

**May 4, 2016
Questar Gas
IRP Workshop**

Agenda

- Review of the 2016 RFP for purchased gas
- Update on peak-hour services RFP
- IHP pressure telemetry

2016 RFP for Purchased Gas

RFP Responses

REDACTED

Baseload Supply (Dth)

REDACTED

QPC Peaking Supply (Dth)

REDACTED

KRGT Peaking Supply (Dth)

REDACTED

Total Supply Under Contract and Recommended 2016-2017 (Dth)

REDACTED

2016 Peak-Hour Services RFP

Responses



REDACTED

Magnum Gas Storage

REDACTED

Kern River Gas Transmission

REDACTED

Questar Pipeline

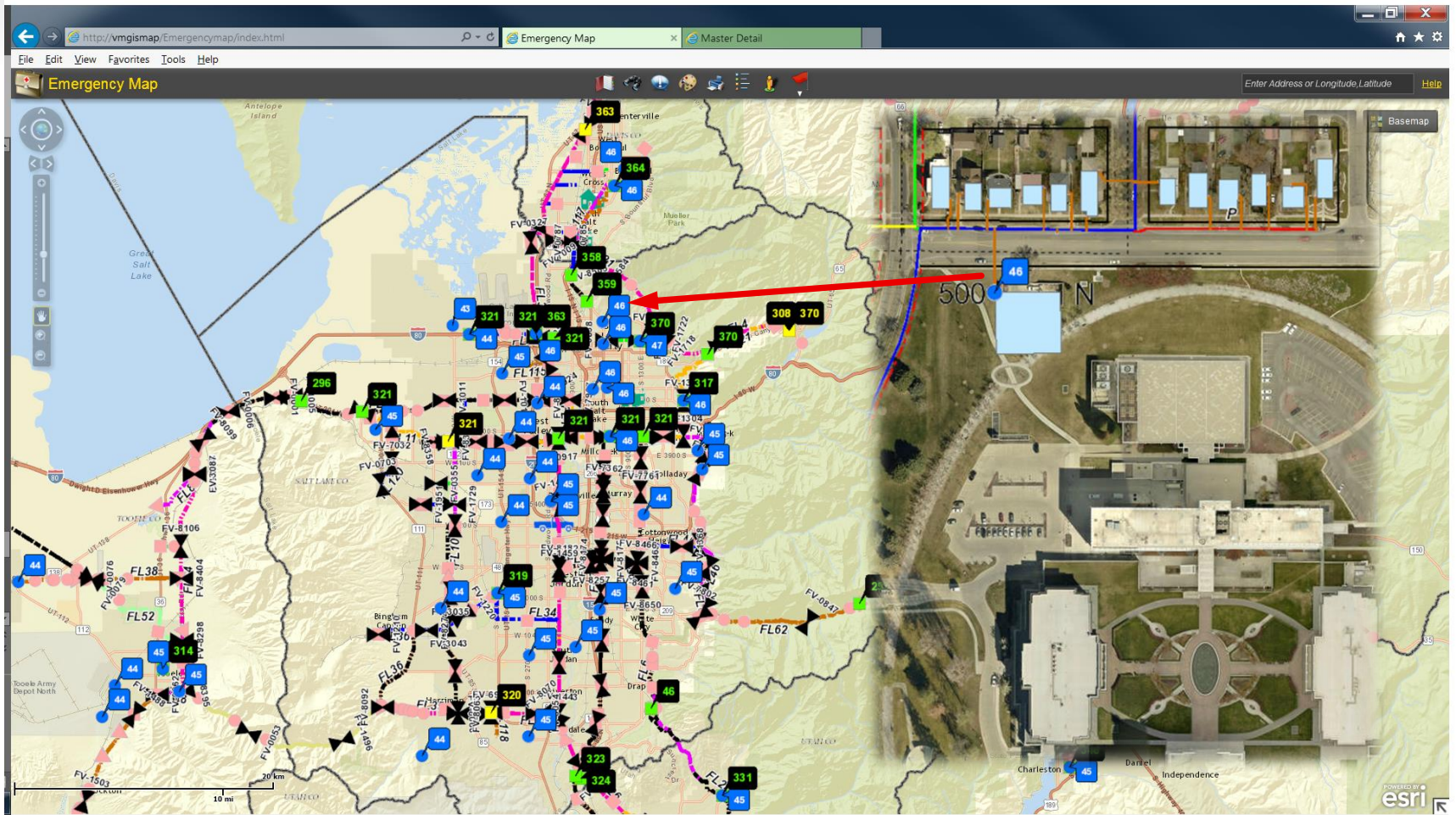
REDACTED

Proposal Comparison

REDACTED

IHP Pressure Telemetry

Pressure Telemetry Map



Monitoring Locations

- Representative Points
- Low Pressure Areas
- Remote Areas
- Regulator Stations
- Interruption Zones

Site Data & Link to PipeViewer

The screenshot shows a web browser window displaying an "Emergency Map" application. The browser's address bar shows the URL <http://vmgismap/Emergencymap/index.html>. The application interface includes a menu bar (File, Edit, View, Favorites, Tools, Help), a search bar with the text "Enter Address or Longitude, Latitude", and a "Basemap" button. The map itself shows a topographic view of a region with a network of pipes and valves. Numerous valves are marked with blue squares containing the number "45", and some are marked with black triangles. A pop-up window titled "IHP Pressure Details" is open over a specific station. The details provided in the pop-up are:

- Station Name: ALTA SKI LIFTS CO
- Station ID: 1251
- Spatial ID: SL0000326305
- Pressure: 44.9
- Read ID: 63713
- Industrial Number:
- Address: ALTA HWY 210
- City: ALTA
