



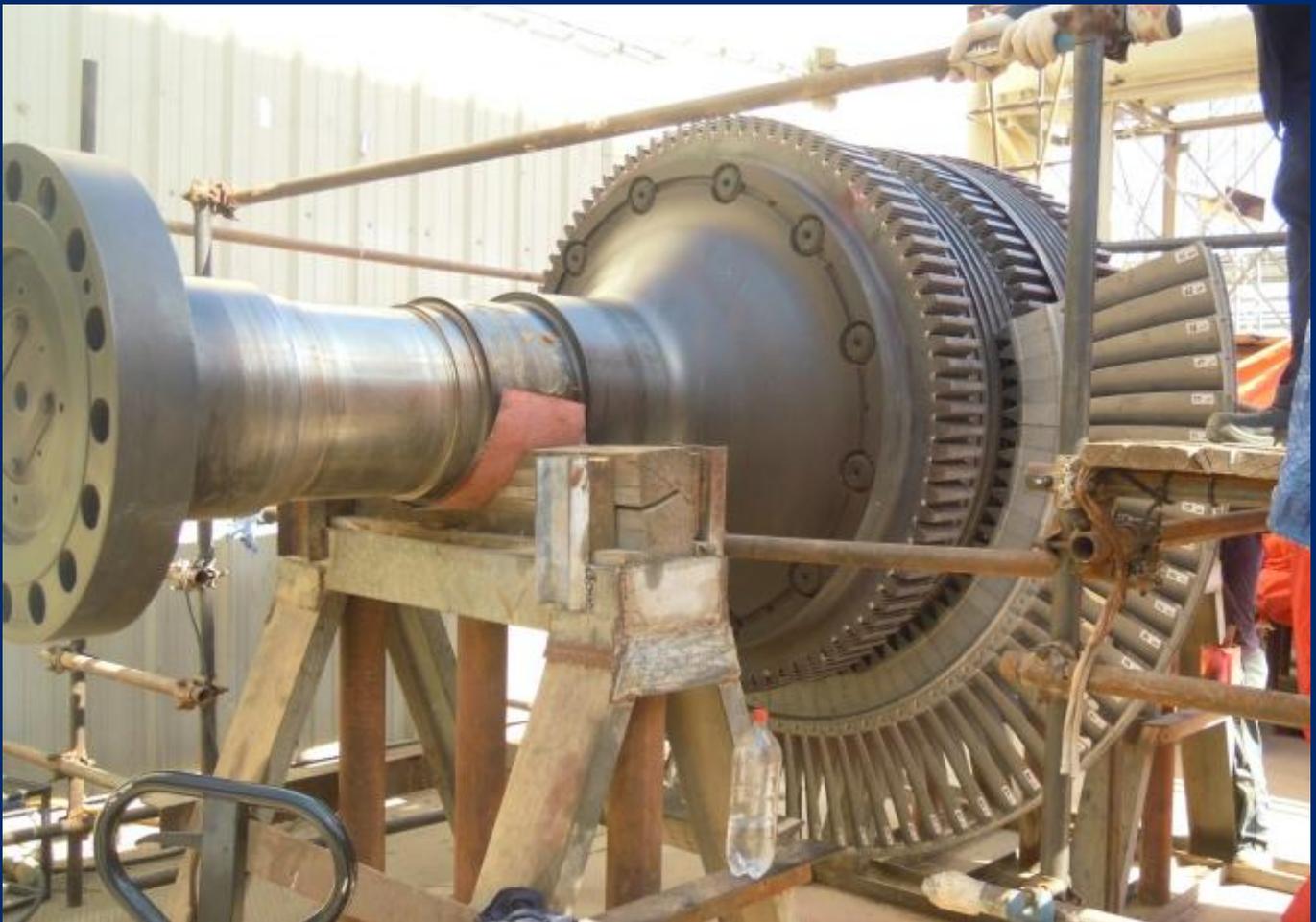
USAID
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ENERGY POLICY PROGRAM

VISIT REPORT OF GUDDU THERMAL PAWER STATION

APRIL 8-11, 2014



April 2014

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AID-EPP-I-00-03-00004, AID-391-TO-12-00002

UPRATE AND UPGRADE OF CCP GT-7, GT-8 AND ST-5

I. Background

CCP Guddu Block 2A (ST5, GT7, GT8)

