

Monsanto

FROM (NAME & LOCATION)

J. A. Glass ✓

15

DATE

November 6, 1975

SUBJECT

GROUNDING ELECTRICAL EQUIPMENT
IN OFFICE AREAS

REFERENCE

TO

B. E. Kullerd
J. S. McCurley

cc

A. J. Bolton
J. M. Gatewood
F. E. Grissom
R. L. Maute
J. L. Rasmussen
Ray Rosenberg
Leonard Schwab

PLAINTIFF'S EXHIBIT

MON-1283

I am planning to propose that the following statement of policy be reviewed by SHAC and adopted by the Plant Manager's Safety Board for the Texas City site:

"Office type equipment need not be grounded unless it is:

- (a) Operated at more than 150 volts to ground.
- (b) A refrigerator, freezer, water cooler, or air conditioner.
- (c) Coffee pot within reach of a sink, water pipe, or other grounded conductor.
- (d) Portable, hand-held, motor-operated tool or appliance of the following types: drills, wet scrubbers, sanders, and saws.
- (e) Cord- and plug-connected appliances used in damp or wet locations, or by persons standing on the ground or on metal floors.
- (f) Portable tools which are likely to be used in wet and conductive locations."

I believe that the added protection to be gained by the installation of ground fault interrupters on all office circuits does not justify the expense of such installations.

I would appreciate your comments on the above proposal.

Arnold

J. A. Glass

gk

SC

003099

LAM004549

From the desk of

R. L. BROWNING

Arnold: Ben & I
Feel that the GFI is
the logical approach
of maintenance dept.
Lemmers he can appoint
representative for
meeting (or action
analyses) We didn't
know who to grab,

B
9-12-75

SC

003100

LAM004550

Monsanto

FROM (NAME & LOCATION)

B. E. Kullerd - Texas City

2197

September 5, 1975

cc F. E. Grissom

SUBJECT Grounding Electrical Equipment
In Office Area

R. Rosenberg

REFERENCE

TO : J. A. Glass

The statement in your memo of September 2 is correct and entirely adequate. It is interesting to note that our Procedure Bulletin P-0127 (which was written years before the OSHA directive 100-9) states approximately the same thing.

There still remains the problem of receptables in office areas which may be used infrequently by maintenance workers for drill motors, portable saws, etc. It is not possible to predetermine which receptables they will need to use. We can install some grounded receptacles in hallways (for example) which maintenance can use with, if needed, long extension cords. An alternative to this is to provide the maintenance worker with a portable ground fault interrupter. This method is not recognized by the National Electrical Code (and presumably not by OSHA) as a substitute for the grounding requirement. I consider a functioning GFI to be safer than grounding. The decision on this matter should be made at a meeting with maintenance present.

Ben Kullerd

B. E. Kullerd

BEK/lmb

*Alternate:
Double insulated
tools for office?
too much
variety
not available*

SC

003101

*See if Arnold
wants this resolved
before vacation 1/8
need Rec. for PMSB*

LAM004551

Monsanto

FROM (NAME & LOCATION) J. A. Glass

DATE

September 2, 1975

cc:

Ray Rosenberg

SUBJ

GROUNDING ELECTRICAL EQUIPMENT IN OFFICE AREAS

REFERENCE

TO

: B. E. Kullerd

The SHAC committee requested me to ask you to prepare a brief statement for the minutes of the Thursday, September 4, meeting which states the location policy regarding grounding of usual office area electrical equipment.

I have tried to do this in the following statement:

"Office type equipment need not be grounded unless it is:

- (a) Operated at more than 150 volts to ground.
- (b) A refrigerator, freezer, ^{water cooler} or air conditioner.
- (c) ~~coffee pots~~ ^{within reach of a sink, water pipe, or other grounded conductor.}
- (d) (c) Portable, hand-held, motor-operated tool or appliance of the following types: drills, wet scrubbers, sanders, and saws.
- (e) ~~let~~ Cord- and plug-connected appliances used in damp or wet locations, or by persons standing on the ground or on metal floors.
- (f) ~~let~~ Portable tools which are likely to be used in wet and conductive locations."

Does this sound ok?

J. A. Glass

J. A. Glass

gk

SC

003102

LAM004552

From the desk of

B. E. KULLERD

Ray: This →
should take care of the
"other office areas" portion
of Steele's memo.

I will ask Warwick
to report on labs at
the end of plant &
Saunders at P.E.

