

FEB 2.1984

Mr. H. R. Garabrant, P.E.

Sr. Utility Engineering Analyst

Gas Unit/Operations

Public Utility Commissioner of Oregon

Labor & Industries Building

Salem, Oregon 07310

Dear Mr. Garabrant:

We have considered your request that we reviews waiver from 49 CFR 392.321 that Commissioner Lobdell granted the County of Clackamas by letter dated December 2, 1983.

The waiver applies to a proposed 8-inch plastic pipeline that the County will construct above ground and operate to transport gas from a landfill to its shops for use as boiler fuel. In view of the differential soil settlement problems and the added safety maestros imposed as conditions of the waiver, we have no objections to the waiver from a safety standpoint. Therefore, the waiver may take effect as scheduled.

Sincerely,

Original signed by

Richard L. Beast

Associate Direct for

Pipeline Safety Regulation

Materials 1\$nsportation Bureau

PUBLIC UTILITY COMMISSIONER OF OREGON  
LABOR & INDUSTRIES BUILDING  
SALEM OREGON 97310  
PHONE (503) 378-6628

December 21, 1983

Richard L Beam, Associate Director  
Pipeline Safety Regulation  
Materials Transportation Bureau  
US Department of Transportation  
400 Seventh St SW  
Washington DC 20590

Enclosed is a copy of a waiver issued to the Department of Environmental Services, County of Clackamas, State of Oregon, concerning the use of a relatively short section of 8-inch polyethylene pipeline to be used above ground at 42nd Street just outside of Oregon City, Oregon.

Please review and advise this office if the waiver is or is not acceptable to DOT as soon as possible. Construction is in progress on the pipeline that includes this section of piping.

Please note that an analysis of the situation was made and certain terms and conditions were included in the granting of the waiver by the Oregon Public Utility Commissioner, John J. Lobdell. The county (the operator) has agreed to these terms and conditions set forth in the waiver by their letter of December 16, 1983. This letter is also enclosed. If further information is needed, please feel free to contact me.

H. R. Garabrant, P.E.  
Sr. Utility Engineering Analyst  
Gas Unit/Operations

November 16, 1983

Public Utility Commissioner  
Labor and Industries Building  
Salem, Oregon 97310

Attention: Mr. H.R. Garabrant, P.E.  
Senior Utility Operations Analyst

Gentlemen;

The Department of Environmental Services of Clackamas County, Oregon in Oregon City, Oregon, has been classified as the operator of a landfill gas transmission system. This letter requests a waiver from the Department of Transportation Regulations for Transportation of Natural and Other Gas by Pipeline, CFR-49, Part 191 and 192.

The proposed project includes a small compressor station located within a completed sanitary landfill. The compressor station will be constructed on a pile-supported foundation that will not be subject to differential settlement. The compressor station will be operated to transport landfill gas from an existing landfill collection system through a combination abovegrade and buried 8-inch polyethylene pipeline to county shops for use as boiler fuel. Approximately 575 feet of this polyethylene pipeline will be installed abovegrade between the compressor station and the perimeter of the landfill property.

Part 192.321, Installation of Plastic Pipe, Paragraph (a) states that, "Plastic pipe must be installed below ground level." Clackamas County formally requests a waiver from this requirement for the following reasons:

- The transmission pipeline between the compressor station and the perimeter of the landfill will be installed on top of a completed sanitary landfill that is subject to differential settlement in amounts up to 25 percent of original depth. Buried piping in this location would be subject to frequent breakage, due to differential settlement. Broken pipe would be difficult to locate and repair.
- The sanitary landfill is now closed to dumping. Public access is prohibited by perimeter fencing and signs. Any employees who works around or with the landfill gas compression and transmission system will have received information about the potential hazards associated with landfill gas.

We would appreciate your prompt consideration of this waiver request. We will be pleased to meet with you at your convenience to discuss these issues or to provide additional information, if necessary. Should there be any questions, please call me at (503) 655-8521.

Sincerely,  
Benjamin R. Rainbolt  
Administrative Services Officer

PUBLIC UTILITY COMMISSIONER OF OREGON  
LABOR & INDUSTRIES BUILDING  
SALEM OREGON 97310

December 2, 1983

Benjamin R Rainbolt  
Administrative Services Officer  
Clackamas County  
902 Abernethy Rd  
Oregon City OR 97045

This is in response to your letter of November 16, 1983 (which is attached hereto and by this reference made a part hereof) in which you request a waiver of CFR-49, Part 192.321(a).

