Meeting the Challenges of Leak Survey in Snow Zone Areas

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Southwest Gas Corporation

- Southwest Gas Holdings Company
  - Southwest Gas Corporation
    - Arizona, Nevada, and California
  - Paiute Pipeline Company
  - Centuri Construction Group, Inc.
    - NPL Construction Co
    - NPL Canada
    - W.S. Nicholls
    - Canyon Pipeline
    - Brigadier Pipelines
    - And others
Southwest Gas Corporation

SWG & Paiute (3 states, 5 divisions)

facilities: 1 LNG plant
1 LNG storage tank
7 compressor stations
70+ pressure regulating stations
600+ metering stations

impacts 2 million+ customers and
30,000+ miles of pipeline
Overview

- Lake Tahoe – 6,225 elevation in feet
- Donner Lake – 5,936
- Mammoth Mountain – 8,909
2018 – 2019 Snow Levels

- Lake Tahoe – 393"
- Donner lakes – 381”
- Mammoth – 677”

- What is that? That is 32.75 Feet, 31.75 Feet and 56.4 Feet!!!
That’s a lot of snow

- Average single story house
  - 12 feet
- Average two story house
  - 20 to 25 feet
▪ **Fresh snow:** 10-12 inches of new snow is equal to about one inch of water, or about 5 pounds per square foot of roof space, so you could have up to 4 ft. of new snow before the roof will become stressed.

▪ **Packed snow:** 3-5 inches of old snow is equal to one inch of water, or about 5 lbs. per square foot of roof space, so anything more than 2 feet of snow could be too much for your roof to handle.

▪ **Total accumulated weight:** Two feet of old snow and two feet of new snow could weigh as much as 60 lbs. per square foot of roof space, which is beyond the typical snow load capacity of most roofs.

▪ **Ice:** One inch of ice equals one foot of fresh snow.
Leak Survey Challenge

- How to survey these conditions?
- What techniques?
- What safety concerns?
Heath Consultants Incorporated

- Founded in 1933
- 1,800 Heath employees across the U.S.
- Field services
- Norton Corrosion Limited, LLC
  - Engineering
  - Inspection Services
  - Materials
  - Construction
- Product Sales/Manufacturer
- Worldwide distribution network
Field Services – Gas Leak Survey
Field Services – Meter Services
Manufactured Products
RMLD Technology Basics

Direct Sun and Ambient Light Adds Detected Background Photons

Topographic Backscatter of Laser Light and Background Light Collected by Receiver

Detector

Laser

Light Becomes Electricity

Methane Leak
How Does the RMLD Work?
How Does the RMLD Work?
RMLD-IS Legacy and RMLD-CS
Questions?

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