Second Revision No. 15-NFPA 20-2023 [Global Comment]

[Change instances of 'pressure maintenance pump' or 'make-up pump' to 'jockey pump' throughout the standard. See attached PDF]

Supplemental Information

File Name	Description	Approved
20_A2024_Global_SR-15.docx	20_A2024_Global_SR-15.docx	
20_Global_SR-15_For_Ballot.pdf		

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 10:11:46 EDT 2023

Committee Statement

Committee Statement: This revision changes the terms ‘pressure maintenance pump’ and ‘make up pump’ to ‘jockey pump’. The standard currently uses multiple terms for this type of pump throughout, and standardizing on one term will bring consistency.

Response Message: SR-15-NFPA 20-2023

Public Comment No. 28-NFPA 20-2023 [Global Input]

4.2.3.2
Plans shall indicate, at a minimum, the items from the following list that pertain to the design of the system:

(1) Name(s) of owner(s)

(2) Location, including street address

(3) Point of compass

(4) Name and address of installing contractor

(5) Pump make and model number

(6) Pump rating including flow, pressure, and speed

(7) Suction main size, length, location, type and class/schedule of material, and point of connection to water supply, as well as depth to top of pipe below grade

(8) Water storage tank, if applicable

(9) Size and type of valves, regulators, meters, and valve pits, if applicable

(10) Water supply information, including the following flow test information, if applicable:

(a) Location and elevation of static and residual test gauge with relation to the elevation reference point

(b) Flow location

(c) Static pressure, psi (bar)

(d) Residual pressure, psi (bar)

(e) Flow rate, gpm (L/min)

(f) Date

(g) Time

(h) Name of person who conducted the test or supplied the information

(i) Other sources of water supply, with pressure or elevation

(11) Pump driver details, including manufacturer and horsepower
(12) Voltage for electric-motor-driven pumps
(13) Fuel system details for diesel-driven pumps
(14) Controller manufacturer, type, and rating
(15) Suction and discharge pipe, fitting, and valve types
(16) Test connection piping and valves
(17) Flowmeter details, if applicable
(18) ~~Pressure maintenance~~Jockey pump and controller arrangement, including sensing line details, if applicable

4.27* ~~Pressure Maintenance (~~Jockey~~ or Make-Up)~~ Pumps.

A.4.27
~~Pressure maintenance (jockey~~Jockey~~or make-up)~~ pumps should be used where it is desirable to maintain a uniform or relatively high pressure on the fire protection system.

A domestic water pump in a dual-purpose water supply system can function as a means of maintaining pressure.

4.27.1

For pressure-actuated fire pumps, a means to maintain the pressure in the fire protection system shall be provided in accordance with one of the following:

(1) A ~~pressure maintenance (~~jockey~~)~~ pump

(2) A water mist positive displacement pumping unit in accordance with 8.5.7.2

(3) Another approved means that is not the main fire pump

4.27.3

~~Pressure maintenance~~Jockey pumps shall have rated capacities not less than any normal leakage rate.

4.27.4

~~Pressure maintenance~~Jockey pumps shall have discharge pressure sufficient to maintain the desired fire protection system pressure.

4.27.5* Excess Pressure.

A.4.27.5
A centrifugal-type ~~pressure maintenance~~jockey pump is preferable.

The following notes apply to a centrifugal-type ~~pressure maintenance~~jockey pump:

(1) A jockey pump is usually required with automatically controlled pumps.

(2) Jockey pump suction can come from the tank filling supply line. This situation would allow high pressure to be maintained on the fire protection system even when the supply tank is empty for repairs.

(3) Pressure sensing lines also need to be installed in accordance with 10.5.2.1. *[See and Figure A.4.32(a) and Figure A.4.32(b).]*

4.27.5.1

Where a centrifugal-type ~~pressure maintenance~~jockey pump has a total discharge pressure with the pump operating at shutoff exceeding the working pressure rating of the fire protection equipment, or where a turbine vane (peripheral) type of pump is used, a relief valve sized to prevent overpressuring of the system shall be installed on the pump discharge to prevent damage to the fire protection system.

4.27.6 Piping and Components for ~~Pressure Maintenance~~Jockey Pumps.

4.27.6.1

Steel pipe shall be used for suction and discharge piping on ~~pressure maintenance~~jockey pumps, which includes packaged prefabricated systems.

4.27.6.2

Valves and components for the ~~pressure maintenance~~jockey pump shall not be required to be listed.

4.27.6.3

An isolation valve shall be installed on the suction side of the ~~pressure maintenance~~jockey pump to isolate the pump for repair.

4.27.6.4

A check valve and isolation valve shall be installed in the discharge pipe.

4.27.6.5*

Indicating valves shall be installed in such places as needed to make the pump, check valve, and miscellaneous fittings accessible for repair.

4.27.6.6

The pressure sensing line for the ~~pressure maintenance~~jockey pump shall be in accordance with Section 4.32.

4.27.6.7

The isolation valves serving the ~~pressure maintenance~~jockey pump shall not be required to be supervised.

