DEPARTMENT OF AGRICULTURE

Date: October 14, 2020

To: Governor's Council on Biofuels Infrastructure Subcommittee

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RE: Packet for Thursday, October 15, 2020 meeting

This is the last scheduled meeting of the Infrastructure Subcommittee, and the full Governor's Council is scheduled to conclude its work and deliver its final recommendations at its Friday, October 30th meeting.

This packet contains:

- Agenda
- Interests of the Infrastructure Subcommittee
- MPCA's E15 upgrade estimates
- MPCA's E15 to E85 installation cost estimates
- Draft notes from the 9/28 Infrastructure Subcommittee meeting

We are still optimistic that this Subcommittee can arrive at a consensus recommendation. At a minimum, we believe the discussion the Subcommittee has had will provide the full Council with a good foundation for its recommendations on E15 and higher blends, biodiesel, and biofuels infrastructure.

We will begin the meeting with an overview of consensus decision making and how we plan to wrap up the Subcommittee's work. We will then work through the issue areas.

You will recall that, at the September 24th and 28th meetings, we discussed the "roadmap."

Roadmap Concept

- A timeline of milestones for higher biofuel blends: E15, E20, E25, E30, etc.; B30, B40, B50, etc.; and
- A plan for reaching those milestones.

We believe subsequent discussion has resulted in possible recommendations that could form the elements of the roadmap:

- A state funding package with a dedicated funding source;
- Minimum compatibility standard for new infrastructure; and
- Timelines and content standards

State funding

As we discussed at Tuesday's meeting, we believe there could be consensus on a funding proposal. We propose the following be considered:

State funding package with a dedicated funding source, modeled after the Petrofund (Infrastructure Fund?)

- Fee on petroleum products. Could be levied on:
  - High carbon (high petroleum) fuels
  - All motor fuels
- Administered by a board in conjunction with state agencies (MPCA and Commerce). The board could take into account ability to pay, such as greater assistance to independents/small chains
- Could be used to leverage federal funds and funds from private sources (as was done with BIP program)
- Could be augmented by a low-interest loan or loan guarantee program

Minimum compatibility standard for new infrastructure

There also could be consensus that all new fuel storage and delivery systems should at a minimum be compatible with ethanol blends up to E25.

Timelines and content standards

We mentioned that there was less agreement around the question of timelines and content standards. We have heard that, due to limitations of contractor capacity and limitations nationally in supply of equipment, a realistic timeline for build-out of capacity for E15 is 10 years or more.

At Tuesday's meeting however, we heard a perspective that the infrastructure Subcommittee may not be adequately taking into account the charge of Executive Order 19-35 to consider policies "that accelerate achievement of the petroleum replacement goals" or the vision of the Governor's Council that "the state moves rapidly to establish E15 is a base fuel."

We think this is a valid point that should be explored, and which raises the question whether infrastructure can be upgraded faster than the current capacity of installers or the equipment supply chain would currently allow. If state policy sent a signal to the market that E15 is to be the "new regular" by 2025, would the capacity of installers and the service station equipment industry remain fixed over time? Or instead would the marketplace respond by increasing capacity? It seems reasonable that the market would respond: new installers would enter the Minnesota market and equipment production would increase.

The above suggests the following approach should be considered:

Timeline

- Content standards set aggressively in order to drive the market to increase availability of equipment and installation services (e.g., E15 by 2025, E20 by 2030, etc.)
- Possibly phased-in approach for the standards (e.g., extra time for the independents/small chains or phased-in geographically, such as the metro area first)
- Develop some sort of mechanism in the policy to account for the possibility that the market doesn't increase as quickly
- Financial aid targeted to independents/small chains

We look forward to the discussion.

Governor's Council on Biofuels – Infrastructure Subcommittee

October 15, 2020 Meeting

10:30 a.m. to 1:30 p.m.
Webex Video Conference

Agenda

10:30 a.m.
Welcome and Introductions
Deputy Commissioner Andrea Vaubel

10:40 a.m.
Agenda overview, consensus process, and expected Subcommittee product
Bob Patton

11:00 a.m.
Discussion and decision-making on "Roadmap" elements
All

1:15 p.m.
Public Comment

1:30 p.m.
Adjourn

Definitions of consensus

“Consensus decision making is a creative and dynamic way of reaching agreement between all members of a group. Instead of simply voting for an item and having the majority of the group getting their way, a group using consensus is committed to finding solutions that everyone actively supports, or at least can live with. This ensures that all opinions, ideas and concerns are taken into account. Through listening closely to each other, the group aims to come up with proposals that work for everyone.”

