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Drago comments to playground guidelines

Section 5.1.5 Other sections state fall zone should extend a "minimum.....", but this one does not.

Section 6.1, line 4: It's probably "observation" rather than "supervision" that should not be precluded (see 6.2 paragraph 2, reference to "sight lines")

Page 11
Section 6.2, paragraph 3, line 2: Slide exits should ~~also~~ be located...
Section 6.2, paragraph 3, line 3: ...slide exits should ~~never~~ not overlap. (I think we should stay away from words like *never* and *always*. This comment also applies to page 34, 12.6.2.)
Section 6.3, line 2: ...to serve their ~~less advanced~~ developmental..... I know what you are trying to say, but they are only "less advanced" compared to older children; they are at a developmental level appropriate to their age.

Page 12
The first sentence does not flow with the topic of the paragraph. I suggest deleting it. (It may go someplace else.)
Line 4: The following is a list of the sections in which those recommendations are discussed: (The recommendations are *not* listed, as the original text states.)

Last paragraph belonging to section 6.3, line 2: ...distinct areas for the ~~two~~ different age groups.

Section 7.1, paragraph 2: ~~As a precaution,~~ The manufacturers....(unless you state as a precaution *against something*

Page 13
Section 7.2, paragraph 2: I wonder if "routinely" is more appropriate than "frequently"--frequent can vary subjectively; routine establishes that you do something according to a schedule. This change would flow nicely with the next paragraph which acknowledges that "frequency" is equipment-dependent

Page 14
Section 8.1: I think the first sentence in the second paragraph should be the first sentence in the section. I think the second sentence in the second paragraph should be the third sentence in the first paragraph.
Section 8.1, paragraph 3, line3: for better phrase placement--The manufacturer should ensure that as a result of contact with the playground equipment, users cannot ingest, inhale.....
Section 8.1, paragraph 3, line7:...preservatives ~~or~~ and other...present a health hazard ~~to the consumer~~

Page 15
Section 8.2, line 2: Can't tell if this should be ....fasteners, connectors, and covering devices..*or* fasteners connecting and covering devices...

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Drago comments to playground guidelines

Page 16
Section 8.3, line 3: ...out of ~~the~~ direct sun
line 5: ....slide beds may be ~~fabricated from~~ plastic...

Section 9.1, line 3: ..sharp points, corners , or edges ~~due to~~ that could develop as a result of wear and tear.....(This way there is a distinction between sharp points, etc. that could exist on the original equipment --which they should not--and those that could develop over time.)
Section 9.1, second last line: ... slide bed can be ~~particularly dangerous~~ result in severe lacerations or traumatic amputation.... (might as well tell them what can happen)

Section 9.2, new warning, line3: ..advised to remove hood ~~or~~ and neck drawstrings....
Paragraph 1, line 2: ..entanglement can cause ~~serious injury or~~ death by....(The data show that with the exception of death, injuries are minor--that is the children either get rescued or die)
last line: The Figure 4 that is referred to should be a better example of an increasing diameter--I had to look at it a few times, and am still not sure it shows what it's supposed to. Maybe the parts in it should be labeled.

Page 17
Section 9.2.1, referred figure 6: I would like to see two illustrations--one for passing as well as one for failing. In fact, the failure that is depicted might be misinterpreted; the text says the protrusion must not extend beyond the face, yet the protrusion does. At a minimum, this illustration should be labeled as depicting a failure.

Section 9.3: I think the procedure for testing needs an illustration. I can only imagine that for testing in a horizontal plane, the protrusion tested for must be in a vertical plane, yet I think of an impact injury as resulting from a protrusion in a horizontal plane.

Page 18
Section 9.6.1, last paragraph: : To determine.....hazardous use the recommended test fixtures, test methods, and performance requirements described...(This makes it flow in sequence and also sets up the sentence structure so that "recommendations" ends one sentence, and the "these recommendations..begins the next sentence.
Last sentence, reference sections B5 and B6:....separate procedures are given (see B5 and B6)

Section 9.6.2: Be consistent with the description in the text and illustration--one says angle should not be less than...other says angle should exceed ....

Page 21
Table: ages--second header should be over 5 to 12
There is a reference to a preferred 1.25 inch cross-sectional dimension on handgripping components (page 21) and handrails (page 22) that states "weakness" as a rationale. I do not make the connection. I thought it was merely related to hand size.

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Drago comments to playground guidelines

Page 23
Section 11.3, paragraph 2, line 4 and paragraph 3, line 1: underlying surface is an awkward term. I suggest replacing it with "protective surfacing." To cover "underlying" surfaces, layered platforms are covered in the last paragraph of the section.
Section 11.3, paragraph 2, last line: ..platforms that are over 30 inches ~~high~~ above the protective surfacing. (Platforms are usually not very high themselves, but are located at a height above ground.) Make a similar change in paragraph 3. To cover "underlying" surfaces, layered platforms are covered in the last paragraph of the section.

Page 24
I can see the rationale for the guardrail height requirement, but spaces of 23 and 26 inches do not seem like they would prevent children from inadvertently stepping under them. What is the rationale for the selection of those values?