4.27.7

Except as permitted in Chapter 8, the primary or standby fire pump shall not be used as a ~~pressure maintenance~~jockey pump.

4.27.8

The controller for a ~~pressure maintenance~~jockey pump shall be listed but shall not be required to be listed for fire pump service.

4.27.9

The ~~pressure maintenance~~jockey pump shall not be required to have alternate or standby power.

4.32.1.1.1

The ~~pressure maintenance~~jockey pump controller for each discharge port shall have its own individual pressure sensing line.

8.5.7.1

Except as permitted in 8.5.7.2, the primary or standby fire pump shall not be used as a ~~pressure maintenance~~jockey pump.

8.5.7.2

Water mist positive displacement pumping units shall be permitted to maintain system pressure under one of the following conditions:

(1) Pumping unit is designed and listed to alternate pressure maintenance duty between two or more pumps with variable speed pressure-limiting control, and provide a supervisory signal wherever pressure maintenance is required more than two times in one hour.

(2) Pumping unit is designed and listed to have a redundant pump when one primary pump is used for pressure maintenance duty with variable speed pressure-limiting control, and provide a supervisory signal wherever pressure maintenance is required more than two times in one hour.

(3) Pumping unit is designed to use a dedicated ~~pressure maintenance~~ jockey pump that is not required for primary fire pump service and provides a supervisory signal whenever pressure maintenance is required more than two times in one hour.

9.7 Junction Boxes.
Where fire pump wiring to or from a fire pump controller is routed through a junction box, the following requirements shall be met:

(1) The junction box shall be securely mounted.

(2) *Mounting and installation of a junction box shall not violate the enclosure type rating of the fire pump controller(s).

(3) Mounting and installation of a junction box shall not violate the integrity of the fire pump controller(s).

(4) *Mounting and installation of a junction box shall not affect the short circuit rating of the controller(s).

(5) As a minimum, a Type 2, dripproof enclosure (junction box) shall be used.

(6) The enclosure shall be listed to match the fire pump controller enclosure type rating.

(7) Terminals, junction blocks, and splices, where used, shall be listed.

(8) Neither a fire pump controller nor a fire pump power transfer switch, where provided, shall be used as a junction box to supply other equipment, including a ~~pressure maintenance (~~jockey~~)~~ pump(s). *(See 10.3.4.5.1 and 10.3.4.6.)*

(9) Neither a fire pump controller nor a fire pump power transfer switch shall be used as a junction box for wire splices.

10.3.4.6
Electrical supply conductors for ~~pressure maintenance (~~jockey ~~or make-up)~~ pump(s) shall not be connected to the fire pump controller.

12.3.5.3.3
Electrical supply conductors for ~~pressure maintenance (~~jockey ~~or make-up)~~ pump(s) shall not be connected to the diesel engine fire pump controller.

Second Revision No. 38-NFPA 20-2023 [Global Comment]

[See attached Word document]

Revise all sections referencing the rated pressure of controllers to state 'the controller's maximum rated pressure'.

Supplemental Information

File Name	Description	Approved
20_A2024_Global_SR-38.docx	20_A2024_Global_SR-38.docx	
20_Global_SR-38_For_Ballot.docx		

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 15:59:18 EDT 2023

Committee Statement

Committee Statement: The phrasing for the controller's rated pressure was modified to distinguish the difference between the definition of "rated pressure" for fire pumps and the intended application of the maximum rated pressure for controllers and other devices.

Response Message: SR-38-NFPA 20-2023

10.1.2.5.1

All controllers shall be marked "Electric Fire Pump Controller" and show plainly the name of the manufacturer, identifying designation, controller's maximum rated pressure, enclosure type designation, and complete electrical rating.

10.5.2.1.3.1*
Where the electronic pressure sensor reading exceeds the higher of 10 psi (0.68 bar) or 3.33 percent of the ~~maximum~~ controller's maximum rated pressure during any automatic pump start that was initiated by the solenoid drain valve, as required by 10.5.2.7.3, the controller shall activate a visual and audible signal that can be silenced.

10.5.2.1.6
The pressure-sensing device shall be capable of withstanding a momentary surge pressure of 400 psi (27.6 bar) or 133 percent of the fire pump controller's maximum ~~controller~~ rated pressure, whichever is higher, without losing its accuracy.

10.5.2.1.8.5
The pressure-sensing element of the recorder shall be capable of withstanding a momentary surge pressure of at least 400 psi (27.6 bar) or 133 percent of ~~fire pump~~the~~controller~~controller's maximum rated ~~operating~~ pressure, whichever is greater, without losing its accuracy.

10.7.2.1
In lieu of 10.1.2.5.1, each controller shall be marked "Limited Service Controller" and show plainly the name of the manufacturer, the identifying designation, the controller's maximum rated pressure, the enclosure type designation, and the complete electrical rating.

12.1.3.3.1
All controllers shall be marked "Diesel Engine Fire Pump Controller" and show plainly the name of the manufacturer, identifying designation, controller's maximum rated pressure, enclosure type designation, and complete electrical rating.

