



Bangladesh Power Development Board
INTEGRATED MANAGEMENT SYSTEM
(BASED ON ISO 9001:2015, ISO 14001:2015 & ISO
45001:2018)

PROCEDURE FOR PERSONAL PROTECTIVE
EQUIPMENT



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1. Purpose

This procedure outlines the requirements and practices for the management of personal protective equipment (PPE) to assist with the correct selection, supply, use, replacement, maintenance, training and storage.

2. Scope

This procedure applies to all workers including staff, clients, contractors and others within the BPDB sites.

3. Terms, and Definition

Personal Protective Equipment (PPE): Any clothing, equipment, or substance designed to be worn by a person to protect the person from risks of injury or illness

Abbreviations

BPDB – Bangladesh Power Development Board

4. Roles and Responsibilities

- **Managers, Superintendents and Supervisors**

Personnel under their control are aware of, understand and comply with the requirements of this procedure.

- **Employees and contractors**

Comply with the requirements of this procedure.

- **Visitors**

Comply with all reasonable instructions given by your escort.

5. Procedure

5.1 The need to use PPE shall be determined from the process of hazard identification, risk assessment and development of risk control measures. The PPEs that are identified as required at the particular site will be listed.

5.2 PPE shall conform to any legislative, or industry standard requirements or guidelines.

5.3 Where possible, PPE should be purchased from suppliers whose brand reputation is unquestionable in the market. Otherwise adequate verification needs to be carried out towards the adequacy of their ability to meet required specification.

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5.4 Specific PPE may be required to be worn under particular circumstances. This may include but is not limited to:

- Head protection in the form of a safety helmet shall be worn where there is a possibility that a person:
 - may be struck on the head by a falling object
 - the person may strike their head against a fixed object
 - is likely to have inadvertent head contact with an electrical hazard.
- Full body protection where there is risk of dermal exposure to specific infection agents or hazardous chemicals.
- Eye protection / face shield where a risk of eye injury exists. Typical hazards might include flying particles, dust, splashing substances, harmful gases, vapours, aerosols, and high intensity radiation.
- Hearing protection where a risk of noise induced hearing loss exists. The need for hearing protection shall be assessed from the conduct of noise monitoring surveys in potential noise hazard areas.
- Respiratory protection where all other practicable measures have been taken to provide control measures to ensure that no staff member is exposed to an atmosphere that is or may be injurious to health.
- Protective clothing and sunscreen for workers who work outdoors and are exposed to the sun's rays for continuous periods. Direct exposure of the skin to UV radiation from outdoor work shall be minimised by providing hats, long sleeves / trousers and an adequate supply of sunscreen.
- Hand protection where there is an identified hazard with a potential for hand injury, transmission of infection or absorption of substances via the skin.
- Protective footwear (safety footwear) shall be provided where the nature of the work exposes the employee to a medium to high risk of injury to feet (for example. occupations such as workshop maintenance and gardening staff).
- High visibility safety vests where there is a risk of injury associated with working on or near roadways, near moving traffic or plant or other circumstances where high visibility of the worker is required.

5.5 Prescription safety glasses ordering and replacement- Prescription safety glasses shall be worn by those employees who require them. New employees, short term visitors or contractors who wear prescription glasses but do not have prescription safety glasses shall wear large, non-prescription over spectacles covering their non-safety prescription glasses.

5.6 Compliance with any operational requirement to use PPE shall be monitored by the supervisor of the functional area. Any non-compliance shall be investigated to ascertain the reason(s) and further consultation with the worker and other relevant

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persons such as the work, health and safety practitioner, health and safety representative shall be undertaken to ensure a satisfactory resolution.

5.7 All staff expected to use PPE shall be provided with training prior to application of the PPE and be provided ongoing training where necessary.

5.8 The PPE management program of the functional area shall outline:

- approved PPE items and when they shall be worn
- who is required to wear PPE and whether it is provided for general or exclusive use
- how PPE will be issued
- training and any ongoing instruction required
- ongoing cleaning, storage, maintenance and inspection requirements including any specific precautions that may apply (for example, replacement of respirator cartridges)
- replacement arrangements
- responsibilities for cleaning and/or servicing
- signage required at the point of required use
- supervision to be provided
- record keeping requirements.

5.9 Where contractors are engaged, if the work being performed relates directly to the conduct of the accountability area's business, PPE shall be supplied by the accountability area (for example, face masks, gloves for clinical workers). At all other times contractors shall supply PPE unless by arrangement with, or requested by the accountability area's responsible officer.

