

**PACIFIC GAS AND ELECTRIC COMPANY  
San Bruno GT Line Rupture Investigation  
Data Response**

PG&E Data Request No.:	CPUC_209-01		
PG&E File Name:	SanBrunoGT-LineRuptureInvestigation_DR_CPUC_209-Q01		
Request Date:	October 13, 2011	Requester DR No.:	
Date Sent:		Requesting Party:	CPUC (CPSD)
		Requester:	Michelle Cooke

**QUESTION 1**

What are the estimated costs for the following things:

- 1) Hydrotest (both fixed cost per test and variable cost/mile)
  
- 2) Automatic and remote controlled valves- here I'm thinking if you can give me an average cost of the valve and installation cost and then a cost estimate for the controlling/communication equipment and what is scalable based on numbers.

**ANSWER 1**

In its Pipeline Safety Enhancement Plan (PSEP) filing dated August 26, 2011, PG&E stated that the fixed cost of a mobilization/demobilization surcharge of \$500,000 was added to each project and a move around surcharge based on pipe-diameter range was added for each additional test section within a defined project. These surcharges include the costs for moving construction equipment and personnel to and from each site, excavating bell holes at each end of the test section, and returning the site to pre-testing conditions. (p.3-41). The project unit cost forecasted in Phase 1 varies from a low of \$47 per foot to a high of \$2,646 per foot, with an average unit cost for all pipes to be strength tested of \$95 per foot, not including contingency. (p.3-42).

PG&E's actual costs for the 2011 hydrostatic test program are higher than the forecasted amount in the PSEP at amounts between \$200 and \$245 per foot or \$1.3 million per mile. PG&E expects that these costs will be lower in the future with more time for planning, engineering, permitting, and less overtime. It is unclear whether costs will come down to levels forecasted in the PSEP. Hence, both the PSEP forecasted costs and actual costs incurred to-date are provided in this response for your consideration.

**ANSWER 2**

The average cost for the 228 automated valve installations and modifications (80 projects) proposed in PSEP Phase 1 is \$581K per valve. The cost varies greatly by installation depending upon the following:

- whether it is a new valve installation, a vault installation, and/or a new SCADA RTU;
- the size of the automated valves involved and the number of valves being automated at a single site;
- the permitting and clearance requirements; and
- the type of work, valve replacement and automation, automation of an existing valve, or an upgrade of an existing automated valve.

For 10"-36" valve sizes, valve material costs vary from \$10K to \$100K and actuator material costs vary from \$15K to \$50K. For a single new valve installation and then automation, construction labor would typically be \$400K to \$600K. For single automation of an existing valve, construction labor would typically be \$150K to \$200K. These construction costs do not include environmental mitigation costs; site restoration costs; gas clearance outage costs; and costs to provide electrical service and communications to the site. Construction labor to upgrade controls for a single automated valve averages about \$100K.