Section 11.5, paragraph 2, line1/2 :..should be at least 29 inches ~~high~~ above the platform
Same change to paragraph 3. (see rationale to Section 11.3, paragraph 2, last line)

Page 25
Last para section 11.7--~~height~~ of lower platform--same comment as previously made--this should read with the ground as a reference point

Page 29
Paragraph 1, line 2: I do not think it is appropriate or effective to recommend supervision--it's quite unenforceable. I think it would be better to suggest locating such equipment so that direct supervision is possible.

Section 12.3, line 5: ~~on public playgrounds~~

Page 31
Paragraph 5: I am not convinced that the benefits outweigh the potential hazards. Consider how the junction of hoods and slides has been a drawstring entrapment area; how guardrails can be an impact hazard--or be swung from. This is an area for discussion. What do the data suggest?

Page 33
Last paragraph: ..pinching ~~either~~ their hands.... "either/or" I think offers a choice.

Page 39
Extra period under hardware.....connections.such as.....

Page 40
Where are the figures?

#35

DUANE LUNDBERG
34 PARKWOOD PLACE
MONETT, MO 65708

MR. JOHN PRESTON:

I AM WRITING TO OBJECT TO THE C.P.S.C. 1997 DRAFT REVISION.

THERE SHOULD BE NO HEIGHT LIMITATION FOR PLAYGROUND EQUIPMENT. THE HEIGHT LIMITATION IS ALREADY TAKEN CARE OF IN ASTM F1292 WHICH REQUIRES ADEQUATE SURFACING FOR ANY HEIGHT OF PLAYGROUND EQUIPMENT. A FALL FROM A 2 FOOT HIGH PIECE OF PLAYGROUND EQUIPMENT ON TO CONCRETE IS MORE DANGEROUS THAN A FALL FROM A 12 FOOT HIGH PIECE OF PLAYGROUND EQUIPMENT ON TO SURFACING THAT MEETS ASTM F1292 FOR THE 12 FOOT HEIGHT.

LOWERING THE HEIGHT AND EXCITMENT OF PLAYGROUND EQUIPMENT MAY REDUCE PLAYGROUND INJURIES BY LOWERING THE USAGE. RATHER THAN DISCOURAGING PLAYGROUND ATTENDANCE THE C.P.S.C. SHOULD CONCENTRATE ON THE CORE OF THE PROBLEM AND INSURE THAT ADEQUATE SURFACING IS PLACED UNDER <u>ALL</u> PLAYGROUND EQUIPMENT.

CLIMBING ROPES SHOULD NOT BE ELIMINATED ON PLAYGROUND EQUIPMENT. INSTEAD A LOOP REQUIREMENT SHOULD BE ADOPTED TO PREVENT STRANGULATION.

SINCERELY

Duane Lundberg

36

The National Program for Playground Safety

America's playgrounds: *Make them safe*

From:
Donna Thompson
Natl' Program for Playground Safety
The National Program for Playground Safety
School of HPELS
University of Northern Iowa
Cedar Falls, IA 50614•0168

Voice: 800•554•PLAY
Fax: 319•273•7308

www.uni.edu/coe/playgrnd

To:
John Preston
Directorate for Engineering
(301)504-0025

Date: 6 / 27 / 97

Voice: ( ) -

Fax: ( ) -

The **National Program for Playground Safety** was established in October of 1995 by a grant from the Centers for Disease Control and Prevention in Atlanta. It addresses the growing concern for playground safety issues throughout the United States

Through its efforts, people (such as parents, educators, city leaders, park officials & administrators responsible for playground structures and their maintenance) will have access to current information about safety and appropriate playgrounds.

The program is based at the **University of Northern Iowa** in **Cedar Falls, Iowa**.

Comments:

- ○ Urgent
- ○ F.Y.I.
- ○ Reply ASAP
- ○ Please Comment
- ☒ As Requested
- ☒ Original in Mail

John -

Attached are recommendations from the Program staff regarding the inclusion of a "Supervision" section in the revised handbook. The hard copy is in the mail

Thank you for your consideration in this matter.

Donna

Number of pages being sent including this cover sheet 4

#36

June 27, 1997

Mr. John Preston
Directorate for Engineering
United States Consumer Product Safety Commission
Washington, D.C. 20207

Dear John:
The National Program for Playground Safety would like to contribute to the revised CPSC Handbook by proposing the inclusion of the following information regarding supervision on playgrounds. Since nearly 40 percent of injury cases cite inadequate supervision as a contributing factor , we feel that it is an area that should be addressed in the guidelines. We have written a short section about supervision in the same format used throughout the document. Hopefully, you will consider the inclusion of this missing element in the Handbook. We will be more than happy to consult with you further on this matter. Thank you for your consideration in this matter.

PROPOSED CHANGES

A. Changes in the INTRODUCTION:

1.Second paragraph - add after current last sentence. In addition, a National Action Plan for the Prevention of Playground Injuries was published in 1996 by the National Program for Playground Safety. This plan provides a blueprint for safety on playgrounds in the areas of age appropriate design, proper surfacing, proper supervision and proper maintenance.

