# TABLE OF ATTACHMENTS

# UNITIL WARNS NATURAL GAS CUSTOMERS of Corrugated Stainless Steel Tubing-related Accidental Fires

***Check your home for corrugated stainless steel tubing!*** Corrugated stainless steel tubing (CSST) is a thin-walled metallic gas piping product that can be used as an alternative to conventional gas piping material or steel pipe. If your home uses corrugated stainless steel tubing, we recommend regular inspections for your safety and to prevent potential dangers and code violations.

Corrugated stainless steel tubing (CSST)

- CSST may pose a risk of gas leaks and fire due to lightning strikes. In order to protect against lightning strikes, the building owner should install appropriate electrical bonding and conduct an inspection of their CSST gas piping system.
- Recently Unitil has been finding a high number of code violations on CSST gas piping installations that are not properly bonded. This code violation requires Unitil to red tag and turn off your gas service until repairs are completed and inspected.
- Another code violation we are encountering is gas lines running through masonry without protection from corrosion. Unitil is required to red tag and turn off your gas service until repairs are completed and inspected.

To ensure your home and your gas piping system is up to current building codes, please contact a licensed, qualified plumber for an evaluation or for more information.

Unitil

energy for life

ME: 866-933-3821 | MA: 888-301-7700 | NH: 866-933-3820

**www.unitil.com**

30384-I-0430

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MDS Mobile Dispatch System

**Functions:** Work Order Browser • Dispatch • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

requested termed service

| Work Order # WF0553108N | |
|---|---|
| Scheduled Date: | 10/17/2013 |
| Work Order Status: | Complete |
| Field Tech: | David Perreault |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4200537 / 4015216 |
| Customer: | [redacted]<br>17 SPINNAKER WAY<br>PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 130 - LOCK METER |
| Completed Task: | 130 - LOCK METER |
| Hazard Code: | - |
| Requested by: | |
| Created by: | KMRCO |
| Order Taken Timestamp: | 10/2/2013 10:47:12 AM |
| Job Instructions: | [redacted] CLD TO TERM SERV ON 10/17 TEL# [redacted] KMRCO |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | |
| Tech Comments: | locked and sealed mtr also red tagged for piping being unsleeved though concrete |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 61 |
| **Meter Information:** | |
| Meter Number: | H54148 |
| AMR/ERT Number: | 27694025 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | RE - REAR |
| Meter CCF Reading: | 7026 |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| ☒ | 10/16/2013 8:18:28 PM | KMRCO | Pending | Edit ▸ |
| ☒ | 10/16/2013 8:24:14 PM | David Martinage | Assigned | Edit ▸ |
| ☒ | 10/17/2013 5:53:45 AM | Kevin Ruel | Accepted | Edit ▸ |

| | | | | |
|---|---|---|---|---|
| 10/18/2013 7:16:22 AM | Michael Talis | Pending | Edit |
| 10/18/2013 7:16:22 AM | Michael Talis | Assigned | Edit |
| 10/18/2013 7:17:20 AM | David Perreault | Accepted | Edit |
| 10/18/2013 3:55:18 PM | David Martinage | Pending | Edit |
| 10/18/2013 3:55:18 PM | David Martinage | Assigned | Edit |
| 10/18/2013 3:57:30 PM | Daniel Lafortune | Accepted | Edit |
| 10/18/2013 4:05:25 PM | David Perreault | Accepted | Edit |
| 10/21/2013 7:38:28 AM | Michael Talis | Pending | Edit |
| 10/21/2013 7:38:28 AM | Michael Talis | Assigned | Edit |
| 10/21/2013 7:43:23 AM | Daniel Lafortune | Accepted | Edit |
| 10/21/2013 7:50:52 AM | David Perreault | Accepted | Edit |
| 10/21/2013 10:09:23 AM | David Perreault | En Route | Edit |
| 10/21/2013 10:13:33 AM | David Perreault | On Site | Edit |
| 10/21/2013 10:30:11 AM | David Perreault | Complete | Edit |
| 10/26/2013 5:22:27 PM | Kevin Ruel | Accepted | Edit |
| | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 21 Min. |
| Job Time (Rounded Hrs.): | 0.50 Hrs. |

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**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters
Filter
Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

this location had been a requested termed acct

| Work Order # WF0555900N | |
|---|---|
| Scheduled Date: | 10/25/2013 |
| Work Order Status: | Complete |
| Field Tech: | David Perreault |
| Appt: | 0800-1200 |
| Customer ID / Location ID: | 4031959 / 4015216 |
| Customer: | [redacted] 17 SPINNAKER WAY PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 120 - UNLOCK METER START APPLIANCES |
| Completed Task: | 120 - UNLOCK METER START APPLIANCES |
| Hazard Code: | - |
| Requested by: | |
| Created by: | MJCCC |
| Order Taken Timestamp: | 10/24/2013 9:33:36 AM |
| Job Instructions: | [redacted] requested turn on for 10.25.13. ph # [redacted] will be there for access. please go out for morning service. mjccc 933am |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | Unlock meter - lit pilot |
| Tech Comments: | unlocked mtr and started furnace electronic ignition |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 61 |
| **Meter Information:** | |
| Meter Number: | H54148 |
| AMR/ERT Number: | 27694025 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | RE - REAR |
| Meter CCF Reading: | 7026 |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

Update

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| X | 10/24/2013 7:10:23 PM | MJCCC | Pending | Edit |
| X | 10/24/2013 9:03:58 PM | William Jones | Assigned | Edit |
| X | 10/25/2013 1:23:37 AM | David Perreault | Accepted | Edit |

| | | | | |
|---|---|---|---|---|
| | 10/25/2013 8:13:44 AM | David Perreault | En Route | Edit |
| | 10/25/2013 8:31:17 AM | David Perreault | On Hold | Edit |
| | 10/25/2013 10:58:36 AM | David Perreault | En Route | Edit |
| | 10/25/2013 11:15:08 AM | David Perreault | On Site | Edit |
| | 10/25/2013 11:54:48 AM | David Perreault | Complete | Edit |
| | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 74 Min. |
| Job Time (Rounded Hrs.): | 1.25 Hrs. |

4015216

3466

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Northern Utilities, Inc.

# WARNING NOTICE – AVISO

COMPANY COPY

STREET / CALLE: 17 Spinnaker Way | CITY / CIUDAD: Portsmouth | OWNER / PROPIETARIO: | TELEPHONE / TELEFONO:

CUSTOMER / CLIENTE: [redacted] | TAMENTO | TELEPHONE / TELEFONO: [redacted] | ADDRESS / DIRECCION:

THE FOLLOWING PROBLEM MUST BE CORRECTED IMMEDIATELY:
LOS SIGUIENTES PROBLEMAS DEBEN SER CORREGIDOS IMMEDIATAMENTE:

- [X] PIPING / TUBERIAS
- [ ] AIR SUPPLY / SUMINISTROS DE AIRE
- [ ] APPLIANCE / ARTEFACTO DE GAS
- [ ] VENTING / CONDUCTOS DE VENTILACION

EXPLAIN / EXPLIQUE: Piping Not Sleeved through Concrete Must be inSpected by town before gas is turned on

YOU MUST CONTACT A QUALIFIED CONTRACTOR FOR REPAIR:
COMUNIQUESE CON UN CONTRATISTA ESPECIALIZADO PARA EFECTOS DE LA REPARACION:

- [X] PLUMBER / PLOMERO
- [ ] ELECTRICIAN / ELECTRICISTA
- [ ] CHIMNEY CLEANER / PERSONA QUE LIMPIA EL CAÑON O HUMERO DE CHIMENEA
- [ ] OTHER: / OTRO:

THIS WARNING NOTICE IS FOR YOUR SAFETY AND PROTECTION. AFTER REPAIRS ARE MADE CONTACT UNITIL / NORTHERN UTILITIES FOR RESTORATION OF SERVICE.

ESTE AVISO ES PARA SU SEGURIDAD Y PROTECCION. PARA LA RESTAURACION DEL SERVICIO COMUNIQUESE CON UNITIL / NORTHERN UTILITIES DESPUES DE QUE LAS REPARACIONES HAYAN SIDO HECHAS.

METER # / CONTADOR #: H54148

METER LOCKED / CONTADOR CERRADO CON LLAVE: [X] YES - SI [ ] NO - NO

APPLIANCE / ARTEFACTO DE GAS: _____ LOCKED / CERRADO CON LLAVE: [ ] YES - SI [ ] NO - NO

CUSTOMER SIGNATURE / FIRMA DEL CLIENTE: UNAvailable | [ ] TENANT / INQUILINO [ ] OWNER / PROPIETARIO

DATE / FECHA: 10/21/13 | TIME / HORA: 10:25 AM | EMPLOYEE / EMPLEADO: 3014

TG205 10/99

4051034

3467

Unitil
Northern Utilities, Inc.

# WARNING NOTICE — AVISO

COMPANY COPY

STREET / CALLE: 19 Spinnaker Way | CITY / CIUDAD: Portsmouth NH | OWNER / PROPIETARIO: | TELEPHONE / TELEFONO:

CUSTOMER / CLIENTE: [redacted] | SUITE / APARTAMENTO: | TELEPHONE / TELEFONO: | ADDRESS / DIRECCION:

THE FOLLOWING PROBLEM MUST BE CORRECTED IMMEDIATELY:
LOS SIGUIENTES PROBLEMAS DEBEN SER CORREGIDOS IMMEDIATAMENTE:

- [X] PIPING / TUBERIAS
- [ ] AIR SUPPLY / SUMINISTROS DE AIRE
- [ ] APPLIANCE / ARTEFACTO DE GAS
- [ ] VENTING / CONDUCTOS DE VENTILACION

EXPLAIN: EXPLIQUE: Piping unSkeved Through Concrete. Must be Inspected by town before Gas is Turned back on.

YOU MUST CONTACT A QUALIFIED CONTRACTOR FOR REPAIR:
COMUNIQUESE CON UN CONTRATISTA ESPECIALIZADO PARA EFECTOS DE LA REPARACION:

- [X] PLUMBER / PLOMERO
- [ ] ELECTRICIAN / ELECTRICISTA
- [ ] CHIMNEY CLEANER / PERSONA QUE LIMPIA EL CAÑON O HUMERO DE CHIMENEA
- [ ] OTHER: / OTRO:

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ESTE AVISO ES PARA SU SEGURIDAD Y PROTECCION. PARA LA RESTAURACION DEL SERVICIO COMUNIQUESE CON UNITIL / NORTHERN UTILITIES DESPUES DE QUE LAS REPARACIONES HAYAN SIDO HECHAS.

METER # / CONTADOR #: H54142 | METER LOCKED / CONTADOR CERRADO CON LLAVE: [X] YES - SI [ ] NO - NO

APPLIANCE / ARTEFACTO DE GAS: _____ | LOCKED / CERRADO CON LLAVE: [ ] YES - SI [ ] NO - NO

CUSTOMER SIGNATURE / FIRMA DEL CLIENTE: Unavailable | [ ] TENANT / INQUILINO [ ] OWNER / PROPIETARIO

DATE / FECHA: 10/21/13 | TIME / HORA: 10:30 AM | EMPLOYEE / EMPLEADO: 3014

TG205 10/99

4026886 3468

Unitil
Northern Utilities, Inc.

# WARNING NOTICE — AVISO

COMPANY COPY

STREET / CALLE: 21 Spinnaker Way | CITY / CIUDAD: Portsmouth NH | OWNER / PROPIETARIO: | TELEPHONE / TELEFONO:

CUSTOMER / CLIENTE: [redacted] | SUITE / APARTAMENTO: | TELEPHONE / TELEFONO: [redacted] | ADDRESS / DIRECCION:

THE FOLLOWING PROBLEM MUST BE CORRECTED IMMEDIATELY:
LOS SIGUIENTES PROBLEMAS DEBEN SER CORREGIDOS IMMEDIATAMENTE:

- [X] PIPING / TUBERIAS
- [ ] AIR SUPPLY / SUMINISTROS DE AIRE
- [ ] APPLIANCE / ARTEFACTO DE GAS
- [ ] VENTING / CONDUCTOS DE VENTILACION

EXPLAIN: / EXPLIQUE: Piping unSleeved through Concrete. Must be Inspected by the Town before Gas is turned back on.

YOU MUST CONTACT A QUALIFIED CONTRACTOR FOR REPAIR:
COMUNIQUESE CON UN CONTRATISTA ESPECIALIZADO PARA EFECTOS DE LA REPARACION:

- [X] PLUMBER / PLOMERO
- [ ] ELECTRICIAN / ELECTRICISTA
- [ ] CHIMNEY CLEANER / PERSONA QUE LIMPIA EL CAÑON O HUMERO DE CHIMENEA
- [ ] OTHER: / OTRO:

THIS WARNING NOTICE IS FOR YOUR SAFETY AND PROTECTION. AFTER REPAIRS ARE MADE CONTACT UNITIL / NORTHERN UTILITIES FOR RESTORATION OF SERVICE.

ESTE AVISO ES PARA SU SEGURIDAD Y PROTECCION. PARA LA RESTAURACION DEL SERVICIO COMUNIQUESE CON UNITIL / NORTHERN UTILITIES DESPUES DE QUE LAS REPARACIONES HAYAN SIDO HECHAS.

METER # / CONTADOR #: H54156 | METER LOCKED / CONTADOR CERRADO CON LLAVE: [X] YES - SI [ ] NO - NO | APPLIANCE / ARTEFACTO DE GAS: | LOCKED / CERRADO CON LLAVE: [ ] YES - SI [ ] NO - NO

CUSTOMER SIGNATURE / FIRMA DEL CLIENTE: Unavailable | [ ] TENANT / INQUILINO [ ] OWNER / PROPIETARIO

DATE / FECHA: 10/21/13 | TIME / HORA: 10:30 AM | EMPLOYEE / EMPLEADO: 3014

TG205 10/99

4039950 (3469)

Unitil
Northern Utilities, Inc.

# WARNING NOTICE — AVISO

COMPANY COPY

STREET CALLE: 23 Spinnaker Way | CITY CIUDAD: Portsmouth NH | OWNER PROPIETARIO: | TELEPHONE TELEFONO:

CUSTOMER CLIENTE: [redacted] | SUITE APARTAMENTO: | TELEPHONE TELEFONO: [redacted] | ADDRESS DIRECCION:

THE FOLLOWING PROBLEM MUST BE CORRECTED IMMEDIATELY:
LOS SIGUIENTES PROBLEMAS DEBEN SER CORREGIDOS IMMEDIATAMENTE:

- [X] PIPING TUBERIAS
- [ ] AIR SUPPLY SUMINISTROS DE AIRE
- [ ] APPLIANCE ARTEFACTO DE GAS
- [ ] VENTING CONDUCTOS DE VENTILACION

EXPLAIN: EXPLIQUE: Piping unSleeved through Concrete. Must be inspected by the Town before Gas is Turned on

YOU MUST CONTACT A QUALIFIED CONTRACTOR FOR REPAIR:
COMUNIQUESE CON UN CONTRATISTA ESPECIALIZADO PARA EFECTOS DE LA REPARACION:

- [X] PLUMBER PLOMERO
- [ ] ELECTRICIAN ELECTRICISTA
- [ ] CHIMNEY CLEANER PERSONA QUE LIMPIA EL CAÑON O HUMERO DE CHIMENEA
- [ ] OTHER: OTRO:

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ESTE AVISO ES PARA SU SEGURIDAD Y PROTECCION. PARA LA RESTAURACION DEL SERVICIO COMUNIQUESE CON UNITIL / NORTHERN UTILITIES DESPUES DE QUE LAS REPARACIONES HAYAN SIDO HECHAS.

METER # H75813 | METER LOCKED CONTADOR CERRADO CON LLAVE: [X] YES - SI [ ] NO - NO

CONTADOR # | APPLIANCE ARTEFACTO DE GAS | LOCKED CERRADO CON LLAVE: [ ] YES - SI [ ] NO - NO

CUSTOMER SIGNATURE: FIRMA DEL CLIENTE: Unavailable | [ ] TENANT INQUILINO [ ] OWNER PROPIETARIO

DATE FECHA: 10/21/13 | TIME HORA: 10:30 AM | EMPLOYEE EMPLEADO: 3014

TG205 10/99

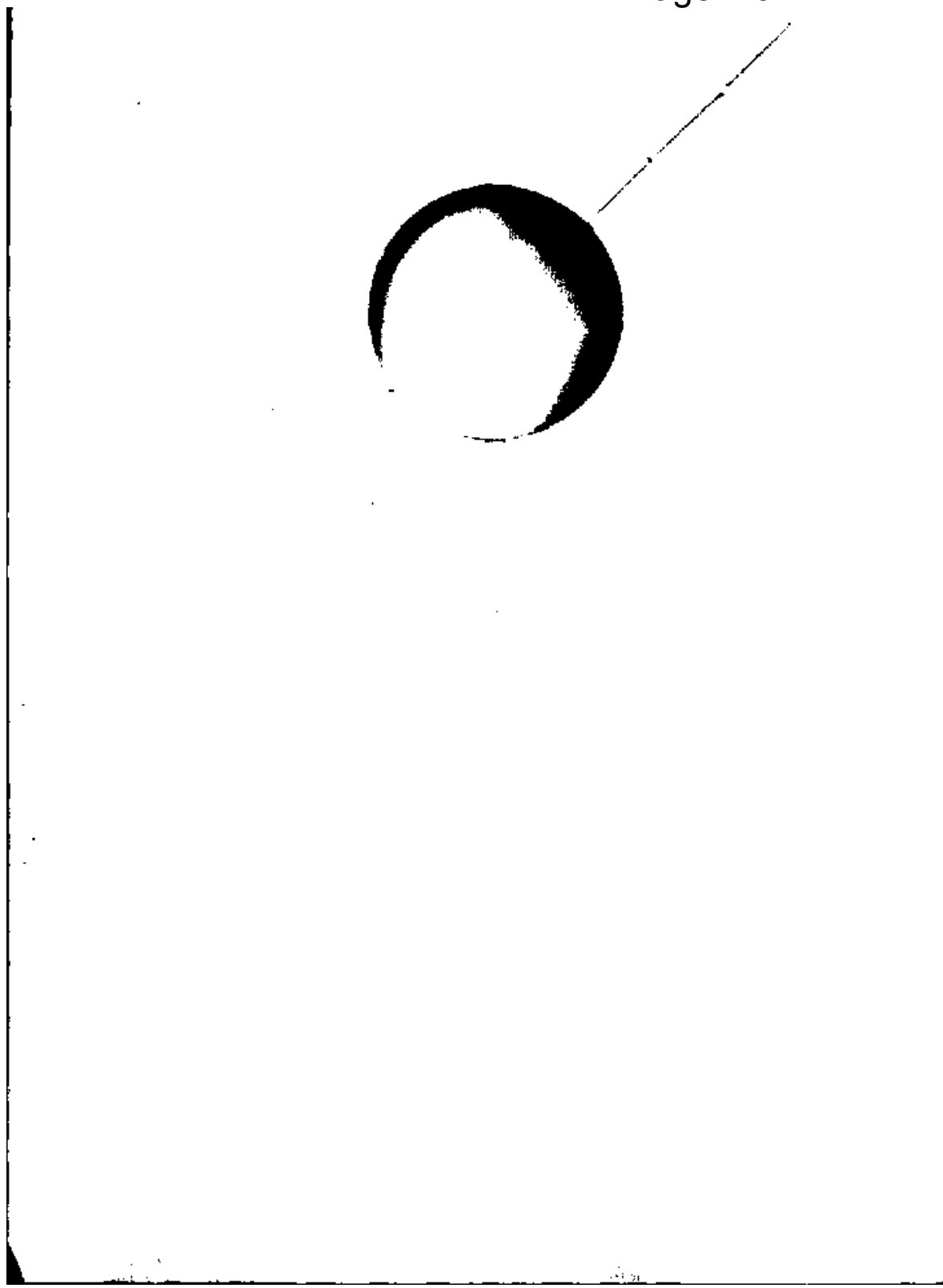
# Unitil

Northern Utilities, Inc.

