

Governor's Council on Biofuels

April 21, 2020 Meeting

1:00 p.m. to 3:00 p.m.
Webex Teleconference

Agenda

1:00 p.m.

Welcome and introductions

Commissioner Thom Petersen, Minnesota Department of Agriculture (MDA)

1:05 p.m.

Overview of agenda and introduction of panel

Bob Patton, Energy and Environment Supervisor, MDA

1:10 p.m.

Panel: Retail infrastructure needs for delivering higher biofuels blends

- Nate Blasing, Minnesota Pollution Control Agency
- Kristi Moriarty, National Renewable Energy Laboratory
- Jon Hunter, American Lung Association in Minnesota
- Bret Swan, Minnesota Petroleum
- Ed Puchtel, Zahl Petroleum

2:10 p.m.

Update on status of the ethanol industry

Councilmembers Gary Anderson, Chris Hanson, Jeanne McCaherty, and Mick Miller

2:30 p.m.

Overview of upcoming meetings

Bob Patton

2:45 p.m.

Public comment and questions

3:00 p.m.

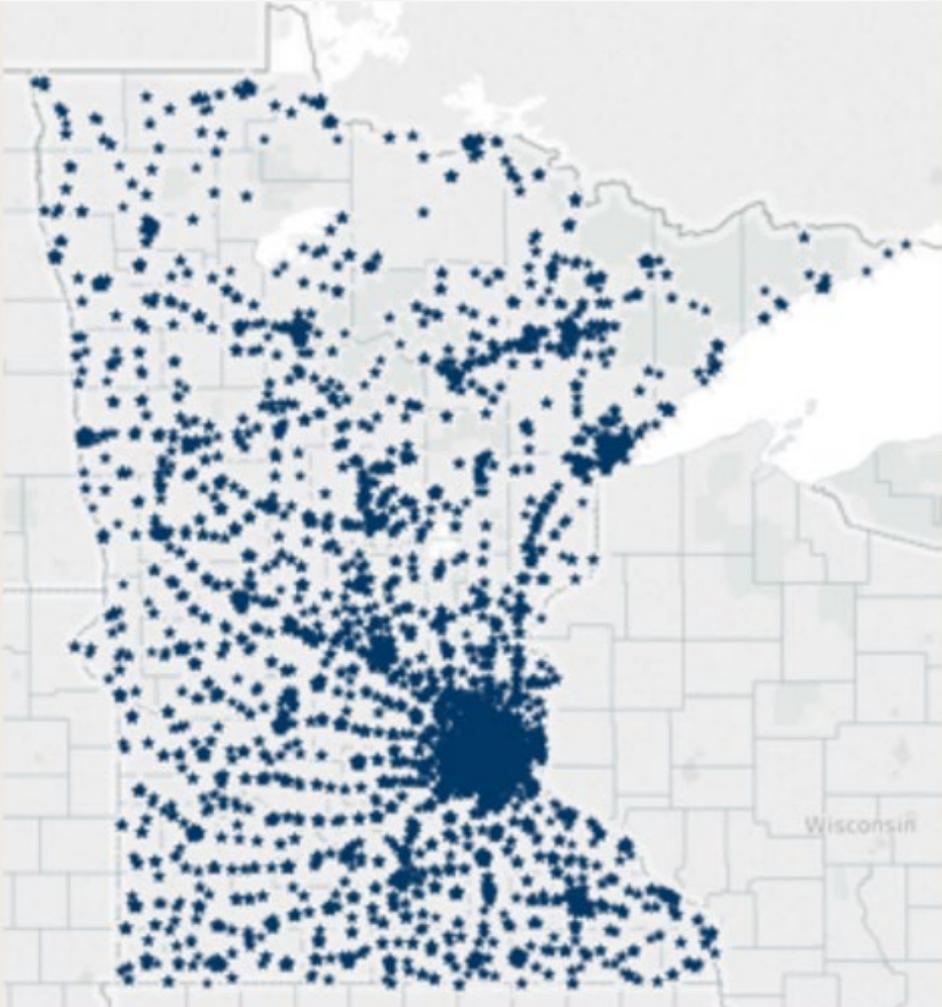
Adjourn

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000. TTY users can call the Minnesota Relay Service at 711. The MDA is an equal opportunity employer and provider.

Individuals with a disability who need a reasonable accommodation to participate in this event please contact Bob Patton at 651-201-6226 or through the Minnesota Relay Service at 711 as soon as possible.