12.4.4.3
The pressure-sensing element of the recorder shall be capable of withstanding a momentary surge pressure of at least 400 psi (27.6 bar) or 133 percent of the~~fire pump~~controller~~controller~~'s maximum rated ~~operating~~ pressure, whichever is higher, without losing its accuracy.

12.7.2.1.3.1*
Where the electronic pressure sensor reading exceeds the higher of 10 psi (0.68 bar) or 3.33 percent of the ~~maximum~~controller~~controller~~'s maximum rated pressure during any automatic pump startthat was initiated by the solenoid drain valve, as required by 12.7.2.7.3, the controller shall activate a visual and audible signal that can be silenced.

12.7.2.1.6
The pressure-sensing device shall be capable of withstanding a momentary surge pressure of 400 psi (27.6 bar) or 133 percent of the ~~fire pump maximum~~controller's maximum ~~controller~~ rated ~~operating~~ pressure, whichever is higher, without losing its accuracy.

Second Revision No. 27-NFPA 20-2023 [Detail]

10.4.6.4 Motor Overload.

The visual and audible signal that can be silenced shall actuate whenever the motor current exceeds 120 percent of full load amperes in any phase for 12 seconds.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 14:07:10 EDT 2023

Committee Statement

Committee Statement: This revision adds a visual indication of motor overload so local personnel who may be onsite can quickly identify a problem that can damage the equipment while the pump is running during automatic or remote testing.

Response Message: SR-27-NFPA 20-2023

Second Revision No. 30-NFPA 20-2023 [Detail]

12.7.2.8 Automatic Remote Testing.

12.7.2.8.1

Where automatic remote testing is conducted through a network, it shall be conducted through an authorized user's cybersecure network connection.

12.7.2.8.1.1*

The equipment shall be evaluated for cybersecurity.

A.12.7.2.8.1.1

The cybersecurity can be evaluated by various programs, including the following examples:

(1) The ISA Security Compliance Institute (ISCI) conformity assessment program

(2) A nationally recognized test laboratory's certification of compliance

(3) A certification from the manufacturer for the specific type and brand of system provided

12.7.2.8.1.2

Documentation of compliance with the evaluation shall be made available upon request to the AHJ and those authorized to inspect, operate, and maintain the system.

12.7.2.8.2*

Where automatic remote testing is conducted through a non-network, locally wired system, a cybersecurity evaluation shall not be required.

A.12.7.2.8.2

This allows for the initiation of remote testing from a contact closure or voltage signal.

12.7.2.8.3

Remote operation shall initiate the automatic testing in accordance with 12.7.2.7.

12.7.2.8.4

A remote stop shall be permitted only during the automatic testing sequence.

12.7.2.8.5*

Where a remote gateway is used for the network connection to the controller, the controller shall stop all remote testing operations and return the system to standby upon loss of connectivity.

A.12.7.2.8.5

Due to the importance of monitoring during a remote test, the minimum run timer *(see 12.7.5.2.2)* should be overridden, the pump stopped, valves reset, and all testing equipment reset back to the standby condition.

12.7.2.8.6

After 30 minutes, the controller shall automatically stop all remote testing activities, even if still occurring, and return to standby mode.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 14:55:13 EDT 2023

Committee Statement

Committee Statement: This revision provides requirements for automatic remote testing for diesel driven fire pumps and aligns with the revisions to automatic remote testing for electric driven fire pumps.

Response Message: SR-30-NFPA 20-2023

Second Revision No. 4-NFPA 20-2023 [Section No. 2.2]

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 13, *Standard for the Installation of Sprinkler Systems,* 2025 edition.

NFPA 13R, *Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies,* 2025 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection,* 2023 edition.

NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances,* 2025 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,* 2023 edition.

NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines,* 2024 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work,* 2024 edition.

NFPA 70®, National Electrical Code®, 2023 edition.

NFPA 70E®, Standard for Electrical Safety in the Workplace®, 2024 edition.

NFPA 72®, National Fire Alarm and Signaling Code®, 2025 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems,* 2025 edition.

NFPA 1960, *Standard for Fire Hose Connections, Spray Nozzles, Manufacturer's Design of Fire Department Ground Ladders, Fire Hose, and Powered Rescue Tools* , 2024 edition.

~~NFPA 1963, *Standard for Fire Hose Connections,* 2019 edition.~~

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Tue Oct 24 13:06:31 EDT 2023

Committee Statement

Committee Statement: As part of the Emergency Response and Responder Safety Document Consolidation Plan (consolidation plan) as approved by the NFPA Standards Council, NFPA 1963 is combined into a new consolidated, NFPA 1960.

Response Message: SR-4-NFPA 20-2023

Second Revision No. 2-NFPA 20-2023 [Section No. 2.3]

2.3 Other Publications.

2.3.1 AGMA Publications.

American Gear Manufacturers Association, 1001 N. Fairfax Street, Suite 500, Alexandria, VA 22314-1587.

ANSI/AGMA 2011-B14, *Cylindrical Wormgearing Tolerance and Inspection Methods*, 2019.

