



Stage Machinery Working Group

E1.64 - 202x, Stage Machinery Controls
Public Review 1 Comment Resolutions

Reference document: E1.64 - 202x, *Stage Machinery Controls* (Document number SL/2023-10002r0)

ANSI Public review period: 12 May 2023 through 26 Jun 2023

Question: In your opinion, do you think the requirements of E1.64 - 202x, *Stage Machinery Controls* (DCN SL/2023-10002r0) are reasonable, and adequately address the intended subject matter?

Responses:

| Commenter | Response |
|--|-----------------------------|
| Dean Arpajian, Wenger Corp. | Okay, but needs improvement |
| Bruce Darden, InterAmerica Stage, Inc. | Yes |

Individual Comments:

| No. | Section | Proposed Change | Reason | Resolution |
|-----|-----------|---|--|---|
| 1 | 3.1, 3.32 | Change "Actuator" in 3.1 to "Actuator, Machine". Add a new definition for "Actuator - The part of the actuating system to which an external actuating force is applied." (or something similar) Delete 3.32 "Mechanical Operator" | Currently, the terms actuator (meaning the prime mover or the button the user pushes - 3.22,) and operator (the button the user pushes - 3.50) are both used to mean the button the user pushes. The proposed definitions match NFPA 79-2021. This change would also require updating the references throughout the document. | Noted – The task group worked through this concept in many various configurations and believes that the proposed change would complicate the document and confuse the reader. Change to 3.1 rejected. 3.32 has been deleted and the use of the phrase deleted from 14.1 |
| 2 | 3.2 | Change the last part of this definition from "...who is qualified to perform..." to "...who is competent to perform.." | The term "Person who is qualified" may imply a Qualified person per 3.40. In most cases, to be authorized by their employer, a person should only need to be trained and competent. | Rejected – This definition was pulled from other ESTA standards and should remain consistent. |
| 3 | 3.4 | Add "or along a track driven by a single prime mover." to the end of the first sentence. | While most often an axis consists of motion within a single plane, there are cases where it is not. For example, a track can be curved in multiple directions and not exist within a single plane. If the object moving on that track is driven by a single motor, it should be considered a single axis. | Rejected – The proposed change makes the definition too specific. |
| 4 | 3.10 | Add asterisk after section number | Follow convention within document. | Noted with thanks. |

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| | | to indicate annex note. | | |
| 5 | 3.18 | Move sentence "FAT testing requirements and performance criteria shall be agreed upon between the system supplier and the user prior to FAT." to section 15. | This is a normative statement and should not be part of a definition. Section 15 (operation) is the most appropriate location. | Agreed with conditions – the definition for FAT testing has been deleted. FAT testing is not used in the document and the statement should not be part of a standard but rather a client specification. |
| 6 | 3.22 | Change "...initiates and maintains machine functions..." to "...may either initiate or enable and then subsequently maintain machine functions..." | Some HTR may initiate and maintain movement, while others enable and then maintain after a go signal. | Agreed with changes – new definition reads: "Control device which enables and maintains machine operation only as long as the user held actuator is activated." |
| 7 | 3.33 | | "prime mover" is not defined | Noted with thanks – prime mover replaced with "actuator" and document subsequently searched to replace "prime mover" in other paragraphs. |
| 8 | 3.40, 3.40 | Renumber the second 3.40 (Ready) and following lines. | Number is repeated. | Noted with thanks. |
| 9 | 3.40 | change last part of sentence, "...shows the equipment is active", to "...shows the equipment is powered and prepared to respond." | "Active" is not defined. | Noted with thanks – definition now reads: "A state of operation, often annunciated by an indicator, that shows the equipment is prepared to respond to further commands from the user." |
| 10 | 3.51 | Delete "may also" so the end of this reads "and select and integrate the components of the system." | With the use of this term in the document, the system designer(s) are the people performing this function. | Rejected – the system designer may not be employed by the manufacturer and therefor may not select the components |
| 11 | 3.53 | Change "The action of leaving a controller unsupervised." to "The state of a control station left unsupervised." | Unattended is a state, not an action. Change controller to control station to match term defined in 3.13. | Agreed – change made. |
| 12 | 7.3 | Change the references for ANSI Z535.1-2017 and ANSI Z535.3-2011 (R2017) to Z535.1-2022 and Z535.3-2022. | These versions of the standards were released in August of last year. Alternatively, remove the reference to the version and rely on the statement in section 2 that refers to the latest version. | Understand your reasoning in principle, but we reject the edit – the Task Group has agreed to remove the date references. |
| 13 | 7.15 | change "...duty cycle, and loading..." to "duty cycle, loading, and torque..." | | Agreed with thanks. |
| 14 | 7.16 | Delete "or air" from the first sentence so it reads "...controller for fluid power..." | The term "fluid power" is the proper term to refer to both hydraulics and pneumatics. It is not necessary to refer to air. | Noted and agreed with thanks. |
| 15 | 7.16 | Change "should" to "shall" in the first sentence to read "the control design SHALL consider:" | Similar to the other paragraphs in this section (7.12, 7.13, 7.15, 7.17, 7.18), this is listing the points a designer must consider when | Agreed with changes – sentence now reads "When selecting a valve and controller for fluid power the control designer shall, at minimum, consider" |

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| | | | selecting components. Since the other paragraphs use shall to list mandatory points to consider, this should as well. | |
| 16 | 7.16 | Change first bullet to "type of pressurized fluid, liquid or air (others may be considered but in most entertainment applications pressurized fluids are either hydraulic oil or air)" | Since this section is dealing with fluid power, we can assume the material is a fluid. Mentioning liquid or air is redundant, especially when the next statement is it is usually oil or air. The term compressed is not appropriate for hydraulic oil (or most other liquids), it is generally assumed to be incompressible in hydraulic systems. | Agreed with thanks. Edit made. |
| 17 | 10.4 | ??? | Where is the research to support this? Yes, we've all been touting the benefits of a 3-position enable switch... But have yet to find a paper, let alone a peer reviewed one, on the subject. | The answer is – You're reading it. The TG passed this on as a beneficial approach for our industry. We took a stance on the 3-position enabling switch as being the right device for the application. |
| 18 | 16.10 | Replace "Logged data shall include but not be limited to:" with "Logged data should include, but are not be necessarily limited to:" | Simple PES may not have available all the mentioned data, or the capacity and resources to store all of the mentioned data. This data list should be a list of examples/recommendations, not requirements. | Rejected – the opening sentence is that the PES "should have the capability of logging". When logging is available then the list shall be the minimum. Requiring manufacturers to follow certain requirements in standards is how we make our craft better. If the data is not there then the manufacturer is being guided to add it to better the craft. |
| 19 | 16.10 | remove "(such as dongle number)" | This seems manufacturer specific. Maybe PES serial number, or software/ firmware version number? | Agreed with thanks – item removed |