



State Fire Report – February 2022
 OFFICE OF ATTORNEY GENERAL
 NORTH DAKOTA STATE FIRE MARSHAL
 Issued 03/22/2022

Fires reported in the month..... 70

- Structure Fires 42
- Vehicle Fires 21
- Other Fires 7

2021 Monthly Fire Counts

Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
127	70											197

Dollar loss attributed to fire year to date..... \$7,835,450.00

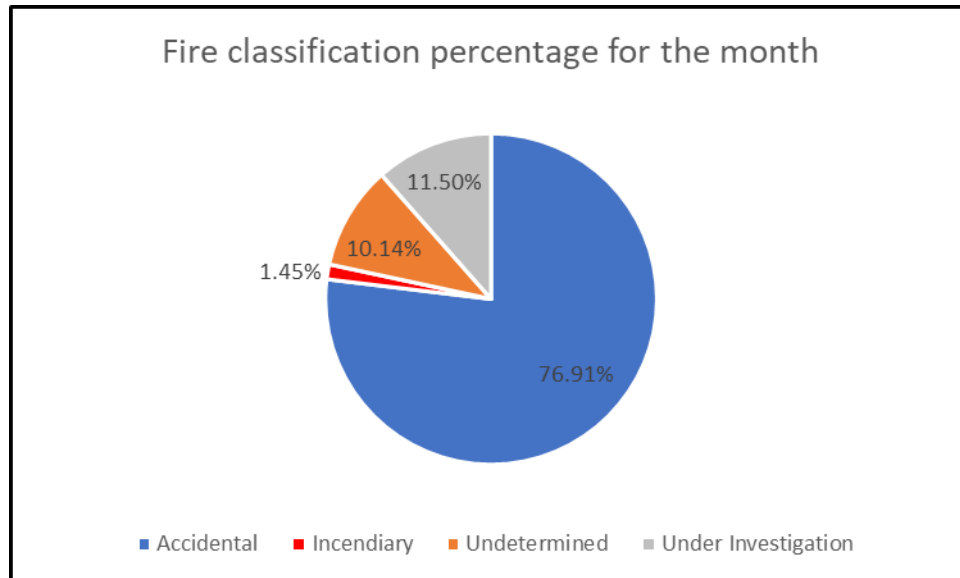
Total incidents reported for the month..... 2,306

Most reported fire type for the month

- Building fires 35.71%
- Passenger vehicle fire 15.71%

Most reported heat source for the month

- Radiated, conducted heat from operating equipment 14.49%
- Undetermined 43.48%



Injuries and Fatalities Caused by Fire	Month	Year to date
Civilian fire casualties	3	8
Civilian fire injuries	2	5
Fire service injuries	1	6

Percentage of fire departments reporting for the month 27%

Percentage of fire departments reporting for the year to date 40%

Incident totals by type year to date 2021

Fires	Rupture/ explos.	Rescue (EMS)	Hazardous Conditions	Service	Good Intent	Severe Weather	Special Incident	False Calls	Total
197	15	4,383	267	319	615	0	28	790	6,614

Update from the State Fire Marshal’s Office:

As can be seen in our fire losses again this month, it has been a difficult start for fire safety in 2022. North Dakota recorded three casualties due to fire in February. As we grapple with the losses from the month, please remind your communities about the critical importance of basic fire safety tenets: smoke alarms, carbon monoxide alarms, storage of combustibles, correct use of electrical appliances, smoking hazards and many more.

Fire reporting for the year of 2021 is still open until the end of June 2022. If you still have incidents to enter, you have time. Please let us know if there is anything that we can do to assist with getting fire incidents entered. Please note if you are using Emergency Reporting by ESO, that incidents are not released to our office until they are “reviewed” and turn green.

Over the next month, we will begin reaching out to those fire departments that have unreleased incidents still in the Emergency Reporting by ESO system.

