LANL 2020 Guiding Principles Checklist: New Construction and Modernization

DOE Departmental Element \_National Nuclear Security Administration Laboratory, Campus, Field Office, or Program Office: \_Los Alamos National Laboratory

Facility Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Facility Address: \_Los Alamos, NM\_

Assessor Name and Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date of Assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions:**

The Guiding Principles New Construction and Modernization Checklist is a tool to demonstrate that a new construction or modernization project meets the intent of the Guiding Principles for Sustainable Federal Buildings. Criteria on the checklist include both design elements and operational procedures that can be used to demonstrate continued operation as a sustainable Federal building after construction.

The checklist contains 30 criteria for agencies to assess in order to demonstrate that the building meets the policy outlined in this Guidance. All criteria should be considered as part of the initial assessment process and throughout the design and construction of the project.

Core Criteria: Eighteen core criteria, supported by statutory and regulatory requirements and green building industry standards, are considered fundamental principles for any Federal high-performance green building ([42 U.S.C. § 17061(13)](https://uscode.house.gov/view.xhtml?req=17061&f=treesort&fq=true&num=5&hl=true&edition=prelim&granuleId=USC-prelim-title42-section17061)). To qualify as a sustainable Federal building under this Guidance the building must meet all 18 of the core criteria.

Non-Core Criteria: For the remaining 12 criteria that are not indicated as core, agencies must meet a minimum of 75 percent (9 of 12). Agencies have flexibility to focus on the criteria that are most applicable to the building and account for life cycle cost effectiveness, mission requirements, and unique project scopes.

If an agency determines that the building’s inherent function, mission, safety, or designation precludes it from meeting the minimum threshold of requisite criteria in a life cycle cost-effective manner as outlined above, the building would not qualify as a sustainable Federal building under this Guidance.

Agencies should continue to ensure all Federal statutes applicable to the project or building are met, regardless of whether the building is able to achieve the minimum criteria to be qualified as a sustainable Federal building.

**Reference Key:**

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| S | Criteria that are based on and reference statutory or regulatory requirements are indicated with “S” on the checklist. |
| Std | Criteria that are based on green building industry standards, rather than statutory or regulatory requirements, are indicated with “Std” on the checklist. |
| [C/I] | Criteria where campus-wide or installation-wide protocols, policies, contracts can be used to demonstrate, upon assessment, that the criteria were met at the building level are indicated on the checklist with a [C/I]. |

