

# HISTORY CORNER

In 1917, inspection fees may be charged to cover the cost of local inspections not in excess of one dollar (\$1.00) for each trip. Fees collected were for the sole purpose of furthering the improvements of the grade of electrical construction within the state.

As you can see, minimum inspection fees have not dramatically increased over time. From an effective date of July 1, 1963 through an effective date of October 1, 2020, there was a net minimum increase of \$48.00.

Job Cost	Inspection Fee	Effective Date
\$50.00 to \$100.00	\$2.00 (minimum)	July 1, 1963
\$50.00 to \$100.00	\$3.00 (minimum)	January 1, 1972
Up to \$99.99	\$5.00 (minimum)	January 1, 1975
Up to \$100.00	\$10.00 (minimum)	January 1, 1984
Up to \$300.00	\$15.00 (minimum)	January 1, 1987
Up to \$300.00	\$25.00 (minimum)	April 1, 2005
Up to \$500.00	\$25.00 (minimum)	August 1, 2017
Up to \$500.00	\$50.00 (minimum)	October 1, 2020

**TODAY (2021):** For jobs started on or after October 1, 2020, inspection fees are calculated based on a job cost formula and charged for any electrical wiring or power limited system installation involving a value of five hundred dollars or more:

Job Cost	Inspection Fee
Up to \$500.00	\$50.00 (minimum fee)
\$500.00 to \$20,000.00	\$50.00 for the first \$500.00 plus 1.25% on balance up to \$20,000.00
Over \$20,000.00	\$293.75 for the first \$20,000.00 plus 1/10 of 1% on balance over \$20,000.00

## 2021 NDSEB STATE-SPONSORED CEU CLASSES – '20 NEC COMMERCIAL EMPHASIS

**Register and View Deadlines,  
Facility Locations, and Cost (Includes  
Lunch) Online at [www.ndseb.com](http://www.ndseb.com)**

<b>WILLISTON</b>	<b>NOVEMBER 18, 2021</b>
<b>DICKINSON</b>	<b>NOVEMBER 19, 2021</b>
<b>BISMARCK</b>	<b>DECEMBER 9, 2021</b>
<b>MINOT</b>	<b>DECEMBER 10, 2021</b>
<b>GRAND FORKS</b>	<b>JANUARY 6, 2022</b>
<b>FARGO</b>	<b>JANUARY 7, 2022</b>

### SCHOLARSHIP OPPORTUNITIES

The two Board-approved scholarship opportunities for apprentices are still available.

One opportunity is with the North Dakota College of Science. A student can receive up to \$500 per semester for books and tuition. Contact the NDSCS Financial Aid Office for more information.

Another opportunity is for NDSEB approved related training apprenticeship programs in North Dakota. An apprentice can receive up to \$500 per semester for NDSEB approved apprenticeship programs. Talk to your NDSEB approved provider for more details.

## Appliances: A Word from our Training and Compliance Administrator - Scott Halle:

Appliances are defined as (see article 100 for the complete definition) utilization equipment that is normally built in standardized sizes or types and installed to perform one or more functions, and are covered in Article 422 for electrical appliances used in any occupancy. We are referred to also apply Article 430 when installing motor operated appliances, and Article 440 when installing appliances with a hermetic refrigerant motor, except as specifically amended by Article 422. While we do not have space here to discuss every item in Article 422, we can highlight some of the topics in this article, be sure you refer to the NEC for the complete requirements.

One of the first items addressed is for GFCI protection of appliances in 422.5, which says that the appliances identified in (A)(1) through (A)(7) rated 150 volts or less to ground and 60 amps or less, single or three phase, shall be provided with Class A GFCI protection for personnel.

- 1) Automotive vacuum machines
- 2) Drinking water coolers and bottle fill stations
- 3) Cord and plug connected high pressure spray washing machines
- 4) Tire inflation machines
- 5) Vending machines
- 6) Sump pumps
- 7) Dishwashers

The GFCI device must be installed in a readily accessible location to facilitate testing, each GFCI device should be tested monthly by exercising the push to test and the reset buttons on the receptacle or circuit breaker.

Part II applies to the installation of appliances, starting out in 422.10 with branch circuit requirements, they must be capable of carrying the appliance load without overheating under the conditions specified. (A) applies to individual branch circuit conductors which shall have an ampacity not less than the marked rating of the appliance, motor operated appliances without a marked rating shall have their ampacity determined by Part II of Article 430. Branch circuit conductors supplying a load (other than motor operated) that is a continuous load shall have an ampacity of not less than 125% of the marked rating unless components are listed for continuous loading. Branch circuits and conductors for household ranges and cooking appliances shall be permitted to use Table 220.55 and shall be sized in accordance with 210.19(A)(3). Overcurrent protection for branch circuits supplying appliances shall comply with 240.4, but note that when an appliance is marked with the maximum protective device rating, the overcurrent protection rating shall not exceed the rating marked on the appliance. The requirement for central heating equipment to be supplied by an individual branch circuit is found at 422.12, and for fixed storage type water heaters with a capacity of 120 gallons or less to be considered a continuous load is at 422.13.

Flexible cord is permitted to be used for the connection of appliances as permitted in 422.16 if the appliance is intended or identified for flexible connection and the specific conditions for each appliance are met. For example: an electrically operated waste disposal the cord must be not less than 18 inches and not more than 36 inches long, the receptacle must be located to protect the cord from physical damage and to be accessible, and the cord must include an equipment grounding conductor and terminate in a grounding type attachment plug. There are similar requirements for the other appliances recognized by the code as suitable for cord and plug attachment, such as dishwashers, trash compactors, cooktops, wall ovens, range hoods, and microwave/range hood combinations. When installing these appliances with flexible cord, be sure to review the specific requirements such as length, location, and terminations for each to be sure you are complying with the code.

Part III addresses disconnecting means for appliances, which are necessary for technicians to service and maintain the appliance, and to ensure a method to shut down the appliance if it should malfunction. 422.31 has the requirements for permanently connected appliances separated into two categories, one for appliances rated 300 VA or less or 1/8 HP, and another for appliances rated greater than 300 VA. 422.33 contains the requirements for cord and plug connected appliances, also recognizing the use of an attachment fitting for this purpose. The plug or attachment fitting can be the disconnect when accessible, when it is not accessible you must comply with 422.31 and will typically need to install a breaker lock. A cord and plug connected household electric range meets the intent of 422.33(A) if the connection is accessible at the rear base of the range by removing the drawer.

These are just some of the points to consider when connecting appliances, but there is quite a bit more information in Article 422 that may apply to your installation, and most projects require installation of many different appliances. Please take some time to look through this article and refresh your memory about the requirements to ensure a safe and code compliant installation. ☺

### **SERVICE AWARDS**

**Congratulations. We appreciate  
your years of service and  
dedication to the Board!**

**ASHLEY WINDHORST – 15 YEARS**

**SCOTT HALLE – 10 YEARS**

**JOSH WILSON – 15 YEARS**

**TOM CRAWFORD – 10 YEARS**