RATIONALE: Since 1996, 5,000 copies of this document have been distributed nationwide. It has been well received by National Professional Groups, State Departments of Health and Education, and the general public. In addition, with the appearance of Ann Brown at the press conference in Washington, D.C. we believe that CPSC has backed the plan. Finally, this plan was created under the auspices of the Centers for Disease Control and Injury Prevention and thus, has the backing of the Federal Government. We think it is a valuable supplement to both the CPSC guidelines and the ASTM standards and should be mentioned as an additional resource.

2.Fifth paragraph - after current sentence ending with " adult supervision is recommended".
Add:
Although it is recognized that supervision is not provided at some playgrounds, the handbook does provide some guidance concerning supervisory practices that adults should follow, if present.

Program for Playground Safety School of Health, Physical Education and Leisure Services
Cedar Falls, Iowa 50614-0161 (319) 273-2416/2654 FAX: (319) 273-5833

RATIONALE: This sets the stage for the section on supervision that we propose for the document. As currently written, the CPSC guidelines do mention, age appropriate equipment, proper surfacing and proper maintenance. The fourth element of playground safety - supervision - is missing. This element should be given more than a two sentence reference in the introduction.

B. PROPOSED NEW SECTION - SUPERVISION

Add a new section after General Hazards --- Supervision.

RATIONALE: General Hazards speaks to items which an adult can observe when taking a child to the playground. Thus, it provides the information which is helpful to the supervision process. It also makes sense to put this new section prior to the specific technical information concerning each piece of equipment.

Text for new section

10. SUPERVISION

When adults and children visit a playground for the first time, they should explore the playground together. As they walk around the play area, they should look for age appropriate equipment, evaluate the safety of the site, decide on rules for safe playground behavior and anticipate when to intervene when inappropriate play behavior occurs.

10.1 Look for Age Appropriate Equipment

Equipment should reflect the physical, emotional, social and intellectual differences of its planned users. Look for signs that can be used to direct preschool aged children and school aged children to equipment appropriate to their age levels. If equipment is not labeled for specific ages, adults should direct children to equipment appropriate in size and design to the ages and development of their children.

10.2 Evaluate the Safety of the Site

Be aware of foreign objects such as glass, nails, and poptops on the playground surface that are hard to see. Notice signs placed on vertical equipment posts that indicate the level of loose surfacing material needed to conform to recommended standards. If surface material does not reach the line, maintenance is required. Watch for hazards like loose or protruding nuts or bolts, broken parts, exposed concrete, and shallow protective surfacing that occur through the children's regular use of equipment.

#

10.3 Decide on Rules for Safe Playground Behaviors

Talk to children about rules for safe playground behaviors prior to allowing children on the equipment. Ask school age children to help create these rules. Realize that school age children can remember up to five rules, while preschool age children should have to remember only three rules or less. Whatever the rules, make sure that children understand and agree with them prior to being allowed on the equipment.

10.4 Intervene when Inappropriate Behavior Occurs

Adult supervisors should take an active role within a passive posture. This means that they need to move about the playground area as children play on equipment. They need to observe secret places where children might hide. When necessary, they need to verbally warn children about inappropriate behavior; intervening between fighting children immediately to prevent someone from being hurt. Be firm and consistent when enforcing rules; pushing, throwing objects, and hitting other children can lead to serious injury.

Effective supervision is an important part of keeping children safe on the playground. It is highly recommended that parents and adults take an active role in playground supervision.

RATIONALE: As mentioned at the beginning of this letter, supervision is cited in 40% of playground injury cases. To ignore this area would leave a void in the guidelines. We have proposed four general things that any adult without advance training can do to help supervise their children on play equipment. The first step, is for them to direct children to age appropriate equipment. They need to recognize that "one size doesn't fit all" and as adults they have a responsibility to guide their child to areas which are appropriate for the abilities of the child. Secondly, they can evaluate the general safety of the play area. It does not take a certified safety inspector to check the surface for foreign objects, observe loose parts or protruding elements on the equipment. Third, they need to teach the child about what is acceptable behavior with the equipment. When they drive a car, they conform to written rules. Children need to learn that certain behaviors are expected on the playground. Last but not least, adults need to move about the playground, not just sit on the bench reading a book. They have to be reminded that supervision means being alert to what is going on. Finally, we think it is appropriate that CPSC recommend that parents and adults take an active role in playground supervision in order to help ensure the safety of children.

Thank you again for your consideration with these recommendations.

Sincerely,

Donna Thompson

The Staff of the National Program for Playground Safety
Director, Donna Thompson, Ph.D.

June 23, 1997

John Preston
Directorate for Engineering Sciences
U. S. Consumer Product Safety Commission
Washington, D. C. 20207

Dear John:

Thank you for the opportunity to review the proposed revisions to the Handbook for Public Playground Safety. You and your staff should be commended for the thorough job you have done in trying to revise the guidelines. In general, I found the text to be comprehensive, readable, and informative. I have only a few suggestions to add to the ones you probably have already received. However, I pass them along for you to do with as you please.

Suggestions for Change

I. Introduction: Third paragraph - change word from handicapped to disabled, or children with disabilities.

II. Page 5 - First paragraph 4.3.1 - I realize that the age 5 may begin to use horizontal ladders, but your reference here is misleading since horizontal ladders are not recommended for the other age categories (2,3,4) in the preschool-age child category. This could create confusion and allow in-appropriate age equipment on a preschool area.