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| 1.0 - Employ Integrated Design Principles | | | | | |
| NC&M Criteria 1.1  (Core, Std) | Integrated Design and Management | | | | |
| Establish sustainability goals as part of the project to meet the Guiding Principles and incorporate those goals into the design document and process, such as the Owner’s Project Requirements (OPR), Basis of Design (BOD), Conceptual Design Report (CDR), or relevant design documents. | | Yes | | No |  |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | |
| 1. Use a collaborative, integrated process and team tailored to the size and function of the building to plan, program, design, construct, commission, and transition to operation the building project or modernization. Identify team members and roles. Ensure energy, water, materials, indoor environmental quality, recycling and composting, occupant health and wellness, transportation (including public transit, safety, parking, and electric vehicle charging), siting and landscape, the protection of historic properties and other cultural resources, community integration, and building resilience are considered while balancing the building’s function and mission throughout the design and construction of the building and into operations plans, where feasible. | | Yes | No | |  |
| 1. Use an integrated design process consistent with [2018 International Green Construction](https://codes.iccsafe.org/content/IGCC2018/copyright#IGCC2018_AppxF_SecF101.1) [Code (IgCC) Appendix F Integrated Design, including F101.1.1 (F1.1.1) Charrette Process](https://codes.iccsafe.org/content/IGCC2018/copyright#IGCC2018_AppxF_SecF101.1) (excluding F101.1.2 (F1.1.2) Design Charrette Matrix). | | Yes | No | |  |
| NC&M Criteria 1.2  (Core, S, C/I) | Sustainable Siting | | | | |
| Follow all relevant requirements of 41 CFR § 102-76.20 of the [Federal Management Regulation](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) to make a positive contribution to the surrounding landscape, and comply with the National Environmental Policy Act of 1969, as amended, [42 U.S.C. 4321](https://uscode.house.gov/view.xhtml?req=4321&f=treesort&fq=true&num=260&hl=true&edition=prelim&granuleId=USC-prelim-title42-section4321) et seq., and the National Historic Preservation Act of 1966, as amended, [54 U.S.C. Subtitle III, Division A.](https://uscode.house.gov/view.xhtml?hl=false&edition=prelim&req=granuleid%3AUSC-prelim-title54-subtitle3-divisionA-node276&num=0&saved=%7CZ3JhbnVsZWlkOlVTQy1wcmVsaW0tdGl0bGU1NC1zdWJ0aXRsZTMtZGl2aXNpb25BLWZyb250%7C%7C%7C0%7Cfalse%7Cprelim) | | Yes | No | | Institutional compliance |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | |
| 1. In alignment with sustainable siting best practices, assess all relevant opportunities for enhancements to the site sustainability and engage building occupants and other stakeholders utilizing the site. The specific actions of the site selection and planning stage should reflect the complexity of the proposed building and include, as appropriate, the following: 1) avoid development of prime farmland; 2) preserve areas with permeable soils; 3) avoid or, if not possible, minimize potential harm to or within the floodplain; 4) protect and conserve existing landscapes, wetlands, forest, and wilderness areas; 5) minimize site disturbance; 6) preserve threatened or endangered species and their habitats, including pollinators’ habitats; 7) improve linkages and connections to surrounding destinations and neighborhoods; 8) use historic properties, especially those located in central business districts; and 9) incorporate appropriate security design parameters. Incorporate these environmental considerations through a systematic interdisciplinary approach, and balance these concerns with cost and security. Agencies can reference additional siting resources, including [GSA’S Sustainable Facilities Tool (SFTool)](https://sftool.gov/learn/about/46/sustainable-sites) and the [Environmental Protection Agency (EPA’s) Smart Growth—Location and Green Building site,](https://www.epa.gov/smartgrowth/location-and-green-building) the [U.S. Department of Agriculture’s (USDA) pollinators resources,](https://www.usda.gov/pollinators) and for projects involving historic properties, the [Secretary of the Interior’s Standards for Rehabilitation & Illustrated Guidelines on](https://www.nps.gov/tps/standards/rehabilitation/guidelines/index.htm) [Sustainability for Rehabilitating Historic Buildings.](https://www.nps.gov/tps/standards/rehabilitation/guidelines/index.htm) | | Yes | No | |  |
| 1. Conform to 2018 IgCC [Section 501.3.1 (5.3.1) Site Selection](https://codes.iccsafe.org/content/IGCC2018/chapter-5-site-sustainability) and [501.3.2 (5.3.2) Predesign](https://codes.iccsafe.org/content/IGCC2018/chapter-5-site-sustainability) [Site Inventory and Assessment.](https://codes.iccsafe.org/content/IGCC2018/chapter-5-site-sustainability) | | Yes | No | |  |
| NC&M Criteria 1.3  (Core, S, C/I) | Stormwater Management | | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | |
| 1. For new construction or modernization projects disturbing a surface area of 5,000 or more square feet, use planning, design, construction, and maintenance strategies to maintain or restore the predevelopment hydrology of the property in terms of temperature, rate, volume, and duration of flow, in accordance with statutory requirements ([42 U.S.C. §](https://uscode.house.gov/view.xhtml?req=%28title%3A%20section%3A17094%20edition%3Aprelim%29%20OR%20%28granuleid%3AUSC-prelim-title-section17094%29&f=treesort&edition=prelim&num=0&jumpTo=true) [17094](https://uscode.house.gov/view.xhtml?req=%28title%3A%20section%3A17094%20edition%3Aprelim%29%20OR%20%28granuleid%3AUSC-prelim-title-section17094%29&f=treesort&edition=prelim&num=0&jumpTo=true)). Low impact development (LID) infrastructure solutions can be utilized to help achieve this criteria. | | Yes | No | |  |
| 1. For new construction or modernization projects disturbing a surface area fewer than 5,000 square feet, use site planning, design, construction, and maintenance strategies such as low impact development (LID) to manage on-site stormwater and to maintain or restore hydrologic conditions after development, to the maximum extent that is technically practicable. | | Yes | No | |  |
| 1. Conform to 2018 IgCC [Section 501.3.4 (5.3.4) Stormwater Management.](https://codes.iccsafe.org/content/IGCC2018/chapter-5-site-sustainability) | | Yes | No | |  |
| NC&M Criteria 1.4  (Non-Core, Std, C/I) | Infrastructure Utilization and Optimization | | | | |
| Evaluate and prioritize transportation strategies and associated infrastructure improvements that promote and support alternative transportation, including walking, cycling, alternative fuel and electric vehicles, and public transit over the life of the building, as feasible and consistent with the mission of the facility. | | Yes | No | |  |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | |
| 1. Locate any functional entry of the project within a ¼-mile (400-meter) walking distance of existing or planned bus, streetcar, shuttle, or informal transit stops, or within a ½-mile (800- meter) walking distance of existing or planned bus rapid transit stops, light or heavy rail stations, commuter rail stations or ferry terminals, except for those facilities where their mission and function prevents mass transportation access. | | Yes | No | |  |
| 1. Install electric vehicle charging stations for a minimum of two percent of the parking spaces created as part of the project or designated for the building occupants, where on-site vehicle parking is provided. | | Yes | No | |  |
| 1. Designate at least five percent of the parking spaces created as part of the project or designated for the building occupants as preferred parking for alternative fuel vehicles (may include parking for agency fleet alternative fuel vehicles). | | Yes | No | |  |
| 1. Provide an alternative transportation program to reduce congestion and the need for parking. The program may include transit services; walkability improvements including connections to transit, sidewalks, pathways, and bicycle trails; alternative transit education; designated rideshare areas; transit subsidies; telecommuting incentives; or bicycle racks and showers. | | Yes | No | |  |
| 1. Prior to and during the space decision process, engage planning officials at the state, metropolitan, or municipal level to identify ways proposed agency actions can support community sustainability and potentially align with local and regional long range plans and objectives. Support and integrate proposed actions into the project. | | Yes | No | |  |
| 1. Conform to 2018 IGCC [Section 1001.3.2.4 (10.3.2.4) Transportation Management Plan](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) and [Section 501.3.7.3 (5.3.7.3) Site Vehicle Provisions.](https://codes.iccsafe.org/content/IGCC2018/chapter-5-site-sustainability) | | Yes | No | |  |

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| NC&M Criteria 1.5  (Core, S) | Commissioning | | | |
| Employ commissioning, as defined per Section 432 of the Energy Independence and Security Act of 2007 (([42 U.S.C. 8253(f)(1)(A)](https://uscode.house.gov/view.xhtml?hl=false&edition=prelim&req=granuleid%3AUSC-2012-title42-section8253&f=treesort&fq=true&num=0)), and tailored to the size and complexity of the building. | | Yes | No |  |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Document through a commissioning process that the building and its commissioned components, assemblies, and systems (including any renewable energy systems, thermal storage, district heating and cooling system, and cooling towers) comply with the owner’s project requirements. Conduct commissioning in accordance with the U.S. Department of Energy (DOE) Federal Energy Management Program's (FEMP) [*Commissioning for Federal*](https://www.energy.gov/sites/prod/files/2014/07/f17/commissioning_fed_facilities.pdf)[*Facilities*](https://www.energy.gov/sites/prod/files/2014/07/f17/commissioning_fed_facilities.pdf) guidance, using ANSI/ASHRAE/IES Standard 202 or other generally accepted engineering standards, guidelines, and nationally recognized organizations.   For less complex buildings, commissioning should be performed with generally accepted engineering standards acceptable to the agency. A certified commissioning provider (may include a qualified agency employee), independent of the design and construction or operating team, should provide, within one year of project completion, a final commissioning report. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 1001.3.1.2 (10.3.1.2) Building Project Commissioning (Cx)](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) [Process.](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) | | Yes | No |  |

