



CONVEYOR EQUIPMENT
MANUFACTURERS ASSOCIATION

27400 Riverview Center Blvd., Suite 2
Bonita Springs, Florida 34134

Tel: (239) 514-3441

Fax: (239) 514-3470

www.cemanet.org



**2023 CEMA ENGINEERING CONFERENCE
BUCKET ELEVATOR COMMITTEE MEETING**

Naples Grande Beach Resort, Naples, FL

Tuesday, June 13, 2023 – 10:30 am

AGENDA

1. Call to order.
2. Attendance and Introductions.
3. Approval of Minutes of November 7, 2022 (attached).
4. Old business
 - a) **'CEMA Bucket Elevator Book Best Practices in Design' Chapter 4 Final Review** – Updates Subcommittee: Bill Mecke & Jacob Rider, KWS Manufacturing Company, Ltd.; Warren Knapp & Steve Boudreau, Screw Conveyor Corporation.

Horsepower and head shaft size were the main issues. The nomenclature was also updated to agree with the CEMA Belt Book. The calculation will remain the same, but the subcommittee will provide examples and clarifications of the variables in the formulas.

The variables in the Head Shaft and Horsepower calculations have been clarified, but we still need a few sample calculations to finish the project.

- b) **CEMA Guide No. 354 "Bucket Elevator Installation, Operation, and Maintenance Guide"** (Former "Bucket Elevator Installation, Operation, and Maintenance Manual (IOM)") – Updates Subcommittee: Roger Bruere, 4B Components (Chair); Steve Boudreau, Screw Conveyor Corp.; Trevin Berger, Martin Sprocket & Gear; Bill Mecke & Jacob Rider, KWS Manufacturing Company.

This document is similar to CEMA No. 352 "Screw Conveyor Safety, Operation, and Maintenance Manual". The subcommittee is working on the "Shutdown and Storage" Section and the "Remedy" portion in the "Troubleshooting" Section.



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c) **Bucket Elevator Drive Arrangements** – Updates.

Subcommittee: Steve Boudreau, Screw Conveyor Corp. (Chair); Trevin Berger & Russell Collins, Martin Sprocket & Gear; Hani Almoghrabi, Nord Drivesystems; Zac Amos, Dodge Industrial Inc; Nate Evans, SEW-EURODRIVE.

The idea is to develop a new section in the CEMA's Bucket Elevator Book, 2nd Edition: Bucket Elevator Drive Arrangements. The subcommittee is looking for other input or 3D models of how manufacturers mount their drive equipment.

During the 2023 CEMA Annual Meeting, Ken Woestman, SEW-Eurodrive; and Michael Kelly, Master Power Transmission; agreed to provide some drawings of their drive arrangements to the subcommittee.

d) **Bucket Elevator Explosive or Flammable Material and additional topics** – Updates.

Subcommittee: Noel Bell & Jeff Weaver, Martin Sprocket and Gear, Inc.; Johnny Wheat, 4B Components Ltd.

The Joint Screw Conveyor and Bucket Elevator Section agreed to make this a standalone document separate from the CEMA Guide No. 354 but referenced in the CEMA Guide No. 354. Also, to make additional standalone documents for Screw Conveyors and Bucket Elevators Explosive or Flammable Material Safety.

This document will consider current NFPA and other standards that are already in place.

e) **En-Masse/Drag Conveyors Guide** – Updates.

Subcommittee: Craig Abraham and Garry Abraham, Screw Conveyor Corp.; Bill Mecke, KWS Manufacturing Company Ltd.; and Noel Bell & Jeff Weaver, Martin Sprocket and Gear, Inc.

This guide will include areas of interest for best practices, installation, maintenance, how to install, staging, design considerations, tension, and flights. A subcommittee needs to be created to work on this topic.

f) **'CEMA Bucket Elevator Book Best Practices in Design' 2nd Edition** – Updates.

Subcommittee: Bill Mecke & Jacob Rider, KWS Manufacturing Company, Ltd.; Warren Knapp & Steve Boudreau, Screw Conveyor Corporation; David Stronczek, Martin Sprocket and Gear, Inc.

Naylu Garces, CEMA; presented some changes needed to other chapters in the book she has been working on that would be best suited for the second edition of this publication



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versus a reprint. The engineers suggested that the group that is reviewing Chapter 4, be the same to review these new changes. The subcommittee will provide an update on this during this meeting.

5. New Business.
6. Next Meeting – November 6, 2023, Virtual CEMA Fall Engineering Conference.
7. Adjourn.

Hani Almoghrabi, Chair
David Stronczek, Vice Chair



**2022 CEMA FALL ENGINEERING CONFERENCE
JOINT SCREW CONVEYOR AND BUCKET ELEVATOR COMMITTEES MEETING**

Cisco Webex Meetings
Monday, November 7, 2022

MINUTES

1. Call to order
Jacob Rider, KWS Manufacturing Company Ltd.; Acting Chair, called the meeting to order at 10:10 am.
2. Attendance and Introductions– Roll call attached.
3. Approval of Minutes of June 14, 2022 – Minutes were approved.
4. Old business
 - a) **ANSI/CEMA Standard No. 300 “Screw Conveyor Dimensional Standards”** – Updates.
Subcommittee: Steve Boudreau, Screw Conveyor Corp.; Trevin Berger, Martin Sprocket & Gear; Jacob Rider, KWS Manufacturing Company; Nate Evans, SEW- EURODRIVE, Inc.; Eric Haugen, NORD Drivesystems.

