SECTION 4

THE SITE AND ITS COMPONENTS

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SECTION 4 - THE SITE AND ITS COMPONENTS

1. General

The site for Light Vehicle Radiography inspection facility shall be designed as a comprehensive unit comprising of the following main functions:

- Control and Operation facility
- Radiography facility

Drawings No. 143-07-01-01 shows the plans for the site.

1.1 The Light Vehicle Radiography Facility is a building site housing the conveyor, Radiography system, utility rooms, offices, workers and personal of the Radiography Facility.

1.2 Site Command and Control components include:

- Entry/ Exit of vehicles to / from the site (roads, signs, etc).
- Entry/ Exit of pedestrians to / from the site (sidewalks, gates, wickets etc.).
- Safety and Security systems
- License plate readers

1.3 Radiography facility comprising of:

- Devices and equipment for light vehicle X-Ray screening, including:
- Building for Operators, Image analysts, supervisors and control positions
- Service, Maintenance, Equipment Storage and Managerial functions.

1.4 Site development, including:

- Roads and sidewalks
- Parking areas for use of Light vehicles

1.5 Sustainable construction

Site design and implement structures will be based on sustainable construction (“green”) principles, using process that is environmentally responsible and resource efficient throughout building’s life-cycle as formulated in the Israeli regulations.

1.6 Communication

Regarding communication network, it's emphasized that according to IT security requirements a total separation between the Customs communication network ("red") and the radiographic system communication must be implemented in the site.

1.6.1 As result of the above Customs ("red") and site communications cabinets will be located at different rooms.

1.6.2 The Communication room at the site shall be secured. Customs rooms will be secured with a biometric system as access control.

1.7 Power/ Transformation

- It's emphasized that rooms containing these elements shall be planned as far as possible from any occupied offices.
- UPS (TBD) shall be installed in the communication room.

1.8 Fire detection and extinguishing

- Fire detection equipment, as required by the Fire local Authorities and IAA, will be installed.
- A fire-fighting position will be set up in area, including extinguishers and hydrant/hose to extinguish fire with water, as well as all other tools required at such a positions.

1.9 The following sections presents a general description of the parts listed above, in accordance with the operational procedures described in section 3 and section 6.

1.10 Generally, it's emphasized that site design will present a direct and safe traffic from one sub area to the other (Entrance / Radiography / Pit / Exit, with none, or at least minimal, crossing of roads and it will allow rapid evacuation of the site in emergency situation (free passage from each area)

1.11 It's emphasized that units sizes (office area, etc.) described in the Annex are maximum sizes. There is no possibility of extending the facility size.

Note: At the PDR, the contractor will present for client's approval, the updated site & building design drawings according to Client's requirements

2. Site Entry and Exit-(to be planned and executed by IAA)

2.1 General

2.1.1 Generally Customs employees, visitors and vehicles for customs and security inspection will reach the site through the border terminal area (managed by IAA).

2.1.2 Entrance of all vehicles from the main road will be directed to the “pre-inspection” parking lot.

2.1.3 All passengers and baggage will be unloaded from the vehicle and go through customs procedure at the arrivals hall.

2.1.4 Exit from the Customs Inspection Site will be through Jorden River-Terminal's Exit gate (entrance to Israel, operated by IAA).

2.1.5 All the necessary information regarding the process of people and vehicles in the site are described in details in section 3.

2.2 Vehicle size to be inspected at radiography site

2.2.1 Site design: entrance and exit lanes, as well as all traffic routes, radiography enclosure entrance size, must take into account the following sizes of vehicles that enter the site, according to the required examinations types: radiography. The inspected vehicle shall be no more than 6.5[m] long.

3. Parking lots-(to be planned and executed by IAA)

3.1 Parking lots within the facility's area enclosed by site will be newly marked.

3.2 The parking lot designated for light vehicles are:

3.2.1 Pre-Inspection parking lot - in front of the Radiography installation;

3.2.2 Pre-Clearance parking lot, designated for vehicles waiting until a decision regarding is made, directing it to next stage. (Exit / Manual/ Other);

3.2.3 Manual inspection area, designated for vehicles suspected of contraband materials that require manual examination (concealed substances and armament)

3.3 Appropriate gradients and drainage means will be provided.

3.4 The parking lots will be painted with marking lines, clear numbers and directions marks to the numbered lanes/bays.

3.5 Design of the parking will provide easy access of vehicles driving into/out of the parking and will not require long backwards driving.

3.6 The following equipment will be installed in the parking lots

3.6.1 Loudspeakers for the public announcement (PA) system.

3.6.2 LPR cameras.

3.6.3 TV cameras surveying the parking lots; part of safety and security CCTV system

3.7 The area of the parking lots, including access and maneuvering space, should be constrained to the available area as planned in the Annex.

3.8 Emergency passages will be designated in order to let emergency vehicles enter and exit from each area in case of emergency or when traffic is blocked.