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| 2.0 Optimize Energy Performance | | | |  |
| NC&M Criteria 2.1  (Core, S) | Energy Efficiency | | | |
| ***For New Construction:*** | | | | |
| Ensure compliance with Federal energy efficiency performance requirements for new construction in accordance with § 109 of the Energy Policy Act of 2005 ([42 U.S.C. § 6834(a)(3)(A)](https://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0)) and DOE’s regulations as established under [10 CFR parts 433, subpart A,](https://www.ecfr.gov/cgi-bin/text-idx?SID=842ceb32cb7a24eb33bf707adec7c82d&mc=true&node=pt10.3.433&rgn=div5&sp10.3.433.a) and [10 CFR parts 435, subpart A.](https://www.ecfr.gov/cgi-bin/text-idx?SID=89b778b7dfdc859bfc94de80ccb25fc8&mc=true&node=pt10.3.435&rgn=div5)  Ensure installation of [ENERGY STAR](https://www.energystar.gov/products) and [FEMP-designated products](https://www.energy.gov/eere/femp/search-energy-efficient-products) in all procurements involving energy-consuming products and services, in accordance with [42 U.S.C § 8259b](https://uscode.house.gov/view.xhtml?hl=false&edition=prelim&req=granuleid%3AUSC-prelim-title42-section8259b&f=treesort&fq=true&num=0&saved=%7CZ3JhbnVsZWlkOlVTQy0yMDEyLXRpdGxlNDItc2VjdGlvbjgyNTM%3D%7CdHJlZXNvcnQ%3D%7CdHJ1ZQ%3D%3D%7C0%7Cfalse%7C2012) and [10 CFR § 436.40–](https://www.ecfr.gov/cgi-bin/text-idx?SID=89b778b7dfdc859bfc94de80ccb25fc8&mc=true&node=pt10.3.436&rgn=div5) [436.43.](https://www.ecfr.gov/cgi-bin/text-idx?SID=89b778b7dfdc859bfc94de80ccb25fc8&mc=true&node=pt10.3.436&rgn=div5) | | Yes | No |  |
| ***For Modernization projects:*** | | | | |
| Ensure installation of [ENERGY STAR](https://www.energystar.gov/products) and [FEMP-designated products](https://www.energy.gov/eere/femp/search-energy-efficient-products) in all procurements involving energy-consuming products and services, in accordance with [42 U.S.C § 8259b](https://uscode.house.gov/view.xhtml?hl=false&edition=prelim&req=granuleid%3AUSC-prelim-title42-section8259b&f=treesort&fq=true&num=0&saved=%7CZ3JhbnVsZWlkOlVTQy0yMDEyLXRpdGxlNDItc2VjdGlvbjgyNTM%3D%7CdHJlZXNvcnQ%3D%7CdHJ1ZQ%3D%3D%7C0%7Cfalse%7C2012) and [10 CFR § 436.40–](https://www.ecfr.gov/cgi-bin/text-idx?SID=89b778b7dfdc859bfc94de80ccb25fc8&mc=true&node=pt10.3.436&rgn=div5) [436.43.](https://www.ecfr.gov/cgi-bin/text-idx?SID=89b778b7dfdc859bfc94de80ccb25fc8&mc=true&node=pt10.3.436&rgn=div5)  Employ strategies to improve energy performance and reduce energy usage in accordance with [42](https://uscode.house.gov/view.xhtml?req=(title%3A42%20section%3A8253%20edition%3Aprelim)) [U.S.C. § 8253(a).](https://uscode.house.gov/view.xhtml?req=(title%3A42%20section%3A8253%20edition%3Aprelim)) | | Yes | No |  |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Ensure building energy use is 20 percent below a FY 2015 energy use baseline. | | Yes | No |  |
| 1. Ensure building energy use is 30 percent below a FY 2003 energy use baseline. | | Yes | No |  |
| 1. Ensure the building has an [ENERGY STAR](https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/understand-metrics/how-1-100) score of 75 or higher. | | Yes | No |  |
| 1. For building types not eligible to receive an [ENERGY STAR](https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/understand-metrics/how-1-100) score and where adequate benchmarking data exists, demonstrate that the building is in the top quartile of energy performance for its building type. | | Yes | No |  |
| 1. Follow the Federal energy performance requirements established under 10 CFR Parts 433 and 435 by designing to exceed ANSI/ASHRAE/IES Standard 90.1 by at least 30 percent, where life cycle cost-effective. | | Yes | No |  |
| NC&M Criteria 2.2  (Core, S) | Energy Metering | | | |
| Install building-level meters for electricity and advanced meters to the maximum extent practicable, as required by EPAct 2005 § 103 ([42 U.S.C. § 8253(e)](https://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section8253&f=treesort&fq=true&num=0)). Install standard or advanced meters for natural gas and steam to the maximum extent practical, in accordance with the DOE’s [*Federal Building*](https://www.energy.gov/eere/femp/downloads/federal-building-metering-guidance-usc-8253e-metering-energy-use)[*Metering Guidance*](https://www.energy.gov/eere/femp/downloads/federal-building-metering-guidance-usc-8253e-metering-energy-use) and EISA 2007 § 434 ([42 U.S.C. § 8253(e)](https://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section8253&f=treesort&fq=true&num=0)(1)). | | Yes | No |  |
| NC&M Criteria 2.3  (Non-Core, S, C/I) | Renewable Energy | | | |
| Evaluate applicable renewable electric energy strategies related to the project or building that could support, as needed, agency progress toward renewable energy goals where cost-effective, per [42](https://uscode.house.gov/view.xhtml?req=(title%3A42%20section%3A15852%20edition%3Aprelim)%20OR%20(granuleid%3AUSC-prelim-title42-section15852)&f=treesort&edition=prelim&num=0&jumpTo=true) [U.S.C. § 15852(a).](https://uscode.house.gov/view.xhtml?req=(title%3A42%20section%3A15852%20edition%3Aprelim)%20OR%20(granuleid%3AUSC-prelim-title42-section15852)&f=treesort&edition=prelim&num=0&jumpTo=true)  *[Campus/Installation-wide approach can be utilized if the agency has assessed and can verify that the building will directly benefit from the renewable energy system. Alternatively, the agency should develop an internal energy accounting or tracking system to apportion renewable energy or attributes to the building to avoid any double counting.]* | | Yes | No |  |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Implement, as appropriate, life cycle cost-effective on-site renewable electric or thermal energy projects.   Alternatively, utilize alternative energy systems such as waste heat, combined heat and power (CHP), or fuel cell energy systems, where life cycle cost-effective.  If on-site renewable energy or alternative energy systems are not technically feasible or life cycle cost-effective, the agency should establish an internal energy accounting or tracking system to apportion power purchases from off-site renewable sources or renewable energy certificates (RECs) to the building, as aligned with agency plans. | | Yes | No |  |
| 1. Where appropriate and life cycle cost-effective, not less than 30 percent of the hot water demand is to be met through the installation and use of solar hot water heaters, per [42](https://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0) [U.S.C § 6834(a)(3)(A)(iii](https://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0)). | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 701.4.1.1 (7.4.1.1) On-Site Renewable Energy Systems](https://codes.iccsafe.org/content/IGCC2018/chapter-7-energy-efficiency) or equivalent, with the exception that there is no minimum energy production (kBtu/ft2) requirement. | | Yes | No |  |
| NC&M Criteria 2.4  (Core, S) | Benchmarking | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | |  |
| 1. Benchmark building performance at least annually, preferably using [ENERGY STAR Portfolio](https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager?s=mega) [Manager,](https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager?s=mega) and regularly monitor building energy performance against historic performance data and peer buildings, in accordance with criteria established by DOE’s [*Federal Building*](https://www.energy.gov/eere/femp/downloads/federal-building-energy-use-benchmarking-guidance-august-2014-update)[*Energy Use Benchmarking* Guidance](https://www.energy.gov/eere/femp/downloads/federal-building-energy-use-benchmarking-guidance-august-2014-update) per [42 U.S.C. § 8253(f)(8).](http://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section8253&f=treesort&fq=true&num=0) | | Yes | No | Institutional compliance through LANL Sustainability Program. Project is responsible for proper metering and is considered complete until all meters are connected to appropriate power and communication links. |
| 1. Conform to 2018 IgCC [Section 1001.3.2.1.3.2 (10.3.2.1.3.2) Track and Assess Energy](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) [Consumption.](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) | | Yes | No |  |

