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Critical Systems Checklist in the event of an ESB outage at NATIONAL SPACE CENTRE

Revision	Author	Date
First Issue	Damien Dennehy	2014 January 15
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Introduction

This document outlines the critical systems at National Space Centre Ltd that need to be monitored during an ESB outage. These include the 60KVA uninterruptible power supply (UPS) located in the UPS room, the 430KVA Generator (No. 1) located in the power building, specific customer equipment on site and the NSC support computer which can be used to monitor the ESB fault webpage and the NSC support mail. The critical systems board in the engineering office can be used to aid on-call personnel with relevant information. The following steps are to be taken.

Alarm Raised / Text Message Received

On-call personnel (all technical staff and Rory) will receive text from digi-dialer:

NSC mon pane
Date and Time
Tech 1 Z1 Mains Lost

If the ESB mains have been lost, please contact Fermoy Transmission Station immediately. The contact number is: **025-49705** or Networks Emergency: **1850-372999**.

***Note* Ensure these numbers are in your mobile phone contacts list**

A check can be carried out on

<https://www.esb.ie/esb-networks/powercheck/> It is advised that the mobile app for this service be downloaded to your phone.

Ask ESB if they can switch from the Midleton line to the Fermoy line. Before leaving for Elfordstown ensure you have your keys.

Once the generator starts up, on-call personnel will receive text from digi-dialer:

NSC mon pane
Date and Time
Tech 1 Z2 Gen 1 Running



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1. *Access Site (if out of site)*

The automatic gate will not function so the side gate with padlock will need to be used for access to site.

***Note* Remember to bring your site keys**

2. *Server Room*

Once on site, enter the main building and open the server room doors. The HVAC's are UPS backed up so they will be functioning. Key to the server room is located in the Key Box in the engineering room.

***Note* There will be no lighting so locate a torch to navigate around site, preferably a headtorch**

3. *UPS Room*

- Check UPS has transferred to 'bypass' from the display on the front panel by pressing F1 and F2 to scroll up and down through the menu
- Scroll to the battery menu and check that the battery current is reading above 0.0 – the indicates that the UPS is supplying power from the batteries and is in bypass mode

See below:

A) 'BYP' LED will be lit when UPS in bypass mode

B) 'Batt Current (A)' will be above 0.0 in bypass mode

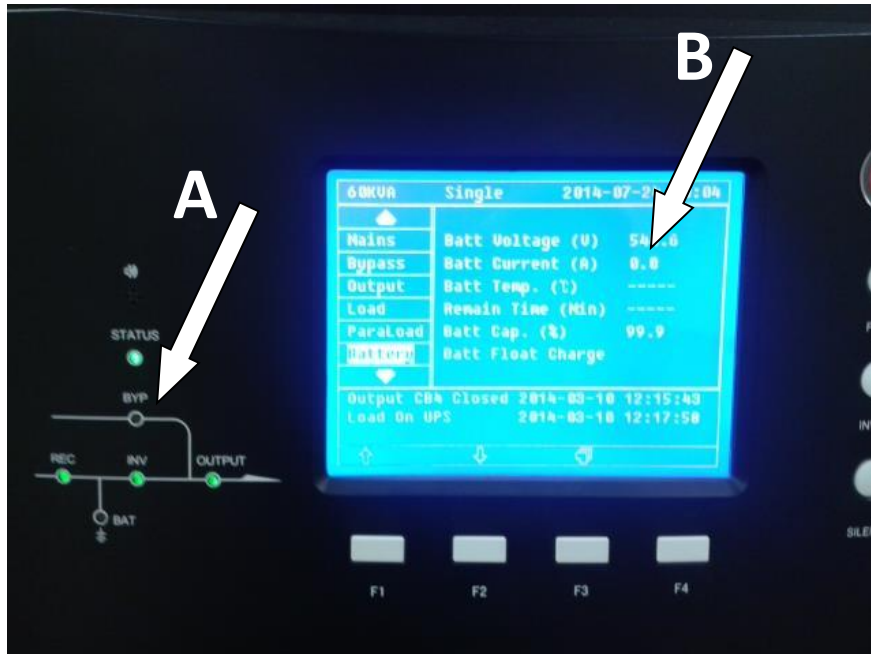


Figure 1 UPS Screen / Interface

4. Power Building

- Check Generator No. 1, located in the power building, has started / is running and is providing power by checking the display on the front panel. It should give a reading greater than 0KVA (Fig 2) – Bring ear-muffs
- Ensure header tank 1 has sufficient fuel from the fuel gauge
- Transfer diesel into header tank one if generator is running for more than a few hours or once the fuel level drops below half way. (Procedure on emergency board in engineering office)



Figure 2 Generator Display

5. SkyLogic GUI – Engineering Office

- Check SkyLogic GUI interface in the engineering office for alarms and ensure the system is fully powered
- If any system / component are alarmed as a fail status (red in colour) on the GUI for more than 5 minutes then SkyLogic need to be notified. (Procedure on emergency board in engineering office)

Note Alarms will occur for non-critical systems initially on loss of ESB but should return to normal status (green in colour) once the generator has started. An audible alarm may be active and stays active even if the system has returned to normal operation. This can be silenced from the alarm pop-up menu using the silence button. (Fig 3)

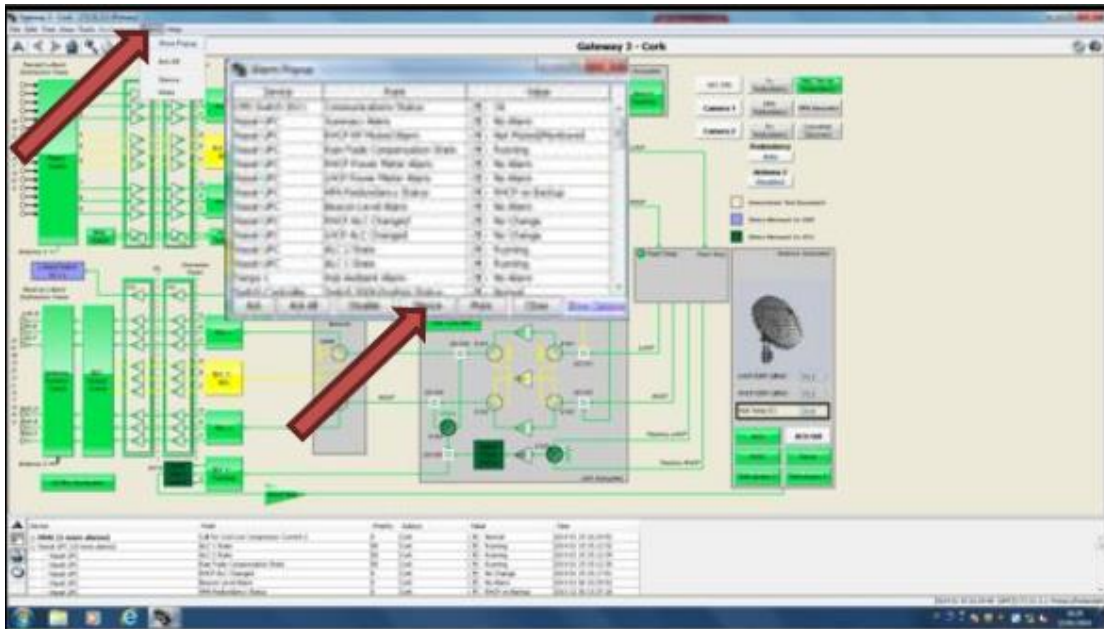


Figure 3 SkyLogic GUI Interface

6. Support Computer – Engineering Office

- Check ESB interface from the support computer in the engineering office or from another device at <https://www.esb.ie/esb-networks/powercheck/> for fault information and/or contact Fermoy Transmission Station

