**Fire Pump Inspection & Testing Form**

This template form may be edited based on the fire pump in your building. For example, you could remove the requirements for diesel engines if your fire pump is an electric motor driven fire pump. \*Tasks that refer to acceptable ranges should be based on your individual fire pump manufacturer’s recommendations.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Frequency** | **Task** | **Date** | **Results** | **Notes** | **Initials** |
| **Weekly Visual Inspections** | **Pump House Condition** | | | | |
| Heat is adequate (not less than 40 degrees Fahrenheit or 5 degrees Celsius) for pump room with diesel pumps without engine heaters. |  |  |  |  |
| Ventilating louvers are free to operate. |  |  |  |  |
| **Pump System** | | | | |
| Pump suction, discharge, and bypass valves are fully open. |  |  |  |  |
| Piping is free of leaks. |  |  |  |  |
| Suction line pressure gauge reading is within acceptable range. |  |  |  |  |
| System line pressure gauge reading is within acceptable range. |  |  |  |  |
| Suction reservoir is full. |  |  |  |  |
| Wet pit suction screens are unobstructed and in place. |  |  |  |  |
| Waterflow test valves are in a closed position. |  |  |  |  |
| **Electrical System** | | | | |
| Controller pilot light (power on) is illuminated. |  |  |  |  |
| Transfer switch normal pillow light is illuminated. |  |  |  |  |
| Isolating switch is closed – standby (emergency source). |  |  |  |  |
| Reverse phase alarm pilot light is off, or normal phase rotation pilot light is on. |  |  |  |  |
| Oil level in vertical motor sight glass is within acceptable range. |  |  |  |  |
| Power to pressure maintenance (jockey) pump is provided. |  |  |  |  |
| **Weekly Visual Inspections** | **Diesel Engine System** | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Fuel tank is at least two-thirds full. |  |  |  |  |
| Controller selector switch is in auto position. |  |  |  |  |
| Batteries (2) voltage readings are within acceptable range. |  |  |  |  |
| Batteries (2) charging current readings are within acceptable range. |  |  |  |  |
| Batteries (2) pilot lights are on or battery failure (2) pilot lights are off. |  |  |  |  |
| All alarm pilot lights are off. |  |  |  |  |
| Engine running time meter is reading. |  |  |  |  |
| Oil level in right angle gear drive is within acceptable range. |  |  |  |  |
| Crankcase oil level is within acceptable range. |  |  |  |  |
| Cooling water level is within acceptable range. |  |  |  |  |
| Electrolyte level in batteries is within acceptable range. |  |  |  |  |
| Battery terminals are free from corrosion. |  |  |  |  |
| Water-jacket heater is operating. |  |  |  |  |
| **Steam System Conditions** | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Steam system pressure gauge reading is within acceptable range. |  |  |  |  |
| **Weekly Testing** | **Pump System – Diesel Engine** | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Record the system suction and discharge pressure gauge readings. |  |  |  |  |
| Check the pump packing glands for slight discharge. |  |  |  |  |
| Adjust gland nuts if loose |  |  |  |  |
| Check for unusual noise or vibration. |  |  |  |  |
| Check packing boxes, bearings, or pump casing for overheating. |  |  |  |  |
| Record the pump starting pressure. |  |  |  |  |
| **Weekly Testing** | Record time for engine to crank. |  |  |  |  |
| Record the time for engine to reach running speed. |  |  |  |  |
| Observe the engine oil pressure gauge, speed indicator, water, and oil temperature indicators periodically while engine is running. |  |  |  |  |
| Check the heat exchanger for cooling airflow. |  |  |  |  |
| **Monthly Testing** | **Pump System – Electric Motor** | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Record the system suction and discharge pressure gauge readings. |  |  |  |  |
| Check the pump packing glands for slight discharge. |  |  |  |  |
| Adjust gland nuts if necessary. |  |  |  |  |
| Check for unusual noise or vibration. |  |  |  |  |
| Check packing boxes, bearings, or pump casing for overheating. |  |  |  |  |
| Record the pump starting pressure. |  |  |  |  |
| Record the time for motor to accelerate to full speed. |  |  |  |  |
| Record the time controller is on first step (for reduced voltage or reduced current starting). |  |  |  |  |
| Record the time pump runs after starting (for automatic stop controllers). |  |  |  |  |
| **Steam System** | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Record the steam pressure gauge reading. |  |  |  |  |
| Record the time for turbine to reach running speed. |  |  |  |  |
| **Annual Testing** | **Flow Condition**  An annual test of each pump assembly shall be conducted by qualified personnel under minimum, rated, and peak flows of the fire pump by controlling the quantity of water discharged through approved test devices. If available suction supplies do not allow flowing of 150% of the rated pump capacity, the fire pump shall be permitted to operate at maximum allowable discharge. | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Use of pump discharge via hose streams – pump suction, discharge pressures, and the flow measurements of each hose stream shall determine the total pump output. Care shall be taken to prevent water damage by verifying there is adequate drainage for the high-pressure water discharge from hoses. |  |  |  |  |
| **Annual Testing** | Use of pump discharge via bypass flowmeter to drain or suction reservoir – pump suction, discharge pressures, and the flowmeter measurements shall determine the total pump output. |  |  |  |  |
| Use of pump discharge via bypass flowmeter to pump suction (closed-loop metering) – pump suction, discharge pressures, and the flowmeter measurements shall determine the total pump output. |  |  |  |  |
| At no-flow condition (churn) – check the circulation relief valve for operation to discharge water. |  |  |  |  |
| At no-flow condition (churn) – check the pressure relief valve (if installed) for proper operation. |  |  |  |  |
| At each flow condition:   * Record the electric motor voltage and current (all lines). * Record the pump speed in RPM. * Record the simultaneous (approximately) readings of pump suction and discharge pressures from the pump discharge flow. |  |  |  |  |
| **Annual Testing** | For electric motor-driven pumps, the pump shall not be shut down until the pump has run for 10 minutes. |  |  |  |  |
| For diesel motor-driven pumps, the pump shall not be shut down until the pump has run for 30 minutes. |  |  |  |  |
| For installations having a pressure relief valve, the operations of the relief valve shall be closely observed during each flow condition to determine whether the pump discharge pressure exceeds the normal operating pressure of the system components.   * The pressure relief valve shall also be observed during each flow condition to determine whether the pressure relief valve closes at the proper pressure. * The pressure relief valve shall be closed during flow conditions if necessary to achieve minimum rated characteristics for the pump and reset to normal position at the conclusion of the pump test. |  |  |  |  |
| **Automatic Transfer Switch**  For installations having an automatic transfer switch, the following test shall be performed to ensure that the over-current protective devices (i.e. fuses or circuit breakers) do not open. | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Simulate a power failure condition while the pump is operating at peak load. |  |  |  |  |
| Verify that the transfer switch transfers power to the alternate power source. |  |  |  |  |
| Verify that the pump continues to perform at peak load. |  |  |  |  |
| Remove the power failure condition and verify that, after a time delay, the pump is reconnected to the normal power source. |  |  |  |  |
| **Annual Testing** | **Fire Pump Alarm Signals** | | | | |
| **Task** | **Date** | **Results** | **Notes** | **Initials** |
| Alarm conditions shall be simulated by activating alarm circuits at alarm sensor locations and all such local or remote alarm indicating devices (visual and audible) shall be observed for operation. |  |  |  |  |