

FAILURE ANALYSIS OF RH TRATAMENT STOPPAGE DUE
TO MFL (MULTI FUNCTION LANCE) WATER LEKAGE

INTRODUCTION

WATER COOLED MFL (MULTIFUNCTION LANCE) IS USED FOR THE FOLLOWING:

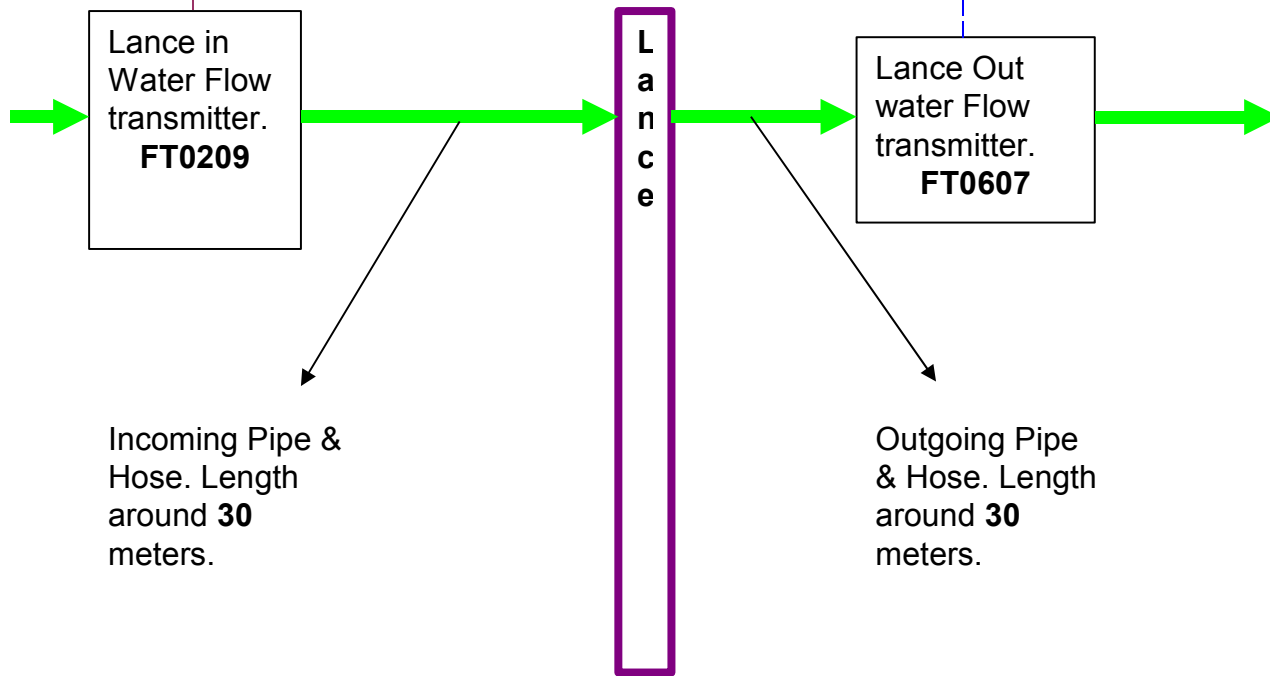
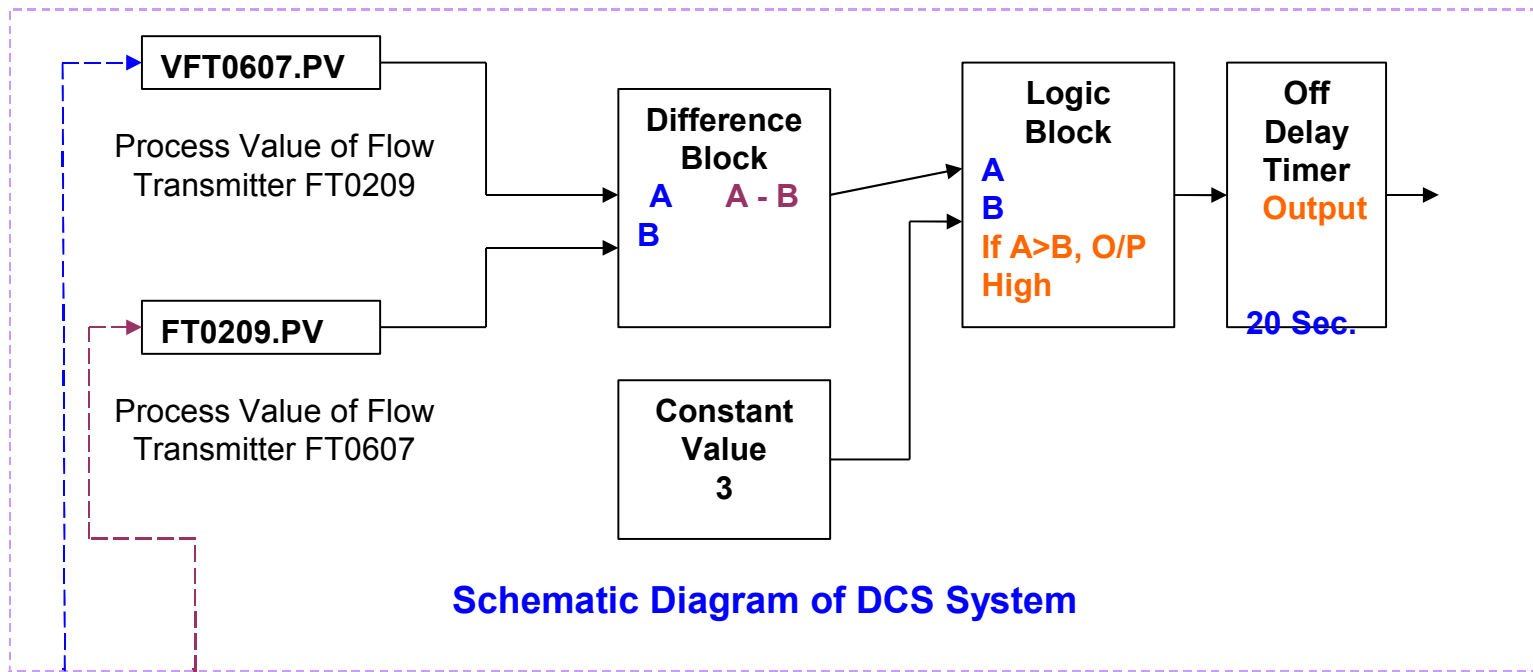
- AS A BURNER (TO HEAT UP THE VESSEL)**
- AS O₂ BLOWING LANCE**

