

# DESIGN REVIEW CHECKLIST

## STEAM GENERATION

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

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

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

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

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

## STEAM GENERATION 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 *Internet*: <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>DESIGN REVIEW SUBMISSION INSTRUCTIONS (PG-18-15)</b>
8.	<b>VA CAD and BIM STANDARDS</b>

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**ORGANIZATION** \_\_\_\_\_

### SCHEMATIC 1

NO.	STEAM GENERATION – SCHEMATIC 1 ITEM	COMMENTS/ YES/NO/NA
1	Have DESIGN REVIEW Submission Requirements (PG-18-15) for this review been met? List omissions.	
2	Is seismic anchoring and bracing necessary?	
4	Does the design use the latest VA Standard Details?	
5	Does the design follow the latest VA Design Manuals?	
6	Compliance with VA CAD and BIM Standards	

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### SCHEMATIC 2

NO.	STEAM GENERATION – SCHEMATIC 2 ITEM	COMMENTS/ YES/NO/NA
1	Have DESIGN REVIEW Submission Requirements (PG-18-15) for this review been met? List omissions.	
2	Equipment selection and location complies with Steam Generation Design Manual.	
3	Life cycle cost method complies with NIST Handbook 135?	
4	Acceptable responses to previous comments?	
5.	Compliance with VA CAD and BIM Standards	

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### DESIGN DEVELOPMENT

NO.	STEAM DISTRIBUTION – DESIGN DEVELOPMENT ITEM	COMMENTS/ YES/NO/NA
1	Have DESIGN REVIEW Submission Requirements (PG-18-15) for this review been met? List omissions.	
2	Equipment selection and location complies with Steam Generation Design Manual.	
3	Equipment sizing calculations acceptable?	
4	Pipe sizing calculations acceptable?	
5	Plan views and sections of major equipment show proper access to equipment?	
6	Piping plans and sections show proper allowance for thermal expansion?	
7	Flow diagrams for all piping systems conform to VA Standard Detail?	
8	Acceptable responses to previous comments?	
9	Coordination with other disciplines	
10.	Compliance with VA CAD and BIM Standards.	
11	Are calculations complete including pipe and equipment sizing, control and regulating valves, flowmeter systems, steam traps, heating systems, pipe stress?	
12	Are Master Specs utilized of current issue?	
13	Do all pump calculations include suction head, NPSH, discharge head (with adequate safety factor), including accurate list of fittings for friction loss?	
14	Is all pipe stress (major steam lines) within ASME B31.1 limit?	
15	Are boiler steam nozzle loadings (forces and moments) within acceptable range?	
16	Is adequate clearance shown around all equipment, including fire tube boiler tube pull space and front and rear door opening?	

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### CONSTRUCTION DOCUMENTS

NO.	STEAM GENERATION – CONSTRUCTION DOCUMENTS ITEM	COMMENTS/ YES/NO/NA
1	Have DESIGN REVIEW Submission Requirements (PG-18-15) for the review been met? List omissions.	
2	Have all calculations been revised per comments in last review?	
3	Have any major steam pipes been relocated since last review? This would require a revised stress analysis.	
4	Are all valves shown in plans and sections and in accessible locations?	
5	Are boiler access catwalks shown to scale in proper relation to boiler valves?	
6	Do structural and architectural drawings show catwalks and equipment pads?	
7	Are all spring type and roller pipe hanger locations shown?	
8	Are seismic brace locations shown and braces detailed?	
9	Acceptable responses to previous comments?	
10	Coordination with other disciplines	
11	Compliance with VA CAD and BIM Standards.	