

## Clarification Request

**References:** TP 20.0.1 test 7.3.1.X41.Y3

**Date of BTL-WG Response:** July 14, 2022

### Background:

#### 7.3.1.X41.Y3 Blink-Warn WARN\_RELINQUISH Command Test

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Test Steps:

1. VERIFY Priority\_Array = V1, ARRAY INDEX = PTY1
2. VERIFY Blink\_Warn\_Enable = TRUE
3. VERIFY Egress\_Time > 0
4. VERIFY Egress\_Active = FALSE
5. WRITE PROP\_REF = C1, PRIORITY = PTY1
6. T1 = current local time
7. BEFORE **Internal Processing Fail Time**  
CHECK (blink-warn occurred)
8. WHILE (Egress\_Active = TRUE)  
VERIFY Priority\_Array = V1, ARRAY INDEX = PTY1
9. T2 = current local time
10. VERIFY Egress\_Time  $\sim$  (T1 - T2) +/- **Internal Processing Fail Time**
11. VERIFY Priority\_Array = NULL, ARRAY INDEX = PTY

### Problems:

In **step 8** there is a race condition. In the “while” clause Egress\_Active is compared to True. After that the value in the Priority\_Array is compared. But Egress\_Active could change just before reading the Priority\_Array. The chance for the problem to occur in testing is increased by the implied WAIT internal processing time inside the VERIFY statement.

The same pattern can be found at least in test 7.3.1.X41.Y2 also step 8.

Additional erratum like problem in **step 10**. Instead of (T1 - T2) it should rather read (T2 - T1).

Also in step 10 the mentioning of “+/- Internal Processing Fail Time” is misleading because the Check in step 7 can take up arbitrary amount of time, probably well above Internal Processing Fail Time.

### Questions:

1. Will the tests be rewritten into a form, that avoids race conditions?
2. Will step 10 be fixed.

**Response:**

1. Yes
2. Yes

The BTL-WG agrees that the test is incorrect in the way noted above. To resolve the issues, the test will be modified, starting at step 7, as noted below:

- ~~7. BEFORE Internal Processing Fail Time~~
- ~~—CHECK (blink warn occurred)~~
- 7. **VERIFY Priority\_Array = V1, ARRAY INDEX = PTY1**
- 8. **WHILE (Egress\_Active = TRUE)**
  - WAIT 1s**
  - ~~—VERIFY Priority\_Array = V1, ARRAY INDEX = PTY1~~
- 9. **T2 = current local time**
- 10. **CHECK(blink warn occurred)**
- 11. **VERIFY Egress\_Time  $\approx$  (T2 - T1) (T1 - T2) +/- Internal Processing Fail Time**
- 12. **VERIFY Priority\_Array = NULL, ARRAY INDEX = PTY**

Test 7.3.1.X41.Y2 will be modified in a similar way.