

DICDL/DSIR/AMC/14/2024-25

Scope of Services

for

Annual Maintenance Contract for Administrative
Cum Business Centre (ABCD Building), Dholera

Dholera Industrial City Development Limited (DICDL)

6th Floor, Block No. 1 and 2, Udhog Bhavan,

Sector-11, Gandhinagar – 382017

Gujarat, India

CIN: U45209GJ2016SGC085839

December 2024



General Terms and Conditions & Scope of Work

General Terms and Condition:

I. Manpower Deployment:

- a) Deployment of adequate manpower like electrician, Operators, Mason, plumber, carpenter, Helpers, sewer man, supervisor etc. to ensure round the clock services of Office, smooth functioning of the offices and maintenance of the buildings. The minimum personnel requirements are as under:

Staff	Qualification	Nos.
Supervisor	Diploma in Electrical/Mechanical with 7 years of experience in O&M of large-scale Govt./ Private commercial buildings	1 No.
Plumber	ITI in plumbing with experience of 5years in O&M of buildings	2 Nos.
Fitter	ITI in Fitter with experience of 5years	1 No.
Electrician	ITI in Electrician with experience of 5years in O&M of HT, LT equipment, DG, Lift, UPS, Transformer, Motors etc.	4 No.
HVAC Technician	ITI in HVAC with experience of 5years in O&M of Water-Cooled Chiller Plant, Primary & Secondary pump, VRV/VRF system, DX system, AHUs etc.	2 Nos.
Operator	ITI in Electrician with experience of 5years in Operation of lifts, pumps, Chiller Plant, Pumps etc.	2 Nos.
Mason – Required on Call	High School` or Diploma in any discipline with 3 years' experience in masonry work of Buildings or repairing & Maintenance of building work	On Call
Carpenter – Required on Call	High School or Diploma in any discipline with 3 years' experience in Carpenter work of Buildings or repairing & Maintenance of building work	On Call
Bar Bender – Required on Call	High School or Diploma in any discipline with 3 years' experience in Bar Bending, Cutting and bending rebars using power tools work of Buildings or repairing & Maintenance of building work	On Call
Scaffolder – Required on Call	5 years of experience required in construction field, The ability to work at heights, good hand-eye coordination, good level of physical fitness, Awareness of health and safety etc.	On Call
Welder – Required on Call	ITI course in welding, with experience of 5years in O&M of buildings.	On Call
Fabricator – Required on Call	A high school or diploma with 3 years' experience in Carpenter work of Buildings or repairing & Maintenance of building work or industry work	On Call
Painter – Required on Call	3-year Diploma in Paint technology or relavent field with 5 years of experience in painting work of buildings or industries, experience of painting work in high rise building is preferable	On Call
Helper	-	3 Nos.

- b) Manpower attendance register is to be maintained properly.

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- c) Uniform, ID Card must be provided to each staff by the Agency.
 - d) The Working Staff should be professionally qualified and must be trained.
 - e) Adequate tools and tackles must be provided to carry out the jobs respectively.
- II. Procurement of Materials and Spare Parts by the Onboarded Agency:
- 1. Survey and Tentative List Submission:
 - After receiving the Letter of Award (LOA) or Work Order, the bidder must conduct a survey of the ABCD Complex.
 - Within 15 days from receiving the LOA/Work Order, the bidder should submit a tentative list of goods required for regular maintenance.
 - 2. Finalization of List:
 - The submitted tentative list will be reviewed and finalized by DICDL in collaboration with the Agency.
 - This finalized list will be used to determine the necessary materials and spare parts for procurement.
 - 3. Procurement and Storage:
 - DICDL will procure the required materials and spare parts and hand over it to Agency for keeping it in store.
 - The procured materials should be stored and kept ready for use, as and when required for maintenance. The agency shall take approval from the employer for use of stored materials & spare parts and maintain a register for records accordingly.
 - 4. Emergency Spare:
 - The employer may ask the agency to procure any emergency items (Materials and spare parts). The cost of the same shall be reimbursed to the agency on actual basis on submission of invoice.
- III. In the event of any conflict or inconsistency between the clauses, terms, and conditions set forth in this tender document and those stipulated under the GEM terms and conditions, the provisions of this tender document shall prevail. The terms and conditions specified herein shall be deemed final and binding for all purposes related to this tender.

Civil & Architectural Work at ABCD Building, Dholera

1. Objective: -

To maintain smooth & effective operations of Civil & Architecture items including repair / replacement in the existing civil works (as per the requirement of DICDL) at the ABCD Building premises.

The cost of all spare parts and consumables will be borne/reimbursed by DICDL in accordance with the Section II of the General Terms & Conditions. In case of reimbursement the submission of tax invoice is mandatory.

• List of Civil Work at ABCD building Premises : -

Sr. No.	Scope of Work	Unit	Location	Qty	Total Quantity
1	Door & Window a) Toilet Doors b) Bath Room Doors c) Metal Doors d) Wooden Doors e) Window f) Fire window g) Shatter h) Aluminium Doors	Nos. Nos. Nos. Nos. Nos. Nos.	SPV, BEC, Gate/Security, Utility	60 45 83 134 159 24 7 21	533
2	Exterior Works a) Poly carbonate Sheet b) Glazing EXT.	SQM SQM	ABCD Premises	1980 3906	5886
3	Flooring work	SQM	SPV, BEC, Utility	23142	23142
4	Painting Works a) Paint Ext. area b) Paint interior and Ceiling. area	SQM SQM	SPV,BEC,Utility,Ancillary SPV,BEC,Utility,	9922 67000	76922
5	Cladding work	SQM	SPV,BEC,Ancillary	1709	1709
6	Paver block	SQM	Ancillary	4250	4250
7	Plaster work interior	SQM	SPV,BEC,Utility,	67000	67000
8	Sewage collection Network	RMT	Ancillary	2360	2360
9	Sewage Man holes	Nos.	Ancillary	18	18
10	Storm water line / MPC	RMT	Ancillary	2360	2360
11	Irrigation area (Soft scape)	SQM	Ancillary	9593	9593

12	Miscellaneous work a) Grass paver b) Boundary Wall gate no 1 to gate no 3 (Bottom) c) Boundary Wall MS (Bottom) d) Chaining Frenching (Bottom)	SQM SQM SQM SQM	Ancillary Ancillary Ancillary Ancillary	5750 468 448 916	7582
13	Pond	SQM	ABCD Premises	3460	3460
14	Roads	SQM	ABCD Premises	12872 (Approx.)	12872

Details of check points and Schedule Roads, paver and Storm water

SR.NO	CHECK POINTS	SCHEDULE
1	Check for any Pot Holes	As per direction
2	Check of Grass paver settlement	As per direction
3	Check for paver Block settlement	As per direction
4	De-silting, Manhole cleaning of Storm Water Drain	As per direction
5	Check for overflows in surrounding areas	As per direction

Obligations of the Contractor

The obligations of the Contractor in respect of the Maintenance requirements shall include repair and rectification of the defects and deficiencies specified in **Annexure I** of this RFP within the time limit set forth therein.