5.10 Use, care and maintenance

Personal Protective Equipment shall be controlled and maintained in good order by ensuring:

- Personnel undertake regular inspections of their PPE, and if required, repair or replace. Personnel shall not use PPE which is not in good working order;
- PPE that either does not comply with specifications, or is damaged, shall be removed from use and tagged Out of Service;
- PPE that is not of a disposable nature is regularly cleaned and, where applicable, kept in hygienic or controlled conditions. Storage facilities, appropriate for the equipment type shall be provided for all such PPE after or between uses;
- PPE must be worn correctly and should not create secondary safety or health risks which cannot be appropriately controlled;
- The use of one type of PPE should not adversely affect the use of another type of PPE. For example, the use of safety glasses should not take away from the effectiveness of ear muffs from preventing the muff from sitting around the whole ear;

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- PPE must comply with relevant Bangladesh Standards, or if one does not exist, another recognised standard such as EN or ANSI;
- PPE must be worn and used as designed; any deviation from the intended design specifications may render it useless and may not provide the protection that was intended by the manufacturer. The user must ensure that structural interference or alteration of PPE does not occur; and
- Composite toe cap safety footwear and safety helmets that have sustained a significant impact must be replaced, irrespective of visible damage being present.

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5.11 Personal Protective Equipment Matrix:

Below is a reference sheet where various specifications that are used in the industry are mentioned. It would be the endeavour of BPBD to procure PPE of these specifications.

However, it is understood that it may not be possible to procure them, due to, one of the reasons, i.e., availability.

BPDB will, nonetheless, try to procure as closely as practically possible, PPEs having similar quality.

EXPOSURE	PPE TYPE	APPLICABLE INSTRUCTIONS
Eyes	Safety Glasses and Eye Protectors	<p>Safety Glasses</p> <p>Eye protection used shall comply with the international recognised standard (e.g., AS/NZS 1337 Eye Protectors for Industrial Applications) and shall be either</p> <ul style="list-style-type: none"> • Medium impact resistant; or • High impact resistant. <p>Face shields shall be worn over safety glasses or goggles to give the wearer double eye protection when conducting tasks with risk of high impact such as grinding.</p> <p>Prescription Safety Glasses</p> <p>Prescription glasses must comply with international recognised standard (e.g., AS/NZS 1337 Prescription Eye Protectors Against Low and Medium Impact)</p> <ul style="list-style-type: none"> • Prescription glasses shall be fitted with medium impact lenses; • Face shields shall be worn over prescription safety glasses or goggles to give the wearer double eye protection when conducting tasks with risk of high impact such as grinding
Footwear	Safety, protective and occupational footwear	<p>Foot Protection</p> <p>Safety footwear shall comply with the requirements international recognised standard (e.g., AS/NZS 2210 Occupational Protective Footwear). Where safety boots are not required, footwear should be firm fitting, covered, and with nonslip soles. Stilettos, open sandals and thongs are not acceptable.</p>
Hands	Protective and Insulating Gloves	<p>Hand and Finger Protection</p> <p>Gloves shall comply with the international recognised standard (e.g. AS/NZS 2161: Occupational Protective Gloves or AS 2225 Insulating Gloves for Electrical Purposes). Gloves are to be worn</p> <ul style="list-style-type: none"> • Where there is an identified risk or potential for finger or hand injury from sharp, hot, and jagged objects;



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EXPOSURE	PPE TYPE	APPLICABLE INSTRUCTIONS
		<ul style="list-style-type: none"> Where they will assist with the grip of the object; When handling hazardous substances as required in the Material Safety Data Sheet (MSDS); Gloves are not required where there is a risk of entanglement, such as using a pedestal grinder, lathe, or pedestal drill
Head	Safety Helmets	<p>Safety Helmets (Hard Hats) Safety helmets shall comply with the international recognised standard (e.g., AS/NZS 1801 Occupational Protective Helmets).</p> <ul style="list-style-type: none"> They should be properly adjusted for correct fit; No hats, caps or beanies are to be worn under helmets; Helmets shall not be drilled, cut or otherwise altered, or have stickers/markings which could alter the helmets integrity or impede inspection; Helmets that have suffered any significant impact must be replaced; Helmets have a limited useful life even if not damaged by any impact. The manufacturer date is to be checked before issue for compliance with “Use-by” dates. User Name and Issue date shall be noted on the internal helmet sticker with helmets replaced before expiry dates – normally 2 years. Chin straps should be used in situations which are windy and/or where the helmet may fall off
Hearing/ Noise	Acoustics Hearing Protectors	<p>Hearing Protection Hearing Protection shall comply with international recognised standard (e.g., AS/NZS 1270 Acoustics – Hearing Protectors).</p> <ul style="list-style-type: none"> Hearing protection must be worn at all times in designated “Hearing Protection Areas” as indicated by signage, when the equipment is running. These shall be determined by risk assessments and results from site characterisation for noise; Such designated areas may include heavy vehicle cabs where noise levels exceed 85dB (A), around heavy vehicles and in a workshop where noisy activities are being carried out; Earplugs and earmuffs must be worn as double protection when personnel are exposed to excessive noise, for example during sand blasting; Consideration must be given to the risk of the wearer losing the ability to hear otherwise available

