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Log of Meeting

Subject: ASME A17/B44 Mechanical Design Committee

Date of Meeting: January 13, 1997

Date of Entry: January 29, 1998

Log Entry Source: Scott Snyder, ESME (x1317)

Location: Palm Beach Gardens Marriott, 4000 RCA Boulevard Palm Beach Gardens, FL 33410, from 8:30 am - 3:45 pm.

CPSC Attendee(s): Scott Snyder

Non-CPSC Attendees: See Attendance List (to follow, when available from ASME)

Summary of Meeting: See Meeting Agenda (Attached)

Meeting Minutes (to follow, when available from ASME)

Codes and Standards

212-705-8500
Fax: 212-705-8501

ASME International

345 East 47th Street
New York, NY 10017-2392
U.S.A.

AGENDA

A17/B44 Mechanical Design Committee

Palm Beach Gardens Marriott
4000 RCA Boulevard
Palm Beach Gardens, FL 33410

Monday, January 12, 1998 8:30 am - 5:00 pm
Tuesday, January 13, 1998 8:30 am - 3:45 pm

1 CALL TO ORDER

The meeting will be called to order at 8:30 am on Monday, January 12, 1998.

2 RECORD OF ATTENDANCE

3 ANNOUNCEMENTS

4 ADOPTION OF AGENDA

5 APPROVAL OF JULY 22-25, 1997 MINUTES

6 PERSONNEL

Since the last meeting, Scott Snyder has applied to the Mechanical Design Committee as a Corresponding Member.

See **Attachment 1** for the Committee Roster.

A17 Committee Meeting Schedule

12 Jan 98	8:30 a.m.	Mechanical Design	Palm Beach Gardens, FL
12 Jan 98	8:30 a.m.	A18 Committee	Palm Beach Gardens, FL
12 Jan 98	9:00 a.m.	Electrical	Palm Beach Gardens, FL
12 Jan 98	1:00 p.m.	LU/LA	Palm Beach Gardens, FL
13 Jan 98	8:30 a.m.	Mechanical Design	Palm Beach Gardens, FL
13 Jan 98	8:30 a.m.	Wheelchair Lift (adjourn by noon)	Palm Beach Gardens, FL
13 Jan 98	8:30 a.m.	Inclined Elevator	Palm Beach Gardens, FL
13 Jan 98	9:00 a.m.	Electrical (adjourn by 4:00 p.m.)	Palm Beach Gardens, FL
13 Jan 98	1:00 p.m.	Residence Elevator	Palm Beach Gardens, FL
13 Jan 98	1:00 p.m.	Shipboard Elevator (contact Comm Chair for info)	Palm Beach Gardens, FL
13 Jan 98	4:00 p.m.	Int'l Standards Committee	Palm Beach Gardens, FL
14 Jan 98	8:30 a.m.	MAIN COMMITTEE	Palm Beach Gardens, FL
15 Jan 98	8:00 a.m.	Inspectors' Manual	Palm Beach Gardens, FL
15 Jan 98	8:30 a.m.	Electro-Magnetic Interference TG (Elec Comm)	Palm Beach Gardens, FL
15 Jan 98	9:00 a.m.	Hydraulic Committee	Palm Beach Gardens, FL
16 Jan 98	9:00 a.m.	Hydraulic Committee (adjourn by 3:00 pm)	Palm Beach Gardens, FL
21 Jan 98	8:30 am	Maintenance	Atlanta, GA
22 Jan 98	8:30 am	Maintenance	Atlanta, GA
26 Jan 98	8:30 a.m	Joint Electrical/Escalator Task Force	Ft. Lauderdale, FL
27 Jan 98	8:30 a.m.	Escalator & Moving Walk	Ft. Lauderdale, FL
28 Jan 98	8:30 a.m.	Escalator & Moving Walk	Ft. Lauderdale, FL
25 Feb 98	8:30 a.m.	Emergency Operations	Clearwater Beach, FL
26 Feb 98	8:30 a.m.	Emergency Operations	Clearwater Beach, FL
27 Feb 98	8:30 a.m.	Emergency Operations	Clearwater Beach, FL
2 Mar 98	8:30 a.m.	Hoistway Committee	Clearwater Beach, FL
3 Mar 98	8:30 a.m.	Hoistway Committee	Clearwater Beach, FL
4 Mar 98	8:30 a.m.	Hoistway Committee	Clearwater Beach, FL
11 Mar 98	8:30 a.m.	Task Group on Doors	Phoenix, AZ
12 Mar 98	8:30 a.m.	Earthquake Committee	Phoenix, AZ
30 Mar 98	8:30 a.m.	Mechanical Design Committee	Denver, CO
30 Mar 98	9:00 a.m.	Electrical Committee	Denver, CO
31 Mar 98	8:30 a.m.	Mechanical Design Committee	Denver, CO
31 Mar 98	9:00 a.m.	Electrical Committee	Denver, CO
31 Mar 98	4:00 p.m.	Q.E.I. (adjourn by 7:00 p.m.)	Denver, CO
1 Apr 98	8:30 a.m.	A17 Main Committee	Denver, CO

June 22-26, 1998 A17 Week in Charlotte, NC
September 22, 1998 A17 Main Committee in Quebec City.

All A17 Committee meetings are open to the public. Due to the possibility of last minute changes, guests wishing to attend meetings should confirm the dates and locations with the Secretary.

It was also noted that swaged fittings have the same inherent weakness as U-bolt type rope clips which are not permitted per Rule 212.9a.

During the discussions, Mr. Gibson presented a sketch of a swaged fitting based on the description of the swaged fitting from Mr. Bass. See **Attachment 3b**.

Also during the discussions, members recommended that instructions for this type of rope fastening be developed for inclusion in the Inspectors' Manuals. Mr. Frank agreed and will request that the Wire Rope Technical Board draft a procedure.

As no agreement could be reached, the following Task Group was formed: Mr. Frank (Chair), Mr. Bialy, and Mr. Prock. The Task Group is expected to develop a proposed response to the inquiry for review by the Committee at their February 1997 meeting.

Feb 97: Mr. Bolen referred the Committee to **Attachment 3c** for a list of pro's and con's he prepared, as requested at the October Mechanical Design Committee meeting. Mr. Frank then distributed the report shown in **Attachment 3d.** He explained that the Task Group agreed with the pro's and con's in Mr. Bolen's letter but did not agree with the acceptance of swaged fittings for traction and hydraulic elevators for the two reasons listed in **Attachment 3d**. The Committee also reviewed the letter from Mr. Lane shown in **Attachment 3e**. The following proposed answer was then recommended by the Task Group:

Proposed Answer:

No, for the following reasons:

(1) Swaged fittings cannot be used with fiber core (natural of synthetic) ropes, nor can they be used with lang lay ropes regardless of the type of core.

(2) Swaged fittings must be swaged in a shop with a press under controlled conditions to guarantee reliable attachment. Swaged fittings cannot be used because ropes may require shortening and swaged fittings cannot be installed in the field with guaranteed reliability.

The Mechanical Design Committee then VOTED to recommend the above answer to the LULA Committee.

Subsequently, at the March 1997 meeting of the LULA Committee, Mr. Balmer referred the LULA Committee to the proposed answer prepared by the Mechanical Design Committee and expressed his opposition to it. Mr. Balmer passed around an actual home-made babitted fitting which he thought was the basis for the Mechanical Design Committee response. He invited members to compare it with an actual swaged fitting which is much stronger and more reliable. Mr. Balmer explained that it was his belief that the MDC's response was based on emotional decisions due to a recent incident in Florida and recommended that no answer be presented to the Main Committee at this time. He requested the item be tabled until further documentation is presented to the Mechanical Design Committee so that they can reconsider their response. Mr. Donoghue advised Mr. Balmer that if the Main Committee does approve the MDC's response, he would still have the option to request reconsideration of the response.

After further discussion, it was suggested by the LULA Committee that a joint Task Group be formed to review the inquiry. The LULA Committee then voted to return the inquiry to the Mechanical Design Committee with a request that they establish a joint Task Group to review the inquiry; Task Group members representing the LULA Committee were appointed as follows: David Balmer (Chair), Patrick Bass, and Paul Chance.

July 97: Prior to the meeting, the Mechanical Design Committee Task Group of Mr. Frank (Chair), Mr. Bialy, and Mr. Prock, was reinstated to form a joint Task Group with the LULA Committee. Members representing the LULA Committee are as follows: David Balmer (Chair), Patrick Bass, and Paul Chance.

During the meeting, Mr. Frank stated that one of the reasons he had objected to the use of swaged fittings was because he thought the swaged fitting could not be shortened in the field. However, his concern was resolved during a phone conversation with Brian Black, the Chair of the LULA Committee, who explained to Mr. Frank that one end is not swaged so the swaging can be shortened in the field.

Other members expressed concern that the inspector would not be able to check in the field if the swaging was done properly. Mr. Frank stated that Crosby has a procedure for how to manufacture the swaging properly (**see Attachment 3f**).

Members also felt it would be helpful if the button were required to have some type of marking which would be traceable back to the manufacturer, but some members were concerned that LULAs could be manufactured by small companies who could purchase the swaged fittings from a local hardware store.

Discussion on this item was continued when Messrs. Rommel and Farley of NAESA were in attendance. Both believe the swaged fittings would be impossible to inspect. They stated that the issue of inspection is very important because if the item is not inspectable, it could not be acceptable to the authority having jurisdiction. They also noted that the inspector could not see inside the fitting and would not be able to check if there were any abrasion of rope where the rope goes through the hole.

It was then suggested that the proposal be written in such a way to permit only the type of swaging that would allow the rope entrance into the swaging to be visible for inspection.

Mr. Frank stated that he will try to set up Joint Task Group meeting during the October 1997 Mechanical Design Committee meetings {Secretary's Note: The MDC meeting was later canceled but there was no discussion regarding the task group} and will prepare a draft proposal. The Secretary reminded the Task Group that they should develop a proposed response to the Inquiry in addition to any proposed revisions.

