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**PROPOSAL FOR THE DESIGN, SUPPLY, INSTALLATION AND
COMMISSIONING OF CLOSED CIRCUIT TELEVISION (CCTV)
SYSTEMS AT THE ORYX ENERGIES DEPORT**

EXECUTIVE SUMMARY

Assuretec (T) Limited is presenting a proposal for the Closed-Circuit Television(CCTV) to be installed at the Oryx Energies deport, the details that have led to this proposal have been collected after our technical team inspected and surveyed the site.

The Oryx Energies deport, is a medium complex facility which will require a state of art surveillance system which will not scare away customers but make them feel safe and welcomed, and in addition to that the facility requires.

Assuretec (T) Limited's proposal is aiming at providing security system that will secure the facility from all kind of intrusion with the ultimate aim of not only scaring away the intruders but also making sure any kind of evil deed doesn't go unaccounted for.

Assuretec (T) Limited is proposing a surveillance system which contains high end cameras; these cameras will cover the sensitive locations leaving no blind spots. The Proposed [video management software](#) (VMS) to be used supports large numbers of simultaneous users with diverse security requirements, this feature will be critical during the operation of the Oryx Energies deport.

This proposal will ensure that the Oryx Energies deport, are secured all the time and it will also ensure that the day to day operations are offered

1.PROPOSED CLOSED CIRCUIT TELEVISION (CCTV) TECHNICAL DESCRIPTION

1.1 Proposed areas to be monitored.

I. Pressure testing Area

| PROPOSAL | REASON | EXECUTION |
|--------------------------|--|---|
| 1pc of HD bullet cameras | To capture and record all activities To capture the view of all the perimeters. | Cameras will be mounted at the top opposite to pressure testing area. |

II. The Pasting Machine Area

| PROPOSAL | REASON | EXECUTION |
|----------------|---|---|
| 1pc of cameras | To capture all the movements and activities at the area | cameras will be mounted inside the hall to face the area. |

III. The Painting Booth

| PROPOSAL | REASON | EXECUTION |
|----------------|---|---|
| 1pcs of camera | To capture events happening on the painting area. | This camera will be mounted on the side of this area. |

IV. Finishing Line

| PROPOSAL | REASON | EXECUTION |
|--------------------------|--|---|
| 1pc of wide angle camera | To capture events happening on the finishing area. | This camera will be mounted on the angle of building. |

V. Loading and Offloading Bely.

| PROPOSAL | REASON | EXECUTION |
|----------------|---|---|
| 2pcs of camera | To monitor activities to the loading and offloading area. | Camera will be mounted at each angle at the entrance of validation office to face offloading area |

VI. The Storage Area

| PROPOSAL | REASON | EXECUTION |
|----------------|--|--|
| 2pcs of camera | To monitor all activities at the storage area. | 2 cameras will be mounted at V shape to cover the all area at storage. |

VII. The Entrance Gate

| PROPOSAL | REASON | EXECUTION |
|---------------|--|--|
| 1pc of camera | To monitor the activities on the Entrance incoming and outgoing vehicles | 1 camera will be mounted at the angle of validation house to face the entrance gate. |

2.CCTV REQUIREMENTS DESCRIPTIONS

These technical Description cover the requirements for Designing, Engineering Manufacturing, supplying, Delivering, Installation, testing and Commissioning IP based CCTV system.

APPROVALS/CERTIFICATION

All equipment to be supplied shall have quality compliance and shall be UL/CE/EN/LPCB/FCC approved/certified and shall be marked as such.

SCOPE OF WORKS

The scope of works shall cover fully networked system which consist but not limited to the following

- (a) Cabling Infrastructure
- (b) Installation of Closed Circuit Television (CCTV) System

A. Cabling Infrastructure

The work included under this section consists of supply all labor, equipment, materials, and performing all operations necessary to complete the installation of the structured cabling system in compliance with standards, and specifications. This will include the following

- Multiservice network cabling for Video and Data for HDCVI CCTV System popularly known as structured cabling system for transmission of Video and Data as well as signals via the same type of cable and outlets.
- Perform permanent link or channel testing and certification of all components.
- Testing and commissioning and furnish testing results.

B. Installation of Closed Circuit Television (CCTV) System

This will involve supply, installation, commissioning and testing of the state of art CCTV system. Assuretec (T) Limited is proposing a high definition HDCVI technology CCTV system, this is a state of art and new technology which is cost effective.

All the equipment shall be new and of the prevailing/current standard production of the manufacturer at the time of the implementation of the Project. We will not supply any equipment that is likely to be declared end of sale within one year of the date of the supply of the said equipment.

Assuretec (T) Limited shall supply the latest version of software, providing all the features enumerated in this specification, at the time of award of contract. The Proposed Equipment shall be compatible with other Network vendor's equipment. The principal vendor of products/equipment proposed to be supplied under this project shall have relevant quality certifications such as ISO 9001 and all the products shall be certified by the original manufacturers.

3. STANDARDS AND LEGAL REQUIREMENTS

All equipment shall be in accordance to British and European standards, for closed circuit TV - CCTV (BS EN 50132, BS 8418 and BS 7958).

4. SCOPE OF WORK

The work covered in this section is for Supply, Installation, Integration, Testing and Commissioning of Video surveillance system, comprising of the HDCVI technology cameras of different types associated software and hardware assembly, Digital Video Recorder, electrical interfaces and operation from security Control Room and provision for monitoring from remote location if required through IP Network, Network infrastructure and Display systems. The design of the system shall be modular, based on open standards, scalable, high availability and maintainability.

The scope of installation, commissioning & system integration shall mean to install, configure and integrate the system adhering to essential security measures.