2.3.2 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

ANSI B11.19, *Performance Requirements for Risk Reduction Measures: Safeguarding and Other Means of Reducing Risk*, 2019.

2.3.3 ASCE Publications.

American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191-4400.

ASCE/SEI 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*, 2022.

2.3.4 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

Boiler and Pressure Vessel Code, ~~2021~~ 2023 .

2.3.5 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM SI10, *IEEE/ASTM SI 10 American National Standard for Metric Practice*, 2016.

2.3.6 AWS Publications.

American Welding Society, 8669 NW 36 Street, ~~Suite~~ # 130, Miami, FL 33166-6672.

AWS D1.1/D1.1M, *Structural Welding Code — Steel*, 2015.

2.3.7 HI Publications.

Hydraulic Institute, 300 Interpace Parkway, Building A, 3rd Floor, Parsippany, NJ 07054-4406.

ANSI/HI 1.4, *Rotodynamic Pumps for Installation, Operation, and Maintenance*, 2018.

ANSI/HI 3.6, *Rotary Pump Tests*, 2022.

2.3.8 IEEE Publications.

IEEE, ~~Three Park Avenue, 17th Floor, New York, NY 10016-5997~~ Operations Center, 445 Hoes Lane, Piscataway, NJ 08854-4141 .

IEEE C62.1, *IEEE Standard for Gapped Silicon-Carbide Surge Arresters for AC Power Circuits*, 1989.

IEEE C62.11, *IEEE Standard for Metal-Oxide Surge Arresters for AC Power Circuits (>1 kV)*, 2020.

IEEE C62.41, *IEEE Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits*, 1991.

2.3.9 ISO Publications.

International Organization for Standardization, ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland.

ISO 15540, *Ships and Marine Technology — Fire Resistance of Non-Metallic Hose Assemblies and Non-Metallic Compensators — Test Methods,* 2016, reconfirmed 2022.

2.3.10 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209.

NEMA MG-1, *Motors and Generators*, 2021.

NEMA 250, *Enclosures for Electrical Equipment (1,000 Volts Maximum)* , 2021.

2.3.11 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 142, *Steel Aboveground Tanks for Flammable and Combustible Liquids,* 2019, revised 2021.

UL 508, *Industrial Control Equipment*, 2018, revised 2021.

UL 1449, *Surge Protective Devices*, 2021, revised 2022 .

2.3.12 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2020.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Tue Oct 24 12:58:31 EDT 2023

Committee Statement

Committee Statement: This revision updates the references in accordance with the Reference Policy.

Response Message: SR-2-NFPA 20-2023

Second Revision No. 3-NFPA 20-2023 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems,* ~~2023~~ 2024 edition.

NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines,* 2024 edition.

NFPA 70®, National Electrical Code®, 2023 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems,* 2025 edition.

NFPA 1451, *Standard for a Fire and Emergency Service Vehicle Operations Training Program,* 2018 edition.

NFPA 5000®, Building Construction and Safety Code®, 2024 edition.

Submitter Information Verification

Committee: FIM-AAA
Submittal Date: Tue Oct 24 13:03:05 EDT 2023

Committee Statement

Committee Statement: This revision updates extracted text in accordance with the Extract Policy.
Response Message: SR-3-NFPA 20-2023

Second Revision No. 37-NFPA 20-2023 [Section No. 3.3.49.4]

3.3.49.4 Rated Pressure.

~~The~~ For fire pumps, the net pressure (differential pressure) at rated flow and rated speed as marked on the manufacturer's nameplate.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 15:57:31 EDT 2023

Committee Statement

Committee Statement: The definition was clarified as "rated pressure" is a term used for multiple devices and this definition is specific to fire pumps. When "rated pressure" is referenced for devices other than fire pumps, the term should be applied using its ordinarily accepted meaning within the context in which it is used.

Response Message: SR-37-NFPA 20-2023

Second Revision No. 11-NFPA 20-2023 [Section No. 3.3.52.15]

3.3.52.11* ~~Pressure Maintenance (~~ Jockey ~~or Make-Up)~~ Pump.

A pump designed to maintain the pressure on the fire protection system(s) between preset limits when the system is not flowing water.

A.3.3.52.11 Jockey Pump.

A jockey pump can also be referred to as a pressure maintenance pump or make-up pump.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 09:33:36 EDT 2023

Committee Statement

Committee Statement: This revision changes the terms ‘pressure maintenance pump’ and ‘make up pump’ to ‘jockey pump’. The standard currently uses multiple terms for this type of pump throughout, and standardizing on one term will bring consistency. The new annex clarifies that pumps that are referred to as pressure maintenance pumps or make-up pumps are within the scope of NFPA 20 as jockey pumps.

Response Message: SR-11-NFPA 20-2023

Second Revision No. 18-NFPA 20-2023 [Section No. 3.3.70.1]

3.3.70.1 Isolating Switch.

A switch intended for isolating an electric circuit from its source of power. ~~It has no interrupting rating, and it is intended to be operated only after the circuit has been opened by some other means.~~

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 11:30:09 EDT 2023

Committee Statement

Committee Statement: This revision correlates the definition of Isolating Switch with the revisions to Section 10.4.2.4 and 10.4.2.5.

