



# MOBILE FIRE RESCUE DEPARTMENT FIRE CODE ADMINISTRATION

## Fire Pump Acceptance Inspection

Date of Review \_\_\_/\_\_\_/\_\_\_\_\_

BLD20 \_\_\_-\_\_\_\_\_

Project Address: \_\_\_\_\_ Project Name: \_\_\_\_\_

Numbers following worksheet comments represent an NFPA code section unless otherwise specified.

Pass | Fail | NA    **General**

1. \_\_\_|\_\_\_|\_\_\_ Received fire pump system installation and test certification from installer.
2. \_\_\_|\_\_\_|\_\_\_ Received fire pump manufacturer pump curve certification test form.
3. \_\_\_|\_\_\_|\_\_\_ The pump suction pipe is flushed in accordance with NFPA Table
4. \_\_\_|\_\_\_|\_\_\_ After the suction pipe is flushed, a 2-hour hydrostatic test is performed on suction and discharge piping, 200 PSI or 50 PSI above maximum static pressure, whichever is greater,
5. \_\_\_|\_\_\_|\_\_\_ Pressure and flush test certification is provided before performing the field acceptance test,
6. \_\_\_|\_\_\_|\_\_\_ The approved plan is on site.
7. \_\_\_|\_\_\_|\_\_\_ Fire pump and controller, piping, gauges, jockey pump, and other component locations and design are the same as shown on the approved set of plans.

8. \_\_\_\_\_ Fire pump has nameplate.
9. \_\_\_\_\_ Wire installation to motor, control inner wiring, and jockey pump wiring is correct.
10. \_\_\_\_\_ A pressure gauge not less than 3 ½ in. diameter is near the pump discharge casting, and the pressure range is at least twice the rated working pressure of the pump but not less than 200 PSI,
11. \_\_\_\_\_ A compound pressure/vacuum gauge not less than 3 ½ in. diameter is connected to the suction pipe and the pressure range is twice the rated maximum suction pressure of the pump but not less than 100 PSI, . This does not apply to vertical shaft-turbine pumps taking a water supply from an open pit or well.
12. \_\_\_\_\_ When provided, all valves (suction valve, discharge valve, bypass valves, backflow prevention device or assembly isolation valves) shall be supervised open by an off-site monitoring company, a local signal, locked open, or by seals,
13. \_\_\_\_\_ Pump room has lighting, emergency lighting, heat, ventilation, and floor drain,
14. \_\_\_\_\_ A circulation relief valve is provided on the pump of at least, ¾ in. for less than 2,500 GPM and 1 in. for 3,000 to 5,000 GPM, and it discharges to a drain, 5.11.1. This does not apply to pumps providing cooling water from its discharge to the engine driver.
15. \_\_\_\_\_ Coupling guards are provided for driver to pump connecting flexible couplings or flexible connecting shafts,.
16. \_\_\_\_\_ The operating angle of a flexible connecting shaft does not exceed the manufacturer listing requirements,
17. \_\_\_\_\_ When installed, the eccentric taper reducer for suction has the taper on the bottom,
18. \_\_\_\_\_ Suction screening is provided for open source water supplies, verify that its size matches what is detailed on the approved set of plans,
19. \_\_\_\_\_ When a vortex plate is provided for taking suction from stored water supply, verify that it size and location matches what is detailed on the approved set of plans,
20. \_\_\_\_\_ A check valve is installed in pump discharge assembly, .

21. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ An indicating gate or butterfly valve is installed on fire protection system side of the check valve,
22. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ For a centrifugal pump and when provided a pressure relief valve is located between the pump and pump discharge check valve, verify that its location matches what is on the approved set of plans,
23. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ The test header and the number of hose valves are provided, in accordance with Table 5. and their location matches the approved set of plans,
24. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ The construction of the fire pump room (1- or 2-hour fire-resistive) matches the approved set of plans,
25. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ The pressure maintenance (jockey) pump has a check valve in its discharge piping and the isolation valves (indicating butterfly or gate) location match the approved set of plans,.