**Your gas service has been disconnected. Please contact our local office for further information.**

**1.866.933.3820**

HT504



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MDS Mobile Dispatch System

**Functions:** Work Order Browser • Dispatch • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0555342N | |
|---|---|
| Scheduled Date: | 10/21/2013 |
| Work Order Status: | Complete |
| Field Tech: | David Perreault |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4144877 / 4051034 |
| Customer: | [redacted]<br>19 SPINNAKER WAY<br>PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 193 - OTHER |
| Completed Task: | 193 - OTHER |
| Hazard Code: | - |
| Requested by: | |
| Created by: | LCCCS |
| Order Taken Timestamp: | 10/21/2013 10:40:20 AM |
| Job Instructions: | LANCE/DAVE FOR RED TAG ISSUE. |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | Red tagged/Left off |
| Tech Comments: | piping unsleeved though concrete shut off and red tagged |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 61 |
| **Meter Information:** | |
| Meter Number: | H54142 |
| AMR/ERT Number: | 27691807 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | RE - REAR |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

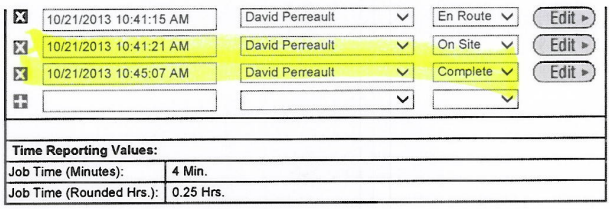
Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| ☒ | 10/21/2013 10:40:24 AM | LCCCS | Pending | Edit ▸ |
| ☒ | 10/21/2013 10:40:53 AM | Lynne Copp | Assigned | Edit ▸ |
| ☒ | 10/21/2013 10:41:08 AM | David Perreault | Accepted | Edit ▸ |



| | | | | |
|---|---|---|---|---|
| | 10/21/2013 10:41:15 AM | David Perreault | En Route | Edit |
| | 10/21/2013 10:41:21 AM | David Perreault | On Site | Edit |
| | 10/21/2013 10:45:07 AM | David Perreault | Complete | Edit |
| | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 4 Min. |
| Job Time (Rounded Hrs.): | 0.25 Hrs. |

Unitil | Logout | Back To Main Menu | MDS Mobile Dispatch System

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Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0555854N | |
|---|---|
| Scheduled Date: | 10/23/2013 |
| Work Order Status: | Complete |
| Field Tech: | Daniel Lafortune |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4144877 / 4051034 |
| Customer: | [redacted]<br>19 SPINNAKER WAY<br>PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 175 - RE-LIGHT |
| Completed Task: | 175 - RE-LIGHT |
| Hazard Code: | - |
| Requested by: | |
| Created by: | BJFCC |
| Order Taken Timestamp: | 10/23/2013 5:11:06 PM |
| Job Instructions: | PER BOB L --BJF |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | Relit pilot |
| Tech Comments: | Unlocked the meter turned on relight the appls. |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 184 |
| **Meter Information:** | |
| Meter Number: | H54142 |
| AMR/ERT Number: | 27691807 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | LT - LEFT SIDE |
| Meter CCF Reading: | 8924 |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

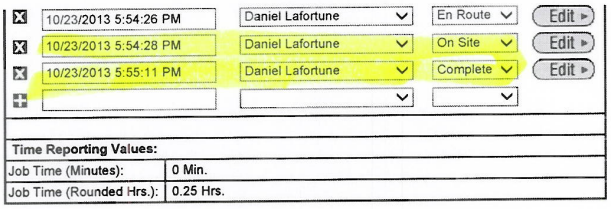
Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| ☒ | 10/23/2013 5:11:06 PM | BJFCC | Pending | Edit ▸ |
| ☒ | 10/23/2013 5:15:07 PM | William Jones | Assigned | Edit ▸ |
| ☒ | 10/23/2013 5:54:11 PM | Daniel Lafortune | Accepted | Edit ▸ |



| | | | | |
|---|---|---|---|---|
| ☒ | 10/23/2013 5:54:26 PM | Daniel Lafortune | En Route | Edit ▸ |
| ☒ | 10/23/2013 5:54:28 PM | Daniel Lafortune | On Site | Edit ▸ |
| ☒ | 10/23/2013 5:55:11 PM | Daniel Lafortune | Complete | Edit ▸ |
| ✚ | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 0 Min. |
| Job Time (Rounded Hrs.): | 0.25 Hrs. |

Unitil | Logout | Back To Main Menu

MDS Mobile Dispatch System

**Functions:** Work Order Browser • Dispatch • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0555341N | |
|---|---|
| Scheduled Date: | 10/21/2013 |
| Work Order Status: | Complete |
| Field Tech: | David Perreault |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4082153 / 4026886 |
| Customer: | [redacted]<br>21 SPINNAKER WAY<br>PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 193 - OTHER |
| Completed Task: | 193 - OTHER |
| Hazard Code: | - |
| Requested by: | |
| Created by: | LCCCS |
| Order Taken Timestamp: | 10/21/2013 10:39:06 AM |
| Job Instructions: | LANCE/DAVE |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | |
| Tech Comments: | PIPING UNSLEEVED THROUGH CONCRETE LOCKED SEALED AND RED TAGGED |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 61 |
| **Meter Information:** | |
| Meter Number: | H54156 |
| AMR/ERT Number: | 27499575 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | LT - LEFT SIDE |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

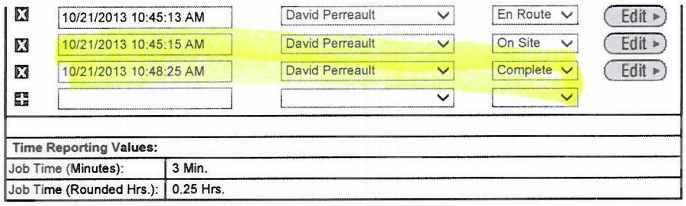
Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| ☒ | 10/21/2013 10:39:13 AM | LCCCS | Pending | Edit ▸ |
| ☒ | 10/21/2013 10:40:53 AM | Lynne Copp | Assigned | Edit ▸ |
| ☒ | 10/21/2013 10:41:08 AM | David Perreault | Accepted | Edit ▸ |



| | | | | |
|---|---|---|---|---|
| ☒ | 10/21/2013 10:45:13 AM | David Perreault | En Route | Edit ▸ |
| ☒ | 10/21/2013 10:45:15 AM | David Perreault | On Site | Edit ▸ |
| ☒ | 10/21/2013 10:48:25 AM | David Perreault | Complete | Edit ▸ |
| ⊞ | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 3 Min. |
| Job Time (Rounded Hrs.): | 0.25 Hrs. |

Unitil | Logout | Back To Main Menu

MDS Mobile Dispatch System

**Functions:** Work Order Browser • Dispatch • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0555856N | |
|---|---|
| Scheduled Date: | 10/23/2013 |
| Work Order Status: | Complete |
| Field Tech: | Daniel Lafortune |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4082153 / 4026886 |
| Customer: | [redacted]<br>21 SPINNAKER WAY<br>PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 175 - RE-LIGHT |
| Completed Task: | 175 - RE-LIGHT |
| Hazard Code: | - |
| Requested by: | |
| Created by: | BJFCC |
| Order Taken Timestamp: | 10/23/2013 5:14:23 PM |
| Job Instructions: | PER BOB L REPAIRS DONE SEE [redacted] FOR ACCESS- -BJF 513P |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | Relit pilot |
| Tech Comments: | Unlocked the meter turned on relight the appls. |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 184 |
| **Meter Information:** | |
| Meter Number: | H54156 |
| AMR/ERT Number: | 27499575 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | LT - LEFT SIDE |
| Meter CCF Reading: | 8855 |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

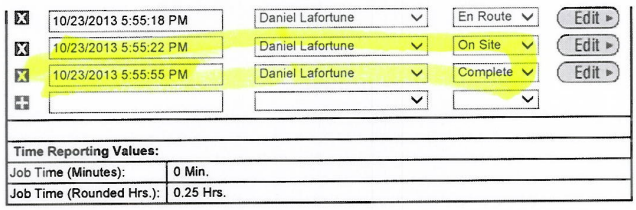
Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| X | 10/23/2013 5:14:24 PM | BJFCC | Pending | Edit ▸ |
| X | 10/23/2013 5:15:07 PM | William Jones | Assigned | Edit ▸ |
| X | 10/23/2013 5:54:11 PM | Daniel Lafortune | Accepted | Edit ▸ |



| | | | | |
|---|---|---|---|---|
| | 10/23/2013 5:55:18 PM | Daniel Lafortune | En Route | Edit |
| | 10/23/2013 5:55:22 PM | Daniel Lafortune | On Site | Edit |
| | 10/23/2013 5:55:55 PM | Daniel Lafortune | Complete | Edit |
| | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 0 Min. |
| Job Time (Rounded Hrs.): | 0.25 Hrs. |

Unitil | Logout | Back To Main Menu | MDS Mobile Dispatch System

**Functions:** Work Order Browser • Dispatch • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: -ALL-
Orders On/After: 10/01/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address: spinnaker
Town: PORTSMOUTH
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0555339N | |
|---|---|
| Scheduled Date: | 10/21/2013 |
| Work Order Status: | Complete |
| Field Tech: | David Perreault |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4083033 / 4039950 |
| Customer: | [redacted]<br>23 SPINNAKER WAY<br>PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 193 - OTHER |
| Completed Task: | 193 - OTHER |
| Hazard Code: | - |
| Requested by: | |
| Created by: | LCCCS |
| Order Taken Timestamp: | 10/21/2013 10:38:15 AM |
| Job Instructions: | LANCE/DAVE FOR RED TAG ISSUE. |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | |
| Tech Comments: | PIPING UNSLEEVER THROUGH CONCRETE LOCKED SEALED AND RED TAGGED |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 61 |
| **Meter Information:** | |
| Meter Number: | H75813 |
| AMR/ERT Number: | 27694073 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1.135 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | RE - REAR |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| ☒ | 10/21/2013 10:38:18 AM | LCCCS | Pending | Edit ▸ |
| ☒ | 10/21/2013 10:40:53 AM | Lynne Copp | Assigned | Edit ▸ |
| ☒ | 10/21/2013 10:41:08 AM | David Perreault | Accepted | Edit ▸ |

| | | | | |
|---|---|---|---|---|
| | 10/21/2013 10:48:46 AM | David Perreault | En Route | Edit |
| | 10/21/2013 10:48:48 AM | David Perreault | On Site | Edit |
| | 10/21/2013 10:51:22 AM | David Perreault | Complete | Edit |
| | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 3 Min. |
| Job Time (Rounded Hrs.): | 0.25 Hrs. |

Unitil | Logout | Back To Main Menu

MDS Mobile Dispatch System

**Functions:** Work Order Browser • Dispatch • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

| | |
|---|---|
| Work Order #: | |
| Location ID: | |
| Status: | -ALL- |
| Field Tech: | -ALL- |
| Orders On/After: | 10/01/2013 |
| Orders On/Before: | 11/21/2013 |
| Commodity: | -ALL- |
| Task Code: | |
| Charge Code: | |
| Customer Name: | |
| Address: | spinnaker |
| Town: | PORTSMOUTH |
| DOC: | NU-New Hampshire |
| Work Type: | -ALL- |

Reset Filters

Filter ▸

Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0555857N | |
|---|---|
| Scheduled Date: | 10/23/2013 |
| Work Order Status: | Complete |
| Field Tech: | Daniel Lafortune |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4083033 / 4039950 |
| Customer: | [redacted] 23 SPINNAKER WAY PORTSMOUTH, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 175 - RE-LIGHT |
| Completed Task: | 175 - RE-LIGHT |
| Hazard Code: | - |
| Requested by: | |
| Created by: | BJFCC |
| Order Taken Timestamp: | 10/23/2013 5:15:26 PM |
| Job Instructions: | PER BOB L REPAIRS DONE SEE [redacted] FOR ACCESS- -BJF 513P |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | Relit pilot |
| Tech Comments: | Unlocked the meter turned on relight the appls. |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 184 |
| **Meter Information:** | |
| Meter Number: | H75813 |
| AMR/ERT Number: | 27694073 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1.135 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | LT - LEFT SIDE |
| Meter CCF Reading: | 7246 |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

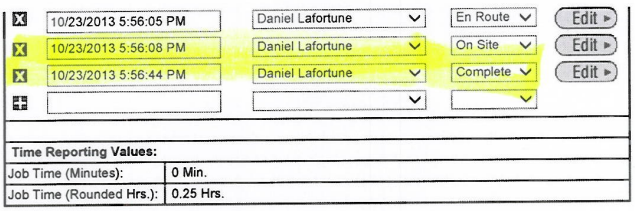
Update ▸

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| X | 10/23/2013 5:15:26 PM | BJFCC | Pending | Edit ▸ |
| X | 10/23/2013 5:27:08 PM | William Jones | Assigned | Edit ▸ |
| X | 10/23/2013 5:54:11 PM | Daniel Lafortune | Accepted | Edit ▸ |



| | | | | |
|---|---|---|---|---|
| X | 10/23/2013 5:56:05 PM | Daniel Lafortune | En Route | Edit |
| X | 10/23/2013 5:56:08 PM | Daniel Lafortune | On Site | Edit |
| X | 10/23/2013 5:56:44 PM | Daniel Lafortune | Complete | Edit |
| | | | | |

| Time Reporting Values: | |
|---|---|
| Job Time (Minutes): | 0 Min. |
| Job Time (Rounded Hrs.): | 0.25 Hrs. |

Unitil | Logout | Back To Main Menu

MDS Mobile Dispatch System

**Functions:** Work Order Browser • WO Charge Approval • Payroll Allocation
**Reports:** Tech Time • Service Parts • Stock Replenishment • Mileage • Red Tags • LVM • Gas % of ERT • Gas & Electric SQ Report • CV Forms • Appointment Log • AC Additional Work • Supervisor Review • Meter Change/Removal • ERT Held Time • Gas % of ERT (Internal) • Sundry Billing

**Work Order Filters**

Work Order #:
Location ID:
Status: -ALL-
Field Tech: Lafortune, Daniel
Orders On/After: 11/18/2013
Orders On/Before: 11/21/2013
Commodity: -ALL-
Task Code:
Charge Code:
Customer Name:
Address:
Town: -ALL-
DOC: NU-New Hampshire
Work Type: -ALL-

Reset Filters
Filter
Create Excel

## MDS • Work Order Browser • Details

Work Order Detail

| Work Order # WF0559168N | |
|---|---|
| Scheduled Date: | 11/18/2013 |
| Work Order Status: | Complete |
| Field Tech: | Daniel Lafortune |
| Appt: | 0800-1600 |
| Customer ID / Location ID: | 4187201 / 4059866 |
| Customer: | [redacted]<br>9 CHARLES ST<br>HAMPTON, NH |
| Phone #: | [redacted] |
| Easy Care: | |
| Rental: | N |
| Work Type: | Non-Project Work |
| Commodity: | Gas |
| Assigned Task: | 910 - LEAK OUTSIDE |
| Completed Task: | 910 - LEAK OUTSIDE |
| Hazard Code: | - |
| Requested by: | |
| Created by: | RJYCC |
| Order Taken Timestamp: | 11/18/2013 6:12:42 PM |
| Job Instructions: | [redacted]s smelling gas gas outside on her porch.rjycc 1812 |
| Dispatch Notes: | |
| Job Status: | |
| Completion Report: | |
| Tech Comments: | Checked the meter fit & found a 3/4" blk iron pipe leaking at the foundation wall unsleeved. customer is calling a plumber to make the repair. locked & sealed the meter. RED TAGGED. put down bar holes at 6 homes & ran 500 ft in both directions on Charles st. 0%lel. |
| CIS Transfer Status: | Transferred |
| CIS Labor Charge: | $0.00 |
| CIS Parts Charge: | $0.00 |
| CIS Total Charge: | $0.00 |
| Gas Test Unit: | 184 |
| **Meter Information:** | |
| Meter Number: | H55622 |
| AMR/ERT Number: | 19473596 |
| Meter Size: | 09 - AC250TC |
| Meter Size Observed: | - |
| Meter Multiplier: | 1 |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | O - OUTSIDE |
| Meter Spec Location: | FT - FRONT |
| Meter CCF Reading: | 6949 |
| AMR/ERT CCF Reading: | |
| **New Meter Information:** | |
| Meter Number: | |
| AMR/ERT Number: | |
| Meter Size: | - |
| AMI Number: | |
| Associated M1: | |
| Meter Location: | - |
| Meter Spec Location: | - |
| Meter CCF Reading: | |
| AMR/ERT CCF Reading: | |

Update

**Work Order Parts:**

| Qty | Part # | Description | Charge |
|---|---|---|---|
| | | ** No Parts Found ** | |

**Status History:**

| | Timestamp | Changed By | Status | |
|---|---|---|---|---|
| | 11/18/2013 6:12:43 PM | RJYCC | Pending | Edit |
| | 11/18/2013 6:14:38 PM | David Martinage | Assigned | Edit |
| | 11/18/2013 6:21:30 PM | Daniel Lafortune | Accepted | Edit |
| | 11/18/2013 6:22:45 PM | Daniel Lafortune | En Route | Edit |
| | 11/18/2013 6:28:30 PM | Daniel Lafortune | On Site | Edit |
| | 11/18/2013 7:33:12 PM | Daniel Lafortune | Complete | Edit |
| | | | | |

**Time Reporting Values:**

| | |
|---|---|
| Job Time (Minutes): | 71 Min. |
| Job Time (Rounded Hrs.): | 1.25 Hrs. |
| Response Time: | 16 min. |

Concealed House pipe

Unitil
Northern Utilities, Inc.

# WARNING NOTICE — AVISO

COMPANY COPY

STREET / CALLE: 9 Charles ST  CITY / CIUDAD: Hampton  OWNER / PROPIETARIO:  TELEPHONE / TELEFONO:

CUSTOMER / CLIENTE: [redacted]  TELEPHONE / TELEFONO: [redacted]  ADDRESS / DIRECCION:

THE FOLLOWING PROBLEM MUST BE CORRECTED IMMEDIATELY:
LOS SIGUIENTES PROBLEMAS DEBEN SER CORREGIDOS IMMEDIATAMENTE:

- ☐ PIPING / TUBERIAS
- ☐ AIR SUPPLY / SUMINISTROS DE AIRE
- ☐ APPLIANCE / ARTEFACTO DE GAS
- ☐ VENTING / CONDUCTOS DE VENTILACION

EXPLAIN / EXPLIQUE: Found a 3/4" BLK Iron pipe going Through A Foundation wall Leaking. Turned off At Gas meter, Locked, Sealed. The Customer is Calling a Plumber To Repair.

YOU MUST CONTACT A QUALIFIED CONTRACTOR FOR REPAIR:
COMUNIQUESE CON UN CONTRATISTA ESPECIALIZADO PARA EFECTOS DE LA REPARACION:

- ☒ PLUMBER / PLOMERO
- ☐ ELECTRICIAN / ELECTRICISTA
- ☐ CHIMNEY CLEANER / PERSONA QUE LIMPIA EL CAÑON O HUMERO DE CHIMENEA
- ☐ OTHER / OTRO: _____

THIS WARNING NOTICE IS FOR YOUR SAFETY AND PROTECTION. AFTER REPAIRS ARE MADE CONTACT UNITIL / NORTHERN UTILITIES FOR RESTORATION OF SERVICE.

ESTE AVISO ES PARA SU SEGURIDAD Y PROTECCION. PARA LA RESTAURACION DEL SERVICIO COMUNIQUESE CON UNITIL / NORTHERN UTILITIES DESPUES DE QUE LAS REPARACIONES HAYAN SIDO HECHAS.

METER # / CONTADOR #: H551622
METER LOCKED / CONTADOR CERRADO CON LLAVE: ☒ YES - SI ☐ NO - NO
APPLIANCE / ARTEFACTO DE GAS: N/A
LOCKED / CERRADO CON LLAVE: ☐ YES - SI ☒ NO - NO

CUSTOMER SIGNATURE / FIRMA DEL CLIENTE:  ☐ TENANT / INQUILINO  ☐ OWNER / PROPIETARIO

DATE / FECHA: 11-18-13  TIME / HORA: 7:00 pm  EMPLOYEE / EMPLEADO: 3015

TG205 10/99

WF0559168X1

From: Farley, Robert [Robert.Farley@dos.nh.gov]
Sent: Friday, November 15, 2013 5:34 PM
To: Gatherum, Tom
Cc: Cyr, Jeffrey
Subject: Code interpretations and customer interactions

Mr. Gatherum:

Thank you for the opportunity to discuss gas fitting this afternoon. As you indicated Chief Cyr is a member of our division and is employed as our Chief Mechanical Inspector. As promised I said that I would speak with Chief Cyr regarding his interpretation of the code and your company's red tag policy.

It is quite evident to me that there is a clear and distinct communication gap regarding this issue and I would suggest that your firm accept Chief Cyr's invitation to sit down together to clarify any discrepancies in understanding. Our division is committed to the furtherance of public safety through effective enforcement of the codes and public education. Might I be so bold to suggest that we have a meeting with yourself, Mr. Lundergan, Mr. Knepper, Chief Cyr and any other pertinent parties so that we can achieve a clearer understanding of your company's position and how it may impact the NH State Fire Code and your licensed technicians.

If I can be of any assistance in facilitating this meeting, please do not hesitate to contact me at our main office.

Sincerely

Robert B. Farley, CFI
Deputy State Fire Marshal
Bureau Commander, Bureau of Special Operations NH State Fire Marshal's Office

Sent via Rob's I-Phone
Robert B. Farley, CFI
Deputy State Fire Marshal
NH State Fire Marshal's Office

**Unitil Pipeline Safety Procedures - Rev. 3.0 April 15, 2013**

# 3-E Red Tag Procedure



## 1.0 SCOPE

(a) This procedure outlines the identification of potentially hazardous gas utilization equipment and fuel gas piping systems, notification of the customer/owner, shutting off of the gas supply to the equipment and/or the disconnection of unsafe equipment.

(b) Whenever an appliance or gas piping is found to be in an unsafe condition that does not conform to State Code or Company Standards, a warning notice (Red Tag) shall be affixed. The employee shall issue the Red Tag in accordance with this procedure to ensure that the customer/owner is made aware of the hazardous condition(s) and corrective action(s) that need to be taken. Unitil Gas Operations personnel are required to take any action deemed necessary to protect the public's safety, including the evacuation of the premises if an imminent hazard is discovered. Additionally, this process provides Unitil with a record of the notification to the customer/owner and the action taken by Unitil.

## 2.0 HAZARDS AND CORRECTIVE ACTIONS

### 2.1 Red Tag Procedure: Shut Off and Lock

If a hazardous condition exists, it requires that the gas service or appliance be shut off and locked until repairs are made. Hazardous conditions include but are not limited to the following:

(1) Gas leakage at any gas appliance or piping which cannot be stopped by temporary or permanent means. For more information about leak detection, see Procedure 2-N, *Leak Management*, Section 3.0.

(2) A gas appliance or piping not installed in accordance with the jurisdictional plumbing and gas codes.

(3) Hazardous situations such as but not limited to:

- Improper chemical storage
- Gasoline Spillage

### 2.2 Red Tag Procedure: Isolate and Shut Off at the Appliance

(a) If a condition which represents a hazard exists but it can be isolated, isolate the affected area by shutting the gas off at the appliance.

(b) In addition to a Red Tag, a cable tie or wrapping tape will be applied to the shut off or control valve of the appliance referenced in the Red Tag to further deter the customer/owner from reactivating the appliance prior to repairing the situation.

(c) Conditions include but are not limited to the following:

(1) A gas appliance or piping not installed in accordance with Massachusetts, New Hampshire, and Maine Gas Code.

(2) Improperly installed gas appliance includes but is not limited to:

- A gas appliance that is not properly vented
- An appliance that is generating excess carbon monoxide
- Appliances having defective safety devices

- Defective heat exchangers
- Improper clearance to combustion
- Gas leaks at appliance which can be isolated

**2.3 Customer Health & Safety Concerns**

A Service Technician should contact a Service Supervisor or the on-call Supervisor if the technician believes that loss of heat and/or other safety concerns due to red tagging could impair the health or safety of the building's occupants. However, under no circumstances should the appliance and/or gas service be left on until the necessary repairs are made. The Service or on-call Supervisor shall ensure that the health and safety concerns of the customer are properly addressed by notifying the Fire Department. In NH and MA the technician can determine if it is possible to perform service repair, for a fee, to eliminate the hazard.

**3.0 GENERAL PROCEDURES**

(a) When a hazard is found, a Red Tag shall be completed and attached to the piping system or appliance valve used to shut off the gas supply.

(b) Notify the customer/owner of the hazard, actions taken, explain what corrective actions must be taken to restore safe operation and advise the customer to contact a qualified repair person. If the customer is not available, the condition shall be brought to the attention of the individual who gave access to the premises or a description of the condition shall be left in a readily noticeable location.

(c) Request that the person to whom the explanation of the condition was given, sign the warning tag, acknowledging receipt of the notice. If the customer refuses to sign, make a note on both the warning tag and the work order stating that the customer refused to sign. Use the name if possible, such as "Mr. Smith refused to sign." A copy of the tag shall be given to this person whether it is signed or not.

(d) The Service Technician shall complete the Red Tag in the Gas Mobile Data System also, if available.

(e) The office copy of the Red Tag will be turned in with the Service Technician's work at the end of the day.

(f) The Administrative Clerk will populate the form letter from the information on the Red Tag, sign the letter, mail it to the customer and the local gas inspector and file a copy of the letter and the Red Tag. Any additional information related to the Red Tag will also be kept in the file.

**4.0 GENERAL PROCEDURES FOR REMOVING A RED TAG**

(a) If the Red Tag included having the meter shut off and locked, the customer will be required to contact Unitil to reactivate the gas flow.

(1) If a Service Technician is requested to verify that corrections have been made, an order will be generated.

(2) If corrections have been made, the Service Technician will remove and discard the Red Tag and note on the work order.

(3) If corrections have not been made or made improperly, the Service Technician will shut off the gas and affix another Red Tag. Repeat this Red Tag Procedure.