Discussion:

7.2 Inquiry 97-36 (Attachment 4)

Committee: Mechanical Design

Subject: Rule 212.9g(9) [See also Figure 3.28.1(a) and Table 3.28.1(a) of A17.2.1-1993] Methods of Securing Wire Ropes in Tapered Sockets

Edition: A17.1 - 1996

Question(s):

Why is there a requirement for maximum and minimum loops of individual rope strands above the embedment of tapered rope sockets as defined in Rule 212.9g(9).

Discussion:

7.3 Inquiry 97-48 (Attachment 5)

Committee: Mechanical Design

Subject: Rule 104.1; Guarding of Exposed Equipment

Edition: A17.1 - 1993 including A17.1b-1995

Question(s):

ASME A17.1b-1995 Rule 104.1 states *"In machine rooms and secondary machinery spaces, the following shall be guarded to protect against accidental contact: (a) driving machine sheaves and ropes whose vertical projection upon a horizontal plane extends beyond the base of the machine;..."*

Attached are two drawings of examples of driving machine sheaves and rope arrangements, labeled Drawing A and Drawing B. Does the example in Drawing A require guarding? Does the example in Drawing B require guarding?

Discussion:

7.4 Inquiry 97-49 (Attachment 6)

Committee: Mechanical Design

Subject: Rule 203.10 and 203.11
Max. Allowable Stresses in Car-Frame and Platform Members and Connections
Max. Allowable Deflections in Car-Frame and Platform Members

Edition: A17.1 - 1996

Question(s):

What allowable stresses and deflections should be used for conditions other than static loading, for example, loads induced by Type A safety application?

Discussion:

7.5 Inquiry 96-61

Background:

The Hydraulic Committee approved the following answer to Inquiry 96-61 and requests concurrence from the Mechanical Design Committee:

Inquiry 96-61

Committee: Hydraulic

Subject: Rules 300.6, Roped Hydraulic Suspension - Rope Attachment

Edition: ASME A17.1-1993 including A17.1b-1995

Question(s):

Rule 300.6 requires compliance with the requirements of Section 105. Rule 105.3c requires overhead rope hitch plates to be secured in a fashion such that they will not develop direct tension in bolts, rivets, and welds. When a hitch plate is attached to a pit channel is it the intent of the Code that rope hitch plates also be secured in a fashion such that they not develop direct tension in bolts, rivets, and welds?

Proposed Answer developed by the Hydraulic Committee:

Yes.

Discussion:

8 A17/B44 HARMONIZATION

Background:

TRs TABLED FOR HARMONIZATION

MACHINES AND SHEAVES

TR 90-18 Belts for Indirect Drive Machines
TR 97-66 General Study on Transmitting Loads in Machine Elements

SAFETY SYSTEMS

TR 87-86 Performance Requirements for Safeties and Governors
TR 88-04 Car Safety Mechanism Switch {also TR 94-19, Full Load Safety Test Method}
TR 91-10 Deleting Requirement for Car and Counterweight Safeties - Long Range Study
TR 91-16 Safety Stopping Distances
TR 94-102 Means of Safety Application (Hydr. Actuated)
TR 95-46 General Study on Buffer Design {also TR 83-54, Spring Buffers}
TR 96-25 Rule 205.9
TR 97-67 Generalized Study of System Dynamics, Levels of Redundancy, etc.
TR 97-68 Rule 201.4g

SUSPENSION AND COMPENSATION

TR 83-7 Rope Follower Guides
TR 94-107 Rope Acceptance Criteria

STRUCTURAL

TR 82-69 Car Platforms (Performance Requirements)
TR 97-69 Structural Design Study

SIGNAGE

TR 94-04 Signs Required
TR 94-07 Crosshead Data Plates
TR 95-02 Class A Loading, Rule 207.5a

MISCELLANEOUS

TR 93-81 Inspectors Manual for Screw Column Elevators
TR 97-70 Tolerance on Rated Speed

TABULATIONS

The Tabulations for the reconsideration letter ballot of the sections listed below were completed at the July 1997 meeting and were subsequently submitted to the A17 Main Committee and B44 Technical Committee. Copies of the tabulations are enclosed. Letter ballot results will be distributed shortly.

Section 3, Definitions
Sections 104-105, 109, and 112.4
Sections 200-203, 205-208, 212-216
Part XI: Scope, 1100 and 1101 only
Sections 1300-1301, 1303-1308
Appendices X2 and X3(1).

Discussion:

The Committee is expected to review the results of the reconsideration letter ballots and prepare responses and revisions as necessary.

9 MACHINES AND SHEAVES

9.1 Test of Traction (TR 94-130) {GWG}

Background:

Mar 95: See **Attachments 7a and** 7b. This item was not discussed.

Jun 95: This item is targeted for inclusion in the harmonization package.

Nov 95: Mr. Gibson explained that TR 94-130 concerns a request to require a test to verify that the elevator will lose traction on engagement of either the car or counterweight. Mr. Fisher then indicated that B44.1, Clause 9.2.3b contains a test requirement to demonstrate this loss of traction. The Committee then decided to recommend to the Inspectors' Manual Committee that they adopt the wording of Clause 9.2.3 and add it to Part X of A17.1:

B44, Clause 9.2.3 Emergency Stopping Distance

Counterweight traction elevators shall be tested for traction drive limits to ensure that (a) during an emergency stop initiated by any of the electrical protective devices listed in Clauses 3.12.2 (except Clauses 3.12.2.13 and 3.12.2.15) at the rated speed in the down direction, with passenger elevators and freight elevators permitted to carry passengers, carrying 125% of their rated load, or with freight elevators carrying their rated load, cars shall stop within 2500 mm or within the distance that the normal terminal-stopping device is set to stop the car, whichever is greater. Any rope slip shall be included in the distance; (b) the traction drive shall slip if either the car or the counterweight bottoms on its buffer.

Reason: To verify that the elevator will lose traction on engagement of either the car or counterweight.

The Committee voted to send the above proposal to the Inspectors' Manual Committee for approval.

Jun 96: The Committee agreed to include this item in harmonization.

The Secretary reported that the Inspectors' Manual Committee reviewed the Mechanical Design Committee proposal shown above at their January 15-16, 1995 meeting, prepared the proposal shown in **Attachment 8,** and is seeking concurrence from the Mechanical Design Committee.

The Committee reviewed the Inspectors' Manual Committee proposal and tentatively agreed with it, however, some of the manufacturers wanted to review the proposal to make sure it will not conflict with current practice.

The Committee then discussed the proposed revision to Rule 208.2c shown in the May 1996 Part II Tabulation and were concerned that the 125% test may not be at rated speed. Mr. Gibson then stated that there is a previous interpretation that says the elevator can slip traction if it is still able to relevel. The Chair stated that he will try to find that interpretation to aid the Committee in its review of this item.

This item will be discussed further at the next meeting. No recommendation will be forwarded to the Inspectors' Manual Committee at this time.

Oct 96: The Committee discussed this TR while reviewing Part II tabulation of Rule 208.2c and agreed to revise 208.2c as follows

208.2c Traction.

(1) Where the grooves .....to safely stop and hold the car with ~~125% of~~ the rated load (see Rule 207.8) from rated speed in the down direction.

(2) The traction drive shall slip if either the car or counterweight bottoms on its buffers.

The above revision was incorporated into the November 1996 tabulation.

Dec 96: This item was not discussed.

Feb 97: The Secretary reported that the Inspectors' Manual Committee is still awaiting input from the Mechanical Design Committee on their proposal. The Committee was then referred to **Attachment 8**.

Proposed New Rule 1002.3j(a), **Attachment 8, Page 2**
The Committee first reviewed the Inspectors' Manual Committee's proposal for new Rule 1002.3j(a) shown in **Attachment 8, page 2**. They also reviewed the background information shown above.

During the discussions, it was noted that TR 95-87, Ad Hoc Committee on Emergency Stopping is related to this item, and some members suggested that the Inspectors' Manual Committee proposal could not be resolved without benefit of the Ad Hoc Committee's report.

Additionally, some members of the Committee were opposed to the revision as they felt the proposed test would provide no safety benefit; they questioned whether the test would provide any useful information for the manufacturer and enforcing authority and also felt there would be a potential for the test to cause equipment damage. It was further noted that there is no Code requirement for the car to stop within 98.5 inches (2500 mm) as required by the proposed test.

Several of the B44 representatives explained that the proposed Rule 1002.3j is based on B44 Clause 9.2.3 which has been in the B44 Code for approximately 15 years, and they are unaware of any damage. They explained that this test will ensure the car is brought to a full stop and will not accelerate when there is an emergency stop.

No consensus could be reached on the Inspectors' Manual Committee's proposed new Rule 1002.3j(a) and it was therefore agreed to await the results of the study being performed by the Ad Hoc Committee on Emergency Stopping (TR 95-87). The Secretary will inform the Inspectors' Manual Committee that the Mechanical Design Committee is still reviewing their proposal for new Rule 1002.3j(a).

Proposed New Rule 1002.3j(b), **Attachment 8, Page 2**
The Committee next reviewed the Inspectors' Manual Committee's proposal for new Rule 1002.3j(b) shown on **Attachment 8, page 2**. The Committee agreed in principle with the revision but felt that further information should be included to guide the Inspector. Accordingly, the Committee developed the following proposed wording:

Rule 1002.3j Test of Traction Limit
Counterweight traction elevators shall be tested for traction drive limits to ensure that when the car or counterweight is gradually lowered the traction drive shall slip if either the car or the counterweight bottoms on its buffer.

