

Rhode Island Division of Public Utilities and Carriers

Don Ledversis
Pipeline Safety Engineer



Cape Cod Pipeline Safety Seminar 2011



RI General Gas Statistics

System dates back to 1847

- Around 250,000 customers
- 14 Take Stations
- 3 LNG Facilities
- Over 3,100 miles of main



5 Year ISR Plan

	Capital Forecast (\$000)						
Total Plan	FY11	FY12	FY13	FY14	FY15	FY16	Total
Growth (including reinforcement)	\$ 7,109	\$ 7,129	\$ 7,568	\$ 7,709	\$ 7,854	\$ 7,854	\$ 45,223
Main Replacement Program	\$ 22,900	\$ 25,750	\$ 28,611	\$ 28,611	\$ 28,611	\$ 28,611	\$ 163,093
Service Replacements	\$ 3,906	\$ 3,906	\$ 3,906	\$ 6,000	\$ 6,000	\$ 6,000	\$ 29,719
Total	\$ 26,806	\$ 29,656	\$ 32,517	\$ 34,611	\$ 34,611	\$ 34,611	\$ 192,812
Public works	\$ 1,750	\$ 1,750	\$ 1,785	\$ 1,821	\$ 1,857	\$ 1,857	\$ 10,820
Reactive Main Replacement	\$ 1,000	\$ 1,000	\$ 1,020	\$ 1,040	\$ 1,061	\$ 1,061	\$ 6,183
Mandated Programs	\$ 8,928	\$ 9,188	\$ 9,367	\$ 9,551	\$ 9,738	\$ 9,738	\$ 56,510
Reliability	\$ 6,334	\$ 11,821	\$ 10,949	\$ 10,695	\$ 11,092	\$ 9,745	\$ 60,748
Total	\$ 51,927	\$ 60,545	\$ 63,206	\$ 65,427	\$ 66,212	\$ 64,866	\$ 372,184

Many Other States Face Similar Challenges

	Miles of Main				Total Main Miles
	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total Miles leak prone pipe	
RHODE ISLAND Totals	711	908	1,619	52.3%	3,095
WASHINGTON DC Totals	102	451	553	46.4%	1,191
MASSACHUSETTS Totals	3,635	4,165	7,801	37.9%	20,574
WEST VIRGINIA Totals	3,409	14	3,424	35.9%	9,531
NEW YORK Totals	9,321	5,088	14,409	31.0%	46,464
PENNSYLVANIA Totals	10,526	1,901	12,427	26.8%	46,449
NEW JERSEY Totals	3,010	5,603	8,613	26.3%	32,755
CONNECTICUT Totals	283	1,640	1,923	25.6%	7,517
MAINE Totals	6	89	95	18.4%	516
MARYLAND Totals	602	1,467	2,068	15.2%	13,646
NEW HAMPSHIRE Totals	120	309	428	13.8%	3,096
VIRGINIA Totals	1,050	676	1,726	8.8%	19,692
DELAWARE Totals	67	124	191	7.4%	2,585
	28,394	16,911	45,305		182,251

ARP Program 2011

Replace another approx. 40 miles of leak prone pipe.



