GENERAL CLEANING OF EQUIPMENT DUSTING AND WASHING OPERATIONS

1. GENERAL

1.01 This section describes methods of removing dust, lint, etc., from surfaces of framework, apparatus covers, rolling ladders and the like. It also covers methods of removing embedded dirt from aluminum or enamel finishes on various frameworks and apparatus covers.

1.02 This section has been reissued to make it applicable for general use in the Plant Series.

1.03 Methods are described as follows for:

(A) Equipment Dusting

(B) Wiping Oily Surfaces

(C) Washing Aluminum and Enamel Finishes

(D) Cleaning Glass and Plastic Surfaces

(E) Cleaning and Polishing Wood Surfaces

(F) Washing Cloths

1.04 It is assumed that the operations described in this section will be supplemented by vacuum or compressed air cleaning for local wiring forms and the more inaccessible points.

1.05 In general, cleaning should proceed downward from the top of a relay rack, equipment or distributing frame, switchboard section, etc. The work should also progress in a left or right direction away from exposed contacts in order to prevent dust or lint loosened by cleaning from being deposited on them. In addition, consideration should also be given to the direction of the air stream from ventilating ducts in determining the sequence of cleaning.

1.06 Cleaning should be scheduled and performed on an orderly basis so that all equipment will be given attention consistent with the dust and lint that it collects. In this connection some equipment, depending on its location, will accumulate dirt more rapidly than equipment in other locations less exposed to frequently used aisles, windows, etc., and may, therefore, require more frequent cleaning. The cleaning should, however, be such as to maintain the equipment in a presentable appearance at all times and will thus be effective in minimizing contact failures due to dust and lint.

1.07 The cloths specified in this section are the twill jean type used for equipment cleaning. They should not be confused with ordinary dust cloths used for building service requirements. The following restrictions should be observed:

(a) They should not be used after their dust holding properties are such that they will not pick up dust and lint as evidenced by observation and inspection of the surfaces being cleaned.

(b) They should not be used if inspection shows the cloth surfaces to have suffered abrasions to the point where they may release lint.

(c) Cloths should be washed by the methods outlined in this section. They should not be laundered by commercial laundries, unless arrangements have been made with them to follow the washing instructions contained in this section.

1.08 When polishing cloths are washed, only a small amount of the impregnation is removed. However, after several washings sufficient of the impregnation will have been removed so that the cloths may no longer be used as polishing cloths. They should then continue to be used as cleaning cloths until discarded.

1.09 Where damp cloths are specified, wet them with clean water and wring as dry as possible by hand before using. Fold cloths while damp to retain their moisture until used.

1.10 When an area of the cloth has picked up a noticeable quantity of dust, fold that part inside clean portions so that dust can not fall out of the cloth. Have enough cloths prepared and near at hand so that a dust cloth will not be used after it has become laden with

dirt. Deposit used cloths in a pail to prevent unnecessary spreading of the dust contained in them. A two compartment pail provides a convenient way of carrying these cloths.

1.11 Keep all cleaning materials neat and orderly and in their proper places. See that all material containers are legibly marked as to their contents.

1.12 Do not clean cable runs with a cloth as fibers from both cable and cloth, as well as paint flakes from the former, will be detached. Vacuum cleaning alone should be used for this type of equipment.

1.13 Care should be exercised while working on or in the vicinity of power plant equipment. All precautionary measures should be taken to avoid accidental short circuits, such as the removal of finger rings, wrist watches or other exposed metallic items before starting the job.

1.14 Exercise care that fingers or cloths are not caught in moving parts when cleaning these parts or other apparatus in their vicinity. Whenever possible, stop motors, generators, ringing machines, etc., before they are cleaned or before cleaning parts that are set in motion by these agencies. Also, when cleaning near local wiring forms, exercise care that wires and insulation are not damaged.

1.15 Use cloths dry where they can come in contact with current carrying parts such as provided on fuse and lamp panels, etc. Do not use moistened cloths for this purpose.

1.16 Extreme care should be used when carrying or using pails of water around equipment to avoid accidental splashing or spilling of water.

Under no circumstances should a pail of water be carried up a rolling ladder.

1.17 Most people can use the cleaning materials recommended without adverse effect on the hands, but those whose hands may be affected should wear suitable rubber gloves.

2. TOOLS AND MATERIALS

2.01 Pyrophosphate Cleaner.

2.02 Bell System Liquid Toilet Soap (concentrated).

2.03 KS-14666 Cleaning Cloth (unimpregnated).

2.04 KS-14668 Polishing Cloth (impregnated) (identified by a black thread woven in selvage edge).

2.05 No. 358 Tool.

2.06 KS-6320 Orange Stick.

2.07 Cleaning Paddle per Fig. 1 (to be provided locally).

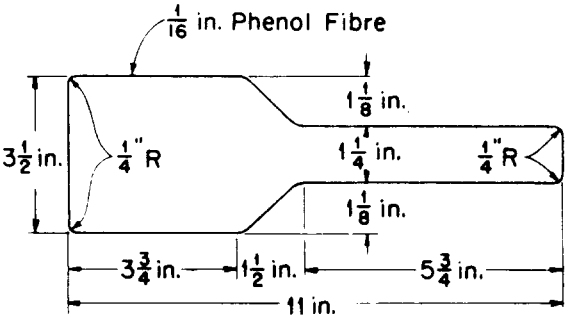

Fig. 1 - Cleaning Paddle

2.08 Polish, Furniture. (Bell System)

2.09 Chamois.

2.10 Rubber Gloves.

2.11 Sponge, Cellulose.

2.12 Pails as required (10 qt. or two compartment for carrying both clean dampened cloths and soiled cloths).

3. METHOD

(A) Equipment Dusting

3.01 Use polishing cloths for the removal of dust and lint from equipment surfaces.

3.02 Use slightly dampened cleaning cloths for the removal of dust and lint from surfaces such as superstructures, rolling ladders, baffles, keyshelf pans, etc, also rough surfaces such as crinkle lacquer.

3.03 When cleaning exposed flat surfaces, hold the folded cloth (see 1.10) in the palm of the hand and wipe lightly over the area.

3.04 When cleaning other types of surfaces which are not accessible to the cloth held in the hand, use a slightly dampened cleaning cloth placed over the cleaning paddle shown in Fig. 1, the No. 358 cleaning tool or the KS-6320 orange stick, depending on which facility will permit best access to the points to be cleaned. Hold the loose ends of the cloth in the hand to prevent loose dust and lint from being shaken from them while cleaning is being done.

(B) Wiping Oily Surfaces

3.05 Use cleaning cloths when wiping off motors, generators, panel drive equipment or other surfaces where oil may be present.

Note: Do not use an impregnated polishing cloth for this purpose since it does not readily absorb oil.

3.06 When cleaning this equipment use either the No. 358 cleaning tool or KS-6320 orange stick depending on which facility is more effective in reaching the inaccessible areas to be cleaned. Where flat surfaces are involved, hold the folded cloth in the palm of the hand and wipe the oily surfaces until clean. Refold cloth to obtain fresh cloth area as necessary.

3.07 When cloths are used for this purpose, do not use them on other equipment unless thoroughly washed as covered in 3.20 to 3.22 or by outside laundering.

(C) Washing Aluminum and Enamel Finishes

3.08 Use a cellulose sponge for washing aluminum and enamel finishes.

3.09 Prepare a solution of Bell System liquid toilet soap and water by adding 1/2 pint of concentrated soap to one pail (10 qts.) of water, preferably warm.

3.10 Immerse a sponge in the solution prepared in accordance with 3.09. Wring sufficient solution from the sponge by hand to prevent dripping while cleaning.

3.11 Hold the sponge in the palm of the hand and with light scrubbing strokes over the surfaces being cleaned, remove the embedded dirt.

3.12 After washing a surface thoroughly as in 3.11, wipe it off with a sponge moistened with clean water until all traces of the soap solution are removed.

Note: Do not permit the soap solution to dry before rinsing.