It was then VOTED to recommend to the Inspectors' Manual Committee that proposed new Rule 1002.3j shown above be submitted to the Main Committee for letter ballot approval {Opposed - 1 (Mr. Vlahovic), Abstained - 1 (Mr. Frank)}

Proposed New Item 2.15.2(b)(3) for A17.2.1, **Attachment 8, Page 3**
{Note: Proposed new Item 2.15.2(b)(2), **Attachment 8, page 2/3**, was not discussed as it is related to proposed new Rule 1002.3j(a) {see discussion above} which was not resolved.

The Committee reviewed the Inspectors' Manual Committee's proposal for new Item 2.15.2(b)(3) and concluded that only the most critical case would need to be tested, i.e. lifting the lightest mass. They felt it would not be necessary to conduct the two tests as proposed by the Inspectors' Manual Committee and agreed to reword the proposal to read as follows:

A17.2.1, Item 2.15.2

(b) Five Year Test
(1) For passenger elevators....
(2) It is recommended that the following test be conducted when the buffer test described in Item 5.3.2(a) is conducted. With no load in the car, have the upper limits disabled and run the counterweight down at slow speed and observe that the ropes slip traction after the counterweight comes to rest on its fully compressed buffer.

It was then VOTED to recommend to the Inspectors' Manual Committee that the proposed revision to Item 2.15.2 shown above be submitted to the Main Committee for letter ballot approval.

Jul 97: This item was not discussed.

Discussion:

At the February 1997 meeting, the Committee was unable to reach consensus on the Inspectors Manual Committee proposal for new Rule 1002.3j(a) shown in **Attachment 8, Page 2** and it was therefore agreed to await the results of the study being performed by the Ad Hoc Committee on Emergency Stopping (TR 95-87, Item 11.2 of this Agenda). In addition, Proposed new Item 2.15.2(b)(2), shown in **Attachment 8, page 2,** was not discussed as it is related to proposed new Rule 1002.3j(a).

The remaining parts of the proposal shown in **Attachment 8** were resolved at the February meeting and the resolutions have been forwarded to the Inspectors' Manual Committee.

9.2 Belts for Indirect Drive Machines (TR 90-18) {EP/LB/MPL}
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Feb 91: See **Attachment 9a**. This item was assigned to Mr. Parvis.

Feb 92: Mr. Parvis submitted the report shown in **Attachment 9b**. It was agreed to ask Inclinator if they could get a belt manufacturer to attend the next meeting to explain HTD belts, their reliability, failure modes, etc.

Dec 92: Mr. Byron of the Gates Rubber Company gave a report on positive drive belts (last included as Attachment 9c of the July 1997 Minutes).

Dec 93, Mar 94, Jun 94, Sept 94, Mar 95: This item was not discussed due to time constraints.

Jun 95: Mr. Parvis reported that this TR recommends the Code be revised to allow only one belt for timing belt applications rather than 3 or more belts; however, he stated that he is not sure of the logic behind the proposed revision. The Committee agreed to defer this item until after harmonization.

Feb 97: Mr. Parvis referred the Committee to his report in **Attachment 9b** and the Presentation (last included as Attachment 9c of the July 1997 Minutes). Members of the Committee were of the opinion that with today's technology, it appears it would be safe to permit the use of only one belt or chain, as opposed to three, for tooth belts and chain drives. However, the Committee was unsure a market need for this request still existed and asked the Secretary to contact the Inclinator Company to see if they are still interested. A Task Group of Ed Parvis, Miles Lamb, and Lou Bialy was set up to develop the proposed wording should the Committee find there is still interest in such a revision.

Following the February 1997 meeting, the Secretary wrote to the Inclinator Company to find out if they were still interested in the subject revision. No response has been received at this time. The Committee should determine whether to proceed with the revision or to request that the TR be closed.

Jul 97: This item was not discussed.

Discussion:

As no response has been received as a result of the Secretary's letter to the Inclinator Company, it is recommended that this TR be closed.

9.3 General Study on Transmitting Loads in Machine Elements (TR 97-66)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Jun 96: At the June 1996 meeting, while discussing the B44 Executive Committee recommendation for harmonizing Rule 208.4, members of the Mechanical Design Committee expressed concern with older machines when the gears are replaced. The Committee concluded that Rule 208.4 should remain as is; however, they recommended that the Existing Installations Committee consider adding the B44 wording from Clause 3.10.4.1 {shown below} to Part XII for alterations to machines.

A17.1 Rule 208.4 Fasteners Transmitting Load

Set screws or threaded portions located in the shear plane of bolts and screws shall not be used to transmit load.

Means shall be provided to ensure that there is no relative motion between rigidly joined components transmitting load.

B44 3.10.4 Bolts Transmitting Torque and Set Screws

3.10.4.1 Bolts or other means used to transmit torque between the driving sheave and the gearing, and their supports, shall be tightly fitted without play

3.10.4.2 Set screws or threaded portions of bolts or screws shall not be used to transmit torque.

The Existing Installation Committee reviewed the MDC recommendation at their September 1996 meeting and concluded that Rule 1202.9a already covers the request since it references the pertinent requirements in Section 208. Furthermore, adoption of the B44 recommendation appears to make the rules less stringent.

Feb 97: The Committee reviewed A17.1, Rule 1202.9a. Rule 1202.9a refers back to Section 208; therefore, many of the members agreed with the conclusion of the Existing Installations Committee that the present wording is sufficient. The majority of the members felt that Rule 208.4 is written in performance. B44 Clause 3.10.4, is not written in performance language. Members felt it would be inappropriate for the alteration section not to be written in performance language while the requirements for new installations were.

Some of the B44 representatives; however, felt that Part XII should be revised based on Clause 3.10.4.1.

It was then noted that 3.10.4.1 can be wrongly interpreted to imply that bolts not transmitting torque do not have to be tight fitting. It was agreed to close this item and to open a new item for a general study on transmitting loads in machine elements.

It was therefore voted to close the item regarding Rule 208.4 and to open this TR for a general study on transmitting loads in machine elements

Jul 97: This item was not discussed.

Discussion:

10 BRAKING SYSTEMS

There are no open agenda items under Item 10.

11 SAFETY SYSTEMS

11.1 Definition of Tripped by Hand (TR 94-87) {LB/AM/CF}

Background:

TR 94-87 was opened as a result of Inquiry 93-69 to define "tripped by hand".

Inquiry 93-69

Subject: Rule 206.6

Edition: A17.1-1990

Question:

(1) Does Rule 206.6 require that the governor be arranged to be tripped by hand when the elevator is running at rated speed?
(2) Does the requirement to be tripped by hand allow the use of ordinary tools such as a screwdriver?
(3) If the answer to question (2) is yes, may contact between the tool and a rotating part (part in motion) be required to trip an operating governor?

Answer:

(1) Yes.
(2) Yes.
(3) While the generalized term "tripped by hand" was intended to convey a performance requirement that the governor be designed to allow for manual activation, it was also intended that the method of hand tripping the numerous designs of governors in the marketplace be done safely and without causing equipment damage. It was intended that hand tripping be applied to a stationary or relatively slow moving means and not to any components rotating at the same speed as the governor sheave.

A17 Committee Approval: September 21, 1994

Sept 94: This item was assigned to Pete Fox and Attilio Mascone.

Mar 95: Mr. Mascone stated he will report on this item at the next meeting.

Jun 95: Mr. Mascone distributed the report shown in **Attachment 10** and suggested that the Committee review for discussion at the next meeting.

Nov 95: Messrs. Mascone and Fox were to report; however neither of them were present. Mr. Gibson then suggested that this item be reviewed by the Task Group on Personnel Safety as well as the Committee on Construction Elevators since the concern of this TR is personnel safety. Therefore it was agreed that this item will be sent to the Task Group for comment. It will also be sent to the Chair of the Committee on Construction Elevators inquiring whether his Committee has any concerns.

Subsequent to the November 1995 meeting, this item was forwarded to the Task Group on Personnel Safety for comment and to the Chair of the Committee on Construction Elevators. The Inspectors' Manual Committee, at their January 1996 meeting, agreed that the TG on Personnel Safety should address the issue for existing installations but that the Code presently addresses the issue for current equipment.

Apr 96: This item was not discussed.

Jun 96: Prior to the meeting, this item was forwarded to the Ad Hoc Committee on Personnel Safety for advise. The Committee will include this item in harmonization if the Ad Hoc Committee comes up with a quick and easy solution, otherwise it will be tabled for harmonization.

Feb 97: The Secretary indicated that she is still awaiting input from the Ad Hoc Committee on Personnel Safety. Mr. Bialy, a member of the Ad Hoc Committee, stated that the Task Group did discuss this item but did not reach a conclusion as of yet. He volunteered to check the status of the item.

Jul 97: This item was not discussed.

Discussion:

11.2 Emergency Stopping of Elevators (TR 95-87) {GWG}

Background:

Nov 95: Mr. Gibson reported that the Main Committee has established a Task Group on the Emergency Stopping of Elevators. The Task Group will consist of representatives from the Mechanical, Electrical and Hydraulic Committees.

He indicated that some fundamental analysis will have to be done by the Mechanical Design Committee, independent of the Task Group.

Apr 96: This item was not discussed.

Jun 96: This item will not be done as part of harmonization, however, it was agreed to leave the item on the agenda.

Oct 96, Dec 96: This Item was not discussed.

Feb 97: Mr. Gibson stated that Mr. Strakosch is planning to hold a meeting in late spring.

Jul 97: This item was not discussed.