Purchase Order April 10, 2012	Service Order Feb 20, 2012
<p>Name of Company M/S. GE Energy Part Inc. 4200 Wildwood Parkway, Atlanta Georgia, GA 30339 U.S.A</p>	<p>Name of Company M/s General Electric International Inc. 4200 Wildwood PKWY, Atlanta Georgia, GA 30339 U.S.A</p>
<p>Subject: PURCHASE ORDER FOR SUPPLY OF SPARES/EQUIPMENT FOR RELIABILITY ASSUARANCE, TFIRE UPRATE/ADVANCED SEALS UPGRADE, MARK VIe CONTROL SYSTEM, EX2100 EXCITATION SYSTEMS, DCS SYSTEM UPGRADE INCLUDING ONE NEW GENERATOR STATOR REWINDING KIT WITH NEW COPPER FOR TWO FRAME 91E GAS TURBINES NO. GT-07 & GT-08 AND STEAM TURBINE ST-05</p>	<p>Subject: INSTALLATION, TESTING AND COMMISSIONING OF THE EQUIPMENTS /PARTS PROCURED FOR THE UPRATE/UPGRADE TO ACHIEVE GUARANTEED PARAMETERS</p>

2. Summary Progress of Work at a Glance

- Date of Shut down: March 15, 2014
- Scheduled date of completion/commissioning: June 28, 2014

No.	Plant Equipment	Description	% Completed
ST-5	Mechanical	<ul style="list-style-type: none"> • Dismantling of steam turbine pipings bolts • Lifting/removal of LP cross over pipe • Dismantling of L.P./I.P turbine casings • Lifting/removal of turbine rotors • Removal of diaphragms from upper & lower casings of LP/IP turbines • Cleaning of upper & lower casings of LP/IP turbines • Removal and checking/inspection of turbine bearings • Turbine flow path measurements & records • Performance of NDT & turbine diaphragms is in progress • Repair of Turbine diaphragms 	25
	Electrical	<ul style="list-style-type: none"> • De gasified the generator • Dismantled the generator and rotor taken out • Electrical tests were carried out of generator stator and rotor • Installed the generator excitation compartment and fitted panels. • Replaced the old excitation transformer with new one • Currently the cabling and termination work of excitation is in progress 	35
	I&C	<ul style="list-style-type: none"> • Customer's scope of work regarding dismantling of site equipment • Dismantling of old MK-II & MK-III control panels & installation & re-wiring of new MK Vle panels in DMC room • Ethernet and optical fiber cabling • Testing, calibrating and re-fitting of field equipment, transmitters, switches, etc. is in progress 	15
GT-7	Mechanical	<ul style="list-style-type: none"> • Dismantling of machine started on 16.03.2014 • Compressor and turbine rotor taken out • New re-blading of turbine rotor completed • New exhaust plenum lower side installed • New exhaust diffuser installed • New 2nd & 3rd stage shroud blocks installed • New 1st & 2nd stage nozzle installed • New expansion joint on exhaust duct installed • Repair work on compressor stator with pin shimming is in progress 	25
	Electrical	<ul style="list-style-type: none"> • Degasified the generator • Dismantled the generator rotor taken out • Replaced the old excitation transformer with new one • Installed new generator excitation Compartment and fitted panels. • Currently the cabling & termination of excitation work is in progress. 	35
	I&C	<ul style="list-style-type: none"> • Customer's scope of work regarding dismantling of site equipment • Dismantling of old MK-II & MK-III control panels & installation & re-wiring of new MK Vle panels in GT control cabinet • Ethernet and optical fiber cabling testing, calibrating and re-fitting of field equipment, transmitters, switches, etc. is in progress 	25

No.	Plant Equipment	Description	% Completed
GT-8	Mechanical	<ul style="list-style-type: none"> Dismantling of machine started on 16.03.2014 Compressor and turbine rotor taken out New re-blading of turbine rotor is in progress New exhaust plenum lower side installed New exhaust diffuser installed New 2nd & 3rd stage shroud blocks installed in upper & lower casing of Turbine New 1st & 2nd stage nozzle installed in upper & lower casing New expansion joint on exhaust duct installed Repair work on compressor stator with pin shimming is in progress 	40
	Electrical	<ul style="list-style-type: none"> Degasified the generator Dismantled the generator rotor taken out Replaced the old excitation transformer with new one Installed new generator excitation Compartment and fitted panels Currently the cabling & termination of excitation and control work is in progress 	35
	I&C	<ul style="list-style-type: none"> Customer's scope of work regarding dismantling of site equipment Dismantling of old MK-II & MK-III control panels & installation & re-wiring of new MK VIe panels in GT control cabinet Ethernet and optical fiber cabling Testing, calibrating and re-fitting of field equipment, transmitters, switches, etc. is in progress 	10

3. Parts Supply Status

a. P.O. No.09 placed on GE Parts

Sr #	B/L or AWB	Dated	Exemption	Amount (\$)	Letter to EAD	Exemption Certificate
15	15782680861	15-3-14	16 th	20263.16	CPGCP/CEO 18-3-14	Awaited
16	AMSI085031/16058889051	21-3-14	17 th	62044.08	CPGCP/CEO 24-3-14	Awaited
17	ATL-0346030/15782689235	22-3-14	18 th	8666.73	CPGCP/CEO 24-3-14	Awaited

b. Only three shipments by Air are awaited.

c. Wrong material delivered to Chinese / GE Project 747 MW is being sorted out by Director Material Management / Plant Manager III CCP Guddu

4. L/C Extension

Manager Material Management has written to CRR Karachi for extension of L/C No.0580ILC009349 against P.O.18/CEO/CPGCCL/MMM/(MST)T-38/983-90 dated 15-01-2013. *DID READ 140222 SHOULD READ 1404430*. Cost of extension borne by beneficiary.

