STEAM GENERATION

**DESIGN REVIEW CHECKLIST**

**☑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***](https://www.cfm.va.gov/til)

| ITEM | DESCRIPTION |
| --- | --- |
| **1.** | **DESIGN MANUALS (PG-18-10)** |
| **2.** | MASTER CONSTRUCTION SPECIFICATIONS (PG-18-1) |
| **3.** | **STANDARD DETAILS (PG-18-4)** |
| **4.** | **DESIGN AND CONSTRUCTION PROCEDURES (PG-18-3)** |
| **5.** | DESIGN GUIDES (PG-18-12) |
| **6.** | DESIGN ALERTS |
| **7.** | **DESIGN REVIEW SUBMISSION INSTRUCTIONS (PG-18-15)** |
| **8.** | **VA CAD and BIM STANDARDS** |

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**LOCATION\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE**

**REVIEWED BY**

**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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**LOCATION\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE**

**REVIEWED BY**

**ORGANIZATION**

**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 REVIEW CHECKLIST**

**TITLE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PROJECT NO.**

**LOCATION\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE**

**REVIEWED BY**

**ORGANIZATION**

**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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**DESIGN REVIEW CHECKLIST**

**TITLE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PROJECT NO.**

**LOCATION\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE**

**REVIEWED BY**

**ORGANIZATION**

**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. |  |