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2.11 Inprocess Inspection

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*MxV Rail is a subsidiary of
the Association of American Railroads
(formerly TTCI)*

Auditing Inprocess Inspection

The Requirements



The *facility* shall:

- **2.11.1** Inspect, test, and identify the *activity* as required by the documented inspection and test plan.
- **2.11.2** Monitor process methods where inspection is not feasible.
- **2.11.3** Hold items until the required inspections and tests are complete or necessary reports are received and verified (*except when items are released under positive recall*). Release under positive recall shall not preclude inspection, testing, and identification as specified in paragraph 2.11.1.



The *facility* shall:

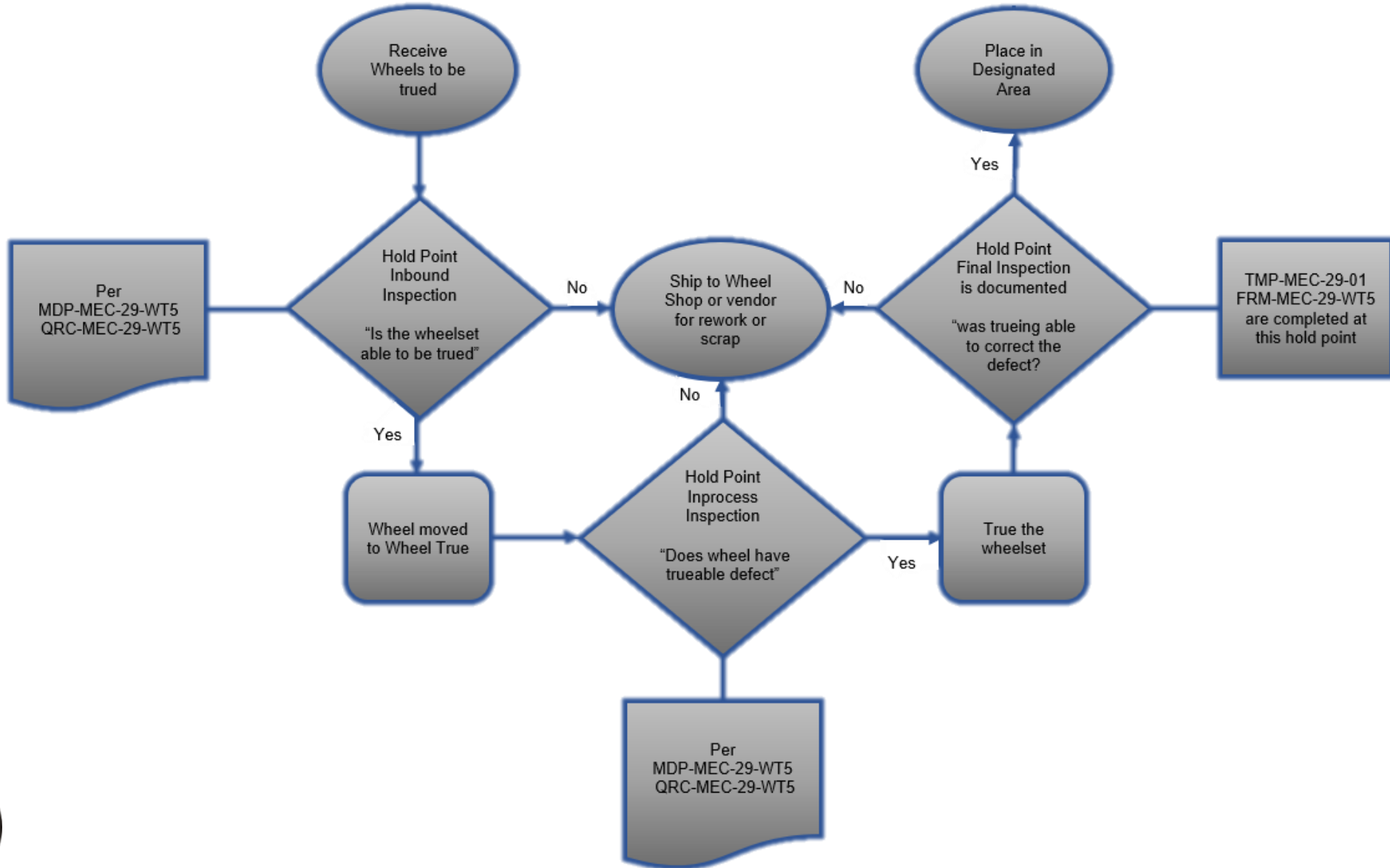
- **2.11.4** Identify nonconforming items.
- **2.11.5** Maintain documented procedures for the verification, storage, and preservation of the customer-supplied materials.
- **2.11.6** Record and report to the customer any customer-supplied materials that are lost, damaged, nonconforming, or otherwise unsuitable for use. This verification of the customer-supplied materials by the *facility* does not absolve the customer of the responsibility to provide acceptable materials.



