PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes Design, Guidance, and General Requirements related to the design and specification for Elevators. This Section is not intended to be issued as a Northwestern Master Specification Section. See individual specification sections for elevator specific requirements.

B. Related Requirements:
   1. Section 14 2100 "Electric Traction Elevators" for electric traction elevator for passenger use.
   2. Section 14 2110 "Electric Traction Freight Elevators" for electric traction elevator for freight use.
   4. Section 14 2400 "Hydraulic Passenger Elevator" for hydraulic elevator used for passenger use.
   5. Section 14 2410 "Hydraulic Freight Elevator" for hydraulic elevator for freight use.

1.2 PROFESIONAL SERVICES

A. An elevator consultant shall be contracted to provide the technical expertise to modify the specifications based on the configuration of the elevators. The elevator consultant shall select the proper configuration (speed/capacity/type/size) for each elevator group, including service/freight elevators for material movement.

B. The elevator consultant shall perform the elevator modeling calculation to insure that a good level of elevator service is provided based on the University Standards. The elevator consultant shall also perform elevator modeling calculation to insure not less than a Fair Level of elevator service is provided when one elevator is removed from service (this will require at least two elevators service every occupied floor in the building).

C. The elevator consultant shall attend meetings to verify coordination of all non-elevator work required by the elevator code with the other design professionals. The elevator consultant shall verify all non-elevator work is provided based on the University Standards.

1.3 LEVEL OF ELEVATOR SERVICE RATINGS

A. The Level of Elevator Service is determined by the Average System Response Time, which is the time from initiation of a hall call demand until the elevator has arrived for passenger transfer, and the percentage of hall call demands answered within a certain time. For elevator modeling, this is typically calculated at 70% of the Interval.
### Level of Elevator Service

<table>
<thead>
<tr>
<th>Level of Elevator Service</th>
<th>ASRT</th>
<th>Percent Answered Within</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>30 Seconds</td>
</tr>
<tr>
<td>Excellent</td>
<td>18.0</td>
<td>80</td>
</tr>
<tr>
<td>Good</td>
<td>21.0</td>
<td>75</td>
</tr>
<tr>
<td>Fair</td>
<td>24.0</td>
<td>70</td>
</tr>
<tr>
<td>Poor</td>
<td>27.0</td>
<td>60</td>
</tr>
<tr>
<td>Very Poor</td>
<td>&gt;27.0</td>
<td>&lt;60</td>
</tr>
</tbody>
</table>

1.4 MINIMUM DESIGN OF ELEVATOR

A. Elevator Machine Room: Each elevator machine room shall be provided with a duct free split air conditioning system for environmental temperature control. Duct free split air condition system shall be designed to maintain the required temperature and humidity control for the specified elevator. Refer to Division 23 specifications for duct free split requirements.

B. Passenger elevators shall have a minimum capacity of 2,500 pounds. The doors shall be a minimum of 3-6” wide by 7’-0” high and shall be center opening.

C. Service elevators shall have a minimum capacity of 3,500 pounds. The doors shall be a minimum of 4-0” wide by 8’-0” high and shall be side opening. The loading classification shall be Class A.

D. Heavy duty service elevators shall have a minimum capacity of 4,000 pounds. The doors shall be a minimum of 4-6” wide by 8’-0” high and shall be side opening. The loading classification shall be Class C-1.

E. Freight elevators shall have a minimum capacity of 6,000 pounds. The doors shall be a minimum of 8-0” wide by 8’-0” high and shall be automatic bi-parting. The loading classification shall be Class C-1.

F. SCADA: all conveyances must be equipped with a data collection module (DCM) provided by Centric Technologies. One DCM per hoistway, up to 4 units per hoistway. The DCM requires (1) data outlet (part of the USO provided in each elevator specification section 1.10.F.1). Electrical contractor to provide NU approved conduit from DCM to each controller with 6 wires in this conduit. Final terminations by NU. Elevator controller will need 3 additional dry contacts to connect with DCM.

G. Any deviation from these technical standards must be approved in writing by NU FMO Elevator Manager.
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 14 2000