The cameras Proposed to be supplied under this contract shall have a wide coverage so as to ensure that there are no blind spots during surveillance and shall be installed in such a manner that each camera should be in the viewing area of another camera so as to avoid any tampering by the threats.

All the cables used in the networking shall be CAT-5E/6 and other electrical cable shall be of BS standards

The system shall be compliant to global standard ONVIF (Open Network Video Interface Forum) or PSIA (Pica Security Interoperability Alliance's) for the interface of network video products.

The CCTV system shall consist but not limited to the following major components

- Cameras
- Recording and storage devices
- System Software
- Monitoring devices

The system shall be installed to serve the following main functions:

- To enable the operator or any other authorized personnel to monitor the State house compound and movement of staff and visitors within the premises.
- To record and store all events in a central and accessible database within a specified time.
- Monitor the premises from remote locations via LAN or WAN if required.

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5 . CAMERA

Two types of camera series are proposed and shall be installed according to the area of surveillance. These shall be indoor cameras and Outdoor cameras with High Definition.

The outdoor cameras will have mounted on the poles so that they can cover the required location well, for each camera on the perimeter we will have another camera covering it so that it can be protected from any tampering threats.

Camera poles and brackets shall be maintenance free and manufactured in accordance to BS 5649. Camera brackets and towers shall take into account the maximum load to be carried and the height at which equipment is required to operate. Proximity to overhead power distribution cables shall be avoided

The following environmental considerations shall be taken into account before erecting camera brackets and towers:

- Rigidity, taking into account potential wind velocity, equipment type, mounting and fixing positions
- Electrical interference and the possibility of damage by lightning. Installations shall comply with BS 6651
- Dust, airborne particles, corrosion and contamination

6. MOUNT

Mounts shall be suitable for indoor and outdoor mounting units designed for fixed cameras or camera housing installations. The mounts shall be of the same make as housing.

Mount shall have following minimum features:

- a). Feed-through design for cable management
- b). Versatile design
- c). Adjustable mount heads
- d). Corrosion-resistant finish

7. RECORDING AND STORAGE DEVICES

7.1 DIGITAL VIDEO RECORDERS

The Digital Video Recorder (DVR) shall be an audio and video network system with 8/16/32 channels (thereof 32 HD channels) for streaming, recording and playback of several video channels. The DVR shall have a standard version with 32 channels, which shall be able to be expanded by 16 IP based channels using a router or a switch

Furthermore, the DVR proposed shall be a high-resolution, digital, multi-channel real-time security recording system with up to 32 digital camera inputs according to industry standards. It shall offer top quality video recording from QCIF to D1 (MPEG-2/4) and higher resolutions (JPEG/H264) for High Definition technology. Direct recording of the HD video stream (MPEG-2 or MPEG-4) on the IP server within the digital matrix, shall be possible using various types of hardware and software decoders. The DVR shall be capable of manufacturer-independent recording of JPEG images and be fully ONVIF certified for recording of any camera supporting the ONVIF protocol. The system shall be capable of Audio recording for all channels in connection with the manufacturer's IP cameras, independent of the frame rates,

shall be possible. Triplex functionality shall be achieved, ie, simultaneous recording, playback and transmission. The DVR shall be capable of recording on internal hard disks or external storage systems (option). Configuration at the device or via LAN shall be possible. Extensive operation of the device via LAN using the analysis and operation software remote control software suites. Automatic display of system messages at the system directly (VGA monitor) or via network. Drive bays at the front of the unit for hot-swap convenient and fast expansions or replacements. Optional recording in RAID-1, RAID5 and RAID6 for the internal hard disks. Linux operating system on internal flash ROM.

Features:

- Up to 32 High definition video channels (Plus 16 IP based video channels)
- PentaplexPlus functionality: Simultaneous real-time recording, streaming, remote access, live display and playback
- Supported video formats: MPEG-4, MJPEG, H.264
- Supported audio formats: MPEG-1 Layer 2, G.722
- Bit rate up to 6 Mbps
- Resolutions: SD, HD (720p, 1080i, 1080p) up to 8 MP
- Frame rate per channel up to 25 fps
- Evaluation via Ethernet
- Integrated management software
- Integrated motion detection for IP cameras
- Live browser access
- Exchangeable hard disks: up to 10x 2,5“HDDs
- Easy-Change hot-swap functionality in case of HDD failure
- Linux operating system on Flash memory
- DIN EN 50130-4 compliant

Further Specifications

Hardware-Watchdog, real-time clock, automatic summer/winter setting, removable connection panel, sabotage contact/cover contact, built-in temperature sensors (internal and external temperature), temperature-controlled fan (DFC – dynamic fan control), front panel with integral air filter (can be changed without tools), 10x drive bays at the front of the unit

Retention of video recording

Regardless of the configuration of the system and camera / audio recording requirements, each system must be fully populated with the maximum available storage capacity (10TB). This will allow for sufficient storage as per the customer's specific set of requirements

8.MONITORING DEVICES

8.1 MONITOR

HIGH-RESOLUTION LARGER VIDEO DISPLAY UNIT

These display units shall be used for displaying multiple cameras in conjunction with viewing workstation. One such display unit shall display minimum 32 cameras on a single unit. Selection of these cameras shall be as per software specifications.

Video display unit shall be LCD type. LCD unit should have the following minimum features

- Screen Size: 127.5cm (50”) when measured diagonally on screen
- Resolution: Full HD 1920 x 1080
- Dynamic Contrast Ratio: 15,000:1
- Viewing angle (H/V): 170°/ 170°
- Response Time: 6ms
- Sound Output(RMS): 10W x 2
- Mounting: Wall
- Display control: On screen display menu for adjusting monitor settings include adjustable brightness, contrast, sharpness, color and audio
- Built-in stereo audio amplifier and speakers
- Built-in carry handles on each side