BR 7: ENSURE TOILETS & SINKS CAN OPERATE DURING BLACKOUTS

New York City Plumbing Code
Proposal developed by the Climate Adaptation Committee

Summary

Issue:
Some toilets and faucets can function only with utility power; this presents a sanitation risk in the event of a long-term power outage.

Recommendation:
Require that toilets and faucets be capable of operating without building power for at least two weeks

Proposed Legislation, Rule or Study

Amendments to the New York City Plumbing Code

1. Add a new Section 424.7 as follows:

424.7 Lavatory sensor control devices. Sensor control devices used for lavatory faucets shall be able to continue normal operation in the event of a loss of building power for a period of at least two weeks, without connection to the building power supply.

2. Add a new Section 425.6 as follows:

425.5 Water closet and urinal flushing sensor control devices. Sensor control devices used for flushing toilets or urinals shall be able to continue normal operation in the event of a loss of building power for a period of at least two weeks, without connection to the building power supply. Sensor control devices shall be based on infrared detection and have a minimum delay of 2 seconds.

Supporting Information

Issue – Expanded
Studies demonstrate that bacteria in bathrooms, even those that are functioning properly, contribute to the spread of infectious illnesses such as the common cold and gastrointestinal illness. When lavatories and toilets cannot function properly and people cannot wash their hands, remove waste or clean regularly, bathrooms can become a major vector for illness.

Automatic fixtures were created in part to reduce human contact with bathroom surfaces that might spread disease. However, the need of many such fixtures for electricity leaves them vulnerable to disruptions in the power grid, potentially crippling building sanitation during blackouts. The effect of losing sanitation in an occupied building was graphically demonstrated in the aftermath of Hurricane Katrina when lack of water pressure caused toilets to fail in the Superdome, quickly making the building uninhabitable. In addition, the sensors on many automatic fixtures, particularly toilets, malfunction and flush repeatedly, wasting a substantial quantity of water.

Environmental & Health Benefits
This proposal will ensure the proper functioning of building sanitation, even during prolonged power disruptions. It will improve sensor controls for toilets and urinals, leading to a reduction in water consumption.

This proposal was found to have a low, positive environmental impact per building and to impact a small number of buildings. It was thus given an environmental score of 1.

This proposal was found to have a low positive health impact per building and to impact a small number of buildings. It was thus given an health score of 1.

Cost & Savings
As described in the Executive Summary, Bovis Lend Lease prepared cost estimates for each Task Force proposal in the
context of well-defined construction projects in specific buildings. Where possible, members of the Technical Committees prepared savings estimates for some of these projects and buildings. These cost and savings estimates are presented in the February 1st draft version of Appendix A. The innate uncertainty in how construction and operation will vary from one building to another, the complexity of the Task Force proposals, and the wide range of applications in which the proposals may be realized mean these figures are truly estimates.

This proposal was estimated to lower capital costs if implemented.

**Precedents**

There are no known precedents for this proposal.

**LEED**

There are no LEED credits affiliated with this proposal.

**Implementation & Market Availability**

There are no known implementation issues for this proposal. Lavatory faucet sensors and toilet sensors with the required battery life are readily available. Some flushometer toilets with sensors also provide a manual override.

**ENDNOTES:**

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