



# NMSU FIRE DEPARTMENT FIRE PUMP ACCEPTANCE TEST



Date Documents Submitted: \_\_\_\_\_ Log No.: \_\_\_\_\_ File No.: \_\_\_\_\_

Plan Examiner: \_\_\_\_\_ Date of Approval: \_\_\_\_\_

Permit No.: \_\_\_\_\_

### Property Information

Building Name: \_\_\_\_\_

Building Address: \_\_\_\_\_

Building Manager's Name: \_\_\_\_\_

Building Manager's Phone: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

### System Designer/Contractor

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

Contact Person (Designer): \_\_\_\_\_

Designer Qualification: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

### General

Type of building: \_\_\_\_\_

\_\_\_\_\_ New \_\_\_\_\_ Existing \_\_\_\_\_ Renovation

Pump make: \_\_\_\_\_

Drive: \_\_\_\_\_ Electric \_\_\_\_\_ Diesel

Model No.: \_\_\_\_\_

Pump rating: \_\_\_\_\_ gpm @ \_\_\_\_\_ psi Rated speed: \_\_\_\_\_ rpm

What is fire pump feeding? \_\_\_\_\_

\_\_\_\_\_ Automatic sprinklers system \_\_\_\_\_ Fire hydrants \_\_\_\_\_ Standpipe system

Other: \_\_\_\_\_

### Present at test:

	Authorized Representative	Manufacturer
Pump		
Engine (if diesel)		
Controller		
Transfer switch		



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Date the suction piping was flushed prior to hydrostatic test: \_\_\_\_\_

Flow rate: \_\_\_\_\_ gpm

Pressure at which piping hydrostatic tested: \_\_\_\_\_ psi

### Fire Pump Acceptance Test

Yes	No	Installation
		Certificate for flushing and hydrostatic testing furnished
		Centrifugal fire pump listed for fire protection service
		Horizontal pump/driver on common base plate and connected by a listed flexible coupling
		Guards provided for flexible couplings and flexible connecting shafts
		Base plate securely attached to a solid reinforced concrete foundation
		Indoor fire pump units separated from all other areas of the building by 2-hour fire-rated construction; 1-hour fire-rated construction in buildings protected with an automatic sprinkler system
		If fire pump unit is located outdoors or if fire pump installation is in a building other than that building being protected by the fire pump, it is located at least 50 feet away from the protected building
		A suitable means for maintaining 40°F provided; 70°F if drive is diesel engine. <i>(Portable units, plug-in units and hardwired electric units without secured circuit breakers are not reliable)</i>
		Pump room/house provided with normal lighting and emergency lighting
		Pump room/house adequately ventilated and floor is pitched toward drain
		Suction piping is the proper size. (5 inch for 500 gpm) (6 inch for 750 gpm) (8 inch for 1000 or 1500 gpm) (10 inch for 2000 or 2500 gpm)
		OS&Y valve provided in the suction piping (butterfly valves not permitted in suction piping)
		No backflow prevention or other devices are in the suction piping
		No elbows perpendicular to impeller of horizontal pump are within 10 pipe diameters of the intake flange
		Reducer at pump intake is eccentric and installed with flat side up
		A bypass, at least the required size of the discharge pipe, is provided if the suction supply is of sufficient pressure to be of material value without the pump
		Listed indicating type valves are on each side of the check valve in the bypass and are normally open
		A 3½ inch compound gauge, having a rating of at least 100 psi and a range of at least twice the maximum suction pressure, is provided on the suction piping
		A 3½ inch pressure gauge, with a rating of at least 200 psi and a range of at least twice the working pressure of the pump, is provided near the discharge casting
		A ¾ inch circulating relief valve (1 inch if pump is rated over 2500 gpm) is provided and piped to a drain. <i>(Not needed for engine driven pumps cooled by water from pump discharge)</i>
		A listed, float-operated, automatic, air release valve (no less than ½ inch in size) is provided



