

## Tracer Gas Savings Converting to 5/95

Yearly Tracer Gas Usage	scf	2,000,000	1,000,000
Present Tracer Gas Cost per scf		\$0.250	0.25
New Tracer Gas Cost per scf		\$0.080	0.080
Old Tracer Equip. Rental Cost		\$10,000.00	30,000
New Tracer Equip. Rental Cost			0
Total Tracer Gas Savings per Year		\$350,000.00	200,000
Number of Leak Detection Stations Requiring a Leak Detector		15	10
Cost of New Leak Detector		\$17,000.00	17,000
Total Cost of Sensistors		\$255,000.00	\$170,000
Payback Time-Months Switching to the Sensistor		8.74	10.2

**Example:** Company uses 1,000,000 scf per year of helium. They pay \$0.25 per scf of helium and \$0.08 for 5/95 helium/nitrogen. Tube Trailer Costs are 30,000 for helium and \$0 for 5/95. They need to replace Helium Leak Detectors at 10 stations. At a cost of \$17,000 each

Result: Total savings on gas would be 200,000. Time to payback is 10.2 months

## Payback Calc for Hydrogen Generator

Company above decides to look at installing a hydrogen generator for on-site generation of hydrogen.

<b>Cost of Hydrogen Generator-Enter Value Below</b>	<b>\$93,000.00</b>	83,000
<600,000 scf input \$50,000		
>600,000 scf to 1,400,000 input \$83,000		
>1,400,000 to 3,000,000 input \$93,000		

<b>Gas Mixer Cost</b>	<b>\$12,000.00</b>	12,000
Enter \$12,000 for default		

<b>Generator &amp; Mixer Install Cost</b>	<b>\$7,000.00</b>	7,000
Enter \$7,000 as Default		

<b>Nitrogen Cost per scf</b>	<b>\$0.0050</b>	\$0.005
Enter \$0.0050 as default		

<b>Electricity Costs to Produce Hydrogen Per Year with Generator</b>	<b>\$1,850.00</b>	
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<b>Total Capital Costs to Install Hydrogen Generator</b>	<b>\$112,000.00</b>	
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<b>Total Yearly Cost to Produce 5/95 Gas With Hydrogen Generator</b>	<b>\$12,850.00</b>	
(Includes N2, Electrical and Yearly Generator Maintenance Costs)		

<b>Hydrogen Cost with Hydrogen Generator per scf</b>	<b>0.006425</b>	
This is the variable cost not including cost of generator or install		

<b>Payback ROI for Hydrogen Generator in Months</b>	<b>2.70</b>	
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<b>Payback ROI For Hydrogen Generator Plus Sensistor Cost</b>	<b>8.86</b>	
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<b>Total Capital Cost for Sensistors and H2 Generator System</b>	<b>\$367,000.00</b>	
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The chart below illustrates the figuring in the cost of money and the overall long-term cost of installing the equipment. Lease rates are used to take into account the cost of capital but at the same time are good indication if to show the possible value of working with a leasing company to pay for this capital expenditure using tracer gas savings.

Lease Estimates- General Guide as Interest Rates Change	Equip. Cost	Total Equip + Interest	Monthly Gas Cost+ Equip. Cost	Current Gas Costs	Total Savings Over Time Period
2 Year Lease for Sensistor and/or Hydrogen System Per Month	\$17,249.00	\$413,976.00	\$18,319.83	\$42,500.00	\$580,324.00
3 Year Lease for Sensistor and/or Hydrogen System Per Month	\$12,111.00	\$435,996.00	\$13,181.83	\$42,500.00	\$1,055,454.00
4 Year Lease for Sensistor and/or Hydrogen System Per Month	\$9,542.00	\$458,016.00	\$10,612.83	\$42,500.00	\$1,530,584.00
5 Year Lease for Sensistor and/or Hydrogen System Per Month	\$8,074.00	\$484,440.00	\$9,144.83	\$42,500.00	\$2,001,310.00
Tracer Gas Savings Per Month Switching from Helium to Hydrogen	\$40,595.83				

The Tracer Gas Savings per month in purple indicate the amount saved per month in tracer gas costs that can be applied to the initial capital outley to obtain the equipment.