Discussion:

11.3 Alternative Methods for Safety Testing of Elevators (TR 95-93) {GWG}

Background:

Nov 95: The Secretary reported that she had received a request for a TR to permit an alternative method for performing the 5 year rated load test (see **Attachment 11**). The letter refers to a method developed by TÜV Bayern. Coincidentally, Mr. Bialy had also planned to discuss the TÜV method. To lead of the discussion, Mr. Bialy showed a video of the ADIASYSTEM, a computer integrated testing and diagnostic system for elevators developed by TÜV. Information regarding this system was included in the November 1995 minutes. As the video showed, the TÜV system contains a notebook computer loaded with software developed by TÜV, together with specific measuring instruments. With this method, the required 5 year rated load test can be performed without rated load in the car. The system can also be used for the loss of traction test. It also allows information to be stored for future use. Mr. Gibson explained that the system

can be used to create a graph of acceleration versus velocity. With this graph, the average retardation between two points as well as the instantaneous stopping distances can easily be obtained. It was then suggested that the Committee consider introducing performance oriented requirements to allow for this type of system. He recommended that the Committee members discuss this system with their coworkers, especially those in Europe who have seen the system in action. It was noted that the proposal could be developed by either this Committee or the NEII Central Code Committee, as the impetus for such a revision would probably come from the manufacturers.

This item was discussed at the January 1996 Inspectors' Manual Committee meeting. The IMC will take the lead for allowing alternative methods for safety testing of elevators, changing the Code to facilitate computerized testing. The revisions will explain the concept and in no way favor or endorse any one product.

Jun 96: Alfons Petry of TÜV gave a presentation to the Mechanical Design and Inspectors' Manual Committees on the ADIASYSTEM.

As soon as the Secretary receives a copy of the slides presented during Mr. Petry's presentation, they will be distributed to the Committee for information.

Following the presentation, Mr. Gibson, on behalf of the Mechanical Design and Inspectors' Manual Committees, thanked Mr. Petry for his very informative presentation. He explained that the Inspectors' Manual Committee will take the lead in preparing proposed rules and will most likely seek assistance from the Mechanical Design Committee.

Oct 96: A copy of the slides from Mr. Petry's presentation was enclosed with the October 1996 minutes..

Dec 96: This item was not discussed.

Feb 97: Mr. Gibson explained that the Province of British Columbia recently completed a study comparing the results of testing performed with and without the ADIASYSTEM and has prepared a draft report of their findings. John Murphy, the Manager of Field Operations in British Columbia when this testing was performed, promised to provide a copy of the report to this Committee and to the Inspectors' Manual Committee. It was noted that Mr. Murphy recently accepted a position with the Province of Ontario but it is expected that the Committee will still receive the report. Mr. Gibson will discuss this item with the Chair of the Inspectors' Manual Committee to see if the MDC should begin preparing some mathematical correlation's.

Mr. Gibson explained that with a computer integrated system, both the full load safety test and the empty car test would still be performed at acceptance; however, it may be possible to find a correlation between the two tests so that only the empty car test would need to be conducted for subsequent tests. This would result in a savings to the manufacturers as well as to the owners of the equipment.

It was noted that Australia is also performing some studies using computerized systems as they too are concerned with damage to equipment and ride quality.

Mr. Gibson suggested that at the next meeting, the Committee develop an outline on how best to proceed. Several Task Groups can then be formed.

Jul 97: This item was not discussed.

Discussion:

11.4 General Study on Buffer Design (TR 95-46) & Spring Buffers (TR 83-54) {LB, DC} {THIS TR IS TABLED FOR HARMONIZATION}

Background:

Dec 92: Mr. Bialy agreed to prepare responses to the letter ballot comments for TR 83-54, in **Attachment 12 and to prepare a corresponding revision for hydraulic elevators.**

Dec 93: Mr. Bialy distributed a report on TR 83-54 (see **Attachment 13**) which includes responses to the letter ballot comments, a revised proposal and corresponding revisions for hydraulic elevators. He agreed to discuss this item with the Hydraulic Committee to get their approval. Members were asked to review the proposal in more detail for further discussion at the next meeting.

Mar 95:

TR 95-96: Buffer Design was opened at the March 1995 Mechanical Design Committee meeting as a result of the following comment on TR 89-66:

G Kappenhagen (Not Approved): Since Rule 510.2, 506.5 and 506.4 limit speed to below 50 ft/min the change in Rule 505.1(c) in regard to buffers is consistent with the present code. The point being made is that concern is limited to whether or not the floor can withstand an impact. Other sections of the code require bumpers below 50 ft/min which helps cushion this impact. The lack of bumpers in part 5 is probably an oversight which I am pointing out. I realize they are not in current code however is an old oversight why not add the Rule 201.2 requirement now?

Committee Response: Reject. The Committee will open another TR for a general study of buffer requirements (TR 95-46).

TR 83-54: Mr. Bialy referred the Committee to his proposal for TR 83-54, shown in **Attachment 13**. The Committee reviewed the proposal and proposed several revisions. Lou Bialy agreed to revise 203.1a and Table 201.3a to limit the spring limits to an absolute value rather then tying it into time limits as was done for oil buffers, to review the basic definition of spring buffer stroke to see if it should be revised, and to confirm with regard to 201.3a that it is possible to satisfy the boundary condition of 150 lb at the lower end. The Committee approved, for Main Committee letter ballot consideration, the proposal for the Part II Rules, pending the revisions by Lou Bialy, and recommended that the Hydraulic Committee approve the proposed revisions to 301.3. The Secretary will forward to the Hydraulic Committee the entire package (once revised by L Bialy) with the explanation that the Mechanical Design Committee will forward the Part II proposals to the Main Committee for first consideration in June 1995 and recommend that they approve the revisions to 301.3 and submit those revisions to the Main Committee in June as well.

Jun 95: Mr. Bialy withdrew the TR 83-54 proposal from the Hydraulic Committee Agenda due to a possible error in the calculations. He stated that he will report further at the next meeting. This item is targeted for inclusion in the harmonization package.

Nov 95:

TR 95-46: The Chair inquired as to whether the Code should continue to allow bumpers. All agreed a general study should be initiated to consider writing performance criteria which may eliminate bumpers. Mr. Gibson suggested that the study must consider the fact that the use of artificial joints is much more prevalent now than in the past. Mr. Camp was then asked to Chair a Task Group, since he works with Harry Simpkins, a member of the Hydraulic Committee who has done some research on spring buffers. Anyone else interested in participating on this Task Group should contact Mr. Camp.

TR 83-54: Mr. Bialy reported that a small Task Group consisting of himself and Mr. Mistry has been formed within the Hydraulic Committee. He stated that the Task Group hopes to complete their proposal prior to the next Mechanical Design Committee meeting.

Feb 97: Mr. Bialy reiterated his November 1995 report for TR 83-54 above and indicated that he and Mr. Mistry will proceed with their work in finalizing the proposal.

Mr. Camp stated that he and Mr. Simpkins, a member of the Hydraulic Committee, have been assigned TR 95-46, a general study on buffer design, which is related to TR 83-54.

The Committee was next referred to the proposed A17.1/B44 Rule 201.3b(3) and B44 Clause 3.3.4.2(c). There was some discussion that the B44 clause contains the word "also" while the A17 rule does not. All members agreed the intent of both rules is that the buffers should not go solid because there is habitable space below the hoistway; however, members agreed to make no revisions at this time as Mr. Bialy indicated that his study will address the concerns for Sections 201 and 301.

It was also noted that Mr. Lawrence White, a member of the Main Committee and Hydraulic Committee had performed a lengthy study on spring buffers some years ago. Mr. Bialy responded that the Hydraulic Committee has reviewed Mr. White's study.

It was concluded that this study will be combined with the TR 95-46 study on buffer design, and the two Task Groups will be combined. Mr. Camp will serve as Chair of the joint Task Group, with members Bialy, Mistry and Simpkins.

Jul 97: This item was not discussed.

Discussion:

Mr. Camp is asked to report.

11.5 Car Safety Mechanism Switch (TR 88-4) & Full Load Safety Test Method (TR 94-19) {GWG} THIS TR IS TABLED FOR HARMONIZATION}

Background:

Jun 88: See **Attachment 14**. All members were requested to determine what their companies' usual field practice was. Mr. Gibson agreed to prepare a proposal.

Jan 89: A poll of the Committee indicated that the majority of the people performing the test were jumping out the switch instead of relocating it.

Mar 90: It was indicated that the test seems to be done two ways. depending on the part of the country. It was also suggested that if we revise the rule, stopping distances will also have to be changed.

Dec 92: Mr. Gibson reported that a survey on this subject will be conducted of the NAESA Class A (inspector) members.

Mar 94: Mr. Gibson reported that he had asked all members to determine the usual field practice at their companies and had received a mixture of responses. The Committee agreed that if it makes sense to perform the test by jumping out the switch instead of relocating it, then the rule should be changed accordingly. Therefore, the Chairman asked each member to update their information regarding the current practice at their company and to report their findings at the next meeting.

Jun 94: Mr. Prock reported that approximately 70% of the field adjusters at his company were jumping out the switch. Mr. Camp reported that although he did not survey the field adjusters at his company, he is aware that the test is being performed 3 ways (jumping out the switch, relocating it, and by opening the brake).

Mr. Parvis requested all members to complete the survey at their company. The Committee also again requested that a survey of NAESA members to help resolve this item.

Sept 94: The Chairman stated that he had received a response from Dover (see **Attachment 15**) but was still awaiting responses from Otis, Schindler, Fujitec and Kone. He also reported on an unofficial survey taken during the Cracker Barrel Session at the August 1994 NAESA Workshop in which 28 of the 40 Inspectors responding to the survey indicated that they perform the test by jumping out the switch. He indicated that as a follow-up, NAESA is willing to send out a questionnaire to all of its inspectors. He volunteered to put together a survey form and requested that members contact him if they have any items they specifically want included on the survey.

Jun 95: The Chair stated that this TR will be partially tabled since stopping distances will be affected if the method of testing is changed; however, in the meantime NAESA will send out a questionnaire to its inspectors. Members were also reminded that responses are needed from Otis, Schindler, Fujitec and Kone.

TR 94-19 was reassigned to the Mechanical Design Committee at the request of the Inspectors' Manual Committee and was subsequently combined with TR 88-4. See **Attachment 16**.