ANSI/CEMA Standard No. 300 tables need to be updated to reflect 3-15/16” diameter, 4-7/16” diameter, 4-15/16” diameter shaft components, and 30” diameter and 36” diameter screw components.

The subcommittee is still working on the tables and the survey to request data from the manufacturers. Drive manufacturers need the pattern for four (4) bolt patterns finalized for adapters. Likely to be driven by bearing size and spacing.

- b) **‘CEMA Bucket Elevator Book Best Practices in Design’ Chapter 4 Final Review** – Updates
Subcommittee: Bill Mecke & Jacob Rider, KWS Manufacturing Company, Ltd.; Warren Knapp & Steve Boudreau, Screw Conveyor Corporation.

Horsepower and head shaft size were the main issues. The nomenclature was also updated to agree with the CEMA Belt Book. The calculation will remain the same, but the subcommittee will provide examples and clarifications of the variables in the formulas.

The subcommittee continues working on the sample calculation that needs to be added to the chapter. They will prepare the survey for the manufacturers and present the



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results at the 2023 CEMA Engineering Conference.

c) **Bucket Elevator Installation and Operation Manual (IOM) – Updates**

Subcommittee: Roger Bruere, 4B Components (Chair); Steve Boudreau, Screw Conveyor Corp.; Trevin Berger, Martin Sprocket & Gear; Bill Mecke & Jacob Rider, KWS Manufacturing Company.

This document is similar to the Screw Conveyor Safety, Operation, and Maintenance Manual (CEMA No. 352).

The name of the document was changed to CEMA Guide No. 354 “Bucket Elevator Installation, Operation, and Maintenance (IOM) Guide”. The subcommittee will work on the “Shutdown and Storage” Section and “Remedy” portion in the “Troubleshooting” Section.

d) **Drive Arrangements** (Bucket Elevator Book, Proposed New Chapter for 2nd Edition) – Updates.

Subcommittee: Steve Boudreau, Screw Conveyor Corp. (Chair); Trevin Berger & Russell Collins, Martin Sprocket & Gear; Charlie Ritinski, Sumitomo Machinery Corporation of America; Hani Almoghrabi, Nord Drivesystems; Zac Amos, Dodge Industrial Inc; Nate Evans, SEW-EURODRIVE.

The idea was to develop a new section in the CEMA’s Bucket Elevator Book: Bucket Elevator Drive Arrangements.

The subcommittee is still looking for other input or 3D models of how manufacturers mount their drive equipment. The updated draft will be presented at the 2023 CEMA Engineering Conference.

e) **Bucket Elevator Explosive or Flammable Material and additional topics – Updates.** Volunteers needed.

The Bulk Handling Safety Committee has developed a document on belt fire safety. The engineers considered that perhaps it needs to keep a section for a few applications for the bucket elevator, i.e., plastic, etc. The question came out if it will be useful to create a separate version for screw conveyors?

The Joint Screw Conveyor and Bucket Elevator Section agreed to make this a standalone document separate from the IOM but referenced in the IOM. Also, to make additional standalone documents for Screw Conveyors and Bucket Elevators Explosive or Flammable Material Safety. No volunteers at this time.



- f) **Drag Conveyors Committee/Membership** – Updates. (Survey results attached)
During the 2022 CEMA Annual Meeting, it was mentioned that CEMA is missing this portion of the membership. It can be a great source to attract more members to the association. Andy Solis, CEMA; sent a survey to the CEMA Membership to see if they support this idea and if it can be part of the statistics report too.

The result of the survey reflects that the majority of companies do not see a need for a separate section at this time.

- g) **Drag Conveyors “Best Practices” Book/Manual** – Updates. Volunteers needed.
This will include areas of interest for the best practice, installation, maintenance, how to install, staging, design considerations, tension, and flights.

The Joint Screw Conveyor and Bucket Elevator Section agreed that the name should be “En-Masse/Drag Conveyors Best Practices Guide”. because it was decided not to create a separate section for Drag/En-Masse conveyors, this section will move forward with the development of this document. A subcommittee needs to be created to work on this topic. No volunteers at this time.

5. New Business

- a) **‘CEMA Bucket Elevator Book Best Practices in Design’ 2nd Edition**

Naylu Garces, CEMA; presented some changes needed to other chapters in the book she has been working on that would be best suited for the second edition of this publication versus a reprint.

Naylu also has a list of changes from Trevin Berger that needs to be looked at with some needing further explanation from Trevin. As of now, Naylu has not changed any of the information, only making it easier for a reader who does not have advanced knowledge of Bucker Elevators to understand some of the material.

Volunteers are needed to start the review process. It was suggested that the same volunteers from the review of Chapter 4, help with this process.

6. Next Meeting – June 13, 2023. LaPlaya Beach & Golf Resort, Naples, FL.

7. Meeting was adjourned at 10:45 am.

Jacob Rider, Acting Chair (Screw Conveyor)