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EXPOSURE	PPE TYPE	APPLICABLE INSTRUCTIONS
		alarms
Respiratory	Respiratory Protective Equipment	<p>Respiratory Protection</p> <p>Employees may be exposed to a variety of airborne substances which may be in the form of gases, vapours, dusts, mists, fumes and smoke. Personnel shall wear respiratory protective equipment where there is a risk of such exposure. All respirators shall comply with international recognised standard: e.g.,</p> <ul style="list-style-type: none">AS/NZS 1716 Respiratory Protective Devices;AS/NZS 1715 Selection, Use and Maintenance of Respiratory Protective Devices. <p>The selection of respiratory protective equipment will be influenced by the contaminant, task, operator and equipment limitation. The devices selected should be suitably matched to the individual by way of respirator fit testing, and with consideration for the duties, the likely duration of wear and the nature of the environment e.g. personal characteristics, physical fitness, work rate, posture, space restrictions, ambient temperature, and relative humidity</p>
Whole body	Clothing	<p>Personal Protective Clothing</p> <p>Clothing for day time use will have fluorescent material complying with international recognised standard (e.g., AS/NZS 4602)</p> <ul style="list-style-type: none">Personal protective clothing shall be full length (long sleeved shirts and pants);A high visibility vest may be worn over a long-sleeved shirt where it is not a hazard (for example at risk of being entangled in rotating plant);Garments should be inspected on a regular basis and replaced if they are badly damaged, soiled or faded, or the retro-reflective material has ceased to function;Garments shall be kept clean by washing or cleaning in accordance with manufacturer's instructions;Garments shall be worn fully fastened in a way that all safety features of the garment are effective for example, high visibility vests shall be fastened at the front, shirts shall remain buttoned up at the front, and sleeves buttoned down at the wrist unless doing so introduces an additional hazard, as demonstrated by risk assessment;

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EXPOSURE	PPE TYPE	APPLICABLE INSTRUCTIONS
Electrical	Arc Flash Protective Clothing	<p>High Voltage, or Arc Flash Suits Arc Flash suits are designed to protect persons when operating any High Voltage Device. When a fault condition is present in a high voltage installation it has the potential to cause an Arc Flash when switch gear is operated. These suits protect the operator from the extreme temperatures present when an arc flash occurs. These suits are to be used whenever manually operating any high voltage equipment on site.</p> <ul style="list-style-type: none"> Regular inspections are to be carried out on all high voltage protective clothing including gloves, suit and hood. <p>Only trained, licensed and competent people are permitted to operate High Voltage equipment</p>
Falls	Fall Arrest Systems and Devices	<p>Falls Prevention Wherever practicable, a Restraint System shall be the preferred system over Fall-Arrest. All restraint technique equipment and anchorages shall be fall-arrest rated to prevent falls in failed situations.</p> <p>Personal equipment including harnesses, lanyards, connectors, fall-arrest and fall restraint devices must be inspected</p> <ul style="list-style-type: none"> Before and after each use by a competent person Equipment inspected at 3 monthly intervals Red tag: Jan – Mar Green tag: Apr – Jun Blue tag: Jul – Sep Yellow tag: Oct – Dec
Welding and allied processes	Various	<p>During welding, cutting and allied processes, persons may be exposed to heat, fumes, radiation and particles. PPE must be suitable for the task and hazards.</p> <p>Protection of Eyes and Head</p> <p>The eyes and head are particularly sensitive and almost always require some protection against</p>

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EXPOSURE	PPE TYPE	APPLICABLE INSTRUCTIONS
		<p>radiation, hot metal slag, flying particles, falling objects, and noise. PPE to be considered includes</p> <ul style="list-style-type: none"> • Helmets; • Safety glasses; • Goggles; • Hearing protection; • Protective filters to reduce the intensity of radiation; • Welder's caps to provide protection from radiation reflected from adjacent surfaces; • Face shields shall be worn over safety glasses or goggles to give the wearer double eye protection when conducting tasks with risk of high impact such as grinding. <p>Protective Clothing The clothing should</p> <ul style="list-style-type: none"> • Protect body parts from hot particles and objects; • Be wool, or made of other flame-resistant material; • Be free of cuffs or open pockets that could trap molten metal; • Cover tops of footwear. <p>Gloves Gloves for hot work on metals shall be worn during all arc, gas or thermal cutting to protect the hands and wrists from heat, burns and cuts.</p> <p>Additional Protection Aprons, sleeves, shoulder covers, hoods, leggings or spats may be required if areas of the body encounter hot metal. For example, overhead welding, sitting at a bench where molten metal may land in the lap.</p> <p>Respiratory When general or local ventilation is not effective in reducing fume levels, respiratory protection is</p>

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EXPOSURE	PPE TYPE	APPLICABLE INSTRUCTIONS
		<p>required. Respiratory protection must be selected for each application; this may require the assistance of a competent person, refer to the Health and Safety Department for help.</p> <p>PFDs, Harnesses, Lanyards PFDs, harnesses and lanyards worn during hot work must be flame retardant or protected by using fire retardant blankets.</p>

6. Reference

ISO 45001:2018 Standard

7. Appendix

None

8. REVISION HISTORY

SI No.	Revision Number	Section	Change Made	Date of Creation

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