- Repair & Maintenance of building for smooth functioning of Building
- Painting of external/internal walls, Repairs to external/internal plaster, repair to floor/dado tiles.
- Repair of roof leakages and leakage/ seepage control in toilets and water supply/Sanitary installation fixtures as required.
- Maintenance of Rain water pipes as required in Plumbing, Sanitary Work, Carpentry Work, etc.
- Replacement of glass panes, door & window fixtures.
- Carpentry work for Wooden Door, Windows, Aluminum & Steel Repair Work.
- Periodic cleaning of internal and external drains, water tanks, Removal of blockages from Water Supply & Sanitary lines and internal & external drains.
- Any Other Work assigned by Authority

In case of repair or replacement of the components the contractor needs to provide the warranty of the replaced and rectified component, and the system shall be functional in all respects at the best performing efficiency.

Annexure I

The Contractor shall repair and rectify the Defects and deficiencies specified in this Annexure I

- The mentioned timeline for repairing is considered after notifying to contractor.
- Essential Cleaning work is required to be done immediate after notifying.

Sr. No.	Equipment	Turnaround Time
1	Doors & Windows a) Toilet Doors b) Bath Room Doors c) Metal Doors d) Wooden Doors e) Window f) Fire window g) Shutter h) Aluminium Doors	Within 7 days Within 7 days Within 30 days Within 30 days Within 30 days Within 30 days Within 30 days Within 30 days
2	Exterior Works a) Poly carbonate Sheet b) Glazing EXT.	Within 30 days
3	Flooring works	Within 30 days
4	Painting Works c) Paint Ext. area d) Paint interior and Ceiling. area	Within 30 days/ Depends upon Quantity of work
5	Cladding works	Within 30 days
6	Paver block	Within 30 days
7	Plaster work interior	Within 30 days/ Depends upon Quantity of work
8	Sewage collection Network	Within 15 days for damage of drains, Manholes, storm Line/ Within 3 days for Cleaning.
9	Sewage Man holes	
10	Storm water line / MPC	
11	Irrigation area (Soft scape)	Within 3 days
12	Miscellaneous work e) Grass paver f) Boundary Wall gate no 1 to gate no 3 (Bottom) g) Boundary Wall MS (Bottom) h) Chaining Frenching (Bottom)	Within 30 days/ Depends upon Quantity of work
13	Pond Cleaning	Within 15 days after Notifying

Electrical Systems installed at ABCD Building, Dholera

Objective: -

To maintain smooth & effective operations of the equipment including repair / replacement of existing electrical equipment (as per the requirement of DICDL) in the ABCD Building premises.

The cost of all spare parts and consumables will be borne/reimbursed by DICDL on actuals. In case of reimbursement the submission of tax invoice is mandatory.

List of Electrical Equipment installed at ABCD building:

Sr. No.	Equipment	Make	Capacity	Quantity
1	GOD Structure		11KV	01 Nos.
2	Ring Main Unit	EXPEL PROSYS LIMITED	630 A	1 Nos
3	HT Panel	Power Switchgear (MAKE-ABB)	630 A	1 Nos
4	Transformer	VOLTAMP TRANSFORMER	1250 KVA	2 Nos
5	Bus Duct	(MAKE-C&S)	2500 A TPN	2 Nos
6	RTCC Panel	VOLTAMP		2 Nos
7	Main LT Panel	Power Switchgear (MAKE-ABB)	1600 KW	1 Nos
8	APFC Panel	Power Switchgear (MAKE-ABB)	500 KVA 200 KVA 125 KVA	3 Nos
9	Utility Panel	Power Switchgear (MAKE-ABB)	35 KW	1 Nos
10	PDB Panel	Power Switchgear (MAKE-ABB)	SPV BUILDING PDB-01 43.6 KW PDB-02 48.0 KW PDB-03 49.5 KW PDB-04 49.5 KW PDB-05 28.2 KW PDB-06 28.2 KW	18 Nos

			PDB-07 29.2KW PDB-08 42.0 KW PDB-09 48.6 KW PDB-10 46.0 KW PDB-11 57.6 KW LIFT-PDB 30 KW BEC BUILDING PDB-01 90 KW PDB-02 55 KW PDB-03 60 KW PDB-04 65 KW PDB-05 60 KW SPDB-01 25 KW LIFT-PDB 10 KW	
11	UPS	CONSULE & Eaton	80 KVA 10 KVA 20 KVA 10 KVA 20 KVA 5 KVA	6 Nos
12	Fire Fighting Panel	Power Switchgear (MAKE-ABB)	455 KW	1 Nos
13	HVAC Panel	Power Switchgear (MAKE-ABB)	155 KW	1 Nos
14	DG Set	STERLING GENERATORS PRIVATE LIMITED	625 KVA	2 Nos
15	DG Synchronising Panel	Power Switchgear (MAKE-ABB)	1250 KVA	1 Nos
16	DC System and Battery	SERVILINK	10 A / 100AH	1 Nos

