

Inspection and Test Plan for Generator

No.	Inspection and Test Plan	Reference Document	Acceptance Criteria	Verifying Document	Activity By			Remark
					Manuf.	TPI	Client	
1	Pre-Inspection Meeting	Spec.	Spec.	MOM	H	H	H	-
Before Manufacturing								
2	DWG, Design, Calculation Document	IEC and ISO	IEC and ISO	DWG, Calculation book	H	R	A	-
3	WPS&PQR	ASME IX	ASME IX	Welding Book	H	R	A	-
4	Welder Qualification Certificates	ASME IX	ASME IX	Certificates	H	R	-	-
5	NDT procedures	ASME V	ASME V	Procedures	H	R	A	-
6	NDE Personnel Certificates	ASME IX	ASME IX	Certificates	H	R	-	-
7	Generator Armature and Field Windings Resistance Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
8	Generator Armature and Field Windings Insulation Resistance Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
9	Generator High Voltage tests of Armature and Field Windings Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	

10	Generator Dynamic Balance Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
11	Generator Open Circuit Saturation Curve Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
12	Generator Three Phase Short Circuit Saturation Curve Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
13	Generator Telephone Harmonic Factor (THF) Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
14	Generator Temperature Rise Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
15	Generator Segregated Losses Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
16	Generator Calculation of Efficiency Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
17	Generator Sudden Three Phase Short Circuit Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
18	Generator Noise Level Test Procedure	IEC and ISO	IEC and ISO	Procedure	H	R	A	
19	Painting Procedure	SSPC	SSPC	Procedure	H	R	A	
Materials								

20	Raw Material Inspection	ASTM	ASTM	Original Material Certificates	H	H	-	-
21	Review of Certificates	ASTM	ASTM	Certificates	H	H	-	-
22	Material Identification	ASTM	ASTM	Report	H	H	-	
During Fabrication								
23	Fabrication Inspection	DWG/Spec	DWG/Spec	Report	H	SW	-	
24	Welding Inspection for Required Welding Components	WPS	WPS	Report	H	SW	-	
25	Checking for Outline Dimensions, Interface Dimensions, Foundation Fixing Pitch, Air Gap, End Play, Clearances (Bearing to Shaft, Shaft to Seal Ring, Gland Seal to Seal Ring) and Other Specified Dimensions	DWG/Spec	DWG/Spec	Report	H	SW	-	
26	Inspection for Tightness / Torque of Terminals	Procedure	Procedure	Report	H	SW	-	
27	Inspection for Degree of Protection	Procedure	Procedure	Report	H	SW	-	

28	Confirm the Layout, Instruments, Controls, Terminal Boxes, etc., are Correctly Rated and are Correctly Located, with Specified Labeling	Procedure	Procedure	Report	H	SW	-	
29	Hydrostatic Testing of Mechanical Items	Procedure	Procedure	Report	H	H		
30	Generator Armature and Field Windings Resistance Test	Procedure	Procedure	Report	H	H	-	
31	Generator Armature and Field Windings Insulation Resistance Test	Procedure	Procedure	Report	H	H	-	
31	Power Cable Heat Shock Test	Procedure	Procedure	Report	H	H	-	
32	Generator High Voltage Tests of Armature and Field Windings	Procedure	Procedure	Report	H	H	-	
33	Generator Dynamic Balance Test	Procedure	Procedure	Report	H	H	-	
34	Generator Open Circuit Saturation Curve Test	Procedure	Procedure	Report	H	H	-	
35	Generator Three Phase Short Circuit Saturation Curve Test	Procedure	Procedure	Report	H	H	-	

36	Generator Telephone Harmonic Factor (THF) Test	Procedure	Procedure	Report	H	H	-	
37	Generator Temperature Rise Test	Procedure	Procedure	Report	H	H	-	
38	Generator Segregated Losses Test	Procedure	Procedure	Report	H	H	-	
39	Generator Calculation of Efficiency	Procedure	Procedure	Report	H	H	-	
40	Generator Sudden Three Phase Short Circuit Test	Procedure	Procedure	Report	H	H	-	
41	Checking Correct Operation of Circuit Breaker	DWG/Spec	DWG/Spec	Report	H	H	-	
42	Checking of Protection and Synchronization Devices	DWG/Spec	DWG/Spec	Report				
43	Mechanical Running Test (Vibration and Performance)	Procedure	Procedure	Report	H	H	-	
44	Generator Noise Level Test	Procedure	Procedure	Report	H	H	-	
Final Inspection								
45	Final Visual & Dimensional Check	DWG	DWG	Report	H	H	-	-

46	Surface Preparation and Painting Inspection	Procedure	Procedure	Report	H	W	-	
47	Check of Final Book	Spec.	Spec.	DWG/ P.O	H	R	-	
Documentation								
48	Inspection Reports	Spec./DWG	Spec./DWG	Report	H	R	-	-
49	NCR	Spec./DWG	Spec./DWG	Report	H	R	-	-
50	Review Final Data Report	Spec./DWG	Spec./DWG	Report	H	R	-	-
Pre-Shipment Inspection								
51	Preservation and Packing	Spec.	Spec.	Report	H	H	-	-
52	Marking	Spec.	Spec.	Report	H	H	-	-
53	Loading Inspection	Spec.	Spec.	Report	H	H	-	-
54	Shipping Document Control	Procedure	Spec.	Packing List	H	H	-	-

Abbreviations:

H: Hold Point = Hold on the production till TPI Inspector performs inspection and supervise the required test

W: Witness Point = Manufacture shall notify client and TPI Inspector but there is no hold on the production;
Client can waive this inspection based on his discretion and informs TPI Inspector accordingly.

R: Document Review = Review means Review document, which includes of material test certificates, WPS, PQR, NDT Procedures and etc.

A: Approval

SW: Spot Witness = for items with spot witness manufacture shall notify TPI inspector as fulfilling the monitoring;
For example one random visit for whole UT tests or one or two visits for whole surface preparation works for painting.

MOM: Minute of Meeting

P.O: Purchase Order

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for more information review following articles:

<http://www.inspection-for-industry.com/third-party-inspection-for-generator.html>

<http://www.inspection-for-industry.com/inspection-and-test-plan-for-generator.html>