(D) Cleaning Glass and Plastic (Lucite, Polystyrene, etc.) Surfaces

3.13 Use a slightly dampened chamois or cleaning cloth for the removal of dust and lint from glass and plastic surfaces, wiping the surfaces gently. Remove excess moisture by wiping the surfaces lightly with dry cleaning cloths. When cleaning plastic surfaces, observe the following precautions:

(a) Use clean water only for moistening the chamois or cloth described above; do not use solvents or abrasive cleaners, such as mineral spirits, alcohol, window cleaning compounds, etc., as these agents tend to craze or scratch plastic surfaces.

(b) Do not attempt to polish plastic surfaces or to buff dry after they are washed as covered in 3.14. Polishing tends to build up electrostatic charges which may attract dust particles or affect equipment operation.

3.14 Where the moist cloth method of cleaning plastic surfaces is ineffective and they are removable, such as the covers for the fronts of equipment frames in No. 5 crossbar systems, the separators for No. 6 type information desks, etc., remove them to a location where they may be washed as follows:

(a) Prepare a solution of Bell System liquid toilet soap and water by adding 1/2 pint of concentrated soap to one pail (10 qts.) of water, preferably warm.

(b) Immerse a cleaning cloth or sponge in the soap solution prepared in accordance with (a) above and wash the surface gently.

(c) Before the soap solution dries, thoroughly rinse the surface with clean water. Remove excess moisture by wiping the surface gently with a slightly dampened chamois, cleaning cloth or sponge. If further drying is necessary, use a dry cleaning cloth, wiping the surface lightly (see 3.13(b)).

(E) Cleaning and Polishing Wood Surfaces

Cleaning

3.15 Use polishing cloths for the removal of dust and lint from wood surfaces in the same manner as described under (A) Equipment Dusting.

3.16 Where wood surfaces present a dull appearance or are grimy looking, they may be cleaned by washing as follows:

(a) Use cleaning cloths or sponges for washing wood surfaces in the same manner as described for other finishes under (C) Washing Aluminum and Enamel Finishes.

(b) The dried surface may be brightened by buffing with a dry cleaning cloth, if it is not intended to immediately apply furniture polish.

Polishing

3.17 Use a slightly dampened cleaning cloth for the application of furniture polish to wood surfaces which have been washed in accordance with 3.16, or where wood surfaces are regularly polished and preliminary washing is not required.

Note: Furniture polish also cleans during application and its regular use should practically eliminate the need for washing wood surfaces.

3.18 Apply the polish sparingly, working with the grain of the wood or in straight strokes rather than circular ones.

3.19 Allow the polish to dry (usually 15 or 20 minutes) and then polish with a clean cleaning cloth, using light straight strokes at the beginning and increasing the pressure for the final finish, if necessary. Use another clean cloth for the final polishing, as the first one will accumulate some of the wax and become unfit for producing the final lustrous finish.

Note: Do not attempt to polish applications of the wax polish until it is dry, otherwise the polish will simply be wiped from the surface.

(F) Washing Cloths

3.20 For washing, polishing and cleaning cloths prepare a solution consisting of one to two ounces of pyrophosphate cleaner dissolved in a pail (10 qts.) of water, warm preferred. Wash cleaning cloths used for wiping oily surfaces in a similar solution except that two to three ounces of pyrophosphate cleaner are used.

Note: One heaping tablespoonful equals one ounce approximately.

3.21 Immerse the cloths in the solution prepared in 3.20, allowing them to soak for approximately one hour followed by agitation and stirring. It is not necessary that all soiled spots be completely removed from the cloths; it is only required that they be free from all loose dust and lint.

Note: Do not rub the cloths during the washing process.

3.22 The cloths are then wrung free of the soap solution by hand and given a thorough rinsing in clean water, preferably warm. Cloths are then wrung out by hand and allowed to dry.

Note 1: Use at least three changes of clean rinse water to insure that the residue from the cleaning agent and lint particles which may have been loosened during the washing operation are removed from the cloths.

Note 2: Do not subject the impregnated cloths to artificial heat while drying.