Pumps for Fire Protection
Proper fire pump performance is necessary to supply the sprinkler piping system with enough water flow and pressure. For this reason, it is essential the system receive frequent operating tests and preventive maintenance to provide reliable operation in time of a fire. The installation, field acceptance test, annual performance test and basic fire pump operation should all be in accordance with the National Fire Protection Association.

Routine Start Tests
On a monthly basis, all electric-driven pumps should run for at least 10 minutes. On a weekly basis, all diesel-driven pumps should run for at least 30 minutes. Personnel trained in the normal operations of pumps and drivers should be in attendance during these tests to observe operation of the pump, driver and controller and take action to correct deficiencies. This weekly or monthly operation is called a start test because the pump is started to exercise the components and help increase reliability.

Annual Performance Tests
All fire pumps should be subject to an annual performance test conducted by qualified personnel. Pump suction pressure, discharge pressure, revolutions per minute and driver electrical voltage/current should be recorded for no-flow condition, rated flow and 150 percent of rated flow. The performance test discharge may be measured using “closed-loop” metering, but the pump flow should be measured from hose stream discharge, at least every three years.

Additional Pump Considerations
The circulation relief valve should be checked during start tests and annual performance tests.

Fire pump start pressure and jockey pump start and stop pressures should be set as follows:
- Jockey pump stop pressure is the minimum city static pressure, plus the churn pressure of the fire pump.
- Jockey pump start pressure is the jockey pump stop pressure, minus 10 psi.
- Fire pump start pressure is the jockey pump start pressure, minus 5 psi.
- Fire pumps should be configured for manual stop.

State and local statutes, codes and regulations may require licensing of persons who conduct inspections, maintenance, or tests on fire sprinkler systems. Contact your local fire code official or legal representative regarding possible restrictions before performing any tasks related to the fire sprinkler system.

For Additional Information
National Fire Protection Association: www.nfpa.org
- NFPA 20® – Installation of Stationary Pumps for Fire Protection
- NFPA 25® – Inspection, Testing and Maintenance of Water-Based Fire Protection Systems