1 General

1.1 Elevator guiding members shall be planed steel "T" type.

1.2 Elevators shall have integrally mounted phones programmed for Owner’s “ring-down” phone system. No “remote monitoring” will be allowed to utilize this phone line.

1.3 For residence hall, athletic department and, overnight occupancy applications “vandal-proof” style fixtures with positive stop buttons are recommended.

1.4 Keys for fire service or fire panels shall be FEO-1K.

1.5 Door operators shall be closed loop. Linear applications should be limited to use on openings 48” or smaller with harmonic style used on larger openings. Include “full view” infrared protection. All horizontal door panels hall have two gibbs per panel and removable/replaceable door hanger assemblies and up-thrusts. Vertical door assemblies will have “full view” infrared protection as well.

1.6 Any variance required for installations shall have an approved copy submitted to Purdue Safety and Security and Purdue elevator shop.

1.7 All traveling cables shall have 10% spare stranded conductors and a minimum of two spare shielded conductors. For rises over 50” steel core travelers shall be used.

2 Controllers

2.1 All controllers shall utilize selective/collective/automatic logic.

2.2 They shall be processor based, non-proprietary, and be provided with either on board diagnostic displays and keypads or, handheld tools, laptops, or PC's that allow for total access to the logic system. No requirement for refresh or re-programming of diagnostic components is allowed.

2.3 Furnish three (3) sets of manuals including:

2.3.1 Parts list/catalogue, sequence of operation/controller manual complete with instructions on installation, set-up, parameter adjustments and as-adjusted parameters list, drive set-up adjustments with as-adjusted parameters and schematics, set-up procedure of hatchway positioning, door operator(s) and a list of all as-adjusted parameters.

2.3.2 Any templates or any additional instructional material utilized in installation and field adjustment of the equipment.

2.4 Include all controller settings and written instructions on how to perform all required tests. All traveler and controller wiring termination list (as landed). Include maintenance requirements and manuals for all equipment. 2.5 Include any/all diagnostic tools required for installation, set-up adjustment and maintenance of the equipment (non-job specific) which includes the following:

- Board diagnostic with monitor
- Hand held service tool and/or
- Laptop with diagnostic software installed

2.6 Include all electrical ladder schematics related to the elevator equipment and its operation.

2.7 Provide comprehensive “maintenance control plan” that meet all code requirements and thoroughly details all testing procedure and protocol.

3 Hydraulic Elevators

3.1 “Holeless” hydraulic elevators shall be limited to 18’ of travel, be dual post applications, with pistons attached to top of car crosshead.

3.2 “Direct acting” hydraulic applications shall be limited to travels of 55’ or less, unless approved by owner in writing at the earliest stage of design that is practical.

3.3 The cylinders shall be installed in rigid PVC liners with a code compliant means to monitor for the presence of oil. Extended “dipsticks” are unacceptable.

3.4 Roped hydraulic applications must be approved by owner in writing at the earliest stage of design that is practical.

3.5 All hydraulic power units will be rated for 120 up starts per hour, have immersion type viscosity control, and battery lowering if not provided with generator back-up power. An SPDT (Single Pole Double Throw) auxiliary contact block will be provided in mainline disconnect where generator back-up is not provided.
3.6 All hydraulic applications shall have a machine room and pit ball shutoff valve shall have a factor of safety as calculated by rule 8.2.8.5 of ASME A17.1.

3.7 With the exception of designated hydraulic freight installations the minimum speed shall be 100 FPM.

3.8 All hydraulic applications shall have “softstart” solid state motor starters.

3.9 Utilization of MRL hydraulic elevators must be approved by Purdue for specific application due to noise and odor concerns.

4 Geared Traction Elevators

4.1 Geared traction elevators should be one to one overhead. For hoist-way adjacent or, basement designed applications dialogue should be had as early in the design phase as practical due to additional cost implications.

4.2 All geared traction applications shall utilize AC motors and VVVF drives with closed loop digital pulse feedback. Minimum speed shall be 200 FPM unless otherwise directed by the discipline specific representative.

4.3 All geared traction applications shall utilize brake lift monitoring circuitry.

4.4 All geared traction applications with “traction steel” suspension means shall have “quik-wedge” cable terminations on both ends.

4.5 All geared traction applications shall utilize a rope brake for ascending car over speed and unintended movement compliance. Sheave brakes are not allowed.

5 Gearless Traction Elevators

5.1 Gearless traction applications shall be AC or AC synchronous permanent magnet design type motors with closed loop digital feedback. They shall be a minimum speed of 200 FPM unless otherwise directed.

5.2 Gearless applications shall be compounded no higher than 2/1.

5.3 Gearless machines shall be designed to utilize a second “emergency” brake coil as opposed to a rope brake for ascending car over speed and unintended movement.

5.4 Any variance required for suspension means or new technology design need to be reviewed by Purdue prior to submission. A copy of the approved variance must also be provided.