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| 3.0 - Protect and Conserve Water | | | | |
| NC&M Criteria 3.1  (Core, S) | Indoor Water Use | | | |
| For new construction where water is used to achieve energy efficiency, water conservation measures must be applied to the extent that they are life cycle cost-effective in accordance with 10 CFR Parts 433 and 435. In addition to the use of water conservation technologies otherwise required by [42](http://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0) [U.S.C. § 6834,](http://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0) water conservation technologies are to be applied to the extent that the technologies are life cycle cost-effective for new construction and modernization projects, in accordance with [42](http://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0) [U.S.C. § 6834(a)(3)(D)(vii).](http://uscode.house.gov/view.xhtml?hl=false&edition=2012&req=granuleid%3AUSC-prelim-title42-section6834&f=treesort&fq=true&num=0)  Eliminate the use of single-pass (also called "once-through") cooling equipment using potable water and optimize cooling tower operations to minimize makeup water.  Agencies should refer to [EPA's WaterSense,](https://www.epa.gov/watersense) [GSA’s SFTool: Water,](https://sftool.gov/learn#learn-water) and [DOE-FEMP’s Water Efficiency in](https://www.energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses) [Federal Buildings and Campuses](https://www.energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses) resources for additional details on available water conservation technologies and best management practices. | | Yes | No |  |
| ***For New Construction:*** | | | | |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Install WaterSense equipment or equivalent alternatives, where available, for all fixtures that are designed to be used more than once per day on average over a month. For all fixtures and fittings using potable water with planned use of more than once per day, compile cut sheet or product declarations or plumbing schedule showing flush or flow rate performance meeting WaterSense or equivalent. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 601.3.2.1 (6.3.2.1) Plumbing Fixtures and Fittings](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) or [601.3.2.6](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) [(6.3.2.6) Medical and Laboratory Facilities](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) (if applicable). | | Yes | No |  |

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| ***For Modernization projects:*** | | | | |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Install WaterSense equipment or equivalent alternatives to demonstrate at least a 20 percent reduction when comparing installed fixture performance to a base case representing the code-minimum, using the [FEMP Water Evaluation Data Tool](https://www.energy.gov/eere/femp/downloads/water-evaluation-tools#links) or other water fixture performance calculator. For all fixtures and fittings using potable water with planned use of more than once a day, compile cut sheet or product declarations or plumbing schedule showing flush or flow rate performance consistent with WaterSense or equivalent. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 601.3.2.1 (6.3.2.1) Plumbing Fixtures and Fittings](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) or [601.3.2.6](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) [(6.3.2.6) Medical and Laboratory Facilities](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) (if applicable). | | Yes | No |  |
| NC&M Criteria 3.2  (Core, Std) | Water Metering | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Install building level water meters (standard or advanced) and monitor to ensure optimized management of water use during occupancy, including detection of leaks in accordance with DOE’s [*Federal Building Metering Guidance*.](https://www.energy.gov/eere/femp/downloads/federal-building-metering-guidance-usc-8253e-metering-energy-use) | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 601.3.4.1 (6.3.4.1) Consumption Management.](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) | | Yes | No |  |
| NC&M Criteria 3.3  (Non-Core, Std, C/I) | Outdoor Water Use | | | |
| Evaluate and implement, as applicable, water efficient landscaping best practices that incorporate native, non-invasive, drought tolerant, and low maintenance plant species. Utilize and follow, as appropriate, landscaping best practices provided by [GSA’s SFTool - Water](https://sftool.gov/learn#learn-water) resources, [DOE-FEMP’s](https://www.energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses) [Water Efficiency in Federal Buildings and Campuses](https://www.energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses) resources, [EPA’s WaterSense - Outdoors](https://www.epa.gov/watersense/outdoors) resources, or an agency-approved tool. | | Yes | No |  |

