

**SAMPLE OF IPP PLAN
FOR NON-RESIDENTIAL
BUILDINGS**

IN-PLACE PROTECTION PLAN
FOR

< < Name of Organisation > >

**IN-PLACE PROTECTION PLAN FOR
<<NAME of ORGANISATION>>
<< ADDRESS>>**

1. GENERAL INFORMATION

Building Name : _____

Owner's Name / Contact No.: _____

IPP Co-ordinator's Name / Contact No. : _____

No. of Storeys : _____

Occupant Load : _____

Gross Floor Area : _____

Location of Air-handling Units : _____

Location of Switches for Air-Con : _____

IN-PLACE PROTECTION PLAN
GUIDELINES FOR NON-RESIDENTIAL BUILDINGS

1 **OBJECTIVE**

1.1 The purpose of the In-Place Protection Plan (IPP) is:

- a To safeguard human lives in the event of hazardous release into the atmosphere.
- b To ensure prompt raising of the alarm to initiate IPP and marshalling of efforts in carrying out the IPP procedure of sealing the rooms.
- c To establish duties and responsibilities of individuals involved so as to ensure systematic and orderly implementation of the plan.

1.2 **IPP Committee**

Management may wish to set up a IPP Committee to co-ordinate all IPP activities. Members may include (Names and contact nos. should be listed in Appendix I attached to this plan):-

- a. Co-ordinator/Asst. Co-ordinator
- b. IPP Warden/Asst. IPP Warden (the Fire Warden can be assigned as the IPP Warden)
- c. Chief Security Officer
- d. Receptionist/Information counter staff
- e. IPP team
- f. Mechanical Ventilation Operator

1.3 **Signal for Initiation of IPP**

The signal for IPP will be broadcast over radio or TV after the sounding of important message signal through the Public Warning System. The authorities may also use loudhailer or door-to-door notification. Upon receiving advice from the authorities to initiate IPP, announcement should be made through the public address system of the building to notify everyone to conduct IPP.

2 PRE-ACTIVATION PLANNING

2.1 Selection of appropriate room for IPP

Rooms where IPP is to be conducted should be pre-determined. Selection criteria are as follows :

- a. Select a room with as few windows, vents and doors as possible. A windowless room is best. Shelter rooms or conference rooms with few or no windows can be used. For industrial sector, positive pressured rooms would be most appropriate, if available.
- b. The room should be large enough to provide at least 1.6m² per person to allow for comfortable stay and to maintain air quality.
- c. Each individual occupant should be allocated a specific room to go to so as to avoid confusion when IPP is implemented. They should know which room they have been allocated.
- d. Enough rooms should be selected to provide enough space to house all occupants (including visitors/guests).
- e. It is preferable that IPP rooms be located such that occupants can gain easy access to it, without having to transverse many floors, since the lifts would be deactivated. Exact location of the pre-selected IPP rooms should be indicated in an attachment in Appendix III.

2.2 Items required for implementation of IPP

Supplies for IPP should be stored in the room pre-selected for IPP. The IPP kit should include the following items:

- a. Plastic sheets - Pre-cut plastic sheets to fit over any windows or vents in the IPP room.
- b. Masking tape - Rolls of tape to be used to seal any obvious gaps around windows and doors and to secure the plastic sheets over windows/vents.
- c. Battery operated radio with fresh batteries - In the event of a power outage; a battery-operated radio is necessary to hear emergency announcements.
- d. The shelter room should also have a telephone for emergency use only. Stay off the phone during the IPP to keep lines free for emergency responders.
- e. Optional items include :
 - i 1 torchlight with fresh supply of batteries
 - ii Bottled drinking water (if there is no access to running water in the room selected)

- iii Non-perishable food supply for at least one meal
- iv Mobile phone (if there is no hard-wired telephone in the room selected)
- v TV for tuning in to emergency messages

Check your IPP kit on a regular basis to ensure that the necessary items are readily available at all times.

