WSDOT Test Method T 421

Test Method for Traffic Controller Inspection and Test Procedure

1. SCOPE

The purpose of this procedure is to provide a documented method for the steps involved with inspection and testing of the completed traffic controller cabinets.

2. REFERENCE DOCUMENTS

WSDOT Standard Specifications 9-29.13
NEMA Publication TS-1
FHWA Publication IP-78-16
Caltrans: Traffic Signal Controller Equipment Specification

3. SAFETY

Use proper equipment to reduce the risk of electrical shock.

4. APPARATUS

Equipment as defined to perform WSDOT Test Methods T 422, T 423, T 424, T 425, and T 427.

Resistor load bank to simulate each traffic signal light (150 Ohm 100W wire wound resistors).

5. PROCEDURE

The traffic controller cabinet shall be inspected to ensure that it is in compliance with the contract documents. Ensure that all of the required equipment is installed and the cabinet meets the requirements of the contract documents. The results of successful completion of this procedure will be acceptance for testing.

As a minimum, the following items shall be inspected:

1) Mylar and four cabinet prints
2) Manuals
3) Labeling
4) Air filter
5) All wire laced and clamped
6) Field wire terminal blocks
7) Door locks
8) Police keys
9) Police panel switches
10) Circuit breakers
11) Transient voltage suppresser
12) Modem(s)
13) Phone jack for modem
14) Radio interference suppresser
15) Door light switch(s)
16) Pedestrian switches
17) Cabinet light
18) 120 VAC receptacle outlet
19) Ground fault interrupter

20) Equipment/Cabinet clearance

21) Load switches

22) Intersection display panel

23) Isolated 120VAC bus bar (neutral)

24) Phase Selectors

25) Flash transfer relays

26) Supplemental resistor loads

27) Two position door stop

28) Emergency indicator lights

29) Railroad preemption

30) Cabinet Construction

31) Detector Panel

32) Detector Panel shorting plug (NEMA)

33) Plastic document envelope (NEMA)

34) DB9 socket and C20 plug (170)

35) C-2 plug and cable (170)

36) Rack mounted document drawer (170)

37) Verify circuit breakers capacities

38) Absence of red assembly (170)

39) Controller

40) Software

41) AC isolator (170)

42) DC isolator (170)

43) Aux. file (170)

44) External logic (NEMA)

45) CMU door interlock switch

46) Stop Time switch

47) Cabinet Ground Bus bar

48) Conflict Monitor

49) Inside auto/flash switch

50) Loop Amplifiers

6. REPORT

Record any response found to be in disagreement with the published standards, report pass or fail and any corrective actions taken on the test report.

a. The traffic controller cabinet shall be connected to the resistor load bank.

b. WSDOT Test Method T 425, Environmental Chamber Test shall be performed. Any deficiencies shall be documented on the test report.
Performance Exam Checklist

Test Method for Traffic Controller Inspection and Test Procedure
Method T 421 Checklist

<table>
<thead>
<tr>
<th>Procedure Element</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Preparation</td>
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<tr>
<td>1. Cabinet inspected for damage during shipping.</td>
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<tr>
<td>2. Letter to project office sent</td>
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<tr>
<td>3. Traffic controller assessed for compliance with contract provisions.</td>
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<td>4. Simulated load connected to the Controller.</td>
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<tr>
<td>5. Perform Environmental test WSDOT Method T 425</td>
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First attempt: Pass ☐ Fail ☐  Second attempt: Pass ☐ Fail ☐

Signature of Examiner ________________________________

Comments: