

## **Operation & Maintenance Requirements**

- D.1. EGYPTROL shall review, comment or develop procedures to operate the various equipment and systems. Such procedures shall address the following tasks among others:
- a) Start-up and shut down of systems and equipment
  - b) Normal operating procedures
  - c) Operating routines and inspections; and
  - d) Duties of maintenance, planning and quality assurance.
- D.2. EGYPTROL shall review, comment or develop corrective maintenance procedures. Such procedures shall cover, among other circumstances:
- a) Process for requesting, prioritizing, and scheduling corrective work orders
  - b) Parts inventory program and purchasing guidelines
  - c) Establishment and maintenance of equipment history files and completed work for each major piece of equipment or system component.
  - d) Reports to track the progress of work orders and to compile and analyze outstanding corrective work order; and
  - e) Compliance with environmental regulations, sanitary and safety laws, applicable codes during repairs and maintenance activities.
  - f) To minimize unscheduled service interruptions due to equipment failure.
  - g) To achieve optimum life expectancy of the equipment and system,
  - h) To remedy unfavorable conditions found during inspection, before major repair or replacement becomes necessary. The procedures and frequencies for performing the preventive maintenance tasks shall be based on, but not be limited to, the following factors:
    - i. Recommendations of original equipment manufacturers
    - ii. Applicable code and permit requirements
    - iii. Equipment operating hours; and
    - iv. Operational and load requirements.

The preventive maintenance program shall consist of periodic tasks which shall include the following tasks:

- a) Lubrication
- b) Filter replacements
- c) Inspection of boilers, steam turbines, and other equipment
- d) Belt adjustments or replacements
- e) Equipment alignment, vibration and balance checks
- f) Bolt, nut and screw torque checks

- g) Operation of safety systems and controls; and
- h) Safety inspections and additional items identified at regular intervals.

D.4. (i) EGYPTROL shall review, comment or develop an emergency action plan

design to respond to accidents and emergencies relating to the Plant. The Following, among other procedures, shall be included in the plan:

- a) Procedures to minimize personal injury and property damage
- b) Procedures to restore the Plant to a safe operating conditions
- c) Maintain an updated list of EGYPTROL 's and Owner's telephone and fax numbers;
- d) Alternative operating procedures of important valves and switches,
- e) Immediate reporting of emergency conditions to Owner, or assignee, specifying the nature of the emergency, the causes if known and the steps taken to respond; and
- f) Submission of a written incident report to Owner.

ii) In the event of an accident or emergency, EGYPTROL shall respond in accordance with the following priorities:

- a) First : to minimize personal injury
- b) Second : to minimize property and environmental damage
- c) Third: to restore the Plant to normal operation soon.

D.5. EGYPTROL shall review, comment or establish a training program designed to ensure that all employees maintain and enhance the skills necessary to perform assigned duties. Goals of the training program shall include;

- a) Training on the operation, maintenance procedures of all plant equipment and their interrelations; and
- b) Training on the safety, security and emergency procedures and their systems in the Plant.

D.6. EGYPTROL shall maintain records of equipment inspections, operational checks and financial transactions relating to the Plant. EGYPTROL shall keep such records, and all maintenance and repair reports, preventive maintenance records, and all supporting documents available on the Premises. The data to be maintained shall include;

- a) Equipment breakdown and repair reports

- b) Operating log
- c) Work order backlog status and reports
- d) Electric loads and peaks
- e) Fuel consumption
- f) Water consumption
- g) Water testing results
- h) Accident reports; and
- i) Water and air emission data

- D.7. EGYPTROL shall maintain records of equipment inspections, operational checks and financial transactions relating to the Plant. EGYPTROL shall keep such records, and all maintenance and repair reports, preventive maintenance records, and all supporting documents available on the Premises. The data to be maintained shall include;
- D.8. EGYPTROL shall prepare, and submit to Owner, daily, monthly and annual status reports, which shall be in mutually agreed upon formats. At the end of every month, EGYPTROL shall make a copy of the system performance data as recorded and furnish the same to Owner for purpose of record.
- D.9. EGYPTROL shall promptly report to Owner any serious injury or accident to person or property which occurs in the performance of the Service
- D.10. EGYPTROL shall respond in a timely manner to written requests for plant information from Owner in accordance with this Agreement.