Source: Seeds for Change| https://www.seedsforchange.org.uk/consensus

Definitions of consensus

"Consensus is a cooperative process in which all group members develop and agree to support a decision in the best interest of the whole. In consensus, the input of every participant is carefully considered and there is a good faith effort to address all legitimate concerns. (Dressler, 2006)....

"Consensus is the outcome of a consensus-building process. After listening to all perspectives, participants develop a proposal that honors the wisdom of the group. When people think and talk together, they can find a solution or proposal to move forward as a group.

"**A consensus decision does not mean that everyone agrees on all the details or that some have changed their ideas or perspectives. Ideally, a consensus decision reflects mutual understanding, agreement to support a decision and commitment to take action steps for the benefit of the group**."

Source: U of M Extension| https://extension.umn.edu/leadership-development/benefits-consensus-decision-making#sources-621510

Fist to Five

Fist: A no vote - a way to block consensus. I need to talk more on the proposal and require changes for it to pass.

1 Finger: I still need to discuss certain issues and suggest changes that should be made.

2 Fingers: I am more comfortable with the proposal but would like to discuss some minor issues.

3 Fingers: I'm not in total agreement but feel comfortable to let this decision or a proposal pass without further discussion.

4 Fingers: I think it's a good idea/decision and will work for it.

5 Fingers: It's a great idea and I will be one of the leaders in implementing it.

Source: Ramsey County| https://www.ramseycounty.us/sites/default/files/Assistance%20and%20Support/Fist%20to%20Five%20Consensus%20Building.pdf

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

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

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**

I. Assuming no change in infrastructure regulations:

A. Infrastructure needs and estimated costs for each of the higher blends

- Question about feasibility of replacing individual tanks on multi-tank site, vs. need to replace all simultaneously
- Possibility of retailers putting E15 into E85/compatible tanks, and related question about availability of blended E15
- State fire code also a factor in compatibility (UL listing)
- Gilbarco upgrade kit for E25 and how that factors in
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B. Realistic timeframes for infrastructure to be ready

- Question: how to address short-term (E15 to E25?) vs. long-term (above E25?)
- How to "chip away at the mountain"
- *Public infrastructure component*

a) Timeline for ethanol

- *Identify 15% of currently compatible tanks (not already storing and dispensing E15)*
  - *About 304 selling E15 currently, about 10% selling E15*
- *All E15 equip is compatible up to E25*
  - *To make jump above E25, piping, hanging hardware, etc. is required to be updated*
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b) Timeline for biodiesel

- Equipment above B20 is compatible up to B100
- We should find out when equipment will become obsolete/needs to be replaced anyway
  - Keeping retailers' endgame in mind

C. What costs can be borne by various segments of the service station industry

- Question about where to find retailer fuel volume data as way to assess scale (in order to determine segments of the service station industry and their ability to pay
- - need to balance competitive advantage and infrastructure update burden
- If age is not determination for replacement, could material be? Risk of failure?
  A. Risk might already be covered by noncompatibility, maybe financial ability or geographic location could be determination or phasing in/targeting
- Crafting criteria based on need

- Given concern with greater MN sites, competitive disadvantages are less in metro area. Phase in might look different in metro areas.
- Availability of contractors in metro area might allow projects to be completed quicker

D. Which industry segments need financial assistance

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E. Sources of funding for financial assistance

- Question of per-unit tax (e.g., per unit of high-carbon fuel) to fund infrastructure
- Question of federal funding program and leveraging that, such as done with BIP
- Idea of low-interest loan program
- Low interest government loan, focus on affordability and compatibility rather than cost
- Rural finance authority as an option for low interest financing, farm credit lenders,
- Combination of grants and loans
- Ethanol interest groups could also play a role (as they did in BIP) to provide nonpublic financing
- TIF financing
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II. Achievable and prudent changes to infrastructure regulations