(4) Service calls of the above nature do not fall within our warranty of service and the customer is to be charged for all labor at the appropriate rate.

(b) If the Red Tag included only an isolated appliance being shut off and red tagged, then the customer should contact a licensed person to make the repairs and relight the appliance.

**Red Tag Procedure**

Use red tag to inform the customer that an unsafe condition exists on their premise. The following procedure has been adopted in the best interest of our customer's to assure them that the gas piping and gas appliances on their premise have been left in a safe condition and in compliance with the appropriate codes.

1. A red tag is to be affixed to any gas appliance or gas piping in violation of gas code or considered to be unsafe if left turned on.

2. a. Whenever a red tag is installed, the gas appliance or gas piping that is unsafe or in violation of the Code must be shut off or made safe.

   b. With the approval of supervisor, the gas may be left on if there is only a violation of the Code that is not considered to be unsafe and if turning off the gas would present an undo hardship on the customer.

3. a. Red tag will include the customer's name, address where installed, reason for installing tag, location of tag (at meter, on range, on piping, etc.) and how job was left.

   b. Whenever a red tag is installed, the employee that installed the red tag must so notify the Dispatcher before proceeding to the next job.

   c. Upon notification, the Dispatcher will bring up the customer's account and enter the message, "Red Tag Installed on (location of tag), Left (appliance or piping) On/Off."

4. At the end of their shifts, the Service Technicians will turn in the original copies of the red tags.

5. a. The appropriate person will fill in the form letter from the information on the red tag, will sign the letter, will mail it to the customer and local gas inspector and file a copy of the letter and the red tag in the Customer Service Department.

   b. Any additional correspondence must be included in this file.

6. a. Upon notification from the customer or the gas inspector that the condition has been corrected, the employee receiving the call will add this information to the customer's account.

   b. If a Service Technician is requested to verify that corrections have been made, an order will be generated.

7. a. If corrections have been made, the Service Technician will remove and discard the red tag and so note on the work order.

   b. If corrections have not been made or made improperly, the Service Technician will shut off the gas and affix another red tag. Repeat the Red Tag Procedure.

8. Service calls of the above nature do not fall within our warranty of service, and the customer is to be charged for all labor at the appropriate rate.

# UNDERWRITING RISK ASSESSMENT

**Prepared for:**

**Unitil Corporation**
**(New Hampshire)**
5 McGuire Street
Concord, NH 03301-4622

November 24, 2009

**Attention:**

Mr. Thomas Gatherum
Loss Control Manager

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Prepared by:

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*Solutions for Success*

## *Table of Contents*

## *Report Summary*

On November 3-5, 2009, AEGIS Insurance Services, Inc. performed a Risk Assessment of the natural gas operations at Unitil Corporation – New Hampshire. The purpose of this assessment is to provide the AEGIS Insurance Services' Underwriting Division with additional information concerning the operating practices and the condition of the insured's system to facilitate an enhanced evaluation of the utility's general liability risk exposure and loss control practices and procedures in order to underwrite insurance risks on behalf of its principal, Associated Electric & Gas Insurance Services Limited ("AEGIS"). Any other use of this assessment, including any oral or written discussion or explanation of same, shall signify the user's acknowledgment and agreement that neither AEGIS nor AEGIS Insurance Services has made any representation or warranty in respect to this report and that the user waives any claims against AEGIS and/or AEGIS Insurance Services arising in any way from the user's use of the report.



This report details the results of the Risk Assessment. The comments and suggestions do not purport to list all hazards, nor do they indicate that other hazards do not exist. They are advisory in nature and designed to assist the company in the establishment and maintenance of its own safety and risk management programs. No responsibility is assumed for management and control of these activities, or for the corrections stated herein.

This review was initiated by the AEGIS Insurance Services Underwriting Division in accordance with the terms outlined in the insured's policy, conducted by AEGIS Senior Utility Consultant, Scot Macomber, and coordinated by Mr. Thomas Gatherum, Risk Manager, Unitil Corporation.

Personnel involved in the management and administration of employee safety, system inspection, construction and maintenance, customer service, and public safety communication were interviewed. Procedures, practices, and documentation were reviewed. Topics reviewed during this Risk Assessment include:

- Damage Prevention
- Pressure Control
- Odorization
- System Inspections
- Customer Premises Practices
- Customer and Public Safety Awareness
- Call Center Operations – Emergency Calls
- Continuing Surveillance
- Operating, Maintenance, and Emergency Plans
- Contractor Safety Review & Evaluation
- Occupational Safety

Federal Pipeline Safety Regulations, 49 CFR 191 and 49 CFR 192, are the minimum standards regulating all natural gas pipeline operations. Unless more stringent state regulations are found to apply, the federal regulations will be referenced in this report.

Unitil Corporation is an investor-owned public utility holding company headquartered in Hampton, New Hampshire. Northern Utilities was incorporated in New Hampshire in 1979 and became part of the Unitil system in 2008. Northern Utilities is a local natural gas distribution utility serving 54,200 customers in 44 communities in the Seacoast Region of New Hampshire and Southern Maine. This assessment concentrated on the New Hampshire operations as the operational activity in Maine has been managed separately under previous ownership. Unitil's Maine operational risk assessment is scheduled for December 1, 2009.

The distribution system in New Hampshire totals 470 miles of various size and vintage mains and 19,288 services; consisting of 89% cathodically protected steel or plastic main with 98% of service lines either cathodically protected steel or plastic. With the approval of the Public Utility Commission, the company has developed a 9-year plan to replace 39 miles of bare steel and 10 miles of cast iron along with the associated services. Planned replacement is based on a priority system that determines the most hazardous mains and services in need of replacement. Leakage rates from the DOT Annual Report show that in 2008 corrosion leaks was the largest category with 55 main and 26 service leaks, and has shown a steady decline over the past 5 years.



Currently, three Operating and Maintenance standard manuals are under revision, i.e. Fitchburg Gas and Electric, Unitil New Hampshire and Unitil Maine. The goal is to complete the revision by the end of the year, combining Unitil "model" practices into one manual. This effort has been a top priority and may be completed in only 10 months.

Most of the operating programs and practices observed at the company are satisfactory and comparable to corresponding programs observed at similar utilities. The programs reviewed during this assessment are considered as follows when compared to corresponding programs at similar utilities.

| Above Average | Satisfactory | Needs Improvement |
|---|---|---|
| | Damage Prevention | Customer Premise Practices |
| | Pressure Control | Customer & Public Safety Awareness |
| | Odorization | |
| | System Inspections | |
| | Call Center Operations – Emergency Call Handling | |
| | Continuing Surveillance | |
| | Operating, Maintenance, & Emergency Plans | |
| | Contractor Safety Review and Evaluation | |
| | Occupational Safety | |

Seven (7) suggestions are being made as a result of this risk assessment of the organization's policies, facilities, standards and operations. The suggestions offered are advisory in nature and are intended to assist company personnel with improving existing programs and procedures while establishing the organization's safety and risk management programs. Suggestions considered to be a "high priority" are denoted in **bold** text.

The following report details observations related to each suggestion summarized here.

No responsibility is assumed for the management and control of these activities, or for the suggested corrections stated herein.



**Suggestion Summary:**

*Damage Prevention*

No suggestions offered in this section.

*Pressure Control*

No suggestions offered in this section.

*Odorization*

No suggestions offered in this section.

*System Inspections*

No suggestions offered in this section.

*Customer Premises Practices*

09-01 Consider a management review of the current training offered to prospective service technicians and first responders. Service technicians work "on their own," following successful completion of the program and a review by a journeymen technician. Service technicians respond to gas leaks, carbon monoxide, and other odor calls as well as performing utility work assignments, such as a meter turn on or exchange, and checking appliances for proper operation and installation. An evaluation by a fellow employee is subjective and may lead to a knowledge gap of the service technician; therefore, a uniform qualification review is suggested.

**09-02 Review the current practice of allowing a hazardous/violation tagged appliance to remain in service with a follow-up inspection performed 7 days later. While this practice is reported to be done only on rare occasions, the appliance was identified to be in a hazardous condition and needs to be taken out-of-service for the safety of the customer.**

*Customer and Public Safety Awareness*

**09-03 In the event that the company may have not perpetuated its Customer Notification requirement regarding the need for maintaining and inspecting buried fuel lines (49 CFR §192.16), it is suggested that a program be re-established and monitored to ensure there are no lapses.**

09-04 Consider developing safety awareness information for customers on the following topics:

- Climatic safety awareness on the potential blockage by snow and ice of horizontally vented appliances
- Periodic inspections of proper grounding or bonding of corrugated stainless steel tubing (CSST) installations.

09-05 Since the company disseminates much of its safety information on a scheduled basis which presents a time lag in getting all planned messages to new customers, it is suggested that customers be provided with all planned safety information as soon as practicable after service is initiated.

*Call Center Operations – Emergency Calls*

09-06 Consider developing CSR training to include basic natural gas properties, the basics of gas distribution system facilities, and the basics of the operation of customer gas systems.

09-07 Consider developing a field training program for CSRs that includes field visits to observe in-service gas facilities, and to accompany gas service technicians on actual service calls.

*Continuing Surveillance*

No suggestions offered in this section.

*Operating, Maintenance, and Emergency Plans*

No suggestions offered in this section.

*Contractor Safety Review & Evaluation*

No suggestions offered in this section.

*Occupational Safety*

No suggestions offered in this section.

# *Damage Prevention*

## Background:

Third-party damage is recognized as the leading cause of reportable incidents[1] on regulated pipeline systems. This continuing problem led to the enactment of pipeline safety regulation 49 CFR 192.614 (Damage Prevention Program) in April 1982, which requires gas operators to have a written program to prevent damage to their pipeline facilities. Operators must, as a part of this program, provide for the education of excavators and the public, be able to receive notices of proposed excavations, locate underground facilities in the area of proposed excavations, and provide temporary marking of buried facilities.

The most common approach the gas industry has taken to comply with §192.614 is their almost unanimous participation in various state or regional "One-Call" systems. The One-Call concept allows excavators the convenience of placing a single phone call to notify all One-Call participating utilities that have underground facilities in their proposed excavation locations.

In addition to their main purpose of acting as an answering service, One-Call systems commonly provide gas operators with many of the code-required elements of a damage prevention program. One particular area in which One-Call operators commonly fall short, however, is that of educating excavators on what constitutes a gas emergency for the purpose of reporting it (§192.616). The operator's program must follow the general program recommendations of American Petroleum Institute (API) Recommended Practice (RP) 1162. The program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation activities on (1) the use of a One–Call notification system prior to excavation (2) the possible hazards associated with unintended releases from a gas pipeline (3) physical indications that a release has occurred (4) steps that should be taken for public safety should a release take place and (5) the proper procedures for reporting such an event. The program should also include messages that are gas utility-specific such as call the gas company if a tracer wire is damaged; pipe coating is damaged; or plastic pipe is gouged. The issues surrounding soil compaction, back-fill quality, pipe support, and cast iron pipeline issues also should be communicated.

While not directly related to a damage prevention program, identification and warning signs on company facilities are important. They provide emergency phone numbers and warnings where hazards may exist. Facilities typically accompanied by information and warning signs are transmission lines, city gate stations, border stations, custody transfer points, regulator stations, and major valve locations.



[1] As defined in 49 CFR 191, "Incident" means any of the following events:
(1) An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from a LNG facility and
(i) A death, or personal injury necessitating in-patient hospitalization; or
(ii) Estimated property damage, including cost of gas lost, of the operator or others, or both, of $50,000 or more.
(2) An event that results in an emergency shutdown of a LNG facility.
(3) An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Describe how the company provides "actual" notification to excavators about its damage prevention program and how it satisfies the requirements of API RP 1162. | 2009: Excavators receive damage prevention awareness information from Dig Safe New Hampshire and through company communication programs. Information is provided to those who have used Dig Safe over the past year, which is a required recommended practice. |
| • The company supports and advertises the national 811 call-before-digging notification number. | 2009: Yes.<br><br>The 811 contact number is included in damage prevention awareness information. |
| • Gas-specific damage prevention information is included in "actual" notification. | 2009: Yes.<br><br>Excavators receive gas-specific damage information from Dig Safe and company sponsored contractor meetings. |
| • Describe how the company notifies the public in the vicinity of its pipelines regarding the company's damage prevention program. | 2009: Damage prevention awareness is provided by media and through the customers' billing envelopes. |
| • Does the message content apply to "Excavation" activities typically performed by the public, e.g., planting trees and shrubs, fence and mailbox posts, or other property activities? | 2009: Yes.<br><br>Customers who violate One-Call statutes may be billed for causing system damage. |
| • To ensure all assigned work is accounted for, there is a process for reconciling daily field locates. | 2009: Yes.<br><br>The company utilizes Dig Track an internet based on-line ticket tracking system. Locate ticket requests are received from Dig Safe and sent directly to the responsible markout technician for completion. |
| • There is a process for "positive notification" regarding mark-out requests where buried facilities may be non-existent. | 2009: Yes.<br><br>The requesting contractor is notified if no company facilities are within the proposed excavation area as defined by a 'white line" at the proposed excavation site. Per state One-Call statute, the excavation cannot begin until 72 hours (normal business day) after the locate request is made. |
| • Root cause analysis investigations of underground damage incidents are conducted to determine their causes. The findings are considered and corrective actions implemented where appropriate. | 2009: Yes.<br><br>Root cause analysis is under development to enhance corrective action and training offered to area contractors. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Following root cause analysis, what corrective action does the company initiate? | 2009: Currently, contractors or excavators are met onsite at ongoing construction projects. |
| • The company measures the effectiveness of its damage prevention program. | 2009: Yes.<br><br>The company follows the gas industry practice of measuring damage performance by the number of locate tickets received.. Damages are down from 3.27/1000 locate tickets to 1.12 last year. |
| • Is there a process for reporting excavators who have damaged company facilities multiple times to a state jurisdictional agency, such as the Attorney General's Office? | 2009: Yes.<br><br>The Public Utility Commission can and does enforce damage prevention violations by imposing fines and penalties on public utilities, contractors/excavators, and homeowners. The company is developing a facility damage report for the PUC. |
| • What audit procedures are in place to ensure the locator is meeting company performance standards? | 2009: Dig Safe Technicians (company employees) are assigned the task of locating facilities and have been trained at a national locate "university." They receive a 4-hour in-field review as they perform their assignments with a score card used to measure their performance. |



**Suggestion(s):**

2009 Risk Assessment

No suggestions offered in this section.

## *Pressure Control*

**Background:**

The universal objective for gas operators is the uninterrupted safe delivery of natural gas to meet the ongoing needs of their customers.

The reference to "safe delivery" implies that the gas should stay in the pipe, only to exit at planned points; and then upon exit, not to exceed regulated pressures. Keeping gas systems from exceeding their maximum allowable operating pressures is the goal of overpressure protection. Inspecting regulation and relief systems in accordance with §192.739 and .743 serves both the needed safety and reliability components necessary to achieve this objective.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Description of the Distribution System. | 2009: The distribution system consists of 470 miles of various material mains and 19,288 services. |
| • Typical design of District Regulator Installations. | 2009: Working monitor regulator dual run design. |
| • The company's O&M manual includes a procedure addressing "by-passing" overpressure protection for maintenance or emergency purposes. A regulated bypass is available for routine maintenance or emergency purposes | 2009: No.<br><br>Regulated bypass is in place for routine maintenance or emergency purposes. |
| • Describe procedures followed prior to entering regulator station pits or vaults installed below ground. | 2009: Underground stations are contained in a vault with a fully open "bilco" type door cover and access ladder. Stations are not confined space. |
| • All above ground border, distribution, and major industrial regulator installations incorporate designs to prevent unauthorized operation or damage by motor vehicles, lawn tractors, etc. | 2009: Yes.<br><br>Above ground stations are fenced and protected from traffic by posts. |
| • Above ground border stations have visible ownership, an emergency contact telephone number, and warning signs that are in good condition. | 2009: Yes.<br><br>Ownership and warning signs are in place. |
| • "Farm Tap" installations or services distributing gas to more than one customer are subject to code-required inspections. | 2009: N/A |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • SCADA or other monitoring systems provide information on pressures at critical points on the distribution system. | 2009: Yes.<br><br>Gas Control located in Portsmouth monitors and controls the distribution system at key and critical locations. |
| • Testing or capacity review of all relief devices associated with pressure regulating stations is completed and documented. | 2009: No separate relief valves are installed in the system as pressure control is achieved using a worker/monitor dual run station design. |

**Suggestion(s):**

2009 Risk Assessment

No suggestions are offered in this section.

## *Odorization*

**Background:**

The sole purpose of gas system odorization is to warn and alert the public when there is a possible problem with leaking or otherwise uncontrolled natural gas.

While difficult to quantify its effectiveness, odorization continues to prove valuable as gas companies continue to receive odor complaints on a regular basis.

Odor can be imparted to natural gas in two ways, either through naturally occurring odor compounds, or by injecting man-made odorant material. Regardless of the method, the gas operator must be vigilant recognizing that a readily detectable odor must always be present.

The requirements for odorization of transmission lines differ from those for distribution systems. The basic difference is that all distribution gas must be odorized; whereas, transmission systems are commonly exempt from odorization based on Class Location.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The blends and injection rates of odorant supplied to the gas system by outside parties are known. | 2009: Yes.<br><br>The company and the gas transmission company use the same odorant blend, Sentinel E, a combination of 77% TBM, 14% IPM, with the remainder consisting of other mercaptans. |
| • There is a contingency plan in the event of an odorization failure on the part of a pipeline supplier or company-owned odorant equipment. | 2009: Yes.<br><br>The company has established communications with the gas transmission company as well as its own odorization capabilities. |
| • If augmenting previously odorized gas with other than the same odorant blend, the company has positive knowledge that the differing blends are compatible. | 2009: Yes.<br><br>See above comment. |
| • Odorant injection rates are monitored to ensure that gas is odorized without wide variations in odorant levels. | 2009: Yes.<br><br>Injection rates are monitored and calculated weekly. Generally, odorant is injected at the rate of 0.4 to 0.5 pounds/1000 cubic feet of gas. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • A process is in place to confirm that odor level testing employees are able to properly and correctly detect and identify different odors. | 2009: Yes.<br><br>Employees are tested using a Natural Gas Smell Test Kit from Sensonics, Inc. |
| • The company conducts its odor level testing at strategic locations on the distribution system and at a frequency supported by historical data. | 2009: Yes.<br><br>Testing is conducted monthly at strategic locations. |
| • The company reviews its odor level test locations periodically to ensure they remain strategic. | 2009: Yes.<br><br>An annual review of the distribution is conducted using maps and records to determine locations that are representative of the system. |
| • Individual odorizers installed on services providing service to one or more customers are included in odor level testing. | 2009: N/A |
| • A routine "sniff test" program, conducted by field personnel, is employed to augment the formal odor level testing program. | 2009: Yes.<br><br>The service technician performs a sniff test at a random location daily and any area where a suspected problem is reported. |
| • Instruments used to conduct odor level tests are checked and calibrated according to manufacturers' recommendations. | 2009: Yes.<br><br>Instruments are maintained according to manufacturers' recommendations utilizing an instrument technician who has been trained by the manufacturer to perform and record the testing results. |
| • Instruments used in odor level checks are identified on the appropriate documentation. | 2009: Yes.<br><br>The respective instrument is recorded on the appropriate data sheet. |



**Suggestion(s):**

2009 Risk Assessment

No suggestions are offered in this section.

## *System Inspections*

**Background:**

The 49 CFR Part 192 Subpart M (Maintenance) regulation prescribes minimum requirements for maintenance of pipelines. Included in the subpart is §192.723, which requires each gas distribution system operator to conduct periodic surveys of its entire system for the purpose of locating and eliminating system leaks. Leakage surveys of business districts, typically areas where there is wall-to-wall pavement, are to be conducted at intervals not exceeding 15 months, but at least once each calendar year. Remaining portions of the system are to be surveyed at intervals not exceeding five years, except for unprotected distribution pipelines subject to §192.465(e), which must be surveyed at intervals not exceeding three years.

Corrosion can lead to disintegration of the pipeline system causing leaks and piping failures and exposing the gas operator to financial liability resulting from gas-related fires and explosions. DOT regulations address this potential safety hazard with the establishment of minimum requirements for corrosion control. These requirements can be found in Subpart I and Appendix D of 49 CFR Part 192. The requirements specify, in part, the minimum voltages to be applied to the buried pipeline system and a monitoring cycle.

Regardless of the "prescribed" frequencies for surveys, which are minimums, the Code contains direct and implied language requiring gas operators to survey as necessary based on the nature of their operations, local conditions, pipeline material, and leakage history.

Leak classification and leakage control are provided as guidelines based on an evaluation of the location or magnitude of a leak, thereby, establishing the leak repair priority. The judgment and training of operator personnel at the scene is of primary importance in determining the grade assigned to a leak.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Leak surveys of the following gas system components are completed in accordance with applicable codes and regulations: | |
| o High occupancy and other buildings where people congregate.<br>▪ Inspected to outlet of meter set.<br>▪ If buried curb shut-off exists, it is inspected for accessibility. | 2009: Compliance surveys are documented in a new Compliancy Management System (CMS) database. This system allows management to schedule, track, and record survey results and uses the results in determining system enhancements. Annual inspections include leak survey and curb valve accessibility. Maintenance orders issued for anomalies found. |
| o Facilities located in business district | 2009: High risk patrols and business district surveys are conducted annually. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| o Mains | 2009: 3-year mobile cycles over main outside the business district. |
| o Services | 2009: 3-year walking cycles over main outside the business district includes atmospheric survey. |
| o Transmission Lines | 2009: Annual survey. |
| o Frost patrols | 2009: High risk patrols are conducted continuously over cast iron main during frost conditions. |
| • Leak surveys are conducted at frequencies supported by historical data. | 2009: Survey frequencies are conducted by time with an indication of leak history, which shows a downward trend on corrosion leakage. |
| • Pipeline sections designated for replacement due to leak history are surveyed more frequently than required by regulation. | 2009: Yes.<br><br>The company focuses on problem areas annually and will conduct a high risk patrol over any segment of main suspected of increased leak activity. |
| • The company's procedure for assigning leak classification provides for uniform and consistent "grading". | 2009: Yes.<br><br>Utilizes the General Piping Technology Committees guidelines on leak classification. |
| • Response & Follow-up on Leaks: | |
| o Hazardous or Grade 1<br>▪ Procedures address downgrading of Grade 1 leaks | 2009: Grade 1 leaks are responded to immediately and worked until repaired. An area recheck is conducted within 30 days of the repair to ensure no further leaks. |
| o Non-hazardous or Grade 2 | 2009: Grade 2 leaks are scheduled for repair within 6 months of discovery or repaired prior to the first frost condition. The area is rechecked within 30 days following repair to ensure no other leaks are present. |
| o Non-hazardous or Grade 3 | 2009: Grade 3 leaks are monitored annually and may be repaired at the direction of management or eliminated during main/service renewal. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| o Other non hazardous Grades, i.e., above ground leaks. | 2009: No other leak grades are used. |
| • The company has a process for tracking its un-repaired leaks. | 2009: Yes.<br><br>The steps used by the company for leak tracking are leak repair, recheck, and clearing or finalizing the leak. |
| • Critical valves that can safely isolate segments of the system have been identified, describe inspection process. | 2009: Yes.<br><br>Approximately 500 customers are contained within a specific area. The valve is inspected annually for accessibility and operation ensuring the location is properly documented in company records. |
| • The inspection monitoring schedules for cathodically protected systems comply with applicable codes. | 2009: Yes.<br><br>Each test point is located using Global Positioning System technology with the associated record maintained in the Corrosion Records Monitoring System. |
| • The inspection and monitoring schedules for rectifiers comply with applicable codes. Troubleshooting and inspection procedures are in place. | 2009: Yes.<br><br>Inspections are conducted bimonthly for rectifier performance with a nearby ground voltage reading required. |
| • All "shorted" or "down" cathodic protection systems are remediated before the next read cycle. | 2009: Yes.<br><br>Remediation is identified with repairs made prior to the next reading cycle. Compliance reads are recorded following the repair. |
| • Atmospheric corrosion evaluations are performed and inspections positively documented on system piping exposed to the atmosphere including meter set assembly piping. | 2009: Yes.<br><br>Atmospheric inspections are positively documented in the CMS. |



**Suggestion(s):**

2009 Risk Assessment

No suggestions offered in this section.

