

PERSONAL PROTECTIVE EQUIPMENT

1.0 SCOPE

This Performance Assessment Guide for Personal Protective Equipment will be used to carry out the oversight responsibility of the U.S. Department of Energy (DOE) Brookhaven Group. This guide was prepared to assist in conducting performance-based assessments of both DOE prime contractors and subcontractors to ensure that their personal protective equipment (PPE) programs identify, disposition, and take corrective action on issues that affect satisfactory facility performance. The goals are to ensure that laboratory employees and the public do not experience injuries and illness as a result of PPE safety activities and that there is little or no economic loss to the Government.

PPE assessments will be directed at all prime contractors and subcontractors working at DOE sites. DOE line management must ensure that these contractors comply with DOE Orders and Federal and State regulations. Information developed from this assessment will determine the degree to which this is being done as well as the effectiveness of the laboratory's program.

2.0 ATTRIBUTES AND LINES OF INQUIRY

This section provides lines of inquiry to help assess whether the laboratory has implemented a program that ensures that PPE requirements are incorporated into line activities. This section will be used to evaluate the laboratory's line organization.

2.1 The laboratory's training program ensures that individuals using PPE do so safely.

- Are the applicable governing regulations and standards addressed or described in the training program?
- Does the training program adequately address PPE concerns, requirements, and practices to be followed at the site?
- Does the training program teach each employee—
 - When PPE is necessary?
 - What PPE is necessary?
 - How to properly don, doff, adjust, and wear PPE?

- The limitations of PPE?
- The proper care, maintenance, useful life, and disposal of the PPE?
- Are affected employees able to demonstrate an understanding of the training they receive, and can they demonstrate the ability to use PPE properly, before being allowed to perform work requiring the use of PPE?
- If any of the following conditions apply, are employees retrained in the use of PPE?
 - They cannot demonstrate an understanding and skills necessary for proper use of PPE.
 - Changes in the workplace render previous training obsolete.
 - Changes in the types of PPE to be used render previous training obsolete.
 - Inadequacies in their knowledge or use of assigned PPE indicate that they have not retained the requisite understanding or skill.
- Has the laboratory verified that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification?
- Does the training clearly identify who has responsibility for implementing the PPE safety program?
- Are personnel who are in a position to detect and control performance of work with PPE appropriately trained and instructed so that the required level of performance is maintained?
- Is training on PPE safety provided on a periodic basis?
- Does a review of the training documentation show that the course content is comprehensive?
- When the level of responsibility changes, is additional training required and provided?
- Do interviews with workers show that they understand the importance and application of PPE safety at the site?

- Are there special training or certification requirements for individuals who work on or maintain PPE?

2.2 Protective equipment, including PPE for eyes, face, head, and extremities; protective clothing, respiratory devices; and protective shields and barriers, is provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

- Has the laboratory performed a hazard assessment of the site to determine if hazards are present, or are likely to be present, that necessitate the use of PPE? If hazards are present, or likely to be present, does the laboratory:
 - Select PPE and require each affected employee to use the types of PPE that will protect them from the hazards identified in the hazard assessment?
 - Communicate selection decisions to each affected employee?
 - Select PPE that properly fits each affected employee?
- Has the laboratory verified that the required site hazard assessment has been performed through:
 - A written certification that identifies the workplace(s) within the site evaluated?
 - The person certifying that the evaluation has been performed?
 - The date of the hazards assessments?
 - A statement that identifies the document as a certification of hazard assessment?
- Where the employees provide their own equipment, is the laboratory responsible to ensure its adequacy, including proper maintenance and sanitation?
- Is all PPE of safe design and construction for the work to be performed?

2.3 Protective eye and face equipment are required where there is a reasonable probability of injury that can be prevented by such equipment.

