Generic Basic Water System Evaluation

1. Have you undertaken a vulnerability assessment?
2. Does your emergency response plan incorporate the findings of your vulnerability assessment?
3. Have you frequently tested your emergency response plan against “Die Hard” scenarios? Are you evaluating your security based upon performance during these hypothetical drills?
4. Do you know who is responsible for security at your facility?
5. Is the same person responsibe for distribution system security? If not, are they coordinating with each other?
6. Have you checked all employees, contractors, subcontractors, visitors, delivery personnel, landscapers, and persons digging up water distribution system components or accessing manholes and fire hydrants, or all other persons with access to the facilities on-site or off-site (treatment plants, reservoirs, reservoir dams, water storage facilities and towers, pumping stations, water intake facilities, chlorine booster stations, and meter and valve boxes) against the FBI's “Most Wanted” list?
7. Are all employees and visitors required to wear identification badges?
8. Are all visitors and deliveries accompanied while on the premises?
9. Have you completed background checks on all employees?
10. Are all doors and gates locked?
11. Are all keys to doors and gates accounted for?
12. Do you collect all keys and identification badges from dismissed personnel?
13. Is your supervisory control and data acquisition system secure from Internet hacking?
14. Does it take multiple employees, at different terminals, with different passwords, to control all security and supervisory control and data acquisition systems?
15. Are passwords changed regularly?
16. Are all facilities (treatment plants, reservoirs, reservoir dams, water storage facilities and towers, pumping stations, water intake facilities, chlorine booster stations, and meter and valve boxes) fenced?
17. Are these facilities well lighted and do they have a perimeter that is monitored by surveillance cameras (with a minimum of seven tapes to record a week's worth of activities) and motion detectors?
18. Do you have Z barriers at gates and berms surrounding reservoirs to stop high-speed vehicles?
19. Is someone watching the gates?

20. Are your fire hydrants tamperproof?

21. Are surveillance cameras located on-site at key points, such as at the chlorine storage facilities, chlorine injection areas, filter beds, hazardous chemical and fuel storage areas, and finished water storage areas?

22. Do employees make surveillance rounds at varying times on each shift to check for anything out of the ordinary?

23. Is redundancy built into all systems?

24. Is there a backup power source or generator available?

25. Are all portable pumps accounted for and stored far enough apart that they are not easy targets?

26. Are you coordinating with other water utilities to create cross-connections?

27. Are the locations of all valves geospatially referenced and is it readily apparent which ones will need to be shut down in emergencies?

28. Are the valves well maintained?

29. Are all reservoir and tank access panels and vents tamperproof?

30. Are you coordinating with the public to look for suspicious people or automobiles in sensitive areas?

31. Are employees taking the keys to their public vehicles with them?

32. Have you established a prioritized list of people and phone numbers to be contacted in an emergency situation?

33. Is this phone list located next to all phones?

34. Do you have a plan to quickly and effectively inform customers in the case of an emergency?

☐ **35.** Have you coordinated with the police department to make sure that they make mandatory stops at important facilities (treatment plants, reservoirs, reservoir dams, water storage facilities and towers, pumping stations, water intake facilities, chlorine booster stations, and meter and valve boxes) while on duty? Do they know where the chlorine is stored?

36. Are your finished water reservoirs covered?

37. Have you coordinated with the fire department to make sure that they are tracking all fire trucks in operation and in reserve at all times? Do they know where the chlorine is stored?

38. Are there one-way valves installed at strategic points in the distribution system to prevent backflow?

39. Are new house connections created with backflow prevention valves?

40. Are all chemical agents delivered to the plant tested to make sure that the contents are what are indicated on the label?

41. Has your filtration and disinfection been enhanced as much as possible to remove bacterial agents?

42. Have you looked into obtaining new real-time monitors for contaminating agents?

43. Are pressures throughout the distribution system being continuously monitored for abnormalities?

44. Is chlorine residual still present at distant points in the distribution system?

45. Have you increased the frequency and geographic distribution of chlorine residual monitoring within the distribution system?

46. Is the chlorine storage area well protected and inspected regularly?

47. Do you know the chlorine delivery schedule?

48. Are the chlorine containers secured in a clean, ventilated, fire-resistant, sheltered area away from other chemicals?
49. Do you have emergency breathing apparatus on-site?
50. Are you aware of the vulnerable areas in your distribution network?
51. Are you looking for significant changes in water quality at raw water intakes, distribution system entry points, finished water storage reservoirs, and key monitoring locations within the distribution system?
52. Are you monitoring for pH, turbidity, total and fecal coliform, total organic carbon, ultraviolet absorption, color, and odor at the raw water intakes?
53. Are you monitoring for free and total chlorine residual heterotrophic plate count, high volume total and fecal coliform analysis, pH, color, odor, system pressure, and taste (but not if there are other indicators of a possible problem) within the finished water and distribution systems?
54. Are you monitoring customer complaints about the color, taste, or odor of the water?
55. Are you observing aquatic wildlife in the source water body?
56. Have you established alarm levels for the various parameters (pH, turbidity, total organic carbon, ultraviolet absorption, color, odor, free and total chlorine residual, heterotrophic plate count, high volume total and fecal coliform, system pressure, and taste) that you are monitoring, and have you established a protocol that will be followed if the alarm level is triggered?
57. Do you have portable water treatment systems available for emergencies?
58. Are all abandoned wells and boreholes securely capped?
59. Have you secured large chemical pipelines that cross the source water body upstream of the intake?

(Please Note: The above chart is a generic recommended set of guidelines for individuals involved in water safety. Neither Mr. Lancaster-Brooks nor the ANSER Institute for Homeland Security will be held responsible for the misapplication of these guidelines.)