

2018 P100 ADDENDUM

OCTOBER 1, 2019

Remove Executive Order 13693:

In table 2.1 and 5.4; remove “Executive Order 13693” and replace with “Executive Order 13834”

Change Section 1.10.3 Building Information Modeling:

ADD after the last sentence: All Projects must reference and include the documentation for the GSA OFM COBie Playbook, [OFM COBie Playbook](#) .

Add 1.10.5.5 Design Guide for Operational Excellence:

Use of the Design Guide for Operational Excellence is required. See: <https://www.wbdg.org/ffc/gsa/criteria/design-guide-for-operational-excellence>

Change Section 2.3.2.3 Zoning and Related Issues:

ADD after the last sentence: Any deviation from local regulations for these types of systems must be approved by GSA through the P100 waiver process.

Change Section 2.5.1.1 Section 438 of the Energy Independence and Security Act (EISA) & EISA Technical Guidance:

ADD after the last sentence: Supplemental guidance is available per OCA Memorandum, Compliance with Section 438 (Stormwater) Requirements of the Energy and Security Act of 2007; dated 6/20/2019.

Change Section 3.2.4.1 MOISTURE CONTROL OPAQUE ASSEMBLIES:

DELETE: Moisture control in opaque assemblies requires analysis of project-specific assemblies and exposures to mitigate the risk of condensation and uncontrolled moisture migration.

ADD: Where unique or custom opaque assemblies are proposed, consider analyzing their performance and exposures to ensure the control of moisture and to mitigate the risk of condensation and uncontrolled moisture migration.

Change Section 3.6.3 Promote the Use of Stairs:

DELETE the entire second paragraph.

Change Section 3.6.6 Lactation Rooms

ADD new paragraph after table 3.2 Lactation Stations: The Fairness for Breastfeeding Mothers Act of 2019 requires that certain public buildings that are open to the public and contain a public restroom provide a lactation room, other than a bathroom, that is hygienic and is available for use by members of the public to express milk.

Change Performance Table Section 5.1

Modify 5.2.2 Humidity Control, Performance, Baseline to:

~~Design to meet ASHRAE standard 55 maximum dew point. Delete ASHRAE 55, graphic comfort zone method in the reference row. Insert the "2019 ASHRAE Applications Handbook Chapter 64 - Moisture and Mold, EPA 402-F-13053 Moisture Control Guidance for Building Design, Construction and Maintenance Dec 2013" in the reference row. Revise the performance row to show "Maximum 55F dew point - occupied, 60F dew point - unoccupied"~~

Modify 5.2.6 Filtration, Performance, Baseline, second bullet to: Specify ASHRAE 62.1 filter minimum MERV levels for all cooling coils and for outdoor air in buildings located in an area where the national standard or guideline for particulate matter size is exceeded.

Change Performance Table Section 6.2.2 Lighting Quality – Interior Electric:

DELETE the row for Daylight Autonomy.

Change Section 6.2.2 Lighting Quality:

Tier 3 High Performance (★★★): This level maintains Tier 2 High Performance (★★), but ~~increases daylight autonomy to 100%, and~~ splits electric light between 60% ambient and 40% task(+/-10%). ~~Daylight autonomy refers to the percentage of annual daytime hours that daylight alone provides the required illuminance levels in regularly occupied spaces.~~

Change Section 6.2.5 Maintenance:

Maintenance of a lighting system includes starting out with long life light sources and high quality luminaires and drivers that will not fail before the light sources. Fluorescent luminaires are no longer the lighting fixture of choice due to dwindling manufacturers, lower efficacy, and the maturing of the Solid State Lighting market. GSA facilities ~~should~~ shall be designed to utilize Solid State Lighting luminaires; however, mock ups are required prior to fixture luminaire final selection. Solid State Lighting sources now are rated for at least 50,000 hours. Induction lighting is rated for 100,000 hours. Solid state lighting such as LEDs burn out and dim slowly over the course of their life. Per LM-80, lamp life is based on an L70 or when the light source is producing only 70% of its initial light output.