2.3

Procedures for Conducting IPP

The basic steps are:

- a. Shut all windows and doors
- b. Turn off all air handling equipment (e.g. air conditioning)
- c. Go to a pre-determined IPP room (or rooms)
- d. Seal any obvious gaps around windows, doors and vents with masking tape and cover with plastic sheets
- e. Turn on a TV or radio and listen for further instructions.
- f. When the message to terminate IPP is announced, open windows and doors, turn on ventilation systems to ventilate the room(s)

Additional steps required:

- a. Develop an **accountability system**. You should know who is in your building and where they are if an emergency develops. Visitors should be made aware of your decision to implement IPP if advised by authorities.
- b. **Duties should be assigned to specific individuals**. Key personnel should have backups.
- c. **Drills should be planned and executed on a regular basis**, at least once a year.

3

ACTION TO BE TAKEN IN THE EVENT OF ACTIVATION OF IPP

3.1

Announcer **(eg Receptionist/Information Counter Staff)**

The person who is in-charge of making announcements through the public address system is to announce the implementation of IPP and termination of IPP, upon receiving instructions from emergency authorities or management of the building. (See Appendix I - Sample of Standard Announcement)

3.2. All Occupants

- a Upon hearing the instructions to execute IPP, occupants shall lock important files, cash, shut down machinery etc., and remain alert. Do not make unnecessary telephone calls to verify the instructions to conduct IPP.
- b All occupants, guided by their respective IPP Wardens should immediately evacuate by using the nearest route and proceed to their pre-determined IPP room when:-
 - i The announcement for IPP is declared over the public address system; or
 - ii Instructed by their IPP Wardens.
- c There should be enough rooms pre-identified to house all occupants and any guests (numbers can be estimated based on trends). Location of IPP rooms should be indicated in floor plans attached to this plan. IPP rooms should also be catered for transient population, like shoppers or visitors to the building, if applicable.
- d All occupants/staff/guests/customers/visitors should not leave the building once IPP has been activated

**3.3 Co-ordinator/Assistant Co-ordinator
(Senior Executive Management Staff)****3.3.1 In the event of IPP implementation:**

Ensure that announcement (See Appendix I) has been made on all floors.

3.4 IPP Warden/Asst. IPP Warden**3.4.1 On hearing the announcement over the Public Address System to conduct IPP:**

- a. Check all areas within the building eg office shops or guestrooms and alert everyone under his charge to move in an orderly manner to their IPP rooms. Each IPP room should have a IPP Warden.
- b. Ensure that the disabled, children, pregnant women, etc. if present are given particular attention.

- c On reaching the IPP room, conduct a roll call of the staff present using the floor register (as per floor recommended in Appendix IV)

3.5 **Chief Security Officer/Assist Chief Security Officer**

- a The Chief Security Officer shall ensure that security personnel are deployed at the ground floor staircases exits to guide guests/visitors to the designated IPP rooms when the IPP plan is activated.
- b Ensure that all main entrances and exits to the building are adequately manned to guide any transient population seeking IPP.
- c To place a signage at entrances to indicate that IPP is in progress.

3.6 **IPP Team**

3.6.1. On entering the IPP room all staff within the room should assist in sealing up the room. However, it would be beneficial to assign specific tasks to each staff to co-ordinate the activities.

- a Window Sealing Crew – Can start sealing the windows and vents once they enter the room.
- b Door Sealing Crew – To start sealing the doors only when IPP warden gives the instruction after conducting roll call.

3.7 **Mechanical Ventilation Operator**

Upon Activation of IPP

3.7.1 On hearing the announcement to conduct IPP, he/she is to proceed to the mechanical ventilation unit and switch off all air ventilation to reduce the infiltration of hazardous air from the outside. It is preferable that all switches be located centrally and operated through one-push button. Modifications to the Building Automation System may be required to facilitate quick deactivation of the ventilation systems.