ARP Program 2011

Accelerated Replacement Program

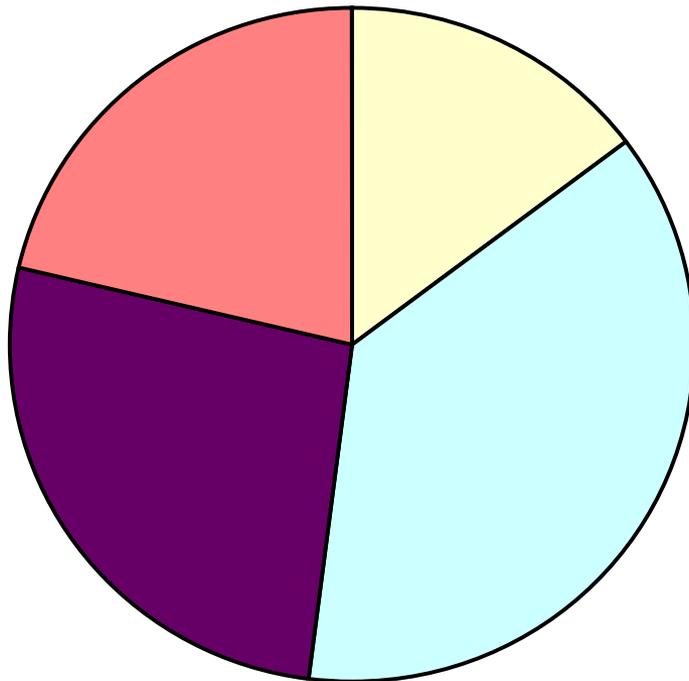
Moving over 2000 inside H.P. meter sets
to the outside



Infrastructure Safety and Reliability Plan-ISR

- Accelerated Replacement Program (ARP)-Rate Case Agreement
 - ARP began as part of the 2008 Rate Case and during over the 2 year period, replaced 70 miles of Leak Prone Pipe and 4,391 Bare Steel, high pressure services.
- Infrastructure Safety and Reliability Plan (ISR)
 - New ISR Plan required by Legislation replaced the existing ARP.
 - FY 2012 program will begin recovery of \$53.4M in capital spend starting April 2011.
 - The plan is expected to fund and replace approximately 45 miles of Leak Prone Pipe and 2,125 Bare Steel, high pressure services.
 - Implementation of a fully reconciling rate mechanism designed to recover actual and anticipated capital investments as reflected in the approved ISR spending plan.

RI % of 1990 Gas Pipe Materials



2795 Total Miles

415 Plastic

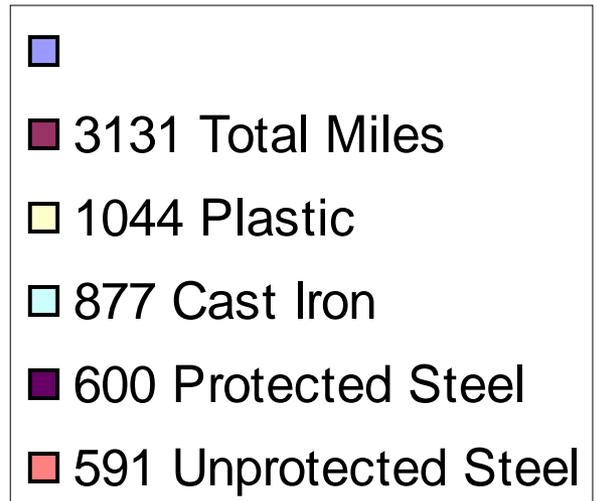
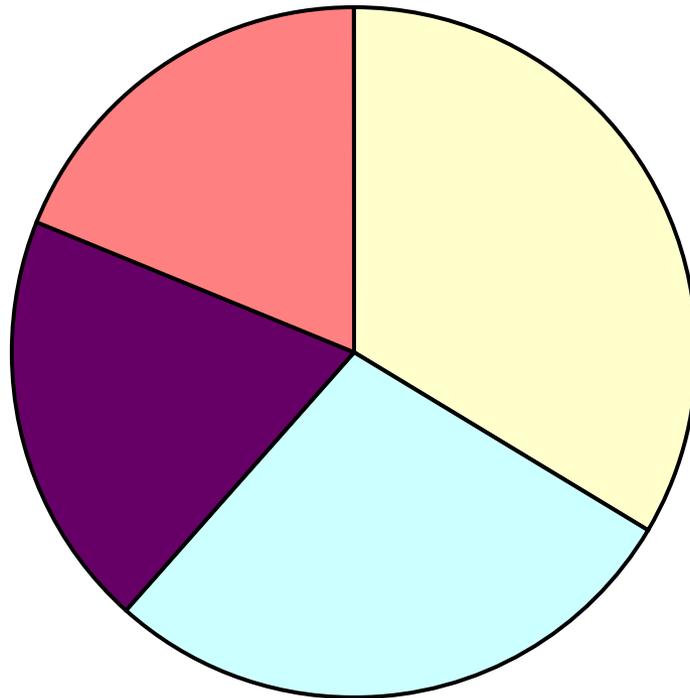
1035 Cast Iron

