

Water-Based Fire Protection System Inspection Guidelines for Tagging - 2011 NFPA 25

Inspection Deficiencies, Testing Deficiencies and Maintenance Deficiencies (Revised 12-5-2014)

Item	Deficiency	Tag	NFPA	Action	Reference
FIRE PUMP					
Pump house/room	Prior to freezing weather, heat not adequate, temp. less than 40 (less than 70 for diesel pumps without engine heaters)	Red		30 day notice	8.2.2 (1)
Pump house/room	Found during potential for freezing weather, heat not adequate, temp. less than 40 (less than 70 for diesel pumps without engine heaters)	Red	Critical	24 hour notice	8.2.2 (1)
Pump house/room	Ventilating louvers not free to operate	Red	Critical	30 day notice	8.2.2 (1)
Pump system	Suction reservoir not full, wet pit suction screens missing	Red	Critical	24 hour notice	8.2.2 (2)
Pump system	Suction, discharge and bypass valves not fully open, pipe leaking, suction line & system line pressure not within acceptable range, wet pit suction screens obstructed, water flow test valves in open position	Red	Impairment	24 hour notice	8.2.2 (2)
Pump system	Pump bearing lubrication not changed, shaft end play not within specified tolerances, wet pit suction screens not cleaned	Red		30 day notice	Table 8.1.2
Mechanical transmission	Coupling not lubricated, right angle gear drive not lubricated	Red		30 day notice	Table 8.1.2
Electrical system	No electrical power - Controller pilot light not illuminated, transfer switch pilot light not illuminated, isolating switch not closed, reverse phase alarm pilot light on or normal phase light is off, oil level in vertical motor sight glass not within acceptable range, no power to jockey pump	Red	Impairment	24 hour notice	8.2.2 Table 8.1.2
Electrical system	Circuit breakers and fuses over 2 years old,	Red	Critical	30 day notice	Table 8.5.3
Electrical system	Electrical connections loose, pressure switch settings not calibrated, mechanical parts not lubricated, motor bearings not greased, corrosion on printed circuit boards, cracked cable/wire insulation, leaks in plumbing repairs, water on electrical parts	Red		30 day notice	Table 8.5.3
Electrical system	Electrical power is provided - controller pilot light not illuminated, transfer switch pilot light not illuminated, reverse phase alarm pilot light on or normal phase light is not illuminated	Red	Noncritical	30 day notice	8.2.2
Diesel engine system	Fuel tank less than two-thirds full, controller selector switch not in auto position, battery voltage readings not within acceptable range, battery charging current not within acceptable range, battery pilot lights off or battery failure pilot lights on, alarm pilot lights are on, engine running time meter not reading, oil level in right angle gear drive not within acceptable range, crankcase oil level not within acceptable range, cooling water level not within acceptable range, electrolyte level in batteries not within acceptable range, battery terminals corroded, water-jacket heater not operating	Red	Critical	30 day notice (24 hour notice if pump system would not be able to function)	8.2.2 (4)
Diesel engine system - fuel	Fuel tank not voided of water and foreign material, strainer, filter or dirt leg not cleaned	Red		30 day notice	Table 8.5.3
Diesel engine system - lubrication system	Lube oil heater not operational, crankcase oil level not within acceptable range, crank case breather needs cleaned or replaced	Red		30 day notice	Table 8.5.3
Diesel engine system - cooling system	Cooling water not within acceptable range, not adequate cooling water to heat exchanger, flexible hoses and connections damaged, cooling water jacket heater not operational, water strainer needs cleaned, antifreeze needs changed, heat exchanger not rodded out, ductwork and louvers need cleaned	Red		30 day notice	Table 8.5.3
Diesel engine system - exhaust system	Leaking, condensate trap needs drained,	Red		30 day notice	Table 8.5.3
Diesel engine system - battery system	Electrolyte level not within acceptable range, battery case corroded, battery case needs cleaned, charger and charge rate not equalized, terminals need cleaned or tightened, cranking voltage exceeds 9 volts on 12 volt system or 18 volts on 24 volt system	Red		30 day notice	Table 8.5.3
Diesel engine system - electrical system	Wiring subject to movement subject to chafing, boxes, panels and cabinets need cleaned, corrosion on printed circuit boards, cracked cable/wire insulation, leaks in plumbing repairs, water on electrical parts	Red		30 day notice	Table 8.5.3
Steam system	Steam pressure gauge reading not within acceptable range	Red	Critical	30 day notice	8.2.2 (5)
Fire pump weekly test	Pump did not start automatically, diesel pump did not run 30 minutes	Red	Impairment	24 hour notice	8.3.2.4 8.3.1
pump system	System suction and discharge gauge reading, or pump starting pressure not acceptable	Red	Impairment	24 hour notice	8.3.2.8 (1)
pump system	Pump packing gland discharge not acceptable, unusual noise or vibration, packing boxes, bearings or pump casing overheating	Red	Critical	30 day notice (24 hour notice if pump in danger of failure)	8.3.2.8 (1)
electrical system	Time for motor to accelerate to full speed, time controller is on first step or time pump runs after starting not acceptable	Red	Impairment	24 hour notice	8.3.2.8 (2)
diesel engine system	Time for engine to crank and time for engine to reach running speed not acceptable, low rpm, low oil pressure, high temperature, high cooling water pressure	Red	Critical	24 hour notice	8.3.2.8 (3)
steam system	Gauge reading and time for turbine to reach running speed not acceptable	Red	Impairment	24 hour notice	8.3.2.8 (4)
Fire pump monthly test	Pump did not start automatically, electric pump did not run 10 minutes	Red	Impairment	24 hour notice	8.3.2.3 8.3.1
Fire pump annual test	Churn condition not maintained for 30 minutes, circulation relief valve and/or pressure relief valve did not work properly	Red	Critical	24 hour notice	8.3.3.2
	Pressure relief valve did not work properly at each flow condition	Red	Critical	24 hour notice	8.3.3.3
	Flow test results are not within 5% of acceptance test or nameplate	Red	Critical	24 hour notice	8.3.5.4
	Voltage readings at the motor are not within 5% below or 10% above the rated (nameplate)	Red	Critical	30 day notice	8.3.5.6
	Alarms did not properly operate	Red	Noncritical	30 day notice	8.3.3.5