3.7.2 As the ventilation systems for each building is unique, a step-by-step checklist (To include as Appendix V) should be included to guide the technician to ensure that all mechanical systems drawing air from

outside should be switched off (eg staircase pressurisation, smoke purging systems).

3.7.3 The piston effect of moving lifts may cause hazardous vapours to be drawn into the building. All lifts should therefore be homed in. Attach your building's Lift homing procedures in Appendix VI.

3.7.4 (Only for Buildings with pressurised systems) As a precaution, the autoactivation of pressurised systems should be de-linked from the manual call points so that air may not be drawn in if the manual call points are activated. All other fire protection systems, like automatic fire sprinkler system, are to be kept functional as per normal.

Upon Termination of IPP

3.7.2 Once announcement has been made by emergency authorities to terminate IPP, he/she will proceed to the mechanical room to turn on all ventilation equipment. Purging systems can be turned on to purge any vapours which may have infiltrated.

4 **DUTIES AND RESPONSIBILITIES**

4.1 **The Co-ordinator/Assistant Co-ordinator**

- a Represents the management of the building in respect of all IPP measures.
- b Has the full responsibility for:
 - i Establishment of a IPP Committee
 - ii Training of all occupants
 - iii Preparation, drafting, exercising and operationalising the IPP Plan.
- c Ensure that all staff are familiar with the IPP Plan.
- d Appoint one person as Co-ordinator during his absence from the building.
- e Responsible for the formation and training of the IPP team from amongst responsible employees who are physically fit to fulfil this function.

4.2 **IPP Wardens/asst. IPP Wardens**

- a Acquaint any new occupant with the IPP Plan including his specific role (if any) during an emergency.
- b Be familiar with the IPP Plan and location of the IPP rooms.
- c Be familiar with the IPP procedures in sealing up a room
- d Maintain and update a register (as per format recommended in Appendix IV).
- e Liaise and co-ordinate with each other.

4.3 **Chief Security Officer/Asst., Chief Security Officer**

- a Be familiar with the IPP Plan and floor layout plan indicating where the IPP rooms are located .
- b Ensure that the security personnel are well versed with their roles as described in the IPP Plan.

4.4 **IPP Team**

- a Be familiar with the location of the IPP room and its layout (e.g. where the windows and vents are located)
- b Be aware of where the IPP kit is kept and be familiar with the IPP procedures in sealing the room
- c Responsible for practising the procedures in the room

4.5 **Mechanical Ventilation Operator**

Be familiar with the location and operation of the mechanical ventilation system and controls within the building.

5 **IPP DRILLS**

- a IPP drills should be conducted at least once a year.
- b All persons in the building should participate in the drill.

6 **APPENDICES**

Appendix I	-	Name List of IPP Committee
*Appendix II	-	Standard Announcements
Appendix III	-	Floor plan showing where the IPP rooms are located
*Appendix IV	-	Floor Register
Appendix V	-	Step-by-Step procedures for turning-off ventilation
Appendix VI	-	Lift homing Procedures

* Specimen attached

STANDARD ANNOUNCEMENTS (Sample)

Text 1

(In the event of activation of IPP in the building;)

“Ladies and Gentleman, your attention please.

- (1) An In-place Protection advisory has been issued.
- (2) We have been advised that hazardous release has been detected outside the building. DO NOT, we repeat, DO NOT leave the building. The air outside is not safe.
- (3) The ventilation and air-conditioning systems will be shutdown to minimise infiltration of air from outside.
- (4) Everyone should proceed to the IPP rooms designated or as directed by the IPP wardens. Before leaving, please ensure windows and doors are closed and machinery and lights are turned off to minimise heat generation.
- (5) While in the IPP rooms, please remain calm and wait for further instructions.

Announce Twice

Text 2(Upon termination of IPP, as announced by emergency authorities)

“Ladies and gentlemen, your attention, please. Announcement has been made to terminate IPP. You should remove all masking tape and plastic sheets and open all windows and doors and leave the IPP room.”

Announce Twice

