

Comparison of Cook Inlet Keeper Pipeline Report¹ Accident Statistics for Oil with Accident Statistics for 9/15/02 - 9/15/03 and 9/15/03 - 9/15/05, Respectively

Statistic	“Lurking Below” Report	1 st Post-Report Analysis	2 nd Post-Report Analysis
Frequency	66/60 months <i>1.1 x/month</i>	9/12 months <i>0.75 x/month</i>	12/24 months <i>0.5 x/month</i>
Onshore/Offshore	88% / 12%	100% / 0%	83% / 17%
Cause:			
Corrosion	27%	0%	8%
Unknown/unreported	26%	33%	0%
Human error/maintenance-related	20%	22%	8%
Pipeline infrastructure failure	14%	22%	42%
Abandoned pipeline release	8%	11%	25%
Frozen pipeline	5%	22%	17%
Third-party damage	2%	0%	0%
Type/Location:			
Onshore oil field pipelines: Swanson River Field	41%	44%	67%
Onshore oil processing, including West McArthur River Unit and Trading Bay Production Facility	36%	56%	8%
Offshore pipelines	14%	0%	17%
Tank farm	8%	0%	0%
Onshore oil transmission	2%	0%	8%
Number of Reported Spills by Operator: ²			
Unocal	76%	78%	75%
Forest Oil	12%	22%	8%
XTO Energy	8%	0%	0%
Tesoro	2%	0%	0%
BP	2%	0%	8%
Cook Inlet Pipe Line	0%	0%	8%
Kenai Pipe Line	0%	0%	0%
Annual release volume	52,324 gal.	211 gal.	686 gal.
Average/median spill size (gal.)	3,964 / 15	23 / 8	114 / 4
Releases >50 gal.	30%	22%	33%
Largest spills	Top 8 - Unocal	Top 3 - Unocal	Top 2 - Unocal

¹ “Lurking Below: Oil and Gas Pipeline Problems in the Cook Inlet Watershed,” Lois N. Epstein, Cook Inlet Keeper, September 2002, see www.inletkeeper.org/pipelines.htm. The time period analyzed was 1997-2001.

² As discussed on p. 18 of “Lurking Below,” “Keeper believes that using the number of spills rather than the volume released results in a better measure of operator performance since a few large volume spills can distort the results. In fact, 99% of the known volume spilled during the 1997-2001 was from Unocal operations (as opposed to 76% of the number of spills), with the January 6, 1999 spill alone representing 87% of the total volume released from pipelines in the Cook Inlet watershed during this period.” Additionally, a large number of small volume spills indicates a systemic problem that should be remedied, and thus is noteworthy.

Oil Pipeline Analysis:

Unchanged:

- Offshore spills still occur at a rate of approximately 1 release/year
- Unocal has the highest release frequency with approximately 3/4 of all pipeline releases, and a disproportionately high spill rate since the company owns only 39% of the Cook Inlet oil industry's pipeline mileage
- Approximately 1/4 to 1/3 of the pipeline releases are >50 gallons; and,
- The largest spills are dominated by Unocal-owned pipelines

Favorable Trends:

- The overall pipeline spill rate decreased significantly to approximately 0.5 releases/month (from 1.1 releases/month in 1997-2001)
- XTO Energy, Tesoro, and Kenai Pipe Line have zero reported releases for the past three years
- Onshore oil processing releases decreased significantly (potentially because Forest Oil's operations are no longer new)
- Corrosion and unknown/unreported generally decreased as causes of releases; and,
- Median release volume decreased

Unfavorable Trends:

- Pipeline infrastructure failures, abandoned pipeline releases, and frozen pipelines together represent an increasingly large percentage of pipeline releases (probably because these pipeline release causes have not been a focus of preventive actions to date, unlike releases due to corrosion); and,
- Swanson River Field pipelines represent an increasingly large percentage of pipeline releases

Comparison of Cook Inlet Keeper Pipeline Report Accident Statistics for Gas with Accident Statistics for 9/15/02 - 9/15/03 and 9/15/03 - 9/15/05, Respectively

Statistic	“Lurking Below” Report	1st Post-Report Analysis	2nd Post-Report Analysis
Frequency	4 / 5 years <i>0.8 x/year</i>	1 / 1 year <i>1 x/year</i>	6 / 2 years <i>3 x/year</i>
Number of Reported Spills ³ by Operator:			
Marathon	100%	100%	83%
Aurora Gas	NA	NA	17%
Annual release volume	43 gal.	55 gal.	5,412 gal.
Average/median spill size (gal.)	72 / 88	55 / 55	1,805 / 56
Releases >50 gal.	50%	100%	50%

Gas Pipeline Analysis:

Unchanged:

- Vast majority of the releases are from Marathon, the primary gas pipeline operator in the Cook Inlet watershed
- Median spill volume is relatively stable; and,
- Half or more of the releases are >50 gallons

Favorable Trends: None

Unfavorable Trends:

- Overall pipeline spill rate increased significantly (from 0.8 releases/year in 1997-2001 to 3 releases/year currently)
- Annual release volume increased significantly; and,
- Average release volume may be increasing

³ Natural gas pipelines must report spills of natural gas condensates and produced water to the state of Alaska (see 18 AAC 75.300).