	Charger Panel	ENGINEERS		
17	Lighting Transformer		100 KVA 60 KVA 10 KVA	3 Nos
18	STP And Water Softener Panel	Power Switchgear (MAKE-ABB)	10 KW	1 Nos
19	SCADA Panel	Power Switchgear (MAKE-Schneider)	262 DIGITAL I/O	1 Nos
20	Solar System	Powerex Electra LLP	50 KW 30 KW	2 Nos
21	Lightning Arrester	Dogson		1 Nos
22	Power Distribution Board	L&T	UTILITY PDB-01 63 A 4P PDB-02 80 A 4P PDB-03 63 A 4P PDB-04 63 A 4P	4 Nos
23	Pump- Fountain	kirloskar	5.5 KW (3 No.) 1.0 KW (2 No.)	5 Nos
24	Lighting DBs	L&T	LDB-1 7.08 KW LDB-2 7.19 KW LDB-3 7.19 KW LDB-4 7.19 KW LDB-5 7.19 KW LDB-6 7.19 KW LDB-7 7.19 KW LDB-8 7.19 KW LDB-9 7.19 KW OMLDB 9.0 KW	

			BEC BUILDING MLDB 45.0 KW LDB-1 12.0 KW LDB-2 5.50 KW LDB-3 5.50 KW LDB-4 5.50 KW LDB-5 13.0 KW UTILITY MLDB 3.0 KW LDB-1 0.5 KW LDB-2 1.5 KW LDB-3 1.0 KW LDB-4 0.1 KW	
25	Street Light Poles	HAVELLS & TECHLITE ENGINEERS AND CONSULTANTS LLP	36/62 WATT	80 Nos.
26	Luminaries and Light Fixtures	CROMPTON	BOLLARD 7 WATT= 169 STEP LIGHT 5 WATT = (87+56) 143 2 WATT = 54 TREE UP LIGHT 7 WATT = 48 Nos PERGOLA LIGHT 6 WATT =31 Nos PARKING LIGHT 35WATT= 34 Nos	

			Fountain Lights 7 WATT=26 Nos. REFLECTINGPOOL 18 W = 58 18 W = 26 MOUNT AREA 20 WATT =14 No. EANTRACE (SPV) 40 WATT = 9 No. FLOOD LIGHT 50 WATT = 15 No. WALKWAY 7 WATT = 36 No. SPV BUILDING T5 LIGHT 20 WATT= 106 SURFACE MOUNT 15 WATT= 72 BULKHEAD 10 WATT= 75 LED PANEL(GRID) 15 WATT = 91 6WATT= 135 BEC BUILDING T5 LIGHT 20 WATT= 60 SURFACE MOUNT 20 WATT =49 15WATT= 16 BULKHEAD	
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			10 WATT= 28 LED PANEL(GRID) 18 WATT = 46 15WATT= 48 6WATT= 58 HIGHBAY 70 WATT = 24 140 WATT = UTILITY BUILDING T5 LIGHT 20 WATT= 89 SURFACE MOUNT 15 WATT= 21	
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Details of check points and Schedule

11KV GOD STRUCTURE

Sr. no	Activity	Schedule	Remarks
1	Checking of fuse link condition in drop out fuse.	Monthly	
2	Tightening of earthing wires bolts.	Monthly	
3	Tightening of energy meter box bolts.	Monthly	
4	Visual inspection and meggar of lighting arrester	Quarterly	
5	Connection tightness of all hardware of structure and mechanical parts	Quarterly	
6	Mechanical operation of gang operated switch.	Quarterly	
7	Cleaning of all god structure.	Quarterly	
8	Checking of earthing for structure, lighting arrester and ht cable.	Quarterly	
9	Cleaning of knife switch contacts.	Quarterly	
10	Cleaning of insulators.	Quarterly	
11	Meggar of ht cables.	Half yearly	

12	Applying of petroleum jelly to elect contact and hardware for smooth operation.	Half yearly	
13	Applying of gi paints on metal support	Half yearly	

RING MAIN UNIT

Sr. no	Activity	Schedule	Remarks
1	Mechanical operation incoming, outgoing lbs	Monthly	
2	Checking level gauge of sf6 gas	Monthly	
3	Cleaning of rmu	Monthly	
4	Verming proofing of rmu panel	Monthly	
5	Checking of 11kv cable shoes	Quarterly	
6	Checking of rmu interlocks	Quarterly	
7	Checking control wiring and relays	Quarterly	
8	Checking tightness of all incoming and outgoing ht cable connected in lbs	Half yearly	
9	Earthing connection tightness	Half yearly	
10	Meggar of incoming and outgoing ht cable.	Half yearly	
11	Checking spring charging mechanism	Half yearly	

HT PANEL

Sr.no	Activity	Schedule	Remarks
1	Connection tightness of all control cables and meggar	Weekly	
2	Connection tightness of all incoming and outgoing ht cables	Monthly	
3	Visual inspection and connection tightness of ht bus bar	Monthly	
4	Mechanical operation of all ht breakers	Monthly	
5	Checking continuity of all control fuse	Monthly	
6	Healthiness of all switchgears inside control panel	Quarterly	
7	Relay setting of idmt, earth fault, over current relay	Quarterly	
8	Measuring coil resistance of relay	Quarterly	
9	Check working order of flow relays, pressure switches and	Quarterly	

	temperature switch, protective devices, etc.		
10	Healthiness of all measuring equipments in ht panel	Quarterly	
11	Healthiness of earthing of ht panel	Quarterly	
12	All safety checks of ht panel	Quarterly	
13	Cleaning of ht panel	Quarterly	
14	Checking rack in rack out mechanism of breakers.	Quarterly	
15	Checking interlocking logic	Quarterly	
16	Checking ac, remote and scada operation of breakers	Quarterly	
17	Cleaning of ct and pt unit	Quarterly	
18	Checking spring charging mechanism by handle and by spring charging of motor	Quarterly	
19	Checking control wiring of contactor, fuse and connections	Quarterly	
20	Checking space heater working	Quarterly	
21	Checking of surge arrestor	Quarterly	
22	Ht cable meggar and connection tightening	Quarterly	
23	Vermining proffing of ht panel	Quarterly	

