

Item 360-1: Why Have a Definition of Batching System?

- Definition for a “batching system” is incorrect
 - W&M regulates the scales and meters in batching systems; not the entire batching system
 - Could weigh a single material into a scale
 - Any scale or meter could be considered a batching system
 - Batching scales weigh two or more materials in one weighing cycle or operation
- “Batching system” does not appear in the current edition of Handbook 44
- No requirements proposed for batching systems

W&M Must Properly Categorize the KSi Scales

- Apparent goals of proposed changes:
 - Create a new category of devices through the definition
 - Categorize the KSi systems as “batching systems” to circumvent the ABWS Code
 - Add a reference to the Scales Code so KSi can argue that their scales fall under the Scales Code
 - Will the scales be exempt from all grain scale requirements?
- The KSi scales are not batching scales; they are automatic bulk weighing systems

Item 360-1 and 320-1: Problems with the Proposed Definition

- What is considered to be raw material?
- “Raw material” could be a single commodity
- Units are not defined
 - Can they be fictitious units?
 - They must be legal units of measurement

W&M Principles

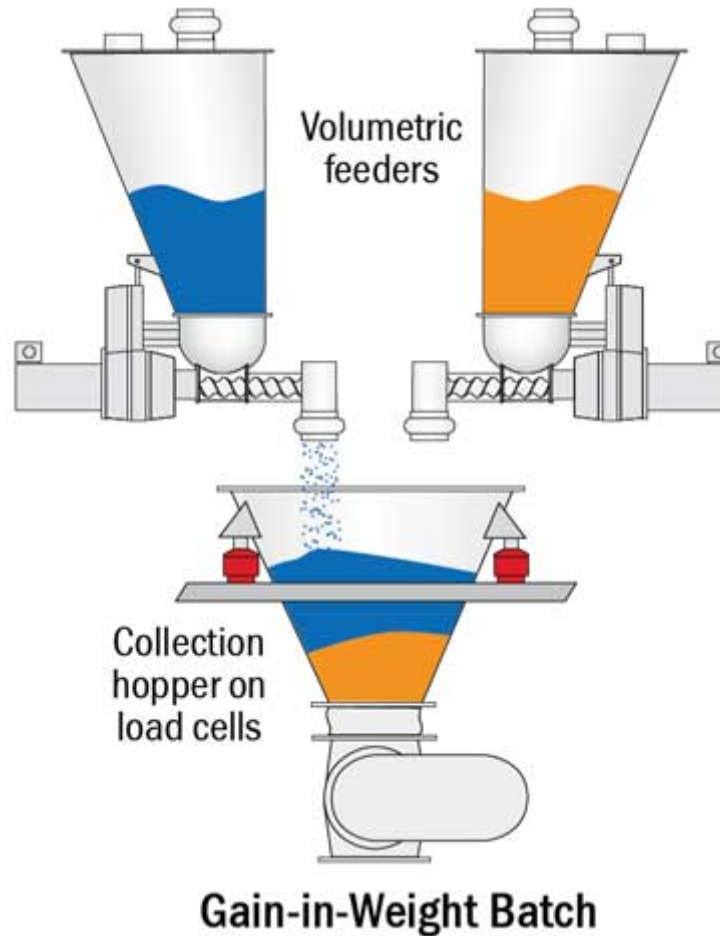
- Scale categories are based on design, application, method of operation and, at times, on product weighed
 - Scales are designed for specific applications
 - Hopper scale, belt-conveyor scale, prescription balance
 - Scales are categorized by their application and methods of operation
 - Vehicle scales; W-I-M vehicle scales
 - Computing scales; point-of-sale scales
 - Automatic bulk weighing systems
 - Product weighed may be a factor
 - Hopper scale
 - Grain hopper scale

Understand these Scale Applications and Operations

- **Hopper scale:** Weighs a single product in each single weighing operation (weighment)
- **Grain hopper scale:** Weighs individual loads of varying amounts of grain
- **Batching scale:** Weighs two or more materials in the hopper in one weighing cycle
- **Automatic bulk weighing system:** Automatic weighing of a commodity in successive drafts of predetermined amounts

