

Remote Telemetry Unit (RTU) Guidelines & Minimum Requirements

PSO/Private Sanitary Sewer Pump Stations

Compliance Date: October 1, 2022



Department of Environmental Resources Management (DERM)

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PRIVATE SANITARY SEWER PUMP STATIONS

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RTU Protocol / Guidelines

1. Code Requirements for RTU

Pursuant to the Federal Consent Decree, Case No. 1:12-cv-24400-FAM, effective December 6, 2013, Section 24-42.2 of the Miami-Dade County Code (Code) was amended to incorporate requirements for the reduction of the unintended release of untreated sewage (i.e., sanitary sewer overflows) from private sewage collection and transmission systems. Sanitary sewer overflows (SSOs) contain raw sewage which carry bacteria, viruses, protozoa (parasitic organisms), helminths (intestinal worms), inhalable molds and fungi, pharmaceutical products, excess nutrients, and other pollutants. As a result, SSOs may cause diseases ranging in severity from mild gastroenteritis (causing stomach cramps and diarrhea) to life-threatening ailments such as cholera, dysentery, infections, hepatitis, and severe gastroenteritis. SSOs also impact groundwater and surface waters that can further degrade water quality in Biscayne Bay due to excess nutrient flux conveyed by surface water and submarine groundwater discharges to the Bay.

Installation of Remote Telemetry Units (RTUs) was one of the requirements implemented to reduce or eliminate SSOs. The RTUs monitor the operation of private sanitary sewer pump stations (pump stations) ***“in a manner that allows sufficient response time to correct the detected problem prior to overflow occurring and to minimize the extent of an overflow.”***

Chapter 24 of the Code of Miami-Dade County includes the following requirements:

Sec. 24-42.2. - Sanitary sewer collection and transmission systems.

(5) Requirements for non-utility pump stations.

- (c) All sanitary sewer collection systems shall be maintained in a manner to prevent or minimize the possibility of overflows.
- (d) All sanitary sewer collection systems shall have a written maintenance plan including, but not limited to, inspection procedures, preventative maintenance schedules, corrective maintenance procedures, and reporting procedures.
- (e) All pump stations shall, at a minimum, contain fully operable alarm or monitoring equipment ***which reports the following information:***
 - (i) High water level alarms in wet wells;
 - (ii) Pump station power failures.

- (f) All system operators shall monitor their systems in a manner that allows sufficient response time to correct the detected problem prior to overflow occurring and to minimize the extent of an overflow.

2. Compliance Schedule for installing an RTU

All new pump stations are required to include an RTU in construction documents and install the RTU prior to final certification.

Existing non-utility pump stations not equipped with an approved RTU were required to upgrade control equipment pursuant to the time frames stipulated in their operating permit. However, due to the COVID19 Pandemic, the Department extended the due date for installation of an RTU approved for each non-utility pump station to **October 1, 2022**.

3. Facilities required to install an RTU

All facilities served by one or more existing pump station(s) are required to comply with the installation of an RTU on or before **October 1, 2022**. Facilities with multiple pump stations shall install an RTU for each pump station on or before **October 1, 2022**.

4. Existing Facilities

The following apply to all existing facilities served by one or more non-utility pump stations:

- a. Pump stations already equipped with an operable RTU approved by the Department are not required to install a new RTU or modify the existing RTU.
- b. Replacement of existing RTUs must comply with the **Remote Telemetry Unit (RTU) Guidelines & Minimum Requirements** and the PSO operating permit conditions.
- c. Pump stations that do not have an operable RTU must comply with the **Remote Telemetry Unit (RTU) Guidelines & Minimum Requirements** and the PSO permit conditions on or before **October 1, 2022**.

5. New Facilities

The installation, construction, and/or modification of pump stations require a Florida Department of Environmental Protection Construction Permit issued by the Sewer Extension Program with the RER, Construction, Permitting, and Building Code Division pursuant to Chapter 24, Code of Miami-Dade County and 62-604, Florida Administrative Code. All new pump stations are required to include an RTU in construction documents and install the RTU in accordance with the approval, prior to final certification. New RTUs shall comply with the **Remote Telemetry Unit (RTU) Guidelines & Minimum Requirements**.