4. Radiography facility

4.1 General

4.1.1 The Radiography facility will comprise of the following parts, each described here and after:

4.1.2 Radiography conveyor

4.1.3 Radiography system, including system operation, service and storage rooms;

4.1.4 Technical rooms and electronic equipment section;

4.1.5 Offices, including team room;

4.1.6 Service rooms: Toilets, showers and kitchenette;

4.2 Radiography Conveyor System

4.2.1 The fixed radiography conveyor system will be built according to safety standards and will include a concrete enclosure with radiation shielding doors on each side (entrance and exit doors).

4.2.2 Within the enclosure the required safety accessories will be installed, including cameras and video equipment as well as diverse sensors in order to assure safe operation at all times.

4.2.3 Equipment

4.2.4 The following will be installed at the entrance or inside (as per final plans) the enclosure:

4.2.4.1 Readers:

a. License plate number (LPR)

4.2.4.2 Sensors and devices:

- Radiation safety devices and interlocks as described in this document and as required by the Israeli Authorities
- Safety devices (cameras, fire detectors, etc)

- Height and width detection sensor (safety means)
- PA – for system operator's instructions to drivers

4.3 Radiography System Area – Technical area

4.3.1 The radiography facility will include the rooms and areas essential for the equipment comprising the system.

4.3.2 This includes radiography tunnel for the dedicated screening equipment (source, detector array, etc.) and all additional systems, conveyor system, as well as storage, maintenance and service rooms as defined by the Contractor and needed for a steady and efficient routine operation and service and maintenance of the whole system.

4.3.3 Technical rooms – this includes all rooms with electrical equipment, as per contractors plan. These include:

4.3.3.1 Power/ Electrical - as per contractor’s design

4.3.3.2 Communication room.

4.4 Operational area

4.4.1 Components

The Radiography area designated for screening operation and control is shown in the schematic drawing of that part.

The area comprises of the following types of workstations, each one designated for its specified functions:

a. Radiography system control station:

Two (2) Radiography System Operator workstation (WS) dedicated to the operation, control and supervision of the entire X-Ray screening process (of which one [1] is a standing station).

b. Image Analysis WS (three [3] units, two [2] in the IAW room and one [1] in the pit inspection site)

1. Used by the radiographic image analyzers.
2. Image Training WS (this WS location be coordinated by the planner)

4.4.2 Building

a. Functional classification:
    1. System Operation
    2. Image analysis and training area
    3. Technical rooms, rooms for Electronic equipment
    4. Team room
    5. Service area, comprising:
        - Kitchenette and dining
        - Toilet
    6. Storage and maintenance rooms
    7. System technician office
    8. Shelter room. (As required by Israeli Regulations)
b. Building characteristics
    1. Rigid construction using concrete building blocks, concrete wall, concrete foundations, etc.
    2. Finish, decoration, furnishing and wall coverings will be of a high standard.
    3. The building will be air-conditioned (except the radiography tunnel) – temperature regulated at each zone.
    4. One room (for example the team room) will be built to serve as a shelter in accordance to IDF rules.
    5. The following elements will be installed in the work positions and electrical rooms:
        a. Transparent partitions between the WS, with acoustic insulation.
        b. Lighting units with louvers to prevent glare and reflection on computer screens.
        c. Adjustable lighting level separately adjusted according to area's function.
        d. Shading devices for all outside windows.

4.5 Radiography System Operator Workstation

4.5.1 The workstation's configuration will enable the operator to perform functions as follows:

a. Opening / closing the doors of the radiography tunnel
b. Directing the vehicles (using the PA system) into the required position
c. Instructing the driver to leave the vehicle and supervise him (using the CCTV display) to outer perimeter.
d. Validate that the driver left the radiography tunnel and is in the secured area.
e. Validate radiation safety status – prior and condition to system operation.
f. Link vehicle data and screening image
g. Operate and monitor the radiography process (RCS).
h. Conclude the screening process;
i. Image acquisition
j. Verification of image quality and automatic of its transmittance to image analyst workstation.
k. Instructing the driver to return to the enclosure and leave the enclosure.

4.5.2 The System Operator position is located in operators IAW room and outdoors a before the entrance to the tunnel (standing station)

4.5.3 System operator's WS will comprise of the following elements:

a. System operator's WS room:
    1. Furniture – final design to be approved at the DDR.
    2. Functional and decorative architecture designed while taking into account aspects of functionality and human engineering.
    3. Writing surface, covered with Formica, Formica on outside surfaces, comfortable place for all operational units, keyboards & mouse.
    4. Spot lighting for the writing desk and foot rest (upgraded quality)
    5. Electronic equipment at operator's desk.
    6. Drawers and storage compartments.