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Yes	No	Installation (continued)
		Discharge piping is of the proper size. (5 inch for 500 gpm) (6 inch for 750 or 1000gpm) (8 inch for 1250 or 1500 gpm) (10 inch for 2000 or 2500 gpm)
		A listed indicating valve is installed on the fire protection system side of the pump
		A check valve is provided between the discharge valve and the pump
		The pump driver, regard less of diesel or electric, is listed for fire pump service
		A properly sized relief valve has been provided if pump is diesel driven or if churn pressure can exceed rating of system components. (5 inch for 500 gpm) (6 inch for 750 gpm) (8 inch for 1000 and 1500 gpm) (10 inch for 2000 gpm)
		No valves are installed in the relief valve piping
		For diesel engine drivers, there are two storage battery units provided and rack-supported above the floor, secured against displacement, and located where they are readily accessible for servicing and not subject to excessive temperature, vibration, mechanical injury, or flooding
		For diesel engine driver, storage battery units are provided with battery chargers specifically listed for fire pump service, arranged to automatically charge at the maximum rate whenever required by the state of charge of the battery, and arranged to indicate loss of current
		For diesel engine driver cooled by a heat exchanger, the cooling water supply is from the discharge of the pump and taken prior to the discharge check valve
		The heat exchanger piping for a diesel engine driver is equipped with an indicating manual shutoff valve, an approved flushing-type strainer, a pressure regulator, an automatic valve listed for fire protection service, and a second indicating manual shutoff valve
		Heat exchanger piping of a diesel engine driver is equipped with a pressure gauge installed in the cooling water supply system on the engine side of the last manual valve
		Heat exchanger piping of a diesel engine driver is provided with a bypass line
		The outlet provided for the wastewater line from the heat exchanger has a discharge line not less than one size larger than the inlet line, discharges into a visible open waste cone, and has no valves
		Diesel fuel supply tank has a capacity of 1gallon per engine horsepower plus 10%
		Diesel fuel supply tank is located above ground
		Exposed fuel lines are provided with guard or protecting pipe
		The test header or flow-meter is tapped between the discharge check valve and the discharge valve provided for annual fire pump flow testing (if a flow-meter is used, verify that it is arranged so as to test both pump performance and suction supply)
		Proper number of listed 2½inch hose valves is provided on test header (2 for 500 gpm) (3 for 750 gpm) (4 for 1000 gpm) (6 for up to 2500 gpm)
		Test header piping is of the proper size (4 inch for 500 gpm) (6 inch for 750 and 1000 gpm) (8 inch for up to 2500 gpm) (10 inch for 2500 gpm)
		If test header piping is over 15 feet in length, the next larger piping size is used
		A drain valve is located at a low point of the test header pipe between the normally closed test header valve and the test header



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Yes	No	Installation (continued)
		If a flow-meter is provided, meter system piping is of the proper size. (5 inch for 500 and 750 gpm) (6 inch for 1000 and 1250 gpm) (8 inch for up to 2500 gpm)
		If the meter system piping exceeds 100 feet equivalent of pipe, the next larger size pipe is used
		Jockey pump is provided with sensing line totally independent from that of main pump sensing line
		The sensing lines both tap the discharge pipes between the check valve and the discharge control valve of the pumps they respectively serve
		Both sensing lines are ½ inch and brass, copper, or series 300 stainless steel piping, tube, and fittings
		Two check valves are installed in each pressure sensing line at least 5 feet apart
		No shut off valves in the sensing lines

For diesel driven pumps, verify that the following alarms are provided on the controller and operative:

- Low oil pressure       High engine temperature       Failure to start  
 Shutdown on over-speed       Battery failure/battery missing  
 Battery charger failure       Low (less than X\c} fuel level

For diesel driven pumps, verify that the following alarms are provided and transmit to a constantly attended location:

- Pump running       Controller main switch in a position other than "AUTOMATIC"  
 Trouble on controller or engine

For electric driven pumps, verify that all the following alarms are operative:

- Loss of power       Phase reversal       Pump running

Other: \_\_\_\_\_

Yes	No	Verification
		Verify that the cut-in and cut-out of the jockey pump is properly set.
		Verify that the cut-in of the main pump is properly set.
		Verify that all valves are supervised open. (Test header and flow-meter valves should be supervised shut)
		Verify that the pump performance met or exceeds the demands of the systems supplied by pump. (See results below.)



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## Test Results

Test	Discharge Pressure	Intake pressure	Net pressure	Speed	Nozzle Size and Pitot Pressures	gpm
1						
2						
3						
4						
5						

Inspector: \_\_\_\_\_

Date: \_\_\_\_\_

Approval Inspector: \_\_\_\_\_

Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Yes \_\_\_\_\_ No

If no, reason(s): \_\_\_\_\_

\_\_\_\_\_

Notes: \_\_\_\_\_

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*This form is to be completed by the system inspection and testing contractor at the time of a system test.*

*Attach additional sheets, data, or calculations as necessary to provide a complete record. Number of Supplemental Form(s) Attached: \_\_\_\_\_*

Inspection/Test Start Date/Time: \_\_\_\_\_ Inspection/Test Completion Date/Time: \_\_\_\_\_