CLAIMS

1. A fire suppressant system for protecting a surrounding environment from a fire, comprising:
   a first fire suppression unit comprising a first cylinder containing a first fire suppression agent; and
   a second fire suppression unit comprising a second cylinder containing a second fire suppression agent, wherein:
      each fire suppression unit is configured to utilize a pressure differential between the respective cylinder interior and the surrounding environment to distribute the respective fire suppression agent;
      the first cylinder is pressurized greater than the surrounding environment;
      the first fire suppression unit generates a signal when the first fire suppressant agent is released from the first cylinder; and
      the second fire suppression unit is responsive to the signal; and
   a link connecting the first fire suppression unit to the second fire suppression unit, wherein the link is adapted to transmit the signal from the first fire suppression unit to the second fire suppression unit.

2. A fire suppressant system according to claim 1, wherein the first fire suppression unit further comprises a valve connected between the first cylinder and the link, wherein the valve is configured to:
   maintain the pressure in the first cylinder;
   release the pressure in the first cylinder to distribute the fire suppression agent when the valve is activated; and
   route a portion of the released pressure to the link.

3. A fire suppressant system according to claim 2, wherein the first fire suppression unit further comprises a fire detection device coupled to the valve and adapted to:
   detect the fire;
   activate the valve in response to the detection of the fire; and
   distribute the first fire suppression agent.

4. A fire suppressant system according to claim 3, wherein:
   the fire detection device comprises a heat sensitive element configured to rupture in response to an applied heat load; and
   the first fire suppression agent exits the fire detection device at the location of the rupture.

5. A fire suppressant system according to claim 4, wherein the heat sensitive element comprises a pressure tube.

6. A fire suppressant system according to claim 3, wherein the fire detection device comprises a tube pressurized with a gas, wherein the pressure of the gas increases in response to a heat load applied to the tube and activates the valve if the pressure of the gas exceeds a predetermined threshold value.

7. A fire suppressant system according to claim 1, wherein the second fire suppression unit further comprises:
   a second valve connecting the second cylinder to the link; and
   a second fire detection device coupled to the second valve and configured to detect the fire;
   wherein:
      the second valve pressurizes the second cylinder and the second fire detection device in response to the transmitted signal; and
      the second fire suppression agent is routed from the second cylinder through the second valve to the second fire detection device after the second cylinder has been pressurized and the second fire detection device has detected the fire.

8. A fire suppressant system according to claim 7, wherein the second valve further comprises a sealed pressure vessel containing a compressed gas, wherein the pressure vessel is configured to release the compressed gas into the second cylinder and the second fire detection unit in response to the transmitted signal to thereby pressurize the second fire suppression unit.

9. A fire suppressant system according to claim 8, wherein the pressure vessel comprises at least one of a gas cartridge and a burst disc.

10. A fire suppressant system according to claim 8, wherein the second valve is further configured to compromise the integrity of the pressure vessel to facilitate the release of the compressed gas into the second cylinder.

11. A fire suppressant system according to claim 7, wherein:
the second fire detection device comprises a second heat sensitive element configured to rupture in response to an applied heat load; and
the second fire suppression agent exits the second fire detection device at the location of the rupture.

12. A fire suppressant system according to claim 11, wherein the second heat sensitive element comprises a pressure tube.

13. A fire suppressant system according to claim 7, wherein the second fire detection device comprises a second tube pressurized with a second gas, wherein the pressure of the second gas increases in response to a heat load applied to the second tube and activates the second valve if the pressure of the second gas exceeds a predetermined threshold value.

14. A fire suppressant system according to claim 1, wherein the second fire suppression agent comprises a powdered fire suppressant.

15. A dual-stage fire control system for a suppressing a fire, comprising:

a first fire suppression agent;

a first housing containing the first fire suppression agent under pressure, wherein the first housing is configured to generate a signal in response to a loss in pressure;

a link coupled to the first housing and adapted to transmit the signal;

a valve containing a compressed gas and coupled to the link, wherein the valve is responsive to the signal and configured to release the compressed gas in response to the transmitted signal;

a second housing coupled to the valve and adapted to be pressurized by the released compressed gas; and

a second fire suppression agent contained within the second housing.

