

## memorandum

*Engineering Services Division*

### **Anchorage of Programmatic Equipment**

The purpose of this memorandum is to provide clarification on the need for anchoring programmatic equipment. Programmatic equipment is defined as manufacturing, process or production equipment of LANL organizations, as distinguished from building services equipment. Building services equipment includes plumbing, heating, electrical, ventilating, air conditioning, refrigerating, and fire protection equipment, elevators, boilers, pressure vessels, and other mechanical and electrical systems or components required to make a facility fully functional for the required occupancy.

*In general, programmatic equipment is exempt from the anchorage requirements in the model building codes. This exemption does not apply however to the following:*

- 1. Equipment that is designed to confine or contain hazardous material (either radiological, chemical, biological or other) whose release would endanger workers or the public*
- 2. Equipment that is credited with performing a safety function either during or after the design basis earthquake*
- 3. Equipment needed for continued operation of essential facilities*
- 4. Equipment that could prevent egress of occupants or otherwise endanger personnel during an emergency in a facility or that could prevent emergency workers from responding to a crisis.*
- 5. Equipment that could interact with other building systems that could prevent egress*
- 6. The equipment manufacturer recommends anchorage to ensure operability or personnel safety*

The design of anchorage for non-exempt equipment must comply with the seismic design requirements for non-structural components as presented in ASCE 7-05 and implemented in the Engineering Standards Manual (ESM). Note that there are exceptions for anchoring of permanent equipment in ASCE 7-05.

Please refer to the flow chart in Attachment A for a graphical representation of this information. If you have any questions, please feel free to contact me.

#### Distribution:

W. S. Gibbs, ADE, C921  
P. J. Wantuck, ADE, C921  
G. W. Read, ES-DO, M981  
L. K. Goen, CENG-OFF, C926  
T. H. Oruch, CENG-OFF, P948  
S. C. Diamond, ES-DE, M791  
G. J. Pappas, ES-DE, M791  
D. E. Volkman, ES-DE, M791  
M. W. Salmon, D-5, K575  
D. G. Liechty, PF-DO, D471

Attachment A  
Programmatic Equipment Anchorage Flow Chart

