

## Water & Civil Division

### Water AMI (Advanced Metering Infrastructure) Project

#### GUIDELINES FOR RDC (RADIO DATA CONCENTRATOR) INSTALLATION IN VILLA COMMUNITY

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**Dubai Electricity & Water Authority**

**GUIDELINES FOR RDC (RADIO DATA CONCENTRATOR)  
INSTALLATION IN VILLA COMMUNITY**

**Rev-0**

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## **RADIO DATA CONCENTRATOR INSTALLATION STANDARD**

1. Developers are required to allocate a plot of land having dimensions, 2m X 2m (LXW) adjacent to each pocket substation in the community for installation of AMI communication antenna on a high GI pole.
2. The installation of precast RCC foundation and associated excavation, levelling, backfilling and compaction works shall be in line with the typical installation Drawing: PEW-PL-21-774.
3. This area shall be properly reinstated with curbstones, interlocks and secured with U-shaped steel bollards.
4. A GI pole of 16-meter high shall be erected on the aforementioned foundation as proposed in the Drawing: PEW-PL-21-771 and as approved by the DEWA AMI team.
5. Necessary manpower and machinery shall be provided to install antennas, accessories on the pole and to pull RF cables.
6. Single pole is sufficient if the community area is about 500 square meters. Two or more poles are required if the community area is more than 500 square meters to create multiple communication zones overlapping each other by about 20 meters to eliminate dead zones.
7. Pole shall be installed with lightning arrester (ABB Furse or similar brand, Air Rod standard: BS EN 50164-2, UL96 (RA215, RA225) with base (Air Rod Base standard: IEC/BS EN 62561-1 (SD105-H), BS EN 62561-1 (SD003-H), UL96 (SD105-H) at the top. An insulated stranded copper conductor with a cross sectional area of 50 Sq. mm shall be connected to the lightning arrester and the earth rod inside the earth pit with suitable clamps at both ends.
8. An earth pit with solid copper earth rods shall be provided in each plot for lightning arrester.
9. Ground resistance for the earth rod shall be less than 2 ohms. A 100mm dia uPVC sleeve shall be extended from pole foundation precast to the earth pit for earth cable routing.
10. A separate earth pit shall be provided for structure grounding of the pole with ground resistance less than 2 ohms.
11. A Precast foundation shall be fixed as proposed in the Drawing: PEW-PL-21-776 for mounting RDC cabinet. The foundation shall have four Ø10mm, 90mm Stainless steel long threaded anchor bolts for securely fastening the cabinet. The second 100mm uPVC sleeve from pole foundation precast shall be extended up to the cabinet foundation for routing of RF cables from the antenna.
12. Front opening of the cabinet foundation shall be covered with 1mm thickness SS sheet and fixed with 4 numbers of M6 wedge anchor bolts.
13. 50mm heavy duty uPVC sleeve with pulling rope shall be laid from the cabinet foundation up to the DEWA Pocket substation for power cable routing. The conduit shall enter the pocket substation through the cable entry opening.
14. GRP cabinet shall be installed as per the standard installation Drawing: PEW-PL-21-775.

15. LV power cable (Armored, 3X4 SQMM) shall be installed from DEWA PK to GRP cabinet with proper gland and termination.
16. DEWA AMI team shall be consulted during the design approval and invited for site inspection at every stage during the construction and installation work to avoid any discrepancy.
17. Detailed shop drawing shall be submitted for DEWA approval before the commencement of work.

#### **A. TYPICAL REFERENCE PICTURES**



Pole & Cabinet



Interlock



Cabinet



Precast



Lightning Arrester



Lightning Arrester Base

## **B. REFERENCE DRAWINGS**

1. PEW-PL-21-771 (16M Antenna Pole 1 of 3)
2. PEW-PL-21-772 (16M Antenna Pole 2 of 3)
3. PEW-PL-21-773 (16M Antenna Pole 3 of 3)
4. PEW-PL-21-774 (RDC Pole Foundation)
5. PEW-PL-21-775 (RDC Cabinet)
6. PEW-PL-21-776 (Cabinet Foundation)