

Insta-Link Pro Slow-down Testing Procedure

Overview

The slow-down test procedure verifies the correct operation of the Insta-Link hazard monitoring system and the plant PLC control systems. The procedure is implemented in the hazard monitoring software with a step by step prompt interface to walk the user through the testing procedure. At the end of the test a report will be generated by the Insta-Link software to document all aspects of the test. On the next page is an example of a sample report generated by the system to document the test.

Slow-down Testing Procedure

1. Verify operation of audible and visual alarm.
(During the equipment testing the alarm will be disabled for slow down conditions.)
2. Start a piece of equipment from plant PLC and verify that hazard monitoring system sees a run indication from the plant PLC.
(This verifies that the hazard monitoring system receives a run signal from the plant PLC.)
3. Wait for the piece of equipment's speed to reach $\pm 5\%$ of calibrated speed.
(This ensures that the plant PLC did indeed start the piece of equipment and that the hazard monitoring system is reading speed correctly.)
4. Force hazard monitoring system to see the equipment's speed at 90% of calibrated value.
5. Verify the hazard monitoring system generates a 10% under speed warning.
6. Verify the plant PLC responds to 10% under speed warning.
(This verifies the plant PLC response the hazard monitoring system.)
7. Force hazard monitoring system to see the equipment's speed at 80% of calibrated value.
8. Verify the hazard monitoring system generates a 20% under speed forced shutdown.
9. Verify the plant PLC responds to 20% under speed forced shutdown.
(This verifies the plant PLC response the hazard monitoring system.)
10. Verify the hazard monitoring equipment sees a stop indication from the plant PLC.
11. Verify the hazard monitoring system shows the equipments speed slowing.
(In this step the plant PLC must respond to a forced shutdown condition and the hazard monitoring system must produce a physical reading the equipment actually stopping.)
12. Verify operation of audible and visual alarm.
(This ensures the alarm was enabled properly at the end of testing.)



Slow-down Testing Report

Company: Consolidated Grain and Barge
Location: Utica Facility
Test Date: 1/1/2011
Test Performed By: John Smith
All Equipment Tested: No
All Tested Equipment Passed Test: No
Audible and Visual Alarm Test: Pass

Main Receiving Leg: Pass

Run indication from plant PLC	Yes
Equipment at calibrated speed	Yes
Hazard monitoring 10 percent warning generated	Yes
Plant PLC responds to warning	Yes
Hazard monitoring 20 percent shutdown generated	Yes
Plant PLC responds to shutdown	Yes
Stop indication from plant PLC	Yes
Hazard monitoring detects equipment stopping	Yes
Test Result	Pass

Bin 7 Top Conveyor: Skip

Run indication from plant PLC	N/A
Equipment at calibrated speed	N/A
Hazard monitoring 10 percent warning generated	N/A
Plant PLC responds to warning	N/A
Hazard monitoring 20 percent shutdown generated	N/A
Plant PLC responds to shutdown	N/A
Stop indication from plant PLC	N/A
Hazard monitoring detects equipment stopping	N/A
Test Result	Skip

Bin 7 Bottom Conveyor: Fail

Run indication from plant PLC	Yes
Equipment at calibrated speed	Yes
Hazard monitoring 10 percent warning generated	Yes
Plant PLC responds to warning	Yes
Hazard monitoring 20 percent shutdown generated	Yes
Plant PLC responds to shutdown	Yes
Stop indication from plant PLC	Yes
Hazard monitoring detects equipment stopping	No
Test Result	Fail