III. Page 7 - While it is helpful to include the table in this section, the table is very confusing to read. The National Program for Playground Safety frequently receives calls asking how to read this particular table. The general question is something like "If I have a 6' high slide, how can I use this table to determine the amount of pea gravel I need"?

Perhaps the table could be simplified by putting it in sentence form. For example:

6" of uncompressed wood mulch has a maximum fall height of 7 feet.
9" of uncompressed wood mulch has a maximum fall height of 10 feet.
12" of uncompressed wood mulch has a maximum fall height of 11 feet.
9" of compressed wood mulch has a maximum fall height of 7 feet.

6" of uncompressed medium gravel has a maximum fall height of 5 feet.
9" of uncompressed medium gravel has a maximum fall height of 5 feet.
12" of uncompressed medium gravel has a maximum fall height of 6 feet.
9" of compressed medium gravel has a maximum fall height of 5 feet.

National Program for Playground Safety School of Health, Physical Education and Leisure Services
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IV. Page 8 - First paragraph 4.6 - The last sentence is a misnomer. Those guidelines may prohibit the use of many loose-fill materials with regard to accessing playground equipment but not for total use on a playground. For instance, sand may still be used as a cushioning surface under and around equipment but the access to and from the equipment would prohibit the use of sand.

V. Page 11 - 6.3 Listing of equipment. Are you allowing horizontal ladders and merry-go-rounds for preschool ages (2-5). See previous concern about horizontal ladders.

VI. Page 14 - Why has the first paragraph dealing with maintenance been deleted?

VII. Page 16 - 9.2 Warning! Editorial comment - Punctuation after not before word.

VIII. Page 29 - Merry-go-rounds. I am concerned that no reference is made about height of platform relative to ground. ASTM F-1487 addresses both maximum height of platform and vertical clearance (p.15). I have been involved in two court cases where a child's head and a limb (foot, leg) were trapped underneath the platform causing severe injury. This needs to be addressed in the guidelines.

IX. Page 30 - 12.4.1 Slides. Are you going to reinforce your recommendation on page 5 about height of equipment. As you well know, slides and slide platforms are the one piece of equipment which tend to be the highest on the playgrounds. Reference to height in this section should be made if you truly mean to recommend an 8 foot guideline.

I like this revised Handbook and look forward to its publication. I hope my comments are of some use to your as you complete this task.

Thanks for helping to keep America's Playgrounds safe!

Sincerely,

Susan Hudson, Ph.D.
Project Associate
National Program for Playground Safety

SH:dm

PLAYGROUND ENVIRONMENTS
PO Box 460 • 1480 Speonk-Riverhead Road
Speonk, New York 11972-0460
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Mr. John Preston
U.S. Consumer Product Safety Commission
Washington, D.C. 20207

June 23, 1997

Re: Discussion Points on the Draft *CPSC Handbook*

Dear John Preston:

I appreciate the efforts you put into producing the CPSC Handbook and your continued concern over making it a living document relevant to the times. Your comments and understanding of play, child development and safety are unequaled in the industry. The following comments are based on my twenty five years of working with kids designing and building play equipment. I welcome your response to the following suggestions.

Section 3 Definitions

Fall Zone [Consider adopting Use Zone. It is more than a fall zone in most day care centers. The zone is used as an unrestricted play zone as well as the fall zone. Fall zone has a negative thought associated with it].

Section 4.3.1 Recommended Maximum Accessible Heights

Preschool-Age Children "...the highest accessible part of the equipment be no more than 4 feet above the protective surfacing." [4 feet maximum height will eliminate spiral slides. Most if not all spiral slides making a 360° of a sectional nature come off a 6 foot high platform. This is definitely too high for preschool-age children. Removing a modular section, making a 270° turn, will reduce the height of the slide to 54 inches. Removing an additional section will reduce the height but will now turn 180°, or back towards the structure which is not good. We believe it is desirable for children to experience the spiral slide and therefore suggest that the maximum height be reconsidered].

"...maximum height for swing hangers is 8 feet..." [hangers is not required in the statement. In **Section 4.3 Swings** the highest accessible part of a swing structure is the height of the pivot point... is very clear. When hangers is used in **Section 4.3.1** it becomes confusing. Simply stating that the maximum height for swings is 8 feet].

School-Age Children [It seems that a maximum height for swings should be called out in this section. Ten feet is the recommended height in our opinion].

Section 6.1 Choosing a Site

[A barrier need not totally surround a site if no hazardous condition is present. The way it is stated it implies that fencing is required around play equipment. In addition, when a fence is required 4 feet is sufficient. Most states or municipalities regulate fences and if one is attempting to get accreditation it is necessary to comply with local requirements. The 5 foot requirement is too high. The Safety Barrier Guidelines for Home Pools allows a 4 inch wide opening in fencing. Since all the guidelines and standards call for openings less than 3 ½ inches it seems logical that fences adjacent to play equipment should comply with the same dimensions].

Section 11.4 Minimum Height of Guardrails

School-Age Children: "...the lower edge should be no more than 26 inches above the platform." [Section 7.4.3.4 of ASTM 1487-95 and the North American Harmonized Standard say 28 inches above the platform for the lower rail. What is the basis for the 2" difference? Is there evidence suggesting that 28 inches is too high? If information exists suggesting a need to lower the guardrail height ASTM should be notified and changed. Lacking any information we suggest raising the lower guardrail height to 28 inches].