Nov 95: Mr. Gibson explained that he and Mr. Rommel were developing a questionnaire. He then reiterated that if company practices are different than the Code rules, i.e. all companies are jumping out the car safety mechanism switch instead of relocating it, then the Code rules should be revised to be more realistic. He also stated that the stopping distances currently in the Code will have to be revised if Rule 1003.2d(2) is revised.

Mr. Fisher explained that many inspectors perform the test with the power off, making the switch irrelevant.

During the discussion, it was suggested that the Committee consider separating the functions of safeties. It was further suggested that the Code be revised to contain two different sets of stopping distances, one for the safety test done purely mechanically (test with power off) and another for the test done with power. Rule 205.3 currently contains stopping distances which could apply for the test under power. A separate table could be added for the test done purely mechanically. The Committee agreed that this may be a possible approach.

Regardless of how the Committee proceeds, input from the Inspectors' is still needed. Mr. Gibson will continue preparing the questionnaire with Mr. Rommel.

Apr 96: This item was discussed at the January 1996 Inspectors' Manual Committee meeting and the consensus at that meeting was "to separate the safety functions: separating free fall from overspeed"; however, time did not permit the item to be discussed at the April 1996 Mechanical Design Committee meeting.

Jun 96: The Committee agreed to table this item for harmonization.

Feb 97: The Committee held a lengthy discussion on safeties and concluded that a study should be performed with the goal of separating free fall from overspeed. The main advantage to separating the functions would be to reduce the retardations on a safety stop which would result in fewer injuries. All of the TRs on safeties could be incorporated into one long range study. It was pointed out that the separation of the two functions would be permissive, rather than mandatory.

During the discussions, it was noted that the probability of free fall is so small (members were only aware of a handful of instances of free fall in the last half of the century) while the hazard is death; therefore, it would be a great achievement to reduce the hazard from death to a minor injury. For overspeed, it was the Committee's opinion that no injuries should be allowed.

Mr. Gibson stated that he had performed some tests, using the ADIAS system, to record retardations, accelerations, and peaks, and found that a 1/3g stop is really a non-event even if the passenger is unprepared; however, there have been a small number of instances where the calculations showed a retardation average of .6g, with a .9g peak lasting over 100 millisecs, which brought the passengers to their knees. For comparison, it was noted that heel strike of a person walking down stairs is .5g. Mr. Rehman stated that he may undertake a study with Mr. Vlahovic and the Province of Ontario to do a sample of tests for different retardations using the ADIAS system.

Mr. Bialy stated that a Hydraulic Committee Task Group had performed a study on safety valves and determined that a retardation of approximately .2g or .25g within a specific time limit was comfortable and achievable. He agreed to forward a copy of the study to the Secretary for distribution to the Mechanical Design Committee. It was also noted that Mr. Klaus Gareis, a member of the ISO TC 178 WG 4, may have reports and analyses on a number of accidents. Mr. Gibson agreed to speak to Mr. Gareis at the next WG 4 meeting.

The Committee decided to target a retardation of 1 g for a fully loaded car for free fall. The probability of a free fall for a lightly loaded car is much less than probability with a fully loaded car. A value of 1 g would not lower the standard that is used today. For overspeed (runaway car), it was suggested that a target of about 1/3 to 1/2g as a maximum peak would be an appropriate starting point for both high and low speed elevators. It was pointed out that Type A safeties may not be able to meet this requirement; however, it was also noted that Type B safeties have much higher tripping speeds and therefore, with light loads, could result in harsher stops than Type A safeties.

In a related discussion, it was also noted that Keith Jenkins had written an article published in Elevator World Magazine approximately two years ago suggesting that buffers are not necessary at all. The Secretary was asked to search for this article. {Note: A copy of Mr. Jenkins' article is shown in **Attachment 17.**}

The Chair invited all members to perform mathematical analyses back at their companies so as to confirm that no manufacturer would be penalized if the two functions were separated. He also invited members to perform some calculations to compare the differences between empty car and full car on overspeed. Mr. Camp indicated that he may be interested.

Mr. Gibson noted that ISO TC 178 WG 4 is studying risk analysis and it was suggested that Mr. Vlahovic lead the Committee through a risk analysis of this subject. Mr. Vlahovic agreed that this could be possible, but not in the near future.

The Committee set a tentative target of 2 -3 years to complete this whole study and will devote much of the October meeting, as long as no action is required regarding harmonization, to the general study on safeties.

At the February 1997 meeting, TRs 87-86 and 94-102 were combined with this item.

Jul 97: This item was not discussed.

Discussion:

TRs 87-86 (Agenda Item 11.6) and 94-102 (Agenda Item 11.7) are combined with this item.

11.6 Performance Requirements for Safeties and Governors (TR 87-86)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Jan 88: The Committee discussed the proposal from Mr. Vlahovic which involved reorganizing the requirements for safeties, and stating them in a more performance-oriented manner. Mr. Gibson reported the Mr. Vlahovic is the Convener (chairman) of ISO/TC178/WG4 which is working on the worldwide safety code comparison project, and that he is also an active member of the B44 Committee. All members were requested to review this proposal for action at a future meeting.

Jun 88: The Committee reviewed Mr. Vlahovic's revised proposal. It was agreed to invite him to a future meeting to discuss this item.

Feb 91: It was agreed to hold off on this item until action is taken on TR 85-23.

Jun 94: Several years ago, the ISO/TC 178 issued a technical report on the comparison of worldwide safety standards for electric elevators. The report included recommendations for changes to all codes. The Main Committee reviewed these recommendations at their December 1992 meeting and assigned several items to various Working Committees to review those items which are not currently in the A17.1 Code. However, no TR was opened to address the following ISO recommendation because the Mechanical Design Committee was already working on TR's 87-86 and 85-23:

The ISO report included the following recommendation:

8.3.2 Protection should be provided for car overspeeding in both the up and down directions.
8.3.3 Safety standards requirements should be performance oriented.
8.3.4 Standard should allow the possibility of separating free-fall and overspeed protection.

Recently, C. E. Vlahovic, Vice Chairman of B44 and Chairman of ISO TC 178/WG 4, forwarded several proposals prepared by the B44 Committee in response to the ISO recommendations, including a proposal concerning the above (see **Attachment 18**). The B44 Committee has asked that consideration be given to their proposal and that they be informed of any action taken.

Mr. Bialy reported that this item is still on hold until action is taken on TR 85-23.

Jun 95: The Committee agreed that this item, for the most part, should be tabled until after harmonization. Some of the TR will be covered by TR 85-23.

Nov 95: The Chair explained that Mr. Vlahovic had asked him to consider rewriting the entire section on safeties and include it in the harmonization package; however, he feels that this will slow down the harmonization effort and will therefore prepare a proposal after harmonization is complete. Therefore, this item is tabled until after harmonization.

Feb 97: It was agreed to combine this item with TR's 88-4 & 94-102.

Discussion:

See TR 88-4 (Agenda Item 11.5) and TR 94-102 (Agenda Item 11.7).

11.7 Means of Safety Application (Hydr. Actuated) (TR 94-102)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Mar 95: See **Attachment 19**. This item was not discussed.

Feb 97: It was agreed to combine this item with TR's 88-4 & 87-86.

Discussion:

See TR 88-4 (Agenda Item 11.5) and TR 87-86 (Agenda Item 11.6).

11.8 Deleting Requirement for Car & Counterweight Safeties - Long Range Study (TR 91-10) THIS TR IS TABLED FOR HARMONIZATION}

Background:

Feb 92: See **Attachment 20**. It was agreed to keep this as an open item.

Dec 92: No action was taken.

Dec 93, Mar 94: This item was not discussed due to time constraints.

Jun 94, Sept 94, Mar 94: This item was not discussed due to time constraints.

Jun 95: The Committee considered this item a long range item will table it until after harmonization.

Feb 97: This item was not discussed.

Jul 97: This item was not discussed.

Discussion:

11.9 Safety Stopping Distances (TR 91-16) {GWG}
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Feb 92: See **Attachment 21**. Mr. Gibson agreed to prepare a proposal.

Dec 92: Mr. Gibson indicated that he would have a report for the next meeting.

Dec 93: This item was not discussed due to time constraints.

Mar 94: The Committee agreed to wait until a consensus has been reached concerning TR 88-4 before proceeding with this item.

Jun 94, Sept 94, Mar 95: This item was not discussed due to time constraints.

Jun 95: This is considered a long range item and will be tabled until after harmonization.

Feb 97, Jul 97: This item was not discussed.

Discussion:

11.10 Rule 205.9, TR 96-25
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

See **Attachment 22.**

Jun 96: The Committee tabled this item for harmonization.

Feb 97: The Chair explained that this item is a request for the use of an electronic governor. The Committee was referred to **Attachment 22** which appeared to be incomplete and the Secretary was asked to include in the minutes any information submitted by Mr. Dutch. {Note: **Attachment 23** now contains the complete package submitted by Mr. Dutch.}

It was also noted that Mr. Dutch wrote an article which was published in Elevator World some time ago and the Secretary was asked to obtain a copy of his article for the minutes. {**Attachment 24** contains a copy of the article.}

Jul 97: This item was not discussed.

Discussion:

11.11 Generalized Study of System Dynamics, Levels of Redundancy, etc. (TR 97-67)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

The Mechanical Design Committee developed a proposed response to Inquiry 96-55 at their October 1996 meeting. During discussion of this inquiry, concern was voiced regarding reduced stroke buffers with habitable space below. It was suggested that anyone interested, especially manufacturers, is welcome to develop a proposal for after harmonization. It was further suggested that this study be combined with the study for separation of overspeed and free fall protection. Therefore it was agreed to open a long range TR 97-67, Generalized study of system dynamics, levels of redundancy, etc.

Inquiry 96-55

Committee: Mechanical Design

Subject: Rule 1308.1
Buffer Reaction and Impact

Edition: A17.1-1993 including A17.1b-1995

Question:

Clarification of the velocity term V in the formulae for Rule 1308.1(a) is required.