## *Customer Premises Practices*

**Background:**

Customer service is the manner in which an organization functions during its interactions with customers. Delivering excellent customer service can be one of the major strengths of a Local Distribution Company (LDC). The ability to work directly with customers promotes the use of gas in residential, commercial, and industrial applications, which is critical in maintaining a growing customer base.

Since many LDCs provide quality service, their customers recognize them as having the knowledge and experience needed to respond to actual or believed to be gas-related problems. Many courts have deemed the special nature of natural gas to require a "higher standard of care" in its handling. As such, gas company employees are expected to provide that "higher standard" at all times.

To shoulder this responsibility, company employees who directly interact with the public require training, knowledge, and experience in several areas. Operation of gas-fired equipment is one of these areas, but other topics must also be considered. Gas leak investigations, fuel-gas codes, recognition of hazards, properties of gas and combustibles, as well as general safety are all areas with which gas company employees must be knowledgeable; therefore, the company must provide procedures, training, and continual reinforcement to this "higher standard of care" to protect gas customers and the public.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • First responders are trained and equipped to identify hazards associated with the **delivery** and **utilization** of gas. | 2009: New Hampshire requires a gas fitters license for maintenance type work activity within a structure; employees hold such a license. A 300-hour training program is administered to service technicians who must demonstrate their skills prior to qualification.<br><br>**Refer to Suggestion 09-01.** |
| • Emergency work practices are documented in written procedures. | 2009: Yes.<br><br>Emergency work procedures are contained in the Gas Standards manual available electronically to the first responder. |
| • Emergency response times are recorded and tracked. The data is used in managing the emergency response program. | 2009: Yes.<br><br>Response time metrics have enhanced staffing and altered work shifts to cover emergency response. Response times are measured in 15-minute increments and during normal and off-hour shifts. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Procedures specify that appropriate action be taken when "carbon monoxide" (CO) calls are received. | 2009: Yes.<br><br>Carbon monoxide calls are responded to as a gas leak. |
| • The company's red tag form provides spaces for recording all necessary information relating to the identified condition(s). | 2009: Yes. |
| • Red tag is bilingual & multi-copied. | 2009: Yes.<br><br>The red tag contains English/Spanish and translation instructions in 5 other languages. |
| • The following actions are performed as appropriate when "red tagging" gas utilization equipment: | |
| o Equipment is left in a condition that requires a deliberate act on the part of the customer to re-establish its use. | 2009: Yes.<br><br>The appliance is shut off and tagged. A follow-up letter is sent to the customer-of-record and the local building code official.<br><br>With the approval of the supervisor, a hazardous/violation tagged appliance may be left on and must be inspected 7 days later by the company to ensure repairs have been made. The company reports that it does not always gain access to the customer's location to conduct a red tag repair inspection.<br><br>**Refer to Suggestion 09-02.** |
| o A signature is secured from a responsible party acknowledging notification of the condition(s). | 2009: Yes.<br><br>A signature is obtained or the reason why it was not is documented by the service technician. |
| o When a customer refuses to sign a "red tag" form or no one is available to sign the form, this circumstance and the fact that the customer was advised of the condition(s) is noted on the form or documented in some other manner. | 2009: Yes.<br><br>See above comment. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Training for employees who enter customer premises includes taking appropriate actions and documenting when conditions that may affect customer safety are encountered.<br>**(Examples: water heater temperature settings, storage of flammable materials.)** | 2009: Yes.<br><br>Unusual conditions are documented by the service technician. |
| • A program to calibrate meters and detection equipment used in emergencies for proper operation in accordance with manufacturers' recommendations is in place. | 2009: Yes.<br><br>Instruments are maintained and checked in accordance with manufacturers instructions. Calibration of any unit is done by a factory trained technician with the appropriate documentation maintained. |



**Suggestion(s):**

2009 Risk Assessment

09-01 Consider a management review of the current training offered to prospective service technicians and first responders. Service technicians work "on their own," following successful completion of the program and a review by a journeymen technician. Service technicians respond to gas leaks, carbon monoxide, and other odor calls as well as performing utility work assignments, such as a meter turn on or exchange, and checking appliances for proper operation and installation. An evaluation by a fellow employee is subjective and may lead to a knowledge gap of the service technician; therefore, a uniform qualification review is suggested.

**09-02 Review the current practice of allowing a hazardous/violation tagged appliance to remain in service with a follow-up inspection performed 7 days later. While this practice is reported to be done only on rare occasions, the appliance was identified to be in a hazardous condition and needs to be taken out-of-service for the safety of the customer.**

## *Customer and Public Safety Awareness*

### Background:

Customer and Public Safety Awareness information can be divided into two categories that are specifically required by regulations and that a company may desire to communicate to help protect its assets through loss avoidance or mitigation in matters that commonly target them as defendants. Regardless, safety is a critical consideration for any gas operation and must extend to both customers and non-customers.

DOT regulation 49 CFR §192.616 recognizes that public education is an important means to spread safety information. Each pipeline operator must develop and implement a written continuing public education program that follows the guidance provided in the American Petroleum Institute's (API) Recommended Practice (RP) 1162. Some common and not so common methods used within the gas industry to impart this awareness include: television, radio and newspaper advertising, billboards, mass mailings, school programs and speakers' bureaus. Coverage must be broad enough so that a non-gas user living next to a gas customer can recognize a gas emergency and know what action to take.

Customer Notification, 49 CFR §192.16[2] recognizes that customers are generally not aware that buried fuel lines beyond the outlet of the gas meter require maintenance and inspection. It also recognizes that these lines are the responsibility of the customer-owner and not the gas operator; therefore, because of that knowledge, gas operators must have a program in place to notify each customer at least once in writing of the need to maintain and inspect customer-owned buried fuel lines.

A third DOT-required communication to the public, 49 CFR §192.614, is intended to educate in the matter of prevention of damage to underground facilities—basically, "Call Before You Dig."

Gas operators' DOT jurisdictional responsibilities end at the outlet of the gas meter. Customer-owners are responsible for inspecting, maintaining, and repairing utilization piping equipment and venting downstream from their meters. Utilization equipment issues are, however, a significant concern for gas operators because their personnel routinely enter private residences and businesses to investigate problems, light appliances; and set, change, or read gas meters. Gas companies sometimes become targets for liability claims arising from incidents involving gas utilization equipment. Allegations of negligence and failure to warn are common following fires and explosions that may be associated with gas-fired equipment.

Gas operators can help protect themselves from this liability exposure by educating customers with the intent of motivating them to take actions consistent with a given message.

Gas operators have no federal statutory obligation to educate in gas utilization matters, and with rare exception, no state obligation either. Nevertheless, many gas operators have adopted ongoing programs intended to educate their customers on several utilization issues. They commonly use printed messages accompanying gas bills, and in some instances newspapers, radio and television ads.

[2] All customers should have been notified by 8/14/96 and new customers thereafter within 90 days of receipt of service.

The more common utilization liability issues affecting gas operators are the ignition of gasoline vapors by water heaters and other open-flame appliances (ignition of flammables) and carbon monoxide poisoning related to gas-fired appliances. Scalding related to excessively hot water produced by gas-fired equipment is another utilization liability issue.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The operator's Public Awareness Program (PAP) includes provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities.<br>▪ The (PAP) addresses the use of a One-Call notification system prior to excavation.<br>▪ The (PAP) addresses hazards associated with unintended releases from gas pipelines.<br>▪ The (PAP) addresses physical indications that a release may have occurred.<br>▪ The (PAP) addresses what steps should be taken for public safety in the event of a gas pipeline release.<br>▪ The (PAP) includes procedures for reporting a release of gas.<br>▪ The (PAP) and media used are as comprehensive as necessary to reach all areas in which gas is transported by the operator.<br>▪ The (PAP) includes activities to advise affected municipalities, school districts, businesses, and residents along pipeline facility locations.<br>▪ Included is a means of measuring the effectiveness of the PAP. | 2009: Yes.<br><br>The company partners with the North East Gas Association (NGA). Safety information is contained in the company's billing envelope publications, which includes warnings on appliance's flexible connections and the telltale odor of natural gas by a scratch and sniff sample. Safety information is also transmitted through radio, newspapers, customer billing envelope inserts, and speakers, (when requested by area civic, social or school groups).<br><br>Emergency contact numbers and a description of the telltale odor of natural gas are published in area newspapers in English and Spanish. |
| • The company has a program to determine the need to provide safety messages for its customers and the public in languages other than English. | 2009: Yes.<br><br>The company provides safety messages in English and Spanish. |
| • A program for informing customers of the maintenance and inspection requirements for their buried fuel lines that are not maintained by the company is in place. | 2009: No.<br><br>**Refer to Suggestion 09-03.** |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Customers are provided with gas safety information regarding hazards around meter set assemblies associated with snow, ice and other climatic conditions. | 2009: Yes.<br><br>Safety messages regarding climatic conditions are sent to customers seasonally through the billing envelope and on the website under gas safety. |
| • Customers are provided with gas safety information related to the potential blockage of side wall vented appliances. | 2009: No.<br><br>**Refer to suggestion 09-04.** |
| • Customers are provided information on carbon monoxide (CO) hazards and associated warning signs of CO poisoning. | 2009: Yes.<br><br>Carbon monoxide safety warnings are included in the billing envelope seasonally and on the website under gas safety. |
| • Customers are provided information on flammable material hazards. | 2009: Yes.<br><br>Safety messages are sent to customers through the billing envelope and can be found on the company's website under gas safety. |
| • Customers are provided information on hot water scalding hazards. | 2009: Yes.<br><br>Scalding hazard warnings are sent to customers in the billing envelope and can also be found on the company's website under gas safety. |
| • Customers are provided with gas-safety information related to uncoated flexible appliance connectors. | 2009: Yes.<br><br>Warnings regarding uncoated appliance flexible connectors are found in the customers billing envelope and on the website under gas safety. |
| • Customers are provided gas-safety information on the proper installation of Corrugated Stainless Steel Tubing (CSST). | 2009: No.<br><br>It is a requirement in New Hampshire that when CSST is installed, a licensed electrical contractor must install the proper grounding connection.<br><br>**Refer to Suggestion 09-04.** |
| • Safety messages are provided to new customers as soon as possible to avoid the time-lag associated with the normal scheduled distribution of such information. | 2009: Yes.<br><br>While a welcome package is sent to new customers, safety messages may not be complete or contain planned messages published by the company.<br><br>**Refer to suggestion 09-05.** |

**Suggestion(s):**

2009 Risk Assessment

**09-03 In the event that the company may have not perpetuated its Customer Notification requirement regarding the need for maintaining and inspecting buried fuel lines (49 CFR §192.16), it is suggested that a program be re-established and monitored to ensure there are no lapses.**

09-04 Consider developing safety awareness information for customers on the following topics:

- Climatic safety awareness on the potential blockage by snow and ice of horizontally vented appliances
- Periodic inspections of proper grounding or bonding of corrugated stainless steel tubing (CSST) installations.

09-05 Since the company disseminates much of its safety information on a scheduled basis which presents a time lag in getting all planned messages to new customers, it is suggested that customers be provided with all planned safety information as soon as practicable after service is initiated.

## *Call Center Operations - Emergency Calls*

**Background:**

Call Centers receive, review and forward information from callers reporting gas emergencies. This process initiates a utility's emergency response. Calls received involving emergencies such as reported gas odors and leaking gas must be given priority and handled with appropriate urgency and professionalism.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| **Call Center Facilities/Equipment** | |
| • Facilities are in place to handle emergency and other service calls on a 24/7 basis. | 2009: Yes.<br><br>The Concord Call Center operates 5 am to 11 pm 7/days a week. Calls received at other times are transferred to either the New Hampshire Gas Control Center or to Fitchburg Gas and Electric. |
| • Additional or temporary call handling facilities are available for use when experiencing extremely high call volume, such as during system emergencies. | 2009: Yes.<br><br>Calls can be handled in the call center, gas control, or Fitchburg Gas and Electric. However, an outside vendor is available, if necessary, to collect outage calls. Gas emergency calls are always handled by a Unitil employee at the above mentioned locations. |
| • Back-up/emergency power generators provide electric service when electric utility service is not available. Backup generation is supplied through UPS equipment to ensure continuous system operations. | 2009: Yes.<br><br>A backup generator is available at each of the above mentioned locations. |
| **Processes** | |
| • Incoming calls are routed via IVR by type and/or operator skills such as:<br>o Service or billing, etc.<br>o Routine or emergency<br>o System (electric, gas, water, etc.)<br>o Language<br><br>Note: Small call centers may not employ IVRs for call routing. | 2009: Yes.<br><br>The automated system allows the caller to select the call routing with gas emergencies as the first selection. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Emergency calls are given priority over routine calls by the IVR and immediately routed to available operators. | 2009: Yes.<br><br>Emergency calls are given priority over any other call type and immediately routed to the available call taker. |
| • Call operators are provided "help" aids, such as those listed below, to assist with categorizing and processing calls in a consistent and uniform manner. Call operators are instructed that when in doubt, they are to err on the side of caution.<br>▪ Printed manuals<br>▪ Menu driven<br>▪ Online help application<br>▪ Help desk | 2009: Yes.<br><br>Printed help aids are available for call takers, which enable them to guide the caller and ask relevant questions pertaining to the situation. |
| • Call conversations are recorded and retained. | 2009: Yes.<br><br>All incoming calls received at the call center are recorded. |
| • A program to monitor call operator proficiency is in place. | 2009: Yes.<br><br>Supervisors utilize an observation form and select calls at random for evaluation. Calls can be bundled for the supervisor's convenience for review sessions. A score card of the customer service representative's performance is kept. |
| • Orders (emergency and routine) are seamlessly transmitted to the dispatch center. The process involves:<br>▪ Electronic transmission<br>▪ Paper ticket transmission (by hand, conveyor, etc.)<br>▪ Other means<br>▪ Order transmission is verbally confirmed via phone by the call taker. | 2009: Yes.<br><br>The order is transmitted to the dispatch center with a confirming call to the dispatcher to ensure receipt. |
| • When inside premises gas odor calls are received, call operators are trained to instruct the caller to evacuate all persons from the premises. | 2009: Yes.<br><br>The caller's name, address, and contact number is obtained prior to determining the extent of the situation. If the caller is inside the premise where the odor is reported, then instructions are given to evacuate the location. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| **Customer Service Representative Training** | |
| • Training includes:<br>▪ Basic natural gas properties<br>▪ The basics of gas distribution system facilities<br>▪ The basics of the operation of gas systems | 2009: No.<br>**Refer to Suggestion 09-06.** |
| • Call operator training includes:<br>▪ Field visits to observe in-service gas facilities<br>▪ Accompanying gas service technicians on actual service calls. | 2009: No.<br>**Refer to suggestion 09-07.** |
| • Instructions are provided to callers who smell gas in a building prior to their evacuation from the structure. These instructions include:<br>▪ Do not operate (turn on or off) electric appliances or equipment.<br>▪ Do not hang up the phone or place another call; just place the phone receiver down.<br>▪ If possible, provide an alternate phone number where callers may be contacted once they leave the building.<br>▪ Callers are advised that the company serviceman who responds to their call may require access to the inside of the building. | 2009: Yes. |
| • Customer Service Representatives are provided Public Safety and Awareness information associated with natural gas. | 2009: Yes.<br>Both gas and electric public safety information are sent to the CSR prior to the month safety messages are sent to customers. |
| **Processes and Procedures** | |
| • Procedures/practices are in place to ensure positive responses to reports of:<br>▪ Carbon monoxide<br>▪ Leaking propane gas<br>▪ Gas leaks from other utilities in the service area | 2009: Yes.<br>CSRs follow procedures regarding emergency call situations. |

**Suggestion(s):**

2009 Risk Assessment

09-06 Consider developing CSR training to include basic natural gas properties, the basics of gas distribution system facilities, and the basics of the operation of customer gas systems.

09-07 Consider developing a field training program for CSRs that includes field visits to observe in-service gas facilities, and to accompany gas service technicians on actual service calls.

## *Continuing Surveillance*

**Background:**

Continuing Surveillance (§192.613) requires gas operators to have written procedures providing for close attention being continually paid to their systems such that they may take appropriate action concerning failures, leakage histories, corrosion, cathodic protection requirements, changes in class location, and other unusual operating and maintenance conditions. Practically speaking, pipeline replacement projects are identified and prioritized within this function quantitatively or, more commonly, subjectively. Since both methods carry distinct advantages that make up for their respective limitations, it follows that replacement projects should be driven by a composite of the two.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company has a procedure for analyzing its inspection and maintenance records to determine if changes in the rates of failure, leakage, corrosion, or other factors may indicate unusual or unsafe operating and maintenance conditions. | 2009: Yes.<br><br>Data from pipeline maintenance is maintained in the Compliance Management System and utilized to prioritize replacement of pipeline segments considered hazardous. Currently, the company expects to replace all bare steel and cast iron main within the next 9 years. |
| • An established standard for pipe replacement based on previous failures is in place.<br>Areas for discussion:<br>Premature Brittle-like Cracking of Older Plastic Pipe as noted in Advisory Bulletin ADB-02-07 issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA):<br>▪ Century Utility Products, Inc. products<br>▪ Low-ductile inner wall "Aldyl A" piping manufactured by DuPont Company before 1973<br>▪ Polyethylene gas pipe designated PE 3306<br>▪ Delrin insert tap tees<br>▪ Plexco service tee Celcon (polyacetal) caps | 2009: Yes.<br><br>The company develops replacement plans based on the number of leaks, vintage of pipe, and material. Other factors may contribute to replacement projects, such as pressure problems or town road reconstruction projects.<br><br>A database of Aldyl A plastic main is under development, which will assist the company in determining repair or replacement decisions of the material. |
| • A procedure for analyzing incidents and failures for the purpose of determining cause and minimizing the possibility of recurrences is followed. | 2009: Yes.<br><br>The company utilizes a failure report to alert other areas of the company regarding material failure or incidents. This report will be placed in the CMS for future analysis. |
| • There is a process that helps ensure consistent and uniform assignment of leak causes. | 2009: Yes.<br><br>Leak cause is reviewed periodically with those responsible for leak repair. |

**Suggestion(s):**

2009 Risk Assessment

No suggestions offered in this section.

## *Operating, Maintenance, and Emergency Plans*

**Background:**

Operating, Maintenance, and Emergency Plans detail the operating parameters for the gas system. DOT Regulations 49 CFR 192.603, .605, and .615 list specific items to be included. They are intended to guide the operator through various functions, provide information on implementing programs, and give instruction, if needed.

Operating & Maintenance Plans are active documents reviewed and updated regularly to keep pace with new procedures and equipment. Utilities are required to follow their plans completely, providing employees ongoing training on its contents.

While not the sole focus of this topic, the use of contractors is increasing and brings with it a host of issues. Virtually, all gas operators utilize the services of contractors. Historically, this use was limited to pipeline installation and leakage surveys, but today contractors are often utilized for functions including corrosion inspections, leak repair, line locating, and valve inspections. Regardless of the projects assigned to contractors, it must be understood that they are agents of the gas operator; therefore, they must be held to the same standards and must be as comparably trained and qualified as company employees.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Field employees have access to the company's current O&M plan. | 2009: Yes.<br><br>The company is currently in the process of combining the three separate O&M plans into one plan, which will be used throughout the organization. The approach has been to take internal "model practices" and adopt the practice organizationally. This effort is expected to be completed by December 31, 2009. |
| • A process exists to determine that the O&M plans used by field personnel are current. | 2009: Yes.<br><br>Each topic has an expert assigned who is responsible for its content. An overall documented review of the entire plan is completed annually. |
| • Describe the aspects of a pipeline construction project that a company inspector must witness to ensure compliance with applicable regulations and company performance standards. | 2009: Inspectors are assigned up to 4 construction projects, and depending on scope observe and record construction activities daily. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Procedures require the identification of all underground structures in the projected path of piping installed using trenchless technology. | 2009: Yes.<br><br>If trenchless technology is used to install gas facilities, then all underground structures are identified and exposed during construction. A visual inspection is done during construction to ensure there is no contact with the existing structure. |
| • Procedures exist for the inspection of PE pipe for nicks and gouges during pipe installation. | 2009: Yes.<br><br>Both prior to and during installation, plastic pipe is inspected by the contractor and company inspector. |
| • The company has a program to abandon "long-term" inactive service lines. | 2009: Yes.<br><br>Inactive services remain in the associated leak survey schedule. Bare steel services are removed from the system following 5 years inactivity. Plastic and cathodically protected steel services are removed after 10 years of inactivity. |
| • Trenchless technology procedures require an acceptable distance be established between gas piping and adjoining subsurface infrastructure. | 2009: Yes.<br><br>A minimum separation is required as an effort to avoid contact and settlement and allow for space to work on the gas facility if necessary. |
| • The company's emergency plan content is reviewed annually and updated as needed. These updated documented plans are distributed to and reviewed with appropriate employees. | 2009: Yes.<br><br>The emergency plan is currently under revision and will incorporate the Incident Command System used by area first response agencies. |
| • The company has a program for maintaining its liaison with fire, police, and other officials (i.e., other utilities, highway authorities, and railroads). | 2009: Yes.<br><br>Training is generally offered to area first responders (fire/police/EMS) during the November-December time frames. Letters are sent to the response agencies with training and attendance documented. |
| • A training program ensuring appropriate operating personnel are knowledgeable of the company's emergency procedures, is in place. Processes are also in place to verify the effectiveness of the training. Mock emergency drills and table top exercises, are used to verify the effectiveness of emergency preparedness. | 2009: Yes.<br><br>A system-wide emergency exercise is planned for the first quarter of 2010. |



**Suggestion(s):**

2009 Risk Assessment

No suggestions offered in this section.

## *Contractor Safety Review and Evaluation*

**Background:**

The use of contractors in the utility industry is a common and long-standing practice. However, contracted work is more likely to be completed safely, in accordance with prescribed company and regulatory standards, and on schedule when a process for contractor selection and evaluation is in place.

