

6.a PIPELINE SPILL DETECTION AND LOCATION (Cont'd)**Leak Detection System (Cont'd)**

Leak Size (% of nominal flow)	Detection Time
1%	50 min
1.67%	25 min
3.33%	10 min
≥ 10%	4 min

Table 6.b Estimated Detection times for a selection of leak sizes - 16" San Pedro Bay Pipeline.

The leak size (% of nominal flow) is based on the observed flow rate of 250 bbls/h from data collected. Leak size estimates are expected to have an accuracy of $\pm 10\%$ of real leak size or better. It should be pointed out that the above performance figures may change depending on the actual instrument performance.

Leak Location Accuracy

As a general rule for the 16" San Pedro Bay Pipeline, the location error decreases exponentially as the leak size increases. Leak location estimation depends on the quality of the measurements. For large leaks (greater than 20% of flow), an accuracy of $\pm 5\%$ of the distance from nearest two pressure meters is achievable.

Surveillance of the line with this leak detection system is conducted at Platform Elly's control room, manned 24 hours per day. The control room operators recognize the alarms generated and respond to each alarm. The specific procedures used by the control room operators are contained in the Beta Operations and Maintenance Manual. This manual lists the normal and abnormal operating procedures for the pipeline. Should the leak detection system become inoperative, routine surveillance of the pipeline is conducted until the system is repaired.

In the event of a leak, the control room operators have the ability to close the platform discharge shutdown valve (ML3). Closure of this valve automatically shuts down the shipping pumps.

In General – For Spill Response - Do Not Delay.

Plan Ahead.

Over-respond and stand down if necessary.

Do not get behind on the curve.