



**Natural Gas Leak Abatement OIR (R.15-01-008)**  
**Phase II Workshop**  
**November 16, 2018**

**PG&E LUAF**

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# Agenda

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- Definition of LUAF
- Calculation of LUAF
- Major LUAF Causes/Components
- PG&E's LUAF
- PG&E's Recovery of LUAF

# Definition of LUAF

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- LUAF = Lost and Un-Accounted For gas
- LUAF is gas that enters the gas system but cannot be accounted for through:
  - Billed deliveries to customers
  - PG&E's own metered use ("Gas Department Use")
  - Injections into PG&E or ISP storage facilities
  - Increases in line pack

# Calculation of LUAF

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- Transportation LUAF is determined by means of a material balance:

**Total Gas Receipts** (at interconnects with interstate pipelines, other utilities, CA producers, and PG&E and ISP storage facilities)

LESS: **Total Gas Sendouts** (billed deliveries to customers, PG&E's own metered use, and injections to PG&E and ISP storage facilities)

LESS: **Net Increase in Line Pack**

EQUALS: **Transportation LUAF**

- Storage LUAF is determined by component analysis
- Total LUAF = Transportation LUAF + Storage LUAF

# Major LUAF Causes/Components

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- Measurement error (*+ or – contribution to LUAF*)
  - e.g., interconnect meter over-registers
  - e.g., customer meter under-registers
- Accounting and billing error (*+ or – contribution*)
  - e.g., volume-to-energy conversions performed in billing system for non-sophisticated meters may understate amount of energy delivered
- Energy theft (*+ contribution*)
  - e.g., customer bypasses its meter
- Gas losses (emissions) (*+ contribution*)
  - e.g., leaks, dig-ins, blow-downs, purges, etc.

# PG&E's LUAF

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- PG&E's 2018 GO-112F Report
  - Reporting period: July 2016 – June 2017
  - Total LUAF: 12.6 Bcf
  - 1.4% of total gas receipts
  - Includes 3.1 Bcf of emissions (25% of total)

# PG&E's Recovery of LUAF

- PG&E recovers LUAF and Gas Department Use (GDU) through in-kind “Shrinkage Allowances” specified in PG&E’s Gas Rule 21
  - Users of PG&E’s services pay for LUAF/GDU with volumes of gas, not dollars
  - Rule 21 provides discrete Shrinkage Allowances for:
    - Core distribution (summer and winter)
    - Noncore distribution
    - Backbone transmission (on-system and off-system)
    - Storage
- PG&E requests revisions to its Shrinkage Allowances annually through an advice letter process
  - Transmission and distribution updates effective November 1
  - Storage updates effective April 1
  - Flexibility to forego revisions and/or request updates at other times of the year

## PG&E's Recovery of LUAF *(continued)*

- PG&E's Shrinkage Allowances consist of two components:
  - “Base Allowance” designed to recover forecast shrinkage costs
  - “Adjustment Allowance” designed to collect (or return) shrinkage under- (or over-) collections from previous periods
- Example: Backbone Shrinkage Allowance
  - Shipper wants to transport 100 units of gas from Malin to PG&E's citygate
  - Backbone Shrinkage Allowance is 1.1% (at receipt point)
  - Shipper must deliver 101.112 units to PG&E at Malin
$$100 / (1 - 0.011) = 101.112$$
  - PG&E keeps 1.112 units
  - PG&E delivers to shipper 100 units at citygate



## PG&E's Recovery of LUAF *(continued)*

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- Future LUAF recovery
  - PG&E proposes continuation of the current in-kind Shrinkage Allowances
  - This recovery method has been in place on PG&E's system since Gas Industry Restructuring was implemented in 1988 and is used by many other gas pipeline companies
  - It provides for near instantaneous replacement of LUAF and GDU volumes by users of PG&E's transportation and storage services
  - It ensures LUAF and GDU are neither over- nor under-collected

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# Questions?