Section 11.6 Other Design Considerations for Guardrails and Protective Barriers

"...the opening width providing access to other play events should not exceed 15 inches." [Slides should be exempted from this design restrictive dimension. 16 inches is the minimum width for slides for school-age children. Tandem and wide slides obviously wider than 16 inches. It is very restrictive to have a 15 inch opening when the slide is 36 or 48 inches wide. Children with leg braces or other leg disabilities will have a difficult time using a slide with a 15 inch opening. It is our experience that 15 inch openings are too narrow. Several years ago we experimented with 15 inch openings. A 15 inch maximum opening would prevent the smallest wheelchair from going through any opening, a wheelchair exists with a 15 ½" width. However, we had a lot of complaints from staff that the 15 inches made the openings difficult to go through. The openings were increased to 16 inches and the complaints stopped. While this was not a scientific study it is worth mentioning to you for consideration in determining the maximum width].

Section 12.6.2 Single-Axis Swings

"...the underside of an unoccupied swing seat to the protective surface should be no less than 12 inches for swings intended for preschool-age children and no less than 16 inches for swings intended for school age children." [The distance should be measured when the seat is occupied and not unoccupied. It makes up to an 8 inch difference, the seat will be too low if measured when unoccupied. The distinction between swings intended for preschool and school-aged children is difficult to make. Swings in public parks are difficult to differentiate other than by the type of swing seat. It is likely that children of all ages use the swings without regard to the intended age. Therefore, we recommend that all seats be mounted with a 12 inch clearance when occupied].

[We take strong issue when the CPSC recommends that seats not be mixed within a bay. We get a large number of requests from schools with sufficient space for only one bay of swings. To accommodate all ages the customer desires to accommodate two different ages in one bay. We have not witnessed nor been cited as having a hazardous situation when we have mixed the seats. Mothers with different aged children needing the enclosed and the open seat appreciate the ability to deal with both children at the same time. Please inform us of any hazards you know of where seats have been mixed].

Thank you for taking the time to read my requests. I look forward to hearing from you if you have questions, need additional information or can pass on information that would be of value to us.

Yours truly,

Fred Druck
President

June 23, 1997

Mr. John Preston
Director for Engineering Sciences
U.S. Consumer Product Safety Commission
Washington, D.C. 20207

Dear John,

Thank you for the opportunity to review the proposed changes to the CPSC Handbook for Public Playground Safety. It is comforting to know that the CPSC has considered ASTM and the Canadian Standard in their effort to update the handbook. It would be much less confusing to the consumer if all agencies involved in developing standards for safety on Public Use playgrounds would be more in alignment with ASTM and the CPSC Handbook.

Listed below are comments that I feel were important and hope that you will consider the logic and or concern stated.

Page 2; para. 1 - The numerical definition for pre-school and school age children still seems confusing. Does 2 up to 5 years old mean the same thing as 2 through 4 years old? Does 'up to' mean a part of the 5th year of a child's life? Does over 5 for a school-age child mean 6 up to 12 years old, or does over five mean a part of the 5th year of the child's life? This definition still needs work in my opinion.

Section 3 – I feel that it is important to include the definition of a designated play surface as defined by ASTM.

4.3 In my opinion "Highest Accessible Part" should consider the definition used by ASTM 1487 – 95 for a Designated Play Surface. It is difficult for me to understand why it is considered easier to climb onto a horizontal ladder than onto a barrier. In each case upright posts would support the user. Depending on configuration, the barrier may be much easier to climb.

4.3.1 Why would CPSC take a stand on recommending maximum accessible heights (in my opinion a good thing) on playgrounds, and then make an exception for equipment that is totally enclosed. This exception could drive the height of structures much higher than the recommended 8 feet, presenting a very unsafe situation for children who will be challenged by climbing on the exterior of the structure.

4.4 Good addition!

4.5 Last paragraph – "When loose fill materials are used, it is recommended that there be a means of containment around the perimeter of the fall zone." I would like to see "playground, including minimum falls zone requirements." Substituted for fall zone. The statement as it is may be misleading. Most playground perimeters are larger than the fall zone of the equipment, and it would be difficult to follow the contour of a composite structures fall zone.

4.6 Paragraph 1 "in 1998 and may prohibit the use of many loose-fill materials as accessible routes of travel. (add underlined to existing)

5 I applaud your proposed deletion of the no encroachment zone. This has been very confusing to the consumer.

5.1.1 The definition in the second paragraph is confusing. Are the adjacent events being referenced the two closest events only? If yes, can they be 8' high and the 9' rule would still apply? Would the same rule apply to any events on a structure that is adjacent to another? If yea, why not make the minimum fall zone requirement 41/2'?

5.1.3 Should there be a distinction between Tot Swings that use half-bucket seats VS full bucket seats?

5.1.6 I am assuming that the 30 inches is measured to the highest part of the rocker, which would eliminate many rockers from having overlapping fall zones. If CPSC would incorporate the Designated Play Surface concept here, the issue would be resolved.