748 Protected Steel

597 Unprotected Steel

20 Years later...

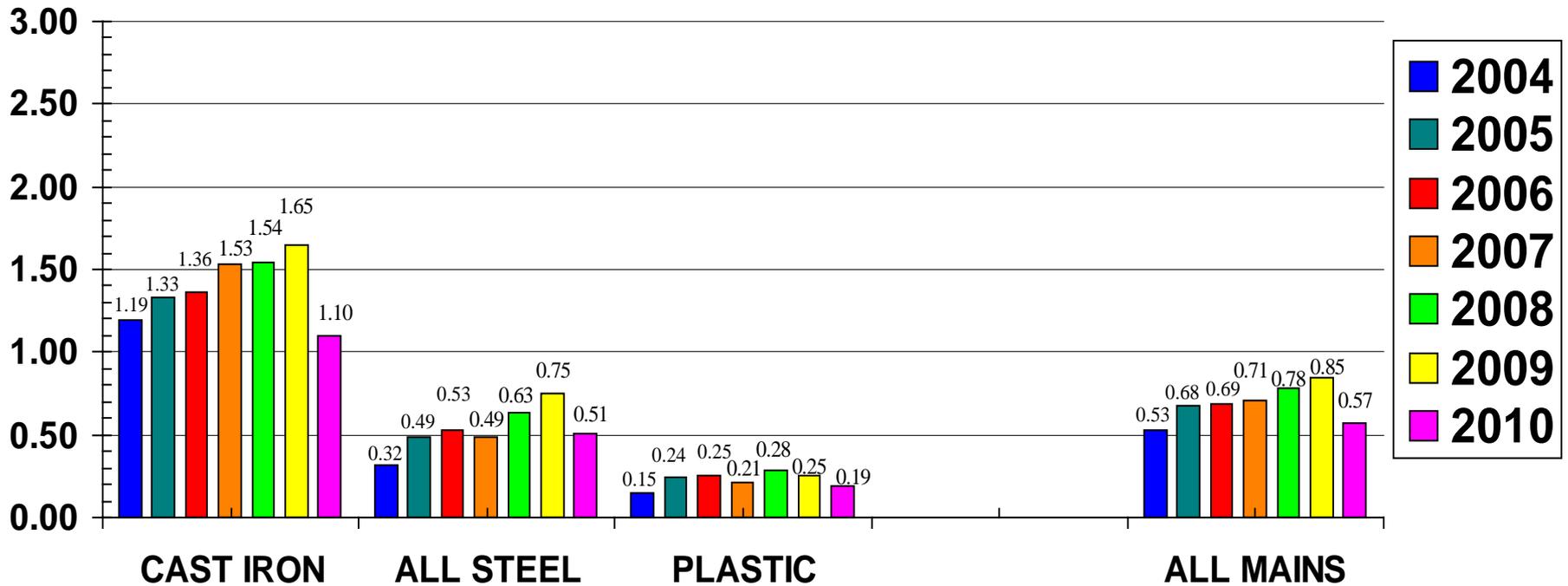
RI % of 2010 Gas Pipe Materials



MAIN LEAK "RATES"