Ideally, a company's contractor selection and evaluation process should clearly define the contractor's responsibilities and hold them accountable for work performance and good safety results. Because contractors often perform a diverse group of tasks on behalf of the utility, the process itself should be flexible enough to accommodate the range of tasks that may be performed.

A well designed selection process will help guide the utility towards contractors who have demonstrated satisfactory safety performance, have Occupational Safety & Health (OSH) programs and operate acceptable safety and technical skills training programs. It will also help avoid contractor accidents that may result in human pain and suffering, substantial costs in terms of lost time, job completion delays, and property damage (both to the utility and to third parties), as well as claims against the utility.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • A prequalification/selection process exists that assures contractors used by the company meet all requirements necessary to perform work. | 2009: Yes.<br><br>Safety performance metrics, operator qualification plan, and unit pricing are necessary for a contractor to bid on company work. |
| • A list of required information that prospective contractors must provide for review is in place. Each item of information required is weighted according to its importance in the selection process. The list is periodically reviewed. | 2009: Yes. |
| • The accident records for the current year and prior two years of employees who may be assigned to the contemplated project or work are provided to the company by prospective contractors. The company reviews these records. | 2009: Yes.<br><br>Severity rate, workers compensation mode factors, and the contractor's safety training protocols are required. |
| • The prequalification/selection process includes a review of perspective contractor's health & safety programs including written health and safety plans to assess compliance with applicable state and/or federal standards & utility specific work rules. | 2009: Yes.<br><br>See above comment. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company requires that prospective contractors provide a brief description of fatal accidents they have experienced over the past three years. | 2009: Yes.<br><br>The company utilizes SIC or OSHA information, and checks for any past citations the prospective contractor may have had. |
| • The prequalification/selection process includes a review and verification of the citations from regulatory organizations, such as OSHA, received by the contractor in the last three years. | 2009: Yes. |
| • For work requiring qualified workers (per regulation, law, etc), prospective contractors provide documentation showing that they have qualified employees that may be assigned to the anticipated work. | 2009: Yes.<br><br>Area pipeline contractors utilize the North East Gas Associations Operator Qualification standards, which are recognized by all NGA member gas companies. |
| • The prequalification/selection process includes a review of required insurance certificates to ensure necessary coverage is in place. Contractor insurance policies are thoroughly reviewed by knowledgably company personnel including the company's legal department to ensure they provide the desired coverage. | 2009: Yes.<br><br>This requirement is part of the bid package, and when selected will be written into the contract. |
| • Contract language specifies actions available to the company should the company become aware that the contactor violated an established* company safety rule or practice.<br><br>* Contractor was aware of and agreed to abide by the rule(s) in question. | 2009: Yes.<br><br>Written into the contract is due diligence. |
| • Contracts are approved by the organizations' risk management and legal personnel to assure that they include the appropriate indemnification/hold harmless provisions. | 2009: Yes. |
| • All information received and reviewed from perceptive contractors is evaluated and ranked in order to identify qualified contractors. The ranking system may stipulate a minimum score that a prospective contractor must achieve to be considered for work at the company. | 2009: Yes. |
| • Once a contractor is selected and before any work begins, the contractor will provide the company a list of his employees who will be engaged in the contracted work. The contractor is required to inform the company of any staffing changes before they occur throughout the duration of the project. | 2009: Yes.<br><br>Each employee assigned to the job or replacement employees, if necessary, are individually qualified for their work assignments. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Contractors engaged for work are provided the appropriate company safety and health standards and practices. | 2009: Yes. |
| • Once a contractor is engaged and before any work is begun, procedures are established and maintained for ensuring that the contractor abides by the company's safety and health requirements. | 2009: Yes.<br><br>The company's safety coordinator ensures the contractor complies with company requirement. |
| • Ongoing communications with successful contractors who are awarded work are established so that identified workplace specific hazards are reviewed prior to the start of any work. Proper documentation of these communications is kept. | 2009: Yes.<br><br>Job observation reports completed by the inspector would include any hazards identified and communicated to the project foreman. The inspector will notify the foreman of the hazard not how to fix it. |
| • As work site conditions change, the contractor is informed of any newly identified hazards. These communications are documented by the company. The contractor is required to review these identified hazards with its employees. | 2009: Yes.<br><br>On site safety meetings and pre work meetings all contribute to jobsite safety. Each employee is reminded of the job forecast for that day. |
| • Workplace safety and health hazard awareness briefings or, as necessary, training associated with non-routine job specific hazards identified by the company is provided to contractor employees by the contractor prior to the commencement of work associated with these hazards. The contractor provides documentation of these activities. | 2009: Yes. |
| • Contractor work performance on job sites is regularly monitored for proper compliance with company standards, procedures and other applicable regulations. Monitoring results are documented. | 2009: Yes.<br><br>Job observation reports completed by the inspector are used to analyze the contractor's job performance. |

**Suggestion(s):**

<u>2009 Risk Assessment</u>

No suggestion offered in this section.

## *Occupational Safety*

**Background:**

Occupational safety is often a key component of organizational risk management programs. Employees are the most valuable resource of any company. Employee job-related injuries directly and adversely affect a company's bottom line due to costs associated with replacement labor, reduced productivity and medical treatment. Effective occupational safety programs foster a pervasive safety culture and the use of workers qualified to perform their assigned tasks and functions. Skill and safety training programs, safety audits, effective incident investigation procedures and proper handling of hazardous materials are essential to a safe and productive work environment.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Employee safety is a core company goal. | 2009: Currently, no; however, safety has been recognized by executive management. The safety manager has been authorized to improve safety. Also, it was reported that from the Director's level and down, safety improvements are being well received and supported. |
| • New employees receive documented safety orientation training (First Aid, CPR, blood-borne pathogens, confined space operations, trenching and shoring, respirator fit testing, and work area protection) and there is continuous refresher training provided to experienced employees. | 2009: Yes.<br><br>Safety orientation is held and includes key or critical safety training and practices. |
| • Safety performance and results are key components of "First-line" supervisor's performance reviews. | 2009: Yes.<br><br>Managers have a strong weighting in safety performance measures. |
| • The company's safety program includes cross-functional and labor-management committee interaction. | 2009: Yes.<br><br>New Hampshire state law requires a labor/management safety group. Due to the merger, a cross functional safety team has been formed. |
| • A "Safety Manual" is issued to all employees and updated when necessary. | 2009: Yes.<br><br>The gas safety portion of the manual is currently under revision. |
| • There is a process for analyzing and distributing incident information throughout the organization. | 2009: Yes.<br><br>Injury report forms are submitted, reviewed, and the lessons learned distributed for all to review. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company actively manages employee safety, including measurement of the safety program's effectiveness. | 2009: Yes.<br><br>Progress is measured and includes lost time and near misses. |
| • The company has a written hazard communication program as required by 29 CFR 1910.1200. | 2009: Yes.<br><br>A hazard communication program is in place. |
| • HAZCOM training is conducted as required by OSHA regulations. | 2009: Yes.<br><br>Material Safety Data Sheets are available in each office and on-line through a service provider. |
| • Describe the personal protective equipment employees have and how they are trained on the use of that equipment. | 2009: Safety training includes the proper use, wear, and care of issued PPE. Flame resistant clothing, steel toed shoes, and breathing apparatus are issued by the company. Employees are required to wear natural fiber clothing. Job site safety includes cones, warning signs, and flaggers where required. |
| • The company has a procedure for special handling of distillates found in the distribution system, which includes the testing for contaminates. | 2009: Yes.<br><br>Liquids are collected and stored for removal by a certified environmental contractor. |
| • Describe precautions taken when employees are working around company facilities determined to have asbestos present. | 2009: No company facilities contain asbestos, however, coal tar wrap has been identified as containing asbestos fibers; therefore, it is collected, bagged, and stored in approved containers for eventual removal by an environmental contractor. |
| • Procedures are in place for the proper removal and disposal of any mercury regulators in the company's distribution system. | 2009: No mercury regulators are in service in New Hampshire. |
| • Jobsite safety inspections are completed on a regular basis. | 2009: Yes.<br><br>Job site safety inspections are conducted regularly with results and corrective actions taken documented. |



**Suggestion(s):**

2009 Risk Assessment

No suggestions offered in this section.

# UNDERWRITING RISK ASSESSMENT

**Prepared for:**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY** (Unitil Corporation)
6 Liberty Lane West
Hampton, NH 03482

**December 30, 2010**

**Attention:**

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*Solutions for Success*

## *Table of Contents*

## *Report Summary*

On November 30-December 2, 2010, AEGIS Insurance Services, Inc. performed a Risk Assessment of the natural gas operations at Unitil Corporation's Fitchburg Gas and Electric Light Company. The purpose of this assessment is to provide the AEGIS Insurance Services' Underwriting Division with additional information concerning the operating practices and the condition of the insured's system to facilitate an enhanced evaluation of the utility's general liability risk exposure and loss control practices and procedures in order to underwrite insurance risks on behalf of its principal, Associated Electric & Gas Insurance Services Limited ("AEGIS"). Any other use of this assessment, including any oral or written discussion or explanation of same, shall signify the user's acknowledgment and agreement that neither AEGIS nor AEGIS Insurance Services has made any representation or warranty in respect to this report and that the user waives any claims against AEGIS and/or AEGIS Insurance Services arising in any way from the user's use of the report.



This report details the results of the Risk Assessment. The comments and suggestions do not purport to list all hazards, nor do they indicate that other hazards do not exist. They are advisory in nature and designed to assist the company in the establishment and maintenance of its own safety and risk management programs. No responsibility is assumed for management and control of these activities, or for the corrections stated herein.

This review was initiated by the AEGIS Insurance Services Underwriting Division in accordance with the terms outlined in the insured's policy, conducted by AEGIS Senior Utility Consultant, Mr. Scot Macomber, and coordinated by Mr. Michael Monroe Safety Compliance Manager, Unitil Service Corporation.

Personnel involved in the management and administration of employee safety, system inspection, construction and maintenance, customer service, and public safety communication were interviewed. Procedures, practices, and documentation were reviewed. Topics reviewed during this Risk Assessment include:

- Damage Prevention
- Pressure Control
- Odorization
- System Inspections
- Customer Premises Practices
- Customer and Public Safety Awareness
- Call Center Operations – Emergency Calls
- Continuing Surveillance
- Operating, Maintenance, and Emergency Plans
- Contractor Safety Review and Evaluation
- Occupational Safety
- Liquefied Natural Gas Plant

Federal Pipeline Safety Regulations, 49 CFR 191 and 49 CFR 192, are the minimum standards regulating all natural gas pipeline operations. Unless more stringent state regulations are found to apply, the federal regulations will be referenced in this report.

Currently, Fitchburg Gas & Electric Light Company's (FG&E) gas distribution system delivers gas to approximately 15,000 customers through one city gate station, which receives natural gas from the Tennessee Interstate Pipeline system, 19 active regulator stations through a 263 mile distribution system. The distribution system consists of 127 miles (49%) of cathodically protected steel; 57 miles (21%) plastic main; 71 miles (27%) cast/ductile iron main, and 8 miles (3%) bare steel main. Approximately 50% of the daily natural gas requirement is for a single industrial customer during the summer months. An LNG and an LPG facility are maintained for winter peaking requirements. Last year during Tennessee Pipeline's renewal project, the entire system was supplied by the LNG facility.

The company continues to utilize a risk assessment model to determine planned main renewal projects based on a weighted average of leak history, class location (class location is based on population density), pipe material and year of installation. The model is intended to annually project a five-year forecast on planned main and associated service replacement. Currently, the company is mandated to replace 2 miles of cast iron annually and recently, a mile of bare steel main was added to the requirement. To address the renewal of its infrastructure, the company has filed a rate relief structure designed to accelerate substandard (cast iron/ductile iron and bare steel) replacement. A decision is expected from the State later this year. Cast and ductile iron located in the business district is surveyed on 10-day cycles throughout the year and patrolled daily during cold weather months because the majority of this material is small diameter and subjected to ground movement, cracking these mains. The company has enhanced the repair criteria for Grade 2 leak indications. New requirements are: **Grade 2 Priority 1**: 10-day repair timeframe; **Grade 2 Priority 2**: 30-day repair timeframe; **Grade 2 Priority 3**: 6 month or end of year repair timeframe, along with a leak survey requirement of every 30 days for any leak grade change until its repaired.



Most of the operating programs and practices observed at the company are satisfactory and comparable to corresponding programs observed at similar utilities. The programs reviewed during this assessment are considered as follows when compared to corresponding programs at similar utilities:

| Above Average | Satisfactory | Needs Improvement |
|---|---|---|
| System Inspections | Damage Prevention | Odorization |
| Operating, Maintenance and Emergency Plans | Pressure Control | |
| | Contractor Safety review and Evaluation | |
| | Customer Premise Practices | |
| | Customer and Public Safety Awareness | |
| | Call Center Operations – Emergency Calls | |
| | Continuing Surveillance | |
| | Occupational Safety | |
| | Liquefied Natural Gas Plant | |

Nine (**9**) suggestions are being made as a result of this risk assessment of the organization's policies, facilities, standards and operations. The suggestions offered are advisory in nature and are intended to assist company personnel with improving existing programs and procedures while establishing the organization's safety and risk management programs. Suggestions considered to be a "high priority" are denoted in **bold** text. Suggestions offered during a previous risk assessment that have been implemented by the company are highlighted in grey.

The following report details observations related to each suggestion summarized here.

No responsibility is assumed for the management and control of these activities, or for the suggested corrections stated herein.



## Suggestion Summary:

*Damage Prevention*

10-01 Consider including in correspondence mailed to excavators explanations of gas-specific damage by informing excavators and contractors working in the service area that gas-specific pipeline damage includes items such as: cut tracer wire; nicked, dented, scraped, gouged, or cut pipe or pipe coating; pipeline support; undermining pipe especially cast iron, and damaged cathodic protection systems.

*Pressure Control*

**10-02 Due to the recent lead based paint results at 3 regulator station buildings, consider a plan to remediate the locations and ensure the area is lead-free following completion.**

*Odorization*

**10-03 Consider implementing a periodic reassessment of odor-level test locations to ensure they are appropriately representative of all gas in its distribution system.**

10-04 It is suggested that the company consider documenting the findings of the "sniff test" (a non-quantitative determination of the presence of gas odor) during the investigation of reported natural gas leaks. Doing so may serve as early notification of an odorization failure given the current absence of "real-time" odorizer operation monitoring and monthly odor testing.

*System Inspections*

No suggestions offered in this section.

*Customer Premises Practices*

10-05 In conjunction with issuing a red tag, consider adopting a uniform procedure that requires wrapping the isolation valve with warning tape. This requires the customer to perform 2 separate acts should they attempt to place the appliance back in service.

*Customer and Public Safety Awareness*

10-06 Develop Public Service Announcement warnings for customers that can be used in the local media in the event climatic conditions may affect the gas distribution system and safe delivery and utilization of gas service.

10-07 Consider customer safety warnings concerning periodic inspections by a qualified electrician of proper grounding or bonding of Corrugated Stainless Steel Tubing (CSST) installations.

*Call Center Operations – Emergency Calls*

No suggestions offered in this section.

*Continuing Surveillance*

10-08 While the company utilizes a risk-based model in developing pipe replacement plans, consider documenting decisions made as the model is used in conjunction with subject matter expert input on the models results prior to finalizing scheduled replacement projects.

*Operating, Maintenance, and Emergency Plans*

No suggestions offered in this section.

*Contractor Safety Review and Evaluation*

No suggestions offered in this section.

*Occupational Safety*

No suggestions offered in this section.

*Liquefied Natural Gas Plant*

10-09 Due to the critical nature of all LNG facility plans and the fact there is only one copy of the majority of the documents, consider storing these operating, security, fire protection construction and maintenance manuals in a fire and water proof cabinet until they are duplicated for off site or electronic storage.

## *Damage Prevention*

### Background:

Third-party damage is recognized as the leading cause of reportable incidents[1] on regulated pipeline systems. This continuing problem led to the enactment of pipeline safety regulation 49 CFR 192.614 (Damage Prevention Program) in April 1982, which requires gas operators to have a written program to prevent damage to their pipeline facilities. Operators must, as a part of this program, provide for the education of excavators and the public, be able to receive notices of proposed excavations, locate underground facilities in the area of proposed excavations, and provide temporary marking of buried facilities.

The most common approach the gas industry has taken to comply with §192.614 is their almost unanimous participation in various state or regional "One-Call" systems. The One-Call concept allows excavators the convenience of placing a single phone call to notify all One-Call participating utilities that have underground facilities in their proposed excavation locations.

In addition to their main purpose of acting as an answering service, One-Call systems commonly provide gas operators with many of the code-required elements of a damage prevention program. One particular area in which One-Call operators commonly fall short, however, is that of educating excavators on what constitutes a gas emergency for the purpose of reporting it (§192.616). The operator's program must follow the general program recommendations of American Petroleum Institute (API) Recommended Practice (RP) 1162. The program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation activities on (1) the use of a One–Call notification system prior to excavation (2) the possible hazards associated with unintended releases from a gas pipeline (3) physical indications that a release has occurred (4) steps that should be taken for public safety should a release take place and (5) the proper procedures for reporting such an event. The program should also include messages that are gas utility-specific such as call the gas company if a tracer wire is damaged; pipe coating is damaged; or plastic pipe is gouged. The issues surrounding soil compaction, back-fill quality, pipe support, and cast iron pipeline issues also should be communicated.

While not directly related to a damage prevention program, identification and warning signs on company facilities are important. They provide emergency phone numbers and warnings where hazards may exist. Facilities typically accompanied by information and warning signs are transmission lines, city gate stations, border stations, custody transfer points, regulator stations, and major valve locations.

[1] As defined in 49 CFR 191, "Incident" means any of the following events:

(1) An event that involves a release of gas from a pipeline or of liquefied natural gas or gas from a LNG facility and
  (i) A death, or personal injury necessitating in-patient hospitalization; or
  (ii) Estimated property damage, including cost of gas lost, of the operator or others, or both, of $50,000 or more.
(2) An event that results in an emergency shutdown of a LNG facility.
(3) An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2).

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Describe how the company provides "actual" notification to excavators about its damage prevention program and how it satisfies the requirements of API RP 1162. | 2010: FG&E sponsors an annual contractors' breakfast and conducts presentations. Presentations are also conducted at other excavator gatherings. Area excavators receive a letter describing damage prevention.<br><br>The company is a member of the Dig Safe One-Call System, which sponsors much of the area's damage prevention programs on radio, television, and newspaper ads.<br><br>2007: The company is a member of the Dig Safe One-Call System, who sponsors much of the area's damage prevention programs on radio, television, and newspaper ads. FG&E sponsors an annual contractors' breakfast and conducts presentations. Presentations are also conducted at other excavator gatherings. A letter is sent to area excavators describing damage prevention. |
| • The company supports and advertises the national 811 call-before-digging notification number. | 2010: Yes.<br><br>811 is included in various company damage prevention publications.<br><br>2007: Not documented. |
| • Gas-specific damage prevention information is included in "actual" notification. | 2010: No.<br><br>The company hosts contractor damage prevention meetings and discusses gas-specific damage; however, not all contractors and excavators attend meetings.<br><br>**Refer to Suggestion 10-01.**<br><br>2007: Gas-specific damage is described during presentations. However, gas-specific information is not included in the annual damage prevention letter sent to area excavators.<br><br>See Suggestion 07-01. |
| • Describe how the company notifies the public in the vicinity of its pipelines regarding the company's damage prevention program. | 2010: Information bulletins, monthly billing envelope inserts, radio, TV and newspaper ads provide damage prevention awareness to the customer on the need to call before digging.<br><br>2007: Information bulletins, monthly billing envelope inserts, radio, TV and newspaper ads provide damage prevention awareness to the customer on the need to call before digging. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Does the message content apply to "Excavation" activities typically performed by the public, e.g., planting trees and shrubs, fence and mailbox posts, or other property activities? | 2010: Yes.<br><br>Bill inserts include homeowner-type activity. Walk-in customers and the public can view posters describing Call-Before-Digging at the call service center.<br><br>2007: Yes.<br><br>Bill inserts include homeowner-type activity. Walk-in customers and the public can view posters describing call before digging at the call service center. |
| • To ensure all assigned work is accounted for, there is a process for reconciling daily field locates. | 2010: Yes.<br><br>Dig Track is utilized in managing ticket requests, comments, and completion information. A video of the proposed construction zone as well as Unitil facilities located throughout the area is maintained as part of the record. The company locates both natural gas and electric facilities.<br><br>2007: Yes.<br><br>The company utilizes "Dig Track" to receive, track, and complete dig safely ticket requests. |
| • There is a process for "positive notification" regarding mark-out requests where buried facilities may be non-existent. | 2010: Yes.<br><br>Unitil facility marks are a sign to the excavator that the area has been marked out. If no Unitil facilities exist, completion information is entered into Dig Track and an e-mail notification is sent to the requesting excavator.<br><br>2007: Yes.<br><br>The company enters completion information into Dig Track. The Dig Track ticket can be web-accessed by the excavator or a call can be made to the Dig Safe Call Center to determine the ticket's disposition. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Root cause analysis investigations of underground damage incidents are conducted to determine their causes. The findings are considered and corrective actions implemented where appropriate. | 2010: Yes.<br><br>Facility damages are investigated to determine the root cause of the damage. Corrective meetings are held with excavators and a list is maintained of high risk excavators or contractors. In 2009, 6 facility damages occurred and in 2010 year to date, 5 damages have been reported.<br><br>2007: Yes.<br><br>Facility damage is investigated to determine cause, fault, and used to improve damage prevention awareness throughout the service territory. |
| • Following root cause analysis, what corrective action does the company initiate? | 2010: The company works with excavators and contractors who have damaged company facilities in an effort to correct their behavior when working around its facilities.<br><br>Facilities are identified as either low or high risk. High risk locate requests are those that will cross or come close to gas lines, expose cast iron facilities, come within 100' of a regulator station, or close to a public building. On-site standby is often done to ensure the integrity of company facilities during foreign construction.<br><br>2007: Damage reports are reviewed and analyzed internally to determine if any changes need to be made to the existing damage prevention programs. The company recently added a field individual who will be responsible for excavation activity, such as standing-by during critical line crossings. The company renders a bill to the excavator for damage repair. |
| • The company measures the effectiveness of its damage prevention program. | 2010: Yes.<br><br>Damages per 1,000 locate tickets is tracked. Currently, 1.79 damages/1000 locate tickets are reported.<br><br>2007: Not documented. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Is there a process for reporting excavators who have damaged company facilities multiple times to a state jurisdictional agency, such as the Attorney General's Office? | 2010: Yes.<br><br>Facility damage requires a damage report to be filed with the Department of Public Utilities (DPU). The DPU can impose fines on those who violate existing one-call statutes.<br><br>2007: Yes.<br><br>Facility damage requires a damage report to be filed with the Department of Public Utilities (DPU). The DPU can impose fines on those who violate existing one call statutes. Additionally, violators of one-call are required to attend a one-day workshop sponsored by the DPU on damage prevention. |
| • What audit procedures are in place to ensure the locator is meeting company performance standards? | 2010: Quality control audits are performed on random markouts and include a review of the supporting documentation of the completed ticket. Locate Technicians periodically attend "Staking University, an adult education locator training program underground utility locating."<br><br>2007: Locate audits are conducted on 3% of completed mark-outs. |



**Suggestion(s):**

2010 Risk Assessment

10-01 Consider including in correspondence mailed to excavators explanations of gas-specific damage by informing excavators and contractors working in the service area that gas-specific pipeline damage includes items such as: cut tracer wire; nicked, dented, scraped, gouged, or cut pipe or pipe coating; pipeline support; undermining pipe especially cast iron, and damaged cathodic protection systems.