TRANSFORMER

Sr. no	Activity	Schedule	Remarks
1	Connection tightness of all control cables and meggar	Monthly	
2	Connection tightness of all incoming and outgoing ht cables	Monthly	
3	Measuring and observing winding temperature during max load	Monthly	
4	Meggar of primary winding and secondary winding	Monthly	
5	Manual and auto operation of oltc on different tap position	Monthly	
6	Checking of oil level in oltc conservator	Monthly	
7	Healthiness of control fuse, switchgear and control cable inside oltc.	Monthly	
8	Earthing of transformer	Monthly	
9	Noting down data on transformer marshaling box, oltc for	Monthly	

	record		
10	All safety checks of transformer.	Monthly	
11	Cleaning of transformer	Monthly	
12	Checking of frequency response analysis frls	Yearly	
13	Tan measurement of bushings	Yearly	
14	Ir measurement of winding(polarization index and da ratio)	Yearly	
15	Tan measurement of winding.	Yearly	
16	Measurement of winding resistance at all tap position	Yearly	
17	Measurement of turns ratio.	Yearly	

BUS DUCT

Sr. no	Activity	Schedule	Remarks
1	Checking and tightness of bus duct connection and all hardware	Quarterly	
2	Meggart of bus duct	Quarterly	
3	Earthing connection tightness of bus duct.	Quarterly	
4	Cleaning of bus duct	Quarterly	

RTCC PANEL

Sr.no	Activity	Schedule	Remarks
1	Connection tightness of all control cables and meggar	Weekly	
2	Checking continuity of all control fuse	Weekly	
3	Healthiness of all switchgears inside control panel	Weekly	
4	Operation of avr at desired voltage and position of tap changer	Monthly	
5	Healthiness of earthing of rtcc panel	Monthly	
6	All safety checks of rtcc panel	Monthly	
7	Cleaning of rtcc panel	Monthly	

MAIN LT PANEL

Sr.no	Activity	Schedule	Remarks
1	Connection tightness of all control cables and meggar	Monthly	
2	Connection tightness of all incoming and outgoing lt cables	Monthly	
3	Checking continuity of all control fuse	Monthly	
4	Healthiness of all switchgears inside lt panel	Monthly	
5	Check interlocking of breakers during power failure condition	Monthly	
6	Healthiness of all measuring equipment's in lt panel	Monthly	
7	Healthiness of earthing of lt panel	Monthly	
8	All safety checks of lt panel	Monthly	
9	Cleaning of lt panel	Monthly	
10	Visual inspection and connection tightness of lt bus bar	Quarterly	
11	Mechanical operation and setting off of all lt breakers	Quarterly	

APFC PANEL

Sr.no	Activity	Status	Remarks
1	Connection tightness of all control cables and meggar	Monthly	
2	Connection tightness of all incoming and outgoing lt cables	Monthly	
3	Healthiness of all capacitor bank and its testing	Monthly	
4	Checking of apfc controler and its operation	Monthly	
5	Check interlocking of breakers during power failure condition	Monthly	
6	Healthiness of all measuring equipments in lt panel	Monthly	
7	Healthiness of earthing of lt panel	Monthly	
8	All safety checks of lt panel	Monthly	
9	Cleaning of lt panel	Monthly	
10	Visual inspection and connection tightness of lt bus bar	Quarterly	
11	Mechanical operation and setting off of all lt breakers	Quarterly	

UTILITY PANEL

Sr.no	Activity	Schedule	Remarks
1	Meggar of all power cables	Quarterly	
2	Healthiness of earthing of It panel	Quarterly	
3	All safety checks of It panel	Quarterly	
4	Cleaning of It panel	Quarterly	

PDB PANEL

Sr.no	Activity	Schedule	Remarks
1	Meggar of all power cables	Half yearly	
2	Healthiness of earthing of panel	Monthly	
3	All safety checks of panel	Monthly	
4	Cleaning of panel	Monthly	

UPS

Sr.no	Activity	Schedule	Remarks
1	Checking and meggar of input and output cables	Monthly	
2	Check value of input and output supply by manual power failure condition	Monthly	
3	Healthiness of earthing of ups.	Monthly	
4	All safety checks of ups	Monthly	
5	Cleaning of ups	Monthly	
6	Battery healthiness and connection	Weekly	

FIRE FIGHTING PANEL

Sr.no	Activity	Schedule	Remarks
1	Healthy condition of control supply and control wiring of star/delta starter and dol starter for pumps	Monthly	
2	Healthiness of contactor and switchgear of starters	Monthly	
3	Connection tightness of all incoming and outgoing It cables, control cable and meggar	Half yearly	
4	Visual inspection and connection tightness of It bus bar	Monthly	
5	Mechanical operation and setting off of all It breakers	Monthly	

6	Checking continuity of all control fuse	Monthly	
7	Healthiness of all switchgears inside It panel	Monthly	
8	Healthiness of all measuring equipments in fire fighting panel	Monthly	
9	Healthiness of earthing of fire fighting panel	Monthly	
10	All safety checks of fire fighting panel	Monthly	
11	Cleaning of fire fighting panel	Monthly	

HVAC PANEL

Sr.no	Activity	Schedule	Remarks
1	Connection tightness of all incoming and outgoing It cables, control cable and meggar	Half yearly	
2	Visual inspection and connection tightness of It bus bar	Monthly	
3	Mechanical operation and setting off of all It breakers	Monthly	
4	Checking continuity of all control fuse	Monthly	
5	Healthiness of all switchgears inside panel	Monthly	
6	Healthiness of all measuring equipment's in panel	Monthly	
7	Healthiness of earthing panel	Monthly	
8	All safety checks of panel	Monthly	
9	Cleaning of panel	Monthly	

DG SET

Sr.no	Activity	Schedule	Remarks
1	Check oil level in engine	Half yearly	
2	Cleaning of air filters	Half yearly	
3	Replacement of oil	400 running hours or yearly whichever is earlier	
4	Mechanical operation of engine and alternator	Monthly	
5	Healthiness of dg control panel	Monthly	

6	Healthiness of master controller, switchgear of dg control panel	Monthly	
7	Check connection tightness of control cables and meggar in dg panel	Half yearly	
8	Healthiness of current transformer inside bus bar box of dg	Monthly	
9	Healthiness of earthing of dg set	Monthly	
10	All safety checks of dg set	Monthly	
11	Cleaning of dg set	Monthly	