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Item	Deficiency	Tag	NFPA	Action	Reference
Fire pump annual test (with transfer switch)	Overcurrent protective devices opened when simulating a power failure condition at peak load, power not transferred to alternate source, pump did not continue to perform at peak load, pump did not reconnect to normal power after removing power failure condition	Red	Impairment	24 hour notice	8.3.3.4
	Parallel or angular alignment was not correct	Red	Critical	24 hour notice	8.3.4.4
Electronic fuel management control system	Backup ECM and/or primary and redundant sensors failed test	Red		30 day notice	8.3.3.8
Pump house/room	Heating, lighting, ventilating systems did not pass test	Red	Critical	30 day notice	8.3.4.3
WATER STORAGE TANK					NFPA #25
Water level	Water level and/or condition not correct	Red	Critical	24 hour notice	9.2.1
Air pressure	Air pressure in pressure tanks not correct	Red	Impairment	24 hour notice	9.2.2
Heating system	Prior to freezing weather, heating system not operational, water temperature below 40	Red		30 day notice	9.2.3
Heating system	Found during potential for freezing weather, heating system not operational, water temperature below 40	Red	Critical	24 hour notice	9.2.3
Exterior	Tank exterior, supporting structure, vents, foundation, catwalks or ladders where provided damaged or appear weakening	Red	Noncritical	30 day notice	9.2.5.1
Exterior	Area around tank has fire exposure hazard in form of combustible storage, trash, debris, brush or material	Red	Noncritical	30 day notice	9.2.5.2
Exterior	Accumulation of material on or near parts that could result in accelerated corrosion or rot	Red	Noncritical	30 day notice	9.2.5.2
Exterior	Ice buildup on tank and support	Red	Critical	30 day notice	9.2.5.2
Exterior	Erosion exists on exterior sides or top of embankments supporting coated fabric tanks	Red	Noncritical	30 day notice	9.2.5.2
Exterior	Expansion joints leaking or cracking	Red	Critical	30 day notice	9.2.5.3
Exterior	Hoops and grills of wooden tanks in poor condition	Red	Noncritical	30 day notice	9.2.5.4
Exterior	Exterior painted, coated, or insulated surfaces of tanks or supporting structure degraded	Red	Noncritical	30 day notice	9.2.5.5
Exterior	Exposed surfaces of ESCF tanks not cleaned or painted in the last two years or in accordance with mfg. instructions	Red		30 day notice	9.4.6
Automatic tank fill valve	Exterior damaged, strainers, filters and orifices not cleaned	Red		30 day notice	Table 9.5.1.1
Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years)	Pitting, corrosion, spalling, rot other forms of deterioration, waste materials exist, aquatic growth, local or general failure of interior coating	Red	Noncritical	30 day notice	9.2.6.3
	Voided beneath floor with sand in the middle of tanks on ring type foundations	Red	Noncritical	30 day notice	9.2.6.5
	Heating system components or piping in poor condition	Red	Noncritical	30 day notice	9.2.6.6
	Blockage of anti-vortex plate	Red	Impairment	24 hour notice	9.2.6.7
	Deterioration of anti-vortex plate	Red	Critical	30 day notice	9.2.6.7
Interior testing	Tank coating did not pass adhesion, coating thickness or wet sponge test	Red	Noncritical	30 day notice	9.2.7
Interior testing	Tank walls and bottoms did not pass ultrasonic test	Red	Noncritical	30 day notice	9.2.7
Interior testing	Tank bottom seams did not pass vacuum-box test	Red	Noncritical	30 day notice	9.2.7
Testing	Level indicator not tested after 5 years, lacked freedom of movement or not accurate	Red	Noncritical	30 day notice	9.3.1
Testing	Low water temperature alarm did not pass test	Red	Noncritical	30 day notice	9.3.3
Testing	High water temperature limit switch did not pass test	Red	Noncritical	30 day notice	9.3.4
Testing	High and low water level alarms did not pass test	Red	Critical	30 day notice	9.3.5
Gauges	Not replaced or calibrated in 5 years, not accurate within 3% of scale	Red	Noncritical	30 day notice	9.3.6
Automatic tank fill valve	Valve did not operate properly during test	Red		30 day notice	9.5.3