2007 Risk Assessment

07-01 Consider including in the annual letter sent to area excavators the description of gas-specific damage such as nicks, scrapes, and gouges to the pipeline, undermining and supporting gas piping systems, and cuts to cathodic protection systems. Gas-specific damage information is discussed during presentations and meetings with area excavators; however, the suggestion is to reinforce the message so all excavators understand gas-specific damage and what to do if it occurs.

## *Pressure Control*

**Background:**

The universal objective for gas operators is the uninterrupted safe delivery of natural gas to meet the ongoing needs of their customers.

The reference to "safe delivery" implies that the gas should stay in the pipe, only to exit at planned points; and then upon exit, not to exceed regulated pressures. Keeping gas systems from exceeding their maximum allowable operating pressures is the goal of overpressure protection. Inspecting regulation and relief systems in accordance with §192.739 and .743 serves both the needed safety and reliability components necessary to achieve this objective.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Description of the Distribution System. | 2010: One city gate station receives gas from the Tennessee System, 19 active regulator stations control pressures at 90 psig, 35 psig, and utilization or inches water column. Fifty (50%) of the daily gas requirement is for a single industrial customer during the summer months. An LNG and an LPG facility are maintained for winter peaking requirements. The company operates 263 miles of various size distribution mains (8 miles of bare steel, 71 miles of cast or ductile iron and the remainder either cathodically protected steel or plastic) and over 12,000 service lines.<br><br>2007: There are 24 district regulator stations in the distribution system. Some are above ground and some under ground in shallow vaults. Annual (preventive maintenance) inspections are documented and completed. Monthly safety inspections to check on the stations overall condition include a leakage check and security. |
| • Typical design of District Regulator Installations. | 2010: A control monitor design throughout the system is utilized.<br><br>2007: Not documented. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company's O&M manual includes a procedure addressing "by-passing" overpressure protection for maintenance or emergency purposes. A regulated bypass is available for routine maintenance or emergency purposes | 2010: Yes.<br><br>The station is taken out of service for normal maintenance and inspection activity. One regulator can be shut off for maintenance or repair while the other maintains controlled system pressures. No manual by-pass of the station is required for either normal or abnormal conditions.<br><br>2007: Yes.<br><br>Using monitor-type regulator station designs, one regulator can be shut-in while the second unit maintains pressure control avoiding the use of the bypass valve. The bypass valve is inspected during annual inspection cycles. |
| • Describe procedures followed prior to entering regulator station pits or vaults installed below ground. | 2010: The overall condition of the station is checked. Before the cover is removed and entrance to the station made, the station's atmosphere is checked. The employee enters the station after donning a harness and attaching a life-line to a tripod. At all times, the employee wears an atmospheric monitor. A second employee remains at the surface for assistance.<br><br>2007: The overall condition of the station is checked. Before the cover is removed and entrance to the station made, the station's atmosphere is checked. The employee enters the station after donning a harness and attaching a life-line to a tripod. At all times, the employee wears an atmospheric monitor. A second employee remains at the surface for assistance. |
| • All above ground border, distribution, and major industrial regulator installations incorporate designs to prevent unauthorized operation or damage by motor vehicles, lawn tractors, etc. | 2010: Yes.<br><br>The station is protected by traffic bollards, fencing, or contained within a building.<br><br>Recently, the company undertook an analysis of the paint covering 3 buildings and found that lead-based paint had been used in the past. These locations are within a residential area.<br><br>**Refer to Suggestion 10-02.**<br><br>2007: Yes.<br><br>Traffic protection is in place. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Above ground border stations have visible ownership, an emergency contact telephone number, and warning signs that are in good condition. | 2010: Yes.<br><br>Appropriate ownership signs are in place and are undergoing replacement due to a telephone number change.<br><br>2007: Yes.<br><br>Ownership and warnings signs were observed. |
| • "Farm Tap" installations or services distributing gas to more than one customer are subject to code-required inspections. | 2010: N/A<br><br>2007: N/A |
| • SCADA or other monitoring systems provide information on pressures at critical points on the distribution system. | 2010: Yes.<br><br>SCADA monitors each pressure control station with points powered by Solar Cell installations.<br><br>2007: Yes.<br><br>SCADA monitors each pressure control station. |
| • Testing or capacity review of all relief devices associated with pressure regulating stations is completed and documented. | 2010: N/A<br><br>Regulator monitors control pressures with the system modeled to ensure adequate gas pressures.<br><br>2007: The distribution system is modeled to ensure monitor regulator stations remain adequate in flow and delivery pressure. |



**Suggestion(s):**

2010 Risk Assessment

**10-02 Due to the recent lead based paint results at 3 regulator station buildings, consider a plan to remediate the locations and ensure the area is lead-free following completion.**

2007 Risk Assessment

None.

## *Odorization*

**Background:**

The sole purpose of gas system odorization is to warn and alert the public when there is a possible problem with leaking or otherwise uncontrolled natural gas.

While difficult to quantify its effectiveness, odorization continues to prove valuable as gas companies continue to receive odor complaints on a regular basis.

Odor can be imparted to natural gas in two ways, either through naturally occurring odor compounds, or by injecting man-made odorant material. Regardless of the method, the gas operator must be vigilant recognizing that a readily detectable odor must always be present.

The requirements for odorization of transmission lines differ from those for distribution systems. The basic difference is that all distribution gas must be odorized; whereas, transmission systems are commonly exempt from odorization based on Class Location.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The blends and injection rates of odorant supplied to the gas system by outside parties are known. | 2010: Yes.<br><br>The Tennessee Gas Pipeline odorizes gas purchased by FG&E.<br><br>2007: Yes.<br><br>Gas purchased by FG&E is odorized by Tennessee Gas Pipeline. |
| • There is a contingency plan in the event of an odorization failure on the part of a pipeline supplier or company-owned odorant equipment. | 2010: Yes.<br><br>Odorizers are installed on the LNG and LP-Air facilities. They may be used for system-wide odorization should the transmission company's odorizers fail.<br><br>2007: Yes.<br><br>Odorizers are installed on the LNG and LP-Air facilities. They may be used for system-wide odorization should the transmission company's odorizers fail. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • If augmenting previously odorized gas with other than the same odorant blend, the company has positive knowledge that the differing blends are compatible. | 2010: Yes.<br><br>Both the Tennessee Gas Pipeline and FG&E use the same odorant chemical, Sentinel "E."<br><br>2007: Yes. |
| • Odorant injection rates are monitored to ensure that gas is odorized without wide variations in odorant levels. | 2010: Yes.<br><br>Odorizers are inspected weekly with odor levels checked for injection rates.<br><br>2007: Yes.<br><br>Company odorizers are monitored weekly to obtain injection readings. |
| • A process is in place to confirm that odor level testing employees are able to properly and correctly detect and identify different odors. | 2010: Yes.<br><br>Employees responsible for odor level testing are subjected to the Natural Gas Smell test scratch and sniff annually.<br><br>2007: No.<br><br>See Suggestion 07-02. |
| • The company conducts its odor level testing at strategic locations on the distribution system and at a frequency supported by historical data. | 2010: Yes.<br><br>Monthly odor level testing is conducted at strategic locations.<br><br>2007: Yes.<br><br>Monthly inspections are conducted and documented. |
| • The company reviews its odor level test locations periodically to ensure they remain strategic. | 2010: No.<br><br>**Refer to Suggestion 10-03.**<br><br>2007: Yes.<br><br>Strategic locations are periodically reviewed. As a result of the last review, locations where odor level readings are obtained have been enhanced due to system expansion. |
| • Individual odorizers installed on services providing service to one or more customers are included in odor level testing. | 2010: N/A<br><br>2007: N/A |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • A routine "sniff test" program, conducted by field personnel, is employed to augment the formal odor level testing program. | 2010: Yes.<br><br>While it's a requirement for service technicians to sniff natural gas during leak investigations, no documentation is available to confirm the presence of odorized gas.<br><br>**Refer to Suggestion 10-04.**<br><br>2007: Yes.<br><br>Service department employees report anomalies to their immediate supervisor. |
| • Instruments used to conduct odor level tests are checked and calibrated according to manufacturers' recommendations. | 2010: Yes.<br><br>Gas detection (Laser Methane Detector and Combustible Gas Indicators) is maintained according to the manufacturer's instructions. Documentation of required maintenance is maintained as well as manufacturers repair or calibration.<br><br>2007: Yes. |
| • Instruments used in odor level checks are identified on the appropriate documentation. | 2010: Yes.<br><br>The instrument's serial number is recorded on the appropriate documentation.<br><br>2007: The company utilizes one odorometer in its odor level testing. |



**Suggestion(s):**

2010 Risk Assessment

**10-03 Consider implementing a periodic reassessment of odor-level test locations to ensure they are appropriately representative of all gas in its distribution system.**

10-04 It is suggested that the company consider documenting the findings of the "sniff test" (a non-quantitative determination of the presence of gas odor) during the investigation of reported natural gas leaks. Doing so may serve as early notification of an odorization failure given the current absence of "real-time" odorizer operation monitoring and monthly odor testing.

2007 Risk Assessment

07-02 It is suggested the company screen its employees assigned to odor level testing and institute a protocol of periodic testing for a normal sense of smell.

## *System Inspections*

**Background:**

The 49 CFR Part 192 Subpart M (Maintenance) regulation prescribes minimum requirements for maintenance of pipelines. Included in the subpart is §192.723, which requires each gas distribution system operator to conduct periodic surveys of its entire system for the purpose of locating and eliminating system leaks. Leakage surveys of business districts, typically areas where there is wall-to-wall pavement, are to be conducted at intervals not exceeding 15 months, but at least once each calendar year. Remaining portions of the system are to be surveyed at intervals not exceeding five years, except for unprotected distribution pipelines subject to §192.465(e), which must be surveyed at intervals not exceeding three years.

Corrosion can lead to disintegration of the pipeline system causing leaks and piping failures and exposing the gas operator to financial liability resulting from gas-related fires and explosions. DOT regulations address this potential safety hazard with the establishment of minimum requirements for corrosion control. These requirements can be found in Subpart I and Appendix D of 49 CFR Part 192. The requirements specify, in part, the minimum voltages to be applied to the buried pipeline system and a monitoring cycle.

Regardless of the "prescribed" frequencies for surveys, which are minimums, the Code contains direct and implied language requiring gas operators to survey as necessary based on the nature of their operations, local conditions, pipeline material, and leakage history.

Leak classification and leakage control are provided as guidelines based on an evaluation of the location or magnitude of a leak, thereby, establishing the leak repair priority. The judgment and training of operator personnel at the scene is of primary importance in determining the grade assigned to a leak.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Leak surveys of the following gas system components are completed in accordance with applicable codes and regulations: | |
| o High occupancy and other buildings where people congregate.<br>▪ Inspected to outlet of meter set.<br>▪ If buried curb shut-off exists, it is inspected for accessibility. | 2010: Yes.<br>Public buildings are inspected annually with surveys conducted to the outlet of the meter with a courtesy check of exposed customer piping.<br>2007: Yes.<br>Public buildings are inspected annually with surveys conducted to the outlet of the meter. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| o Facilities located in business district | 2010: Annual leak surveys are conducted. Cast iron is surveyed on 10-day cycles throughout the year.<br><br>2007: Annual leak surveys are conducted. |
| o Mains | 2010: Mobile and walking leak surveys are completed on 2-year cycles.<br><br>2007: Mobile and walking leak surveys are completed on 2-year cycles. |
| o Services | 2010: Service line walking leak surveys are completed on 3-year cycles.<br><br>2007: Service line walking leak surveys are completed on 3 year cycles. |
| o Transmission Lines | 2010: N/A<br><br>2007: N/A |
| o Frost patrols | 2010: Yes.<br><br>Winter patrols begin with cold weather and continue through March. Daily cast iron surveys are conducted throughout the downtown area. The majority of cast iron is 4" or less and subjected to cracking due to ground movement during frost conditions.<br><br>2007: Yes.<br><br>Winter patrols begin in November and continue through March. Downtown daily leak surveys over the low pressure system are done daily throughout the winter months. |
| • Leak surveys are conducted at frequencies supported by historical data. | 2010: Yes.<br><br>Leak trends continue to decline.<br><br>2007: Yes.<br><br>Leak trends show overall leakage diminishing. |
| • Pipeline sections designated for replacement due to leak history are surveyed more frequently than required by regulation. | 2010: Pipeline segments identified for replacement are surveyed either annually or on 2-year cycles; however, one targeted for replacement mains are replaced within 12 months, generally.<br><br>2007: Yes.<br><br>The company has developed an evaluation system that includes leak history, soil types, main break and leak frequency. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company's procedure for assigning leak classification provides for uniform and consistent "grading". | 2010: Yes.<br>Leak classifications are clearly defined in the O&M manual with leak Grade 2 enhancements.<br><br>See Grade 2 findings.<br><br>2007: Yes.<br>Leak classifications are clearly defined in the O&M manual and follow the Gas Piping Technology Committee (GPTC) guidelines. |
| • Response & Follow-up on Leaks: | |
| o Hazardous or Grade 1<br>▪ Procedures address downgrading of Grade 1 leaks | 2010: Grade 1 leaks are worked until they are eliminated by repair, a pipe segment is removed, or gas supply is shut off. Following repairs, the leak survey technician will survey the area to determine if the area is clear.<br><br>2007: Grade 1 leaks are worked until eliminated by repaired, pipe segment removed, or gas supply shut off. Following repairs the leak survey technician will survey the area to determine the area is clear. |
| o Non-hazardous or Grade 2 | 2010: Grade 2 leak indications have been enhanced due to the hazard as follows;<br><br>**Grade 2 Priority 1**: 10 day repair timeframe<br><br>**Grade 2 Priority 2**: 30 day repair timeframe<br><br>**Grade 2 Priority 3**: 6 month or end of year repair timeframe<br><br>Grade 2 priority 3 is surveyed every 30 days for any change.<br><br>Once repairs are finished, the leak survey technician will survey the area to determine if the area is clear.<br><br>2007: Grade 2 leak indications are monitored and repaired within 12 months. Following repairs the leak survey technician will survey the area to determine the area is clear. |
| o Non-hazardous or Grade 3 | 2010: Grade 3 leak indications are monitored and repaired in conjunction with other construction or maintenance projects and surveyed annually for any change.<br><br>2007: Grade 3 leak indications are monitored and repaired in conjunction with other construction or maintenance projects. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| o Other non-hazardous Grades, i.e., above ground leaks | 2010: Yes.<br><br>Meter assembly "Fit" leaks are repaired upon discovery.<br><br>2007: None |
| • The company has a process for tracking its un-repaired leaks. | 2010: Yes.<br><br>Leaks are tracked through the Compliance Management System.<br><br>2007: Yes.<br><br>Open leaks and leak indications are tracked until repaired and for follow-up action. Only when the leak survey technician clears the area, is a leak finally considered complete. |
| • Critical valves that can safely isolate segments of the system in the event of an emergency have been identified. Valves that can effectively control the system in the event of climatic conditions or soil subsidence have also been identified.<br><br>Discussion item:<br><br>▫ Describe the process for both if applicable. | 2010: Yes.<br><br>Annual inspections are completed and include verifying valves location, opening the valve box and clearing it if necessary, partially operating the valve and greasing if necessary, and finally painting the valve box, upon completion, to aid in locating.<br><br>2007: Yes.<br><br>Annual inspections are completed and include verifying valves location, opening the valve box and clearing it if necessary, partially operating the valve and greasing if necessary, and finally painting the valve box, upon completion, to aid in locating. |
| • The inspection monitoring schedules for cathodically protected systems comply with applicable codes. | 2010: Yes.<br><br>The system is protected primarily by rectifiers. There are 17 low pressure systems protected by sacrificial anodes.<br><br>2007: Yes.<br><br>The system is protected primarily by rectifiers. There are 17 low pressure systems protected by sacrificial anodes. |
| • The inspection and monitoring schedules for rectifiers comply with applicable codes. Troubleshooting and inspection procedures are in place. | 2010: Yes.<br><br>2007: Yes. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • All "shorted" or "down" cathodic protection systems are remediated before the next read cycle. | 2010: Yes.<br><br>The company utilizes the services of New England Cathodic Protection (NECP) to design and maintain its cathodic protection system. Annual reads are completed and documented with anomalies repaired prior to the next read cycle.<br><br>2007: Yes.<br><br>The company utilizes the services of New England Cathodic Protection (NECP) to design and maintain its cathodic protection system. Annual reads are completed and documented with anomalies repaired prior to the next read cycle. |
| • Atmospheric corrosion evaluations are performed and inspections positively documented on system piping exposed to the atmosphere including meter set assembly piping. | 2010: Yes.<br><br>Atmospheric corrosion inspections are completed and documented in conjunction with other maintenance requirements such as annual regulator station inspections and walking service line leak survey.<br><br>2007: Yes.<br><br>Atmospheric corrosion inspections are completed and documented in conjunction with other maintenance requirements such as annual regulator station inspections and walking service line leak survey. |



**Suggestion(s):**

2010 Risk Assessment

No suggestions offered in this section.

2007 Risk Assessment

None.

## *Customer Premises Practices*

**Background:**

Customer service is the manner in which an organization functions during its interactions with customers. Delivering excellent customer service can be one of the major strengths of a Local Distribution Company (LDC). The ability to work directly with customers promotes the use of gas in residential, commercial, and industrial applications, which is critical in maintaining a growing customer base.

Since many LDCs provide quality service, their customers recognize them as having the knowledge and experience needed to respond to actual or believed to be gas-related problems. Many courts have deemed the special nature of natural gas to require a "higher standard of care" in its handling. As such, gas company employees are expected to provide that "higher standard" at all times.

To shoulder this responsibility, company employees who directly interact with the public require training, knowledge, and experience in several areas. Operation of gas-fired equipment is one of these areas, but other topics must also be considered. Gas leak investigations, fuel-gas codes, recognition of hazards, properties of gas and combustibles, as well as general safety are all areas with which gas company employees must be knowledgeable; therefore, the company must provide procedures, training, and continual reinforcement to this "higher standard of care" to protect gas customers and the public.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • First responders are trained and equipped to identify hazards associated with the **delivery** and **utilization** of gas. | 2010: Yes.<br><br>Continuing education training is given but most service technicians come to the company with a service background. Operator Qualifications are completed as required.<br><br>2007: Yes.<br><br>Operator Qualifications and other training tools are utilized such as technical training, Northeast Gas Association (NGA) Operations School, and various vendors including AEGIS Insurance Services Gas Operator Training. Progressive apprentice training is given but most service technicians come to the company with a service background. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Emergency work practices are documented in written procedures. | 2010: Yes.<br><br>Meter Service Operating Procedures document work practices.<br><br>2007: Yes.<br><br>Meter Service Operating Procedures document work practices. |
| • Emergency response times are recorded and tracked. The data is used in managing the emergency response program. | 2010: Yes.<br><br>The company reports its response time to emergency orders to the Department of Public Utilities utilizing the System Weighted Response Time Index. It continues to achieve the goal of responding to natural gas emergencies within 1 hour on 96% of the orders it receives.<br><br>2007: Yes.<br><br>The company reports to the Department of Public Utilities its response time to gas emergencies utilizing the System Weighted Response Time Index. A response time goal of 1 hour or less on 96% of emergency orders received. Internally the company uses this information to change procedures such as the call out procedure changed in the fall of 2006, improving its response time over nights, weekends, and holidays. |
| • Procedures specify that appropriate action be taken when "carbon monoxide" (CO) calls are received. | 2010: Yes.<br><br>Carbon monoxide calls are treated as emergency orders and responded to as such.<br><br>2007: Yes.<br><br>Response to reported carbon monoxide calls are handled as a gas leak report. If symptoms are perceived the call center will notify the local fire department for assistance. |
| • The company's red tag form provides spaces for recording all necessary information relating to the identified condition(s). | 2010: Yes.<br><br>A new red tag has been implemented throughout the organization in March 2010.<br><br>2007: The red tag program is essentially unchanged from the last risk assessment.<br><br>Refer to suggestion 07-03.<br><br>The AEGIS website contains a suggested red tag form and procedure. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Red tag is bilingual & multi-copied. | 2010: Yes.<br><br>The red tag contains both English and Spanish and several other languages on the back of the tag to help the customer with explanations. Multi-copies are available for the customer and company.<br><br>2007: No.<br><br>Refer to suggestion 07-03. |
| • The following actions are performed as appropriate when "red tagging" gas utilization equipment: | |
| o Equipment is left in a condition that requires a deliberate act on the part of the customer to re-establish its use. | 2010: Yes.<br><br>The appliance is shut off at the isolation valve or the meter is turned off and locked if it is absent.<br><br>**Refer to Suggestion 10-05.**<br><br>2007: Yes.<br><br>The appliance isolation valve is turned off. |
| o A signature is secured from a responsible party acknowledging notification of the condition(s). | 2010: Yes.<br><br>Customers receiving a red tag are asked to sign the tag when issued.<br><br>2007: No.<br><br>Refer to suggestion 07-03. |
| o When a customer refuses to sign a "red tag" form or no one is available to sign the form, this circumstance and the fact that the customer was advised of the condition(s) is noted on the form or documented in some other manner. | 2010: Yes.<br><br>The company has re-established the process of notifying local plumbing sub code officials of red tags issued in their jurisdiction.<br><br>2007: No.<br><br>Local plumbing code enforcement officials were notified however; this practice has not been used in some time.<br><br>Refer to suggestion 07-03. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Training for employees who enter customer premises includes taking appropriate actions and documenting when conditions that may affect customer safety are encountered.<br>**(Examples: water heater temperature settings, storage of flammable materials.)** | 2010: Yes.<br>Verbal safety warnings and other unusual conditions either given to the customer or corrected when observed are documented.<br>2007: Yes.<br>Service technicians record notes on the appropriate service order. |
| • A program to calibrate meters and detection equipment used in emergencies for proper operation in accordance with manufacturers' recommendations is in place. | 2010: Yes.<br>Gas detection (Laser Methane Detector and Combustible Gas Indicators) is maintained according to the manufacturer's instructions. Documentation of required maintenance is maintained as well as manufacturers repair or calibration.<br>2007: Yes.<br>Gas detection instruments are maintained in accordance with manufacturer's instructions. |



**Suggestion(s):**

2010 Risk Assessment

10-05 In conjunction with issuing a red tag, consider adopting a uniform procedure that requires wrapping the isolation valve with warning tape. This requires the customer to perform 2 separate acts should they attempt to place the appliance back in service.

