Theory of Operation of the Laboratory Utility Controller

The primary objective of our control system is to promote safety for the student as well as the instructor in the science laboratory learning environment. In order to achieve this goal, it is our belief that the instructor should be granted sole, local authority to determine those utilities that should be available to the student during the course of the classroom day.

Dividing focus between, not only response to the potential emergency, but likewise the prevention, our theory of operation states that the utility outlets readily available to the student should remain inactive or OFF unless specific need for use is determined and thus granted by the instructor.

ISIMET defines four distinct operating hierarchies or states:

1. Enabled or Operational
2. Disabled or Non-Operational
3. Panic
4. Alarm

ISIMET believes that sole and local authority means that the primary operator or the instructors should have the sole authority to start and stop the utility services within the immediate area of use during normal usage. This should distinguish this type of operating environment from that where a single emergency shut-down device is located remotely from the areas of use. As an example, the *ISIMET* system is not specifically intended for use in applications where a master shut-down and re-instate device is located away from areas of normal use. *ISIMET's* opinion is that in such cases there is risk that the operator of the system during re-start may inadvertently activate utilities in an unoccupied area that is remote from the present occupancy, thus creating the risk of fire where the utility is fuel gas.

Additionally, the operation of emergency devices including emergency showers and eyewashes should not be integrated with this system for either activation or deactivation.