**Operational Tests Are Performed by the Contractor or Manufacturer**

26. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ Flow tests for positive displacement pumps are performed and recorded in accordance with Sections 14 and A.14, using a flow meter in a test loop that discharges the flow back to the supply.
27. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ For the load start test, the engine-driven fire pump, without interruption, will be brought to rated speed providing a discharge equal to peak load,

**Controller**

28. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ The fire pump controller is tested in accordance with the manufacturer's requirements and Section 14.
29. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ A minimum 6 manual starts and 6 automatic starts are performed, split the tests between each set of engine batteries and emergency power (only if emergency power is required for operating the pump) and simulate loss of the primary power source to verify the transfer to secondary power source,
30. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ Each start is no less than a 5 minute run time, and total pump operation shall not be less than 1 hour,
31. \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ Simulate primary power loss and allow automatic transfer to secondary power supply (only if emergency power is required for operating the pump) while pump is operating at peak load,

32. \_\_\_\_|\_\_\_\_|\_\_\_\_ Engines with electronic fuel management control systems will test both primary and alternate control systems,
33. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pump packing drips.
34. \_\_\_\_|\_\_\_\_|\_\_\_\_ No overheating.
35. \_\_\_\_|\_\_\_\_|\_\_\_\_ No excessive vibration.
36. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pump starts on water flow.
37. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pump starts on pressure drop.
38. \_\_\_\_|\_\_\_\_|\_\_\_\_ Casing relief valve operates.
39. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pressure relief valve operates.
40. \_\_\_\_|\_\_\_\_|\_\_\_\_ Jockey pump stop point pressure is recorded.
41. \_\_\_\_|\_\_\_\_|\_\_\_\_ Jockey pump start point pressure is recorded.
42. \_\_\_\_|\_\_\_\_|\_\_\_\_ Fire pump start point pressure is recorded (usually 5 PSI above jockey stop PSI).
43. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pump flow tests are conducted at churn (no flow), rated (100 percent of rated capacity), and peak (150 percent of rated capacity) loads, . Additional test points can be taken.

### **Electric Driven Pump**

44. \_\_\_\_|\_\_\_\_|\_\_\_\_ Supervised alarms operate when motor stops running, loss of phase, electric phase reversal and controller trouble.
45. \_\_\_\_|\_\_\_\_|\_\_\_\_ Simulated test for phase reversal is conducted.
46. \_\_\_\_|\_\_\_\_|\_\_\_\_ Switching from normal power to emergency and back to normal at peak load does not trip the breaker. (NOTE: This test is only required when the electric driver is connected to an emergency or standby source of power).
47. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pump started once from manual emergency handle operation.
48. \_\_\_\_|\_\_\_\_|\_\_\_\_ Pump start up on emergency power occurs automatically.

**Diesel Driven Pump**

49. \_\_\_\_|\_\_\_\_|\_\_\_\_ Audible alarms operate when over speed (120 percent) causes shutdown, low oil PSI, high temp, battery failure, charger failure, low air or hydraulic PSI, and failure to automatically start.

50. \_\_\_\_|\_\_\_\_|\_\_\_\_ Audible or visual alarms provided at constantly attended location when engine stops running, controller main switch is turned off, or there is trouble on the controller or engine.

51. \_\_\_\_|\_\_\_\_|\_\_\_\_ Instrumentation panel includes tachometer, oil PSI gauge, and temperature gauge.

52. \_\_\_\_|\_\_\_\_|\_\_\_\_ Battery chargers and amp meters function.

53. \_\_\_\_|\_\_\_\_|\_\_\_\_ The battery charger is listed for fire protection service; the battery rack is adequately secured and elevated at least 12 in. above the floor level.

54. \_\_\_\_|\_\_\_\_|\_\_\_\_ Timer set for 30 minute each week run time cycle.

55. \_\_\_\_|\_\_\_\_|\_\_\_\_ For automatic shutdown after an automatic start, the shutdown occurs in accordance with Section 12.

**Well Test and Inspection for Vertical Turbine Pumps**

56. \_\_\_\_|\_\_\_\_|\_\_\_\_ The well's production capability is verified by a continuous 8 hour test at 150 percent of the pump rated capacity. Test readings are taken every 15 minutes and the test data provides the static and pumping water levels at 100 and 150 percent of the pump's rated capacity,

**Address:** \_\_\_\_\_

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**Inspection Date:** \_\_\_\_\_

**Fire Code Administration Staff Captain**