2007 Risk Assessment

**07-03 Consider the following enhancements to the existing warning "red" tag procedure:**

- **Implement a new red tag that contains multiple carbonized copies, doing so eliminates the possibility of errors, omission of critical information, and offers each party the identical warning information.**
- **A bi-lingual form may be considered for those whose language is not English.**
- **Consider wrapping warning tape covering the isolation or control valve causing an additional deliberate action discouraging customers from turning on an appliance.**
- **Require a signature from a responsible individual when the red tag is issued.**
- **Consider a follow-up notice to those who either refuse to sign or are not available to sign the red tag when service is rendered.**
- **Consider reestablishing a notice to the local code enforcement official of the red tags issued within their jurisdiction.**

## *Customer and Public Safety Awareness*

### Background:

Customer and Public Safety Awareness information can be divided into two categories that are specifically required by regulations and that a company may desire to communicate to help protect its assets through loss avoidance or mitigation in matters that commonly target them as defendants. Regardless, safety is a critical consideration for any gas operation and must extend to both customers and non-customers.

DOT regulation 49 CFR §192.616 recognizes that public education is an important means to spread safety information. Each pipeline operator must develop and implement a written continuing public education program that follows the guidance provided in the American Petroleum Institute's (API) Recommended Practice (RP) 1162. Some common and not so common methods used within the gas industry to impart this awareness include: television, radio and newspaper advertising, billboards, mass mailings, school programs and speakers' bureaus. Coverage must be broad enough so that a non-gas user living next to a gas customer can recognize a gas emergency and know what action to take.

Customer Notification, 49 CFR §192.16[2] recognizes that customers are generally not aware that buried fuel lines beyond the outlet of the gas meter require maintenance and inspection. It also recognizes that these lines are the responsibility of the customer-owner and not the gas operator; therefore, because of that knowledge, gas operators must have a program in place to notify each customer at least once in writing of the need to maintain and inspect customer-owned buried fuel lines.

A third DOT-required communication to the public, 49 CFR §192.614, is intended to educate in the matter of prevention of damage to underground facilities—basically, "Call Before You Dig."

Gas operators' DOT jurisdictional responsibilities end at the outlet of the gas meter. Customer-owners are responsible for inspecting, maintaining, and repairing utilization piping equipment and venting downstream from their meters. Utilization equipment issues are, however, a significant concern for gas operators because their personnel routinely enter private residences and businesses to investigate problems, light appliances; and set, change, or read gas meters. Gas companies sometimes become targets for liability claims arising from incidents involving gas utilization equipment. Allegations of negligence and failure to warn are common following fires and explosions that may be associated with gas-fired equipment.

Gas operators can help protect themselves from this liability exposure by educating customers with the intent of motivating them to take actions consistent with a given message.

Gas operators have no federal statutory obligation to educate in gas utilization matters, and with rare exception, no state obligation either. Nevertheless, many gas operators have adopted ongoing programs intended to educate their customers on several utilization issues. They commonly use printed messages accompanying gas bills, and in some instances newspapers, radio and television ads.

[2] All customers should have been notified by 8/14/96 and new customers thereafter within 90 days of receipt of service.

The more common utilization liability issues affecting gas operators are the ignition of gasoline vapors by water heaters and other open-flame appliances (ignition of flammables) and carbon monoxide poisoning related to gas-fired appliances. Scalding related to excessively hot water produced by gas-fired equipment is another utilization liability issue.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The operator's Public Awareness Program (PAP) includes provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities.<br>▪ The (PAP) addresses the use of a One-Call notification system prior to excavation.<br>▪ The (PAP) addresses hazards associated with unintended releases from gas pipelines.<br>▪ The (PAP) addresses physical indications that a release may have occurred.<br>▪ The (PAP) addresses what steps should be taken for public safety in the event of a gas pipeline release.<br>▪ The (PAP) includes procedures for reporting a release of gas.<br>▪ The (PAP) and media used are as comprehensive as necessary to reach all areas in which gas is transported by the operator.<br>▪ The (PAP) includes activities to advise affected municipalities, school districts, businesses, and residents along pipeline facility locations.<br>▪ Included is a means of measuring the effectiveness of the PAP. | 2010: Yes.<br>The company utilized the Northeast Gas Association's services when it measured the effectiveness of its program. Targeted audiences showed they understood the message.<br>Various methods are used to send safety messages to targeted audiences such as customer newsletters, radio stations, newspapers and print ads, excavator meetings, and a school program targeting the 4th grade.<br>2007: Yes.<br>One call notification requirements, hazards of natural gas releases and what should be done if a release has been detected is included. Public officials, emergency responders, the general public, schools, and customers are targeted. Various media outlets are utilized, newspapers and print ads, excavator meetings, school programs, radio spots, and the monthly customer billing envelope. |
| • The company has a program to determine the need to provide safety messages for its customers and the public in languages other than English. | 2010: Yes.<br>The company will utilize the results of the 2010 census in determining how it will expand languages used for its safety messages.<br>2007: No.<br>While several customer and public safety awareness pieces are multi-lingual there is no formal program or process to determine the need or consistent application of a multi-lingual safety awareness messaging effort.<br>Refer to suggestion 07-04.<br>AEGIS website contains a "Quick Start" Guide on customer and public safety awareness. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • A program for informing customers of the maintenance and inspection requirements for their buried fuel lines that are not maintained by the company is in place. | 2010: Yes.<br><br>All customers receive quarterly messages.<br><br>2007: Yes. |
| • Customers are provided with gas safety information regarding hazards around meter set assemblies associated with snow, ice and other climatic conditions. | 2010: Yes.<br><br>The customer newsletter contains snow and ice warnings.<br><br>2007: Yes. |
| • Customers are provided with gas safety information related to the potential blockage of side wall vented appliances. | 2010: Yes.<br><br>Snow and ice warnings are contained in the customer newsletter and included as a PSA on local radio stations.<br><br>2007: Not reviewed. |
| • In the event of climatic conditions (such as flooding) that have affected the safety of the gas delivery system (on both sides of the meter), public safety information describing emergency precautions that should be taken by customers is provided to local news media. | 2010: No.<br><br>**Refer to Suggestion 10-06.**<br><br>2007: Not reviewed. |
| • Seasonal messages providing safety precautions related to climactic conditions (such as flooding) are distributed to customers. | 2010: No.<br><br>The Emergency Procedures Manual addresses coastal flooding for areas of the company along the coast line; however, seasonal snow melt flooding is not included.<br><br>**Refer to Suggestion 10-06.**<br><br>2007: Not reviewed. |
| • Customers are provided information on carbon monoxide (CO) hazards and associated warning signs of CO poisoning. | 2010: Yes.<br><br>The customer newsletter contains warnings of the hazards of carbon monoxide.<br><br>2007: Yes. |
| • Customers are provided information on flammable material hazards. | 2010: Yes.<br><br>The customer newsletter contains the hazards of flammable materials.<br><br>2007: Yes. |
| • Customers are provided information on hot water scalding hazards. | 2010: Yes.<br><br>The customer newsletter includes the hazard of scalding water.<br><br>2007: Yes. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Customers are provided with gas-safety information related to uncoated flexible appliance connectors. | 2010: Yes.<br><br>The customer newsletter includes the potential hazard of uncoated flexible appliance connectors.<br><br>2007: No.<br><br>Refer to suggestion 07-05.<br><br>AEGIS website contains a "Quick Start" Guide on customer and public safety awareness. |
| • Customers are provided gas-safety information on the proper installation of Corrugated Stainless Steel Tubing (CSST). | 2010: No.<br><br>**Refer to Suggestion 10-07.**<br><br>2007: Not reviewed. |
| • Safety messages are provided to new customers as soon as possible to avoid the time-lag associated with the normal scheduled distribution of such information. | 2010: Yes.<br><br>The Call Center sends out a Welcome Kit approximately 1 week after a new account opening.<br><br>2007: Yes.<br><br>Gas safety messages are included in the new customer welcome kit. |



**Suggestion(s):**

2010 Risk Assessment

10-06 Develop Public Service Announcement warnings for customers that can be used in the local media in the event climatic conditions may affect the gas distribution system and safe delivery and utilization of gas service.

10-07 Consider customer safety warnings concerning periodic inspections by a qualified electrician of proper grounding or bonding of Corrugated Stainless Steel Tubing (CSST) installations.

2007 Risk Assessment

**07-04 Federal Pipeline Safety Regulations §192.616 requires public education to "be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area." It is suggested, therefore, that the company devise a methodology to determine if the need exists and, if so, apply such results to its entire safety communications program.**

07-05 Consider customer safety awareness information on the hazards of uncoated flexible appliance connections. The Consumer Product Safety Commission (CPSC) website contains information on this safety warning.

## *Call Center Operations - Emergency Calls*

**Background:**

Call Centers receive, review and forward information from callers reporting gas emergencies. This process initiates a utility's emergency response. Calls received involving emergencies such as reported gas odors and leaking gas must be given priority and handled with appropriate urgency and professionalism.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| **Call Center Facilities/Equipment** | |
| • Facilities are in place to handle emergency and other service calls on a 24/7 basis. | 2010: Yes.<br><br>Hours of operation have recently changed to 7 am to 7 pm Monday through Friday, 8 am to 8 pm Saturdays, and closed Sunday; however, Call Center employees report to the office. The Dispatch Center fields calls at other times.<br><br>2007: Yes.<br><br>The call center is open from 5 am to 11 pm with the remaining time filled by the Dispatch Department. Dispatch handles emergency calls on weekends and holidays as well. |
| • Additional or temporary call handling facilities are available for use when experiencing extremely high call volume, such as during system emergencies. | 2010: Yes.<br><br>The Dispatch Center can field overflow calls.<br><br>2007: Yes.<br><br>The Dispatch Department fields overflow calls from the call center. |
| • Back-up/emergency power generators provide electric service when electric utility service is not available. Backup generation is supplied through UPS equipment to ensure continuous system operations. | 2010: Yes.<br><br>An onsite generator supplies emergency power when necessary.<br><br>2007: Yes.<br><br>Available emergency power supplied by an on site generator. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| **Processes** | |
| • Incoming calls are routed via IVR by type and/or operator skills such as:<br>o Service or billing, etc.<br>o Routine or emergency<br>o System (electric, gas, water, etc.)<br>o Language<br><br>Note: Small call centers may not employ IVRs for call routing. | 2010: Yes.<br><br>Incoming calls are routed depending on the customer's selection and the CSR's skill set.<br><br>2007: Yes. |
| • Emergency calls are given priority over routine calls by the IVR and immediately routed to available operators. | 2010: Yes.<br><br>Customers reporting natural gas-related emergencies bypass the IVR and are connected directly with the CSR. Calls to the company through the customer service line are placed at the top of the queue for the next available CSR.<br><br>2007: Yes.<br><br>Emergency calls are given top priority and is the first choice given to the customer should the emergency call come in on the customer service line. |
| • Call operators are provided "help" aids, such as those listed below, to assist with categorizing and processing calls in a consistent and uniform manner. Call operators are instructed that when in doubt, they are to err on the side of caution.<br>▪ Printed manuals<br>▪ Menu driven<br>▪ Online help application<br>▪ Help desk | 2010: Yes.<br><br>On-line scripts and desk manuals provide assistance to the customer service representative.<br><br>2007: Yes.<br><br>On line scripts and desk manuals provide assistance to the customer service representative. |
| • Call conversations are recorded and retained. | 2010: Yes.<br><br>The majority of incoming calls are recorded and used for complaint review, quality control and feedback with the CSR.<br><br>2007: No.<br><br>Refer to suggestion 07-06.<br><br>AEGIS Loss Control is available to conduct a separate risk assessment of the call center. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • A program to monitor call operator proficiency is in place. | 2010: Yes.<br><br>Quality control sessions are held with the CSR reviewing calls and discussing the overall quality of the call, learning how to improve.<br><br>2007: Yes.<br><br>Supervisors monitor calls and discuss results with the CSR. |
| • Orders (emergency and routine) are seamlessly transmitted to the dispatch center. The process involves:<br>▪ Electronic transmission<br>▪ Paper ticket transmission (by hand, conveyor, etc.)<br>▪ Other means<br>▪ Order transmission is verbally confirmed via phone by the call taker. | 2010: Dispatch receives the majority of emergency calls but those calls received by the call center are taken and electronically transmitted to the dispatch center. A follow-up call is placed to the Dispatch Center from the Call Center to ensure the emergency order has been received.<br><br>2007: Dispatch receives the majority of emergency calls but those calls received by the call center are taken and electronically transmitted to the dispatch center. A follow-up call is placed to dispatch from the call center to ensure the emergency order has been received. |
| • When inside premises gas odor calls are received, call operators are trained to instruct the caller to evacuate all persons from the premises. | 2010: Yes.<br><br>After obtaining the caller's name, address, and nature of the call, the operator instructs the caller to leave the premise, go to a safe location, and watch for the arrival of the First Responder.<br><br>2007: Yes.<br><br>The CSR questions a caller in an effort to determine the severity of the call. If a caller answers in an affirmative manner to such questions then the caller is advised to evacuate the premise. |
| **Customer Service Representative Training** | |
| • Training includes:<br>▪ Basic natural gas properties<br>▪ The basics of gas distribution system facilities<br>▪ The basics of the operation of gas systems | 2010: Yes.<br><br>The Operating Department conducts training.<br><br>2007: Yes. |
| • Call operator training includes:<br>▪ Field visits to observe in-service gas facilities<br>▪ Accompanying gas service technicians on actual service calls. | 2010: Field visits are under consideration as Management recognizes the value of actually seeing the gas delivery system on both sides of the meter, various appliances, meters, regulators, and possibly a main or service installation.<br><br>2007: Yes. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Instructions are provided to callers who smell gas in a building prior to their evacuation from the structure. These instructions include:<br>▪ Do not operate (turn on or off) electric appliances or equipment.<br>▪ Do not hang up the phone or place another call; just place the phone receiver down.<br>▪ If possible, provide an alternate phone number where callers may be contacted once they leave the building.<br>▪ Callers are advised that the company serviceman who responds to their call may require access to the inside of the building. | 2010: Yes.<br>A list of instructions is available for the CSR concerning odor, leak, or emergency calls.<br>2007: Yes. |
| • Customer Service Representatives are provided Public Safety and Awareness information associated with natural gas. | 2010: Yes.<br>Public Safety messages sent to customers or made available to local media outlets are reviewed with Call Center personnel.<br>2007: Yes.<br>The CSR is aware of the various safety messages sent to the customer. |
| **Processes and Procedures** | |
| • Procedures/practices are in place to ensure positive responses to reports of:<br>▪ Carbon monoxide<br>▪ Leaking propane gas<br>▪ Gas leaks from other utilities in the service area | 2010: Yes.<br>Procedures are in place to handle (propane) issue an order for investigation, (carbon monoxide) issue and order for investigation and contact the local fire department, (gas leaks from other natural gas utilities) leave the premise and the CSR calls the local fire department.<br>2007: Yes.<br>If the CSR suspects the caller has CO symptoms then the CSR will take the order and call the local fire department and advise them of the situation. |

**Suggestion(s):**

2010 Risk Assessment

No suggestions offered in this section.

2007 Risk Assessment

07-06 Consider recording incoming customer inquiry and emergency calls to aid in protecting the company's interest.

## *Continuing Surveillance*

**Background:**

Continuing Surveillance (§192.613) requires gas operators to have written procedures providing for close attention being continually paid to their systems such that they may take appropriate action concerning failures, leakage histories, corrosion, cathodic protection requirements, changes in class location, and other unusual operating and maintenance conditions. Practically speaking, pipeline replacement projects are identified and prioritized within this function quantitatively or, more commonly, subjectively. Since both methods carry distinct advantages that make up for their respective limitations, it follows that replacement projects should be driven by a composite of the two.

On February 12, 2010 Gas Distribution Pipeline Integrity Management (DIMP) will go into effect. Distribution operators will have 18 months (until August 12, 2011) to develop and implement an Integrity Management Program. A complete program includes having measures in place to address specific risks to the system, monitoring measures in place that capture the overall effectiveness of the IM Program and a written IM plan that addresses 7 specific elements;, 1) Know the infrastructure, 2) Identify threats, existing and potential, 3) Assess and prioritize risks, 4) Implement appropriate measures to mitigate risks, 5) Measure performance, monitor results, and evaluate effectiveness, 6) Periodic evaluation and improvement, and 7) Report performance measures.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company has a procedure for analyzing its inspection and maintenance records to determine if changes in the rates of failure, leakage, corrosion, or other factors may indicate unusual or unsafe operating and maintenance conditions. | 2010: Yes.<br><br>The risk assessment model for cast iron remains in place and other factors are weighted for development of pipe replacement plans.<br><br>An "Unprotected Pipe Replacement Program" is expected following the State's approval of a step rate adjustment in base rate increases targeting bare steel and cast iron main.<br><br>Currently, replacement of 300 services and 2 miles of cast iron and 1 mile of bare steel is contained in the 10-15-year plan. If the step rate adjustment is approved, the plan will be enhanced.<br><br>**Refer to Suggestion 10-08.** |

| | |
|---|---|
| | 2007: Yes.<br><br>The company has developed and applied a risk assessment model to determine planned main renewal projects based on a weighted average of leak history, class location (class location is based on population density), pipe material and vintage. The model is intended to project annually a 5-year forecast on planned main and associated service replacement. |
| • An established standard for pipe replacement based on previous failures is in place.<br>Areas for discussion:<br>Premature Brittle-like Cracking of Older Plastic Pipe as noted in Advisory Bulletin ADB-02-07 issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA):<br>▪ Century Utility Products, Inc. products<br>▪ Low-ductile inner wall "Aldyl A" piping manufactured by DuPont Company before 1973<br>▪ Polyethylene gas pipe designated PE 3306<br>▪ Delrin insert tap tees<br>▪ Plexco service tee Celcon (polyacetal) caps | 2010: No.<br><br>The risk assessment model determines planned pipe replacement projects based on risk and a consultation with local operating personnel.<br><br>2007: No.<br><br>The risk assessment model determines planned pipe replacement projects based on risk. |
| • A procedure for analyzing incidents and failures for the purpose of determining cause and minimizing the possibility of recurrences is followed. | 2010: Yes.<br><br>The Equipment Failure database tracks the few failures which occur on the system.<br><br>2007: Yes.<br><br>The Equipment Failure database is used to track the few failures that occur on the system. The vendor may be asked to assist in the investigation to determine the root cause and any improvements. |
| • There is a process that helps ensure consistent and uniform assignment of leak causes. | 2010: Yes.<br><br>Training includes leak cause definitions.<br><br>2007: Yes.<br><br>The company follows the new criteria listed on the annual DOT F7100 report and has trained field personnel on those classifications. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| DISTRIBUTION INTREGRITY MANAGEMENT PLAN | FINDINGS |
| • System records are being used concerning design, operation, and maintenance as a basis of knowledge of the distribution system. | 2010: Yes.<br>The DIMP is under development utilizing a consultant. The plan will be utilizing the SGA/NGA model.<br>2007: Not reviewed. |
| • At least 10 years of records are being analyzed to identify existing and potential threats to the distribution system.<br>Sources may include but not limited to;<br>• Incident and leak history (by facility)<br>• Corrosion control records<br>• Continuing surveillance records<br>• Patrolling records<br>• Maintenance history<br>• Excavation damage experience | 2010: Yes.<br>2007: Not reviewed. |
| • Risks associated with the distribution system are being evaluated and ranked.<br>• System is subdivided into "buckets" with similar factors.<br>• Consider each current and potential threat, likelihood of failure, and potential consequences | 2010: Yes.<br>Bare steel main, cast iron, and services through the foundation wall are subject to evaluation.<br>2007: Not reviewed. |
| • Measures are in place to address identified risks.<br>Must include an effective leak management program. | 2010: Yes.<br>2007: Not reviewed. |
| • A score card is in place to measure performance, monitor results, and evaluate effectiveness.<br>• Number of hazardous leaks eliminated by cause and material<br>• Number of excavation damages<br>• Number of locate tickets (normalized/1000 tickets)<br>• Total number of leaks eliminated or repaired by cause | 2010: Yes.<br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • There are additional measures that have been selected to evaluate effectiveness. | 2010: Yes.<br><br>Each division will evaluate local conditions contributing to leaks, locations, pipeline segments, and components or fittings subject to failures.<br><br>2007: Not reviewed. |
| DATA COLLECTION | |
| • Although not a DIMP metric the number of Excess Flow Valves installed is reported. | 2010: Yes.<br><br>2007: Not reviewed. |
| • Information concerning compression coupling failures that result in a hazardous leak is captured for reporting purposes. | 2010: Yes.<br><br>A tracking program is under development for coupling leaks.<br><br>2007: Not reviewed. |



**Suggestion(s):**

2010 Risk Assessment

10-08 While the company utilizes a risk-based model in developing pipe replacement plans, consider documenting decisions made as the model is used in conjunction with subject matter expert input on the models results prior to finalizing scheduled replacement projects.

2007 Risk Assessment

None.

## *Operating, Maintenance, and Emergency Plans*

**Background:**

Operating, Maintenance, and Emergency Plans detail the operating parameters for the gas system. DOT Regulations 49 CFR 192.603, .605, and .615 list specific items to be included. They are intended to guide the operator through various functions, provide information on implementing programs, and give instruction, if needed.

Operating & Maintenance Plans are active documents reviewed and updated regularly to keep pace with new procedures and equipment. Utilities are required to follow their plans completely, providing employees ongoing training on its contents.

