

# Smarter LDAR Reloaded



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# Smarter LDAR Reloaded

- Allow me to introduce myself!

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- Can we change the world?
- It is a facility's dream right now!

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- The Trump Administration
- The Trump administration has referred to the EPA as an “impediment to business”.
- Although less than 1% of our nation’s budget is allocated to the USEPA, it still received severe budget cuts.
- The administration’s appointments with the Secretary of Energy and the Administrator of the USEPA, have been with people who have a history of opposition against their respective assignments.

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- Conservationist Groups Law Suits
- 2/23/2017 – Environmental Integrity Project, Air Alliance Houston, and Sierra Club to deny ExxonMobil Refinery Permit No. O1229
- 3/8/2017 – CAA, Sierra Club intent to sue under violations from Renewable Fuels Standard
- 3/10/2017 – Environmental Integrity Project, Air Alliance Houston, and Sierra Club to deny Port Arthur Refinery Permit No. O1386

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- Hypothesis
  - We believe that we can reduce more emissions, demonstrated by a metered reduction, by redirecting the money currently being spent on LDAR programs today. We accomplish this by placing our focus on real solutions for the components that actually leak.

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- Hypothesis
  - LDAR industry people have often said that “90% of emissions come from 10% of the components”.
  - What does this really mean? What are we actually saying?



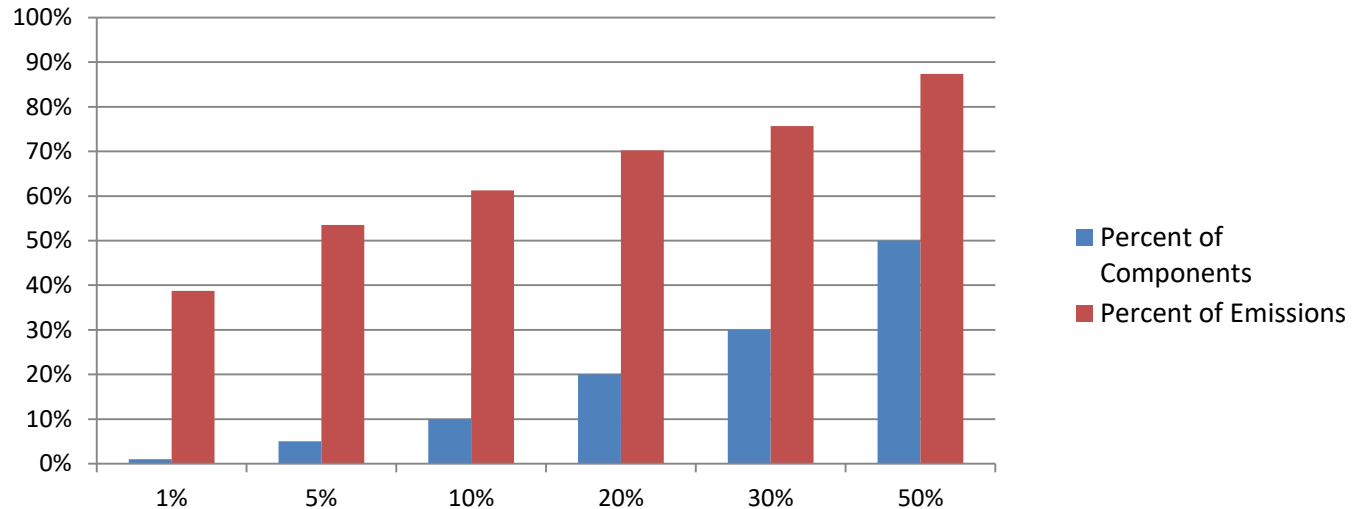
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- The following is a series of plants that have been monitored for at least 5 years.
  - Each of the following facilities have been audited by USEPA as well as third party contractors.

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What do the numbers really say?

