WSDOT SOP 429  
*Methods for Determining the Acceptance of Traffic Signal Controller Assembly*

1. **SCOPE:**
   The purpose of this procedure is to provide a description of the steps involved with traffic signal controller assembly testing.

2. **REFERENCE DOCUMENTS**
   - **WSDOT Test Method T421 Receiving Inspection and Test Procedure**
   - **WSDOT Test Method T422 Transient Voltage (Spike Test) Procedure**
   - **WSDOT Test Method T423 Conflict Monitor Testing**
   - **WSDOT Test Method T424 Power interruption Test**
   - **WSDOT Test Method T425 Environmental Chamber Test**
   - **WSDOT Test Method T427 Loop Amplifier Test**
   - **WSDOT Test Method T428 Compliance Inspection and Test Procedure**

3. **PROCESS:**
   - **WSDOT Test Method T421 Receiving Inspection and Test Procedure**
     When the traffic controller assembly arrives for testing, the supplier should have arranged an appointment. Within 5 days of arrival the supplier shall assemble and demonstrate the controller assembly, Test Method T421 is to be completed in the presence of the supplier. After acceptance for testing a letter or e-mail is to be sent to the Project Engineer and/or the local agency identifying the assembly as ready of testing.
   
   - **WSDOT Test Method T425 Environmental Chamber Test**
     After completion of the environmental chamber test the controller assembly is to be sent to the Region Signal Shop to complete the test regimen. The Region Signal Shop will be informed when a traffic signal controller assembly has passed T425. The Region can choose to have the assembly picked up or it can be shipped commercially. If the controller assembly is not to be sent to the Region Signal Shop the Materials Lab will complete the test regimen beginning with Method T428.
   
   - **WSDOT Test Method T428 Compliance Inspection and Test Procedure**
     After receiving the controller assembly for testing a letter or e-mail is to be sent to the Project Engineer and/or the local agency identifying the assembly as ready for testing. At this point order is no longer important.
WSDOT Test Method  T422 Transient Voltage (Spike Test) Procedure
  Test Method T422 is to be done only randomly and is not to be done on every
  assembly.
WSDOT Test Method  T423 Conflict Monitor Testing
WSDOT Test Method  T424 Power interruption Test
  Test Method T424 is not to be performed on type 2070 controllers
WSDOT Test Method  T427 Loop Amplifier Test

Upon completion of all testing send the satisfactory test report to the Project Engineer with a
copy to the Region Administrator, the State Signal Operation Engineer and the State Material
Laboratory Electrical Engineer.

**Note:** All of the testing may not be performed at the same facility; there may be more than one
satisfactory test report to document all of the required tests.
Methods for Determining the Acceptance of Traffic Signal Controller Assembly

Legend

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<thead>
<tr>
<th>State MatLab</th>
<th>Region</th>
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</thead>
<tbody>
<tr>
<td>Assembly</td>
<td>Supplier</td>
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<td>P.E.O.</td>
<td></td>
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WSDOT SOP 429
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State Materials Laboratory Receives the Assembly

WSDOT T 421
Receiving Inspection and Test Procedure Witnessed by Supplier

Did Assembly meet specification requirement?

YES

Supplier addresses non-compliance issue(s). Replace parts or assembly

NO

Is Environmental Chamber Testing Required?

YES

WSDOT T 425
Environmental Chamber Test

Did Assembly meet specification requirement?

YES

Will Assembly be tested by State Mat Lab or the Region?

YES

Region

WSDOT T 428
Test Method for Traffic Controller Compliance Inspection and Test Procedure
- WSDOT T 422, Transient Voltage Procedure
- WSDOT T 423, Conflict Monitor Testing
- WSDOT T 424, Power Interruption Test Procedure
- WSDOT T 425, Loop Amplifier Test Procedure

Did Assembly meet specification requirement?

YES

Generate Test Reports and Distribute

Assembly configured by Region for the Intersection

Assembly Delivered to P.E.O.

NO

Supplier addresses non-compliance issue(s). Replace parts or assembly

WSDOT T 428
Test Method for Traffic Controller Compliance Inspection and Test Procedure
- WSDOT T 422, Transient Voltage Procedure
- WSDOT T 423, Conflict Monitor Testing
- WSDOT T 424, Power Interruption Test Procedure
- WSDOT T 425, Loop Amplifier Test Procedure

Did Assembly meet specification requirement?

YES

Generate Test Reports and Distribute

Assembly replaced by Supplier

NO

WSDOT T 425
Environmental Chamber Test

Did Assembly meet specification requirement?

NO

Supplier addresses non-compliance issue(s). Replace parts or assembly