North Dakota General Aviation Airport Fuel System
Design & Safety Quick Reference



NFPA 30/407/704 System Design Requirements

- Above-ground fuel storage tanks must be located away from important buildings. Distance depends on capacity and integrated protection, but minimum is 2 ½ feet for even the smallest tanks.
- No open flames permitted within 50 feet of systems.
- Equip fuel systems and fueler vehicles with bonding cables, emergency shut-offs, deadman controls, and appropriate fire extinguishers.
- Label tanks with appropriate safety placards.
- Protect tanks from collision damage by installing bollards or other protective measures.
- Aircraft are required to be located outdoors during fueling operations, positioned so their fuel vents or tank openings are at least 25ft from buildings and at least 50ft from possible combustion sources.
- Ensure easy access to system and aircraft by emergency responders.

Safety Placards

Per NFPA 407 and 704, storage tanks and fueling vehicles should be fitted with the following safety placards identifying tank contents and hazards:

Fuel Type	100LL AvGas	Jet A
Contents Placard	100-LL	JET A
NFPA 704 HazMat Identification Placard	3 / 1 / 0	2 / 0 / 0
USDOT HazMat Identification Placard (Optional)	1203 / 3	1863 / 3

FLAMMABLE

NO SMOKING

Emergency Fuel Shut-Off

NATIONAL FIRE PROTECTION ASSOCIATION
Hazardous Materials Ratings

HEALTH HAZARD
4-Lethal
3-Serious or Permanent Injury
2-Temporary Incapacitation or Residual Injury
1-Irritation
0-No Hazard

FIRE HAZARD
Vaporize/Burn at Temperatures:
4-Below 73°F
3-Below 100°F
2-Below 200°F
1-Above 200°F
0-Will Not Burn

SPECIAL HAZARD
ALK – Alkaline
OX – Oxidizer
ACID – Acid
COR – Corrosive
W – Reacts with Water
☢ – Radioactive

INSTABILITY HAZARD
4-May Explode
3-Shock/Heat=Explode
2-Violent Chem. Change at High Temps/Pressures
1-Unstable if Heated
0-Stable

Source: NFPA 704: Standard System for the Identification of the Hazards of Materials for Emergency Response

Fire Extinguishers



- Fuel dispensers must be equipped with a **minimum of one 40-B:C rated extinguisher with a capacity of 20 lbs. of dry chemical.** An additional extinguisher should be installed at the site of emergency shut-off control.
- Inspect extinguishers regularly for condition, and monthly for proper pressure. Log checks on tag.
- Have each extinguisher professionally serviced/certified annually.

Repairs & State-Required Testing

- ND C.C. 64-02/A.C. 69-10 require all retail fuel sales devices to be tested and certified before use and on an annual basis, with intervals not to exceed 15 months.
- Registered service companies offer testing, certification, and repairs. The ND Public Service Commission maintains a directory of authorized registered service companies on their website at: ***https://www.psc.nd.gov/jurisdictions/weights-measures***
- NDPSC Inspectors offer testing and certification services for $20 per device. Please note that they do not offer repair services. For further information or to schedule appointments, call (701)328-4070.

This document is advisory in nature and not intended to be a complete reference for purposes of safety and regulatory compliance. For further information, see the following resources:

- *Applicable National Fire Protection Association Rules: NFPA 10, 30, 407, 410, and 704. Viewable for free at https://www.nfpa.org.*
- *ND Century Code 64-02 and Administrative Code 69-10.*
- *Airport Cooperative Research Program Report 138: Preventative Maintenance at General Aviation Airports – Volume 2 Guidebook, pages. 65-72.*

General Fuel System Inspection Schedule

Item	Daily	Monthly	Semi-/Annually
Overall Condition	✓		
Leak Check	✓		
Sumps	✓		
Bonding Cables	✓	✓	
Hoses	✓		✓
Placards/Signs	✓	✓	
Spill Kit	✓		
Extinguisher Condition	✓		
Extinguisher Pressure		✓	
Extinguisher Certified			✓
Screens/Filters		✓	
Free Water Test		✓	
Deadman Controls		✓	
Tank vents & Gaskets		✓	
Emergency Shut-Downs		✓	✓
System Grounding		✓	
Tank High Level Controls			✓
Cathodic Protection			✓
Line Strainers Check			✓
Water Defense Check			✓
Replace Filters			✓
Inspect Tank Interior			✓
Calibrate Meter			✓

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