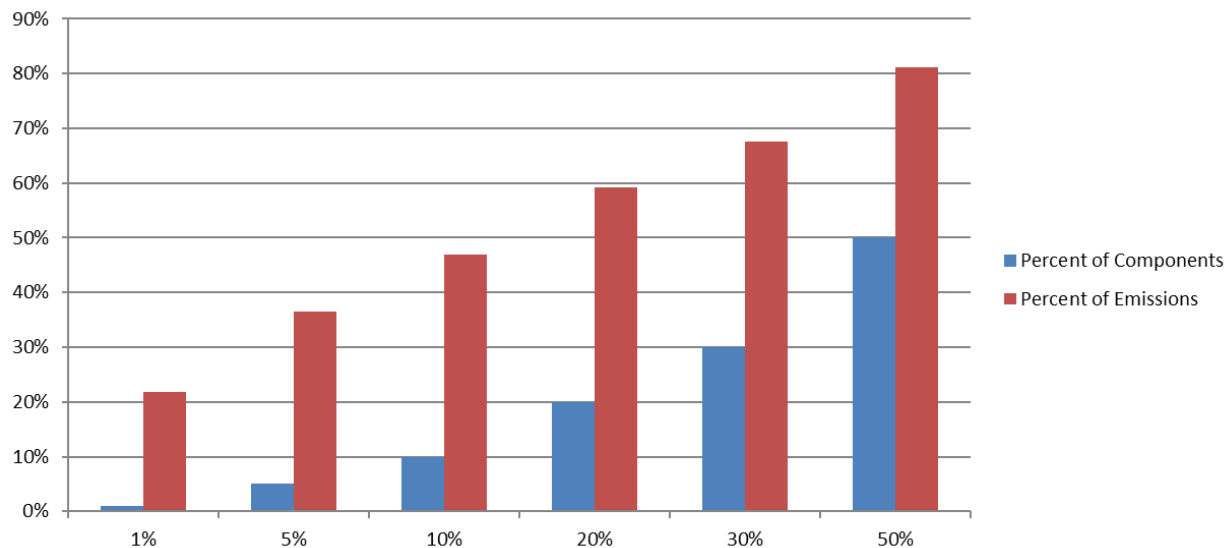
-Refinery



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What do the numbers really say?

-Chemical



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- Facility 1 is a light ends C3, C4 Fractionation Facility with 40K components monitored quarterly (Just under 160K monitored per year).
  - How many of these components leaked (at least once) in a 4yr period?
  - With over 600K monitoring events only 3,148 components leaked.
  - Over 99% of the monitoring was ineffective.

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- A Predictive Leak Management Software (PLMS) system can isolate all 3148 components, with a fraction of the monitoring.

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- Emissions Reductions
  - Money not spent on method 21 monitoring will be used to focus on the 3148 components that leaked.
  - On the sample data set 76 components leaked 10 or more times during the 4 year period.
  - 5 of those components leaks a combined 101 times in a 4 year period.
  - Did they fix them really? Why?

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- With only ½ of the money saved from using PLMS, placing approximately \$374,400.00 toward permanent solutions for the 3148 leaking components would result in less emissions and less money for the facilities running LDAR programs (even if we only focused on the 76 that leaked over 10 times).

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- A Top 10 refinery in barrels per day reported in 2012 with 81 tons of emissions.
- In 2016 this facility reported in 80 tons of emissions.
- 4 years to reduce 1 ton at a sticker of \$1.3mil/YR.
- Under the smarter LDAR approach using PLMS We can lower those tons of emissions greatly.



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- PLMS is currently being reviewed by EPA and it's analytics will be highlighted in an upcoming Consent Decree?
- More Pilots are needed to collect the data needed to get the traction necessary to make this a viable alternative.
  - I need your help to achieve lower emissions at a lower cost.

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- The USEPA is a world leader in environmental regulatory policy and is followed by many (China, Canada).
  - This is an opportunity for us to have a global impact as this same strategy can be designed to be even more cost effective internationally.
  - In certain countries, PLMS will actually make the client money not be an expenditure.

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Under this administration, we are already experiencing a paradigm shift.

I am asking that you support lower emissions and lower cost.

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## Questions?



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