



**2023 CEMA ENGINEERING CONFERENCE  
BULK BELT SYSTEMS AND EMERGING TECHNOLOGIES COMMITTEE MEETING**

Naples Grande Beach Resort, Naples, FL  
Tuesday, June 13, 2023 – 2:00 pm

**AGENDA**

1. Call to order.
2. Attendance and Introductions.
3. Approval of Minutes of November 7, 2022 (attached).
4. Old business

a) **Appendix D – Installation Standard** – Updates

Subcommittee: Todd Swinderman, RToddS Engineering, LLC (chair); Colin Barbeau, Hatch; Jim Masek, PPI; Paul Ormsbee, Overland Conveyor Co. Inc.; Akiko Wakatsuki, Fenner Dunlop Conveyor Belting; Robin Steven, ContiTech North America, Inc; Luis Estay, Bechtel Corporation; Laura Hoggan, REMA Tip Top; Todd Hollingsworth, Raw Engineering and Design, LLC.; David Jesse, Lassing Dibben Consulting Engineers Ltd.; Marcus Dos Santos, Dos Santos International.

The idea is to create two (2) documents:

- Summary of Installation Tolerances and Startup Procedures – A summary to be included in the CEMA Belt Book, 8<sup>th</sup> Edition as new Appendix D.
- CEMA Guide No. 02 “Installation and Start-Up of Belt Conveyors Handling Bulk Materials” – A separate document that would be an expanded version of Appendix D offered as a technical guide.

The two (2) documents being created are installation standards. Therefore, it was decided that belt training should be a separate technical paper.

Todd Swinderman has some items that need to be discussed during this meeting regarding skirtboard and wear liner practices. Also, he has some suggestions regarding new knocking idlers’ guidance.



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b) **New Content for the CEMA Belt Book, 8<sup>th</sup> Edition regarding Idler Replacement and Idler Condition Monitoring** (Former topic “Idler Maintenance Safety”) – Updates.

Subcommittee: Colin Barbeau, Hatch (chair); Gerhard Schmidt, TAKRAF USA, Inc; Geoff Stoll, Richwood; Jim Masek, PPI; David Jesse, Lassing Dibben Consulting Engineers Ltd; Benjamin Brewer, Douglas Manufacturing Co. Inc.; Erick Jackson, TAKRAF USA, Inc.

A draft was created and includes a weight requirement table for the lifting belt to be added to Chapter 2 of the Belt Book (8<sup>th</sup> edition). Calculations behind the table need to be reviewed for technical accuracy.

Previously, a review was done of the belt lifting force table. The draft also includes language about idler replacement technology for inclusion in the Belt Book 8<sup>th</sup> Edition Chapter 16 Emerging Technologies.

The draft was sent to the attendees of the 2022 CEMA Fall Engineering Conference before being sent to the Official Representatives (ORs) for final approval.

c) **White Paper “CEMA Power Methods”** – Updates

*Author*: Andrew Jennings, Conveyor Dynamics, Inc.

This white paper is a summary of the history of the CEMA’s Power Calculation Methods. Al Reicks, Overland Conveyor Co. Inc.; will peer-review the white paper.

d) **DEM Transfer Chute Design/Analysis**– Updates

Subcommittee: Paul Ormsbee, Overland Conveyor Co. Inc. (chair); Matthew Koca, FLEXCO; Andrew Jennings, Conveyor Dynamics, Inc., Colin Barbeau, Hatch; Geoff Stoll, Richwood; David Kruse, Advanced Conveyor Technologies Inc.

It was agreed to move this out of Chapter 16 and into the Transfer Chute Chapter 12 for the CEMA Belt Book, 8<sup>th</sup> Ed.

The subcommittee was working on text updates, including notes about sticky and/or fine material. The final draft will be presented at this meeting.

e) **CWD Factor Case** – Updates

Subcommittee: Paul Ormsbee (chair) & Al Reicks, Overland Conveyor Co. Inc.; Andrew Hustrulid, Shaw Almex Industries, Ltd.; Andrew Jennings, Conveyor Dynamics Inc.