Underground Storage Tank (UST) System Compatibility

Minnesota
UST
Locations



Underground Storage Tank System

Underground storage tank or “UST” means an underground storage tank and any underground piping or equipment connected to an underground storage tank that is used to:

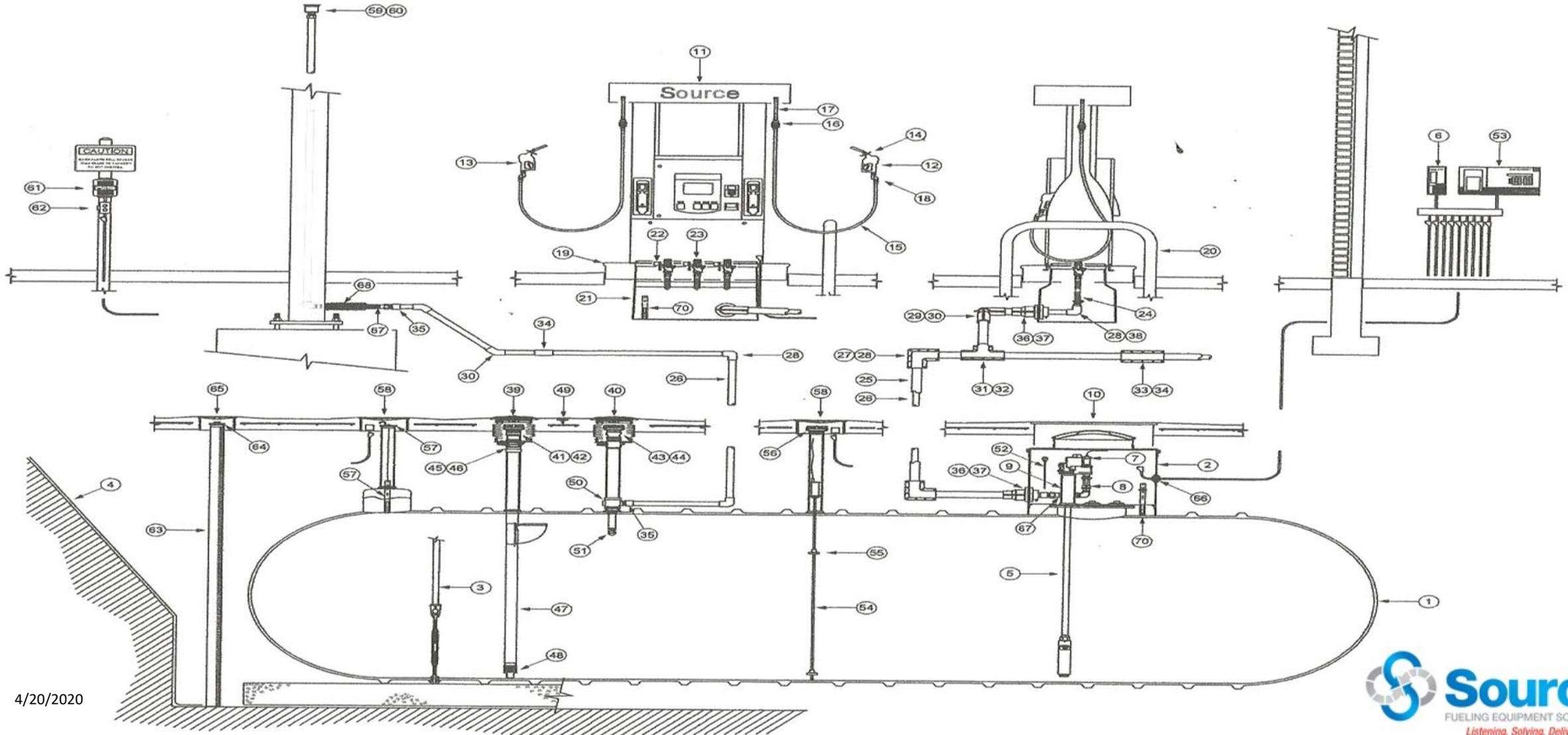
- (1) dispense a regulated substance or other potentially harmful substance;
- (2) provide for safe operation of the tank, piping, or appurtenances; or
- (3) detect and prevent a release to the environment. (MN Rule 7150 Subp. 51)

Compatibility

Compatible means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another under conditions likely to be encountered in the UST system. (Minnesota Rule 7150.0030 Subp. 10.)

The typical fueling system is made up of up to about 60 components

FILE: one-page-std-spec-source-
DATE: 04/27/2016



Minnesota Tank Age

- Minnesota's average UST age is 23.45 years old
 - 0-4.99 years 8.31%
 - 5-9.99 years 5.22%
 - 10-14.99 years 5.92%
 - 15-19.99 years 7.93%
 - 20-24.99 years 24.52%
 - 25-29.99 years 19.87%
 - 30-34.99 years 19.36%
 - 35-39.99 years 4.69%
 - >40 years 4.18%

Minnesota UST's

- STIP3 47.6% - compatible
- Fiberglass 30.9% - compatibility depended on installation date
- Composite 14.9% - compatible
- Bare steel 6.5% - not compatible

Minnesota Piping

- Flexible 35.1%- Less than 5% not compatible with E-15
- Steel 33.4% - Not compatible
- Fiberglass 31.4% - Compatible

7150.0100 Performance Standards

☐ Subpart 9. Compatibility

- All systems must be compatible with product stored regardless of bio-fuel content
- Systems storing biofuels must demonstrate compatibility before introducing product.
 - Greater than E10
 - Greater than B20
- Non-compatible tanks may be upgraded with secondarily contained retrofit systems

How to demonstrate compatibility

1. Equipment is certified or listed by independent testing lab for use with the regulated substance. (UL/ULC); or
2. Equipment manufacture has issued a written affirmative statement of compatibility specifying the range of biofuel blends the equipment is compatible with.
3. Owner/operators may use an alternative option no less protective of human health and the environment than the above options.

