

Annex A

Method Statement For Site Work

A1 INTRODUCTION

A "Method Statement for Gas Turbine Units Site Work" issued by CLP Power for units GT5 and GT6 is given below. This methodology will also be appropriate for the GT3 and to GT4 units to be demolished in the second stage of the project given the similar nature of their installation on site.

A1.1 SCOPE OF SALE

The scope of sale encompasses four gas turbine generating units as typically shown by *Figure A1.1*. Inside the turbine/generator enclosures, as shown by *Figure A1.2* the scope of sale will include all auxiliary equipment, instrument panels, support structure, stairway and cladding.

A2 METHOD STATEMENT FOR THE WORK

A2.1 GENERAL

The Purchaser will be responsible for the removal and disposal of all equipment, components, materials and waste within the boundary of the works. The Goods will be available for dismantling and removal from 0800 hours on the date as stipulated in the Notice of Access to be granted by CLPP. The Purchaser will dismantle and remove the Goods in accordance with the Dismantling Program and all Goods shall be wholly dismantled and removed from the Site no later than **12 months** from the issue of a "Letter of Acceptance" by the Owner.

A2.2 DE-MOTHBALLING

The gas turbines have been deactivated since 1998 and the Purchaser will be responsible to remove all the blanks and covers that have been used for their preservation.

A2.3 ISOLATION

The Purchaser shall cut off as required and blank off at all terminal points of various systems as advised by CLPP.

For the equipment or system that complete isolation or shut down for interface is not possible, the Purchaser shall supply and install temporary piping, circuits, etc., for diversion of circuit by-pass, etc., to allow for the interface work. Upon completion of the inspection or interface, the Purchaser shall remove all temporary connection / installation and reinstate the existing equipment to the original configuration and status.

The Purchaser, when interfacing with the existing equipment or in the course of the inspection or dismantling, should take care that no damage of existing equipment will occur due to the work.

A2.4 CABLE WORK

For the underground pipe-work and cables removal, the Purchaser shall remove the trench covers and reinstate as advised by the CLPP. All cables should be considered as 'LIVE' unless the identification has been carried out by the Owner.

The Purchaser shall be responsible to carry out trench excavation for removal of buried cables if required and also carry out trench backfilling and reinstatement of ground surface as advised by and to the satisfaction of the Owner's Responsible Officer.

The Purchaser shall be responsible for the removal of all signal and power cables within the gas turbine compound including the underground cables, if any. As to the remote end of the cable that is away from the compound, the Purchaser shall be responsible for disconnecting the termination at both ends. The termination of the cable ends shall be covered and protected by PVC tape in a proper manner and the free ends of the cable shall be placed to the satisfaction of the Owner.

A2.5 DISPOSAL OF OIL AND CONTAMINANT

The Purchaser shall be responsible to drain off all oil including but not limited to the fuel oil, lubrication oil, jacking oil and insulation oil before cutting of the pipes, tanks, oil filled cables and dismantling of the component or equipment of the gas turbine. The Purchaser shall be responsible for the disposal of waste oil and the associated contaminant in accordance with the local regulations and CLPP's SHE and General Site Work Requirements as presented in *Annex B*.

A2.6 DEMOLITION OF THE CHIMNEY AND SUPERSTRUCTURE

- A. The 4600mm diameter steel stack for turbine engine in the Castle Peak Power station shall be removed from top down as per the procedure set out below and shown in *Figure A1.3*
 - a. Disconnect all service connections including power supply cable, earthing taps oscillation damper assembly and water supply pipe.
 - b. Clear up the cone plate at the lower part of the stack giving way for space where temporary steel platform and stairway structure stands.
 - c. Prepare of loading bay for trucks and clear operation area for mobile crane and working area for steel sorting.

- d. Erect steel platform and stairway as shown in *Figure A1.3*
 - e. Deliver flame cutting equipment to working place.
 - f. Steel bottles and other hand tools shall be fixed or tied to the working platform in order to prevent from falling.
 - g. Make through holes for shackles and hooks on each segment of steel plates.
 - h. Cut steel segments to a weight less than the maximum safety load of mobile crane leaving 3 no. small uncut pieces (100mm wide) for connecting the stack.
 - i. Hold the cut out segment by the mobile crane.
 - j. Cut out the 100mm wide connecting prices.
 - k. Lower by crane the cut segment to ground level.
 - l. Repeat process as g. to k. until the whole steel stack is removed.
- B. The chimney supporting steel structure and the superstructure shall be removed as per the procedure below:

Steel structure removal sequence:

- a. Top plate.
- b. Top beam.
- c. Bracing / tie bars.
- d. Middle beam.
- e. Corner posts.
- f. Holding down bolts.
- g. Base plate.

