

GEW43-14

603.2

Proponent: John Williams, CBO, Chair, representing ICC Adhoc Health Care Committee (AHC@iccsafe.org); Brenda Thompson, Chair, Sustainability, Energy, High Performance Code Action Committee (SEHPCAC@iccsafe.org)

Revise as follows:

603.2 Energy distribution design requirements and load type isolation in buildings. Energy distribution systems within, on or adjacent to and serving a building shall be designed such that each primary circuit, panel, feeder, piping system or supply mechanism supplies only one energy use type as defined in Sections 603.2.1 through 603.2.5. The energy use type served by each distribution system shall be clearly designated on the energy distribution system with the use served, and adequate space shall be provided for installation of metering equipment or other data collection devices, temporary or permanent, to measure their energy use. The energy distribution system shall be designed to facilitate the collection of data for each of the building energy use categories in Section 603.4 and for each of the end use categories listed in Sections 603.2.1 through 603.2.5. Where there are multiple buildings on a building site, each building shall comply separately with the provisions of Section 603.

Exceptions:

1. Buildings designed and constructed such that the total usage of each of the load types described in Sections 603.2.1 through 603.2.5 shall be permitted to be measured through the use of installed sub-meters or other equivalent methods as *approved*.
2. Within Group I-2, Condition 2 occupancies, loads connected to critical, life safety and equipment branches shall be permitted to be monitored in the aggregate.

Reason: These metering requirements place an undue burden on hospitals (Group I-2, Condition 2) that have very sophisticated and integrated power systems. Many times the critical, life safety and essential electric system may have lighting, process loads and equipment loads connected in the same panelboard. The need to meter to the circuit level is very costly and difficult to manage for loads that would not be managed or optional.

The Essential Electrical System within a hospital is a system comprised of alternate sources of power and all connected distribution systems and ancillary equipment, designed to ensure continuity of electrical power to designated areas and functions of a health care facility during disruptions of normal power sources and also to minimize disruption within the internal wiring system. The internal wiring system is segregated into three branches, the Life Safety Branch, the Critical Branch and the Equipment Branch. These branches divide and prioritize the criticality of the equipment and functions served by the electrical system and provide for a hierarchy of electrical service based on life safety and clinical services. The division between these branches occurs at transfer switches where more than one transfer switch is required. The Equipment Branch is a system of feeders and branch circuits arranged for delayed, automatic, or manual connection to the alternate power source and that services primarily 3-phase power equipment. The Equipment Branch serves such items as: central suction systems, sump pumps, compressed air systems serving medical and surgical functions, smoke control systems, stair pressurization systems, kitchen hood supply or exhaust systems, HVAC systems for airborne infections/isolation rooms, protective environment rooms, operating rooms, critical care units, labor and delivery units, emergency rooms and general patient rooms, and lab and other hazardous area hood.

The Critical Branch is a system of feeders and branch circuits supplying power for task illumination, fixed equipment, select receptacles, and select power circuits serving areas and functions related to patient care that are automatically connected to alternate power sources by one or more transfer switches during interruption of the normal power system. The Critical Branch serves task illumination, fixed equipment, select receptacles and select power circuits serving the following areas and functions related to patient care: airborne infections/isolation rooms, protective environment rooms, operating rooms, critical care units, labor and delivery units, emergency rooms and general patient rooms, and medication preparation areas, pharmacy dispensing areas, nurse call systems, blood banks. The Life Safety Branch is a system of feeders and branch circuits supplying power for lighting, receptacles, and equipment essential for life safety that are automatically connected to alternate power sources by one or more transfer switches during interruption of the normal power source. The Life Safety Branch is limited to circuits essential to life safety and supplies power for lights, receptacles and equipment for: illumination of the means of egress, exit signs, hospital communication systems, elevator cab lighting and control, fire alarms and loads dedicated to proper function and maintenance of the emergency power supply. As can be seen from the listing of components and areas served each branch of the essential electrical system within hospitals is distributed throughout the

facility. This is in direct conflict with the energy distribution design requirements and load type isolation in buildings required by Section 603.2. In order to allow for the proper power distribution design for hospitals this exception is necessary.

This proposal is cosponsored by the ICC Ad Hoc Committee for Healthcare (AHC) and the ICC Sustainability Energy and High Performance Code Action Committee (SEHPCAC).

The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 11 open meetings and over 162 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

The SEHPCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance International Codes with regard to sustainability, energy and high performance as it relates to the built environment included, but not limited to, how these criteria relate to the International Green Construction Code (IgCC) and the International Energy Conservation Code (IECC). This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. In 2012 and 2013, the SEHPCAC has held six two-day open meetings and 50 workgroup calls, which included members of the SEHPCAC as well as any interested parties, to discuss and debate proposed changes and public comments. Related documentation and reports are posted on the SEHPCAC website at: <http://www.iccsafe.org/cs/SEHPCAC/Pages/default.aspx>.

Cost Impact: Will not increase the cost of construction.

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