While not the sole focus of this topic, the use of contractors is increasing and brings with it a host of issues. Virtually, all gas operators utilize the services of contractors. Historically, this use was limited to pipeline installation and leakage surveys, but today contractors are often utilized for functions including corrosion inspections, leak repair, line locating, and valve inspections. Regardless of the projects assigned to contractors, it must be understood that they are agents of the gas operator; therefore, they must be held to the same standards and must be as comparably trained and qualified as company employees.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Field employees have access to the company's current O&M plan. | 2010: Yes.<br><br>The O&M manual is online and accessible by all. Each field crew has online capabilities and can access the respective O&M section as necessary. O&M standards have been linked to the appropriate federal or state code.<br><br>2007: Yes.<br><br>Annual review with appropriate employees is completed and documented. |
| • A process exists to determine that the O&M plans used by field personnel are current. | 2010: N/A<br><br>Up-to-date O&M plans are accessible through the internet via onboard vehicle computers.<br><br>2007: Yes. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Describe the aspects of a pipeline construction project that a company inspector must witness to ensure compliance with applicable regulations and company performance standards. | 2010: Weekly meetings are held with the contractor and projects receive weekly Massachusetts Department of Public Utilities (DPU) inspections. Members of the engineering department and the project leader conduct weekly inspections of pipeline projects to ensure the project is installed according to company standards.<br><br>2007: Inspections of pipeline projects are conducted weekly by members of the engineering department and project leader to ensure the project is installed according to company standards. Weekly meetings are held with the contractor and projects receive weekly Massachusetts Department of Public Utilities (DPU) inspections |
| • Procedures require the identification of all underground structures in the projected path of piping installed using trench less technology. | 2010: Due to rocky soil conditions, HDD is not used. One project was attempted over 9 years ago.<br><br>2007: Not reviewed. |
| • Procedures exist for the inspection of PE pipe for nicks and gouges during pipe installation. | 2010: Yes.<br><br>Prior to installation, plastic pipe is inspected for nicks and scratches.<br><br>2007: Not reviewed. |
| • The company has a program to abandon "long-term" inactive service lines. | 2010: Yes.<br><br>Bare steel services are retired after 5 years and plastic or cathodically protected services after 10 years of inactivity.<br><br>2007: Yes.<br><br>All inactive services remain in the distribution data base until retired. Bare steel services are retired after 5 years and plastic or cathodically protected services after 10 years inactivity. |
| • Trench less technology procedures require an acceptable distance be established between gas piping and adjoining subsurface infrastructure. | 2010: N/A<br><br>See comments above.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company's emergency plan content is reviewed annually and updated as needed. These updated documented plans are distributed to and reviewed with appropriate employees. | 2010: Yes.<br><br>The Gas Emergency Response Plan has just been completed (10-25-10) and utilizes the Incident Command System. It addresses requirements such as Incident Command and management, preparedness, resource management, communication and information management, support technology, continuous management, and maintenance of the plan. The plan address gas emergency responses to customer outages caused by gas supply problems, acts of terrorism, adverse weather conditions such as extreme cold, coastal flooding, earthquakes, fires, explosions, or landslides.<br><br>2007: Yes.<br><br>The manual is reviewed annually for those who actually respond to emergencies and periodically for those who support an emergency response. |
| • Emergency procedures address how the company will respond to climatic conditions that may affect the delivery system. | 2010: Yes.<br><br>Coastal flooding is addressed.<br><br>2007: Not reviewed. |
| • Emergency plans address the identification and location of critical valves and/or regulator stations that can be accessed in the event of a system shut down. | 2010: Yes.<br><br>Annual inspections are completed and include verifying valves location, opening the valve box and clearing it if necessary, partially operating the valve and greasing if necessary, and painting the valve box, upon completion, to aid in locating.<br><br>2007: Yes.<br><br>Annual inspections are completed and include verifying valves location, opening the valve box and clearing it if necessary, partially operating the valve and greasing if necessary, and finally painting the valve box, upon completion, to aid in locating. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The company has a program for maintaining its liaison with fire, police, and other officials (i.e., other utilities, highway authorities, and railroads). | 2010: Yes.<br><br>There is a liaison program with local emergency responders with the DPU in attendance. Area emergency responders and public officials receive annual invitations.<br><br>2007: Yes.<br><br>There is a liaison program with local emergency responders with the DPU in attendance with annual invitations made to area emergency responders and public officials. |
| • A training program ensuring appropriate operating personnel are knowledgeable of the company's emergency procedures, is in place. Processes are also in place to verify the effectiveness of the training. Mock emergency drills and table top exercises, are used to verify the effectiveness of emergency preparedness. | 2010: Yes.<br><br>Emergency exercises have been completed in each of Unitil's Divisions.<br><br>2007: Yes.<br><br>An after incident review is conducted of significant events and other emergencies as well as the annual emergency manual review.<br><br>Refer to suggestion 07-07.<br><br>AEGIS Loss Control is available to assist in planning, executing, and reviewing an emergency exercise. |



**Suggestion(s):**

2010 Risk Assessment

No suggestions offered in this section.

2007 Risk Assessment

07-07 It is suggested the company conduct emergency exercises to confirm that the appropriate operating personnel are trained and assure that they are knowledgeable of emergency procedures and verify that their training is effective.

## *Contractor Safety Review and Evaluation*

**Background:**

The use of contractors in the utility industry is a common and long-standing practice. However, contracted work is more likely to be completed safely, in accordance with prescribed company and regulatory standards, and on schedule when a process for contractor selection and evaluation is in place.

Ideally, a company's contractor selection and evaluation process should clearly define the contractor's responsibilities and hold them accountable for work performance and good safety results. Because contractors often perform a diverse group of tasks on behalf of the utility, the process itself should be flexible enough to accommodate the range of tasks that may be performed.

A well designed selection process will help guide the utility towards contractors who have demonstrated satisfactory safety performance, have Occupational Safety & Health (OSH) programs and operate acceptable safety and technical skills training programs. It will also help avoid contractor accidents that may result in human pain and suffering, substantial costs in terms of lost time, job completion delays, and property damage (both to the utility and to third parties), as well as claims against the utility.



**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • A prequalification/selection process exists that assures contractors used by the company meet all requirements necessary to perform work. | 2010: Yes.<br><br>Contractors are required to complete and submit forms from DOT/PHMSA.<br><br>2007: Not reviewed. |
| • A list of required information that prospective contractors must provide for review is in place. Each item of information required is weighted according to its importance in the selection process. The list is periodically reviewed. | 2010: Yes.<br><br>Each item of information that contractors provide to the company are weighted equally.<br><br>2007: Not reviewed. |
| • The accident records for the current year and prior two years of employees who may be assigned to the contemplated project or work are provided to the company by prospective contractors. The company reviews these records. | 2010: Yes.<br><br>Statistical Data that is submitted includes accident records for 3 years plus the current year.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The prequalification/selection process includes a review of perspective contractor's health & safety programs including written health and safety plans to assess compliance with applicable state and/or federal standards & utility specific work rules. | 2010: Yes.<br><br>Statistical Data submitted includes the contractor's written health and safety plans.<br><br>2007: Not reviewed. |
| • The company requires that prospective contractors provide a brief description of fatal accidents they have experienced over the past three years. | 2010: Yes.<br><br>Statistical Data submitted includes a description of any fatal accidents.<br><br>2007: Not reviewed. |
| • The prequalification/selection process includes a review and verification of the citations from regulatory organizations, such as OSHA, received by the contractor in the last three years. | 2010: Yes.<br><br>Statistical data includes OSHA citations.<br><br>2007: Not reviewed. |
| • For work requiring qualified workers (per regulation, law, etc), prospective contractors provide documentation showing that they have qualified employees that may be assigned to the anticipated work. | 2010: Yes.<br><br>Each contractor employee carries a qualification card and is qualified through the NGA OQ Standards.<br><br>2007: Not reviewed. |
| • The prequalification/selection process includes a review of required insurance certificates to ensure necessary coverage is in place. Contractor insurance policies are thoroughly reviewed by knowledgably company personnel including the company's legal department to ensure they provide the desired coverage. | 2010: Yes.<br><br>Standard contract language between the company and the contractor requires an insurance certificate. Corporate Risk Management and the Legal Department conduct a review.<br><br>2007: Not reviewed. |
| • Contract language specifies actions available to the company should the company become aware that the contactor violated an established* company safety rule or practice.<br><br>* Contractor was aware of and agreed to abide by the rule(s) in question. | 2010: Yes.<br><br>2007: Not reviewed. |
| • Contracts are approved by the organizations' risk management and legal personnel to assure that they include the appropriate indemnification/hold harmless provisions. | 2010: Yes.<br><br>Standard contract language between the company and the contractor requires an insurance certificate. Corporate Risk Management and the Legal Department conduct a review.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • All information received and reviewed from perceptive contractors is evaluated and ranked in order to identify qualified contractors. The ranking system may stipulate a minimum score that a prospective contractor must achieve to be considered for work at the company. | 2010: Yes.<br><br>Contractors who meet the prequalification/selection criteria are accepted to bid on the project.<br><br>2007: Not reviewed. |
| • Once a contractor is selected and before any work begins, the contractor will provide the company a list of his employees who will be engaged in the contracted work. The contractor is required to inform the company of any staffing changes before they occur throughout the duration of the project. | 2010: Yes.<br><br>This is part of the Operator Qualification process. The contractor must notify the company of any personnel changes.<br><br>2007: Not reviewed. |
| • Contractors engaged for work are provided the appropriate company safety and health standards and practices. | 2010: Yes.<br><br>The company and contactor discuss the aspects of the project; however, contractors are required to have their own safety programs. Contractors utilize the NGA program.<br><br>2007: Not reviewed. |
| • Once a contractor is engaged and before any work is begun, procedures are established and maintained for ensuring that the contractor abides by the company's safety and health requirements. | 2010: Yes.<br><br>The company and contactor discuss the aspects of the project and include inspectors from the DPU.<br><br>2007: Not reviewed. |
| • Ongoing communications with successful contractors who are awarded work are established so that identified workplace specific hazards are reviewed prior to the start of any work. Proper documentation of these communications is kept. | 2010: Yes.<br><br>Company engineers and supervisors inspect projects and keep logs of these visits.<br><br>2007: Not reviewed. |
| • As work site conditions change, the contractor is informed of any newly identified hazards. These communications are documented by the company. The contractor is required to review these identified hazards with its employees. | 2010: Yes.<br><br>Communication between the company and contractor are reported to be excellent due to long-term relationships.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Workplace safety and health hazard awareness briefings or, as necessary, training associated with non-routine job specific hazards identified by the company is provided to contractor employees by the contractor prior to the commencement of work associated with these hazards. The contractor provides documentation of these activities. | 2010: Yes.<br><br>The contractor is required to handle the training of his employees for identified hazards as the contractor is required to have their own safety programs.<br><br>2007: Not reviewed. |
| • Contractor work performance on job sites is regularly monitored for proper compliance with company standards, procedures and other applicable regulations. Monitoring results are documented. | 2010: Yes.<br><br>Appropriate procedures are followed and results documented.<br><br>2007: Not reviewed. |

**Suggestion(s):**

2010 Risk Assessment

No suggestions offered in this section.

2007 Risk Assessment

Not reviewed.

## *Occupational Safety*

**Background:**

Occupational safety is often a key component of organizational risk management programs. Employees are the most valuable resource of any company. Employee job-related injuries usually directly and adversely affect a company's bottom line due to costs associated with replacement labor, reduced productivity and medical treatment. Effective occupational safety programs foster a pervasive safety culture and the use of workers qualified to perform their assigned tasks and functions. Skill and safety training programs, safety audits, effective accident investigation procedures and proper handling of hazardous materials are essential to a safe and productive work environment.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| <u>Policies and Practices</u> | |
| • Employee safety is a core company goal. | 2010: No.<br><br>Employee safety is taken seriously and is a value mission at the Director level, but levels below senior management are not as engaged in safety.<br><br>2007: Yes.<br><br>Employee safety is a directive from the Safety Leadership Group whose members are department directors, making recommendations and setting policy. |
| • Safety performance is a key component of employee performance evaluations. | 2010: Yes.<br><br>Directors, supervisors, and manager's performance metrics include safety-related goals.<br><br>2007: Yes.<br><br>Managers sign performance contracts that include safety goals and performance targets. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Regular employee safety meetings are conducted. | 2010: Yes.<br><br>Various committee's are included such as Safety Coordinating Group (discuss system wide issues), Safety Advisory Group (local issues), and Employee Safety Group (monthly safety meetings and required safety items).<br><br>2007: Yes.<br><br>Various committee's are included such as Safety Coordinating Group (discuss system wide issues), Safety Advisory Group (local issues), and Employee Safety Group (monthly safety meetings and required safety items). |
| • A "Safety Manual, updated when necessary" is issued to all employees. . | 2010: Yes.<br><br>Each employee receives a safety manual.<br><br>2007: Yes.<br><br>Safety Manuals are issued to each employee with the recipients responsible for its upkeep. |
| • Incentive award programs, if used to encourage safety, are monitored for their effectiveness. Incentives do not discourage the reporting of accidents. | 2010: Yes.<br><br>Safety performance is tracked by company, work unit, and individual.<br><br>2007: Not documented. |
| • Employees receive skill training necessary for the safe execution of their work. | 2010: Yes.<br><br>2007: Yes. |
| • Employees receive required safety training (First Aid, CPR, blood borne pathogens, confined space operations, trenching and shoring, lockout/tag out, work area protection, hearing protection, etc.). | 2010: Yes.<br><br>Training is conducted as necessary.<br><br>2007: Yes. |
| • Employee training records are maintained according to company record retention practices. | 2010: Yes.<br><br>2007: Not reviewed. |
| • Employees are provided the necessary PPE and tools to safely and effectively perform their duties. | 2010: Yes.<br><br>A. Self-contained Breathing Apparatus (SCBA) has been included in each employee's PPE.<br><br>2007: Gloves, hard hats, traffic safety vests, flame resistant clothing for daily wear and hazardous atmosphere, and work area traffic protection devices. No self-contained breathing apparatus is available.<br><br>See suggestion 07-08. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • There is a process for analyzing and distributing incident information throughout the organization. | 2010: Yes.<br><br>Following an investigation, at the local level, results of the investigation are discussed at the Employee Safety Committee and posted for all to review.<br><br>2007: Yes.<br><br>Following an investigation, at the local level, results of the investigation is discussed at the Employee Safety Group and posted for all to review. |
| • The company actively manages employee safety, including measurement of the safety program's effectiveness. | 2010: Yes.<br><br>Goals are set, accountabilities are established, performance is tracked, and success is celebrated.<br><br>2007: Yes.<br><br>The Company has a very proactive safety program. They set goals, track performance, establish accountabilities and celebrate successes. |
| • Jobsite safety inspections are completed on a regular basis. | 2010: Yes.<br><br>The Safety Manager and supervisors perform safety inspections. Each person documents their findings and participates in corrective actions.<br><br>2007: Yes.<br><br>Weekly safety inspections are conducted by the supervisor. The company is actively soliciting a Safety Manager who is expected to augment weekly safety inspections. |
| <u>Accident Investigation</u> | |
| • Lost time and other significant accidents are thoroughly investigated. | 2010: Yes.<br><br>The Safety Manager coordinates the effort of investigating accidents. Corrective actions are taken and shared throughout the organization in an effort to avoid similar circumstances leading to a lost time accident.<br><br>2007: Not documented. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • The findings of accident investigations are communicated to appropriate employee groups. | 2010: Yes.<br><br>2007: Yes.<br><br>Following an investigation, at the local level, results of the investigation is discussed at the Employee Safety Group and posted for all to review. |
| • Types of Accidents (last 12 months)<br>o Review pre- visit information on accident trends<br>o OSHA Recordable Injury/Illness rate each of the last 5 years<br>o Lost time Injury/Illness rate each of the last 5 years | 2010 Two (2) injury reports, one (1) OSHA Recordables, and five (5) motor vehicle accidents YTD 2010.<br><br>2007: Not documented. |
| • Types of injuries (last 12 months)<br>-Review pre- visit information on accident trends | 2010 Strains were reported in 2010.<br><br>2007: Not documented. |
| <u>Hazard Communication</u> | |
| • A written hazard communication program, as required by 29 CFR 1910.1200, is in place. | 2010: Yes.<br><br>2007: Yes.<br><br>Conducted annually. |
| • An up-to-date master list of hazardous materials is in place. | 2010: Yes.<br><br>2007: Yes. |
| • All hazardous materials received in the workplace are properly labeled. Secondary labeling is employed as necessary. | 2010: Yes.<br><br>Hazardous materials are properly labeled and stored.<br><br>2007: Yes. |
| • MSDSs are available at all work locations. | 2010: Yes.<br><br>An internet service, Dolphin, is utilized to access up-to-date MSDS information. Each location maintains hardcopies of MSDS.<br><br>2007: Yes. |
| • HAZCOM training is conducted as required by OSHA regulations. | 2010: Yes.<br><br>Annual training is conducted.<br><br>2007: Yes. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Procedures are in place for the proper removal and disposal of any mercury regulators in the company's distribution system. | 2010: Since the last assessment, no mercury regulators have been encountered.<br><br>2007: Mercury regulators are reported to have been removed. |
| Asbestos | |
| • Describe precautions taken when employees are working around company facilities determined to have asbestos present. | 2010: If any asbestos is encountered, the employee is instructed not to touch the substance and to notify supervision. No loose or friable asbestos exists at company facilities. The company is currently testing coal tar enamels to determine if asbestos fibers are present.<br><br>2007: If any asbestos is encountered the employee is instructed not to touch the substance and notify supervision. No loose or friable asbestos exists at company facilities. |
| Distillates | |
| • The company has a procedure, which includes testing for contaminates, for handling distillates found in the distribution system. | 2010: Yes.<br><br>Although the system is reported to be dry, any liquids that may be encountered are collected and disposed of properly.<br><br>2007: No.<br><br>See suggestion 07-09. |

**Suggestion(s):**

2010 Risk Assessment

No suggestions offered in this section.

2007 Risk Assessment

**07-08** **It is suggested the company review job classifications involving work that may bring personnel in contact with a combustible atmosphere and outfit those classifications with the proper personal protective equipment. {29 CFR} 1910.120 (b)**

07-09 Consider sample testing of ground water or liquids removed from the distribution system to determine if any hazards or contaminants are present. Develop procedures to properly dispose of collected ground water if hazards or containments are present.

## *Liquefied Natural Gas Plant*

**Background:**

Liquefied Natural Gas (LNG) Plants are commonly used by natural gas utilities to augment pipeline pressure or add to its pipeline supply, generally during the heating season. Pipeline Safety Regulations 49 CFR 193 describes, for the operator, minimum safety standards. If an LNG facility is replaced, relocated or significantly altered after March 31, the facility must comply with the applicable requirements that include, design, and construction. This report focuses on operator training and qualification, corrosion monitoring and control, fire protection, security, facility monitoring systems, procedures for notification of government agencies when emergencies and other specified events occur and general public warning systems and alarms.

**Results:**

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Describe the LNG storage and liquefaction capabilities of this facility. | 2010: The LNG storage facility contains 55,000 gallons of liquid with the plants capacity of 4,200 MCF/day with no liquefaction capabilities.<br><br>2007: Not reviewed. |
| • A written **Security Plan** addresses inspection of warning signs, protective enclosures, lighting, fence monitoring systems, alternative power sources, and security communications with law enforcement. (49 CFR § 193.2903) | 2010: Yes.<br><br>Plans are specific to the facility and are reviewed with local fire, police, and emergency personnel.<br><br>2007: Not reviewed. |
| • Describe how individuals responsible for the security of the LNG facility are properly trained and qualified. (49 CFR § 193.2715) | 2010: Initial and annual training is conducted in the facility. Drills are held for facility personnel and local responders.<br><br>2007: Not reviewed. |
| • Company procedures require a company person to be present when contractors are performing work onsite. (49 CFR § 193.2707) | 2010: Yes.<br><br>The scope of work does have an impact on the requirement to accompany a contractor; however, contractors are limited to the work zone area only.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Describe how the company ensures contractors are competent and perform all tasks correctly, if company procedures do not require company personnel to be present when contractors are working on-site. (49 CFR § 103.2707) | 2010: Contractors may work unaccompanied depending on the scope of work and area the work is being done; however, in all cases the contactor is restricted to the work area only.<br><br>2007: Not reviewed. |
| • Describe how the company monitors critical pressures and other pertinent operating data at the facility. | 2010: SCADA monitors perimeter security, pressures, odorization, leaks, and vaporization processes. Employees are assigned to the facility when in operation.<br><br>2007: Not reviewed. |
| • The company has conducted a flammable vapor-gas dispersion movement study in the event a significant leak should occur. (NFPA 59A 2.2.3.3 & 4) | 2010: Yes.<br><br>Originally completed during initial construction and updated semi-annually.<br><br>2007: Not reviewed. |
| • An **Operating, Maintenance, and Personnel Training Plan** is available. (NFPA 59A 11.1) | 2010: Yes.<br><br>Master copies are maintained at the facility.<br><br>**Refer to Suggestion 10-09.**<br><br>2007: Not reviewed. |
| • Plant operators, supervisors, and managers are trained and tested to determine their capabilities. (49 CFR § 193.2713) | 2010: Yes.<br><br>Facility personnel are trained and tested using both company and manufacturer/vendor provided procedures.<br><br>2007: Not reviewed. |
| • The company has a procedure for conducting and documenting an annual review of its **Emergency Plan.** (49 CFR § 193.2509) | 2010: Yes.<br><br>LNG Fire School training is conducted every 2 years. Local emergency management and fire fighters are on site annually to familiarize themselves with facility fire suppression systems, gas leak and fire detection systems, and the overall layout of the facility.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Describe the company's procedure for conducting and documenting reviews of the site Emergency Plan. | 2010: On-site training is conducted with company and emergency response personnel. Vendors providing fire suppressant material participate by testing the equipment along with fire personnel. Records are documented and maintained for those outside organizations coming into the facility for security and emergency purposes.<br><br>2007: Not reviewed. |
| • Company and emergency personnel are trained to respond to spills and emissions, have the proper PPE, and are trained to use it. (49 CFR § 193.2511) | 2010: Yes.<br><br>Cryogenic protection is provided and facility personnel are required to wear steel-toed shoes, eye and hearing protection equipment. Arc flash protection is also required when working within the facility.<br><br>2007: Not reviewed. |
| • The Emergency Plan contains references to operating malfunctions, structural collapse, personnel error, forces of nature, and any activities adjacent to the plant. | 2010: Yes.<br><br>Seismic loading, wind and other climatic conditions were taken into account when the plant was constructed.<br><br>2007: Not reviewed. |
| • Plans and procedures are reviewed should a component change significantly or a new component installed or a review has not been conducted within the past 27 months. (49 CFR § 193.2017) | 2010: Yes.<br><br>2007: Not reviewed. |
| • A **Fire Protection Plan** is in place. (ANSI/NFPA 59A Section 9.1 through 9.7 and Section 9.9.) | 2010: Yes.<br><br>The Fire Protection Plan is reviewed annually. Local fire, police, and emergency management are involved.<br><br>2007: Not reviewed. |
| • Should an emergency occur the company has a program in place to train local emergency response organizations in proper response procedures? | 2010: Yes.<br><br>2007: Not reviewed. |
| • Plant fire drills are conducted with plant personnel every two years. (49 CFR § 193.2717) | 2010: Yes.<br><br>2007: Not reviewed. |

| TOPIC ELEMENT | FINDINGS |
|---|---|
| • Training records are maintained in accordance with company procedures. (49 CFR § 193.2719) | 2010: Yes.<br><br>2007: Not reviewed. |
| • The company performs and documents atmospheric corrosion inspection of exposed components each calendar year (not to exceed 15 months). (49 CFR § 193.26350) | 2010: Yes.<br><br>Surveys are conducted as required.<br><br>2007: Not reviewed. |
| • Cathodically protected components are monitored each calendar year (not to exceed 15 months), in order to identify ineffective corrosion protection applications. (49 CFR § 193.2635) | 2010: Yes.<br><br>The results of the cathodic protection monitoring system and any maintenance performed are maintained at the facility.<br><br>2007: Not reviewed. |
| • The company includes LNG information to customers and the public as part of its Public Safety Awareness Program. | 2010: The facility is remotely situated with no inhabitants within a few miles.<br><br>2007: Not reviewed. |



**Suggestion(s):**

2010 Risk Assessment

10-09 Due to the critical nature of all LNG facility plans and the fact there is only one copy of the majority of the documents, consider storing these operating, security, fire protection construction and maintenance manuals in a fire and water proof cabinet until they are duplicated for off site or electronic storage.

2007 Risk Assessment

Not reviewed.