COMPARISON BY MATERIAL

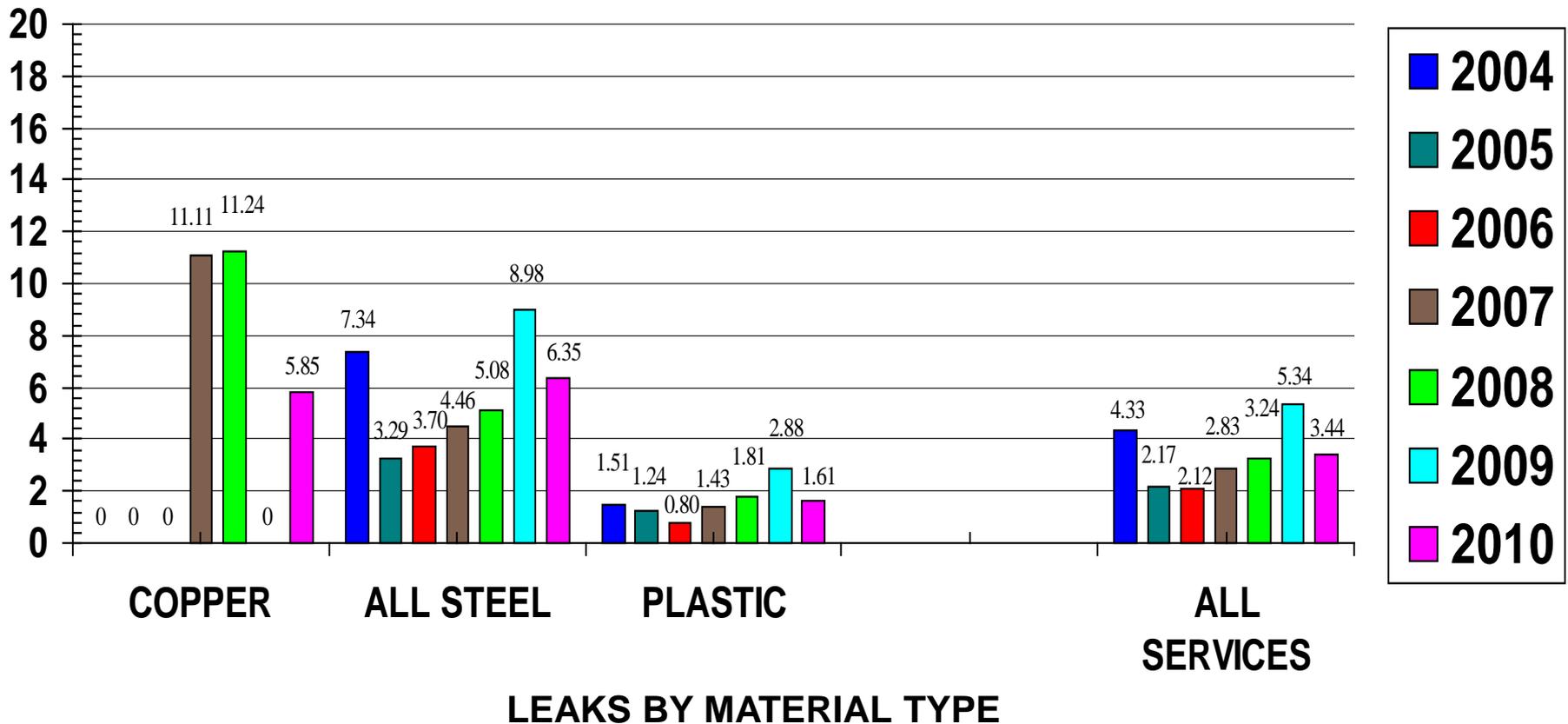
LEAK REPAIRS
PER MILE OF MAIN

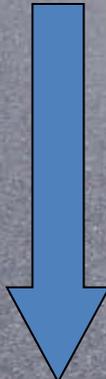


LEAKS BY MATERIAL TYPE

TOTAL SERVICE LEAK "RATES" COMPARISON BY MATERIAL

LEAK REPAIRS
PER 1000 SERVICES