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6. RTU Minimum Specifications

The following are the minimum requirements for new and/or replacement RTUs:

- a. The RTUs shall provide wireless communication over a cellular or satellite network capable of real-time alarm notifications to the property owner and the service/maintenance contractor.
- b. The RTU panel enclosure shall be rated 'NEMA 1' for indoor installations and 'NEMA 4X' or 'IP67 - Corrosion Resistance' for outdoor installations. An equal enclosure may be proposed if manufacturer cut-sheets are submitted to DERM for approval prior to RTU installation.
- c. RTUs shall include a 24-hour back-up battery for loss of 120 VAC power; or as required by Florida Building Code, Building; the most restrictive shall govern.
- d. RTUs shall provide a total of eight (8) points of alarm notifications.
- e. Point of alarm notifications to property owner and service/maintenance contractor shall include:
 - Pump station power failure.
 - Individual pump failure with capability to identify which pump failed (e.g., Pump No. 3 FAILED).
 - High water alarm set at no less than six inches below inflow invert.
- f. Point alarm notifications shall be delivered via text message and email and shall include the DERM PSO email: PSO@miamidade.gov.
- g. The following points of alarm notification shall be wirelessly transmitted:
 - 1) Pump Station power failure
 - 2) Pump 1 Fail
 - 3) Pump 2 Fail
 - 4) Pump 3 Fail (as applicable)
 - 5) High Water Level Alarm
 - 6) Pump station control panel alarm activation
 - 7) Spare point no.1 of notifications available for future use
 - 8) Spare point no.2 of notifications available for future use

- h. The 120 VAC source connection shall be in the pump station control panel according to code requirements and in compliance with the RTU manufacturer specifications. A steady 120 VAC power source shall be selected so that an interruption in the power source shall trigger a power failure alarm in the RTU.

7. RTU Installation Requirements

The RTU installation shall follow the latest edition of the Florida Building Code, Manufacturer's Specifications, and these RTU Guidelines/Requirements.

- a. The RTU installation shall be performed by a duly licensed/qualified contractor(s) in the required fields or trades.
- b. All building permits shall be obtained prior to performing any work.
- c. Where underground work is required, all required clearances shall be obtained prior to digging (Sunshine 811).
- d. The property owner or contractor shall provide a copy of the building permit(s) and final inspection(s) approval to the Department inspector upon request.
- e. The property owner or contractor shall determine whether a suitable wireless service is available at the installation location.
- f. The RTU monitoring set-up shall include the following information at a minimum:
 - DERM Pump Station Number matching the number in the emergency contact sign located on the pump station (PS) control panel and/or fence enclosure.
 - Cell phone number(s) and email(s) of the service contractor, property owner or representative, and the DERM PSO Program Email (PSO@miamidade.gov)
- g. Always follow the manufacturer safety specifications during installation, operation, and service of the RTU(s).
- h. The RTU elevation, measured from the bottom of the unit, shall be at or above the base flood + free board + SLR (not less than 6-inches), for RTU units installed at new Pump Stations. For RTU units being installed at existing Pump Stations, the RTU elevation must be at a minimum 36 inches from the bottom of the unit to the finished ground, or as otherwise indicated by the building department permit for the installation.

- i. Corrosion resistant metal structure shall be provided as needed for RTU mounting and shall be as close to the pump station control panel as possible to avoid excessively long wire runs. The metal structure shall comply with code requirements.
- j. The location for RTU installation shall be selected avoiding areas of water ponding.
 - A waterproof label shall be placed on the RTU panel face reading “RTU-Pump Station #”. The panel shall be tamperproof and contain a key lock. See attached RTU label template. Use suffix A, B, C, etc. accordingly.
- k. When the installation of the remote telemetry unit is completed and the unit is operational, the property owner or the owner representative / contractor shall request a PSO permit compliance inspection via email at PSO@miamidade.gov. During the inspection, the RTU operational requirements shall be tested and/or demonstrated by the contractor.
- l. Compliance with the PSO RTU operating permit conditions requires a passed RER-DERM PSO inspection.
 - Any disapproved RTU Compliance inspections that will require a new inspection to be conducted by DERM PSO staff will be assessed a \$75.00 re-inspection fee.