DG SYNCHRONISING PANEL

Sr.no	Activity	Schedule	Remarks
1	Relay setting of breaker	Monthly	
2	Healthiness of synchronising controller	Monthly	
3	Operation of synchronising of panel as per load set point	Monthly	
4	Interlocking of lt breaker of panel	Monthly	
5	Healthiness of switchgear and control switches	Monthly	
6	Connection tightness of bus bar of panel	Monthly	
7	Connection tightness of incoming and outgoing cables in panels	Monthly	
8	All safety checks of panel	Monthly	
9	Earthing of panels	Monthly	
10	Cleaning of panels	Monthly	

DC SYSTEM AND BATTERY CHARGER

Sr.no	Activity	Schedule	Remarks
1	Connection tightness of all control wires inside panel	Weekly	
2	Meggar of all incoming and outgoing cables	Weekly	
3	Checking operation of adjustable knob, control switches as per selected voltage rating	Weekly	
4	Check output voltage of 110v at output end	Weekly	
5	Incoming supply from battery source	Weekly	

6	Disconnecting of battery	Weekly	
7	Check and note output voltage of each battery	Weekly	
8	If voltage is not as per rating replace battery	Weekly	
9	Healthiness of battery connected in ckt	Weekly	
10	Measuring of output voltage at battery	Weekly	
11	Incoming and outgoing cable connection tightness and meggar value to be checked and note	Weekly	
12	Cleaning of battery and panels	Weekly	
13	Earthing of panels	Weekly	
14	All safety checks of panel and battery bank	Weekly	

LIGHTING TRANSFORMER

Sr. no	Activity	Schedule	Remarks
1	Checking of all connection of marshaling box	Monthly	
2	Healthiness and meggar of primary and secondary winding	Monthly	
3	Connection tightness of all incoming and outgoing ht cables	Monthly	
4	Measuring and observing winding temperature during max load	Monthly	
5	Healthiness of control fuse, switchgear and control cable inside oltc.	Monthly	
6	Earthing of transformer	Monthly	
7	All safety checks of transformer.	Monthly	
8	Cleaning of transformer	Monthly	
9	Meggar of primary winding and secondary winding	Quarterly	

STP & WTP PANEL

Sr. no	Activity	Status	Remarks
1	Healthiness of all switchgears inside control panel	Weekly	
2	Meggar of all power cables	Monthly	

3	Healthiness of earthing of panel	Monthly	
4	All safety checks of panel	Monthly	
5	Cleaning of panel	Monthly	

SCADA PANEL

Sr. no	Activity	Schedule	Remarks
1	Checking of control module and relays inside panel	Weekly	
2	Connection of all control cables	Weekly	
3	Earthing of panels	Monthly	
4	Cleaning of panels	Monthly	
5	Mapping of sld working normal or not	Monthly	
6	All events and log data should be accurate as per requirement	Monthly	
7	Healthiness of all online data	Monthly	
8	Healthiness of system.	Monthly	

SOLAR PV SYSTEM

Sr. No	Activity	Schedule	Remarks
1	Megger of ac cable to panel and value to be noted	Monthly	
2	Earthing of solar system	Monthly	
3	All safety checks of solar system	Monthly	

LIGHTNING ARRESTER

Sr.no	Activity	Schedule	Remarks
1	Checking of earth connection between surge arrester, surge monitor and earth	Yearly	
2	Testing of counters and leakage current meter	Yearly	
3	Cleaning of insulator	Yearly	
4	Checking of earth connection between surge arrester, surge	Yearly	

	monitor and earth		
5	Measurement of capacitance and tan delta and ir of each	Sos	

POWER DISTRIBUTION BOARD

Sr.no	Activity	Schedule	Remarks
1	Visual inspection of distribution board	Monthly	
2	Earthing of dbs	Monthly	
3	Visual inspection and connection tightness of mcb	Monthly	
4	Dressing and identification of dbs	Monthly	
5	Door opening and closing should be proper	Monthly	

LIGHTING DBS

Sr.no	Activity	Schedule	Remarks
1	Visual inspection of distribution board	Monthly	
2	Earthing of dbs	Monthly	
3	Visual inspection and connection tightness of mcb	Monthly	
4	Dressing and identification of dbs	Monthly	
5	Door opening and closing should be proper	Monthly	

LUMINARIES/LIGHT FIXTURES

Sr.no	Activity	Schedule	Remarks
1	Working of all lights	Monthly	
2	If any defect is there repair or replace the lights	Monthly	
3	Cleaning of lights	Monthly	
4	Safety measures of lights	Monthly	

STREET LIGHTS AND POLES

Sr.no	Activity	Schedule	Remarks
1	Alignment of poles	Monthly	

2	Connection tightness and mcb connection of poles	Monthly	
3	Working of poles	Monthly	
4	Safety checks of poles	Monthly	

BOOM BARRIER

Sr.no	Activity	Schedule	Remarks
1	Visual inspection of boom barrier system	Monthly	
2	Working of boom, sensor, gate motor and gate	Monthly	
3	Working of push button, accessories and lubricating to roller, gear box of motor of gate	Monthly	
4	Operation of gate by boom barrier system	Monthly	
5	Cleaning of all related system	Monthly	

Obligations of the Contractor

The obligations of the Contractor in respect of the Maintenance requirements shall include repair and rectification of the defects and deficiencies specified in **Annexure II** of this RFP within the time limit set forth therein.

In case of repair or replacement of the components the contractor needs to provide the warranty of the replaced and rectified component, and the system shall be functional in all respects at the best performing efficiency.

Annexure II

The Contractor shall repair and rectify the Defects and deficiencies specified in this **Annexure II**

- Faulty lighting fixtures should be rectified within 72 hours.
- Essential spares to be available for immediate repairs.