Ben K

SC

003103

LAM004553

OSHA PROGRAM DIRECTIVE NO. 100-9

July 20, 1972

To: National and Field Offices

Subject: "Grounding of Office Type Equipment such as Typewriters, Desk Lamps, Adding Machines, Clocks, Coffeepots, etc."; Clarification of

1. *Purpose.* To clarify the requirements for grounding office type electrical equipment.

2. *Background.* Section 250-45 of the National Electrical Code provides the grounding requirements for cord and plug connected equipment. Numerous requests for clarification have been received from employers, manufacturers, and OSHA Compliance personnel.

3. *Clarification.* Section 250-45 of the National Electrical Code provides the requirements for grounding cord and plug connected equipment. Most office type equipment¹ is in this category. The following items cover the key considerations for this grounding application:

A. Under any of the following conditions, *exposed noncurrent-carrying metal parts* of cord- and plug-connected equipment, *which are liable to become energized, shall be grounded:*

(1) IN HAZARDOUS LOCATIONS (see Articles 500 thru 517 of NEC, NFPA No. 70-1971)

(2) WHEN OPERATED AT MORE THAN 150 VOLTS TO GROUND, except:

(a) Motors, where guarded;

(b) Metal frames of electrically heated appliances which are impracticable to ground may have grounding omitted by special permission² in which case the frames shall be permanently and effectively insulated from the ground.

(3) IN OTHER THAN RESIDENTIAL OCCUPANCIES,

(a) Refrigerators,³ freezers, air conditioners, and

(b) Clothes-washing, clothes-drying and dish-washing machines, sump pumps and

(c) Portable, hand-held, motor-operated tools and appliances of the following types: drills, hedge clippers, lawn mowers, wet scrubbers, sanders and saws, and

(d) Cord- and plug-connected appliances used in damp or wet locations, or by persons standing on the ground or on metal floors or working inside of metal tanks or boilers, and

(e) Portable tools which are likely to be used in wet and conductive locations.

Exception No. 1: Portable tools which are likely to be used in wet and conductive locations need not be grounded where supplied through an insulating transformer with ungrounded secondary of not over 50 volts.

Exception No. 2: Portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded. Where such an approved system is employed, the equipment shall be distinctively marked. Where conditions of maintenance and supervision assure that proper grounding of tools or appliances will be maintained (as, for example, on some factory production lines) it is recommended⁴ that grounded-type tools and appliances be used.

B. It is therefore concluded that, office type equipment need not be grounded unless they come within the considerations of (1), (2) or (3) in paragraph A above.

A. Footnotes.

¹ Grounding of fixed electrical equipment is governed by Sections 250-42 and 43 of NEC.

² Special permission is defined in the NEC page 70-11 and states,

"Special permission: The written consent of the authority enforcing this Code."

This is further clarified in Subpart "S" of 1910.308(d)(2)(ii) which states,

"... or (ii) with respect to an installation or equipment of a kind which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, if it is inspected or tested by another Federal agency, or by a State, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code, and found in compliance with the provisions of the National Electrical Code as applied in Section 1910.309."

³ Includes electrical water coolers.

⁴ Mandatory and advisory provisions of consensus standards are discussed in the introduction to Part 1910 (page 10466 of the Federal Register, May 29, 1971) which states,

"... The national consensus standards contain only mandatory provisions of the standards promulgated by those two organizations. The standards of ANSI and NFPA may also contain advisory provisions and recommendations the adoption of which by employers is encouraged, but they are not adopted in Part 1910."

5. *Action.* Inquiries about such office type equipment should be handled in accordance with this instruction.

6. *Revision and Comments.* Request for revisions and comments should be directed to the Assistant Secretary Attn: OCS.

7. *Effective Date.* This instruction is effective upon receipt and will remain in effect until canceled or superseded.

OSHA PROGRAM DIRECTIVE NO. 100-10

August 28, 1972

To: National and Field Offices

Subject: Splicing and Tapping of Flexible Cords and Cables

1. *Purpose.* To clarify the use of splices and taps for flexible cords and cables.

2. *Background.* Numerous requests for clarification have been received from employers, manufacturers and OSHA compliance personnel in regard to the use of splices and taps in the flexible cords of electrical devices and utilization equipment.

3. *Clarification.* Section 400-3 of the National Electrical Code states that flexible cord may be used only for:

(a) Pendants

(b) Wiring of fixtures

(c) Connection of portable lamps and appliances

(d) Elevator cables