

# SCOPE OF WORK

**Replacement of wireless network equipment**



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**DrukGreen**





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## 1. Existing equipment details

### 1.1. Integrated service Engines

Following are the details of the Integrated Service Engines (ISE) installed in DGPC:

*Table 1: ISE version details*

Item	CO	BHP	CHP	KHP	THP
<b>ISE Server Model</b>	SNS 3415-K9	SNS 3415-K9	SNS 3415-K9	SNS 3415-K9	SNS 3415-K9
<b>Operating System version</b>	Version: 1.4.0.253	Version: 1.4.0.253	Version: 1.4.0.253	Version: 1.4.0.253	Version: 1.4.0.253

### 1.2. Wireless Controllers

There are two Wireless Controllers (WLC). Both are installed in the Corporate office. One caters to Corporate Office access points and the other is for all the plants' access points. This WLC is integrated with ISE and Active Directory for authentication.

*Table 2: WCL information*

Item	Location	Model
<b>Wireless Access Point Controller (WLC)</b>	Corporate Office	AIR CT2504 v8.0.140.1 and AIR CT2504 v8.2.11.0

### 1.3. Wireless Access Points

DGPC employees access the internet over both wireless and wired connectivity. The Access Point used at the moment for accessing any internal application and internet is as follows: Access points are integrated with two WLC mentioned above for CO and Plants. Further, it is also integrated with ISE and AD.

*Table 3: Current Access Point details*

Item	CO	BHP	CHP	KHP	THP	MMD
<b>Access Point Model</b>	AIR AP17021 only	AIR AP17021 and AIR AP1832L-H	AIR AP17021	AIR AP17021	AIR AP17021 and AIR AP1832L-D	AIR AP17021

## 2. Components available for Buyback offer

The following Cisco equipment are available in DPGC which are required to be taken back by the firm through a buy back offer. The buyback offer should be provided for all this equipment and included in the quotation with a reduction of a certain percentage (%) on the overall cost of the tender.



Table 4: Items for buyback options

SN	Equipment	Quantity	Access Point
1	Wireless Lan Controller	2	AIR CT2504 v8.0.140.1 and AIR CT2504 v8.2.11.0
2	Access Point	69	AIR AP17021
3	ISE	7	SNS 3415-K9

### 3. Detailed scope of work

The scope of work that the firm should carry out includes but not limited to:

#### 3.1. Phase I: Readiness

- i) The firm should introduce the project team as proposed to DGPC and discuss with the DGPC ICT Team and should study the existing setup of DGPC in detail.
- ii) The firm should make a site visit to CO and at least 1 plant location.
- iii) The firm should submit a detailed work plan based on the site visits and it should be accepted by DGPC.

#### 3.2. Phase II: Supply and Delivery

- i) The firm should supply and deliver all the items exactly as per the BoQ and during the delivery of the items, the firm should hand over the items in detail including any licensed copy, and get verified by both the firm and DGPC team. The document should be signed for future record
- ii) In case of any issues arising due to unforeseen calamities and including any kind of delays should be immediately reported to the DGPC project team in writing for record
- iii) The firm should update and report to the DGPC team on the work progress status every week on the agreed day and time

#### 3.3. Phase III: Configuration and integration

- i) Right after the supply and delivery of the items, the firm should immediately start the installation and configuration of the equipment. It is recommended that the firm may comprise of more than one team and dispatch to other locations and carry out the works simultaneously to speed up and complete within project timeline. The geographical locations include all the plant locations of DGPC.
- ii) The firm should supply and configure the following: servers with VM, configuration of latest stable version of ISE OS and license, the configuration of WLC and APs.



- iii) The firm should carry out the configuration of virtual machines and the WLC virtual appliances and ISE appliance must be deployed.
- iv) After configuration, the firm should ensure that existing integrated systems such as AD, network connectivity, SharePoint applications are not disturbed by the project implementation and should be working seamlessly with the new systems.
- v) Any additional configuration in a core network like switches, firewalls, and other existing network equipment and requirement of any additional equipment if arises to integrate the system should be borne and carried out by the firm itself
- vi) Reconfiguration and integration of the existing wireless infrastructure of DGPC with minimum downtime.
- vii) The configuration of the WLC and APs should also include the configuration of the recently acquired AP 1800 series (approx. 25 numbers) currently existing at DGPC with the new WLC.
- viii) Wireless APs should be configured and physically installed at the various locations of DGPC, namely CO, BHP, CHP, KHP, THP, and MMD. The placement of the APs should be at the existing locations of the old APs to be replaced.
- ix) Any issues that the form may be faced during this phase should be reported to the project manager in writing.
- x) For installation of ISE and WLC at Corporate Office, DGPC will provide the server and VMs. The bidder is required to install and configure the provided server and make optimal use of the serer and vm to install ISE and WLC at CO.

#### 3.4. Phase IV: Testing and commissioning

- i) The firm should do testing of all the installed systems mentioned above in each location
- ii) Some of the testing modalities that must be applied and not limited to as follows:

Sl. #	Parameters	Description
1.	<b>Asset Visibility</b>	with complete visibility and control over who and what is on the network consistently, across wireless, wired, and VPN connections.
2.	<b>Secure Wired Access</b>	with authentication protocols to provide network devices and endpoints with secure wired network access.



3.	<b>Guest and Secure Wireless</b>	with secure network access to visitors and internal users (Employee)
4.	<b>Device Administration</b>	with Control and audit of all network devices

### 3.5. Phase V: Training, documentation, and closing

- i) The firm should give at least a one-day training to the DGPC ICT team on the complete system that is configured and installed
- ii) The firm should submit a copy of the document in hard copy and soft copy with detailed architecture. The document should include a physical and logical diagram, detailed IPs, system information including model number and version
- iii) Separate credentials document containing hostname to login with username and password should be submitted
- iv) After completion the firm should submit a closing report with a forwarding letter to project manager including all other detail documents for closing of the project