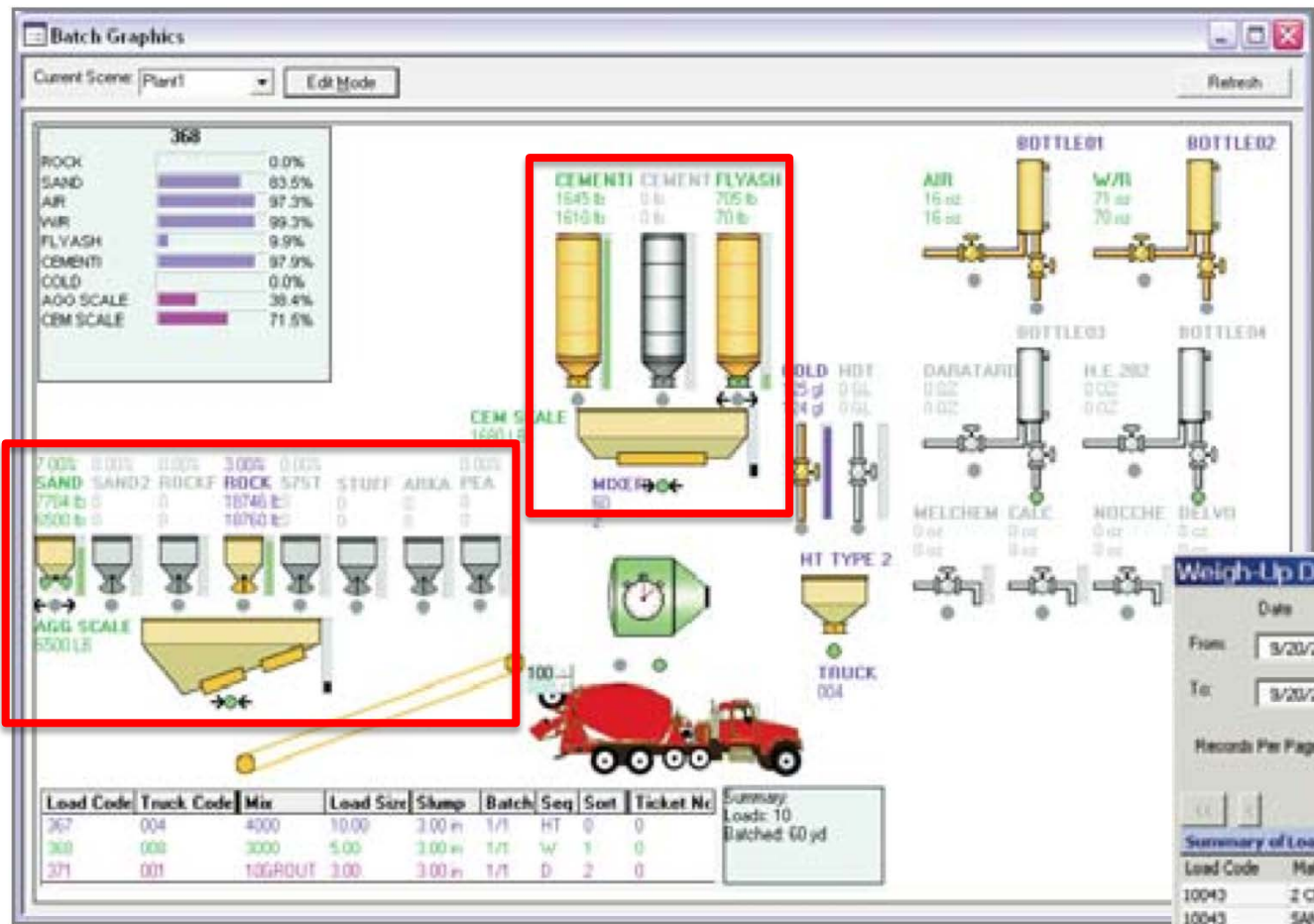
Example of a Batching Scale

<http://www.ktron.com/process-equipment/feeders/technology/gain-in-weight-batching.cfm>



Command Alkon Concrete Batching System

http://www.commandalkon.com/wp-content/uploads/2014/06/booklet_plantautomation.pdf