7. A high-quality working chair.

b. System operator's WS standing station:

1. Furniture – final design to be approved at the DDR.
2. Functional and decorative architecture designed while taking into account aspects of functionality and human engineering.
3. Writing surface, covered with Formica, Formica on outside surfaces, comfortable place for all operational units, keyboards & mouse.
4. Spot lighting for the writing desk
5. Electronic equipment at operator's desk.
6. Drawers and storage compartments
7. A high-quality working chair.

4.5.4 Radiography System Controls:

1. All controls required to operate the screening process will be installed on / within operator's desk.
2. The entire process will be displayed dynamically in a graphic form and in real time on screens to be set up on the front panel of the console.
3. Telephone- Smart extension
4. PA system

4.5.5 CCTV system (CCTV – R) control and display WS

1. This CCTV system, designed as part of radiography system's safety measures and based on fixed cameras installed at the entrance, the exit, corridor exit and along the length of the enclosure, will display the status of the various stages during the screening process, for example:

- Opening of the shielding doors
- Vehicle movement into the enclosure
- Vehicles stopping at the required position
- Driver leaving the vehicle
- Closing of enclosure doors
- Screening process: movement of the vehicle on the conveyor
- Doors opening

- Driver return to vehicle
- Exit of the vehicle

In addition the CCTV system will display the entire volume of the radiography enclosure to ensure radiation safety (no one was left in the vehicle or the enclosure volume).

2. Switches, screens and supervisory equipment for the CCTV system will be installed on the front panel.

4.6 Image Analysts' Workstation positions (IAW)

4.6.1 Three (3) working positions for image analysis are defined (of which one [1] is a standing position in the pit installation) including one additional infrastructure for Customs computer and tv (at least 55") at each IAW location

4.6.2 Image Analysis Training workstation, identical to the IAW positions will be located at IAW room (office building) see section 5 (Ch. 12).

4.6.3 All the above positions will be fully equipped as per Contractor's proposal and Customer approval at the Design Review.

4.6.4 Furniture for image workstation positions will be of upgraded quality, based on decorative wood furniture, including:

a. Functional and decorative architecture designed while taking into account aspects of functionality and human engineering,
b. Writing Formica surface, Formica sides and comfortable place for the keyboards and mouse
c. Spot lighting for the writing desk and foot rest.
d. Space and infrastructure for at least 2 terminals (monitors, keyboards, etc) and a telephone
e. Drawers and storage compartments.
f. A high-quality working chair.

4.6.5 Specific equipment at each of the three (3) IAW and the one (1) Training position, including:

- Equipment required for performing image analysis, as specified by the Contractor will be installed on / within operator's desk including, at least:
  1. Screens to display the X-Ray images
  2. Data Display monitors, displaying, at least:
     - Vehicle data - previously keyed-into system database and analysis results
     - Customs data (terminal supplied by the Customer)
  3. Functional controls
  4. Keyboards and mouse
  5. Telephone set.
  6. PA
  7. Radiation monitor
- Equipment required for performing image analysis in standing position the pit, as specified by the Contractor will be installed on / within operator's desk including, at least:
  1. Screens to display the X-Ray images (at least 55")
  2. Data Display monitors, displaying, at least:
     - Vehicle data - previously keyed-into system database and analysis results
     - Customs data (terminal supplied by the Customer)
  3. Functional controls
  4. Keyboards and mouse
  5. Telephone set.

     PA

4.7 Operators main room additional equipment

The following devices will be installed in operators' room available and seen by everyone:

4.7.1 Large Screen, wall mounted, designated for display of radiography images generated at every IAW.

4.7.2 Display of the current radiation level (Geiger counter) in the room**.**

4.8 The Team room

4.8.1 The team room is designated for 5 persons. The room will include:

a. Seating furniture for 5 persons
b. Dining Table and six chairs
c. Cabinets, books cases, TV set (at least 42”).
d. Telephone set
e. Communication Infrastructure for future use

4.9 Technician room

4.9.1 Technician room will be used by the on-site technician and will enable him to perform all maintenance tasks.

4.9.2 The room will include:

a. Standard office set: writing desk, chair, etc.
b. Drawers and storage compartments
c. Telephone set
d. System diagnosis computer

4.10 General Services

4.10.1 The Radiography building is intended for use of six (6) workers:

4.10.2 Toilet

4.10.2.1 The toilet facilities, for men and women, will include:

a. Toilet cubicle.
b. Washing corner.
c. Personal lockers for 5 persons.
d. Lower cupboards

4.10.3 Utilities room (cupboards,)

4.10.4 Kitchenette and dining room

4.10.5 The kitchenette will include:

- Upper and lower kitchen cupboards.
- Sink and hot and cold water taps.
- Marble surface.
- Power outlets for additional equipment.
- Hot and cold water bar (ex. Tami 4)
- Electrically-heated burners.
- Refrigerator
- Microwave oven
- Additional devices for: paper towel, soap, garbage, etc.

4.10.5.1 Dining room, including:

- Dining Table and six chairs

The rooms in the manual building are shown in Drawings No. 143-07-01-01.