

**RULE 2012 PROTOCOL-  
CHAPTER 7**

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**REMOTE TERMINAL UNIT (RTU)  
- ELECTRONIC REPORTING**

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CHAPTER 7 - REMOTE TERMINAL UNIT (RTU)

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This chapter defines the tasks and characteristics for electronic reporting of emissions from all sources. The Facility Permit holder of a major source shall use an RTU to telecommunicate rule compliance data to the District Central Station Emissions Monitoring Computer. The RTU shall collect data, perform calculations, generate the appropriate data files, and transmit the data to the Central Station. The Facility Permit holder of a large source or process unit may elect to use an RTU. Alternatively, the Facility Permit holder of a large source or process unit shall compile the required rule compliance data manually, and transmit that data via modem in accordance with the data requirements of Section D in this chapter. The Facility Permit holder shall use, when required, the appropriate record type specified in this chapter to report to the District Central Station emissions from all RECLAIM NOx sources. Alternative to transmitting data to the District Central Station, the Facility Permit holder may use the District Internet Web Site to report emissions electronically from RECLAIM NOx sources except for major sources.

## **A. GENERAL**

### **1. General**

The Facility Permit holder of a major source shall telecommunicate rule compliance data to the District via Remote Terminal Units (RTU). This form of reporting may also be used for large sources or process units. The RTU shall collect data from a CEMS, a CPMS, or other equipment specified in the Facility Permit and send data periodically to the Central Station Emissions Monitoring Computer (Central Station ).

This chapter specifies the tasks and characteristics required of the RTU and shall be used as a guide for providing the required software/hardware for the RTU. Emissions Data Collection System conformity as well as establishing and maintaining communications with the emission monitoring system and the Central Station shall be the responsibility of the Facility Permit holder. This chapter also serves as a functional guideline for operating requirements of the RTU, and provides information concerning RTU hardware/software procurement, configuration, installation, maintenance, and compatibility with the emission monitoring system and the Central Station.

### **2. RTU and Supporting Equipment Description**

#### **a. Purpose:**

The RTU shall interface to existing data acquisition systems or other field instrumentation, and shall gather and store data, and facilitate telecommunication with the Central Station Computer.

#### **b. Environment:**

##### **i. Logical Environment:**

The signal chain includes the process equipment, sensing devices, data acquisition system, RTU, modem, communications link and District Central Station.

ii. Physical Environment:  
Typical environments shall include "friendly" and "Central Station" environments. Friendly environments include clean, air conditioned areas such as computer rooms and offices. Hostile environments may include exterior spaces or interior spaces without benefit of air conditioning, and areas where free floating air particulates may impede the normal operation of exposed electronics. Each RTU shall be mounted in such a manner as to be environmentally qualified.

iii. Electrical Environment:

1) Connected Devices:

Each RTU may receive information from a local computer (DAS) or various field sensing devices, calculate and/or store the specified parameters and shall make its data available to local and Central Stations.

2) Sensor-based Data to be acquired:

Where applicable, the RTU shall be able to directly monitor transducers which sense variables required for compliance determinations. At a minimum, input analog conversion hardware should operate with a medium level of resolution (i.e. 12 bit resolution) and a sampling rate sufficient to accurately characterize the sensor based data.

iv. Description of Data to be transmitted:

All data shall be made available at data output ports in ASCII format as described below:

1) Data Sampling:

Shall retain selectable status levels about its sensors.

2) Rule-specific Data Sets:

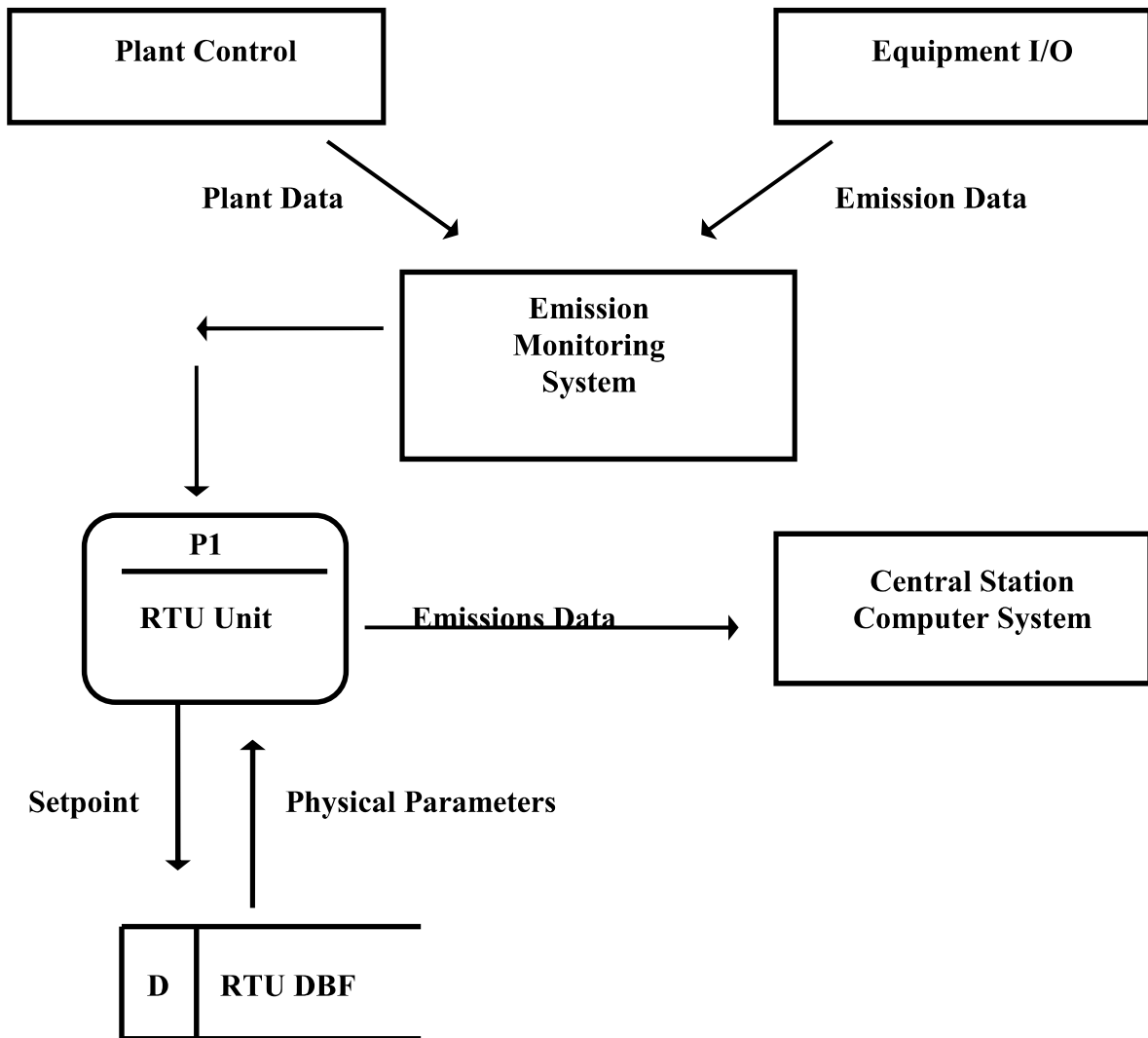
(as specified elsewhere)

c. Functions:

The RTU shall provide the following functions:

i. Power-Up/Restart Mode:

### RTU Context Diagram



### RTU Data Flow Diagram