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| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Employ water efficient irrigation strategies to reduce outdoor potable water consumption. Where installed, demonstrate that the permanent irrigation system uses 50 percent or less of the amount of potable water used in conventional practices, assuming typical annual baseline water use. Refer to [DOE-FEMP’s Water Efficiency in Federal Buildings and](https://www.energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses) [Campuses](https://www.energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses) resource on establishing a baseline. Install water meters for irrigation systems serving more than 25,000 square feet of landscaping. | | Yes | No |  |
| 1. If installing landscaping, utilize xeriscaping techniques or do not irrigate beyond the establishment of plantings. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 601.3.1.1 (6.3.1.1) Landscape Design](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency).   If irrigation is used, conform to [Section 601.3.1.2 (6.3.1.2) Irrigation](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) and [Section 601.3.4.1](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) [(6.3.4.1) Consumption Management](https://codes.iccsafe.org/content/IGCC2018/chapter-6-water-use-efficiency) (for irrigated landscaped areas greater than 25,000 square feet). | | Yes | No |  |
| NC&M Criteria 3.4  (Non-Core, Std, C/I) | Alternative Water | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Implement life-cycle cost-effective methods to utilize alternative sources of water for indoor or outdoor use, such as harvested rainwater, treated wastewater, air handler condensate capture, grey water, and reclaimed water, where permitted by local laws and regulations. | | Yes | No |  |
| 1. Implement life-cycle cost-effective methods to utilize alternative sources of water that conform to the 2018 [IgCC Definition of Water, Alternative on-site sources.](https://codes.iccsafe.org/content/IGCC2018/chapter-3-definitions-abbreviations-and-acronyms) | | Yes | No |  |

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| 4.0 - Enhance the Indoor Environment | | | | |
| NC&M Criteria 4.1  (Core, S) | Ventilation and Thermal Comfort | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. In accordance with 41 CFR §§ 102-74.195 and 102-74.185 of the [Federal Management](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) [Regulation,](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) comply with all ventilation and thermal comfort requirements. Utilize the most current version of ASHRAE “Ventilation for Acceptable Indoor Air Quality” Standard 62.1 or 62.2 and ASHRAE 55 "Thermal Environmental Conditions for Human Occupancy" as specified by the Federal Management Regulation. Agencies should refer to the [GSA’s SFTool](https://sftool.gov/learn/about/626/enhancing-health-indoor-air) [Enhancing Health with Indoor Air](https://sftool.gov/learn/about/626/enhancing-health-indoor-air) resources on enhancing indoor air quality. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Sections 801.3.1 (8.3.1) Indoor Air Quality](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) and [801.3.2 (8.3.2)](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) [Thermal Environmental Conditions for Human Occupancy.](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) | | Yes | No |  |
| NC&M Criteria 4.2  (Non-Core, S) | Daylighting and Lighting Controls | | | |
| Design and construct the building to meet and maintain all required illumination levels, in accordance with 41 CFR § 102-74.180 of the [Federal Management Regulation](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr), and maximize the use of automatic dimming controls or accessible manual controls in regularly occupied spaces. | | Yes | No |  |
| *And answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Improve access to and benefits from daylight by ensuring regularly occupied spaces along the exterior wall have fenestration, and control solar gain, daylight transmittance, and glare. If the building cannot achieve adequate daylighting due to mission or security needs, utilize circadian-effective lighting based on computer analysis or simulation tools to design optimal lighting conditions for the regularly occupied spaces. Evaluate and assess occupant workplace to allow more open space around windows, except where not appropriate because of building function, mission, or structural constraints. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Sections 801.3.7 (8.3.7) Glare Control, 801.4.1.1.1 (8.4.1.1.1)](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) [Minimum Daylight Area,](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) and [801.4.1.2 (8.4.1.2) Minimum Sidelighting Effective Aperture](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) [for Office Spaces and Classrooms,](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) and [801.4.1.3 (8.4.1.3) Shading for Offices;](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) or [801.5.1](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) [(8.5.1) Daylight Simulation.](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) | | Yes | No |  |

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| NC&M Criteria 4.3  (Non-Core, Std, C/I) | Low-Emitting Materials and Products | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Utilize low-emitting (low or no volatile organic compound (VOC)) materials, on at least 75 percent of interior products by cost or surface area, for the following materials and products: composite wood products, flooring and carpet systems, wall panels, insulation, adhesives, sealants, interior paints and finishes, solvents, janitorial supplies, and furnishings. Agencies should refer to [EPA’s Volatile Organic Compounds’ Impact on Indoor Air Quality](https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality) resources for information on low-emitting products. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 801.4.2 (8.4.2) Materials](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) or [Section 801.5.2 (8.5.2) Materials.](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-) | | Yes | No |  |
| NC&M Criteria 4.4  (Core, S, C/I) | Radon Mitigation | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. In accordance with 41 CFR § 102-80.20 of the [Federal Management Regulation,](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) test for radon and mitigate high levels to maintain a level at or below 4 pCi/L (picocuries/liter). | | Yes | No | Institutionally managed radon protocol. |
| 1. Conform to 2018 IgCC [Section 1001.3.1.9 (10.3.1.9) Soil-Gas Control.](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) | | Yes | No |  |
| NC&M Criteria 4.5  (Non-Core, Std) | Moisture and Mold Control | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Implement a moisture control strategy (may be part of the operations and maintenance protocols) for controlling moisture flows and condensation to prevent building damage, minimize mold contamination, and reduce health risks related to moisture. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Section 801.3.6 (8.3.6) Moisture Control](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-). | | Yes | No |  |

