Primary Generator Failure

In the event of a failure of the primary generator (Fig 1) during a power interruption, we now have a backup generator (Fig 1A) that can be switched on line. Starting and switching this secondary generator is a manual task.

Note: The backup mobile generator is hardwired next to the primary generator. Contact Ben Harris (575)430-6097 if the primary generator fails and the backup is being used.

Note: In the event of both generators failing, we have the option of parking another mobile generator beside the loading dock lift. The wiring for this setup is located at the base of the 3.5M telescope behind the pillar next to the double doors.

Fig 1

Fig 1 A

The secondary generator has been tested and should carry the nominal site power load. However, with the phase imbalance that we currently have it may not. Since HVAC units ,

the electric oven, and clothes dryer consume large amounts of power, it is recommend that you not use these when on the secondary generator. The exception is the computer room HVAC unit that is required. The easiest way to turn off the HVAC units for the two control rooms is to turn the thermostats for those rooms to highest temperature. For the 2.5m HVAC simply turn the HVAC controller switch in the lower level in the control box from auto to off. It is NOT essential these be done immediately but please turn them off as soon as you can. Also, do not run the 3.5m roof heaters on generator power (any generator).

We have tested the secondary on daytime loads and not night time loads. I am confident we can close the telescope on the secondary generator if the above load conditions are met and the 3.5m and 2.5m exhaust fans are off. I would not recommend closing the 3.5m shutters and 2.5m enclosure at the same time though.

In the future, we hope to have enough test data and confidence that we can observe when on primary generator and only close while on secondary generator if the primary fails.

To start the secondary generator go to loading dock door and read the red instruction placard. See Fig 2 . These instructions will walk you through the generator transfer. Each step is labeled with red numbers.

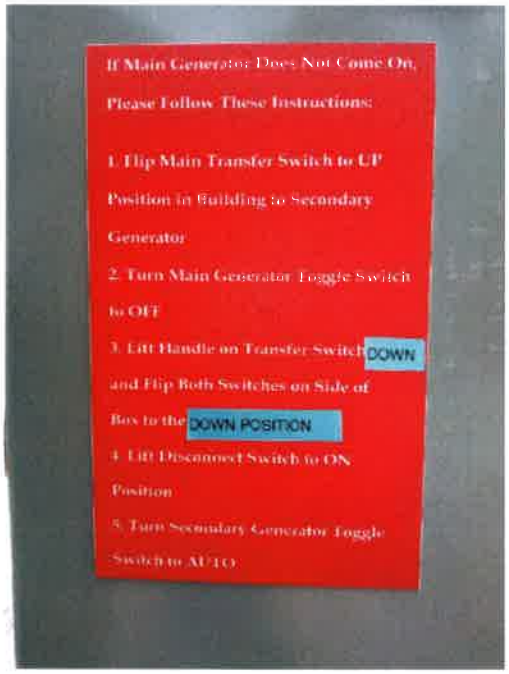

Fig 2

Step 1

Flip main transfer switch up. This is located at the loading dock door. See Fig 3

Fig 3

Step 2

Open the the generator doors closest to and behind the secondary transfer switch. Turn primary generator toggle switch to the off position. See Fig 4

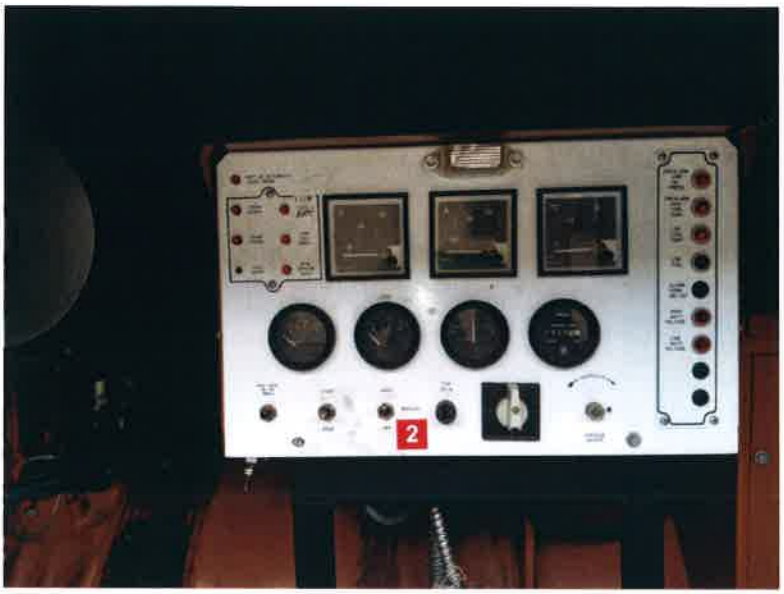

Fig 4

Step 3

Locate the secondary transfer switch outside in front of the primary generator and loading dock door. There will be a duplicate red instruction placard on the front cover. Flip the secondary transfer switch handle down. This is a three position handle. You will have to press in on the safety lock in the middle to flip between positions. Next, flip the two light switches on the side down. They are enclosed in a weather proof clear case and are located on the opposite side of the transfer box. See Fig 5,6,7

Fig 5

Fig 6

Fig 7

Step 4

Flip Switch A up to the on position. This switch is located on the side of the building next to the secondary generator. See Fig 8,9

Note: Switch B is located by the loading dock lift. It should always be off. This is for an emergency mobile generator installation using the wires located in the base of the telescope. If this is to be used, contact Ben Harris first.

Fig 8

Fig 9

Step 5
Flip the secondary toggle switch to auto. See Fig 10,11

Fig 10

Fig 11

Reminder: The SDSS Engineering trailer has its own generator and the SDSS Observer trailer has no generator back up power regardless.