Bale Wire Project

UTIPULP

2017 – 04 – 21

AHLSTROM MUNKSJÖ

Agenda

1. SUMMARY OF UTIPULP QUESTIONNAIRE
2. SUMMARY OF EPIS MEMBER EXPERIENCE
3. PROJECT STATUS

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Summary of Utipulp questionnaire

- Automatic Vs Manual de-wiring:
  - 9/23 has automatic de-wiring system
  - 20 / 23 have AT LEAST 1 manual de-wiring
- No surprises that a lot more accidents/incidents occurred with manual de-wiring systems
  - Metal wired also generated a lot of inefficiency in the process: difficulty to remove wires, automatic lines blocked…
- Main reasons for de-wiring problems
  - Moisture / humidity → Fibre swelling → increase tension of metal wire
  - Positioning of the wire → wires too close to each other
  - Conditions of the bales: broken wires / missing wires
- Possible solutions
  - Safety equipments
  - Improve wrapping to reduce broken wire
  - Improve bale integrity
  - Alternative to metal: glue / paper

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Background

- **MAIN ISSUE**
  - Safety hazard with metal wires both in manual and automatic de-wiring
- **CHALLENGE**
  - Pulp bales are often transported via long multi-modal distances and handled numerous times; trucks, rail cars, break-bulk ships/barges from the pulp mill to the customers.
  - Some customers demand unwrapped ‘super-bales’ – two bales strapped together
- **CURRENT ALTERNATIVES**
  - glued bales
  - paper straps / paper yarn

Paper straps/yarns

- Bale wires on **small bales** (250 kg) may be replaced with **paper straps/yarn** from a strength point of view in direct deliveries with minimal handling.
- However problems occurred:
  - In handling of bales; too many broken straps in ocean transport
  - Safety issues diminish in de-wiring but shift to logistics and storage
  - Storage is critical with ability to stand outside storage at issue. Also in winter time cold climates a problem with sticking to rails cars when wet on the bottom of the car.
  - Unit wires are still needed
- Other issues:
  - Yarn not easy to refine
  - Yarn did not dissolve/defibrillate completely
  - Extra cost to pulp makers. Market willingness to pay the extra price? Struggling with the business case.

Experience with Glued wrappers

- Bale wrapping is glued on sides
- Works for **flash dried pulp.** Would not work for sheeted pulp, sheets separating and will need a strap
- **Cooperation with customers** essential
  - Product safety for glue; glue is food safety approved, dissolves to sugar molecules, very small amount used.
  - Optimal thickness of wrapping paper critical for proper working of the glue, length of overlapping key
- Bale **handling equipment** at customers essential
  - Clamping the bale from sides is risky
  - **Lifting the bales from the bottom is OK**
- Outdoor storage in **rainy or humid climates** a challenge for glued bales, not recommended

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- November 2016: Kick-off meeting in London EPIS + UTIPULP
- March 24th: phone meeting with EPIS meeting
  - To share experiences with alternatives to metal wire (EPIS)
  - To share main findings from survey carried out within its members (UTIPULP)
  - To agree on the approach: split of the initiative into 3 sub-projects
- April 6th: EPIS Meeting to define roles/responsible persons
- April 14th: Definition of the project
  - Definition of the 3 sub-projects
  - Assignment of sub-project leaders from both Utipulp & EPIS
- April 21th: UTIPULP meeting @ Manchester

Project proposal: Split of the initiative into 3 Sub-Projects

	OBJECTIVES	LEADERS
RISK PREVENTION	> Collect best practices for removing bale wire safely: safety equipments, procedures… > Develop a communication package / prevention campain ready to be used by paper mills	**R.BALDI I U.BENTLAGE**
SUSTAINABLE & SAFE ALTERNATIVE TO METAL	> Definition of specification / needs > Assessment of existing solutions & main roadblocks > Proposition of solution toi replace metal	**V.KAMM I A.V.PEON**
IMPROVEMENT OF AUTOMATIC DEWIRING TECHNOLOGY	> Identifying common issues with automatic dewiring at mills > Main challenges seen by technology partners in dewiring process > Recommendations from/to technology partners	**N.SNEL**