

VRC Subcommittee

An Industry Position on the Definition and Regulation of Vertical Reciprocating Conveyors (VRCs)

PURPOSE

This position paper has been prepared by the VRC Subcommittee of the Conveyor Product Section of the Material Handling Industry of America and is intended to express the industry's formal position regarding the proper application of recognized Safety Codes to VRCs. More specifically, it is the intent of this MHIA Subcommittee to place into the hands of VRC equipment suppliers, installers, end users, inspectors and any other Authority Having Jurisdiction (AHJ) a clear and definitive argument as to the validity of applying only ASME B20.1 to Vertical Reciprocating Conveyors.

BACKGROUND

At the center of the controversy and confusion are two types of elevating platforms that are governed by two separate industry safety codes: Material Lift Type A as defined and governed by ASME A17.1 – *Safety Code for Elevators and Escalators*, and VRCs as governed by ASME B20.1 – *Safety Standard for Conveyors & Related Equipment*.

Material Lift Type A is defined in A17.1 as:

“a hoisting and lowering mechanism normally classified as an elevator . . . serving two or more landings for the purpose of transporting material. On Type A material lifts no persons are permitted to ride”.

This definition has caused some confusion for VRC inspectors, many of whom are elevator inspectors well acquainted with the A17.1 code, but who have limited exposure to the B20.1 code and the equipment it governs (namely, VRCs). Consequently, this confusion has led to a growing number of cases where VRCs have been incorrectly considered to be A17.1 Material Lifts.

MATERIAL LIFT ELEVATORS vs. VRCs – a Comparative Approach

It seems that the ability to distinguish a VRC from an Material Lift Elevator is imperative when deciding which safety code to apply. Here is a general comparison between the two when making that distinction:

1. Manufacturer's Intent

The manufacturer of the equipment can tell you what safety code the equipment is designed and manufactured to meet.

Material Lifts are simply elevators (passenger or freight) which have been altered and/or re-classified to carry material only, and are therefore manufactured to meet the Safety Standards of ASME A17.1.

VRCs are designed solely to transport material and equipment and are therefore manufactured to satisfy the less stringent and costly industrial standards of ASME B20.1. In fact, the A17 code specifically and expressly excludes all B20 conveyors – which includes VRCs – from the scope of equipment intended to be covered by that code (section 1.1.2(g)).

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2. People Exposure

Material Lift Elevators are designed and manufactured to convey people, with or without material, in a people-exposed environment.

VRCs are designed and manufactured to convey material or equipment only in a commercial or industrial environment.

3. Shaftways

Material Lift Elevators must operate within a hoistway or shaftway.

VRCs may operate within a hoistway or shaftway.

4. Operating Speed

Material Lift Elevators operate with speeds normally above 100 feet per minute, often with elevator speed controls.

VRCs operate with speeds normally below 100 feet per minute.

5. Platform Guides

Material Lift Elevators must be guided by T-style elevator guides attached to the carriage along T-style fixed elevator rails attached to the building structure.

VRCs platforms are normally guided with rollers within guide columns braced to the building structure.

6. Controls

Material Lift Elevator operator controls may be accessed from the lift platform.

VRC operator controls are never accessible from the lift platform.

7. Door Safeties

Material Lift Elevators require ASME A17 approved door interlocks at all landing doors.

VRCs require a combination mechanical lock and electric door status switch on all landing doors.

8. Authority Having Jurisdiction

Material Lift Elevators are typically regulated and inspected by a state or municipal authority.

VRCs are typically regulated and inspected by OSHA.

CONCLUSION

Material Lift Elevators are a distinct and separate form of conveyance than Vertical Reciprocating Conveyors, therefore it is necessary to apply separate and appropriate codes to each. There is no authority which supports the application of ASME A17.1 Material Lift requirements to VRC's, and to do so is not only a misinterpretation of the code itself, but imposes unreasonable requirements on, creates unnecessary regulatory and administrative obstructions for, and places an additional financial burden on the end user of the equipment.

The only valid safety code which can be used to regulate VRCs is ASME B20.1.