

## Procedure Checklist

### FM 1-T310 - In-Place Density of Soils and Soil Aggregates by Nuclear Methods

Evaluation Date:		IA Evaluator:	
<sup>1</sup> Qualification Area:		Technician Name:	
<sup>2</sup> Evaluation Type:		Technician's Email:	
		Supervisor's Name:	
Evaluation District:		<sup>3</sup> Tech. Type:	
		Supervisor's Email:	

P	F	N/A
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General			
1		Warm-up time allowed by the technician is within manufacturer's guidelines.	
2		Standard counts obtained on at least 100 PCF (1600 kg/m <sup>3</sup> ) material.	
3		Gauge is at least 10 feet (3 meters) away from large objects.	
4		Gauge is at least 30 feet (9 meters) away from other gauges.	
Standard Density Count			
5		Today's Standard Density Count is within the allowable range.	
6		Today's Standard Density Count correctly verified by manual calculation.	
Standard Density Count			
7	For NDG's	Today's Standard Moisture Count is within the allowable range.	
8		Today's tolerance for Standard Moisture Count correctly verified by manual calculation.	
Density Test			
9		Test site chosen is at least 6 inches away from any vertical object(s).	
10		Test site is scraped and smooth.	
11		Voids greater than 1/8 inch at the test site were filled with native fines.	
12		Test hole is at the correct depth.	
13		Test hole was not disturbed during drill rod extraction.	
14		Gauge source rod is placed at the desired test depth.	
15		The NDG/L-NDG is capable of testing at odd test depths on a production LOT when the test requires odd test depths.	
16		The gauge is pulled gently in the direction that will bring the side of the source rod in firm contact with the side of the hole nearest the scaler.	
17		The appropriate density was transferred to the database/datasheet.	
18		Using an approved gauge and base material, nuclear moisture content (%) is obtained.	
19		Representative moisture sample is obtained correctly when other means of moisture measurement are required.	

Remarks: \_\_\_\_\_

**Notes:**

- 1 ECI Level I, ECI Level II
- 2 IA Observation, IA Split, IA Split/IA Observation
- 3 IA, QC, QC/VT, VT
- 4 Gauge Comparison Criteria

Condition		Comparison Type	Manufacturer	Tolerance
<b>Condition 1:</b> When both gauges in the comparison are Nuclear Density Gauges (NDG)		NDG to NDG	Same Manufacturer	2 lb/ft <sup>3</sup>
		NDG to NDG	Different Manufacturer	3 lb/ft <sup>3</sup>
<b>Condition 2:</b> When one of the gauges in the comparison is a Low-Activity Nuclear Density Gauge (L-NDG)		L-NDG to L-NDG	Same Manufacturer	2 lb/ft <sup>3</sup>
		L-NDG to L-NDG	Different Manufacturer	3 lb/ft <sup>3</sup>
		NDG to L-NDG	Same/Different Mnfctr.	