You have under construction a project which proposes to transport landfill gas from an existing landfill collection system via a compressor station through a combination of above-ground and buried pipes to the county shops for use as boiler fuel. You have requested that the installation of approximately 575 feet of polyethylene pipeline above-ground be exempted from the requirement that "plastic pipe must be installed below ground level." The PUC staff gas engineer has conducted an investigation of this proposed installation and reached the following conclusions:

1. The soil in the landfill is expected to settle up to 10 feet in the life of the project. The pipeline, whether steel or plastic, would be stressed excessively and breakage of the pipeline could be expected if placed underground because of this uneven settlement.
2. The placing of the pipeline underground may cause low points in the pipeline at unpredictable locations due to uneven ground settlement. This would allow moisture, if present, to collect in the pipeline. An above-ground pipeline can have the proper slope maintained as the soil settles so that water can be drained from the pipe at specific locations.
3. The landfill gas contains moisture and may contain other corrosive elements. It is noted that the compressor equipment, separators, etc., are stainless steel. Plastic pipe should be used to prevent internal corrosion problems that could occur with steel pipe.
4. The landfill soil does not provide a good foundation for heavy equipment. Supporting the pipe above-ground and maintaining grade with supports is less of a problem using light plastic pipe instead of heavy steel piping.
5. The plastic proposed for use is a high density polyethylene PE4308 and contains carbon black to reduce the effect of ultraviolet rays. The wall thickness of the 8-inch pipe will be over 1/2-inch.
6. The pipeline will be qualified for operation at 64 pounds of pressure per square inch, but will be operated at only five pounds per square inch. Should the pressure regulation equipment fail, the compressor can only put out 15 to 20 pounds. This provides a safety factor far above normal. As a result, some deterioration of the pipe could take place with no effect on safety.
7. The area where the above-ground piping will be installed is fenced and posted and is not accessible to the public.
8. Reliability of service in the case of a problem is not an issue. The pipeline will be feeding only one user (two boiler installations). The boilers have natural gas backup.
9. DOT rules and standards are based on the expectation that pipeline will normally be in existence for over 50 years. The life of the landfill is presently estimated to be no more than 15 years; thus, a lower standard is

possible.

10. The compressor will be instrumented to shut down in the event of a break in the 8-inch pipe.

Based on the foregoing, I have concluded that the circumstances of this installation are clearly different from the norm upon which the rule is based, and that the above-ground installation as proposed is likely to be more safe than undergrounding. I am therefore granting the requested waiver with the following restrictions:

1. That the standards and criteria contained in Part 192.161 dealing with supports and anchors, particularly as they relate to exposed pipeline, be strictly adhered to.
2. That all personnel be kept to a safe distance from the above-ground pipeline when qualifying pressure tests are performed.
3. That a maintenance program be established which will assure that weeds and combustible materials are kept at least 20 feet away from the pipeline.
4. That the maximum outside surface temperature of the 8-inch above-ground pipeline be closely monitored during the summer. If the measured temperature exceeds the allowable temperature limit of the plastic material involved, the pipeline should be shielded so that it will not absorb sunlight.
5. The 3-month interval for pipeline patrol set out in Part 192.721(b) be reduced to one month.

This waiver is subject to receipt of a signed agreement from you accepting these terms and conditions and will also require the concurrence of the federal agency.

John J. Lobdell  
Commissioner

December 16, 1983

Public Utility Commissioner  
Labor & Industries Building  
Salem, OR 97310

ATTN: Mr. H. R. Garabrant, P.E.  
Senior Utility Operations Analyst

In response to the Commissioner's letter of December 2, 1983, approving Clackamas County Department of Environmental Services waiver request, the following restrictions were required:

1. That the standards and criteria contained in Part 192.161 dealing with supports and anchors, particularly as they relate to exposed pipeline, be strictly adhered to.
2. That all personnel be kept to a safe distance from the aboveground pipeline when qualifying pressure tests are performed.
3. That a maintenance program be established which will assure that weeds and combustible materials are kept at least 20 feet away from the pipeline.
4. That the maximum outside surface temperature of the 8-inch aboveground pipeline be closely monitored during the summer. If the measured temperature exceeds the allowable temperature limit of the plastic material involved, the pipeline should be shielded so that it will not absorb sunlight.
5. The 3-month interval for pipeline patrol set out in Part 192.721(b) be reduced to one month.

These terms and conditions are understood and accepted by the undersigned as representing Clackamas County Department of Environmental Services. The conditions will incorporate into our maintenance and procedures manual as part of our operating program.

BEN RAINBOLT  
Administrative Service Officer