Sr. No.	Equipment	Turnaround Time
1	GOD Structure	Within 48 hours
2	Ring Main Unit	Within 48 hours
3	HT Panel	Within 48 hours
4	Transformer	Within 10 days
5	Bus Duct	Within 48 hours
6	RTCC Panel	Within 48 hours

7	Main LT Panel	Within 48 hours
8	APFC Panel	Within 48 hours
9	Utility Panel	Within 48 hours
10	PDB Panel	Within 48 hours
11	UPS	Within 48 hours
12	Fire Fighting Panel	Within 48 hours
13	HVAC Panel	Within 48 hours
14	DG Set	Within 7 days
15	DG Synchronising Panel	Within 48 hours
16	DC System and Battery Charger Panel	Within 48 hours
17	Lighting Transformer	Within 48 hours
18	STP And Water Softener Panel	Within 72 hours
19	SCADA Panel	Within 48 hours
20	Solar System	Within 07 days
21	Lightning Arrester	Within 48 hours
22	Power Distribution Board	Within 48 hours
23	Pump- Fountain	Within 10 days
24	Lighting DBs	Within 72 hours
25	Street Light Poles	Within 96 hours
26	Luminaries and Light Fixtures	Within 72 hours

Fire Protection and Detection System installed at ABCD Building, Dholera

Objective: -

To maintain smooth & effective operations of the equipment's including repair / replacement of entire existing electrical system (as per the requirement of DICDL) in the ABCD Building premises.

The cost of all spare parts and consumables will be borne/reimbursed by DICDL on actuals. In case of reimbursement the submission of tax invoice is mandatory.

• **List of Firefighting Equipment installed at ABCD building: -**

Sr. No.	Equipment	Make	Capacity	Qty	Total Quantity
1	FIRE FIGHTING PUMPS (ELECTRIC) i) Hydrant pump j) Sprinkler pump k) Jockey pump l) Booster pump	CG CG CG KIRLOSKAR	75 KW 75 KW 11 KW 5.5 KW	1 1 1 1	4
2	FIRE FIGHTING PUMP (DIESEL ENGINE)	KIRLOSKAR	75KW	1	1
3	FIRE FIGHTING ACCESSORIES a) Sprinkler b) Butterfly valve c) Ball valve d) Air release valve e) Fire bucket f) Strainer g) NRV h) Pressure gauge i) Pressure transducer j) Pressure switch	Viking Lehry Lehry/Giocomini Lehry Reputed Lehry Lehry Baumer Johnson Indfos Reputed	(6.5 KG) Up to 200 mm Up to 50 mm 25mm Standard Up to 200 mm Up to 200 mm Up to 200 mm Up to 0-10 KG 0-5 VDC	156+95 20+18+13+2 39+16 3+4+6 6 5 1+1+5+2 3+3+8 2 4 2	251 53 55 13 6 5 9 14 2 4 2

	k) Fire Flow switch	Reputed	Up to 12bar	20	20
	l) Fire hose cabinet	Atasee	Up to 12bar	19+16+20	55
	m) Hydrant single-way valve	Atasee	Standard size	1	1
	n) Bridge two-way valve	Atasee	63 mm	1	1
	o) Bridge four-way valve	Atasee	63 mm	18+5	23
	p) Fire hose reel	Atasee	63 mm	28+8+40	76
	q) Fire hose cloth tube	Georage rao	63 mm	9	9
	r) Fire damper	Reputed	410 dia	9+6	15
	s) Fire push button station		63 mm		
			1050*750		
			Standard size		
4	Fire extinguisher				
	a) Co2	atasee/ashoka	4.5 kg	18+5+4	27
	b) Abc		6 kg	18+6+2	26
5	Fire alarm system	Smplex			1
		Gst			2
		Miracom			1

Details of check points and Schedule

FIRE FIGHTING PUMPS (ELECTRIC)

Sr.no	Check points	Schedule
1	Check for any leakage from glands or flange joint or Valves.	Monthly
2	Check of inlet and Outlet Pressure Of water.	Monthly
3	Check for any abnormal noise and vibrations during running (if observed then rectify)	Monthly
4	Check the cable for heating and Proper Power Supply of pumps	Monthly
5	Check for leaks in isolation of valves, strainers, and flexible connections.	Monthly
6	Check & record motor running current & Amp.	Monthly

7	Check for leaks in isolation of valves, strainers, and flexible connections.	Monthly
8	Check Tight & clean all electrical terminals, electrical connections, conduits, insulation, and flexible connection.	Monthly
9	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
10	Check & Clean water strainers	Quarterly

FIRE FIGHTING PUMP (DIESEL ENGINE)

Sr.no	Check points	Schedule
1	Check for any leakage from glands or flange joint or Valves.	Monthly
2	Check of inlet and Outlet Pressure Of water.	Monthly
3	Check for any abnormal noise and vibrations during running (if observed then rectify)	Monthly
4	Check the fuel tank and fuel supply pipe and qty of fuel.	Monthly
5	Check motor running RPM, Hour & Battery voltage.	Monthly
6	Check for leaks in isolation of valves, strainers, and flexible connections.	Monthly
7	Check coolant tank level and quality of coolant and engine oil.	Monthly
8	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
9	Check & Clean water strainers	Quarterly

FIRE FIGHTING ACCESSORIES

Sr.no	Check points	Schedule
1	Check for any leakage from flange joint or hydrant Valves.	Monthly
2	Check and maintain any leakage of hose reel.	Monthly
3	Check hose reel and put oil/grease if required.	Quarterly
4	Check the valve & fixture damage and change if required.	Quarterly
5	Check & Clean valve & fixture.	Quarterly

FIRE EXTINGUISHER

Sr.no	Check points	Schedule
1	Check for any leakage of fire extinguisher.	Monthly
2	Check and maintain any pressure leakage.	Monthly
3	Check the physical damage of the extinguisher.	Half yearly
4	Clean the extinguisher.	Half yearly
5	Refill the extinguisher if required.	Yearly

FIRE DETECTION SYSTEM

Sr.no	Activity	Schedule	Remarks
1	Visual inspection of fire detector and panels	Monthly	
2	Checking of all installed detector and its cabling	Monthly	
3	Working of detector by manual smoke	Monthly	
4	Mcp hooter operation check by manual operation	Monthly	
5	Log register in panel areawise by operating detector and hooter manual	Monthly	
6	Healthiness of fire panel	Monthly	
7	Cleaning of detector and fire panel	Monthly	
8	All safety checks of fire detection system	Monthly	

Obligations of the Contractor

The obligations of the Contractor in respect of the Maintenance requirements shall include repair and rectification of the defects and deficiencies specified in **Annexure III** of this RFP within the time limit set forth therein.

In case of repair or replacement of the components the contractor needs to provide the warranty of the replaced and rectified component, and the system shall be functional in all respects at the best performing efficiency.