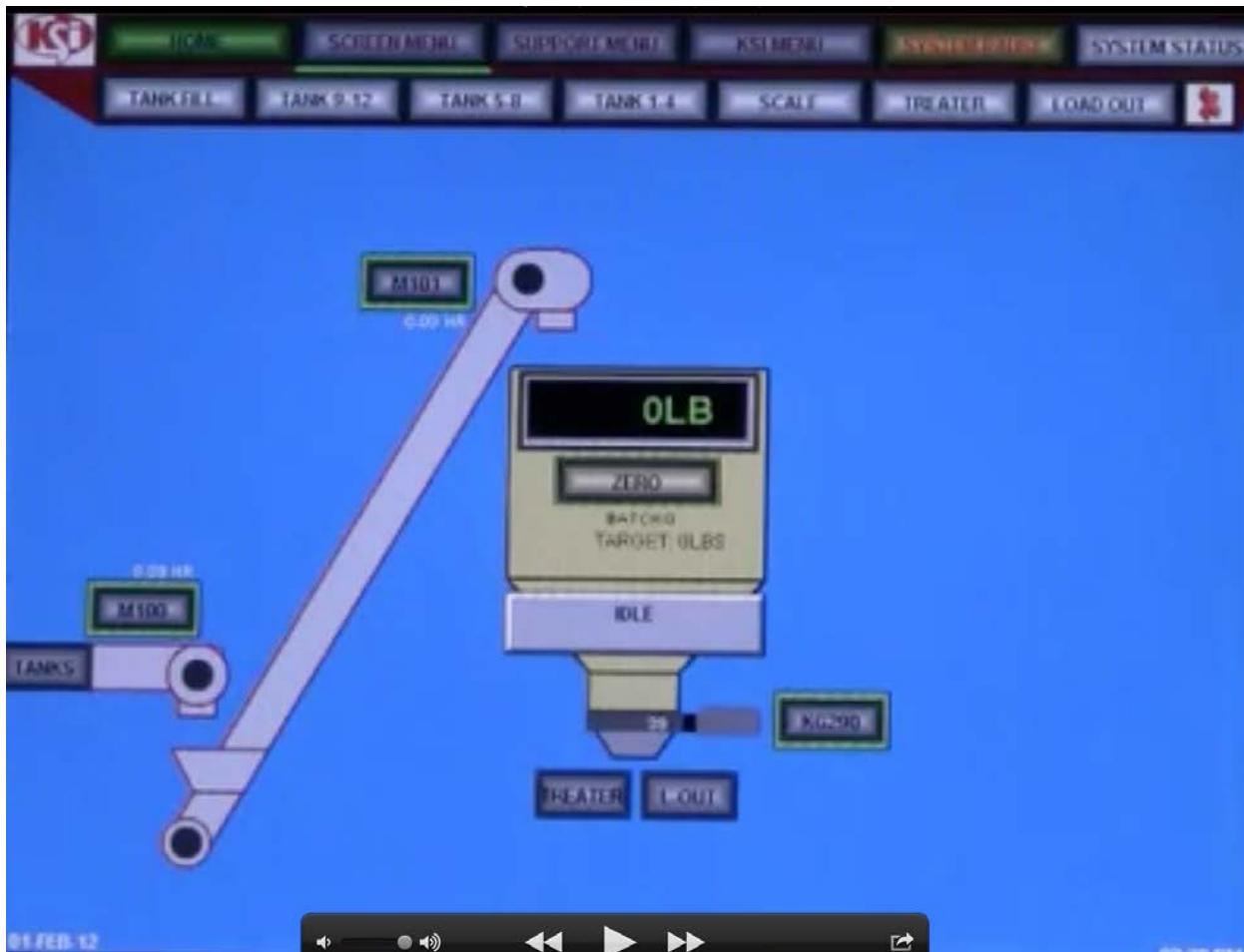
Automatic Bulk Weighing Systems Code

- **A.1. General.** – This code applies to automatic bulk weighing systems, that is, **weighing systems adapted to the automatic weighing of a commodity in successive drafts of predetermined amounts automatically recording the no-load and loaded weight values and accumulating the net weight of each draft.** [Emphasis added]

