# Electrical - Owner's Project Requirements

Division 260000-2

| Reference | Specification Requirements |
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| NEMA Standard HG_1-4.23 | All electrical motors shall comply with the balancing requirements of NEMA Standard HG_1-4.23 or the current equivalent standard. |

| Reference | Systems Basis of Design Requirements |
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| | Define acceptable level of harmonic distortion in building power systems. |
| | Define acceptable lighting levels and control methods by space. |
| | Define receptacle & misc. power consumption requirements by space. |
| | Define special equipment utility requirements. |
| | Define acceptable electrical equipment related sound levels. |

| Reference | Design Requirements |
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| | Adequate electrical space shall be provided, regardless of architectural programming constraints. The electrical consultants are responsible for championing the need for adequate space as a part of the design process.<br>*Comment: "The architect wouldn't give me sufficient room" is not an acceptable excuse. If adequate room cannot be worked out internally within the design team, consult with DECA project management staff for resolution. The building systems will have to be maintained for the life of the building. Shortchanging those needs is a short-sighted process.* |
| | In addition to the power utility's billing metering system, "smart" power meters shall be used, at a minimum, to monitor power interval data at every building. Include smart sub-meters for significant process loads (e.g. welding lab at a vocational school) that may need to be accounted for separately. Meters shall be connected to the Building Automation System, when feasible, or connected to the Internet where a BAS is not available.<br>*Comment: Consult with DECA staff for current standards for meter specifications.* |
| | Address access, construction sequence and documentation requirements for all Owner pre-purchased equipment. |
| | For buildings with chilled water systems, provide a dedicated sub-panel to accommodate power for a future temporary chiller. Coordinate potential locations for a temporary chiller with mechanical design. Ideally, a dedicated circuit and outdoor disconnect should be provided. |
| | Where significant quantities of computers are being utilized, the computers shall be served from a color coded power circuit dedicated for computer use. |
| | Power circuits dedicated for computer use shall be feed from K-rated transformer or other means to minimize transients. Also evaluate need for isolated ground and RIF filtration for |

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| | these circuits. |
| | Evaluate the location and the need for power surge protection. |
| | Photocopiers and other significant office equipment loads shall be feed from a dedicated circuit. |
| | Evaluate the need for electronic ballast with reduced current and voltage harmonic distortion characteristics. |
| | Evaluate lighting control system requirements. |
| | Corridor wall outlets shall be spaced no less than 50 feet and served on individual GFI circuit. |
| | Emergency, isolated ground and other special receptacles shall be identified by specialized cover plates. |
| | All power wiring shall be #12 THWN minimum. |
| | All conduits shall be 3/4 inch minimum, except for flexible drops to light fixtures. |
| | Provide phase loss protection on three phase equipment. |
| | Provide detailed construction phase and performance testing check list for each piece of electrical equipment to be commissioned. |
| | Provide for at least 20% spare capacity in electrical panel board design. |
| | Provide battery pack emergency lighting in mechanical and electrical rooms. |
| | Present average designed foot candle level for each room on project drawings. |
| KRS 56.770-782<br>Example Reports | Provide the Division of Engineering and Contract Administration with an Energy Savings Through Design Practices comparing appropriate Power and Lighting System alternatives against 2003 IECC / ASHRAE 90.1 baseline systems.<br>*Comment: If the project is designed under the High Performance Building Standards, this requirement is unnecessary. Energy calculations required by LEED certification will satisfy this requirement.* |

| **Reference** | **Functional Requirements** |
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| | Power and lighting systems shall be designed to limit impact on information and telecommunications systems to levels established in Systems Basis of Design. |
| | Major electrical equipment shall be located in a restricted access area on the ground level of the building. |
| | Critical system elements shall be powered by emergency power service. |
| | All electrical systems elements shall be accessible for service without unreasonable damage to building or grounds. |

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| | Location of electrical equipment shall consider sound levels established in Systems Basis of Design. |

| **Reference** | **Administrative Requirements** |
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| | Permitting |
| KRS 56.770-782 | Energy Savings Through Design Practices per KRS 56.770-782. |