22/07/2010



14438

WARNING
DO NOT
REMOVE

25/05/2011



03/06/2010



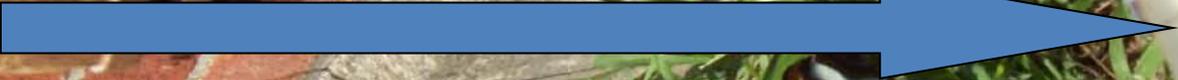
23/06/2010



20/07/2010



26/08/2010



31/08/2010



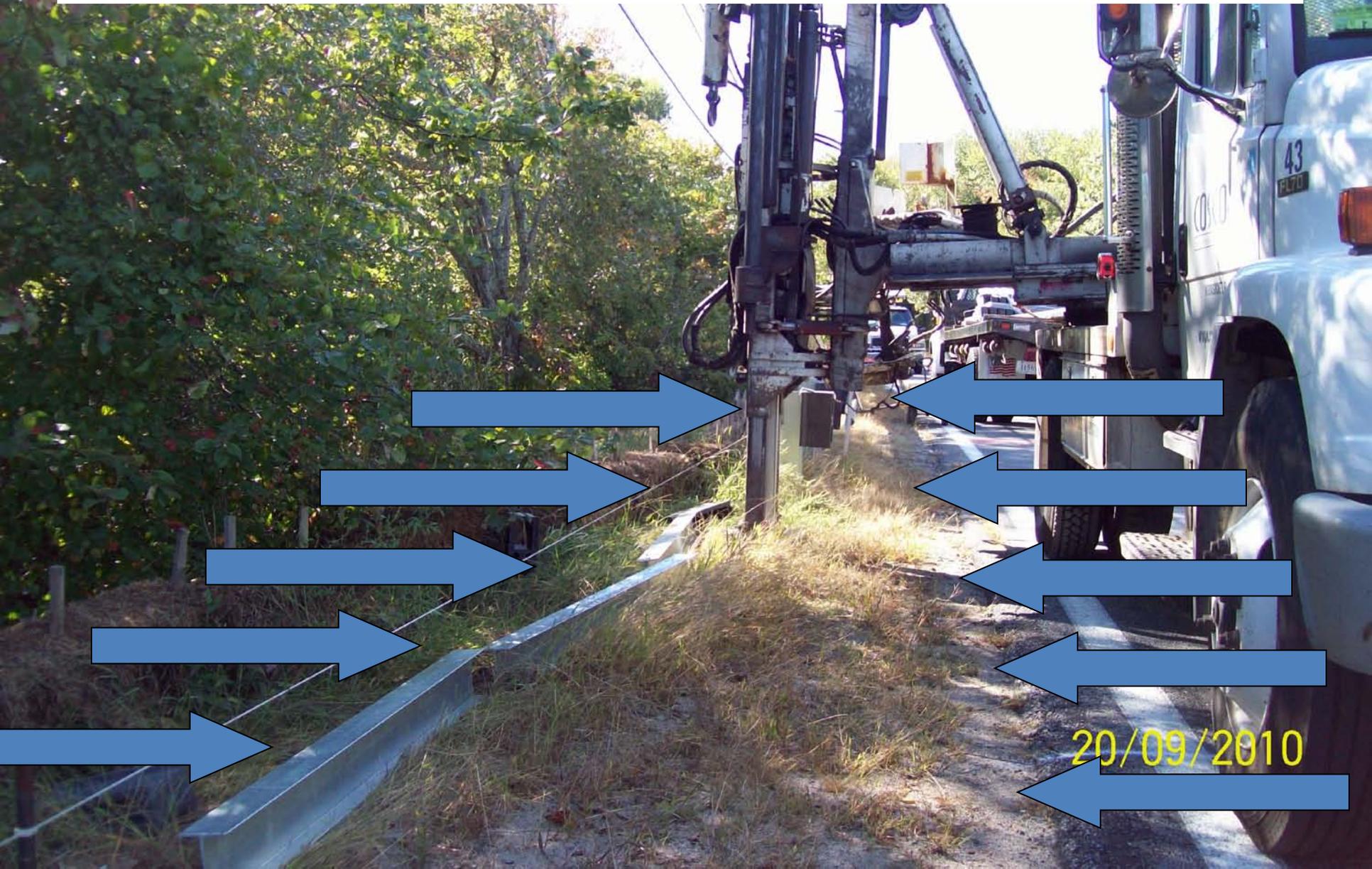
08/09/2010

100 pilings to do....



