SECTION 281300 - ACCESS CONTROL SYSTEM

1.1 QUALITY ASSURANCE

A. Electronic Data Exchange: Comply with SIA TVAC.

B. The Contractor shall comply with the latest NEOM IT and security standards, guidelines and equipment specifications to ensure complying with the standardization being implemented by NEOM.

C. The contractor shall comply with the following NEOM standards and guidelines:

1. NEOM_SDD_Passive_Network_Technical_Specifications_Document
2. NEOM Physical Security Standard
3. NEOM Security Systems Requirements

1.2 DESCRIPTION

A. The following specifications sections are preliminary to communicate the design intent and not to be used for construction/procurement purposes.

B. The provided design is conceptual and shall be developed by the Contractor at the next design stage.

C. Access control system shall interface with the fire alarm system and other security and building service systems. These interfaces shall be hardwired where required by code. Biometric Readers shall be provided to secure the technical rooms as required by security NEOM standards.

D. The ACS shall be IP-based system.

E. Contractor shall ensure that all selected equipment models, brands, finished, etc. are coordinated with and approved by all involved stakeholders' (e.g. NEOM, concerned authorities, etc.) standards, guidelines, and requirements.

1.3 OPERATION

A. Single database for access-control and credential-creation functions.

B. Distributed processing.

C. Field Equipment: Controllers, devices, sensors, and controls.

D. False-alarm reduction.

E. Error detection.

F. Data line supervision.

1.4 EQUIPMENT

1. Access Control System headend (Software and Hardware)

2. Readers
3. Controller
4. Cables.
5. The ACS equipment and hardware shall be fully compatible with the provided headend
6. All equipment and brands proposed by the contractor shall be fully in line with the NEOM standards, guidelines, and requirements.

1.5 INSTALLATION

A. Wiring Method: In raceway.

1.6 FIELD QUALITY CONTROL

A. Testing Agency: Contractor engaged.

END OF SECTION 281300

SECTION 282300 - VIDEO SURVEILLANCE

1.1 QUALITY ASSURANCE

A. Electronic Data Exchange: Comply with SIA TVAC.

B. All system components such as cameras, etc. shall be ONVIF compliant.

C. All cameras shall be vandal resistant.

D. Comply with MOI and Employer requirements.

E. The Contractor shall comply with the latest NEOM IT and security standards, guidelines and equipment specifications to ensure complying with the standardization being implemented by NEOM.

F. The contractor shall comply with the following NEOM standards and guidelines:

1. NEOM_SDD_Passive_Network_Technical_Specifications_Document
2. NEOM Physical Security Standard
3. Security Systems Requirements

1.2 Description

A. The following specifications sections are preliminary to communicate the design intent and not to be used for construction/procurement purposes.

B. The provided design is conceptual and shall be developed by the Contractor at the next design stage.

C. A CCTV system shall be provided in the project to ensure continuous visual monitoring and surveillance. Fixed & PTZ cameras and ANPR (Automatic Number Plate Recognition) cameras shall be provided. The objective shall be to present the best possible images to the security operators.

D. All cameras shall be native IP cameras providing high resolution, high frame rate video feeds with the ability to stream live video to any authorized workstation connected to the network.

E. An intelligent video analytics system (IVA) shall be provided to fulfill the security operational requirements.

1.3 MATERIALS

A. CCTV servers, headend equipment and storage shall be located in the server room.

B. The VSS system shall interface with access control system, the fire alarm system and other building services systems.

C. The VSS cameras shall be fully compatible with the headend.

D. All equipment and brands proposed by the contractor shall be fully in line with the NEOM standards, guidelines, and requirements.

E. Fixed Cameras.
1. Minimum 5-Megapixel Resolution
2. Shall be powered via POE.

F. PTZ Cameras.
1. Minimum optical zoom of 30 X
2. Minimum resolution of 2MP

G. ANPR Cameras.
1. 1/1.8" CMOS progressive scan CMOS image sensor.
Camera minimum illumination shall support at least Color: 0.001 lux; B/W: 0.0001 lux.