Inspect, test, and identify

the *activity* as required by the inspection and test plan.





Monitor Process Methods

What is process monitoring about?



Process monitoring is to control variability

- When unusual variability is discovered, the goal is to make (permanent) process adjustments to avoid that variability from ever occurring again.
- Process monitoring is not automatic Feedback control
- Process monitoring is:
 - ✓ Infrequent and unscheduled adjustments (not on a set cycle)
 - ✓ Adjustments made manually(not automatically with actuators)
 - ✓ Occurs due to special causes (nonconformance)



Process monitoring is to control variability

- Process monitoring is often called Statistical Process Control (SPC)
 - Therefore, activities can and should result in:
 - ✓ Data collection
 - ✓ Monitoring charts/control charts
 - ✓ CAPA entries where high variability is found



Process monitoring is to control variability

- What should be monitored
 - Any variable can be monitored
 - Measurements available at the start of the process
 - ✓ Raw material from supplier
 - ✓ First article Inspection at the start of the process
 - Measurements available during the *activities*
 - ✓ Internal variables as measured by sensors
 - ✓ Hold points inspections





Hold Points

What is a Hold Point?



Hold Point

- A mandatory verification point
- Beyond which work cannot proceed without approval
- Hold points are usually assigned to critical aspects of the work
- Are often stages of the process that are not able to continue without having an inspection approval.









Identify Nonconforming Items

What to look for?



What to look for?

- Hold point.
 - Documented inspections with defined tolerances
 - Nonconformance reports
 - Corrective and preventive actions resulting from inspections
- Nonconforming material hold areas





Maintain documented procedures

for the verification, storage, and preservation of the customer-supplied materials



What to look for?

- Procedures for handling customer supplied material
 - 2.16 Preservation, Packaging, and Shipping
 - Customer requirements
 - Regulatory requirement
 - Internal process
 - Can be any requirement describing the handling and care of customer supplied material.



5.1. Wheel Sets

- 5.1.1. All serviceable (finished) wheel sets must be stored on a single track, one behind the other, flange to flange.
- 5.1.2. All wheelsets must be arranged so the wheel flange cannot strike either the roller bearing or the body of an adjacent axle.
- 5.1.3. In accordance with **SMP 25003**, the above precautions apply to wheel sets that are transported via truck
- 5.1.4. Wheelsets with wheels designated for recontouring, yet to be worked, must be stored on a single rail or on a hard even surface such as concrete or asphalt. If not stored on rail, must be arranged one behind the other, flange to flange. If multiple rows are utilized, wheelsets must be arranged endcap to endcap with sufficient distance to prevent inadvertent damage. (3 ft. recommended)
- 5.1.5. When handling, transporting, or shipping wheelsets there shall be no metal-to-metal contact with the axle body or roller bearings.
- 5.1.6. Wheelsets stored outside shall not have exposed bearing journals or axle ends.

5.2. Wheel Blanks

- 5.2.1. Wheel blanks must not be stored horizontally while exposed to nature's elements for a period of time exceeding 90 days.
- 5.2.2. Wheel blanks in storage shall not be exposed to corrosive chemicals, including but not limited to salt/ice melting substitutes.





Audit date 3/15/2022



2.16.3 - 2.16.4

Complete assemblies shall be placed in designated areas, with status indicators in place, until such time they are to be shipped.

Palletize the bearings and covered with appropriate packing cover, with status indicators in place, and store in an area protected from dirt and contamination (Reference AAR Manual, Section H, Part-II).

Rework components to be shipped, will be palletized, covered, or boxed and sent to Material Control, with a material disposition tag attached, for shipment.

MSRP HII rule 3.8.11 If bearing assemblies are to be placed in stock, they must be packaged properly, covered, and stored in a dry area free from dirt and moisture.

MSRP GII RULE 1.8.8 Storage of Reconditioned Bearings

1.8.8.1 If bearing assemblies are to be placed in stock, they must be stored in proper packaging, covered, and stored in a dry area free from dirt and moisture.





Record and report to the customer

customer-supplied materials



How to audit

- When the property of a customer is lost, damaged or otherwise found to be unsuitable for use, the *facility* is required to report this to the customer and retain records on the occurrence.
 - This can be done by:
 - ✓ QA-7.1
 - ✓ Nonconformance
 - ✓ Email
 - Documented on material inspection records.





Thank you



Association of American Railroads
Quality Assurance Committee