

Inspection and Test Plan for Gas Turbine

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	API 616	API 616	DWG, Calculation book	H	R	A	-
3	WPS&PQR	ASME	ASME IX	Welding Book	H	R	A	-
4	Welder Qualification Certificates	ASME	ASME IX	Certificates	H	R	-	-
5	NDT procedure	ASME	ASME V,VIII, IX	Procedures	H	R	A	-
6	NDE Personnel Certificates	ASME	ASME V	Certificates	H	R	-	-
7	PWHT Procedure (if needed)	API 616/ASME	API 616/ASME	Procedure	H	R	A	-
8	Gas Turbine Rotor Dynamic and Overspeed Balance Test Procedures	API 616	API 616	Procedure	H	R	A	-
9	Gas Turbine Mechanical Running Test Procedure	API 616	API 616	Procedure	H	R	A	-
10	Gas Turbine Performance Test Procedure	ASME PTC 1 and 22	ASME PTC 1 and 22	Procedure	H	R	A	-
11	Pressure Containing Parts Hydro Static Test Procedure	API 616/ASME VIII	ASME VIII/API 616	Procedure	H	R	A	-

12	Painting Procedure	Spec.	Spec.	Procedure	H	R	A	-
Materials								
13	Material Certificates	ASME II/ASTM	ASME II/ASTM	Original Material Certificates	H	R	-	-
14	Material Identification	ASME II/ASTM	ASMEII/ASTM	Report	H	W	-	-
15	Visual, Dimension and Marking Control	ASME II/ASTM	ASME II/ASTM	Report	H	W	-	-
During Fabrication								
16	Casing Visual Inspection for Damage	API 616	API 616	Report	H	W	-	
17	Casing Dimensional Check to Drawing Requirements	DWG/API 616	DWG/API 616	Report	H	W	-	
18	Casing Visual Examination of Welded on Connections	ASME/API 616	ASME/API 616	Report	H	W	-	
19	Casing Confirmation of Satisfactory NDE	ASME/API 616	ASME/API 616	Report	H	W	-	
20	Casing PWHT Inspection	ASME/API 616	ASME/API 616	Report	H	R	-	
21	Casing Hydrostatic Testing	Procedure/API 616	Procedure/API 616	Report	H	H	-	
22	Combustion Chamber welding Inspection	WPS/API 616	WPS/API 616	Report	H	W	-	
23	Combustion Chamber Visual and Dimensional Inspection	DWG/API 616	DWG/API 616	Report	H	W	-	

24	Combustion Chamber Confirmation of Satisfactory NDE	ASME/API 616	ASME/API 616	Report	H	W	-	
25	Combustion Chamber PWHT Inspection	Procedure/API 616	Procedure/API 616	Report	H	R	-	
26	Combustion Chamber Hydrostatic Testing	Procedure/API 616	Procedure/API 616	Report	H	H	-	
27	Auxiliary Equipment Inspection and Test i.e. Fuel System and Pressure Vessels, Pumps and etc.	API 616	API 616	Report	H	W	-	
28	Rotor Components visual and Dimensional Inspection	DWG/API 616	DWG/API 616	Report	H	W	-	
29	Rotor Components PWHT Inspection	Procedure/API 616	Procedure/API 616	Report	H	R	-	
30	Rotor Confirmation of Satisfactory NDE	ASME/API 616	ASME/API 616	Report	H	W	-	-
31	Rotor Dynamic Balance Test	Procedure/API 616	Procedure/API 616	Report	H	H	-	-
32	Rotor Overspeed Test	Procedure/API 616	Procedure/API 616	Report	H	H		
33	Gas Turbine Assembly Inspection	DWG/API 616	DWG/API 616	Report	H	SW	-	
34	Gas Turbine Clearances Inspection	DWG/API 616	DWG/API 616	Report	H	W	-	-

35	Gas Turbine Mechanical Running Test	Procedure/API 616	Procedure/API 616	Report	H	H	-	-
36	Gas Turbine Governor Test (if specified)	Procedure/API 616	Procedure/API 616	Report	H	H	-	-
37	Gas Turbine Performance Test (if specified)	ASME PTC 1 and 22	ASME PTC 1 and 22	Report	H	H	-	-
38	Gas Turbine Strip Down Inspection (If specified)	Procedure/API 616	Procedure/API 616	Report	H	H	-	-
Final Inspection								
39	Final Visual & Dimensional Check	DWG/Spec.	DWG	Report	H	H	-	-
40	Surface Preparation and Painting	Procedure	SSSP/Spec.	Report	H	W	-	-
41	Check of Name Plate	DWG	DWG	Report	H	H	-	-
42	Check of Final Book	Spec.	Spec.	DWG/ P.O	H	R	-	Submitted by
Documentation								
43	Inspection Reports	Spec./DWG	Spec./DWG	Report	H	R	-	-
44	NCR	Spec./DWG	Spec./DWG	Report	H	R	-	-
45	Review Final Data Report	Spec./DWG	Spec./DWG	Report	H	R	-	-
Packing								
46	Preservation and Packing	Spec.	Spec.	Report	H	H	-	-
47	Marking	Spec.	Spec.	Report	H	H	-	-
48	Loading Inspection	Spec.	Spec.	Report	H	H	-	-

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49	Shipping Document Control	Procedure	Spec.	Packing List	H	H	-	-
auxiliary equipment such as lube oil system, filter, strainer, piping, steel structure and etc. are not included to this ITP								

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

for more information review following articles:

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

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

<http://www.inspection-for-industry.com/factory-acceptance-test-for-gas-turbine.html>