Response Message: SR-18-NFPA 20-2023

Second Revision No. 14-NFPA 20-2023 [Section No. 4.14.1.3.2]

4.14.1.3.2

~~Pump rooms~~ Rooms enclosing diesel engine pump drivers ~~and~~ or fuel tanks serving diesel engine pump drivers shall be classified as Extra Hazard (Group 2) occupancies.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 10:06:04 EDT 2023

Committee Statement

Committee Statement: This revision clarifies that the inclusion of a diesel engine pump driver or a fuel tank serving a diesel engine pump drive in a room is required to be sprinklered as an Extra Hazard (Group 2) occupancy.

Response Message: SR-14-NFPA 20-2023

Second Revision No. 5-NFPA 20-2023 [Section No. 4.22.3.2]

4.22.3.2 Thread Type.

Thread types shall be in compliance with one of the following:

(1) Hose valve(s) shall have the NH standard external thread for the valve size specified, as stipulated in NFPA ~~1963~~ 1960 .

(2) Where local fire department connections do not conform to NFPA ~~1963~~ 1960 and the connection is to be utilized as a wall hydrant, the authority having jurisdiction shall designate the threads to be used.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Tue Oct 24 13:09:50 EDT 2023

Committee Statement

Committee Statement: As part of the Emergency Response and Responder Safety Document Consolidation Plan (consolidation plan) as approved by the NFPA Standards Council, NFPA 1963 is combined into a new consolidated, NFPA 1960.

Response Message: SR-5-NFPA 20-2023

Second Revision No. 12-NFPA 20-2023 [Section No. 4.27.2]

4.27.2

~~Pressure maintenance~~ Jockey pumps shall not be required to be listed.~~Pressure maintenance pumps shall be approved.~~

4.27.2.1

~~Pressure maintenance~~ Jockey pumps shall be approved.

4.27.2.2*

The ~~pressure maintenance~~ jockey pump shall be sized to replenish the fire protection system pressure due to allowable leakage and normal drops in pressure.

A.4.27.2.2

The sizing of the ~~pressure maintenance~~ jockey pump requires a thorough analysis of the type and size of system the ~~pressure maintenance~~ jockey pump will serve. ~~Pressure maintenance~~ Jockey pumps on fire protection systems that serve large underground mains need to be larger than ~~pressure maintenance~~ jockey pumps that serve small aboveground fire protection systems. Underground mains are permitted by NFPA 24 to have some leakage *(see 10.10.2.2.6 of NFPA 24)*, while aboveground piping systems are required to be tight when new and should not have significant leakage.

For situations where the ~~pressure maintenance~~ jockey pump serves only aboveground piping for fire sprinkler and standpipe systems, the ~~pressure maintenance~~ jockey pump should be sized to provide a flow less than a single fire sprinkler. The main fire pump should start and run (providing a pump running signal) for any waterflow situation where a sprinkler has opened, which will not happen if the ~~pressure maintenance~~ jockey pump is too large.

One guideline that has been successfully used to size ~~pressure maintenance~~ jockey pumps is to select a pump that will make up the allowable leakage rate in 10 minutes or 1 gpm (3.8 L/min), whichever is larger.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 09:40:22 EDT 2023

Committee Statement

Committee Statement: This revision changes the terms ‘pressure maintenance pump’ and ‘make up pump’ to ‘jockey pump’. The standard currently uses multiple terms for this type of pump throughout, and standardizing on one term will bring consistency. Section 4.27.2 was broken into two sections to comply with the Manual of Style.

Response Message: SR-12-NFPA 20-2023

Second Revision No. 8-NFPA 20-2023 [New Section after 6.1]

6.1.1.5 Sealing.

The sealing type for centrifugal pumps shall be packing.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Wed Oct 25 11:38:42 EDT 2023

Committee Statement

Committee Statement: This revision requires the sealing of centrifugal pump to be packing. There are concerns with the reliability of other sealing methods for centrifugal fire pumps. With a fire pump in standby mode for a long period of time, there is concern with debris settling in a mechanical seal and causing premature failure.

Response Message: SR-8-NFPA 20-2023

Public Comment No. 7-NFPA 20-2023 [New Section after 6.1]

Second Revision No. 9-NFPA 20-2023 [New Section after 7.3.1]

7.3.1.3

The sealing type for vertical shaft turbine-type pumps shall be packing.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Wed Oct 25 11:43:28 EDT 2023

Committee Statement

Committee Statement: This revision requires the sealing of vertical shaft fire pumps to be packing. The water supply is typically drawn from raw water sources which contain debris that can collect and cause premature failure of a mechanical seal.

Response Message: SR-9-NFPA 20-2023

Public Comment No. 8-NFPA 20-2023 [New Section after 7.3.1]

Second Revision No. 35-NFPA 20-2023 [Section No. 8.4.2]

8.4.2

Except as provided in 8.4.3 through ~~8.4.11~~ 8.4.12 , all the requirements of this standard shall apply.