(1) Is the velocity (V) the value determined from the reference in the first paragraph of rule 109.1(c) "car and counterweight-buffer supports shall be of sufficient strength to withstand without permanent deformation of the impact resulting from buffer engagement" at the following speeds:

(a) governor tripping speed where the safety is governor operated; and
(b) 125% of the rated speed where the safety is not governor operated?

(2) Is the velocity (V) the value determined by Rule 201.4b "Retardation" which addresses both full stroke and reduced stroke buffers?

Proposed Answer:
The value of v used in Rule 1308.1(a) is 115% of the rated speed in the case of full stroke buffers per Rule 201.4(a)(1) and is 115% of the reduced striking speed in the case of reduced stroke buffers per Rule 201.4a(2).

Dec 96, Feb 97, Jul 97: This item was not discussed; however, it is related to TR 83-54.

Discussion:

This item is related to TR 83-54, Item 11.4 of this Agenda.

11.12 Rule 201.4g (TR 97-68)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

During harmonization discussions, the Committee updated 201.4g to coordinate with revisions to Part XI. When reviewing 201.4g(2), members agreed that it is current practice to test longest stroke only. The last paragraph of A17 allows this and B44 does not preclude you from doing this. Some felt that it may be safer to require testing each individual stroke rather than just the longest stroke; however, members agreed that more time was necessary to review and that such a major change should go through as a TR not as part of harmonization. Therefore, they agreed to modify 201.4g(2) as shown in the Tabulation of Part II to clarify wording, and in addition, to open a TR after harmonization to delete last para. of 201.4g.

Dec 96: This item was not discussed.

Feb 97: Discussion on this item was deferred until the next meeting as Mr. Bialy was no longer in attendance when this item as being discussed.

Jul 97: This item was not discussed.

Discussion:

12 DOOR KINETIC ENERGY AND FORCE

12.1 Reopening Devices (TR 88-49) {GWG}

Background:

This item will be kept on the Mechanical Design Committee Agenda for information only as the item has been assigned to a joint Mechanical/Electrical/Hoistway Committee Task Group on Door Protection . The subject rules are assigned to the Hoistway and Electrical Committees. See July 1997 Minutes for background.

Attachment 25 contains the latest proposal, developed by Mr. Droste (Electrical Committee Chair), Mr. Gibson (Mechanical Design Committee Chair) and Mr. Peelle, Jr. (Hoistway Committee Chair).

Attachment 26 contains, for information only, a paper titled "Instantaneous Maximum Kinetic Energy of Horizontally Sliding Passenger Door Systems", dated 1/28/97 and written by George Gibson.

Discussion:

The joint Task Group on Door Protection is scheduled to hold their first meeting on March 11, 1998 in Phoenix.

13 SUSPENSION AND COMPENSATION

13.1 Rope Follower Guides (TR 83-7) {EP}
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Dec 92: Mr. Gibson agreed to prepare responses to the letter ballot comments in **Attachment 27a**.

Dec 93, Mar 94: This item was not discussed due to time constraints.

Jun 94, Sept 94, Mar 95: No action was taken on this item.

Jun 95: This item will be deferred until after harmonization.

Feb 97: The majority of members felt there is a need for the Code to include safety requirements to ensure the safe use of rope follower guides. Members noted it is a safety issue if the rope follower guides become hung up in the hoistway.

Mr. Parvis volunteered to prepare responses to the letter ballot comments shown in **Attachment 27a** and it was suggested he contact George Strakosch, Chair of the Ad Hoc High Rise Elevator Committee, for some input.

Jul 97: Mr. Parvis distributed the revised proposal shown in **Attachment 27b**. Members were asked to review and submit to Mr. Parvis any comments they may have.

Discussion:

Mr. Parvis is asked to report.

13.2 Use of Aircraft Type Cables on LULAs (TR 97-71) {HF}{LULA Committee}

Background:

The LULA Committee approved the proposed revision shown in **Attachment 28** and the following revision to Tables 4(a) and (b), and has requested concurrence from the Mechanical Design Committee.

Add the following to Table 4(a), (b):

MIL-W-83420 Standard:	Military Specification MIL-W-83420, Wire Rope, Flexible, for Aircraft Control
A17 References:	Rule 2501.13
Available from:	GPO US Government Printing Office Washington, DC 20402 Telephone: (202) 512-0000

Dec 96: The Committee agreed to discuss this item at their next meeting. Mr. Frank was asked to prepare a recommendation.

Feb 97: Mr. Frank stated that he was not familiar enough with aircraft cable and would ask the WRTB for a recommendation on this item in time for the next MDC meeting.

Jul 97: Mr. Frank explained that he had written to the WRTB and asked for input on the request from the LULA Committee to use Galvanized Aircraft Cable as a means for hoist. (See **Attachment 29a, Item 2** for Mr. Frank's letter to Mr. Hoganson, Chair of the WRTB), and recently received a response (see **Attachment 29b, Item 2**). The Committee then discussed the response but did not find it very helpful.. Members of the Committee suggested Mr. Frank submit another letter to the WRTB, asking specifically whether aircraft cable meets all of the requirements that a regular cable meets. The Committee also suggested that Mr. Frank provide the WRTB with a copy of the definition of LULA from Section 3 of the A17 Code. It was noted that the immediate application of aircraft cable is for LULA elevators, but the WRTB response should be applicable to all elevators. The next meeting of the WRTB is November 1997.

Discussion:

Following the July 1997 meeting, Mr. Frank submitted the letter shown in **Attachment 30a** to the WRTB and received the response shown in **Attachment 30b**.

13.3 Proposed New National Standard on Elevator Rope

Background:

At the July 1997 meeting, Mr. Frank reported that the WRTB was establishing a Committee C311 to establish a standard to replace the section on Elevator Ropes in Federal Specification RRW410. Mr. Frank wrote to the WRTB suggesting several items to be included in such a standard (see **Attachment 29a, Top of Page 2**) and requesting the status of the proposed standard.

Mr. Frank reported that he had received a response from the WRTB (see **Attachment 29b, Item 1**) indicating that a rough draft of the standard will be available in time for the November meeting of the WRTB. Many members of the Committee expressed concern that elevator manufacturers would not have input into this new standard. A Task Group of Mr. Frank (Chair), Mr. Camp, Mr. Parvis, Mr. Bialy, Mr. Lamb and Mr. Prock was then established to review the November draft of the proposed new standard (when it becomes available) and submit comments to the WRTB. Mr. Frank will advise the WRTB of this task group.

Discussion:

Mr. Frank is asked to report on the progress of the National Standard.

13.4 General Study on Suspension Ropes (TR 97-72) {HF}

Background:

Mr. Prock distributed the letter shown in **Attachment 31a**.

Feb 97: The Committee briefly reviewed Mr. Prock's letter and all agreed it should be considered a request for revision, rather than a request for interpretation.

Feb 97: Mr. Frank was not present during the discussion of this item; however, it was noted that he is preparing a paper to advise the Committee of his concerns regarding ropes (see Item 19.1 of February 1997 Minutes, Part I) which may address this item.

Mr. Bialy indicated that he had performed a study several years ago to test whether a change in diameter of the rope would affect traction. His study concluded that traction does not change with a change in rope diameter and agreed to send a copy of the paper to the Secretary.

Mr. Vlahovic noted that Professor Firer in Stuttgart, Germany has studied ropes for 10 years and written several articles in Elevator World Magazine. Mr. Gibson indicated that Mr. Firer is now a consultant for Schindler Elevator Co. in Switzerland. In response, Mr. Rehman agreed to try to contact Mr. Firer.

Discussion:

This item is now combined with TR 97-72, General Study on Suspension Ropes (Agenda Item 13.4)

13.6 Aramid Elevator Rope

Background:

The LULA Committee is proposing the use of aramid elevator rope for LULA Elevators. This is in addition to their proposal for aircraft cable (See Item 13.2 of this Agenda). Proposed wording has been developed by the LULA Committee for incorporation into the harmonization tabulation of Part XXV. See **Attachment 33**.

Jul 97: This item was not discussed.

Discussion:

14 STRUCTURAL

14.1 Car Platforms (Performance Requirements) (TR 82-69) {MP} {THIS TR IS TABLED FOR HARMONIZATION}

Background:

Jan 83: A proposed revision was approved for submittal to the Main Committee.

Jan 84: The letter ballot results were reviewed. Mr. Gibson agreed to redraft the proposal in performance terms, highlighting the factor of safety of 5, the allowable deflection of L/960, and to consider the inclusion of related performance criteria such as load vs temperature, etc.

Sept 87: Mr. Prock was assigned to review the previous revision and the ballot comments and prepare a new proposal.

Jan 88: Mr. Prock submitted a proposal and agreed to prepare revised wording for Rule 203.5a(3) to indicate a factor of safety of 5 in its end use configuration, and to review Rule 203.5b(2) to see if it is necessary to specify special requirements for plywood. Rule 203.8 will be submitted to the Hoistway Committee for their comments.

Nov 88: Mr. Prock submitted a proposal for review at the next meeting.

Jan 89: Mr. Prock's proposal was discussed and the following suggestions were made:

- In Rule 203.8, use a flame spread rating of 75 (same as the car enclosure requirement).
- In Rule 203.8, the overlap requirement is not necessary if the flame spread criteria are used.
- Rule 203.6 would prevent the use of anything except wood or metal. Should it be deleted?
- If humidity could cause a problem, we should specify water absorption criteria.

Mr. Gibson agreed to work with Mr. Prock on this item.

Mar 89: It was reported that the Hoistway Committee recommended that Rule 203.8 be revised to require the following types of protection of platforms against fire:

(1) Wood covered with sheet steel;
(2) All metal; or
(3) Other material tested per ASTM E84 (0-75 flame spread, 0-450 smoke development.

Mar 90: Mr. Prock reported on the proposal in **Attachment 34a**. It was suggested that it be reworded to be more performance oriented.