- County: SALT LAKE
- Measurement Area: SALT LAKE

Below the details, there is a "PipeViewerLink" section with a "Zoom to" button.

PipeViewer

Browser address bar: http://pipeviewer.questar.com:10000/gpc_ordr/R/p=113:24:2691332357666:NO:

Navigation tabs: Emergency Map | Master Detail | Master Detail

Page Header: **QUESTAR Pipeline PipeViewer** | Welcome: 04597 | Current Gasday: 05/02/2016 | Current Cycle: INTRADAY 1

Search: Select Search Type [Go]

Main Menu: STORAGE, CURRENT CONDITIONS, OPERATIONAL REPORTS, BUSINESS REPORTS, WEATHER, GROUPS, ALL STATIONS

Read Detail

Station Name	ALTA IHP	Pipeline	QGC	Remote ID	1251	Type of Read	IP	Read Type Description	IHP PRESSURE	Contract Hour	8
Read Description	IHP PRESSURE	Read ID	63713	Read TLP code	900	Unit	GP	Unit Description	PRESSURE GAUGE POUNDS PER SQUARE INCH	Source Type	Real Time Telemetry
Current Value	44.88	Change Time	05/02/2016 13:42:11	Meter	Patchout	Position	1				
Driver	MERC_ACM	Timeout	05	Rate Limit	0	Approve Low Low	0	Low Limit	20	Low Low Limit	16
Frequency	5	High Limit	62	High High Limit	80	Approve High High	0				
Max value	0										
Limit Switch	<input checked="" type="checkbox"/>										

Group Information

Create New Group Add to Existing Group

Communication Status

Message	Last Alarm	Last Success	Successes	Failures	Code
SUCCESSFUL COMMUNICATION	04/22/2016 03:47:28	05/02/2016 13:42:12	43	2	0

Read History Chart

Read 63713

Read History

Purpose

- Active System Monitoring
 - Dispatch receives pressure alarms

Location	MAOP	High-High	High	Low	Low-Low
Regulator Station	60 psig	60	52	30	25
System	60 psig	60	52	20	15
Regulator Station	35 psig	41	37	25	20
System	35 psig	41	37	20	15

