

NFPA 70®-2014

National Electrical Code®

TIA Log No. 1152

Reference: 530.21(A)

Comment Closing Date: June 20, 2014

Submitter: Ken Vannice, Rep. US Institute for Theatre Technology

1. Revise 530.21(A) to read as follows:

530.21 Plugs and Receptacles.

(A) Rating. Plugs and receptacles, including cord connectors and flanged surface devices, shall be rated in amperes. The voltage rating of the plugs and receptacles shall be not less than the nominal circuit voltage. Plug and receptacle ampere ratings for ac circuits shall not be less than the feeder or branch-circuit overcurrent device ampere rating. Table 210.21(B)(2) shall not apply. Section 406.15 shall not apply.

Submitter's Substantiation: New section 406.15 reads as follows:

406.15 Dimmer-Controlled Receptacles. A receptacle supplying lighting loads shall not be connected to a dimmer unless the plug/receptacle combination is a nonstandard configuration type that is specifically listed and identified for each such unique combination.

In Article 530 venues, receptacles may be connected to dimmers, relays, or directly to an overcurrent protective device without control, depending on the needs of a particular production. In a modern lighting system, the configuration of a receptacle (dimmed, switched, or constant power) may even be determined by the configuration settings of the control system feeding the receptacle. In addition, a studio uses many different types of "standard" NEMA or ANSI/PLASA configuration receptacles in the same facility. These might include stage pin receptacles (ANSI/PLASA E1.24 and reference by UL 498), parallel blade receptacles, or twist-lock receptacles. Any or all of these configuration types may be controlled by a dimmer.

Personnel operating a studio are trained in the management of dimmed, switched, and constant-power circuits and receptacles. This has been the practice for many years, and there is no record of loss to warrant applying the general-purpose restriction of section 406.15 to the Special Occupancies of Article 530. In addition, the example in the substantiation for Proposal 18-53 for new 406.15 also may also be a misapplication of product - the rope light luminaire and/or the dimmer (there are different types of dimmers for different types of loads) and a possible violation of installation and use per listing and instructions requirements of 110.3(B). Trained personnel in Article 530 venues are aware of these factors and address them in their regular duties.

It is clear that section 406.15 did not receive adequate review from those familiar with standard operating practices in Article 530 venues. Unfortunately, the conflict between the general-purpose restriction of section 406.15 and studio dimming systems of article 530 was not picked up by the Correlating Committee, and thus CMP 15 was never asked to review the actions of CMP 18 on section 406.15. This seems unusual, since Article 530 venues contain large numbers of receptacles fed by dimmers.

In another section 404.14(E), relating to restrictions on loads that may be connected to general purpose dimmer switches, the *NEC Handbook* acknowledges that the restrictions of 404.14(E) do not apply to theatre dimmers (often used in article 530 venues), as follows:

General-use dimmers are not permitted to control receptacles or cord-and-plug-connected table and floor lamps. If a dimmer evaluated only for the control of incandescent luminaires is used, the potential for connecting incompatible equipment such as a cord-and- plug-connected motor-operated appliance or a portable fluorescent

lamp is increased by using the dimmer to control a receptacle. Section 404.14(E) does not apply to commercial dimmers or theater dimmers that can be used for fluorescent lighting and portable lighting.

No similar exemption for studio dimmers to new section 406.15 exists in the Code or the *Handbook*. As such, the proposed additional wording of the TIA for section 530.21(A) is needed.

Emergency Nature: This proposed TIA is of an emergency nature because the insertion of section 406.15 is clearly covered by section 5.3(f) of the *Regulations Governing Committee Projects*:

(f) The proposed TIA intends to correct a circumstance in which the revised document has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process, or was without adequate technical (safety) justification for the action.

Without the wording of the TIA, new section 406.15 will have a material and costly effect on construction, renovation, and operating practice in all article 530 venues that is not warranted by any documented safety problem.

Anyone may submit a comment by the closing date indicated above. To submit a comment, please identify the number of the TIA and forward to the [Secretary, Standards Council](#), 1 Batterymarch Park, Quincy, MA 02169-7471.