DEPARTMENT OF AGRICULTURE

Date: September 18, 2020

To: Governor's Council on Biofuels

From: Bob Patton (Bob.Patton@state.mn.us, 651-201-6226)
Jordyn Bucholtz (Jordyn.Bucholtz@state.mn.us, 651-201-6685)

RE: Packet for Thursday, September 24, 2020 and Monday, September 28, 2020 meetings

As you understand, our intent is that the Subcommittee come to consensus on recommendations to the Governor's Council on how to meet needs for retail infrastructure in Minnesota (dispensers, storage tanks, and related equipment) in order to deliver higher biofuel blends to the public, with the ultimate aim of meeting Minnesota's petroleum replacement and greenhouse gas reduction goals. A term we are using to refer to these recommendations is a "roadmap", since it would ideally spell out how and when infrastructure would be ready for E15 and higher blends of ethanol and biodiesel.

The goal for the September 24 meeting is to come to consensus on cost estimates. The Technical Committee held its first meeting on Tuesday, September 8th and Friday, September 11th to discuss the cost estimates of E15 upgrades (discussion summary attached). By discussing the estimated costs of E15 (attached to the packet), we hope to get everyone on the same page in terms of the need and cost of infrastructure updates.

The goal for the September 28 meeting is to begin developing the "roadmap." We envision the roadmap detailing the timeline for adoption of higher blends, and how the infrastructure will be ready for each milestone. The intent is both to create a plan for moving forward, and also help make business planning predictable for service stations.

The interests document is included in the packet mainly for use at the September 28 meeting. Its intent is to help achieve consensus by ensuring the interests of all members are considered while drafting the roadmap.

The purpose of the September 24 meeting is to review an estimate of improvements to retail infrastructure in Minnesota (dispensers, storage tanks, and related equipment), and costs of those improvements, needed to deliver higher biofuel blends to the public.

The packet includes:

A. Agenda for September 24 meeting
B. E15 upgrade estimates
C. Technical panel high points from each meeting
D. Interests document from 08-11 meeting

There was a recent announcement that the Trump Administration would allow E15 to be sold in existing E10 infrastructure. The effect of this announcement is not clear at this time. According to a message from the U.S. Environmental Protection Agency (EPA), "[a]s a next step, EPA is moving to update E15 labels to ensure consumers have informed choices at the pump and clarify the ability of existing fuel infrastructure to support expanded E15 use. However, much of the responsibility regarding labels falls to state agencies, EPA encourages they update them as well and stands ready to support them."

Agenda and additional materials for the September 28 meeting will be sent prior to that meeting.

Please let us know if you have any questions.

Governor's Council on Biofuels – Infrastructure Subcommittee

September 24, 2020 Meeting

9:00 a.m. to noon
Webex Video Conference

Agenda

9:00 a.m.
Welcome, introductions, and overview of agenda
Bob Patton, Energy and Environment Supervisor, MDA

9:30 a.m.
Presentation on E15 upgrade estimates
Nate Blasing, Tanks Unit Supervisor, MPCA

10:00 a.m.
Discussion of need and cost

11:45 a.m.
Public Comment

12:00 p.m.
Adjourn

ESTIMATES FOR E15 UPGRADES

Approximate number of federally regulated UST facilities – 3,900
Approximate number of Federally Regulated UST Tanks – 13,000

Approximate number of Federally Regulated UST sites that store gasoline (excludes sites that only store diesel) – **3500**
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 that 85% or greater of current facilities would currently not be able to demonstrate compatibility for E-15 (Entire tank system including dispensers).

Estimate **30%** of current **tanks** in use currently would not be compatible for E-15. (Early generation fiberglass and old bare steel tanks). This would require replacement of tanks, piping and dispensers. Most sites have all tanks in same tank basin so all tanks would most likely need replacement.
Costs below also include costs of removal of old tanks
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**

Estimate that **35%** of sites do not have **piping** compatible with E15. (Steel pipe and early generation flex piping.) 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**

Estimate that **20%** of sites would need some sort of upgrading of **equipment** other than tanks, piping or dispensers. Examples of this would be submersible pumps, probes, drop tubes, spill buckets, dispenser hanging hardware etc. 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**

DISPENSER COSTS-

25,000 gasoline dispensers statewide (average of 7 gasoline dispensers per site)

Existing infrastructure=
70% Gilbarco dispensers= 17,500
20% Wayne dispensers = 5,000
10% other dispensers = 2,500

50% of Gilbarco not compatible with E15 = 8,750
50% of Wayne not compatible with E15 = 2,500
50% of other not compatible with E15 = 1,250

Guesstimate- 75% of 8,750 Gilbarco dispensers can retro fit @ $3,000 = $19,687,500
Guesstimate -75% of 2,500 Wayne dispensers can retro fit @ $3,000 = $5,625,000
Dispenser **retro fit** cost = **$25,312,500**
(did not include "other brand dispensers in cost)

25% of 8750 Gilbarco need new dispenser @ $20,000 = $35,000,000
25% of 850 Wayne need new dispenser @ $20,000 = $12,500,000
New dispenser cost = **$47,500,000**

*These are only retail dispenser numbers, non-retail dispenser numbers not included.

