(Sample Verification Report)

|  |  |  |
| --- | --- | --- |
| **Resource Name:** TURTLE GENERATION STATION | | Date of this Report: 8/7/2023 |
| **Date(s) Field Settings Checked at Plant:**  5/2023: Protection and PSS settings  6/2022: Date of MOD-026/027 Reports | Names of Reference Documents (attached):  Turtle MOD-026/027 Reports  Turtle commissioning models | |

**General Description:**

This report is submitted to support the model parameters for the TURTLE GENERATING STATION. The Governor and Exciter and Stabilizer models were checked through testing in the MOD-026/-027 reports. In May of 2023, plant personnel downloaded the power system stabilizer and protection parameters to directly confirm the settings in those devices. Tables of tunable or site-specific model parameters and their verified values are listed below.

(Notes to the author writing this Verification report:

1. The next version of the dynamic model templates, estimated publishing late this summer, will allow you to enter the field verification values directly into the Template, thus allowing you to screenshot the Template into your report rather than inserting tables.
2. You can verify either your PSS/e or your PSCAD model. However, if you verify the PSCAD model, please provide evidence you also confirmed the protection models in the PSS/e model, since these are not guaranteed when overlaying PSS/e versus PSCAD in the MQT report.
3. Follow the instructions in the Model Quality Guide on submitting your models along with this report. **You must submit models when submitting a verification report!**)

**GENERATOR [GENROU],** checked by commissioning model documents.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PSS/E Index** | **Parameter Name** | **Model Value** | **Actual Field Equipment** | **Verification Method** | **Match?** |
|  | H, Inertia | 5.7 | 5.7 | DOCS | Y |
|  | S(1.0) Saturation | 0.002 | 0.002 | DOCS | Y |
|  | S(1.2) Saturation | 0.03 | 0.03 | DOCS | Y |

**EXCITER [ESST4B]**, checked by MOD-026.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PSS/E Index** | **Parameter Name** | **Model Value** | **Actual Field Equipment** | **Verification Method** | **Match?** |
|  | AVR proportional Gain | 110 | 110 | MOD-026 | Y |
|  | AVR integral Gain | 10 | 10 | MOD-026 | Y |

**STABILIZER [PSS2B]**, checked by directly query digital stabilizer settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PSS/E Index** | **Parameter Name** | **Model Value** | **Actual Field Equipment** | **Verification Method** | **Match?** |
|  | Tw1 First Washout | 3.5 | 3.5 | Direct | Y |
|  | Tw2 Second washout | 3.5 | 3.5 | Direct | Y |
|  | Tw1 First Washout | 3.5 | 3.5 | Direct | Y |
|  | Tw2 Second washout | 0.5 | 0.5 | Direct | Y |
|  | Ks2 Gain on Signal #2 | 0.4 | 0.4 | Direct | Y |
|  | Ks2 Gain on Signal #2 | 0.7 | 0.7 | Direct | Y |

**GOVERNOR [GGOV1]**, checked by MOD-027. Droop directly checked in equipment settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PSS/E Index** | **Parameter Name** | **Model Value** | **Actual Field Equipment** | **Verification Method** | **Match?** |
|  | Droop | 5% | 5% | Direct | Y |
|  | Kpgov Proportional Gain | 6.0 | 6.0 | MOD-027 | Y |
|  | Kigov Integral Gain | 0.5 | 0.5 | MOD-027 | Y |
|  | Actuator Time Const | 0.6 | 0.6 | MOD-027 | Y |

**PROTECTION [Overvoltage]** checked directly in relay settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | | **Field Relay** | |  |  |
| **V Thres** | **Seconds** | **V Thres** | **Seconds** | **Verification Method** | **Match?** |
| 1.25 | 0.02 | 1.25 | 0.02 | Inspection of relay curves | Y |
| 1.11 | 8 | 1.11 | 8 | Inspection of relay curves | Y |
|  |  |  |  |  |  |

**PROTECTION [Undervoltage]** checked directly in relay settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | | **Field Relay** | |  |  |
| **V Thres** | **Seconds** | **V Thres** | **Seconds** | **Verification Method** | **Match?** |
| 0.6 | 0.02 | 1.25 | 0.02 | Inspection of relay curves | Y |
| 0.80 | 8 | 1.11 | 8 | Inspection of relay curves | Y |
|  |  |  |  |  |  |

**PROTECTION [Underfrequency]** checked directly in relay settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | | **Field Relay** | |  |  |
| **Hz Thres** | **Seconds** | **Hz Thres** | **Seconds** | **Verification Method** | **Match?** |
| 65 | 0.02 | 65 | 0.02 | Inspection of relay curves | Y |
| 62 | 8 | 62 | 8 | Inspection of relay curves | Y |
|  |  |  |  |  |  |

**PROTECTION [Overfrequency]** checked directly in relay settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | | **Field Relay** | |  |  |
| **Hz Thres** | **Seconds** | **Hz Thres** | **Seconds** | **Verification Method** | **Match?** |
| 57.5 | 0.02 | 57.5 | 0.02 | Inspection of relay curves | Y |
| 58.5 | 8 | 58.5 | 8 | Inspection of relay curves | Y |
|  |  |  |  |  |  |