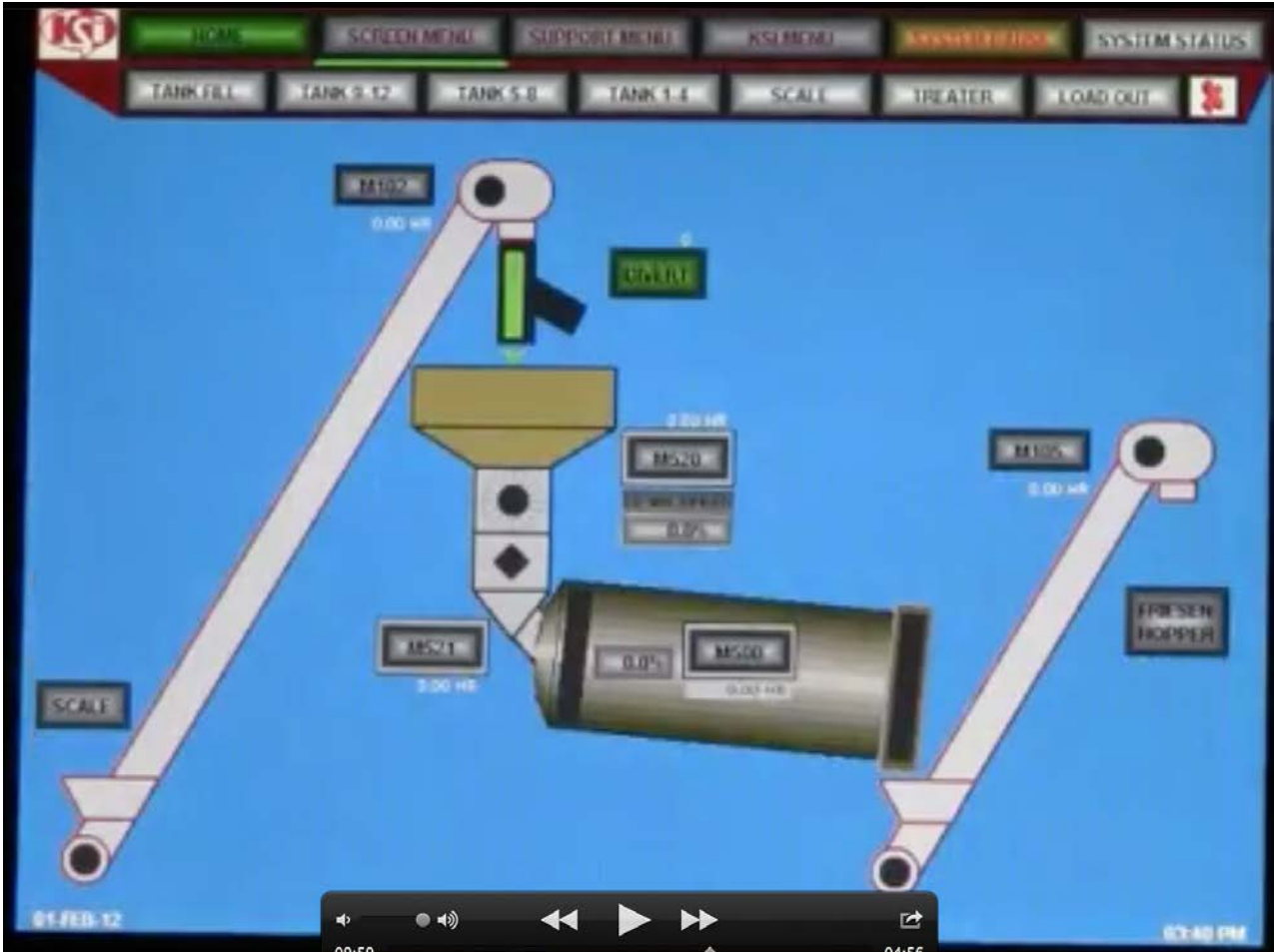
Seed Treatment Systems

- Scale operation is independent of the remainder of the seed treatment process
- Seed treatment is a sequential production process; not a batching system
- KSi scales automatically weigh multiple drafts in predetermined amounts (fixed or variable)
- The KSi scales are **automatic bulk weighing systems**