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| NC&M Criteria 4.6  (Non-Core, Std) | Indoor Air Quality during Construction | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. Develop and implement a plan to protect indoor air quality during construction. | | Yes | No |  |
| 1. Conform to 2018 IgCC [Sections 1001.3.1.5 (10.3.1.5) IAQ Construction Management,](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) and [1001.3.1.8 (10.3.1.8) Construction Activity Pollution Prevention: Protection of Occupied](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) [Areas.](https://codes.iccsafe.org/content/IGCC2018/chapter-10-construction-and-plans-for-operation) | | Yes | No |  |
| NC&M Criteria 4.7  (Core, S, C/I) | Environmental Smoking Control | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | |
| 1. In accordance with 41 CFR § 102-74.315 and 102-74.330 of the [Federal Management](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) [Regulation,](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) prohibit smoking in any form inside and within 25 feet of all building entrances, operable windows, and building ventilation intakes. Ensure signage is installed as appropriate. | | Yes | No | Institutional compliance |
| 1. Conform to 2018 IgCC [Section 801.3.1.7 (8.3.1.7) Environmental Tobacco Smoke](https://codes.iccsafe.org/content/IGCC2018/chapter-8-indoor-environmental-quality-ieq-). | | Yes | No |  |
| NC&M Criteria 4.8  (Core, S, C/I) | Integrated Pest Management | | | |
| In accordance with 41 CFR § 102-74.35 of the [Federal Management Regulation,](https://www.gsa.gov/policy-regulations/regulations/federal-management-regulation-fmr) ensure effective and environmentally sensitive integrated pest management (IPM) services including the planning, development, operations, and maintenance for pest control, removal, and prevention in both indoor and outdoor spaces. Ensure that pest management contracts are effectively coordinated with the activities of other building service programs that have a bearing on pest activity, such as food service, landscaping, child care, waste management, and repairs and operations.  Refer to [GSA’s IPM definition,](https://www.gsa.gov/real-estate/environmental-programs/integrated-pest-management) [EPA’s IPM resources,](https://www.epa.gov/ipm/introduction-integrated-pest-management) and [GSA’s SFTool Pest Management resources](https://sftool.gov/greenprocurement/green-services/4/pest-management) for additional program guidance. | | Yes | No | Institutional compliance |

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| NC&M Criteria 4.9  (Core, Std) | Occupant Health and Wellness | | | |
| *Answer YES to ONE of the following options to meet this Guiding Principle.* | | | | |
| 1. Evaluate the feasibility of implementing occupant health and wellness efforts and **promote two or more strategies** that are cost-effective and applicable to the building mission.   Agencies are encouraged to assess and promote universally accepted workplace occupant health and wellness strategies most appropriate to their building and mission. Agencies should refer to [GSA’s SFTool](https://sftool.gov/learn/about/576/buildings-health) for additional strategies and guidance on health and wellness in Federal facilities.  Examples of common health and wellness strategies include, but are not limited to:   1. Implementing biophilic design strategies that connect a majority of interior spaces with nature, using views, finishes, plants, daylighting, outdoor access, or other strategies; 2. Providing healthy dining options in the building or on campus that support offering a variety of fresh food options for occupants, following the [U.S Department of Health and](https://www.cdc.gov/obesity/downloads/guidelines_for_federal_concessions_and_vending_operations-2012.pdf) Human Services (HHS) / GSA *Health and* Designing stairwells as a desirable option for circulation to support active occupants; 3. Implementing a fitness program, including constructing or providing access to a fitness center or multi-use space for exercise in the building, on-site, or on campus; 4. Installing bicycle parking with safe, secure storage; 5. Providing adjustable-height desks or computer risers for 25 percent of the regular occupied spaces; and 6. Providing water bottle-refilling stations, establish a process to test water quality annually, 7. and ensure proper maintenance of the stations. Refer to [EPA’s Drinking Water](https://www.epa.gov/dwreginfo/drinking-water-regulations) resources for additional guidelines. *Sustainability Guidelines for Federal Concessions* [*and Vending Operations*](https://www.cdc.gov/obesity/downloads/guidelines_for_federal_concessions_and_vending_operations-2012.pdf) where appropriate; | | Yes | No | Dining and fitness options available institutionally. |
| 1. Achieve certification utilizing any [Health & Wellness Standards and Rating System](https://sftool.gov/learn/about/576/buildings-health#ratingsystems) identified by GSA, under its authorities per [42 U.S.C. § 17092.](https://uscode.house.gov/view.xhtml?hl=false&edition=prelim&req=granuleid%3AUSC-prelim-title42-section17092&f=treesort&num=0&saved=%7CMTcwNjE%3D%7CdHJlZXNvcnQ%3D%7CdHJ1ZQ%3D%3D%7C5%7Ctrue%7Cprelim) | | Yes | No |  |