6.1 Second sentence – When appropriate a barrier, surrounding...

While a gentle slope may aid in drainage, steep slopes could result in loose fill materials becoming washed away during periods of heavy rain (add) and equi8pment being installed with inappropriate slide exits and step heights.

6.2 Long Spiral Slides should include the definition (more than one turn) to be aligned with the definition for short spiral slides used later.

8.1 In my opinion the CPSC should take a stand and publish acceptable levels of arsenic similar to the lead levels listed.

9.2 Kudos to whomever made the decision to include the warning statement for hood and neck drawstrings!

9.7 A minimum dimension below the protective surface should be included when using loose-fill materials for concrete footings or horizontal bars at the bottom of flexible climbers. "Below the protective surface" could mean ½ inch. We all know what happens to loose-fill at access and egress points.

10.2.1 Table 2, I would encourage the CPSC to match ASTM's slope requirements for stairways. I understand your thinking relating to building codes for a child's home, however, in my opinion a child is more likely to understand the challenge because they are on the playground. An environment that would naturally induce more care on the part of the child. Also, most playground stairways are designed for the child to engage both handrails when accessing the playstructure.

Also, I believe that the CPSC and ASTM should use a key to describe the symbols for greater than or less than or equal too in these tables. Most consumers do not understand the nomenclature.

12.1.3 Anchoring devices should be 'how much' below the playing surface?

12.1.5 The draft indicates that recommendations for horizontal ladders are designed to accommodate children 4 – 12 years old Using preschool-age Children confuses the issue. Along with maximum height of the equipment, I believe there should be a maximum deck height requirement as well. If not, in appropriate designs may leave the user with a very awkward transition onto the upper body equipment. Ex. A deck height of 48 inches connected to a Horizontal Ladder with a maximum height of 60 inches could create a hazardous situation when a 4 year old attempts the transition and is surprised by the force of their body weight. Anthropometry should be considered here.

12.4.3 Slide platforms – In my opinion the width of the slide platform should continue for the entire minimum of 22 inches. It is not spelled out clearly.

12.4.4 It is my understanding that the requirement of 50° used in ASTM was developed to include any changes in the sliding surfaces such as waves and bumps. It makes sense to have one dimension that includes these types of design iterations. Loosing contact with the slide surface can be directly related to velocity created by the child at the slide entry point.

There you have it John. I hope that you get the feedback you are looking for, and of course I hope that it parallels my suggestions and concerns.

If you have any questions or need further clarification, please give me a call at 1-800-328-0035.

Thanks again for the opportunity to read and respond to the draft document.

Sincerely,

Dan Wagner
VP of Sales & Marketing
Landscape Structures Inc.

cc. Steve King

#40

June 26, 1997

Mr. John D. Preston
USCPSC
Washington, D.C. 20207

Dear John:

Thank you for an opportunity to respond to the new draft of the Consumer Product Safety Handbook. Also, thanks for caring enough to get input from other colleagues. That can only make the product stronger in regard to suggestions and increase the usefulness to the public.

1. I would suggest that you consider making the reading closer to the 8th grade level of reading since the current book is at the 12th grade reading level. Rationale: That would make it easier for more people to understand the content.

2. I do see information about age appropriate design, surfacing and maintenance. I do not see much information about supervision. Under separate cover the National Program for Playground Safety is sending some suggestions to augment that situation. We would be happy to work with you to improve the portion that we are sending, should you choose to accept our suggestion. We would also appreciate some credit for the source and a listing in the bibliography, especially since NRPA is noted regarding NPSI and certification.

3. On page 2 under description of age appropriate levels, when you say up to 5, does that include 5? When you say over 5 for school age, does that include 5? Is there still overlapping regarding 5 year olds? I have asked two questions. One is for clarification. I would also support the overlap since children are five in both settings.

4. Thank you for changing use zones to fall zones to increase consistency in language with ASTM.

5. I would support he 8 foot recommendation for school aged children. Rationale: It is the height of a normal ceiling in a home and can be measured by paneling.

6. On page 6, why give geologic conditions. What are those which would make a real difference on playgrounds?

National Program for Playground Safety School of Health, Physical Education and Leisure Services
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7. On page 7, are you going to give examples of pros and cons of the shredded tire surfaces some place?

8. I am concerned about placing loose-fill materials over asphalt or concrete, even with the warning to be sure that they are inspected daily. I am concerned that they will not be inspected daily and that children will fall directly on the asphalt and cement.

9. On page 7, we continually get calls regarding the understandability of the chart. I think that Mick Mack has worked out a chart that is more user friendly. I will ask him to consider sending you that chart.

10. Thank you for eliminating the no-encroachment zone. While it was a good idea, it was not easy to understand with all the other terminology including fall zone.

11. What distance from the play structure or distance from the street are you going to indicate for barriers on page 10? The idea is good, but a structure in a park setting 50 feet from the street may hardly need a barrier. There must be some guideline someplace. Perhaps 30 feet, and I do not have good rationale for picking a number. In addition, I would assume that the size of spaces in the fencing should be the same as that used for playground equipment, i.e., less than 3 1/2" and more than 9" to be consistent with head size information.

12. On page 13, I am concerned with your statement regarding the maintenance of loose-fill products and your statement about loose-fill over asphalt and cement. That seems inconsistent to me.

