



U.S. Department
of Transportation

Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Avenue SE
Washington DC 20590

JUL 29 2019

Mr. David Van der Vieren
Founder, New Terrain Technologies
2119 S Yukon Street
Lakewood, CO 80227

Dear Mr. Van der Vieren:

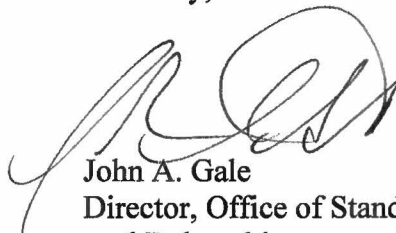
In a letter to the Pipeline and Hazardous Materials Safety Administration (PHMSA), you requested an interpretation of 49 CFR Parts 192 and 195. Specifically, you requested an interpretation on the requirements of §§ 192.705 and 195.412(a) as related to pipeline right-of-way inspection.

You asked whether satellite imagery qualifies as suitable methods for traversing the right-of-way to observe surface conditions on and adjacent to the right-of-way. You stated that satellite patrols utilize various sensors/telemetry units to analyze the conditions on and adjacent to the right-of-way up to once a day to monitor for mechanical threats, land disturbance, soil washouts/movement, vegetation health, and the presence of liquid hydrocarbons. You provided a sample of the satellite imagery. You asked PHMSA if the regulations allow the use of satellite imagery technology for pipeline right-of-way inspection.

Both §§ 192.705 and 195.412 allow right-of-way inspection that include walking, driving, flying or other appropriate means.

Other appropriate means may include satellite imagery if this method compares to the other specified methods. However, the satellite imagery in your examples did not provide sufficient resolution to provide the necessary details of the surface conditions on or adjacent to each pipeline right-of-way. Therefore, the satellite imagery as you submitted, cannot be used as an appropriate means. If we can be of further assistance, please contact Tewabe Asebe at 202-366-5523.

Sincerely,



John A. Gale
Director, Office of Standards
and Rulemaking

Dear Mr. John Gal;

I am seeking clarification on the Pipeline Hazardous Material Safety Administration regarding Gas Transmission Line Patrol and Hazardous Liquid Line Patrols, found in 49 CFR 192.705 and 49 CFR 195.412(a) respectively. Specifically, whether Satellite Imagery qualifies as suitable methods for “Traversing the right-of-way” to observe surface conditions on and adjacent to the right-of-way.

Due to great improvements in the quality and accessibility of Satellite Imagery coupled with computer processing power, pipeline safety can be dramatically increased by the use of Satellite Patrols. Satellite Patrols utilize various sensors/telemetry units to analyze the conditions on and adjacent to the right-of-way up to once a day to monitor for mechanical threats, land disturbance, soil washouts/movement, vegetation health, and the presence of liquid hydrocarbons (please see attachments for examples). Compared to traditional methods (i.e. fixed wing aircraft, helicopter, driving, or walking), Satellite Patrols can drastically improve the safety to the public and the environment through a higher frequency of risk identification in class 1, 2, 3 and 4 locations while eliminating the “human element” of relying on a pilot to identify all risks while traveling over 100 mph. Additionally, Satellite Patrol methodology is in alignment with PHMSA’s previous funded R&D collaboration with NASA and various Pipeline Operators in 2009 as part of the *Right of Way Automated Monitoring (“RAM”)* project.

In conclusion, I am requesting a formal interpretation regarding the use of Satellite Imagery to fulfill the PHMSA requirements for Pipeline (Gas & Liquid) Patrols.

Sincerely,

David Van der Vieren

Founder

New Terrain Technologies

David.vandervieren@newterraintechologies.com

(720) 234-3958

Attachments



Figure 1. Identification of Vehicles and Mechanical Threats on or near a Right of Way



Figure 2. Identification of a Liquid Hydrocarbon Spill with Geospatial Outline of the Affected Area.