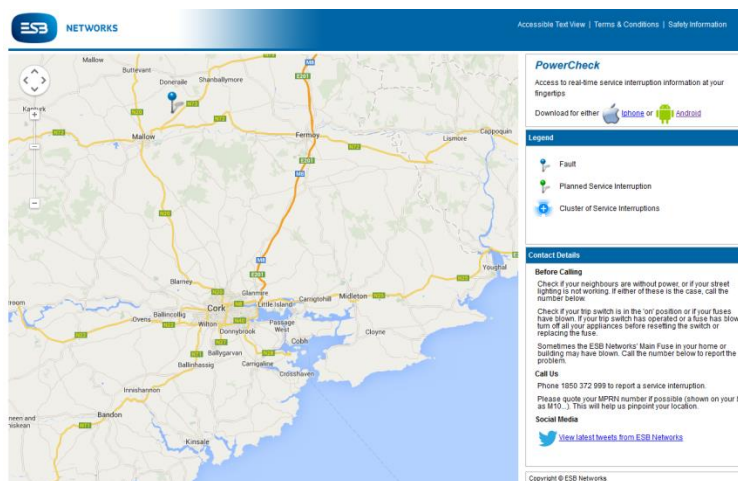


Figure 4 ESB Power Check Interface



- Ask for estimated time before power is restored and contact NSC customers that do not have UPS and/or generator back-up to indicate how long they will be without power – exactEarth antenna only at present
- The app for this service should be downloaded to your phone also
- On return of ESB power the generator digi-dialer will send the following to all on-call personnel

NSC mon pane

Date and Time

Input Closed Z1 Mains Lost

NSC mon pane

Date and Time

Input Closed Z2 Gen1 Running

7. *Check UPS Room*

- Check UPS has transferred back to mains supply from the display on the front panel by pressing F1 and F2 to scroll up and down through the menu
- Scroll to the battery menu and check that the battery current is reading 0.0 indicating that the UPS is supplying power from the mains

8. *Power Building*

- Check generator 1 has started the cool down cycle and shuts down automatically after 120 seconds
- Transfer diesel into header tank one to refill if necessary. (Procedure on emergency board in engineering office)

Note If the mains supply is unstable the generator may stay running longer than 120 seconds in case it is required to supply power again

9. *Check SkyLogic GUI – Engineering Office*

- Check SkyLogic GUI interface for alarms in the engineering office and ensure the system is fully powered
- Alarms will occur for non-critical systems initially on switch back to mains supply but should return to normal status (green)



- An audible alarm may be active and stays active even if the system has returned to normal
- This can be silenced from the alarm pop-up menu
- If any system / components are alarmed as a fail status on the GUI for more than 5 minutes then SkyLogic need to be notified. (Procedure on emergency board in engineering office)

10. *Support Computer – Engineering Office*

- Check ESB power check interface from the support computer in the engineering office or from another device at <https://www.esb.ie/esb-networks/powercheck/> for further fault information or any planned maintenance

Additional Information

- The generator and UPS status can be monitored remotely if necessary, VPN connection required.
 - Generator: <https://192.168.25.6/>
 - UPS: <https://192.168.25.1/>

Note If a text message is received with **Tech1 Z3 generator alarm** or **Tech 1 Z4 UPS alarm** then the relevant contractors need to be contacted immediately and are required on-site to carry out repairs. (Contact numbers on last page)

- Necessary equipment located in engineering office, i.e. torch, gloves, ear-muffs and keys



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Critical Systems Information Board

The critical systems information board is located in the engineering office inside the door to the right. This has a procedure for certain alarms on the GUI interface for SkyLogic and relevant contact information as required.

The diesel transfer procedure for header tank 1 is also located on this board, as are the required contact numbers of outside contractors and support as necessary.