- In such cases, does the laboratory make conveniently available a type of protector suitable for the work to be performed, and ensure employees use such protection?
- Are restrictions in place such that no unprotected person is knowingly subjected to a hazardous environmental condition?
- Are suitable eye protectors provided where machines or operations present the hazards of flying objects, glare, liquids, injurious radiation, or a combination of these hazards?
- Do eye protectors provide adequate protection against the particular hazards for which they are designed?
- Where the threat of flying objects exist, are eye protectors used that provide side protection?
- Are they reasonably comfortable when worn under the designated conditions?
- Do they fit snugly and not unduly interfere with the movement of the wearer?
- Are they durable?
- Are they capable of being disinfected?
- Are they easily cleanable?
- Are the protectors kept clean and in good repair?
- Do persons whose vision requires the use of corrective lenses in spectacles wear spectacles whose protective lenses provide optical correction?
- As an option, do they wear goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles?
- Also as an option, do they wear goggles that incorporate corrective lenses mounted behind the protective lenses?
- Is every protector distinctly marked to facilitate identification of the manufacturer?
- When limitations or precautions are indicated by the manufacturer, are they transmitted to the user and care taken to see that such limitations and precautions are strictly observed?

- Is each lens and major component distinctly marked with the manufacturer's monogram and a "Z87" to indicate compliance with design, construction, testing, and use of devices for eye and face protection in accordance with the American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968 for equipment purchased before July 5, 1994, and Z87.1-1989 for equipment purchased after July 5, 1994?

2.4 Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee.

- In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, is the primary objective to prevent atmospheric contamination?
- Is this accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials)?
- When effective engineering controls are not feasible, or while they are being instituted, are appropriate respirators used pursuant to the following requirements?
 - Are they applicable and suitable for the purpose intended?
 - Is the provided respiratory protection in accordance with instructions and training received?
 - Have written standard operating procedures governing the selection and use of respirators been established?
 - Are respirators selected on the basis of hazards to which the worker is exposed, for example, asbestos?
 - Is the user instructed and trained in the proper use of respirators and their limitations?
 - Are respirators regularly cleaned and disinfected?
 - Are respirators that are used by more than one worker thoroughly cleaned and disinfected after each use?
 - Are the respirators stored in a convenient, clean, and sanitary location?

- Are respirators that are used routinely inspected during cleaning and are worn or deteriorated parts replaced?
- Are respirators for emergency use such as self-contained devices thoroughly inspected at least once a month and after each use?
- Is appropriate surveillance of work-area conditions and degree of employee exposure or stress maintained?
- For persons assigned to tasks requiring the use of respirators, has it been determined that they are physically able to perform the work and use the equipment? Is the respirator wearer's medical status reviewed periodically (for instance, annually)?
- Does the respiratory program for asbestos workers cover the specific hazards and precautions for this type of work?
- Does the employer also provide protective clothing such as coveralls or similar whole-body clothing and require its use for work with asbestos or other hazardous material concentrations above established limits?
- When rips or tears of protective clothing are detected while an employee is working within a negative pressure enclosure, are they immediately mended or the worksuit replaced?

2.5 Air quality: compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity.

- Does documentation supporting the oxygen used indicate that it meets standard requirements by referencing the United States Pharmacopoeia for medical or breathing oxygen?
- Does documentation supporting the breathing air used indicate that it meets at least standard requirements by referencing the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G7.1-1966?
- Is compressed oxygen prohibited from being used in supplied-air respirators or in open-circuit self-contained breathing apparatus that have previously used compressed air?
- Is oxygen prohibited from use with air-line respirators?

- Is the compressor for supplying air equipped with necessary safety and standby devices? Is a breathing air-type compressor used?
- Are compressors constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further ensure breathing air quality?
- Is there a receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in the event of compressor failure, and are alarms to indicate compressor failure and overheating installed in the system?
- If only a high-temperature alarm is used, is the air from the compressor frequently tested for carbon monoxide to ensure that it meets specifications?
- Are air-line couplings incompatible with outlets for other gas systems to prevent inadvertent servicing of air-line respirators with nonrespirable gases or oxygen?

2.6 Breathing-gas containers are marked in accordance with "American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained," ANSI/CGA C-4-1990.

- Are compressed-gas containers legibly marked with at least the chemical name, or a commonly accepted name, of the material contained?
- Is marking accomplished by means of stenciling, stamping, or labeling, and not readily removable?
- Wherever practical, is the marking located at the valve end of the container and off the cylindrical part of the body?
- Is the lettering used to mark the container of contrasting color to its background and does it meet a minimum height of 3/16 inch (5 mm)?

2.7 Use of respirators is under a controlled respiratory protection program.

- Are standard procedures developed for respirator use? Do they include all information and guidance necessary for their proper selection, use, and care?
- Are possible emergency and routine uses of respirators anticipated and planned for?
- Is the correct respirator type specified in the work procedures by a qualified individual supervising the respiratory protection program?

- Is the individual issuing the respirators adequately instructed to ensure that the correct respirator is issued?
- Are written procedures prepared covering the safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies?
- Are personnel familiar with these procedures and the available respirators?
- In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, is at least one additional person present?
- Are communications (visual, voice, or signal line) maintained between both or all people present?
- When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life and health, are standby personnel present with suitable rescue equipment?
- Are persons using air-line respirators in atmospheres immediately dangerous to life or health equipped with safety harnesses and safety lines for removing or lifting persons from hazardous atmospheres or are other and equivalent methods for removal of personnel from such atmospheres available?
- Are frequent random inspections conducted by a qualified individual to ensure that respirators are properly selected, cleaned, and maintained?
- Have both supervisors and workers been instructed in respirator selection, use, and maintenance?
- Does the training provide the wearer an opportunity to handle the respirator, have it fitted properly, test its facepiece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere?
- Has every respirator wearer received fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly?
- Are respirators prohibited from being worn when conditions such as a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses, prevent a good face seal?

- To ensure proper protection, is the facepiece fit checked by the wearer every time he/she puts on the respirator? (This may be done by following the manufacturer's facepiece fitting instructions.)
- In contaminated atmospheres, is the wearing of contact lenses while using a respirator prohibited?
- If corrective spectacles or goggles are required, are they worn so as not to affect the fit of the facepiece?

2.8 A program for maintenance and care of respirators, adjusted to the type of plant, working conditions, and hazards involved, is in place.

- Does the program include inspection of respirators for defects (including a leak check), cleaning and disinfecting, repair, and storage?
- Is the equipment properly maintained so as to retain its original effectiveness?
- Are self-contained breathing apparatus inspected monthly, including determination that the regulator and warning devices function properly?
- Do the respirator inspections include a check of the tightness of connection and the condition of the facepiece, headbands, valves, connecting tube, and canisters?
- Are all rubber or elastomer parts inspected for pliability and signs of deterioration?
- Is a record kept of inspection dates and findings for respirators maintained for emergency use?
- Are respirator repairs or replacement done only by experienced persons with parts designed for the respirator?
- Are respirators stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals?
- Are respirator storage compartments clearly marked?
- Are respirators packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer resting in an abnormal position?

2.9 Identification of gas mask canisters shall primarily be by means of properly worded labels. The secondary means shall be by color code.

- Are all gas mask canisters properly labeled and color coded before they are placed in service?
- Does each canister have in bold letters "Canister for _____" (name of atmospheric contaminant) or "Type N Gas Mask Canister"?
- In addition, does essentially the following wording appear beneath the appropriate phrase on the canister label: "For respiratory protection in atmospheres containing not more than _____ percent by volume of _____." (Name of atmospheric contaminant)?
- Are canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates labeled with a statement of the type and degree of protection afforded by the filter?
- Is the label affixed to the neck end of, or to the gray stripe that is around and near the top of, the canister?
- Is the degree of protection marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute?
- Is each gas mask canister painted a distinctive color or combination of colors to indicate the atmospheric contaminant protected against? (If necessary to verify the color-coding used, review table I-1 of 29 CFR 1910.134.)

2.10 Occupational head protection: Helmets for the protection of heads of occupational workers from impact and penetration from falling and flying objects and from limited electric shock and burn meet the requirements and specifications established in "American National Standard Safety Requirements for Industrial Head Protection," Z89.1-1969 (for equipment purchased before July 5, 1994), and Z89.2-1986 (for equipment purchased after July 5, 1994).

- Do all helmets bear identification on the inside of the shell stating the name of the manufacturer, the American National Standard designation, and the class of the helmet? (This marking is mandatory and indicates conformance to the appropriate standard.)

- Does the laboratory require and enforce the use of appropriate protective helmets in work areas where there is potential for injury to the head from falling objects?
- Does the laboratory require and enforce the use of appropriate protective helmets, designed to reduce electrical shock, in work areas where there is potential for contact with exposed electrical conductors?

2.11 Occupational foot protection: Safety-toe footwear for employees meets the requirements and specifications of "American National Standard for Personal Protection - Protective Footwear," ANSI Z41-1991 (for equipment purchased after July 5, 1991) and ANSI Z41.1-1967 (for equipment purchased before July 5, 1994).

- Does the laboratory require and enforce the use of protective footwear when working in areas where there is danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or where such employee's feet are exposed to electrical hazards?
- Does the identification of all protective footwear certified as meeting the requirements of this standard follow a consistent pattern as indicated in the following questions?
 - Is one shoe of each pair clearly and legibly identified in letters and numbers not less than 0.125 inch (3.175 mm) high?
 - Is the identification a stitched-in label, stamped, pressure-sensitized label, or a combination of these methods?
 - Is the identification enclosed in a border and placed on the inside surface of either the tongue, gusset, inside shaft, or quarter lining?
 - Does line 1 of the label identify the shoe as complying with this standard by displaying the following: ANSI Z41 PT? (Additional lines, up to a total of four, may be used to further classify the shoe for meeting additional parts of Z41-1991).

2.12 Where sound levels exceed permissible noise exposures, a continuing, effective hearing conservation program is administered. (Permissible noise exposures for construction activities are documented in 29 CFR 1926 Subpart D, 1926.52, "Occupational Noise Exposure.")

- Wherever it is not feasible to reduce the noise levels or duration of exposure, are ear protective devices provided and used?
- Are ear protective devices that are inserted in the ear individually fitted or sized individually by competent persons?

2.13 Equipment such as safety harnesses, lifelines, and lanyards, is provided, along with instructions for its use, and maintained for use as required.

- Are lifelines, safety harnesses, and lanyards used only for employee safeguarding and no other purpose?
- Is any lifeline, safety harnesses, or lanyard that is subjected to in-service loading, as distinguished from static load testing, immediately removed from service and not used again for employee safeguarding?
- Are lifelines secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds?
- Are lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, a minimum of 7/8-inch wire-core manila rope?
- For all other lifeline applications, is a minimum of 3/4-inch manila or equivalent, with a minimum breaking strength of 5,400 pounds, used?
- Is the safety harness lanyard a minimum of 1/2-inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet, and does it have a nominal breaking strength of 5,400 pounds?
- Are safety nets provided when workplaces are more than 25 feet above the ground/water surface, or other surfaces, where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical?
- Where safety net protection is required, are operations prohibited until the net is in place and has been tested?
- Do safety nets extend 8 feet beyond the edge of the work surface and are they installed as close as practical (not to exceed 25 feet) to the work surface?
- Are nets hung with sufficient clearance to prevent user's contact with surfaces or structures below?
- Are such clearances determined by impact load testing?
- Is the mesh size of nets a minimum of 6 inches X 6 inches, and do all new nets meet accepted performance standards of 17,500 foot-pounds minimum impact resistance as determined and certified by the manufacturers?

- Does each net bear a manufacturer's label of proof test?
- Do net-edge ropes provide a minimum breaking strength of 5,000 pounds?

2.14 Rubber insulating gloves provided to employees meet standard specifications. (See Section 4.0, "Guidance to Assessor.")

- Does an inspection of the gloves indicate that they were produced by a seamless process?
- Do the gloves have a smooth finish and are the cuff edges finished with a roll or a reinforcing strip of rubber, unless otherwise specified?
- Is each glove marked clearly and permanently with the name of the manufacturer or supplier, ANSI/ASTM D 120, type, class, and size?
- Is all such marking confined to the cuff of the glove, is it non-conducting, and is it applied in such a manner as to not impair the required properties of the glove?
- Is each glove marked with a label that gives the information specified above?
- Is the label the color specified for each voltage class: Class 0-red, Class 1-white, Class 2-yellow, Class 3-green, and Class 4-orange?
- If the gloves were given a halogenation treatment to reduce friction, did this treatment prove to have no detrimental effect on their electrical, chemical, or physical properties?

2.15 Rubber insulating sleeves provided to employees meet standard specifications. (See Section 4.0, "Guidance to Assessor.")

- Does an inspection of the sleeves indicate that they were produced by a seamless process?
- Do the sleeves have a smooth finish and self-reinforced edges?
- Do the holes provided in sleeves for the purposes of strap or harness attachments have nonmetallic reinforced edges and are they nominally 5/16 in. (8 mm) in diameter?
- Is each sleeve marked clearly and permanently with the name of the manufacturer or supplier, ASTM D 1051, type, class, size, and right or left designation?

- Is all such marking confined to the shoulder-flap area and is it nonconducting and applied in such a manner as to not impair the required properties of the sleeves?
- Is a label used to identify the voltage class: Class 0-red, Class 1-white, Class 2-yellow, Class 3-green, and Class 4-orange? (The other required information may be placed on the label or molded directly into the sleeve.)

2.16 Rubber insulating blankets provided for protection of workers from accidental contact with live electrical conductors, apparatus, or circuits meet standard specifications. (See Section 4.0, "Guidance to Assessor.")

- Does inspection of the blankets indicate that they were produced by a seamless vulcanizing process?
- Where eyelets are specified, is each blanket equipped with nonmetallic eyelets?
- Is each blanket marked clearly and permanently with the name of the manufacturer or supplier, ASTM D 1048, type, class, and style?
- Are blankets marked by either molding the information directly into the blanket or by using a label?
- If a label is used, is it the color specified for each voltage class; Class 0-red, Class 1-white, Class 2-yellow, Class 3-green, and Class 4-orange?

2.17 Rubber insulating covers (including insulator hoods, dead-end protectors, line hose connectors, cable end covers, and miscellaneous covers) provided for protection of workers from accidental contact with live electrical conductors, apparatus, or circuits meet standard specifications. (See Section 4.0, "Guidance to Assessor.")

- Is each cover marked clearly and permanently with the name of the manufacturer or supplier, ANSI/ASTM D 1049, type, and class?
- Are the covers marked by either molding the information directly into the cover or by using a label?
- If a label is used, is it the color specified for each voltage class; Class 0-red, Class 1-white, Class 2-yellow, Class 3-green, and Class 4-orange?

2.18 Rubber insulating matting for use as a floor covering for protection of workers meets standard specifications. (See Section 4.0, "Guidance to Assessor.")

- Does the matting consist of a rubber compound with a smooth, corrugated, or diamond design on one surface, and backed with fabric, or having one or more fabric inserts? (The back of the matting may be finished with cloth imprint or other slip-resistant material.)
- Is each piece of matting marked clearly and permanently at a maximum interval of 3 ft (1 m) with the name of the manufacturer or supplier, ASTM D 178, type, and class?

2.19 Rubber insulating line hose for use as a portable protective device for protection of workers from accidental contact with live electrical conductors meets standard specifications. (See Section 4.0, "Guidance to Assessor.")

- Is the line hose constructed in one of four styles: straight style, connector-end style, extended-lip style, and connector-end extended lip style?
- Is the line hose formed with an interlocking lip of sufficient length to prevent the device from being dislodged accidentally from the conductor it covers?
- Is the interlocking lip close to the inside surface contour of the outer wall?
- Is the adaptor end of connector-end-style line hose not less than 5.5 in. (140 mm) deep, and is its inside diameter such that it will snugly grip the end of the line hose of the same size that it joins?
- Is each line hose marked clearly and permanently with the name of the manufacturer or supplier, type, class, and ASTM D 1050?
- Is the line hose marked by either molding the information directly into the hose or by using a label?
- If a label is used, is it the color specified for each voltage class; Class 0-red, Class 1-white, Class 2-yellow, Class 3-green, and Class 4-orange?

3.0 STANDARDS AND REQUIREMENTS

3.1 Specific DOE Orders and Standards.

- DOE O 232.1A, "Occurrence Reporting and Processing of Operations Information."
- DOE O 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees."

- DOE 2300.1B, "Audit Resolution and Followup."
- DOE 2321.1B, "Auditing of Programs and Operations."
- DOE 5700.6C, "Quality Assurance."

3.2 Title 10 CFR Requirements.

- 10 CFR 830.120, "Quality Assurance requirements for DOE Nuclear Facilities."

3.3 OSHA Title 29 CFR Requirements.

- 29 CFR 1926.28, "Personal Protective Equipment."
- 29 CFR 1926, Subpart D, "Occupational Health and Environmental Controls."
- 29 CFR 1926, Subpart E, "Personal Protective Equipment and Life Saving Equipment."
- 29 CFR 1910, Subpart I, "Personal Protective Equipment."
- 29 CFR 1910, Subpart G, "Occupational Health and Environmental Controls."

3.4 ANSI, ASTM, and Other Standards.

- ANSI/CGA C-4 - 1990, "Method of Marking Portable Compressed Gas Containers to Identify the Material Contained." (A revision and redesignation of ANSI Z48.1-1954 (R1971)).
- ANSI/CGA G-7.1 - 1989, "Commodity Specification for Air."
- ANSI Z87.1-1989, "Practice for Occupational and Educational Eye and Face Protection."
- ANSI Z89.1-1986, "Protective Headwear for Industrial Workers - Requirements."
- ANSI Z89.2-1971, "Protective Headwear for Industrial Workers - Requirements (Electrical)."

- ANSI Z41-1991, "American National Standard for Personal Protection - Protective Footwear."
- ASTM D 120 - 87, "Standard Specification for Rubber Insulating Gloves."
- ASTM D 178 - 88, "Standard Specification for Rubber Insulating Matting."
- ASTM D 1048 - 88a, "Standard Specification for Rubber Insulating Blankets."
- ASTM D 1049 - 88, "Standard Specification for Rubber Insulating Covers."
- ASTM D 1050 - 90, "Standard Specification for Rubber Insulating Line Hose."
- ASTM D 1051 - 87, "Standard Specification for Rubber Insulating Sleeves."
- United States Pharmacopoeia for Medical and Breathing Oxygen.

4.0 GUIDANCE TO ASSESSOR

This assessment guide is intended to assist in conducting a performance assessment of personal protective equipment. It is not to be considered as all-inclusive, inflexible, or limiting reasonable assessment concentration when lines of inquiry responses dictate that an area must be more thoroughly probed.

Sections 2.14 through 2.19 cover only the manufacture and marking of personal electrical protective devices. If additional information is required, such as chemical and physical requirements, electrical requirements, dimensions and permissible variations, and the like, an in-depth review of the particular safety standard will be required. If the manufacture and marking requirements are met, the equipment should conform to the details of these standard specifications.