13. On page 22, 10.3.2, do you not mean to talk about the grip strength of the weakest child, rather than talk about benefiting the weakest child?

14. On page 24, 11.5, Preschool aged children, 2nd line, are you not talking about preschool children rather than younger children?

15. What is the rationale for 15" in 11.6?

16. On page 27, Preschool-aged children: TYPO: "more" What is the rationale for 12" and 15" for distances for horizontal ladders? You might check with Carl Gabbard for help on dimension. He is at Texas A & M.

17. On page 28, 12.1.7. - Why eliminate climbing ropes? They are not athletic equipment. They are an essential piece of equipment to help children increase arm strength at school. If they are tethered on both ends, strangulation is not likely to occur. Show me the data that indicates that such strangulation is happening. Perhaps limiting them to schools and not parks might assuage your concern. They are easier to climb than climbing poles. Kids need some choices of climbing devices.

18. On page 34, do you want to indicate soft plastic rather than hard plastic to be used for preschool swings? It seems to me that plastic can be as bad as wood in the potential for causing injury.

19. On page 36, Dual exercise rings, etc. They are not athletic equipment, they are gymnastic pieces of equipment that may be used in physical education as well as athletics. Again, they are needed to increase arm strength. Where is the data to show that they have caused great injuries: What abut allowing them in school settings and not park settings? At least they can be supervised during school. Suggest that they be unhooked during summer recess, (and/or evenings or weekends). If there is not injury data to support your choice of elimination of the product, please leave it in.

20. On page 37, add National Program for Playground Safety to your references, when you receive our suggestions for supervision.

National Program for Playground Safety, University of Northern Iowa, School of HPELS, Cedar Falls, IA-50614-0241.
(Make the type smaller and the references will still all fit on one page)
You might want to include our material for supervision in the text or make a separate appendix for it.

21. In appendix A, under general upkeep, first entry, add "tree roots"

22. In appendix A, under surfacing, consider a new entry:
Poured surfaces are smooth and have not deteriorated.

Sincerely,

Donna Thompson

Donna Thompson, Ph.D.
Director, National Program for Playground

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LANDSCAPE STRUCTURES INC

ISO 9001 Certified

30 June 1997 FAX ONLY

To: John Preston
CPSC

From: Steve King

Re: Draft of Handbook

Thanks for allowing us the opportunity to review the Handbook before it is published. As you know, I have always hoped that the CPSC would be a layman's guide to playground safety and not a "standard" as it has become. If you want to harmonize with ASTM F1487 wait until it is published and don't try to preempt it. It would so simple for all of us if the Handbook were merely a summary of the most current Standard. But.....

1. Introduction: I would like to see more discussion on the importance of supervision, separation of age appropriate play areas including signage and the importance of maintenance.
4.3 Highest Accessible Part: This concept is hard for some to understand because it is taken literally –the highest part that I can touch. Perhaps a name change to something like *designated fall heights* for equipment.
4.3.1 Maximum Heights: Where/ how do I measure the heights? For instance, the top of our tire swing beam is 12" above the pivot point. I suggest using the pivot point and occupied seats. I disagree with your note on page 6. Many kids climb on the outside of composite structures, tunnel slides, etc. If you want to limit the possibility of falls from heights over 8', don't allow equipment to got that high. Of course, I would object to that too.
5. Fall Zones: Harmonize with ASTM and use Use Zones. Use zone has a broader definition that includes the area for falls and circulation.
5.1.1 Stationary Equipment: What is an "adjacent play event"? Use *adjacent designated play surfaces.*
6.1 Choosing a Site: Don't reference the Guidelines for Pools. It is in conflict with Entrapment standards in the Handbook. Four feet should be the minimum height as recommended in many states for day cares. Four feet is plenty high to stop a child chasing a ball or something.
7.1.1 Stability: In the last sentence reference local governmental entities to give a broader basis for review.
12.4.6 Embankment Slides: Does "eliminates the hazard of falls" mean there are no fall zone requirements and protective surfacing is not required? What is an embankment slide? Are tube slides treated differently? Define embankment slides as slides that basically follow the contour of the ground or hillside during descent, where the maximum

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distance from the top of the entrance platform and the slide side wall or center of tube slide is 30" when measured perpendicularly to the sliding surface. Embankment slides do not require protective surfacing in the use zone except at the exit region. This answers a lot of questions and 30" is an established dimension for falls.

11.6 Guardrails and Barriers: How/where do you measure the 15" opening? To eliminate the sharp/harsh top corners of the opening, I suggest you allow a 4" or so radius at the top. This will allow more shoulder room yet not compromise safety.

12.4.8 Tube Slides: Reference age appropriate openings/diameters. I suggest 23" for preschoolers and 28" for school aged based on the height of a sitting child and our experience.

12.6.2 Single Axis Swings: Because some seats vary 6-8" in the occupied versus unoccupied mode, I suggest using an occupied seat for clearance dimensions. I also recommend using a 12" minimum clearance for all ages. I have no rationale for either dimension – do you. We could use your rationale at ASTM. For consistency I suggest using 60" as the vertical height to measure the horizontal dimensions.