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| 5.0 - Reduce the Environmental Impact of Materials | | | | | | | |
| NC&M Criteria 5.1  (Core, S, C/I) | | Materials - Recycled Content | | | | | |
| Use Resource Conservation and Recovery Act (RCRA) section 6002 compliant products that meet or exceed [EPA’s Comprehensive Procurement Guideline Program,](https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program) which provides recycled content recommendations for building construction, modifications, operations, and maintenance, in accordance with [42 U.S.C. § 6962](https://uscode.house.gov/view.xhtml?req=42%2BU.S.C.%2B6962&f=treesort&fq=true&num=7&hl=true&edition=prelim&granuleId=USC-prelim-title42-section6962) et seq. | | | Yes | | No | |  |
| NC&M Criteria 5.2  (Core, S, C/I) | | Materials - Biobased Content | | | | | |
| Use [U.S. Department of Agriculture (USDA) BioPreferred](https://www.biopreferred.gov/BioPreferred/) products, which are designated products with the highest content level per USDA’s biobased content recommendations, in accordance with [7](https://uscode.house.gov/view.xhtml?req=8102&f=treesort&fq=true&num=6&hl=true&edition=prelim&granuleId=USC-prelim-title7-section8102) [U.S.C. § 8102.](https://uscode.house.gov/view.xhtml?req=8102&f=treesort&fq=true&num=6&hl=true&edition=prelim&granuleId=USC-prelim-title7-section8102) | | | Yes | | No | |  |
| NC&M Criteria 5.3  (Non-Core, Std) | | Products | | | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | | | |
| 1. Use construction products and building supplies recommended under [EPA’s](https://www.epa.gov/greenerproducts/recommendations-specifications-standards-and-ecolabels-federal-purchasing) [Recommendations of Specifications, Standards, and Ecolabels for Federal Purchasing,](https://www.epa.gov/greenerproducts/recommendations-specifications-standards-and-ecolabels-federal-purchasing) as appropriate and applicable. | | | Yes | | No | |  |
| 1. Conform to 2018 IgCC [Section 901.4.1.4 (9.4.1.4) Multiple-Attribute Product Declaration or](https://codes.iccsafe.org/content/IGCC2018/chapter-9-materials-and-resources) [Certification.](https://codes.iccsafe.org/content/IGCC2018/chapter-9-materials-and-resources) | | | Yes | | No | |  |
| NC&M Criteria 5.4  (Core, S, C/I) | | Ozone Depleting Substances | | | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | | | |
| 1. Ensure compliance with [42 U.S.C. § 7671k](https://uscode.house.gov/view.xhtml?req=7671k&f=treesort&fq=true&num=3&hl=true&edition=prelim&granuleId=USC-prelim-title42-section7671k) and [42 U.S.C. § 7671*l*,](https://uscode.house.gov/view.xhtml?req=7671k&f=treesort&fq=true&num=4&hl=true&edition=prelim&granuleId=USC-prelim-title42-section7671l) concerning the procurement of safe alternatives for ozone depleting substances. Maximize the use of safe alternatives, where [EPA’s Significant New Alternative Policy](https://www.epa.gov/snap) (SNAP) Program has identified acceptable substitutes and alternatives.   Refer to EPA's SNAP regulations, 40 CFR part 82, which list substitutes that have been determined unacceptable, acceptable to use conditions, and acceptable subject to narrowed use limits. | | | Yes | | No | |  |
| 1. Conform to 2018 IgCC [Section 901.3.3 (9.3.3) Refrigerants.](https://codes.iccsafe.org/content/IGCC2018/chapter-9-materials-and-resources) | | | Yes | | No | |  |
| NC&M Criteria 5.5  (Core, S) | Hazardous Waste | | | | | |
| Ensure compliance with all relevant hazardous waste **construction or operational** activities that are covered by RCRA subtitle C and subtitle I and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), per [42 U.S.C. § 9601](https://uscode.house.gov/view.xhtml?req=9601&f=treesort&fq=true&num=76&hl=true&edition=prelim&granuleId=USC-prelim-title42-section9601) et seq. and its implementing regulations at [40 CFR Parts 239-282.](https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations)  This criterion is achieved so long as it can be demonstrated that the building has a program and procedure to manage hazardous waste, or the building does not generate, store, treat, or dispose of hazardous waste. (40 CFR §§ 260.10 and 261.3). | | | Yes | | No | Institutionally managed waste. |
| NC&M Criteria 5.6  (Non-Core, Std) | Solid Waste Management | | | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | | |
| 1. Develop and implement a construction and demolition waste management plan. Where markets exist, divert at least 50 percent of construction and demolition materials from landfills and non-energy generating incinerations, as defined by and in alignment with [EPA’s](https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy) [Waste Management Hierarchy.](https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy)   *AND*  Design the building to incorporate appropriate space, equipment, and transport accommodations for collection, storage, and staging of recyclables and, as appropriate, compostable materials. | | | Yes | | No | Institutionally managed waste EXCEPT when off-site modular construction is part of the project. |
| 1. Conform to 2018 IgCC [Section 901.3.1.1 (9.3.1.1) Diversion.](https://codes.iccsafe.org/content/IGCC2018/chapter-9-materials-and-resources)   *AND*  Conform to 2018 IgCC [Section 901.3.4 (9.3.4) Areas for Storage and Collection of Recyclables](https://codes.iccsafe.org/content/IGCC2018/chapter-9-materials-and-resources) [and Discarded Goods.](https://codes.iccsafe.org/content/IGCC2018/chapter-9-materials-and-resources) | | | Yes | | No |  |