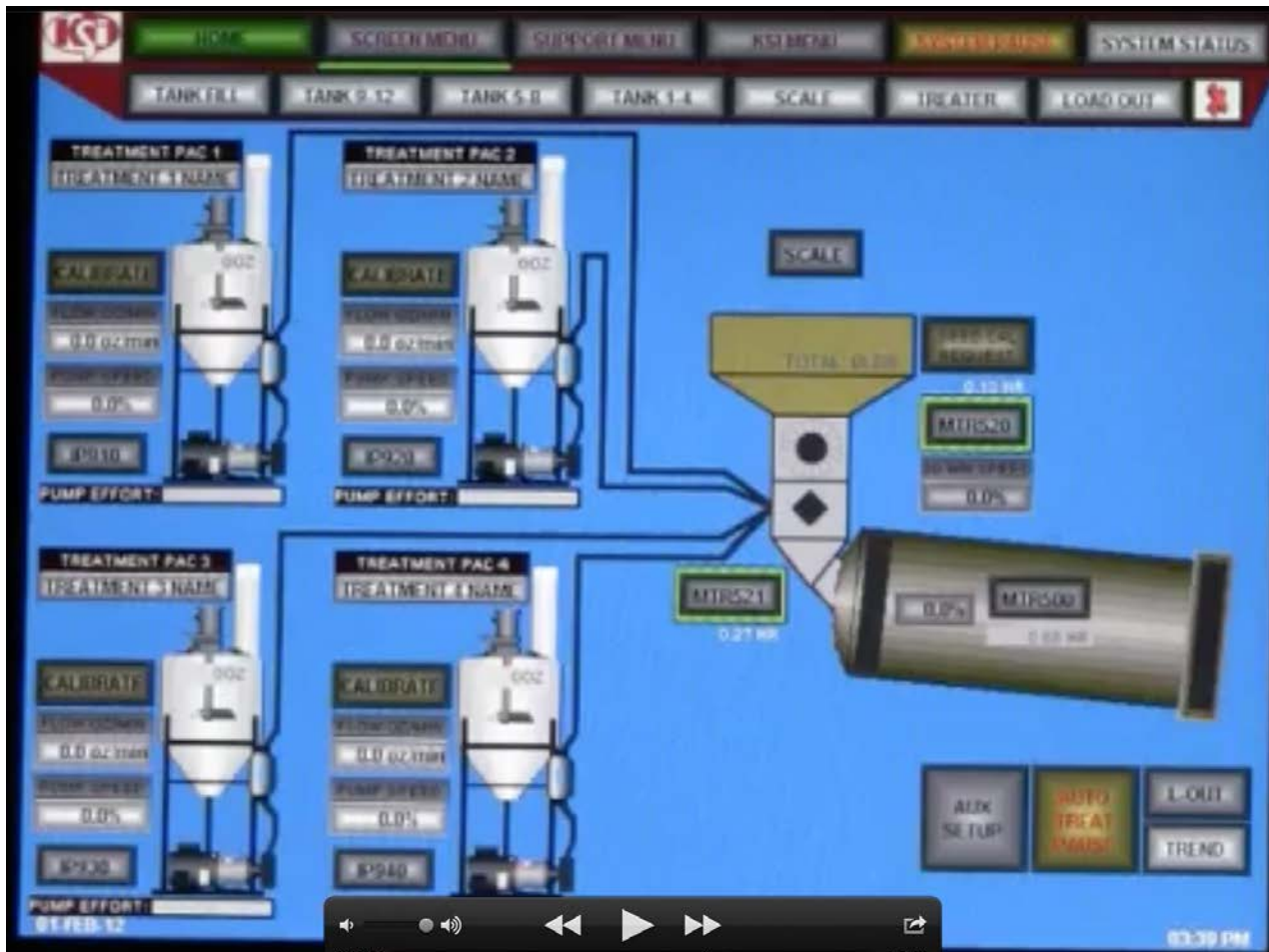
Source KSi Video: Bulk Seed Learning to operate the system part 1



Source KSi Video: Bulk Seed Learning to operate the system part 1



Source KSi Video: Bulk Seed Learning to operate the system part 1



KSi Video: Autobatch V2

Single-Scale System

- Controller can change how the system and scale operate
- If the order is greater than the batch (draft) capacity, it splits the order into multiple batches (drafts)
- The empty tolerance is 10 lb, which is when the system recognizes that the scale is empty
- “Seeds per unit” is programmable and not a legal measurement unit

KSi Autobatch V2 Scale Setup

Single Scale

1) Setup AutoBatch Parameters

The screenshot displays the 'SCALE SETUP' and 'SYSTEM SETUP' screens. The 'SCALE SETUP' screen has the following parameters:

Parameter	Value
CAPACITY	12500LBS
EMPTY TOLERANCE	10LBS
UNIT SIZE / LBS	50LBS
UNIT SIZE / SEEDS	140000CNT

The 'SYSTEM SETUP' screen has the following parameters:

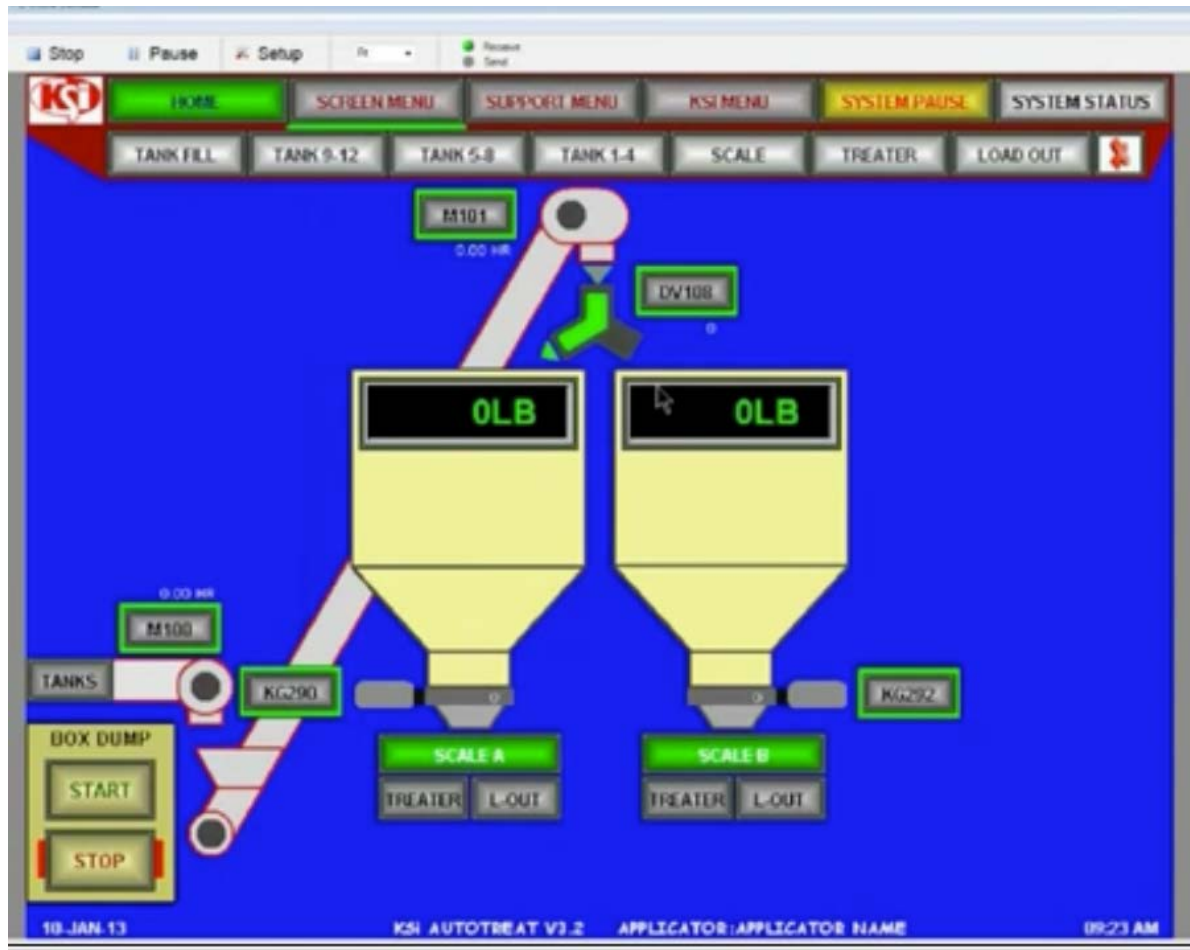
Parameter	Value
MOTOR FAULT TIME	2.0SEC
VALVE FAULT TIME	2.0SEC
SLOW SCALE TIME	200.0SEC
CONVEYOR EMPTY	20.0SEC
FILL OFF DELAY	5.0SEC

Annotations with arrows point to the following values:

- Programmable draft size (points to 12500LBS)
- Programmable scale empty tolerance (points to 10LBS)
- Programmable seed count per unit (points to 140000CNT)

Buttons visible on the left include: [RECALL], [DISCHARGE], [ENABLE DATA LOG TO USE], and [BACK].

KSi Video: AT MultiFlow System Two-Scale System



KSi Video: AT MultiFlow System Two-Scale System (Example)

- Scale capacity is 6000 lb
- Scale empty tolerance is set at 10 lb. This conflicts with Handbook 44 return to zero.
- Set batch sizes for each scale at 5500 lb
- For an order of 30 000 lb, the system will automatically switch back and forth on the two scales to complete the order
- Does not record load and no-load values for each draft

Items 360-1 and 324-1: Problems

- Automatic Weighing Systems Code applies to
 - Automatic weigh-labelers
 - Automatic checkweighers
 - Automatic gravimetric filling machines
- Batching scales are completely different from the systems covered by this Code
- Under the proposed definition, are automatic checkweighers considered batching systems?
- There are no proposed requirements for batching systems for this Code.

Items 360-1 and 330-1: Problems with the Proposed Definition

- Are RMFDs and blend gas pumps now batching systems?
- Is a loading rack meter that blends the additives at the loading rack now a batching meter?
- What is the difference between a loading rack meter and a batching meter? Are there different requirements?