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May 8th, 2015

Mr. Boramy Ith, Project Manager  
Southern California Gas Company  
555 W. 5th Street  
Los Angeles, California 90013

Subject: Water usage, Pipeline Safety & Reliability Project

Dear Mr. Ith

Spec Services Incorporated has estimated the total water usage for the above project to be approximately 11,889,000 gallons. That includes 48,000 gallons per work day for unpaved areas for 65 work days, 10,000 gpd for horizontal direction drill (HDD) work areas for 75 days, 5,000 gpd for laydown areas for 16 months, 105,000 total gallons for street work, and a maximum of 4.3MM total gallons for hydrotesting. A total of 1,655,000 gallons is estimated to be needed for three HDDs to hydrotest pipe and use for drilling fluid. These figures are based on the following assumptions:

- Of the entire construction length, 12,000' will be active at any one time in unpaved areas.
- Unpaved areas will be wet down 6 times per day to a depth of 0.05”.
- Each water truck holds approximately 3,500 usable gallons of water, so each application of water in unpaved areas would take 4 to 5 trucks per application.
- The pipeline will most likely be hydrotested in seven unequal segments depending on valve locations, elevation differences and other factors. Therefore the water needed for each test may range from as little as 485M gallons to 4.3MM gallons. Water from one test would be re-used in the next test and disposed of after the last test. A short-duration spike test will be included in the test program.
- Water needed for HDD drilling fluid assumes the total volume of the three HDD bore holes with a 0.5 water loss factor.
- HDD pipe will be hydrotested prior to pullback.
- Saw cutting assumes 8 gallons per hour, with 2 saws being operated for each street crew for an average of 4 hours/day for 4 crews multiplied by the average total working days for all street crews.

See table attached for details.

Sincerely,  
SPEC Services, Inc.

David Andries, P.E.  
Senior Project Manager