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| 6.0 - Assess and Consider Building Resilience | | | | | | |
| NC&M Criteria 6.1  (Non-Core, C/I) | Risk Assessment | | | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | | |
| 1. Conduct a regionally tailored risk assessment for the site that, where appropriate, aims to: 2. Assess long-term mission critical functions over the intended service life by incorporating considerations such as mission needs, building functions, occupants, and operations. Consider impacts to the surrounding community and to building operational needs. 3. Assess the localized risks to the design life of the building, which involves identifying hazards, threats, vulnerabilities, and consequences. During the hazard identification step, identify and review any known observed and expected long-term weather-related and geographical hazards to inform and enhance the resilience of the building design and operations. 4. Assess relevant stressors that could exacerbate hazards and risks to the building and operations. Account for whether the frequency is increasing, remaining the same, or decreasing in the specific region. 5. Evaluate and consider the adaptive capacity of the building and operations to cope with shocks and stressors, or ability to adjust to new situations. 6. Incorporate, as applicable, a comprehensive energy and water infrastructure assessment to ensure resilience and investigate alternative energy sources to serve as back-up power. | | | Yes | | No |  |
| 1. Ensure that the building, as well as any planned mission critical activities housed in the building, have been evaluated and integrated as part of a recent agency, facility, installation, or campus resilience or adaptation assessment. This can include any resilience and adaptation assessment activities associated with Installation Master Plans, climate adaptation plans, or equivalent agency, installation, or campus resilience or adaptation plans. | | | Yes | | No | Vulnerability and Resiliency Assessment and Planning (VARP) completed and maintained institutionally. |
| 1. Utilize available Federal climate resilience planning tools to inform the decision making and design for the building project.   Available tools include the [U.S. Climate Resilience Toolkit,](https://toolkit.climate.gov/) the [Naval Facilities Engineering](https://www.fedcenter.gov/Documents/index.cfm?id=31041) [Command’s Climate Change Installation Adaptation and Resilience Planning Handbook](https://www.fedcenter.gov/Documents/index.cfm?id=31041), the [NIST Community Resilience Planning Guide for Buildings and Infrastructure Systems,](https://www.nist.gov/publications/community-resilience-planning-guide-buildings-and-infrastructure-systems-observations) the [NIST EDGe$ (Economic Decision Guide Software) Online Tool,](https://www.nist.gov/services-resources/software/edge-economic-decision-guide-software-online-tool) the [U.S. Army Corps of](https://www.usace.army.mil/corpsclimate/Climate_Preparedness_and_Resilience/) [Engineers climate preparedness and resilience planning tools,](https://www.usace.army.mil/corpsclimate/Climate_Preparedness_and_Resilience/) the U.S. Department of the Army’s [Climate Assessment Tool](https://www.asaie.army.mil/Public/ES/doc/Army_Climate_Assessment_Tool_Memo_ASAIEE.pdf) and [Climate Resilience Handbook,](https://www.asaie.army.mil/Public/ES/doc/Army_Climate_Resilience_Handbook_Change_1.pdf) FEMP’s [Technical](https://www.energy.gov/eere/femp/resilience-planning-and-implementation) [Resilience Navigator,](https://www.energy.gov/eere/femp/resilience-planning-and-implementation) or any other Federal agency-developed climate resilience or adaptation planning tools that become available. | | | Yes | | No |  |
| NC&M Criteria 6.2  (Non-Core, C/I) | Building Resilience and Adaptation | | | | | |
| *Answer YES to* ***ONE*** *of the following options to meet this Guiding Principle.* | | | | | | |
| 1. Utilize the risk assessment to determine and prioritize design parameters that should be incorporated to ensure resilient building design and operations over the intended service life of the building, considering mission criticality, cost, and security. Ensure the implementation of no cost and cost-effective climate resilience measures, and, where feasible, implement solutions that focus on operations. Consider in the operation plans of the building, facility, campus, or installation, the adaptive capacity of the building to cope with stressors and mitigate based on mission criticality and cost. Identify and implement measures, where appropriate, to support passive survivability and functionality during emergencies. | | Yes | | No | |  |
| 1. Ensure the implementation of cost-effective strategies identified through an agency developed resilience or adaptation plans or any other Federal agency developed climate resilience or risk assessment planning tools. (For examples of available tools, refer to criteria 6.1.) | | Yes | | No | |  |

Guiding Principles New Construction/Modernization Summary Checklist

DOE Departmental Element \_National Nuclear Security Administration

Laboratory, Campus, Field Office, or Program Office: \_Los Alamos National Laboratory

Facility Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Facility Address: \_Los Alamos, NM\_

Assessor Name and Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of Assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

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|  | YES | NO |  |  | YES | NO |
| 1.0 - Employ Integrated Design Principles | | |  | 4.2: Daylighting and Lighting Controls |  |  |
| 1.1: Integrated Design and Management \* |  |  |  | 4.3: Low-Emitting Materials and Products |  |  |
| 1.2: Sustainable Siting \* | ✓ |  |  | 4.4: Radon Mitigation \* | ✓ |  |
| 1.3: Stormwater Management \* |  |  |  | 4.5: Moisture and Mold Control |  |  |
| 1.4: Infrastructure Utilization and Optimization |  |  |  | 4.6: Indoor Air Quality during Construction |  |  |
| 1.5: Commissioning \* |  |  |  | 4.7: Environmental Smoking Control\* | ✓ |  |
| 2.0 - Optimize Energy Performance | | |  | 4.8: Integrated Pest Management \* | ✓ |  |
| 2.1: Energy Efficiency \* |  |  |  | 4.9: Occupant Health and Wellness \* | ✓ |  |
| 2.2: Energy Metering \* |  |  |  | 5.0 - Reduce the Environmental Impact of Materials | | |
| 2.3: Renewable Energy |  |  |  | 5.1: Materials - Recycled Content \* |  |  |
| 2.4: Benchmarking \* | ✓ |  |  | 5.2: Materials - Biobased Content \* |  |  |
| 3.0 - Protect and Conserve Water | | |  | 5.3: Products |  |  |
| 3.1: Indoor Water Use \* |  |  |  | 5.4: Ozone Depleting Substances \* |  |  |
| 3.2: Water Metering \* |  |  |  | 5.5: Hazardous Waste \* | ✓ |  |
| 3.3: Outdoor Water Use |  |  |  | 5.6: Solid Waste Management |  |  |
| 3.4: Alternative Water |  |  |  | 6.0 - Assess and Consider Building Resilience | | |
| 4.0 - Enhance the Indoor Environment | | |  | 6.1: Risk Assessment | ✓ |  |
| 4.1: Ventilation and Thermal Comfort \* |  |  |  | 6.2: Building Resilience and Adaptation |  |  |

\*Core Requirements