Submitter Information Verification

Committee: FIM-AAA
Submittal Date: Thu Oct 26 15:47:37 EDT 2023

Committee Statement

Committee Statement: This revisions corrects a cross reference that was not updated in the first draft.
Response Message: SR-35-NFPA 20-2023

Second Revision No. 16-NFPA 20-2023 [Section No. 10.3.3.3]

10.3.3.3*

Where the equipment is located outside, or where other special environments exist, rated enclosures suitable for the environments shall be used.

A.10.3.3.3

For outdoor locations, NEMA 3R (IP-34) or NEMA 4 (IP-66) would typically be used.

For other special environments, see the NEMA publication *A Brief Comparison of NEMA 250 and IEC 60529* .

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 11:04:13 EDT 2023

Committee Statement

Committee Statement: Committee recognizes that NEMA 2 indoor enclosure are being used outdoors, so the revision adds text and Annex language to explain the typical NEMA enclosure for outdoor locations. It also references the NEMA and IEC comparison document to explain the IP equivalents.

Response Message: SR-16-NFPA 20-2023

Public Comment No. 17-NFPA 20-2023 [Section No. 10.3.3.3]

Second Revision No. 25-NFPA 20-2023 [Section No. 10.3.4.5.3]

10.3.4.5.3*

Except as provided in 4.21.2.2(1), 10.5.2.8.4 and 10.9.4, lockout, remote shutdown, or interlock to prevent normal operation shall not be permitted unless approved by the authority having jurisdiction.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 13:54:11 EDT 2023

Committee Statement

Committee Statement: This revision adds the cross reference to section 10.5.2.8.4 to allow remote stop during the 30 minute automatic remote testing period.

Response Message: SR-25-NFPA 20-2023

Second Revision No. 17-NFPA 20-2023 [Sections 10.4.2.4, 10.4.2.5]

10.4.2.4 Instruction and Warning Labels .

10.4.2.4.1

An instruction label shall be provided that directs the order of the operation of the isolating switch and circuit breaker.

10.4.2.4.2

The instruction label shall be permitted to be part of the label required by 10.3.7.3 .

10.4.2.4.3

Unless the isolating switch complies with 10.4.2.1.2 , or the isolating switch and the circuit breaker are interlocked in accordance with 10.4.2.5.1 , ~~requirements of 10.4.2.1.2 or 10.4.2.4.2 are met,~~ the following warning shall appear on or immediately adjacent to the isolating switch:

WARNING

DO NOT OPEN OR CLOSE THIS SWITCH WHILE THE CIRCUIT BREAKER (DISCONNECTING MEANS) IS IN CLOSED POSITION.

~~**10.4.2.4.4 Instruction Label.**~~

~~The requirements of 10.4.2.4.1 shall not apply where the requirements of 10.4.2.4.2.1 and 10.4.2.4.2.2 are met.~~

~~**10.4.2.4.4.1**~~

~~Where the isolating switch and the circuit breaker are so interlocked that the isolating switch can be neither opened nor closed while the circuit breaker is closed, the warning label shall be permitted to be replaced with an instruction label that directs the order of operation.~~

~~**10.4.2.4.4.2**~~

~~This label shall be permitted to be part of the label required by 10.3.7.3 .~~

10.4.2.5 ~~Instruction Label~~ Operating Handle .

~~The requirements of 10.4.2.4.1 shall not apply where the requirements of 10.4.2.4.2.1 and 10.4.2.4.2.2 are met.~~

10.4.2.5.1

~~Where the~~ The isolating switch and the circuit breaker ~~are so~~ shall be permitted to be interlocked so that the isolating switch can ~~be~~ neither be opened nor closed while the circuit breaker is closed~~, the warning label shall be permitted to be replaced with an instruction label that directs the order of operation~~ .

10.4.2.5.2

~~This label shall be permitted to be part of the label required by 10.3.7.3 .~~

~~Unless the requirements of~~ Where the isolating switch is not interlocked in accordance with 10.4.2.5.1 ~~are met~~ , the ~~isolating switch~~ operating handle shall be provided with a spring latch that shall be ~~so~~ arranged so that it requires the use of the other hand to hold the latch released in order to permit the opening or closing of the switch.

~~**10.4.2.5 Operating Handle.**~~

~~**10.4.2.5.1**~~

~~Unless the requirements of 10.4.2.5.2 are met, the isolating switch operating handle shall be provided with a spring latch that shall be so arranged that it requires the use of the other hand to hold the latch released in order to permit opening or closing of the switch.~~

~~**10.4.2.5.2**~~

~~The requirements of 10.4.2.5.1 shall not apply where the isolating switch and the circuit breaker are so interlocked that the isolating switch can be neither opened nor closed while the circuit breaker is closed.~~

Supplemental Information

File Name	Description	Approved
Chapter_10_10_4_2_4_SR-17.docx	Chapter_10_10_4_2_4_SR-17	

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 11:08:10 EDT 2023

Committee Statement

Committee Statement: This revision clarifies the language of 10.4.2.4 for instruction and warning labels. This section is also revised for readability and to make the correct reference to 10.4.2.1.2 for not requiring the warning label. Additionally, the order of 10.4.2.4.3 was change for better readability.