20/09/2010

81 installed, 9 to go, direct hit...



20/09/2010



13/06/2011



DANGER NOT EXPLOSION PROOF

24/09/2010

**Warning tape missing,
used elsewhere.**



24/09/2010



01/04/2011

192.273/192.281 Type of Joints (Heat Fusion Mechanical Stab Fittings)

Pipe Joiner's name: Michael PAIVA

Qual. date: _____ Expires date: _____

Manufacturer and Model of Machine Used McCormick Model #14 P-1A

Heater Temp _____ Heating Time _____

Joining Pressure _____ Heating Time _____

Manufacturer/Company _____

Was _____ followed? _____

Did the fuser? _____

Type of Joints _____

Number of Joints for roll _____

Electro Fuser _____

Date _____ Qualified _____ Did the fuser scrape the pipe? Yes No

Type of fused component: _____ Number of Electro-fusion Joints Inspected _____

Cooling Time Required: _____ Type of Machine used: _____

192.321 Pipe Tracer Wire buried with Pipe? yes Contact Minimized: Yes No

Was Pipe ID Tape installed Above Pipe? _____

nationalgrid
 Learning & Development
 Polyethylene Pipe Qualification

This is to certify that:

NAME: MICHAEL PAIVA
 ID# 9351

Has successfully completed the processes listed as required by PHMSA CFR 192.285 & 287 and is authorized to join Polyethylene Pipe in accordance with National Grid Fusion Procedures.

Michael W. Paiva
AGI



has met the requirements as a Qualified Pipe Joiner in accordance with the specifications as shown on the reverse side of this card.

Lawrence Bush 2/15/2011
 Certified by Date

NGA
 2011



634475335405004020013539003010

02/05/2011

QTY 5

DRYCONN
WATERPROOF CONNECTORS

#90120

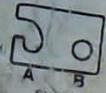
#14-#10 Solid Copper
Direct Bury Lug Yellow

For use with Utility Tracer Lines

- 50 Volts Maximum
- No need to cut main line

INSTALLATION INSTRUCTION

- For use on Solid Conductor Only
1. Strip main and tap conductor
 2. Place one stripped conductor into side A or B
 3. Using a screwdriver, push the conductor into contact with the solid conductor. Note: Do not continue tightening the set screw as indicated.
- Fig. 1



MADE IN U.S.A.
EV 08/10

America's
Original Patented
Filled Connectors!

DRYCONN
WATERPROOF CONNECTORS IMPROVED

#31556
QTY 10

#22 #8 AWG

Direct Bury
Se enterra directamente

Great for: All Underground Applications

Is this product suitable for use in wet or damp locations? Yes, it is suitable for use in wet or damp locations.

Is this product suitable for use in corrosive environments? Yes, it is suitable for use in corrosive environments.

Is this product suitable for use in high temperature environments? Yes, it is suitable for use in high temperature environments.

Is this product suitable for use in low temperature environments? Yes, it is suitable for use in low temperature environments.

Is this product suitable for use in high voltage applications? Yes, it is suitable for use in high voltage applications.

Is this product suitable for use in low voltage applications? Yes, it is suitable for use in low voltage applications.

KING
INNOVATIONS

MADE IN U.S.A.

03/05/2011



This is a beautiful picture....



This is a beautiful picture....



This is an ugly picture....



07/04/2011

Farm Taps





07/04/2011

Nyatt (Directional Drilling)



10/09/2010



Daiflex F50

10/09/2010



EVA

56

10/09/2010



10/09/2010



10/09/2010



The End