12.6.3 Tot Swings: I recommend that tot swings be able to be combined in the same bay as any other single axis seat. Frequently families swing together and the tot swing is limited in its user's age and seldom do you find two kids under 4 (we use 3) in the same family that want to swing together. For a customer to have to purchase two swing bays just to satisfy this situation is expensive, space consuming and, I believe, not necessary. We combine different seats in the same bay about a third of the time. I am also concerned about the 24" minimum clearance below the seat. Most seats are at least 10" in depth and a two year old's arm pit is about 24" when lifted. Add these together and you get 58" – awfully high to lift a user. If the user is 4 years old the problem is compounded. I suggest 12" as with all other seats – we use 16" now.

Again, thanks for this opportunity.

Planning
Design
Communications
Management

4-2

June 30, 1997

John Preston
Directorate for Engineering Sciences
U.S. Consumer Product Safety Commission
Washington, DC 20207

Dear John:

Thank you for your efforts to update the CPSC Handbook for Public Playground Safety. I realize that it was a significant task.

I have reviewed the draft copy distributed on May 13, 1997, and have the following comments:

- ***Maximum height of preschool equipment:*** In my opinion, the maximum height recommended for preschool equipment appears low. Was the height of 4 feet based on the New Zealand study? If not, this figure should be reconsidered.
- ***Unitary surfacing materials:*** The porosity of the material should be considered when selecting these products. The porosity varies greatly between products, and the characteristics of the selected product should be considered when designing drainage for the play area.
- ***Loose-fill materials:*** Please do not allow these materials to be installed over hard surfaces. I do not think it is realistic to assume daily replacement or maintenance.
- ***CPSC Table 1 (Critical Heights of Tested Materials):*** Please advise readers that this table cannot be used to determine testing results for other critical heights. These materials do not perform in a manner that allows us to make a "straight line projection" of testing results. In addition, at a certain material depth, the test "bottoms out" and results in test failure. Therefore, reducing the thickness below a certain level will not provide protection. See *Chapter 7, Children's Outdoor Play Areas Criteria Search and Analysis Report* sent under separate cover. One approach would be to recommend a material depth that meets testing requirements for the maximum recommended accessible height (e.g., 8' for school age) and provide recommendations for material depth that also allows for some displacement. This is what MIG did in our document developed for the Army, *Children's Outdoor Play Areas*. This document includes nationally available specifications (exact specifications affect testing results) and required material depths.
- ***Other surfacing characteristics:*** The testing program funded by the USACE and conducted by MIG revealed the following facts which should be reported: 1) *Wood Products:* Wood products perform well at varied environmental conditions, including damp, compressed, and aged conditions. Obtaining a fresh wood product is an important purchasing factor. 2) *Gravel:* Gravel is an appropriate material for hot, cold, or damp climates, and it was not severely affected by compression. 3) *Sand:* Sand should not be recommended for extremely hot or damp climates. See *Chapter 7, Children's Outdoor Play Areas Criteria Search and Analysis Report* sent under separate cover for a summary of testing results.

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Thank you for the opportunity to review and comment on the draft. Please contact me if I can provide further information or assistance.

Sincerely,
MOORE IACOFANO GOLTSMAN INC.

Sally McIntyre

Sally McIntyre, CLP, CPSI
Principal

SM:ab

cc: Ed Racht, USACE

Bob Charles CPSI
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HANDBOOK FOR PUBLIC PLAYGROUND SAFETY

Revised May 1997

NOTE: Revisions to this Handbook are identified as follows. Additions are double underlined and deletions are ~~struck out~~.

U.S. Consumer Product Safety Commission
Washington, D.C. 20207

The surfacing material used under and around a particular piece of playground equipment should have a Critical Height value of at least the height of the highest accessible part of the equipment.

4.3 Highest Accessible Part of Equipment

Recommendations for the "highest accessible part" for various pieces of playground equipment are as follows.

Climbers and Horizontal Ladders - For structures that are intended to be climbed upon, the highest accessible part is the maximum height of the structure.

Elevated Platforms Including Slide Platforms - Since children may climb onto or over guardrails, the highest accessible part of a platform surrounded by guardrails is the height above the playing surface of the top of the guardrail. Since protective barriers are designed to minimize the likelihood of climbing, the highest accessible part of a platform surrounded by protective barriers is the height of the platform surface above the ground.

Merry-Go-Rounds - The highest accessible part is the height above the ground of any part at the perimeter on which a child may sit or stand.

See-Saws - The highest accessible part is the maximum height attainable by any part of the see-saw.

Spring Rockers - The highest accessible part is the maximum height above the ground of the seat or designated play surface.

Swings - Since children may fall from a swing seat at its maximum attainable angle (assumed to be 90° from the "at rest" position), the highest accessible part of a swing structure is the height of the pivot point where the swing's suspending elements connect to the supporting structure.

4.3.1 Recommended Maximum Accessible Heights

Preschool-Age Children - With the exception of swings and horizontal ladders, it is recommended that the highest accessible part of the equipment be no more than 4 feet above the protective surfacing. The recommended maximum height for swing hangers is 8 feet and for horizontal ladders is 5 feet.

School-Age Children - It is recommended that the highest accessible part of all equipment be no more than 8 feet.

Good!

Hor. ladders for pre-K? I don't think it is age appr.