

61850-7-5 and 61850-7-500 - IEC61850-7-5 #6555

Behaviour of output contacts when LN is in blocked mode

10/26/2023 02:52 AM - Keith Gray

Status: New	Start date: 10/26/2023
Priority: Normal	Due date:
Assignee:	% Done: 0%
Category:	
Target version:	
Source:	TF 7-5 Project document: IEC 61850-7-5
Category: Not yet categorized	Related TISSUE: https://iec61850.tissue-db.com/tissue/1793
Description	

History

#1 - 10/26/2023 02:52 AM - Keith Gray

This was assigned to 7-5/7-500 TF during the 7-5/7-500 meeting in Kista, Sweden on 2023/10/25.

#2 - 02/02/2024 08:00 AM - Michael Haecker

Part 7-1 says: "The mode blocked (Beh=test/blocked or Beh=blocked) shall be interpreted as the mode which explicitly disables any physical outputs having an effect on the process."

Part 7-4 says: "No (wired) output data (digital by relays or analogue setpoints) will be issued to the process."

Once LN.Beh="blocked" or "test/blocked", then the blocked LN instance shall not change the output status.

Activation of blocked mode shall not cause a spontaneous change of any output. Since the standard cannot know whether a project uses an active high or an active low output signal, the standard cannot define the inactive output status. Any output change could be interpreted as a signal to the process.

LN.Beh="blocked" or "test/blocked" freezes the output in its actual state.

Testing a control command against the 'LN.Beh' is typically done before a control is processed.

To be discussed: Activation of blocked mode during a switchgear operation. Option: to complete the switchgear operation before blocking the output for further actions. Rational: The switchgear must not be damaged due to activation of blocked mode. Proposal: Activation of blocked mode does not force the output to return to an inactive output state.

To be discussed: Blocking of the entire IED (LD0/LLNO.Beh) does not affect the watchdog output.

#3 - 02/07/2024 03:14 AM - Keith Gray

- TF 7-5 Project document IEC 61850-7-5 added

- TF 7-5 Project document deleted (-)

2024/02 WG10 Meeting Discussions:

- Michael presented his response
- Tom suggested that the block is only checked at the time a control request is received
- What does this mean for an analog setpoint output?
 - Blocking a change?
 - Setting to a known value?
- Are we only talking about block command send to mod or are we also talking about command blocked?
 - Only talking about control mod blocked.
- Reaching consensus that a command to block should not interfere with an ongoing command:
 - If a user puts the LN into blocked mode but just before that a protection trip is issued, we don't want that trip contact to be interrupted until the breaker/switch is open

Open Questions:

- Should the update of beh be delayed because a command is in progress?
- Also need to consider what happens if mod/beh is set to off while an existing control is running?
 - Should consider all of the change of states for ongoing commands
- "Freeze" current output state?