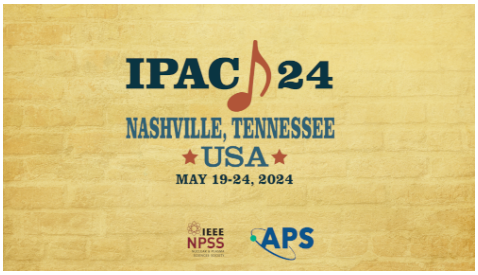

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Electrical fire safety assessment of the synchrotron accelerator experimental station in NSRRC

Thursday, 23 May 2024 16:00 (2 hours)

The synchrotron facility and experimental station in the National Synchrotron Radiation Research Center (NSRRC) uses many electrical appliances, the improper use of which can cause fires, resulting in property damage and personal injury. Therefore, the usage of these electri-cal appliances must be assessed.
This study conducted a comprehensive inspection and evaluation of the electrical appliances used in NSRRC, including extension cords and electrical connections; this was done to not only reduce the risk of fire but also emphasize the importance of electrical safety habits. We connected an extension cord reel in the NSRRC to a pump or a dehumidifier and used a thermal imaging cam-era to measure the temperature of the cord and these two appliances. We tested the extension cord reel when it was coiled up in the reel and straightened to determine which electrical appliances or extension cord states were prone to high temperatures and fires.
The results showed that the extension cord was 18–20℃ hotter when it was coiled than when it was straight. Therefore, we recommend that at least two-thirds of the length of the extension cord should be extended out of the reel when it is used.

Footnotes

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