CLAIMS:

1. A floor-space saving NBC filtration system for collective protection shelters comprising: an NBC filter unit; an electric blower; a manual air exchange backup for operation during electric power failure; and a changeover valve configured for changing the NBC filtration system state between a ventilation mode, effective during normal times or conventional hazard, and an NBC protection mode, effective during NBC hazard; wherein said NBC filtration system is fixedly contained in a space out of a comfortable reach of said shelter occupants thus saving usable floor-space, and wherein at least one selected between said changeover valve and said manual air exchange backup is remotely operated from a location within the comfortable reach of said shelter occupants.

2. A floor-space saving NBC filtration system as claimed in claim 1, further comprising a state selector handle for switching said changeover valve state.

3. A floor-space saving NBC filtration system as claimed in claim 1, further comprising a human power interface for operation of said manual air exchange backup, from a location within the comfortable reach of the shelter occupants.

4. A floor-space saving NBC filtration system as claimed in claim 3, wherein said human power interface is selected between a hand crank and a foot pedals.

5. A floor-space saving NBC filtration system as claimed in claim 1, wherein said space containing said NBC filtration system is located higher than an average person height.

6. A floor-space saving NBC filtration system as claimed in claim 1, wherein said space containing said NBC filtration system is located behind a separating wall.

7. A floor-space saving NBC filtration system as claimed in claim 1, wherein said space containing said NBC filtration system is located in a safety equipment compartment.

8. A floor-space saving NBC filtration system as claimed in claim 2, wherein said state selector handle for switching said changeover valve state is located at the arm height of an average person.

9. A floor-space saving NBC filtration system as claimed in claim 3, wherein said space containing said NBC filtration system is located higher than an average person height and

said human power interface is detachably fitted to said manual air exchange backup and wherein said manual air exchange backup is vertically downwards movable to gain access to said human power interface in case of electric power failure.

10. A floor-space saving NBC filtration system as claimed in claim 9, wherein said manual air exchange backup is vertically downwards movable by a moving mechanism selected from the group consisting of: scissors lift mechanism, vertical rails and gliders movable thereon, and a swivel arm.

11. A floor-space saving NBC filtration system as claimed in claim 3, wherein said manual air exchange backup is located higher than an average person height, and is remotely powered by said human power interface, located at the proper height for use by an average person, through a mechanical power transmission selected from the group consisting of a drive-belt, a chain, a drive-shaft and gears, a reciprocating arm linkage or any combination of the listed options.

12. A floor-space saving NBC filtration system as claimed in claim 3, wherein said human power interface is detachable and is removed and stored during normal times such that no floor-space is needed for said NBC filtration system during normal times.

13. A floor-space saving NBC filtration system as claimed in claim 12, wherein floor-space is needed only during electric power failure, for operation of said human power interface of said manual air exchange backup.

14. A floor-space saving NBC filtration system as claimed in claim 3, wherein said manual air exchange backup comprises a speed increaser gear having an input shaft manually rotated by said human power interface and an output shaft engaged to rotate said electric blower.

15. A floor-space saving NBC filtration system as claimed in claim 3, wherein said manual air exchange backup comprises an electric generator manually rotated by said human power interface to generate electric power for said electric blower.

16. A floor-space saving NBC filtration system for collective protection shelters comprising: an NBC filter unit; an electric blower; a manual air exchange backup; and connectible flexible pipes configured for changing the NBC filtration system state between a ventilation mode, effective during normal times or conventional hazard, and an NBC

protection mode, effective during NBC hazard, wherein said NBC filtration system is fixedly contained in a space out of a comfortable reach of said shelter occupants thus saving usable floor-space, and wherein said manual air exchange backup is remotely operated from a location within the comfortable reach of said shelter occupants, using a separate hand crank and a mechanical power transmission.

17. A floor-space saving NBC filtration system as claimed in claim 16, wherein said hand crank is supported to a wall of said shelter at one end and supported with a detachable floor stand at the other end to firmly hold the hand crank during usage.

18. A floor-space saving NBC filtration system as claimed in claim 16, wherein said hand crank is fitted to a wall of said shelter at one end only, using an appropriate carrying capacity bearings.

19. A floor-space saving NBC filtration system as claimed in claim 16, wherein said power transmission is selected from the group consisting of: belt drive with pulleys; chain drive with sprockets; drive-shaft with bevel gears; and any combination of the listed options.

20. A floor-space saving NBC filtration system as claimed in claim 16, wherein said space containing said NBC filtration system is located higher than an average person height and wherein said hand crank is located at the proper height for use by an average person.

21. A floor-space saving NBC filtration system as claimed in claim 16, wherein said hand crank is detachable and can be removed and stored during normal times.

22. A space saving NBC filtration system for collective protection shelters comprising: a pre-filter; an NBC filter unit including a particulate filter and an adsorption filter; a changeover valve; an electric blower; and a manual air exchange backup configured to be operated by a human power interface from a location within the comfortable reach of the shelter occupants; said NBC filtration system is operative at ventilation mode during normal times or conventional hazard and at NBC protection mode during NBC hazard, said pre-filter is in service at both ventilation mode and NBC protection mode, while said NBC filter unit is in service at NBC protection mode only, said changeover valve is switched during NBC protection hazard to redirect air through said NBC filter unit, wherein an inlet and an outlet of said NBC filter unit are located at proximity to each other, and wherein an outlet of said pre-filter is located in proximity to said inlet and outlet of said NBC filter unit, with said

changeover valve located there between, resulting in simple operation and space saving by said changeover valve replacing space consuming flexible pipes.

23. A space saving NBC filtration system as claimed in claim 22, wherein said electric blower and said manual air exchange backup are attached to said NBC filter unit, said electric blower is provided with a compact curved duct for sucking air from a primary outlet of said changeover valve.

24. A space saving NBC filtration system as claimed in claim 22, wherein said NBC filter unit is elongated in shape, positioned vertically under said pre-filter and wherein said electric blower and manual air exchange backup are attached to said NBC filter unit, located at the proper height for operation of said human power interface by an average person.

25. A space saving NBC filtration system as claimed in claim 22, wherein said changeover valve comprises a primary inlet being in flow communication with said pre-filter outlet, a secondary outlet being in flow communication with said NBC filter unit inlet, a secondary inlet being in flow communication with said NBC filter unit outlet and a primary outlet being in flow communication with a suction port of said electric blower.

26. A space saving NBC filtration system as claimed in claim 25, wherein said changeover valve comprises two spring loaded flaps simultaneously switched by a single state selector handle, in order to change said flaps position from a bypass state wherein said primary inlet and said primary outlet are internally connected, to an NBC filtration state wherein said primary inlet is internally connected with said secondary outlet and said primary outlet is internally connected with said secondary inlet.

27. A space saving NBC filtration system as claimed in claim 26, wherein in said bypass state position, said flaps are pressed against elastomer seals having appropriate sealing properties for protection of said NBC filter unit against intrusion of gas, moisture and particles.

28. A space saving NBC filtration system as claimed in claim 23 wherein said NBC filtration system is horizontally located higher than an average person height.