



VSAT Technology - Mains Power Supply

The following assessments, checks and tests will be necessary:

1. Is the quality of the electrical installation in compliance with international electrical standards covered by IEC Wiring Regulations BS7671 "Requirements for Electrical Installations," IEC 364 "Electrical Installations of Buildings" or an equivalent national standard.
 - Who's responsible for the mains power supply to the end-user?
 - Who owns the "in-building" power grid?
 - Who installed the power grid, when, and was it ever certified?
 - Is there any regular inspection or maintenance? If yes, when was the last inspection visit? Are inspection reports available?
 - Is maintenance provided by a certified engineer / company?
 - Any electrical service information available (drawings, service records)?
2. How is mains supply organized? Commercial mains only or commercial power with local generator back-up?
3. If the accommodation of a generator power source has been identified:
 - Is an automatic change-over switch provided on the load side of the main switch? Does it work in a way that upon detection of mains power failure, the change-over switch automatically switches to the alternate power source?
 - And upon detection of mains power restoration in excess of one continuous minute, the change-over switch automatically switches back to mains power?
 - Are there many commercial mains outages and is the generator frequently in use? Are there any statistics available?
 - Is the generator properly maintained and operating within specs?

4. Is mains / generator power stable, clean and within specs or is a line conditioner required?

A line conditioner is a transformer that attempts to smooth out fluctuations in input voltage to provide near uniform output voltage or voltage waveform.

5. Any surge protectors in the network?

A surge protector is a device which guard against (equipment) damage due to sudden spikes in the electrical current. All surge protection devices must be connected to a low impedance building ground in order to function properly. A (lightning) surge suppression has to be provided on the load-side of the main switch. The majority of surges are not caused by direct lightning strikes to the facility but are either carried in on utility lines, or generated internally.



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6. Any transformers or invertors in the power network?

An inverter is a box that converts DC battery power to AC power required by most of the appliances.

7. Is the network and generator properly grounded?

See also NWNS IB 1006-3 (Electrical Earthing / Grounding)



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Contact Next World Network Services

We are eager to serve your business needs in any way we can. To contact us, please select from any of the options below. At any time you can email us at request@nwns.org

Global Headquarters (UAE)

PO BOX 500127
Dubai Internet City
Dubai - United Arab Emirates

Telephone: +971 442 903 41
Email: request@nwns.org

Global Sales (The Netherlands)

Hofstraat 1
NL-4797AC Willemstad
The Netherlands

Telephone: +31 168 472 336
 +31 622 207 576
 +31 857 842 357
Fax: +31 848 312 225
 +31 848 309 534
Email: request@nwns.org
 jack@nwns.org

Global Operations & NOC (India)

Unit no.9, 1st Floor, B-wing,
Paradigm Towers, Mind space, Malad(W),
Mumbai-400 064 - India

Telephone: +91 22 2881 6836
 +91 22 2881 6837
Fax: +91 22 2881 6710
Email: noc@nwns.org
 support@nwns.org
 help@nwns.org