- Implication of possible EPA regulatory changes regarding infrastructure compatibility for E15
- Discussion about CA's approach to compatibility and legacy equipment
- When we evaluate for compatibility, opportunity for State to do benchmarking. To speed implementation of higher blends, streamlining certification of equipment. Example: database of equipment deemed compatible (not lowering standards).
    A. Public version of UL listing
    B. data trail to review regarding demonstrating compatibility statement from manufacturer
    C. There is already a similar process done by the State. List is constantly moving and growing due to many variables
    D. We must communicate broadly across the State about what is available
    E. There is a segment of equipment that we don't know whether it is compatible
        - Regulatory-wise need to deem as not compatible
    F. Most facilities know whether they are compatible or not
- Requirement that any new equipment has to be compatible up to E25
    A. Should be replaced with highest UL certification instead of up to E25
    B. group must decide on this technical language
    C. E15 is the less expensive opportunity for retailers
        - We need to give retailers a timeline so they can make business decision
- Marketplace for vehicles is changing, need to set mile posts

III. How to structure biofuel ~~content requirements (i.e. ethanol & biodiesel mandates)~~ *policy* to move to higher blends while equitably treating and preventing undue harm to the service station sector, and in particular, smaller operators.

- Relationship between timelines for infrastructure readiness for higher blends ("chipping away at the mountain" and mandates
- Possibility of giving smaller retailers more time to comply with content mandates
- Related question of creating a situation of competitive disadvantage (those able to offer higher blends and those not able to)
- *Metro phasing in plan*
  - *A. Has been used in the past, there is a precedent*
  - *B. E10 required in metro area before statewide*
- *As opposed to looking at geography, phase in based on volume at retail location*
  - *A. First part: determine effective date for statewide application, give smaller volume retailers longer to phase it in (4-5 years?) 500,000 gallons or less*
- *When MN mandated E10, how did MPCA determine infrastructure was safe?*
  - *A. Vast majority was compliant? (needs to be fact checked)*
- *That question ^ and response can be paired with Amanda's comment regarding timeline*
- *What are reasonable timelines to set those benchmarks?*
  - *A. MPCA estimates (from discussions with main manufacturer and contractors): 10 year timeframe*
    - *Geographical phasing could shorten timeframe by 1-2 years*
    - *More concentrated efforts, more installations than normal in one year*
      - *a) Rather than random jobs all over state*
    - *Conversation to have with contractors***
    -
  - *B. Would a timeframe motivate the industry to act or to sit back and wait?*
    - *Number of facilities are shrinking, people having to make tough decisions. These decisions will take care of some of those numbers*
    - *If we develop an affordable plan, might make retailers act sooner and change their opinions. We only have 3 Gilbarco installers in MN, installer availability is an issue/limitation. May take 8-10 years for installations to be complete and to get equipment. If retailers see longevity and affordability, may start sooner than later*
      - *a) Incentive for sooner attempt at upgrades, would push business decisions*
  - *C. Folks getting ready to retire, prospective buyers that don't know about upcoming upgrade requirements puts them in a tough situation*
    - *Putting benchmarks in writing is valuable so that everyone is aware of the expectation*
  - *D. New tank regulations may push retailers to close shop*
- *We need to give firm guidance to help retailers move with state and market. 8-10 of guidance is not too long because sending the right signal will make progress happen*

- *Earlier benchmark (4-5 years) for those that could come into compliance sooner, coupled with financial assistance, could speed timeline along. Policy is meant to send signal to marketplace to respond to. To accelerate timeline, need to send long-term signal to marketplace. Phase-in approach with earlier benchmarks to accelerate the timeline.*
- *If there is the right incentive, will give biofuels more bang for buck – this is right time to do it (if done the right way).*
- *2004-2006 fed ethanol tax credit, incentivize retailers as well. Make it so they cannot say no. More marketing and affordability, more green lights from retailers*
- *MN infra avg age 24-25, how does this compare to national averages?*
  - *A. MN is a tad bit older, 1-2 year timeframe. Reason is EPA upgrade requirement 1988. Retailers are at different levels of infrastructure age.*
  - *B. How did federal govt handle this?*
  - *C. EPA released reg in 1988, gave 10 years to be upgraded by 1998. If that did not happen, there were fines. In terms of incentives: programs, grants, motivation*
- *Weights and Measures needs to upgrade lab equip to test for ethanol blends above 12%*
- *Contractors cannot find enough help to match an increase in demand for installation. Must be certified in MN to do these installations.*
-