Sequence of Events Activity

Pneumatic conveyor system failure:

Jumbo Plastics Plant was down for 5 hours on November 21 when the pneumatic conveyor system failed. The trigger criteria for an RCA is four (4) hours of downtime. Develop the Sequence of Events diagram failure.

Preliminary Investigation

Troubleshooting began after the second breaker trip of the pressure blower used to transfer plastic pellets. The Operator Log Report shows each event/condition before the initial breaker trip and after the second trip. Approximately 10 minutes prior to the first pressure blower breaker trip, the level transmitter indicated that Pellet Silo #1 was 50% full. Because of this “false reading”, the operator continued the pellet transfer. When that happened, the plastic pellets compacted in the silo and backed up in the pneumatic conveyor system. This backup plugged an entire section of the pneumatic conveyor piping, which resulted in an extended production outage while the blockage was removed.

Operator Log Report

Date	Time	Description of Events/Conditions
11/21/18	11:35	Operator Monitors Silo #1 Level
11/21/18	11:35	Level Transmitter Indicates 10% Full
11/21/18	11:45	Operator Selects Pellet Silo #1
11/21/18	11:48	Operator Opens Diverter Valve to Pellet Silo #1
11/21/18	11:50	Pellet Transfer Begins
11/21/18	12:35	Operator Monitors Silo #1 Level
11/21/18	12:35	Level Transmitter Indicates 50% Full
11/21/18	12:44	Pressure Blower Trips Breaker
11/21/18	12:55	Operator Resets Breaker
11/21/18	13:00	Operator Restarts Pellet Transfer
11/21/18	13:01	Pressure Blower Trips Breaker (2nd Time)
11/21/18	13:01	High Amp Load Confirmed
11/21/18	13:10	Operator Stops Transfer
11/21/18	14:30	Maintenance Crew Inspects Pneumatic Conveyor System
11/21/18	14:30	Conveyor Line Plugged
11/21/18	14:30	Pellet Silo #1 Completely Full
11/21/18	16:00	E/I Technician Inspects Level Transmitter
11/21/18	16:00	Level Transmitter Found Out-of-Calibration