

NUCLEAR OPERATING PROCEDURE	Procedure Number: NOP-LP-1	
Vendor Required Modification to Bolt Widget	Continuous Use	
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Vendor Required Modification to Bolt Widget

Effective Date: 01/10/2010

Approved: Bolt Masters /01/10/2010
Bolt Widget Component Engineer Date

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1.0 PURPOSE

This procedure provides instructions for implementing a required modification for the bolt widget.

2.0 SCOPE

2.1 Applicability

This modification is applicable for all bolt widgets.

2.2 Exceptions

2.2.1 None

3.0 DEFINITIONS

3.1 None

4.0 PROCEDURE DETAILS

4.1 Precautions and Limitations

4.1.1 Order of parts placement on the bolt widget is critical to widget operability.

4.1.2 Because the parts must be attached in a specific order, only one trainee should be assigned to touch and install the parts.

4.1.3 **If** the modification is not completed in 10 minutes, **then** notify the control room to trip the reactor.

4.2. Procedure

4.2.1 Supervisor shall perform a prejob briefing prior to start of work.

_____ Supervisor

4.2.2 Disassemble bolt widget except for the silver nut closet to the bolt head.

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Caution
Order of parts placement on the bolt widget is critical to the widget operability.

4.2.3 Holding bolt in one hand, assemble parts in the following order:

1. Red nut
2. Flat washer (one side red and one side black) with red side facing bolt head
3. Lock washer
4. Flat-washer (both sides silver)
5. Silver nut
6. White nut
7. Flat-washer (one side black and one side white) with white side facing bolt head
8. Silver nut

Caution
Damage to parts installed to this point will occur if the brass flat-washer is installed with the embossed side facing the bolt head. If this occurs, stop and notify job supervisor immediately.

9. Brass flat-washer with **embossed** side facing away from the bolt head
_____ CV
10. Silver nut
11. Black nut
12. Flat-washer (both sides silver)

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13. Silver nut

14. Wing nut

4.2.4 Have Quality Assurance perform an independent verification to ensure parts are correctly installed, and documentation indicates concurrent verifier concurrence.

_____IV

4.2.5 Perform a post job review, capturing any beneficial practices or improvement opportunities.

_____ Supervisor

5.0 RECORDS

None

6.0 REFERENCES

6.1 Discretionary

6.1.1 None

6.2 Obligations

6.2.1 ANSI N18.7-1976/ANS 3.2-1976

7.0 SCOPE OF REVISION

1. Added Caution considerate of bolt widget operability concerns.
2. Corrected font differences.

The intent of this dynamic learning activity is to demonstrate use of the following tools:

- Procedure use(classification level) & adherence
- Placekeeping
- Concurrent verification
- Independent verification
- Critical Step
- PJB
- Observation & coaching skills
- Time pressure

Suggested team setups:

4 people teams:

1 supervisor

2 workers

1 observer (coach)

Materials needed:

Bolts – 3/8” bolts 3.5 inches long

Nuts

Flat washers

Lock washers

Large flat washers brassy in color (that have embossing on one side)

Spray paint to paint some bolts and flat washers (red, black and white)

Suggested timelines:

- 7-10 minute introduction to DL
 - Ask participants how many ways to disassembly component? (1)
 - Ask participants how many ways to reassembly incorrectly? (17 factorial – very large number of ways!)
 - Have teams pick roles.
 - Inform team that facilitator(s) are the “component engineer” if they have any questions and they are also the QA staff for the IV procedurally required.
- 8-10 minute time for task preview
 - Provide participants with procedure copy.
 - Have bolt widgets located near each team work table simulating it’s installation in the plant. If teams want they can “walk down” the component at that location but cannot take it to the work table.

- 10 minutes for pre-job brief by supervisor.
 - Observer takes notes – no intervention.

- 10 minutes for task execution.
 - Do not allow supervisor intervention.
 - Observer and supervisor observe execution and take notes.

- 15 minutes for observers and supervisors to report out to whole group.
 - What tools used? What when well? What could have been done better?

Creating good coaches by the following guidance:

When the team reaches post-job briefing step, observers (not the class room facilitator) are to facilitate debriefing by use of the following techniques:

Question 1 – What did the team do well?

Question 2 – What could have been done better and why?

If this covers all the observer's notes, brief is done. If the observer has additional input, provide it at this time. (The reason this is done this way is to create greater ownership by participants).

As a 5 minute closure, capture **KEY LEARNINGS** by asking observers for top items (at least 1 from each observer and capture on flip chart/board) identified during activity. Next ask for "top items that could be improved" items and capture on flip chart also. Review these with class and the state **"This task was a simple task. Our personnel who touch the physical plant are faced by this type procedure use and adherence task frequently.**

Thank the class for participation.