ETHANOL

Started working with facilities in 2012 on compatibility
Currently 435 tank systems storing E-85
Currently 218 tank systems storing E-15

TANK REMOVAL COSTS (*LARGEST RISK BUT LOWER FREQUENCY*)-

Pull tanks that were installed prior to 1980 (gas and diesel) = 500
Estimate that average facility has 2.5 tanks (500/2.5) = 200
Removal cost $15,000/facility = 250 x $15,000 = $3,000,000

Pull tanks that were installed prior to 1990 (gas and diesel) = 1000
Estimate that average facility has 2.5 tanks (1000/2.5) = 400
Removal cost $15,000/facility = 400 x $15,000 = $6,000,000

Realistically 10 yrs
Franklin Fuel thinks they could keep up

Ensure infrastructure plan is workable and equitable for retailers

(LK) Give retailers a timetable
(TG) Provide direction to retailers for when they are updating infrastructure
(KK) Ensure that each station knows what is expected of them and when, so that they can comply
(KK) Signal to station owners, agencies, and all parties on what they need to do
(GV) Ensure that, whatever timelines are set, the change is equitable, and we don't drive retailers out of the market or advantage some over others
(SH) Prevent the historic challenges faced to biodiesel in terms of getting to the marketplace (i.e. ensure enough equipment at the terminals)
(KK) Ensure timeframe is reasonable; be constructively impatient and realistically urgent
(TG) Create an environment that allows all service station members the ability to sell higher blends through funding and fair timelines
(TP) Learn from biodiesel
(GA) Consider natural cycle of infrastructure replacement
(KK) Consider that each station is at its own place in terms of compatibility

Fund in a way that is sustainable, fair, pragmatic, and benefits the public

(AB) Think creatively about investments and financing, explore all options
(LK) Need a funding mechanism to help retailers
(TG) Stakeholders that benefit from increased biofuels should have a role in funding mechanisms
(KK) Include all interests in a long-term plan to ensure it is sustainable and future proof
(KK) Consider the amount of state dollars that are going to help with sales
(TP) Focus on bigger picture and what we can do economically for our State
(GV) Those needing upgrades needs funds immediately
(KK) Ensure good coverage across the State
(TP) Be realistic

Plan for biofuels/higher blends of the future

(AB) Prepare for higher blends in the future
(GA) Consider what state of biofuels will be in 5-10 years
(GA) Set targets for current and future infrastructure needs
(LK) Determine if we want to plan for staying at E15, or plan for moving to more advanced ethanol products
(LK) Evaluate sites currently E15-compatible to ensure compatibility for additional blends
(KK) Interested in long term goal as much as possible
(TP) Focus on E15 with an eye to the future

Increase use of biofuels to meet Petroleum Replacement Goals and realize benefits

(AB) Grow use of ethanol and biofuels
(AB) Build out infrastructure to meet petroleum replacement goals
(GV) State and economy will benefit from higher levels of ethanol blending
(KK) Recognize the human health, climate change, and air quality benefits for moving to E15

Replace old and possibly harmful infrastructure

(AB) Replace aged infrastructure as well as noncompliant infrastructure
(KK) Consider groundwater and drinking water protection when looking at tanks compatible for biofuels
(GA) Consider what infrastructure will be obsolete

Ensure that E15/higher blends are sold after infrastructure investment

(GA) Incentivize purchase of E15 so infrastructure is not wasted
(LK) Ensure that retailers are committed to selling E15 or E30

Tank system installation bids for higher Ethanol Blends

The following bids consist of costs to install 3- 10,000 gallon tanks, 100 ft of piping, and 6 dispensers that would be E-15/25 compatible which is deemed as an average sized tank facility.

1. Contractor A = $591,100
2. Contractor B = $575,960
3. Contractor C = $603,708
4. Contractor D = 2- 14,000 gallon tanks and piping = $448,063

Average cost for 3 tank systems = **$590,223**

The following is additional costs that would be needed in order to make the tank system compatible with E-30/85 which the upgrade costs are mainly related to dispensers and hanging hardware.

A. Contractor A- $60,000
B. Contractor B - $66,000
C. Contractor C - $72,210
D. Contractor D - $57,000

Average cost to upgrade dispensers/hanging hardware for E-30/85 = **$63,803**