Dec 92: No report was available from Messrs. Prock and Gibson.

Mar 94: Mr. Gibson reported that he had recently sent all the background information to Mr. Prock. Mr. Prock will now start preparing the rewrite of the whole section concerning platforms so it will be in performance language.

Jun 94: Mr. Prock stated that he had received the information from Mr. Gibson and will now begin working on a proposal.

Sept 94: Mr. Jahn distributed a revised ballot proposal (**Attachment 34b**) and the Chairman requested that all members review it in preparation for discussion at the next meeting. The Chairman reiterated that the goal of the proposal is to rewrite the rules in performance language and make it easier for manufacturers to bring new products into the marketplace. The Chairman stated that he would forward the original ballot to the Secretary for inclusion in the next agenda so that members have a complete package for review.

Mar 95: See **Attachment 35** for the original proposal on TR 82-69 and the letter ballot results. The Chairman requested that all members review the proposal and the resulting objections and comments so that the Committee can try to develop responses at the next meeting.

Jun 95: This item will be deferred until after harmonization.

Feb 97: The Chair explained that Messrs. Prock and Jahn had, some time ago, reviewed the letter ballot comments resulting from the original ballot (**Attachment 35**) and prepared a revised proposal (**Attachment 34b**); however, their proposal contains mostly design rules rather than performance based rules. A Task Group of Mr. Prock (Chair), Mr. Di Francesco, and Mr. Kremer was set up to prepare a new proposal, written in performance language, based on the original proposal shown in **Attachment 35**.

Jul 97: This item was not discussed.

Discussion:

Mr. Prock is asked to report.

14.2 Structural Design Study (TR 97-69)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

During the review of the harmonization of the bolt allowable tensile and shear stresses in Table 203.10 at the December 1996 Mechanical Design Committee meeting, the Committee agreed to open a TR, for after harmonization, on structural design study.

Feb 97: Mr. Parvis stated that NEII was planning to submit a proposal on this item; however, it has been delayed due to harmonization. Mr. Parvis stated that he will discuss this at the NEII Central Code Committee meeting, and possibly obtain a timetable.

Jul 97: This item was not discussed.

Discussion:

See Agenda Item 17.3 for a related TR request.

14.3 Reference of ISO 7645 (TR 97-08)

Background:

The A17 International Standards Committee has requested the A17/B44 Mechanical Design Committee open a TR to consider referencing the new ISO Standard (ISO 7465) for guide rails. in place of the guide rail information currently contained in A17.1. The A17 International Standards Committee noted that this TR is not to be considered as part of harmonization.

Jul 97: This item was not discussed.

Discussion:

15 SIGNAGE

15.1 Class A Loading, Rule 207.5a (TR 95-02) {CF, CEV, RF}
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

Mar 95: See **Attachment 36**. This item was not discussed.

Jun 95: Messrs. Fox and Vlahovic will prepare a proposed revision for discussion at the next meeting.

Nov 95: This item was not discussed as neither Mr. Fox nor Mr. Vlahovic was present.

Apr 96: This item was not discussed.

Jun 96: This item will be tabled for harmonization.

Feb 97: Mr. Gibson asked Messrs. Fleming and Vlahovic to prepare proposals for this item, as well as TRs 94-04 and 94-07; explaining that it would benefit the Committee to have input from the enforcing authorities on this item.

Jul 97: This item was not discussed.

Discussion:

It is related to TR 94-04 (Agenda Item 15.2) and TR 94-07 (Agenda Item 15.3).

15.2 Signs Required (TR 94-04) {CF}
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

This TR was initiated as a result of Inquiry 93-58 to require signs to display capacity and loading information for passenger elevators used to carry freight. The following inquiry was approved by the Main Committee on December 8, 1993:

Inquiry 93-58

Committee: Mechanical Design

Subject: Rule 207.5a
Signs Required

Edition: A17.1-1990 including A17.1b-1992

Question:
Should passenger elevators being used to move freight and designed in accordance with the requirements of Rule 207.1b be required to have signs posted relating to the type of applicable freight load as required by Rule 207.5a(1)? If not, why not? This is an area that sees extreme abuse and signs could help. If the present Code does not require signs, should not a change be made?

Answer:
A previous interpretation for Inquiry 87-27 literally interpreted A17.1 - 1984 Rules 207.1b and 207.5 as not requiring freight capacity signs in passenger elevators.

Additional Information:
The Committee recognizes that the purpose of signs displaying capacity and loading information is to advise the elevator user of the design limitations of the elevator.
The Committee agrees with the necessity of such a requirement for signs, applicable to carrying freight on passenger elevators, and will initiate a technical revision to revise the Code accordingly.

Mar 94: This item was not discussed.

Jun 94: This item was not discussed due to time constraints.

Sept 94, Mar 95: This item was not discussed.

Jun 95: Mr. Fox volunteered to prepare a proposal for Committee discussion at the next meeting.

Nov 95: This item was not discussed. The Committee is waiting for a proposal from Mr. Fox.

Apr 96: This item was not discussed.

Jun 96: The Committee decided to table this item for harmonization.

Feb 97: See TR 95-02.

Discussion:

See TR 95-02 (Agenda Item 15.1).

15.3 Crosshead Data Plates (TR 94-07) {CF}
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

This TR was initiated as a result of Inquiry 93-57 to require additional information on the crosshead data plate. The following inquiry was approved by the Main Committee on December 8, 1993:

Inquiry 93-57

Committee: Mechanical Design

Subject: Rule 207.3b
Information Required on Plates

Edition: A17.1-1990 including A17.1b-1992

Question:
The present rule requires specific notation on the crosshead data plate if the elevator is designed for one-piece loads or Class C2 loading. Should not this be extended to also address Class B and C1 designs. These also are unique. There is little chance of a person knowing the specific design of the elevator after the initial installation because in car signs disappear. This could certainly aide enforcement people to address problems of misuse.

Answer:
The only data entries relating to loads required on crosshead data plates are specified in Rule 207.3b(2)(a) and (b), pertaining to total car weight and rated load, respectively.

While the capacity plate required by Rule 207.3b(1)(a) and (b) pertains to one-piece and Class C2 loads, respectively, Rule 207.5 requires that additional signs be permanently and securely fastened inside all freight elevators, displaying the specific class of loading and the numerical value of the corresponding maximum load.

The issue of missing capacity plates, required by Rule 207.3b(1), and freight car loading signs, required by Rule 207.5, must be addressed as an inspection requirement specified by Rule 1001.2(b)(1) which refers to A17.2 - 1988 Item 101.1. This is also specified in A17.2.1 - 1993, Item 1.12.1.

The inclusion of information on the crosshead data plate about the class of loading and maximum load to be supported or transported would provide enforcing authorities with an additional information source which would be less prone to being removed by elevator users.

Jun 95: Mr. Fox volunteered to prepare a proposal for Committee discussion at the next meeting.

Nov 95: The Committee is waiting for a proposal from Mr. Fox.

Apr 96: This item was not discussed.

Jun 96: The Committee agreed to table this item for harmonization.

Feb 97: See TR 95-02.

Discussion:

See TR 95-02, Agenda Item 15.1.

16 MISCELLANEOUS ITEMS

16.1 Tolerance on Rated Speed (TR 97-70)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

After reviewing the B44 and A17 definitions for rated speed shown below, the Committee voted {Opposed-1} to adopt the A17 definition and not to include the B44 note. They did agree to open a TR for after harmonization to develop a rule for tolerance on rated speed.

A17.1

Rated speed—the speed at which the elevator, dumbwaiter, escalator, moving walk, material lift, or inclined lift is designed to operate under the following conditions:

Elevator, dumbwaiter, or material lift—the speed in the up direction with rated load in the car (also see operating speed in the down direction)

B44

Rated Speed—

(a) the speed in the up direction with rated load in the car at which an elevator or dumbwaiter is designed to operate; or

(b) the rate of travel of the steps or carriage measured along the angle of inclination with rated load on the steps or carriage at which an escalator or private residence inclined lift is designed to operate. In the case of a reversible escalator the rated speed shall be the rate of travel of the steps in the up direction, measured along the angle of inclination with rated load on the steps.

NOTE : Actual speed may vary ± 10% from the rated speed.

Feb 97: Mr. Rehman explained that neither the A17 Code nor the proposed harmonized Code specifies a tolerance on rated speed. Members of the Committee briefly discussed this point but felt that is more of a commercial item than a safety item. It was also noted that B44 does not contain a rule either, it merely contains a note to the definition of rated speed.

The Chair invited proponents of a tolerance to prepare a position paper giving supporting reasons. He also invited anyone opposed to putting in tolerances on rated speed in the Code to present a paper with their reasons too.

Jul 97: This item was not discussed.

Discussion:

16.2 Inspectors Manual for Screw Column Elevators (TR 93-81)
{THIS TR IS TABLED FOR HARMONIZATION}

Background:

See **Attachment 37**.

Dec 93: Mr. Gibson stated that the Mechanical Design Committee was asked to prepare the Inspectors' Manual for screw column elevators, but they do not have the expertise and are not sure if there is a need anyway. The Committee agreed. Mr. Verschell stated that he may be able to find a volunteer who would be interested in helping to write this manual. He will advise the Secretary in several weeks.

Mar 94, Jun 94, Sept 94, Mar 95: Item not discussed.

Jun 95: This item will be tabled until after harmonization.

Feb 97: The Committee concluded that there was no urgency in developing an Inspectors' Manual for screw column elevators, as members were unsure if there are even any screw column elevators in existence today.

It was agreed to leave this item open for future consideration.

Jul 97: This item was not discussed.

