Project: **Clapham Common Vent Shaft Project –**

Redundant Vent Shaft Fan Dismantling & Removal

Clapham Common Vent Shaft

Date: September 2010 – November 2010

Programme: 3 Months

Overview: Asbestos Removal inc all Redundant Cable and Electrical Equipment

Dismantling & Removal of All Redundant Plant including Fan, Controls and Ducting

All cleaning to Ducts

Asbestos Enclosure Details:

Type of Enclosure Required:
Mainly for (Non-Asbestos) Dust suppression purposes.

Volume of Enclosure:
Varies - 54m3 in lower vent shaft, 126m3 at the top.

Type of Air Extraction:
2300 NPU 's

Type of Air Lock System:
3 Stage plus bag lock





Equipment Used:

(i) 110v Reciprocating saw
(ii) Cutting using Oxy Propane burning equipment
(iii) Unbolting individual components.
(iv) 110v Task lighting
(v) 110v Power Leads
(vi) Killa-Sprayer
(vii) Sack Trolley/Wheelie Bin
(viii) 2-Way Radios (2 No)
(ix) Spanners, Sockets and ratchet
(x) Hydraulic Cable Croppers
(xi) All power tools will be PA Tested, with certificates kept on site for audit purposes.

Training of Operatives:

- LUL Entry Permit / LUCAS (all persons)
- First Aid (one person at all times)
- Fire Awareness (at least one in four staff)
- The team will be managed by a “Site Person in Charge” (SPC)
- Manual Handling (all persons)
- CSCS/CCDO Accreditation
- CPCS accreditation for the slinger

Operatives were issued with the following PPE:

- Blue Overalls – Type 5/6 'Tyvek' disposable with elasticated hood, cuffs and ankles EN 530
- Welding Goggles to EN 166 & EN 169 (Shade 5) (For staff working with burning gear)
- Flame retardant overalls and Gauntlets to EN531 (A, B1, C1 & E2) & EN470-1 (For staff working with burning gear)
- Rigger Gloves (for heavy duty works) – such as carrying waste/plant.
- Latex free inspection gloves for intricate works.
- Half mask fitted with Combination filters SR 299-2 ABEK1HgP3
- Safety footwear – EN345-1
- Regulation LUL High Visibility vests – EN471:1994
- Hard Hats – EN 397:1995
- Eye Protection – EN166F
- Safety Goggles – EN166 1B 34 (Mandatory for staff using 110v breakers)
- Disposable earplugs (minimum SNR 23dB) (Mandatory for all staff when 110v breakers are being used) Spares to be available on site for other contractors in the vicinity of the worksite
- Anti-vibration gloves – EN10819 & BS EN 388:1994 (Mandatory for staff using 110v breakers)

Methodology for Asbestos Removal:

Works within the enclosure was undertaken by Econ's asbestos staff under the control of at least one asbestos supervisor. Staff wore full face powered respirators.

The known asbestos materials within the vent shaft are woven chrysotile blankets fixed to timber frames. Prior to their disturbance, the walls of the vent shaft were vacuumed to remove as much accumulated dust as is practicable. During Phase 1 these panels were removed up to the underside of the louvers.

The removal of the blanket will be undertaken by spraying the blanket with Incorez surfactant and then cutting the blanket from the timber frame in easily manageable sized section using a sharp retractable bladed knife whilst shadow vacuuming with a H-Type vacuum.

Cut sections of blanket were placed directly inside a red asbestos bag. Once all the blanket had been bagged the wire netting was cut and rolled up and bagged, then the slag wool insulation was removed as contaminated waste, then timbers to which they were fixed were removed and cut using a hand saw. Timber was cut to a size which allows for the cut sections to be bagged.

Methodology for Demolition:

Fans were cut into manageable size sections and lifted out. Prior to these works being undertaken works to install the fire wall in the adits were complete.

We used a 3.5 tonne rated electric hoist at ground level and at the next level of the shaft a 2 tonne lifting beam was constructed to which a 2 tonne SWL beam trolley was attached to the existing lifting beam (SWL >2t). From these a 2t rated block and tackle was attached using the proprietary hook (part of the block and tackle).

Individual parts of the fan housing was slung from the block and tackle by an experienced slinger, using 2t web straps. That part of the fan housing was then separated from its components by one of three methods:

(xii) Cutting using 110v reciprocating saws.
(xiii) Cutting using Oxy Propane burning equipment
(xiv) Unbolting individual components.

The method selected was the most appropriate for the part of the fan housing being removed.

Once separated the fan part was lifted using the block and tackle. Once free of obstructions the lifting tackle was moved along the lifting beam and then lowered onto a pallet truck or 4 wheeled trolley at the shaft's "dog leg" where it was transported to below the second lifting beam and lifted again to ground level and transported out of the vent shaft to a 7.5 tonne lorry where it was lifted onto the bed by operatives carrying out 2 man lifts. Heavier items of plant such as the motors were lifted onto the bed of the lorry using a engine lift or alternatively an "A" frame.

A similar method of removal will be used for the motor (which was removed whole after slinging and retaining bolts have been removed) and the fan itself.