Change Section 6.3.1.1 Qualifications for the Lighting Practitioner:

Lighting design for new construction, lighting renovations, and energy retrofits must be performed or supervised by a professional lighting practitioner with a minimum of ~~10~~5 consecutive years full-time experience in lighting design with at least ~~two~~one of the three following qualifications of LC, IES member, or IALD member, and who devotes the majority of his/her professional time to the design of architectural lighting.

Change Section 6.3.2.2 Solid State Luminaires and Retrofit Kits:

All new interior and exterior lighting shall utilize solid state high efficiency luminaires ~~must be high efficiency~~that meet the requirements of Design Lighting Consortium (DLC) PREMIUM. All luminaires must be appropriately selected based upon the expected application and be provided with replaceable dimmable drivers.

Change Performance Table Section 6.4.2 Variable Frequency Drive, Attribute:

Use on motors ~~up to 5 HP (3.7kW)~~ to 25 Hp (18.7kW) where ASHRAE 90.1 requires motors to operate at reduced speeds.

Change Performance Table Section 6.4.3 Metering/Monitoring:

Attribute: Metering/Monitoring ~~at Building Mains~~

Baseline: As required by ASHRAE 90.1, ~~v~~oltmeter reading all phase to phase and phase to neutral voltages. Switchable ammeter and three-phase totalizing watt-hour meter. The power meter should be pulse-type and digital networked and/or tied into the Advanced Metering System.

DELETE the row containing "Metering/Monitoring for Feeders".

DELETE the row containing "Metering/Monitoring for Trending".

Change Section 6.5.3.4 Advanced Building Metering and Control, third paragraph:

Building ~~lighting, receptacle loads, and equipment larger than 5 kva shall be provided with metering~~total electricity, HVAC, interior and exterior lighting, tenant usage, and receptacles shall be metered in compliance with ASHRAE 90.1 ~~(8.4.3.1)~~.

Change Section 6.5.4.1 Primary Distribution:

MEDIUM-VOLTAGE SWITCHGEAR

Design of the medium-voltage switchgear must meet all of the requirements of the local utility and UL1558. Switchgear must be provided with enclosed, drawout-type vacuum interrupter breakers, one per each size fully equipped spare cubicle/~~breakers up to 1,600 amps~~, a breaker lifting device, and a ground and test device. The ground and test device must be stored in a spare switchgear cubicle.

Change Section 6.5.4.2 Secondary Distribution:

MAIN SWITCHGEAR (480 V SERVICE)

Switchgear must meet UL 1558 and be provided for the service entrance of any building greater than 800 amperes. Switchgear shall have enclosed, drawout-type circuit breakers, one per each size fully equipped spare cubicle, a breaker lifting device, and a ground and test device. The ground and test device must be stored in a spare switchgear cubicle. If switchboards are used for service entrance equipment 800 amperes or below, they shall be constructed in accordance with UL 891.

~~In the case of double-ended substations, all main and secondary feeder breakers must be draw-out power type.~~ Breakers with solid state trip units must have modbus communications and shall be tied into the BAS for status and power monitoring.

Change Section 6.5.6.4 Variable Frequency Drive:

Variable frequency drives must be used on all ~~speed control~~ motors where Standard 90.1 requires motors to operate at reduced speeds larger than 3.7 kW (5 horsepower) to reduce the energy consumption of the project. However, VFDs generate harmonics, which are injected into the secondary power distribution system. These harmonics must be minimized through the use of filters tuned to the peak harmonic generated by the drive. All VFDs must be provided with a contactor bypass option. All VFD motors ~~sized 5 horsepower and larger~~ shall be provided with either Shaft Grounding Rings (SGRs) or Common Mode Filters to eliminate high frequency damage to motor bearings.

Change Section 6.5.13.1 Lighting – Historic Buildings, fourth sentence:

~~Replica fixtures in which light sources are not exposed should incorporate high-output, energy efficient lamps as necessary to achieve required light levels and meet energy conservation standards. Supplemental lighting is designed and placed to minimize penetration of ornamental wall and ceiling surfaces and to avoid competing visually with historic lighting. Original or replica lighting containing exposed incandescent bulbs may be retrofitted with filament LED reproduction lamps such as A19 LED (pear-shaped, clear glass lamp) or equal.~~