

# DESIGN REVIEW CHECKLIST

## ELECTRICAL

**Reviewers should** - Use Checklists when reviewing any type of VA construction project for the following disciplines:

- Architectural,
- Electrical,
- Heating, Ventilating, and Air Conditioning (HVAC),
- Incineration/Solid Waste,
- Plumbing, Fire Protection, and Sanitary,
- Site and Landscape,
- Steam Distribution,
- Steam Generation, and
- Structural.

**Reviewers should** - Ensure that A/E Submission Instructions (PG-18-15) for Schematic, Design Development, and Construction Documents are followed for various types of VA construction projects.

**Reviewers should** - Ensure that every VA construction project is in compliance with all life safety issues.

**Reviewers should** - Be aware that these checklists are not all-inclusive but only provide minimum review items.

## ELECTRICAL DESIGN REVIEW CHECKLIST

**TITLE** \_\_\_\_\_ **PROJECT NO.** \_\_\_\_\_  
**LOCATION** \_\_\_\_\_ **DATE** \_\_\_\_\_  
**REVIEWED BY** \_\_\_\_\_  
**ORGANIZATION** \_\_\_\_\_

### GENERAL INFORMATION FOR REVIEWERS

The reviewer should be thoroughly familiar with the following VA standards before conducting a design review. These are available on the CFM Internet Web site: <https://www.cfm.va.gov/til>

ITEM	DESCRIPTION
1.	<b>DESIGN MANUALS (PG-18-10)</b>
2.	<b>MASTER CONSTRUCTION SPECIFICATIONS (PG-18-1)</b>
3.	<b>STANDARD DETAILS (PG-18-4)</b>
4.	<b>DESIGN AND CONSTRUCTION PROCEDURES (PG-18-3)</b>
5.	<b>DESIGN GUIDES (PG-18-12)</b>
6.	<b>DESIGN ALERTS</b>
7.	<b>A/E SUBMISSION INSTRUCTIONS, PROGRAM GUIDE (PG-18-15)</b>
8.	<b>VA &amp; CAD STANDARDS</b>

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### SCHEMATICS

NO.	ELECTRICAL – SCHEMATICS ITEM	COMMENTS/ YES/NO/NA
1	<b>General Provisions for New Buildings</b> - In addition to items given below <b><u>check all</u></b> requirements for buildings, switchgear rooms, transformer rooms, elevator machine rooms, electrical closets, telecommunications rooms, etc. per Design and Construction Procedures Topic 8 and the Electrical Design Manual.	
	a. Dual means of egress from transformer vaults, switchgear rooms, switchboard (over 1200 amps) rooms and generator rooms or buildings.	
	b. Stack Electrical Closets and Telecommunications Rooms vertically. Telecommunication Rooms shall not be located adjacent to Electrical closets which have transformers.	
	c. Show quantity of electrical closets on a floor: Maximum distance of the farthest branch circuit to the nearest closet shall not exceed 75 ft.	
	d. All closets shall be free of columns inside.	
	e. Electrical rooms shall be located above grade and above the Base Flood Elevation – Refer to Physical Security Design Manual. Electrical rooms shall not be located beneath toilets, showers, laboratories, kitchens, sinks, open courtyards, planters, roof drain leaders, cooling towers, or other areas where water service is provided. Pipes containing liquids or gases shall not pass through these rooms.	
	f. Provide doors that open under simple pressure leading from the switchgear rooms, electrical rooms, transformer vaults, generator rooms and elevator machine rooms. The doors shall swing in the direction of exit travel.	

NO.	ELECTRICAL – SCHEMATICS ITEM	COMMENTS/ YES/NO/NA
	g. Emergency Feeder-circuit Wiring shall meet the fire rating requirements per NEC 700.	
2	Electrical metering for buildings as required in the VA Electrical Design Manual.	
3	Coordinate drawings with other technical disciplines	
4	Compliance with VA National CAD Standard Application Guide and applicable National CAD Standard modules	

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### DESIGN DEVELOPMENT

NO.	ELECTRICAL – DESIGN DEVELOPMENT ITEM	COMMENTS/ YES/NO/NA
1	All electrical rooms, transformer vaults and closets shall not be located directly below showers, laboratories, kitchens, dishwashing areas or other areas where water service is provided. Pipe containing liquids or gases shall not pass through these rooms. See Physical Security Design Manual.	
2	<b>Compliance to Design and Construction Procedures/ NEC/...</b>	
	a. Requirements for Essential Electrical system distribution follow NEC 517-30/517-40 and <b>Electrical Design Manual</b> .	
	b. Requirements for Primary and Secondary transformation and distribution equipment are per Electrical Design Manual.	
	c. Receptacles, mounting heights as required in different areas (see Electrical Design Manual)	
	d. Raceways required in Fluoroscopic, Radiographic and Deep Therapy rooms (see Electrical Design Manual).	
	e. Raceway systems as required in Electrical Design Manual. (1) All wiring shall be installed in raceways. (2) Underground raceways shall be encased in concrete.	
3	Alarms: Nonflammable medical gas and medical- surgical vacuum systems. See Electrical Design Manual and NFPA 99.	
	a. Master alarm panels required at the telephone switchboard and engineering control center or boiler plant.	
	b. Area alarms provided at nurses' stations where medical gas systems are installed.	
4	Miscellaneous Alarms (see Electrical Design Manual), such as Blood Bank refrigeration, Medical Gas System Alarm and others.	
5	Electrical sub-metering equipment as required by the Electrical Design Manual, and sustainability requirements.	
6	Lightning Protection System: See Electrical Design Manual.	

NO.	ELECTRICAL – DESIGN DEVELOPMENT ITEM	COMMENTS/ YES/NO/NA
7	Fire Alarm Systems: See Fire Protection Design Manual	
8	Coordinate drawings with other technical disciplines	
9	Compliance with VA National CAD Standard Application Guide and applicable National CAD Standard modules.	

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### CONSTRUCTION DOCUMENTS

NO.	ELECTRICAL – CONSTRUCTION DOCUMENTS ITEM	COMMENTS/ YES/NO/NA
1	Requirements for Essential and Standby Electrical System distribution - follow Electrical Design Manual.	
2	Requirements for primary and secondary transformation and distribution equipment (see Electrical Design Manual).	
3	Receptacles, mounting heights as required in different areas (see Electrical Design Manual).	
4	Raceways required in Fluoroscopic, Radiographic and Deep Therapy rooms (see Electrical Design Manual).	
5	Raceway systems (see Electrical Design Manual):	
	a. Install all wiring in raceways.	
	b. Encase underground raceways in concrete.	
6	Alarms: Nonflammable medical gas and medical- surgical vacuum systems (see Electrical Design Manual) and NFPA 99:	
	a. Master alarm panels required at the Telephone Console Room and Engineering Control Center.	
	b. Area alarms provided at nurses’ stations where medical gas systems are installed.	
7	Miscellaneous Alarm Systems (see Electrical Design Manual): Blood Bank refrigeration, Medical Gas System Alarm and others.	
8	Lightning Protection System: (see Electrical Design Manual).	
9	Fire Alarm Systems: See Fire Protection Design Manual	
10	Coordinate drawings with other technical disciplines	
11	Compliance with VA National CAD Standard Application Guide and applicable National CAD Standard modules	