Mr. J. Gordon Arbuckle
Patton, Boggs and Blow
2550 M. Street, N.W.
Washington, D. C. 20037

Dear Mr. Arbuckle:

We have received your letter of February 15, 1979, requesting a finding under 49 CFR 195.260(e) that valves are not justified at certain water crossings in your planned installation of the 48-inch Clovelly Oil Pipeline located between the Fourchon Booster Station and the Clovelly Storage Terminal as shown on LOOP, Inc. drainage DSK-M-1000 through DSK-1009, dated February 19, 1979. In your letter, you stated that over 40 water crossings more than 100-feet in width will be made by this 25-mile pipeline. You indicated that precise compliance with ?195.260(e) would result in the placement of what your clients consider to be an impractical number of valves (over 80), a costly requirement which they believe would result in greater risks of spills than an uninterrupted pipeline. Instead, you proposed to place valves at Fourchon Booster Station (two, remote controlled) another at the Southwest Louisiana Canal, one just inside the planned Hurricane Protection Levee, and a final one (also remote controlled) a mile south of Clovelly Terminal.

At our meeting with you, representatives of LOOP, Inc., and Eagleton Engineering Company on February 21, 1978, we were briefed and were shown aerial photographs illustrating the extensive marshes along the planned pipeline route. You also provided us copies of an earlier (1970), similar request by Shell Pipeline Corporation concerning its planned 22-inch pipeline in Terrebonne Parish, which was approved by our predecessor, the Federal Railroad Administration; a plan and profile of the planned line; and a summary of a computer-assisted analysis of the effects of line ruptures assuming various valving schemes. On February 28, 1979, we received the detailed explanation of this rupture analysis as requested, and found it sufficient for our review.

In the evaluation of your request, this office considered the following factors as relevant to whether justification exists for not installing valves as required:

1. Effectiveness of Proposed Leak Detection and Shutdown System: We found your plans for automated leak detection, resultant alarms and remotely-controlled pumps and shutdown valves to be an effective, integrated set of alternative measures which will assure a level of safety far exceeding that attainable by adherence to the regulation. Your analyses of the effects of hypothetical ruptures showed that spills should not exceed 5,000 barrels under the maximum possible valve interval. Nor does deceasing the valving

interval reduce the predicted spill much below 4,000 barrels. These appear to be reasonable levels which would be surpassed if shutdown capabilities were limited to manually controlled valves placed as required by ?195.260(e). Even if these remote-controlled valves failed to close in the event of a pipeline rupture, the response time required to manually close them should be no greater than the response time necessary to close any manually operated valves under ?195.260(e).

The effectiveness of controlling a spill by manual valves on either side of water crossings generally is dependent on how rapidly they can be closed. For the most part, such valves on the Clovelly Pipeline could be placed only at sites inaccessible by road or accessible by lengthy water route. Rapid shut-down could not be attained under these arrangements and therefore, escape of oil could not be as effectively controlled as by the proposed leak detection and shutdown system.

2. Threat to the Integrity of the Pipeline at the Planned Water Crossings: The waterways to be crossed are all less than 10 feet deep and most are less than 7 feet deep. Flow rates are so low that erosion of the pipeline cover is highly unlikely. Marine traffic consists of light, shallow draft boats and an occasional flat-bottomed barge, none of which can be expected to damage the pipeline within its 5-foot, filled trench by direct contact or dragging anchor. For these reasons, we conclude that the probability of pipeline rupture at these water crossings is not appreciably greater than that for the remainder of the pipeline.

3. Drainage from Line after Shutdown: A main reason for placing valves on either side of a water crossing is to limit line drainage into the waterway after shutdown, in the event of a rupture at the crossing. Under the proposed valving plan, even though a valve is not near a point of rupture, very little oil is expected to escape from any line rupture after shutdown occurs and all dynamic effects cease. Because the line lies beneath the water level everywhere between the valves at its extremities, after shutdown, water pressure will confine the remainder of the line fill to the pipeline, except for small amounts displaced by the differential in density between oil and water.

In consideration of the above, I hereby find that the placement of valves at water crossings of the Clovelly Pipeline under the provisions of ?195.260(e) is not justified provided that the operating controls described in Volume V of the LOOP, Incorporated Application for License (October 1975) are attained and remote

controlled valves are installed at the Fourchon Booster Station (MOV 3014) and one mile south of Clovelly Dome (FV 4161) as proposed.

Sincerely,

Cesar De Leon
Associate Director for
Pipeline Safety Regulation
Materials Transportation Bureau

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