Annexure III

The Contractor shall repair and rectify the Defects and deficiencies specified in this **Annexure III**

- Any damage breakage of any apparatus, equipment, sensors and system in general should not remain non-functional for more than 24 hours.
- Essential spares to be available for immediate repair.

Sr. No.	Equipment	Turnaround Time
1	FIRE FIGHTING PUMPS (ELECTRIC) a) Hydrant pump b) Sprinkler pump c) Jockey pump d) Booster pump	Within 07 days
2	FIRE FIGHTING PUMP (DIESEL ENGINE)	Within 07 days
3	FIRE FIGHTING ACCESSORIES a) Sprinkler b) Butterfly valve c) Ball valve d) Air release valve e) Fire bucket f) Strainer g) NRV h) Pressure gauge i) Pressure transducer j) Pressure switch k) Fire Flow switch l) Fire hose cabinet m) Hydrant single-way valve n) Bridge two-way valve o) Bridge four-way valve p) Fire hose reel q) Fire hose cloth tube r) Fire damper	Within 15 days

	s) Fire push button station	
4	FIRE EXTINGUISHER a) CO2 b) ABC	Within 15 days
5	FIRE ALARM SYSTEM	Within 07 days

HVAC Systems installed at ABCD Building, Dholera

Objective: -

To maintain smooth & effective operations of the equipment's including repair / replacement of entire existing HVAC system (as per the requirement of DICDL) in the campus working on chilled water.

The cost of all spare parts and consumables will be borne/reimbursed by DICDL on actuals. In case of reimbursement the submission of tax invoice is mandatory.

List of HVAC Equipment installed at ABCD building: -

Table 1

Sr. No.	Equipment	Capacity	Make	Quantity
1	Water-cooled screw chillers	235 tr	Kirloskar	3
2	Hvac pumps			
(i)	Primary pump	5.5 KW	Kirloskar	3
(ii)	Secondary pump	22 KW	Xylem	3
(iii)	Condenser Pump	15 KW	Xylem	1
(iv)	Chiller water makeup pump	1.1 KW		1
(v)	Makeup water pump	1.1 kw	CNP	2
3	Cooling tower	250 ton	Advance cooling tower	3
4	Air handling unit (ahu)		Vts	
		9 TR		1
		12 TR		3
		19 TR		6
		25 TR		2
		30 TR		2
		37 TR		3
		60 TR		1
5	Treated fresh air unit (tfa)		Vts	2
6	Chilled water cassette		Bhutoria refrigeration pvt ltd.	7
7	Dx split/ dx cassette		Daikin	11
8	Ventilation fans		Kruger	3

9	BTU Meter		landisc	11
10	Valves			
(i)	Globe valve	200 mm	Advance	3
(ii)	Balancing Valve	200,250 mm	Double line	6
(iii)	Ball valve	12 MM	Giacomini	3
(iv)	Ball valve	25 MM		49
(v)	Ball valve	37MM	Prince	12
(vi)	Ball valve C PVC	50MM	Prince	6
(vii)	Ball float valve	50MM	Advance / Lehri	3
(viii)	Butterfly valve	80,100,200 MM	Advance	53
(Ix)	Butterfly valve	150 MM		47
(x)	NRV	25,100 MM	Advance	17
(xi)	Motorise valve	200 mm	Belimo	6
(xii)	Motorise Actuator	200 mm	Belimo	3
(xiii)	Air Release valve	25 MM	Giacomini	6
11	Smoke fan			1
12	Pressurized fan			5
13	Strainer	100,200 MM		13
15	Fire exhaust fan			
16	Fan cooling unit & VRF systems			
17	Canteen (AC)			
18	Air washer			
19	Dry scrubber			
20	Split ac			
21	VAV unit with Monitoring display	TROX		

Preventive Maintenance Schedule for HVAC systems of ABCD Building

Details of check points and Schedule

1) WATER COOLED SCREW CHILLERS

Sr. no	Check points	Schedule
1	Check and Verify proper water Quality and treatment as per OEM	Monthly
2	Check for any abnormal noise and vibrations during running (if observed then rectify)	Monthly
3	Check Refrigerant Pressure and leakage	Monthly
4	Checking lubrication oil level ,Pressure and leakage if any	Monthly
5	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
6	Check Proper Power Supply & tighten all electrical connections	Quarterly
7	Check & Clean water strainers in both chilled & condenser line	Quarterly
8	Drain the chilled water and refill the fresh water system with air purging	Quarterly

2) HVAC PUMPS (Applicable to all the pumps mentioned in Table 1)

Sr. No	Check points	Schedule
1	Check for any abnormal noise and vibrations during running (if observed then rectify)	Monthly
2	Check the cable for heating and Proper Power Supply of pumps	Monthly
3	Check for leaks in isolation of valves, strainers, and flexible connections.	Monthly
4	Check & record motor running current & Amp.	Monthly
5	Check for leaks in isolation of valves, strainers, and flexible connections.	Monthly
6	Check Tight & clean all electrical terminals, electrical connections, conduits, insulation, and flexible connection.	Monthly
7	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
8	Check the frequency operation of secondary pump.	Monthly
9	Check & Clean water strainers	Quarterly

3) COOLING TOWER

Sr. no	Check points	Schedule
1	Check record of inlet and Outlet Pressure & Temp. Of water.	Monthly
2	Check for unusual noise/vibration in fan and fan guard, motor drive shaft and guards gear reducer.	Monthly
3	Check water level in water basin.	Monthly
4	Drain cooling tower twice in a month along with condenser pipe line water and refill with fresh Treated Water	Monthly
5	Check Gear Box Oil ,Sludge if any	Quarterly
6	Check Tight & clean all electrical terminals, electrical connections, conduits, insulation, and flexible connection.	Quarterly
7	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Quarterly
8	Cleaning of sump and check for any leakage	Quarterly
9	Clean Fan & Fan Guard, motor shaft, gear reducer, eliminator, fills, water basin, float valve, control valves etc.	Quarterly
10	Tighten loose bolts of FRP, gear box, structure bolt connection and motor.	Half yearly

4) AIR HANDLING UNIT (AHU)