All bolts & nuts shall be maintained tight when steel members removal is carried out. During the cutting of the steel member appropriate hanging equipment shall be deployed for the prevention of free falling of the cut member.

A2.7

DEMOLITION OF THE GAS TURBINE HOUSE

- a. Equipment, cables and piping will be removed, together with site decontamination as per procedure A2.8 before the commencement of the demolition work.
- b. Steel platform and stairway will be erected inside and outside around the gas turbine house to assist demolition work at height.
- c. Removal work will be conducted from top to bottom. The cladding, fittings and associated materials of the gas turbine house will be removed first then the supporting structure lastly.
- d. Mobile crane will hold the cladding or the materials for removal. These materials will be disconnected by pneumatic tools as far as possible. If it cannot be removed by pneumatic tools, then flame cutting will be used as a last resort.
- e. An area will be demarcated for temporary storage of the scrap materials. These materials are essentially scrap iron and will be removed as soon as the quantity is enough to load a crane lorry fully. These materials will be sold under a framework agreement between CLPP and a contractor for recycling.
- f. Subsequent to the completion of removal of cladding follows the removal of the steel structure. Again, the work will be commenced from top to bottom.
- g. The segment to be cut will follow strictly the sequence and the size recommended by a Registered Structural Engineer. The work will be supervised by the Site Engineer.
- h. A mobile crane will hold the steel segment with steel wires.
- i. The steel segment will be disconnected by pneumatic tools as far as possible. If pneumatic tools cannot be applied, the flame cutting will be employed.
- j. These materials will be removed as per step e. above. The total quantities resulting from steps e. plus i. are estimated around 40 sq m in total, requiring around 10 lorry-trips for the removal of these materials from site.

A2.8

SITE CLEARANCE AND DE-CONTAMINATION

The Purchaser shall regularly clear away and remove from the Site all waste, scrap or deleterious material accruing from his operations. The Purchaser shall be responsible for clearance of the oil inside the lubrication and jacking oil system, coupled with the fuel oil within the boundary of the works. The Purchaser shall be responsible for the site clearance, de-contamination,

disposal of the waste oil and all the contaminant in accordance with the legislative regulations and SHE and General site Work requirements presented in *Annex B*.

A2.9 **RESTORATION OF SITE**

A2.9.1 *Bund Wall of Unit Transformer, Generator Transformer and the Plinth of the Ancillary Equipment Beyond the Gas Turbine House (see Figure A1.4)*

- a. The bund wall of unit transformer, generator transformer and the plinth of the ancillary equipment such as the gas/oil cooler will be removed by a hydraulic breaker. The hydraulic breaker will be covered by a blanket for the suppression of noise and dust. In addition, spray will be applied to the area to mitigate the blowing of dust.
- b. The bottom of the bund wall will be removed to a depth about 100 mm below ground level.
- c. A total of 5 - 10 m³ of C&D waste is expected for CG5 and CG6. The waste will be removed by a grab lorry as soon as the quantity is sufficient. A plastic cover will be put on the top of the lorry and spray will be applied to the waste for dust suppression.
- d. The area will be backfilled and restored to ground level with cement.

A2.9.2 *Plinth of the Gas Turbine House and Chimney*

- a. A small protrusion in the area will be removed by hydraulic breaker. Dust and noise suppression procedure will follow A2.9.a above.
- b. A 24" height bund wall will be built at the edge of the plinths of the gas turbine house and chimney with bricks (see *Figure A1.5*)
- c. Drainage pipe will be installed through the bricks to direct water collected inside the area to the surface drain in the vicinity. The area will be backfilled by a 100 mm height of stones of 5mm size at the bottom and a water permeable plastic sheet will be covered on the top of the stone layer to facilitate drainage whilst retaining the soil. Then the space will be back-filled with sand and soil.
- d. Vegetation will be planted in the area to create a flowerbed.