electrolytes satisfactory, where applicable		
<i>Engine driven generating plant.</i> 1) After a period of operation of at least 1 h: i) do all luminaires operate? ii) are all signs illuminated and visible? iii) does the backup battery, where installed, operate satisfactorily? (see above)		
<i>Self-contained luminaires and signs.</i> 1) After operation for the rated duration, does each self-contained luminaire and sign operate? 2) Following restoration of the system to normal supply, is the battery charger functioning?		
Record all findings in Log Book and report any serious defects to the responsible person.		

I/We hereby certify that the emergency lighting installation at the above premises has been inspected and tested in accordance with the schedule above by me/us and to the best of my/our knowledge and belief complies at the time of my/our test with the recommendations of BS 5266 "Emergency lighting" Part 1:1988 "Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment", published by BSI, for a_____Category installation,

Signature of person responsible for inspection and test_____

Qualification_____Date_____

For and on behalf of_____ Report details of variation from the code of practice (BS 5266- 1:1988) to the WSM on separate sheet.

For Emergency Lighting System

Task No's - 236

NOTE – 1. Complete the information below for each building

Location of Emergency Lighting System _____

System Type ^(a) _____

System Installed by _____ Date _____

Maintenance provider	Tele No

Note below - All events occurring on the system e.g. all, monthly, 6 monthly, annual or 3 yearly maintenance tasks; Servicing following wiring check, faults, any alterations and other non routine attention etc.

[illegible]

Log Book Page – Defect Sheet

[illegible]