16. A dual-stage fire control system according to claim 15, wherein the first housing further comprises:

a second valve adapted to:

maintain the pressure of the first housing;

controllably release the first fire suppression agent upon activation of the second valve; and

create the signal by routing a portion of the released first fire suppression agent to the link; and

a fire detection device coupled to the second valve, wherein the fire detection device is:

configured to detect the fire and activate the second valve; and

adapted to provide the loss in pressure to the first housing when the fire is detected.

17. A dual-stage fire control system according to claim 16, wherein the fire detection device comprises a heat sensitive pressure tube configured to rupture in response to an applied heat load from the fire and cause the loss in pressure.

18. A dual-stage fire control system according to claim 15, wherein the link comprises a tube configured to route the portion of the released first fire suppression agent to the first valve.

19. A dual-stage fire control system according to claim 15, further comprising a second fire detection device coupled to the first valve, wherein the second fire detection device is configured to:

be pressurized by the released compressed gas; and

detect the fire through a loss of pressure to the second fire detection device.

20. A dual-stage fire control system according to claim 19, wherein the first valve is further configured to route the pressurized second fire suppression agent to the second fire detection device.

21. A dual-stage fire control system according to claim 15, wherein the second fire suppression agent comprises a powdered material.

22. A method of controlling a fire in an environment comprising:

detecting the fire with a first fire detection system connected to a first valve coupled to seal a pressurized cylinder containing a first fire suppression agent under pressure;

activating the first valve in response to the detecting of the fire;

releasing the first fire suppression agent of the pressurized cylinder in response to the activation of the first valve;

routing a portion of the released pressure from the pressurized cylinder through the first valve to a link connecting the first valve to a second valve coupled to a second fire detection system and a second cylinder containing a second fire suppression agent;

activating the second valve;

pressurizing the second cylinder and the second fire detection system; and

releasing the second fire suppression agent in response to the second fire detection system detecting the fire.

23. A method of controlling a fire in an environment according to claim 22, wherein activating the second valve comprises:

utilizing the routed portion of the released pressure to compromise a pressure vessel disposed within the second valve; and

24. A method of controlling a fire in an environment according to claim 22, wherein detecting the fire with the first fire detection system comprises:

creating a loss in pressure within the first fire detection system by rupturing a heat sensitive pressure tube in response to an applied heat load to the pressure tube; and

using the loss in pressure to activate the first valve.

25. A method of controlling a fire in an environment according to claim 24, wherein the first fire suppression agent is released through the ruptured heat sensitive pressure tube.

26. A method of controlling a fire in an environment according to claim 22, wherein detecting the fire with the first fire detection system comprises:

sensing a threshold pressure within the first fire detection system, wherein the first fire detection system comprises a pressure tube holding a gas at a first pressure, wherein the first pressure increases in response to a heat load applied to the pressure tube; and

using the increase in pressure to activate the first valve when the threshold pressure is reached.

27. A method of controlling a fire in an environment according to claim 26, wherein the first fire suppression agent is routed to pressure tube when the first fire suppression agent is released.

28. A method of controlling a fire in an environment according to claim 22, wherein detecting the fire with the second fire detection system comprises rupturing a second heat sensitive pressure tube by applying a heat load to the second heat sensitive pressure tube.

29. A method of controlling a fire in an environment according to claim 27, wherein the second fire suppression agent is released through the ruptured second heat sensitive pressure tube.

30. A method of controlling a fire in an environment according to claim 22, wherein detecting the fire with the second fire detection system comprises:

sensing a threshold pressure within the second fire detection system, wherein the second fire detection system comprises a pressure tube holding a gas at a first pressure, wherein the first pressure increases in response to an applied heat load to the pressure tube; and

using the increase in pressure to activate the second valve when the threshold pressure is reached.

31. A method of controlling a fire in an environment according to claim 30, wherein the second fire suppression agent is routed to pressure tube when the second fire suppression agent is released.