EXPLOSION MAY TAKE PLACE IF DURING TREATMENT WATER LEAKS INSIDE THE RH VESSEL

TWO NUMBERS OF WATER FLOW TRANSMITTERS HAS BEEN PROVIDED TO KNOW THE INCOMING & OUTGOING WATER FLOW.

IF THE WATER FLOW DIFFERENCE IS MORE THAN 3 NM³ / HR FOR CONTINUOUS 20 SEC. RH TREATMENT WILL BE STOPPED (AUTOMATICALLY).

SCHMATIC DIAGRAM OF WATER FLOW SYSTEM



PROBLEM

ON 08TH OCTOBER 05, AT A SHIFT RH TREATMENT WAS STOPPED AT 6.34 AM & CONTINUES UP TO 9.10 AM. DUE TO LANCE WATER LEAKAGE ALARM

OBSERVATION:

UP TO 06:33:36 AM. INCOMING WATER FLOW IS AROUND 35 NM³/HR.

6. UP TO 06:33:36 AM. OUTGOING & INCOMING WATER FLOW DIFFERENCE IS AROUND 3 NM³ / HR.

7. AT 06:34:06 AM. INCOMING WATER FLOW SUDDENLY DROPPED TO 28NM³/HR.

8. AT 06:35:06 AM OUTGOING & INCOMING WATER FLOW DIFFERENCE IS AROUND 10 NM³/HR.

SIMILAR INCIDENT ALSO HAPPENED AT 06:42:05, 06:59:35, 07:01:35, 07:12:36 AM & SO ON.

ANALYSYS

- 1. WATER FLOW DIFFERENCE IS MEASURED INSTANTANEOUSLY**
- 2. WATER TRAVELLING TIME HAS NOT CONSIDER**
- 3. WATER FLOW DIFFERENCE WILL BE HIGH DUE TO ABOVE REASON**