The Deputy Fire Marshal District 4 (Fargo Office) position has been filled. We are proud to announce that Kirstin Greaney-Stanger has taken the position and is just about done with the first phase of her training with us. Kirstin is a volunteer for the West Fargo Fire Department, and we are excited to see the quality of work that she will bring to the State Fire Marshals Office. Please join us in welcoming Kirstin to the State Fire Marshals Office and the North Dakota Fire Service!

The public education and outreach for this month is the informational flyer from the Propane Education & Research Council. The flyer details the importance of following fire codes for safe storage and handling of propane tanks. This includes the codes related to the practice of repurposing anhydrous ammonia tanks to store propane (which is not allowed in tanks under 3,000 gallons). Please contact us if you have any questions regarding propane safety or fire code compliance.

Thank you,
Douglas Nelson
ND State Fire Marshal

Public education and outreach for the month:

More public education resources can be found on the following organizations websites.

United States Fire Administration: <https://www.usfa.fema.gov/index.html>

National Fire Protection Association: www.nfpa.org

Consumer Product Safety Commission: <https://www.cpsc.gov/Safety-Education/Safety-Education-Centers/Fire-Safety-Information-Center>



SAFETY ALERT

Conversion of Anhydrous Ammonia Containers to Propane Service

The purpose of this alert is to advise those who may be considering conversion of containers from ammonia to propane that NFPA 58 and the NBIC are clear on the subject.

Since 2008, both NFPA 58 and the National Board of Boiler and Pressure Vessel Inspectors through their National Board Inspection Code (NBIC) are very clear about converting containers from anhydrous ammonia service to propane service:

NFPA 58, Section 5.2.1.5 states: Except for containers used in cargo tank vehicle service, ASME containers of 3000-gal (11.4m³) water capacity or less used to store anhydrous ammonia shall not be converted to LP-Gas fuel service.

The **NBIC Section 57.8.6** states almost the same language as NFPA 58 and adds the following second provision: Cargo tank pressure vessels less than 3000 gal. (11.4 m³) water capacity to be converted from ammonia to LPG service shall be wet-fluorescent magnetic particle tested (WFMT) on all internal surfaces (see NBIC Part 2, 2.3.6.4).



Although containers used for anhydrous ammonia storage are essentially manufactured the same as a propane container and are built to the same standard as propane containers, there are some significant issues to be aware of:

- ▶ Anhydrous ammonia (NH₃) is corrosive, while propane is noncorrosive.
- ▶ Anhydrous ammonia is toxic, while propane is nontoxic.
- ▶ Under similar release conditions, inhalation of NH₃ can be deadly.
- ▶ A propane container contaminated with ammonia:
 - May be subject to an independent pressure build called "stacking."
 - May affect appliance operating systems.
 - Under certain conditions, may create a dangerous toxic gas when burned within appliances.
- ▶ Anhydrous ammonia containers are susceptible to stress corrosion cracking in areas of high stress such as welds and seams.
- ▶ Anhydrous ammonia valves and fittings must be steel while propane valves and fittings are typically brass. Brass is subject to severe stress corrosion cracking when subjected to NH₃ and is evidenced by a blue-green stain on the brass when contaminated by ammonia.
- ▶ The flow requirements for the relief device in an ammonia tank are not nearly what is required for a propane container; the opening in the container may not be large enough to accommodate the relief device necessary for propane service.
- ▶ The manufacturer of the NH₃ tank may have marked the data plate "For NH₃ Only."
- ▶ Cargo tanks and ASME containers larger than 3,000 gallons water capacity must go through rigorous conversion procedures by a qualified vendor/contractor/manufacture to successfully make their way from NH₃ to LPG service.

This ALERT has detailed that the conversion of small storage containers is not allowed by codes and outlined the dangers involved if ANY conversion is performed improperly. The primary consideration here is SAFETY. Safety of the container, safety of the product, safety of the propane system, and safety of the customer being supplied. The risk is just too great.

 Propane Education & Research Council

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