Response Message: SR-17-NFPA 20-2023

Public Comment No. 21-NFPA 20-2023 [Sections 10.4.2.4, 10.4.2.5]

Second Revision No. 26-NFPA 20-2023 [New Section after 10.4.6.2]

10.4.6.3 Pump or Motor Running.

A visual indicator shall actuate whenever the controller is operating in a motor-running condition.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 14:03:40 EDT 2023

Committee Statement

Committee Statement: This revision adds a visual indication of pump running so local personnel who may be onsite can quickly identify which pump is running when multiple pumps are in the same pump room and are being remotely tested.

Response Message: SR-26-NFPA 20-2023

Second Revision No. 28-NFPA 20-2023 [Section No. 10.4.7.2.6]

10.4.7.2.6 Controller or System Trouble.

As a minimum, a controller or system trouble alarm shall actuate whenever any of the following alarms occur:

(1) Ground-fault signal, where provided *(see 10.4.5.9)*

(2) Pressure-sensing device signals *(see 10.5.2.1.3.1 and 10.5.2.1.3.2)*

(3) Variable-speed trouble signals *(see 10.10.8.1, 10.10.8.2, and 10.10.3)*

(4) Fail-to-start signal *(see 10.5.2.7.12)*

(5) Motor overload *(see 10.4.6.4)*

(6) Single phase *(see 10.4.5.7)*

(7) Pressures exceeding those for rated components

(8) Low reservoir level *(see 10.5.2.7.4)*

(9) Lowest permissible suction pressure *(see 10.5.2.7.4)*

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 14:09:22 EDT 2023

Committee Statement

Committee Statement: This revision adds the additional conditions monitored for automatic testing to the visual signal list and to the common remote indication circuit for additional remote monitoring.

Response Message: SR-28-NFPA 20-2023

Second Revision No. 19-NFPA 20-2023 [Section No. 10.5.2.1.8.8]

~~**10.5.2.1.8.8**~~

~~A shutoff valve in the pressure-sensing line shall not be permitted.~~

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 11:35:11 EDT 2023

Committee Statement

Committee Statement: This requirement is redundant to the general requirement, 4.32.6, which applies to all installations.

Response Message: SR-19-NFPA 20-2023

Public Comment No. 34-NFPA 20-2023 [Section No. 10.5.2.1.8.8]

Second Revision No. 20-NFPA 20-2023 [Section No. 10.5.2.7]

10.5.2.7 Automatic Testing.

10.5.2.7.1

The controller equipment shall be arranged to automatically start, run, and shut down the motor at the minimum ~~no-flow~~ test frequency and duration required by NFPA 25.

10.5.2.7.2

Performance of the automatic testing shall be recorded as a pressure drop indication on the pressure recorder.

10.5.2.7.3

A solenoid ~~valve~~ actuated drain valve on the pressure control line shall be the initiating means.

10.5.2.7.4

~~The~~ As a minimum, the motor shall automatically shut down ~~from motor overload when the motor current exceeds 120 percent of full load amperes for 10 seconds~~ for the following conditions, if no other starting or running cause exists:

(1) Overload

(2) Reversed phase rotation

(3) Single phasing

(4) Overpressure

(5) Leak detection

(6) Low reservoir level

(7) Lowest permissible suction pressure

10.5.2.7.4.1

The motor shall not be required to automatically shut down during no-flow testing for the conditions described in 10.5.2.7.4(6) and 10.5.2.7.4(7) .

10.5.2.7.5*

If a starting cause occurs after a shutdown, the controller shall ~~override the motor overload shutdown,~~ restart the motor regardless of the shutdown conditions listed in 10.5.2.7.4 and run in accordance with ~~10.4.4~~ 10.5.4.2 .

A.10.5.2.7.5

A starting cause is any signal from the fire protection system that causes the controller to start. This could be a pressure drop, deluge valve contact opening, remote start signal, or manual pushbutton start.

10.5.2.7.6

In a non-pressure-actuated controller, the automatic testing shall be permitted to be initiated by a means other than a solenoid actuated drain valve.

~~**10.5.2.7.7**~~

~~A visible indicator and audible alarm shall be provided when the controller fails to start from the automatic mode.~~

10.5.2.7.7

Where a starting cause occurs during automatic testing, other than those initiated by the automatic testing sequence, all the following shall occur:

(1) The testing shall be terminated.

(2) The controller shall return to its automatic operation.

(3) A visual and audible signal that can be silenced shall actuate.

10.5.2.7.8

A visual and audible signal that can be silenced shall actuate when the controller shuts down, in accordance with 10.5.2.7.4 .

10.5.2.7.9

During a no-flow test, the pump run remote contacts shall be permitted to be automatically disabled immediately prior to the test and automatically enabled immediately after the test.

10.5.2.7.10

Local means in the controller shall be provided to cancel all automatic testing and to return to standby mode.

