Redundancy

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Redundancy

Redundancy is one of those terms that the military or space systems employ so that the mission is completed successfully. Actually we encounter redundancy in nearly everything that we do. For example the mechanical break on your car is there in case the hydraulic break systems fails. The door micro switch on your microwave is there in case you open the door before the timer is finished. Generally there is a backup for nearly everything that we do because things do fail. Most of our more intelligent systems have an independent system that quarries each system and votes which system is operating properly and gives control to that system. This is normally only found on fully automated systems where human input is not available. Many of our customers at DDB have fully automated remote fielded systems that have to operate on their own without human intervention. They can report a failure status to the Network Operations Center (NOC) which typically dispatches a technician to the site to fix the problem.

A good example of redundancy is the current day rectifier with A and B bus outputs which independently power the electronic systems. A failure of one bus will automatically cause the equipment to use the power from the other bus. This is essentially provided by independent rectifier modules both providing power to the equipment at the same time. In the event of a facility power fail the backup batteries are directly connected to both A and B busses to continue operating the system.

Keeping the equipment cool is a major concern in any system and especially during the loss of facility power since most A/C units operate on 120/230 VAC power. A DC powered A/C unit is available to provide cooling during the power failure and can keep the equipment from reaching critical temperatures. In those systems where a backup A/C unit is employed it is recommended that the individual set points of the A/C unit be staggered to insure that the A/C unit do not fight each other and also double the utility cost of operation. A secondary approach is to remote the individual A/C temperature sensors to the opposite A/C unit.

Please discuss your concerns with our knowledgeable sales people at DDB.