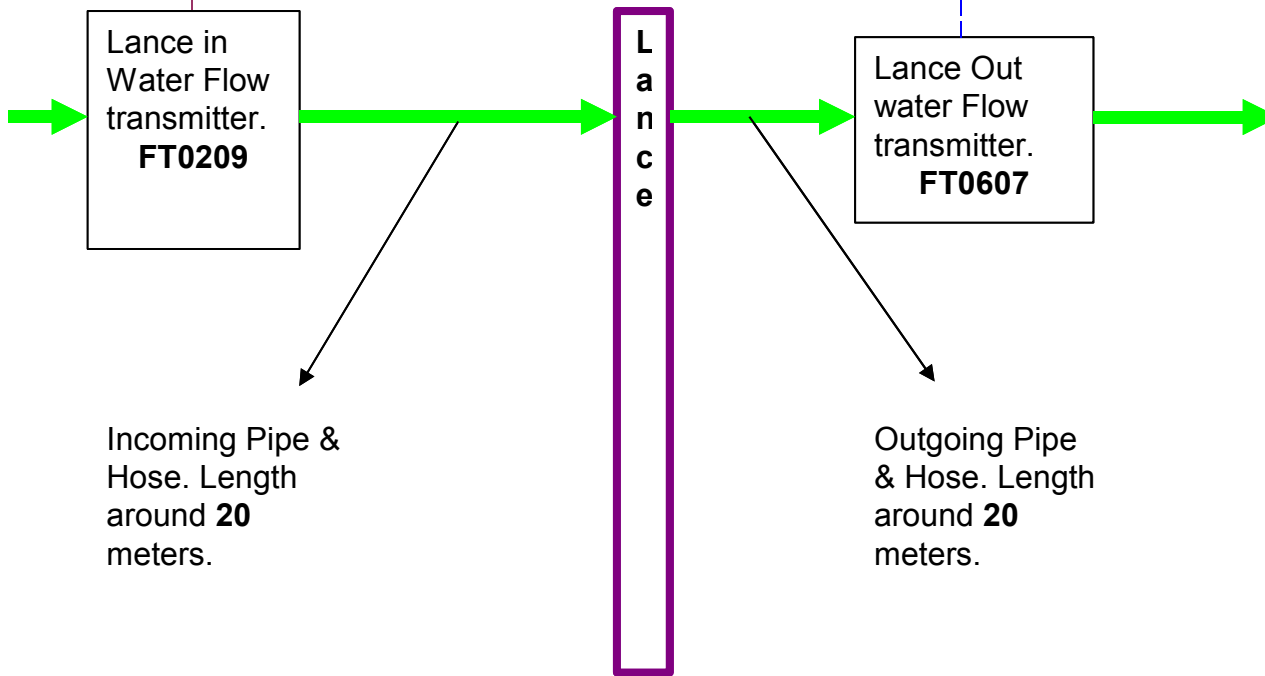
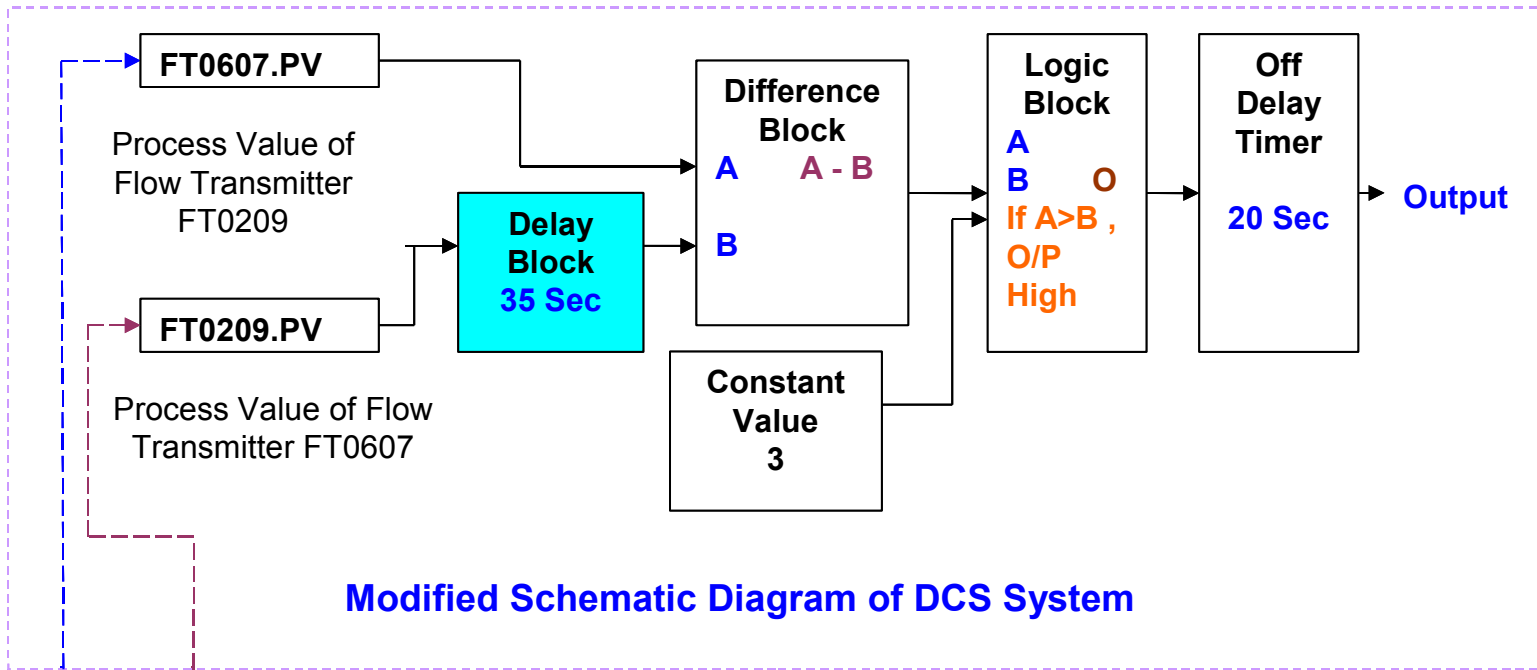
ROOT CAUSE

INADEQUATE LOGIC TO TAKE CARE THE MOMENTARY FLOW DIFFERENCE OF THE SYSTEM

RECOMMENDATION

PROVIDE TIME DELAY INTO THE CALCULATION OF DIFFERENCE OF FLOW

MODIFIED SCHEMATIC DIAGRAM



THANKS