Sr. no	Check points	Schedule
1	Check cleanliness of the filters and clean if required.	Monthly
2	Check drain pan for any blockage.	Monthly
3	Check for vibration in blower and motors	Monthly
4	Check the looseness of any bolt in the fan or casing etc.,	Monthly
5	Check the associated damper flap movement and apply grease for the bearing housing if required	Monthly
6	Check running current and Amp. Of the motor.	Monthly
7	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
8	Clean interiors and check for corrosion, check tightness of all sections	Half Yearly

5) TREATED FRESH AIR UNIT (TFA)

Sr. no	Check points	Schedule
1	Check cleanliness of the filters and clean if required.	Monthly
2	Check drain pan for any blockage.	Monthly
3	Check for vibration in blower and motors	Monthly
4	Check the looseness of any bolt in the fan or casing etc.,	Monthly
5	Check the associated damper flap movement and apply grease for the bearing housing if required	Monthly
6	Check running current and Amp. Of the motor.	Monthly
7	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
8	Clean interiors and check for corrosion, check tightness of all sections	Half Yearly

6) CHILLED WATER CASSETTE

Sr. no	Check points	Schedule
1	Check and Clean Filter of Cassette Unit	Monthly
2	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
3	Check the drain pump for any blockage/repair if any.	Quarterly

7) DX SPLIT/ DX CASSETTE

Sr. no	Check points	Schedule
1	Check and Clean Filter of Cassette Unit	Monthly
2	Check and Verify proper operation/setting/calibration of safety controls, Sensors and Valves and Fixtures for any leakage.	Monthly
3	Check and Verify refrigerant gas leakage of DX unit if any	Quarterly

8) VENTILATION FANS

Sr. no	Check points	Schedule
1	Check cleanliness of the filters and clean if required.	Monthly

2	Check for vibration in blower and motors and rotation of fans.	Monthly
3	Check the looseness of any bolt in the fan or casing etc.,	Monthly
4	Check the associated damper flap movement and apply grease for the bearing housing if required if any	Monthly
5	Check running current and Amp. Of the motor.	Monthly
6	Clean interiors and check for corrosion, check tightness of bolt of all sections of Fans.	Half Yearly

9) BTU Meter

Sr. no	Check points	Schedule
1	Calibration of Meter	Yearly
2	Repair/Replacement of faulty meter	As required

Obligations of the Contractor

The obligations of the Contractor in respect of the Maintenance requirements shall include repair and rectification of the defects and deficiencies specified in **Annexure IV** of this RFP within the time limit set forth therein.

In case of repair or replacement of the components the contractor needs to provide the warranty of the replaced and rectified component, and the system shall be functional in all respects at the best performing efficiency.

Annexure IV

The Contractor shall repair and rectify the Defects and deficiencies specified in this **Annexure IV**

- Chillers - Minor repair shall be rectified within 72 hours and major repair (compressor failure) shall be rectified within 15 days.
- Pumps - Minor repair shall be rectified within 72 hours and major repair (motor/bearing failure) shall be rectified within 15 days.
- Cooling towers - Minor repair shall be rectified within 72 hours and major repair (motor/bearing failure) shall be rectified within 15 days.
- AHU - Minor repair shall be rectified within 72 hours and major repair (motor/bearing failure) shall be rectified within 15 days.
- DX units / VRV units - Minor repair shall be rectified within 72 hours and major repair (motor/bearing failure) shall be rectified within 15 days.
- Fans - Minor repair shall be rectified within 72 hours. and major repair (motor/bearing failure) shall be rectified within 15days.
- Piping/valve/ traps/ fittings / Taps leakages - Shall be rectified/replaced within 24 hours

- Instruments like gauges/sensors - Shall be rectified / replaced within 24 hours
- Essential spares to be available for immediate repair.

Sr. No.	Equipment	
1	Water-cooled screw chillers	As mentioned above
2	Hvac pumps	As mentioned above
(i)	Primary pump	As mentioned above
(ii)	Secondary pump	As mentioned above
(iii)	Condenser Pump	As mentioned above
(iv)	Chiller water makeup pump	As mentioned above
(v)	Makeup water pump	As mentioned above
3	Cooling tower	As mentioned above
4	Air handling unit (ahu)	As mentioned above
5	Treated fresh air unit (tfa)	As mentioned above
6	Chilled water cassette	As mentioned above
7	Dx split/ dx cassette	As mentioned above
8	Ventilation fans	As mentioned above
9	Btu meter	Within 24 hours
10	Valves	As mentioned above
11	Smoke fan	As mentioned above
12	Pressurized fan	As mentioned above
13	Strainer	As mentioned above
15	Fire exhaust fan	As mentioned above
16	Fan cooling unit & VRF systems	As mentioned above
17	Canteen (AC)	Within 24 hours
18	Air washer	Within 24 hours
19	Dry scrubber	Within 24 hours
20	Split ac	Within 24 hours
21	VAV unit with Monitoring display	Within 24 hours

Penalties

1.1 For employees:

The Agency shall be responsible for deploying the required staff, employees etc. for the due performance of the scope of services and in case any of the employees are absent on a particular day/shift, the Successful Bidder shall immediately deploy equally qualified or trained or better trained employee/staff and if the Agency fails to comply with this clause Client shall have the right to impose penalty as mentioned below:

Standards	Measures	Penalty Points
Workforce Quantity	Short deployment from the agreed number of workforces for deployment >95%	5 points per man-day
	Short deployment from the agreed number of workforces for deployment <95%	10 point per man-day
	Short deployment from the agreed number of workforces for deployment <90%	15 point per man-day
	Short deployment from the agreed number of workforces for deployment <80%	20 point per man-day
	Short deployment from the agreed number of workforces for deployment Continuously <50%	150 point per man-day

1.2 For non-compliance:

If the contractor fails to repair or rectify any or all defects and deficiencies in the defined timeline as following penalty schedule shall be applicable:

Repair or Rectification or Arranging the manpower of any or all defects and deficiencies	Penalty
Within the timeline	No penalty
After 72 hours of timeline up to 07 days	0.25% of the remunerations for the particular month
After 07 days of timeline up to 10 days	0.5% of the remunerations for the particular month
After 10 days of the timeline till resolution	1.0% of the remunerations for the particular month
These Penalties will be non-refundable upon completion of work.	
The contractor shall be provided suitable time for procurement of spares/materials/consumables, if required.	