5. Additional Work

Had a chance to talk to GE Rep on site M/S Arsalan and Mahmood. Some additional work on compressor GT-7 will be required fixing of shim pinning and Blending of Blades. Plant Manager III is taking care of it.

ANNEXES



GT-7 Compressor Rotor Out for Repair



GT-7 Accessory Gear



GT-7 Turbine Stator and Exhaust



GT-8 Turbine Rotor Reblading



GT-7 Generator/Excitor Out for Inspection



GT-8 Generator/Excitor Parts Inspection



ST-5 Turbine Rotor Out for Repair



ST-5 Turbine Bearing Babbit Cleaning



ST-5 Turbine Rotor Out for Inspection



ST-5 Generator Rotor Out for Inspection



ST-5: A View of Generator Stator and Turbine Upper Casing Lifted

Repair & Rehabilitation of Guddu-TPS

Item#	Item Description	Amount (US\$)		
		PIL Amount	Amount Reimbursed	Difference
1	Purchasing the supply of Spares / Equipment for reliability assurance (up-rating and upgrading) including MK VIe Control System for GT-7&8 and ST-05	\$8,889,555	\$8,889,555	-
2	Replacement of existing DCS with new Mk VIe Single Platform DCS for ST-5, GTs 7 & 8	\$692,250	\$692,250	-
3	Purchasing the Supply of 1 & 2 stage buckets and nozzles for GT-7&8	\$3,621,000	\$3,621,000	-
4	Rehabilitation of HRSGs, Replacement of Modified Bypass Dampers, all existing expansion joints of HRSGs and Replacement of Economizer tubes and bends of HRSG for GTs 7 & 8	\$1,571,940	-	\$1,571,940
5	Rehabilitation / Replacement of Evaporative Coolers and Cooling Media of GT-7&8	\$213,000	-	\$213,000
6	Inspection, testing and repair of Generators of GT-7, GT-8, ST-5 along with supply of essential spares and testing kits	\$2,212,005	\$2,212,005	-
7	Purchasing of Control Cables, Monitoring Instruments, Motorized and pneumatic Actuators and Turbine Supervisory Instruments / Equipment for ST-5	\$97,980	\$97,980	-
8	Application of Service Charges for complete up-rate and upgrade package of GTs and replacement of controls etc. for block consisting of GT-7&8 and ST-5 on turnkey basis	\$1,826,000	\$1,826,000	-
Total		\$19,123,730	\$17,338,790	\$1,784,940



GENCO HOLDING COMPANY LIMITED

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2014

No. CPGCL/CEO/MMM/PM-III(M-ST)/ICB/T-38/9491-95 Date 08 /04/2014

The Chief Resident Representative (WAPDA),
50-B-1, Block-6, PECHS,
Karachi.
Fax No.021-34534968.

Subject: - EXTENSION OF EXPIRY DATE IN L/C NO.0580ILC009349 AGAINST P.O. NO. 18/CEO/CPGCL/MMM/PM-III(MST)/T-38/983-90 DATED 15.01.2013.

Reference: - Letter from M/s. Albario Engineering (Pvt) Ltd., Lahore No.00344/AEPL/GEIOP/CPGCL/T-38 dated 26.03.2014.

Dear Sir,

This is in reference to the above referred letter from M/s. Albario Engineering (Pvt) Ltd., Lahore, on behalf of their principal M/s. GE Energy USA, who had requested for extension in subject L/C.

The amendment is made as here under with L/D Charges.

Sr. No.	L/C Clause	Did Read	Should Read
01	31E New Date of Expiry	"140222"	"140430"

The remaining terms and conditions of the subject letter of credit will remain same.

The expenditure on account of the amendment in L/C shall be borne by the beneficiary.

This issues with the approval of Chief Executive Officer, Genco-II, TPS, Guddu vide Para-46 of NSP-27.

Chief Engineer T/D
Genco-II TPS, Guddu.

c.c.to:-

1. The CEO Genco-II, TPS, Guddu.
2. Finance Director, Genco-II TPS, Guddu.
3. PM-III, 600MW, CCP, Guddu.
4. M/s. Albario Engineering Pvt. Ltd., Rasul Building, P.O.Box 114, Shahrah-e-Quaid-e-Azam, Lahore-Pakistan.

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