Figure 5 Critical Systems Information Board

Critical Systems Location Map

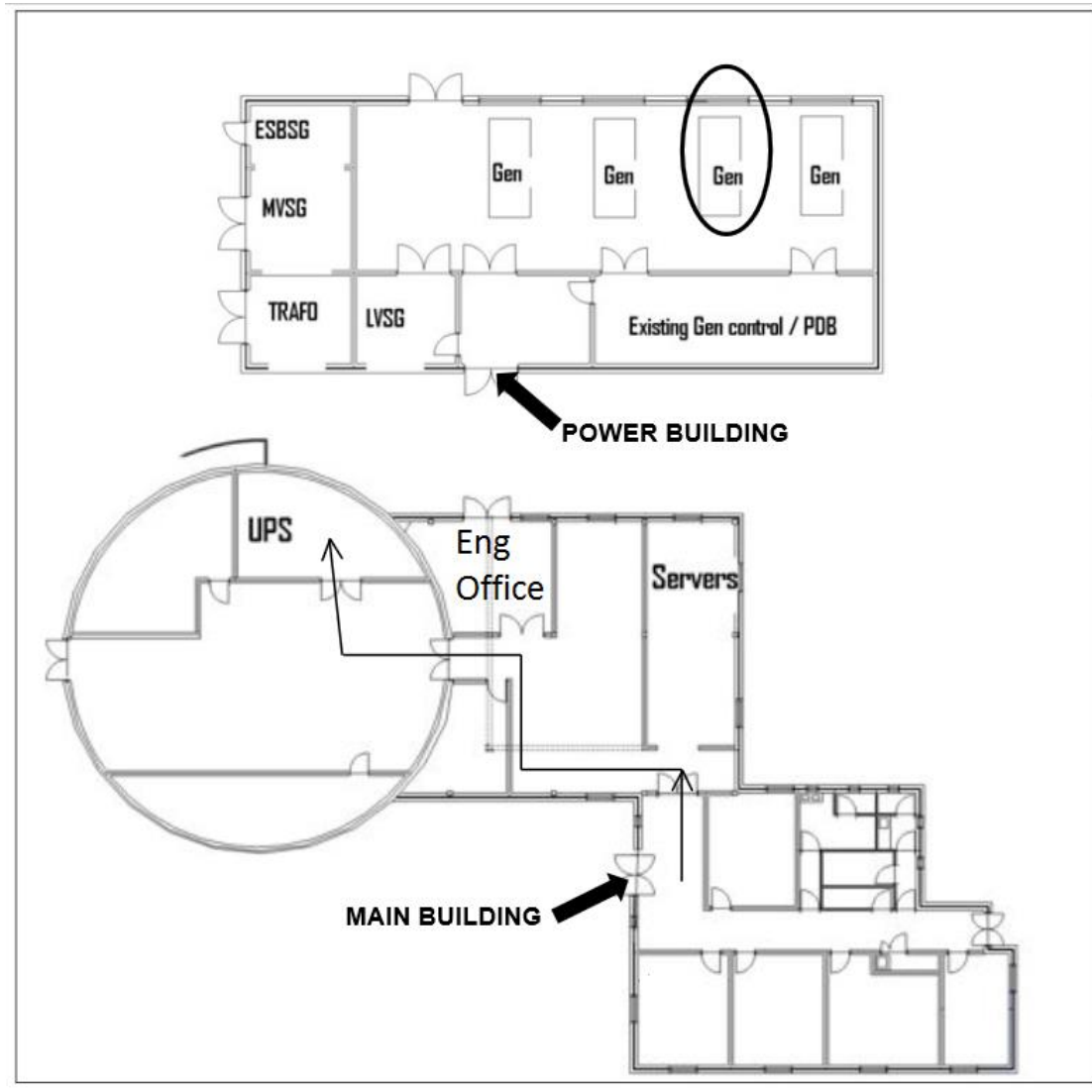


Figure 6 Critical Systems Location Map