Discussion:

16.3 Definition of Fail-Safe (TR 97-xx) (Earthquake Safety)

Background:

As a result of a recent inquiry (Inquiry 96-29), the Earthquake Safety Committee developed a proposed definition of "fail-safe" and is seeking comments from the Mechanical Design and Electrical Committees. The definition for fail safe was taken from the definition from the American Society of Civil Engineer's Standard titled "APM Standard, Part I - 1997" for Automated People Movers:

> *fail safe - "A characteristic of a system or its elements whereby any failure or malfunction affecting safety will cause the system to revert to a state that is known to be safe."*

Jul 97: This item was not discussed.

Discussion:

16.4 TR 97-47c (Existing Installations)

Background:

See **Attachment 38** for a request from the Existing Installations Committee.

Jul 97: This item was not discussed.

Discussion:

16.5 Traction Drive Elevators (Inspectors' Manual)

Background:

See **Attachment 39** for a request from the Inspectors' Manual Committee for the MDC to review the B44 requirement on stopping distances for traction drive elevators.

Jul 97: This item was not discussed.

Discussion:

16.6 EN 81 Draft Proposal on Ascending Car Overspeed Protection

Background:

July 97: Mr. Gibson reported that Jules Strebel, Chair of CEN TC 10 WG 1, sent him a copy of the draft for EN 81 on ascending car overspeed protection (Attachment 39 of July 1997 Minutes). Mr. Strebel had reviewed the latest draft of the A17.1/B44 proposal on ascending car overspeed protection and found that it was very close to the EN 81 proposal. In his letter to Mr. Gibson, Mr. Strebel asked for clarification on one issue - whether "216.3b(2) and (3) permit the driving machine brake to act as the device for the ascending car overspeed protection, provided it has its mechanical parts duplicated, and e.g. one of its brake shoes on its own is capable of braking the car with full load traveling in down direction?"

The Committee briefly discussed and concluded that the response is "Yes, for gearless elevators."

With conventional geared machines it may not work, but with any machine that meets Rules 216.3b(2) and (3), it will work.

It was noted that an official interpretation cannot be issued on this item because the rules have yet to be published; however, the Secretary will send a copy of the minutes regarding this item to Mr. Strebel. At the request of Mr. Gibson, she will also send, for information, a copy of Mr. Strebel's letter and the EN 81 draft to the TR 85-23 Task Group.

Discussion:

Mr. Vlahovic submitted the letter shown in **Attachment 40** in opposition to the response approved by the Committee at their July 1997 meeting.

17 NEW BUSINESS

17.1 Compensating Means and their connections, Rule 202.4 (TR 97-xx)

Background:

This TR was opened during review of the following comment from the first letter ballot on the harmonized code Rule 202.4:

Comment from C. E. Vlahovic: Now, that we have introduced definition for "compensating means", that we have changed the title and expanded this rule, we should preferably move Rule 205.17 to this rule, or at least introduce a cross-reference to 205.17. Please note also my proposal for editorial changes to Rule 205.17

Response: Not accepted. This rule is for normal operation. Tie down compensation is not relevant. A TR will be opened for compensating means and their connections considering all conditions, not only normal operations.

Discussion:

17.2 Unlocking Zone Limitation (TR 97-xx)

Background:

This TR was opened during review of the following comment from the first letter ballot on the harmonized code Rule 203.9:

Comment from D. McColl, J. Faup, R. Droste, A. Saxer, D. Steel, L. Bialy, S. Benjamin: After Harmonization: In view of Longer Toe Guard(1220 mm) review unlocking zone limitation.; Rationale Requires Clarification. Rationale should be revised a follows. "Longer toe-guard is required because Rule 216.2b(2) allows movement of the car to 1220 mm. "This requirement should be not apply to hydraulic elevators (new Rule 301.5).

Response: A long range TR will be opened to review the unlocking zone limitation in view of the longer toe guard (1220 mm) Also to consider whether Hydraulic elevators should be exempted from this requirement; See revised rationale.

Discussion:

17.3 Structural Design (TR 97-xx)

Background:

This TR was opened during review of the following comment from the first letter ballot on the harmonized code Rule 203.14:

Comment from C. E. Vlahovic: Do the formulae in Section 1301 cover stresses in car/cwt frames due to compensation - tie down?

Response: They are covered in the intent of 1301.1 under other special car frame and platform construction. A TR will be opened for structural design.

Discussion:

17.4 Manual Drift (TR 97-xx)

Background:

This TR was opened during review of the following comment from the first letter ballot on the harmonized code Rule 216:

Not Approved vote from G. Kappenhagen and V. Robibero: Rule 208.8d now allows a manual release of the normal service brake presumably to permit a mechanic to "drift" the car to a landing a power failure. If the ascending car protection or unintended motion protection device depends on power it must activate when the power fails. This means that the mechanic needs a way to manually disable this device as well, before he can "drift" the car. The code should address this.

Response: A TR will be opened to address your concerns. The manual drift is permitted, not required.

Discussion:

17.5 Rated Load Performance (TR 97-xx)

Background:

This TR was opened during review of the following comment from the first letter ballot on the harmonized code Definition for Rated Load:

Comment from C. E. Vlahovic: Furthermore, we should add: "...lift and lower at the rated speed or operating speed in down direction" in order to avoid all confusion about operation in the down direction, e.g. "rated load" performance of safeties, buffers etc, and also to use the definition of "down direction speed" related to hydraulic elevators.

Not accepted. Beyond scope of harmonization. A long range TR will be opened to address your concerns.

Discussion:

17.6 Tie Down Compensation (TR 97-65)

Background:

See **Attachment 41** for a new TR request.

Discussion:

18 FUTURE MEETINGS

The following A17/B44 Mechanical Design Committee meetings have been scheduled:

Denver, Colorado (with A17 Main Committee)
March 30 - April 1, 1998 8:30 am - 5:00 p.m.

For your information, the following A17 Main Committee meetings have been scheduled:

January 14, 1998	Palm Beach Gardens, Florida
March 30-April 2, 1998	Denver, CO
June 22-26, 1998	Charlotte, NC
September 22, 1998	Quebec City

19 ADJOURNMENT

The meeting is scheduled to adjourn no later than 3:45 p.m. on Tuesday, January 13, 1998.

Submitted by,

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Secretary, A17/B44 Mechanical Design Committee
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Codes and Standards

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SUPPLEMENTAL AGENDA

A17/B44 Mechanical Design Committee

Palm Beach Gardens Marriott
4000 RCA Boulevard
Palm Beach Gardens, FL 33410

Monday, January 12, 1998 8:30 am - 5:00 pm
Tuesday, January 13, 1998 8:30 am - 3:45 pm

7 REQUESTS FOR INTERPRETATION

7.6 Inquiry 97-57 (Attachment A)

Committee: Mechanical Design

Subject: Rules 105.3c, 105.4 and 105.5
Overhead Hoisting Rope Hitches (Structural Support)

Edition: A17.1 - 1996

Question(s):

These questions relate to structural support of overhead hoisting rope hitches in a 2:1 application where the elevator machine is supported solely by the machine room floor slab.

(1) Is it the intent of Rule 105.3c that the only acceptable means of structural support for hoisting rope hitches is via overhead beams, machine beams, or on top of auxiliary beams connected to the webs of overhead beams due to impact loads imposed on the beams during a safety set condition?

(2) Is direct support of hoisting rope hitches and/or hitch plate blocking beams by the machine room floor slab acceptable if the floor slab is designed in accordance with Rule 105.4 and Rule 105.5? If yes, this is in conflict with the requirements outlined in Rule 105.3c.

(3) Is the requirement for support of hitch plates and hitch plate blocking beams by overhead beams, machine beams or on top of auxiliary beams connected to the webs of overhead beams to distribute the concentrated loads imposed by the hitch plate over a larger area than would be possible if the hitch plate blocking beams were supported directly by machine room floor slab?

Discussion:

7.7 Inquiry 97-64 (Attachment B)

Committee: Mechanical Design
Inspectors' Manual

Subject: Rules 205.11
A17.2.1, Table 2.29.2(a)
Max. permissible Movement of Governor Rope to Operate Safety Mechanism

Edition: A17.1 - 1921 through 1996
A17.2.1 - 1996

Question(s):

Rule 205.11 and Table 2.29.2(a) list the maximum safety rope pullout requirements. The present requirements have remained since the 1955 code. However, the 1937 code states that only on cars 475 FPM and above the pullout is limited to 30 inches. The 1921 code has no pullout requirements listed. It is noted that the A17.2.1 Inspectors' Manual does not distinguish different requirements for pre-1955 elevators (2.29.2) as it often does with other item sections in the manual. Some jurisdictions have many elevators with windout safeties installed between 1920 and 1954.

(1) Should the Inspectors' Manual Table 2.29.2(a) apply or should the code year requirements apply for a 350 FPM elevator installed under the 1937 code?

(2) Should the Inspectors' Manual Table 2.29.2(a) apply or should the code year requirements apply for a 250 FPM elevator installed under the 1921 code?

Discussion:

8 A17/B44 HARMONIZATION

The results of the reconsideration ballot on the sections/parts assigned to the Mechanical Design Committee are enclosed.

The B44 Technical Committee reviewed all of the MDC responses to the first ballot comments and ruled f them persuasive except for the response to C E Vlahovic on Rule 201.4g. Therefore, the Mechanical Design Committee is asked to review the B44 recommendation shown below, treating it as a reconsideration ballot comment, and develop a response.

Subject	Disapproved Vote	Recommendation by the B44 Technical Committee
Rule 201.4g	C E Vlahovic	The B44 TC approved a motion requesting the MDC to delete or modify third paragraph per comments received on the ballot. Alternatively, the SC could provide a comprehensive rationale for not accepting the proposal submitted by CE Vlahovic.

16.6 EN 81 Draft Proposal on Ascending Car Overspeed Protection

Background:

See Item 16.6 of the Agenda for background information.

Discussion:

See **Attachment C** for a letter from Mr. Jules Strebel in response to the letter shown in **Attachment 40** of the Agenda.

Submitted by,

Marcy Weinstock

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