Factor to correlate flat belt test to actual trough belt with non-uniform material load distribution across the belt. Non-standard idler sets need to be included. The



subcommittee needs to determine how the process can be simplified.

The subcommittee is working on a separate technical paper on CWD. Also, they are working on a set of equations that will expand toward non-standard geometry.

f) **Pipe Conveyor Stiffness/Aging Fatigue Loss with Lifecycles** – Updates

Subcommittee: Sergio Zamorano, ZING eirl (chair); Joshua Holcombe, Contitech North America, Inc; Luis Estay, Bechtel Corporation; Andrew Jennings, Conveyor Dynamics, Inc.; Paul Ormsbee & Al Reicks, Overland Conveyor Co. Inc.; Akiko Wakatsuki, Fenner Dunlop Americas.

Discussion on the loss of stiffness due to lifecycle fatigue is a large part of wear on pipe conveyors. It brought up the question: how do we quantify this for clients so they can plan replacement/lifetime? It was suggested to look at re-writing the section in the CEMA 7th Ed. Belt Book (for the 8th Ed.).

Sergio was not present during the meeting. However, the current draft has minor feedback. Joshua will contact Sergio and schedule some working meetings to finish this project before the 2023 CEMA Engineering Conference.

g) **ARPM Rubber Energy Discussion**

Subcommittee: Joshua Holcombe, Contitech North America, Inc.; Paul Ormsbee & Al Reicks, Overland Conveyor Co. Inc.; and Andrew Hustrulid, Shaw Almex Industries Ltd.

Robin Steven, Continental North America, Inc. sent to the chairs of this committee a document on a proposed belt energy efficiency standard.

In previous meetings, was discussed removing this item from this committee and leaving it at the individual component committees because the overall conveyor efficiency is difficult to define. However, it was decided to leave it in this committee since there isn't a belting committee.

It was mentioned that VDI 4459 has produced energy efficiency ranges for conveyors in the 2022 version. A subcommittee was created to provide a recommendation regarding CEMA adopting/publishing a version of Robing Steven's energy efficiency document.



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h) **CEMA Belt Book 8<sup>th</sup> Edition Publication**

Subcommittee: Greg Westphall, Shaw Almex Industries Ltd; Marcus Dos Santos, Dos Santos International; Todd Swinderman, RToddS Engineering, LLC; Todd Hollingsworth, Raw Resources, LLC.

CEMA does not currently have a publication timeline for the Belt Book. This Committee recommended asking the CEMA Board of Directors if they wanted to start working on this.

Todd Swinderman created a proposal that was presented to the CEMA Board of Directors for discussion at the 2023 CEMA Annual Meeting and feedback will be provided to this committee at this Conference.

i) **Cleated & Sidewall Belt for Incline Applications**

Subcommittee: Geoff Normanton, Fenner Dunlop (chair); Akiko Wakatsuki, Fenner Dunlop; Laura Hoggan, Rema TIP TOP; Sean Henry & Peter Bradley, Continental Contitech North America, Inc.

This was a topic on this committee in 2019. It was an idea for the CEMA Belt Book, 8<sup>th</sup> Edition. The idea is the inclusion of cleated belts in the existing table in the CEMA Belt Book, 7<sup>th</sup> Edition, Chapter 10. Material properties dependent on caking or sticking/lumping materials, molded vs. cleated (fabricated design), specialty belts; create awareness: consider end-user preference, specific design based on material properties (pocket-cleated-molded, maintenance-cleaning, etc.).

The subcommittee has been working on adding illustrations of the different cleat profiles; identifying and providing a common name for the standard cleat patterns.

5. New Business

6. Next Meeting – November 6, 2023, Virtual CEMA Fall Engineering Conference.

7. Adjourn.

Todd Hollingsworth, Chair  
Andrew Jennings, Vice Chair