Instructions: This form is to be completed and submitted to the Minnesota Pollution Control Agency (MPCA) to verify tank system components are compatible with the alternative fuels stored. This form must be completed if tank systems use blends of fuels greater than 10 percent ethanol or 20 percent biodiesel. The tank, pipe, and dispenser information should be completed by someone knowledgeable of the tank system in question. **Note:** Tanks with interior lining will not be approved for alternative fuel storage.

Submittal: To submit this form, open the form using Internet Explorer Web browser or Adobe Acrobat Reader, save the form to your computer and send to the MPCA by using the submit button at the end of the form, or attach the form to an email message, using "Alternative fuel form" as the subject line to undergroundtanks_pca@state.mn.us.

Site information

Site ID#: _____
 Facility name: _____
 Address: _____
 City: _____ Zip code: _____
 County: _____

Owner information

Name: _____
 Company name: _____
 Address: _____
 City: _____ Zip code: _____
 Phone: _____ Fax: _____
 Email: _____

Contractor information

Contractor name: _____
 Address: _____
 City: _____
 State: _____ Zip code: _____
 Phone: _____

Tank information

Size (gal.) _____
 Manufacturer: _____
 Model/Brand: _____
 Tank material: _____
 Tank single /double wall: _____
 Installation date (mm/dd/yyyy): _____

Tank leak detection method

- Automatic tank gauge
 Interstitial monitoring
 Inventory control
 Manual tank gauging
 Statistical inventory control

Ethanol percentage: _____ % Biodiesel percentage: _____ %

Identify the Manufacturer, Model/Brand, and whether the piece of equipment is Underwriters Laboratories (UL) listed or Manufacturer approved for storing alternative fuel.

UL/Manufacturer approved?

Tank	Manufacturer	Model/Brand	UL (Y/N)	UL number	Man. (Y/N)
Spill bucket			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
Overfill			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
Drop tube			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
Submersible pump/ Suction pump			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
Leak detection probe			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
Sump sensors			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No

MN Tanks storing greater than E-10

- Tanks currently storing greater than 10% ethanol
 - E85 – 435 tanks
 - E15 – 218 tanks

MN Tank Replacement Estimates

- Approximate number of Federally Regulated UST sites that store gasoline **3,500**
- Approximate number of Federally Regulated UST Tanks that store gasoline – 7,140
- Estimate that **15%** of the sites will be compatible with E15 as they were installed or upgraded within the last 5 years.
- Estimate **30%** of current tanks in use currently would not be compatible for E-15.
- 30% of 3,500 sites = 1,050 sites needing total replacement.
- Average of 3 tanks per sites X \$160,000 per tank = \$480,000 for each site
- Total statewide costs \$480,000 X 1,050 = **\$504,000,000** (cost includes removal of old tanks)

MN Piping Estimates

- Estimate that **35%** of sites do not have piping compatible with E15. In this estimate tanks are compatible and do not require replacement. Replacement of tank tops and piping up to the dispensers. Since all piping is typically in same trench, all piping would most likely be replaced.
- 35% of 3,500 sites = **1,225** sites needing new tank tops and piping to dispensers.
- Average of 3 pipe runs per site x \$50,000 per pipe = \$150,000 per site
- Total statewide costs \$150,000 x 1,225 = **\$183,750,000**

MN “Other” Equipment Estimates

- Estimate that **20%** of sites would need some sort of upgrading of other equipment. This could range from \$1,000 to \$10,000 per tank storing E15
- 20% of 3500 sites = 700 sites needing some other upgrades
- Average of 2 tanks per site at \$1,000 to \$10,000 per site = \$2,000 to \$20,000 per site
- Total statewide costs \$2,000 to \$20,000 per site x 700 sites = **\$1,400,000 to \$14,000,000**

MN Dispenser Estimates

- **25,000 gasoline** dispensers state wide (average of 7 gasoline dispensers per site)
 - Existing infrastructure=
 - Gilbarco dispensers= 17,500 (70%)
 - Wayne dispensers = 5,000 (20%)
 - Other dispensers = 2,500 (10%)
 - 50% of Gilbarco not compatible with E15 = 8,750 (Installed prior to 2014)
 - 50% of Wayne not compatible with E15 = 2,500 (Installed prior to 2014)
 - 50% of other not compatible with E15 = 1,250
 - Estimate - 8,750 non compatible Gilbarco dispensers replacement @ \$20,000 = \$175,000,000
 - Estimate - 3,750 non compatible Wayne and “other” dispensers replacement @ \$20,000 = \$75,000,000
- Dispenser replacement cost = \$250,000,000**

Total Tank System Cost Estimate

Infrastructure upgrade/replacement cost

-Tanks = \$504,000,000

-Piping = \$183,750,000

-Other Equipment = \$8,000,000

-Dispenser Replacement = \$250,000,000

Total Cost Estimate = \$945,750,000



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