10.5.2.7.11

In addition to the requirements in 10.3.4.5.2 , sensors or devices used for testing and monitoring shall be permitted to be field-installed if they do not affect the operation of the existing fire pump controller and are approved by the AHJ.

10.5.2.7.11.1

Sensors or devices shall not be connected between the fire pump controller and motor such that the failure or removal of such device compromises the starting and running of the fire pump.

10.5.2.7.12

A visible indicator and audible alarm shall be provided when the controller fails to start from the automatic mode.

Supplemental Information

File Name	Description	Approved
Chapter_10_10_5_2_7-SR-20.docx	Chapter_10_10_5_2_7-SR-20.docx	

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 11:51:04 EDT 2023

Committee Statement

Committee Statement: This revision adds requirements for alarms to indicate motor overload shutdown during automatic testing, and addition safety shutdowns have been added to prevent equipment damage during automatic testing. Additional language was added to ensure no remote interference before or after the automatic testing.

Response Message: SR-20-NFPA 20-2023

Public Comment No. 13-NFPA 20-2023 [Section No. 10.5.2.7.4]

Second Revision No. 21-NFPA 20-2023 [Section No. 10.5.2.8]

10.5.2.8 Automatic Remote ~~Automatic~~ Testing.

10.5.2.8.1

~~Automatic remote testing shall be permitted through a secure connection from authorized users~~ Where automatic remote testing is conducted through a network, it shall be conducted through an authorized user's cybersecure network connection .

10.5.2.8.1.1*

The equipment shall be evaluated for cybersecurity.

A.10.5.2.8.1.1

The cybersecurity can be evaluated by various programs, including the following examples:

(1) The ISA Security Compliance Institute (ISCI) conformity assessment program

(2) A nationally recognized test laboratory's certification of compliance

(3) A certification from the manufacturer for the specific type and brand of system provided

10.5.2.8.1.2

Documentation of compliance with the evaluation shall be made available upon request to the AHJ and those authorized to inspect, operate, and maintain the system.

10.5.2.8.2*

~~Additional safety shutdowns shall be allowed if the controller overrides the shutdown and restarts in the event of a starting cause.~~ Where automatic remote testing is conducted through a non-network, locally wired system, a cybersecurity evaluation shall not be required.

A.10.5.2.8.2

This allows for the initiation of remote testing from a contact closure or voltage signal.

10.5.2.8.3

Remote ~~stop shall be allowed if the controller overrides the stop signal and restarts in the event of a starting cause~~ operation shall initiate the automatic testing in accordance with 10.5.2.7 .

10.5.2.8.4

~~Upon starting a remote test, a watchdog timer shall be set to stop all remote testing operations and return the system to standby if it is not reset remotely and locally once every minute.~~ A remote stop shall be permitted only during the automatic testing sequence.

10.5.2.8.5*

Where a remote gateway is used for the network connection to the controller, the controller shall stop all remote testing operations and return the system to standby upon loss of connectivity.

A.10.5.2.8.5

Due to the importance of monitoring during a remote test, the minimum run timer *(see 10.5.4.2.2)* should be overridden, the pump stopped, valves reset, and all testing equipment reset back to the standby condition.

10.5.2.8.6

After 30 minutes, the controller shall automatically stop all remote testing activities, even if still occurring, and return to standby mode.

Supplemental Information

File Name	Description	Approved
Chapter_10_10_5_2_8-SR-21.docx	Chapter_10_10_5_2_8-SR-21.docx	

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 12:58:49 EDT 2023

Committee Statement

Committee Statement: This revision incorporates additional safety shutdowns included in 10.5.2.7 since they apply to both automatic and automatic remote testing. The cybersecurity language is in accordance with NEC 110.3(A)(8) and was enhanced with additional language taken from NEC 240.6(D). Personnel required within sight of the equipment was not included because 4.3.1 presently states that “Means shall be provided for qualified personnel to determine that the fire pump is operating in a satisfactory manner during pump operation.” This does not require personnel within sight of the equipment and since additional shutdowns have been added, including leak detection, the pump room and equipment have been protected in a satisfactory manor during the automatic test.

Response Message: SR-21-NFPA 20-2023

Public Comment No. 14-NFPA 20-2023 [Section No. 10.5.2.8]

Second Revision No. 36-NFPA 20-2023 [Section No. 11.2.4.2.3.4(B)]

(B)

Where special environments exist, as defined by NEMA 250, *Enclosures for Electrical Equipment (1,000 Volts Maximum)* , rated enclosures suitable for the environments shall be used.

Submitter Information Verification

Committee: FIM-AAA

Submittal Date: Thu Oct 26 15:55:16 EDT 2023

Committee Statement

Committee Statement: The existing language left room for interpretation. This revision adds a reference to NEMA 250 (Enclosures for Electrical Equipment – 1000V Maximum) that provides specific examples and their corresponding required enclosure rating.

Response Message: SR-36-NFPA 20-2023

Public Comment No. 18-NFPA 20-2023 [Section No. 11.2.4.2.3.4(B)]