H. Smart Poles
1. Housing CCTV cameras, WiFi access points, industrial switches, etc.

1.4 INSTALLATION

A. Wiring Method: In raceways.

1.5 FIELD QUALITY CONTROL

A. Testing agency: Contractor engaged.

END OF SECTION 282300

SECTION 283111 – DIGITAL ADDRESSABLE FIRE-ALARM SYSTEMS

1.1 SUMMARY

A. System Description: UL-certified addressable system.

1.2 QUALITY ASSURANCE

A. Quality Standard: NFPA 72, NFPA 101 and SBC codes.

B. Installer Qualifications: Certified by NICET as fire-alarm technician.

C. The Contractor shall comply with the latest NEOM standards, guidelines and equipment specifications to ensure complying with the standardization being implemented by NEOM.

1.3 SYSTEMS OPERATIONAL DESCRIPTION

A. The following specifications sections are preliminary to communicate the design intent and not to be used for construction/procurement purposes.

B. The provided design is conceptual and shall be developed by the Contractor at the next design stage.

C. Signal initiation from:

1. Manual stations.
2. Heat detectors.
3. Smoke detectors.
4. Combined smoke/heat detectors.
5. Automatic sprinkler system water flow.
6. Fire-extinguishing system operation.
7. Fire standpipe system.
8. Dry system pressure flow switch.
9. Fire pump running.

D. Signal initiates the following actions:

1. Continuously operate alarm notification appliances, including voice evacuation notices.
2. Identify alarm at the fire-alarm control unit, connected network control panels, off-premises network control panels, and remote annunciators.
3. Transmit an alarm signal to the remote alarm receiving station.
4. Unlock electric door locks in designated egress paths.
5. Release fire and smoke doors held open by magnetic door holders.
6. Activate voice/alarm communication system.
7. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
8. Activate smoke-control system at firefighters' smoke-control system panel.
9. Activate stairwell pressurization systems.
10. Close smoke dampers in air ducts of designated air-conditioning duct systems.
11. Activate preaction system.
12. Activate emergency lighting control.
13. Activate emergency shutoffs for gas and fuel supplies.
14. Record events in the system memory.
15. Record events by the system printer.
16. Indicate device in alarm on the graphic annunciator.

E. Supervisory signal initiation by:

1. Valve supervisory switch.
2. High- or low-air-pressure switch of a dry-pipe sprinkler system.
3. Alert and Action signals of air-sampling detector system.
4. Elevator shunt-trip supervision.
5. Fire pump running.
6. Fire-pump loss of power.
7. Fire-pump power phase reversal.
8. Independent fire-detection and -suppression systems.
9. User disabling of zones or individual devices.
10. Loss of communication with any panel on the network.

F. Trouble signal initiation by:

1. Open circuits, shorts, and grounds, in designated circuits.
2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
3. Loss of communication with any addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
4. Loss of primary power at fire-alarm control unit.
5. Ground or a single break in fire-alarm control unit internal circuits.
6. Abnormal ac voltage at fire-alarm control unit.
7. Break in standby battery circuitry.
8. Failure of battery charging.
9. Abnormal position of any switch at the fire-alarm control unit or annunciator.
10. Voice signal amplifier failure.
11. Hose cabinet door open.

G. System Trouble and Supervisory Signal Actions: Initiate notification appliances and annunciate at fire-alarm control unit and remote annunciators. Record the event on system printer.

1.4 PRODUCTS

A. Fire-alarm control panels.

B. Manual Fire-Alarm Boxes: Double action.

C. System Smoke Detectors: Base mounted, self-restoring, with integral visual-indicating light and remote controllability from fire-alarm control unit.

D. Smoke Detector with sounder base: smoke detector with piezoelectric sounder.

E. Heat Detectors: Combination type/ Continuous linear heat-detector system.

F. Notification Appliances:
1. Horns and LED strobe lights.

G. Magnetic Door Holders: Wall- or floor-mounted units.

H. Graphic annunciator.

I. Addressable Interface Device.

J. Digital alarm transmitter.

K. Welded wire mesh device guards.

L. Network communications for fire-alarm system interconnection and for connection to building management system.

END OF SECTION 283111