

The following questions were submitted via the webcast portal during the Wednesday, December 14, 2022 afternoon session but were unable to be addressed due to lack of time remaining.

PHMSA Public Meeting – Houston, Texas

Online Audience Questions 12/14/2022

Mr. Lee - Are you going to wait until PHMSA completes its rulemaking to re-evaluate the safety regulations for CO2 pipelines before breaking ground on your proposed pipeline?

Steve Lee, Executive Vice President, Navigator CO2: We do not believe a pause or moratorium on CO2 [carbon dioxide] pipelines pending rulemaking is appropriate or in the public interest for the critical infrastructure to be timely placed in service to both work towards the nation's climate initiatives and the needs of our ethanol and fertilizer customers to address their carbon emissions. We actively work with PHMSA throughout the entire design, construction, and operations life cycle of the Heartland Greenway. Navigator CO2 must be compliant at all times with PHMSA regulations and will re-evaluate the system several times throughout the project development in consultation with PHMSA. This would include anytime a notice of rulemaking, advisory bulletin, or final rule is adopted by PHMSA.

If not, how and why do you think your pipeline is going to adequately address the gaps in regulations that PHMSA has identified?

Steve Lee: Navigator CO2 already uses additional guidance and recommended practices that exceed the PHMSA regulations (for example, DNV-RP-F104 Design and Operations of CO2 Pipelines). See additionally the answer above.

Mr. Lee - As Mr. Stephens discussed earlier, most commercial plume models do not account for elevation, which can be a major gap in understanding how CO2 might disperse in the event of a rupture. Did Navigator's plume modeling take into account elevation?

Steve Lee: The models Navigator has utilized to date have a generic elevation data that is taken into account as one of the parameters for the plume and air dispersion models as the route is not finalized. The Navigator CO2 team has flown the entire system with LiDAR to obtain all sub-meter elevation data. The elevation specific models will be performed as the route and installation methodologies are finalized due to the complexity of the models and starting with the PHMSA defined HCAs [high consequence areas].

Mr. Lee - When will you release your plume modeling to the public?

Steve Lee: The ALOHA software is available free to the public today and can be utilized to generate the plume models by the public. We are working with the state PUCs [public utility commissions] and agencies to determine what information should be released to the public due

to the complexity of the modeling process and the sensitive nature of this information as it relates to critical infrastructure security.

Mr. Lee - Great presentation on the Navigator Pipeline--by far the most detailed presentation I've seen from a CO2 pipeline company regarding safety, very informative. Will you release dispersion modeling to the public/ make emergency response plan public?

Steve Lee: See above for plume modeling. Emergency response [plans] are released to the public once they are finalized with the local counties and through our public awareness programs. We have had initial discussion with first responders, have additional meetings scheduled for January, and will continue to work with local first responders and stakeholders throughout the development, construction, and operation phases of the project to develop and implement an effective, comprehensive, and collaborative plan. Currently we are still on the first of four stages in plan development.

Ms. Leung - Given PHMSA's intended rulemaking regarding CO2 pipelines, does DOE intend to pause any of its promotion or funding of CO2 pipeline projects to allow for the rulemaking process to determine the appropriate safety measures for these types of pipelines?

Sarah Leung, Carbon Transport Program Manager, Department of Energy [DOE]: DOE is proceeding with implementing its Bipartisan Infrastructure Law (BIL) programs for CO2 transport that includes pipelines and additional modes such as ship/barge, rail, and truck. DOE is communicating closely with DOT PHMSA during the rulemaking process. Through our funding opportunity, DOE is evaluating additional critical safety and risk assessments for DOE-funded CO2 pipeline front end and engineering design (FEED) studies.

Ms. Leung - There seems to be opposition from state and local governments as it relates to CO2 transportation by pipeline. But from what I just heard, to meet the federal government's decarbonization goals, we need these pipelines. Are PHMSA and DOE encouraging states and localities to support CO2 pipelines?

Sarah Leung: DOE seeks to coordinate closely with relevant stakeholders on research, development and demonstration (RD&D) projects of all CO2 transport modes and through providing technical assistance to states or localities that request it, especially through DOE's funding opportunities that require stakeholder and community engagement plans.

Mr. Holohan - Since CO2 is measured in units of mcf, tons, or metric tons, can the regulations be amended so that CO2 volumes do not have to be reported in barrels?

Vinnie Holohan, Senior Engineer, Engineering Division: PHMSA cannot comment on specifics of the ongoing carbon dioxide rulemaking, but I can note that I have individually thought about the units used for carbon dioxide. Please be aware that the rulemaking process does include a period for public comments, and that input received is considered by PHMSA