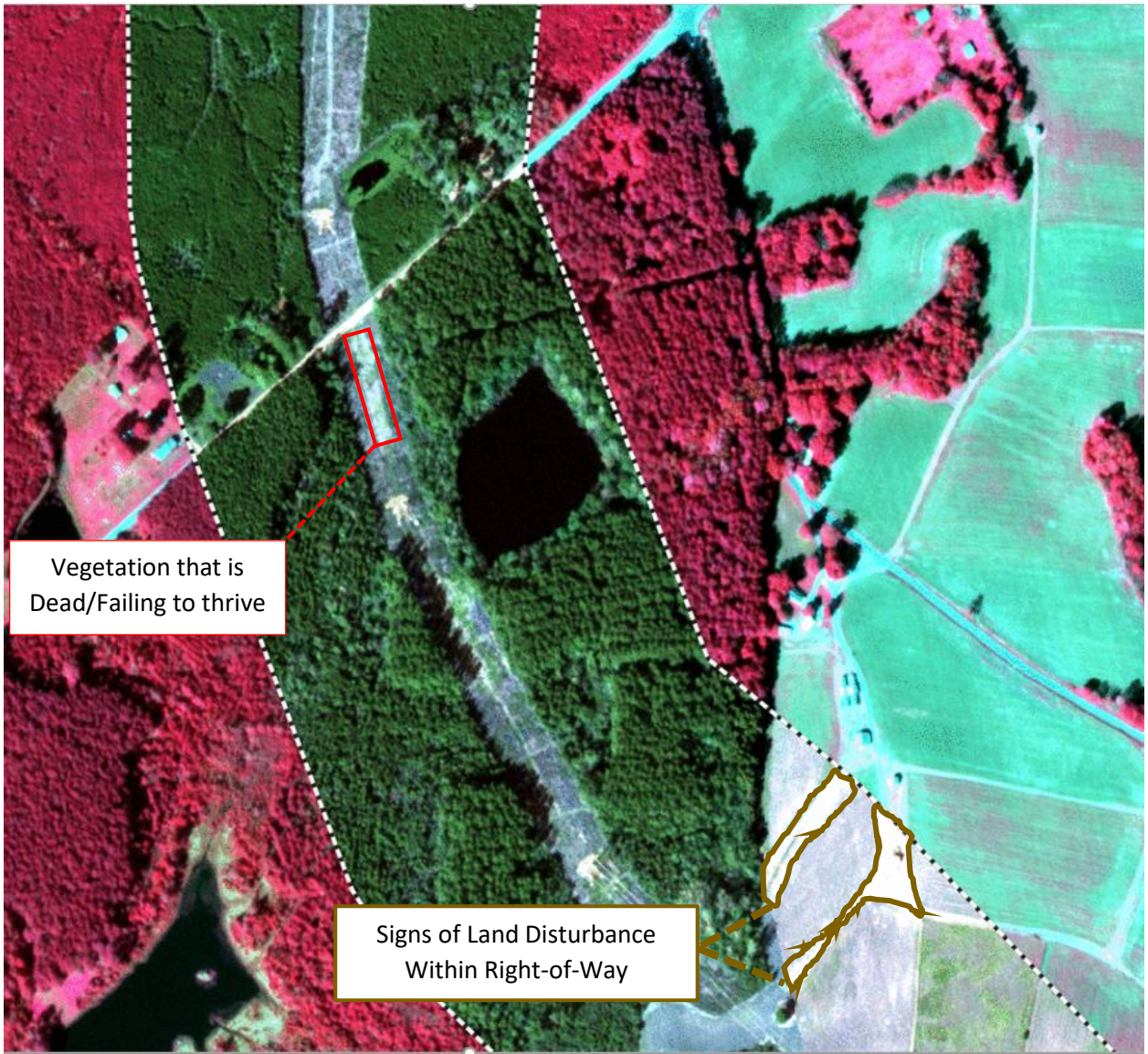


Figure 3. Vegetation Analysis to Determine the presence of Potential Land Disturbance and Gas Leaks on or Adjacent to the Right of Way



Figure 4. Example of Satellite Elevation Analysis