- Company can respond proactively
- Minimizes customer interruption
- Minimizes response time

IHP Alarm Window

IHP Alarm Monitor

68 of 68

8:51:54 AM

Logged in to ALTA as: Aaron Astle

Light/Dark
 Full Screen
 Alarm Sound
 [Log Out](#)

High Priority Alarms

Info	Date/Time	Message	Oper Note	Accept

Acknowledged Alarms

Auto Refresh

Info	Date/Time	Message	Oper Note	OperID
Info	10/1/2015 11:08 AM	TOOELE ARMY DEPOT SL IP IHP PRESSURE (0)-->(43.0) NORMAL	Normal reads not previously called out	03812
Info	9/29/2015 3:47 PM	MENDON IHP SL0009833 IP IHP PRESSURE (0)-->(45.0) NORMAL		disppc
Info	9/29/2015 2:07 PM	SOUTH SUMMIT HS SL00 IP IHP PRESSURE (0)-->(42.1) NORMAL	Talke to Chris Norske	01535
Info	9/28/2015 10:41 AM	WASHINGTON IHP SL000 IP IHP PRESSURE (42.0)-->(42.2) NORMAL	will talk with layne carter ... Clark	09195
Info	9/25/2015 3:23 PM	EL26 DR SV0002 IP IHP PRESSURE (74.955)-->(44.0) NORMAL		disppc

Location: SL0009857945, WASHINGTON IHP SL0009857945, 1080 W ARLINGTON ST, WASHINGTON [Stnid#1411]

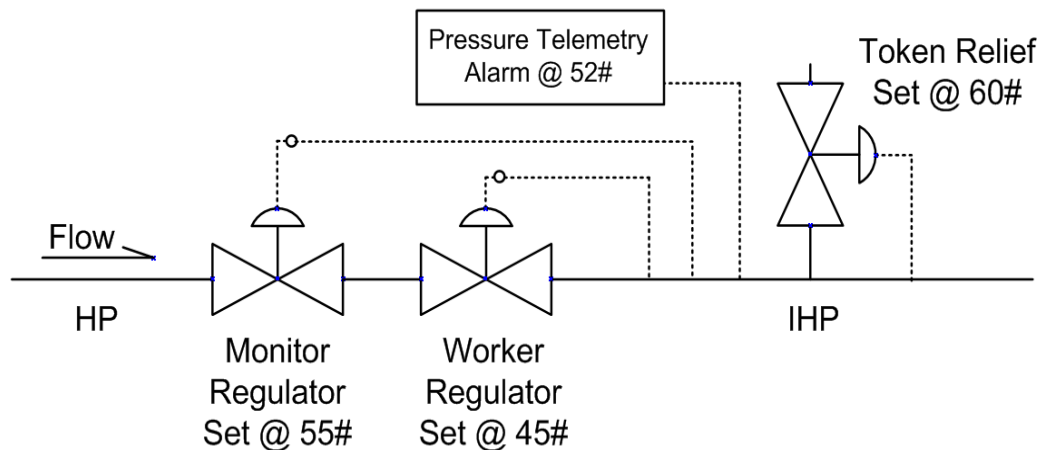
All Alarm Messages

Auto Refresh

Date/Time	Message	Oper Note	OperID
9/8/2015 3:17 PM	EAGLE MOUNTAIN IHP E IP IHP PRESSURE (0)-->(44.3) NORMAL	Per Blake Dyches he just installed these 5 alarms today	06728
9/8/2015 1:10 PM	BRIGHAM CITY IHP SLO IP IHP PRESSURE (0.150)-->(43.6) NORMAL	Contacted David Platt - RHY	disppc
9/8/2015 12:55 PM	BRIGHAM CITY IHP SLO IP IHP PRESSURE (43.5)-->(0.150) LOW-LOW	Contacted David Platt -Rhy	disppc
9/8/2015 6:10 AM	WASHINGTON IHP SL000 IP IHP PRESSURE (0)-->(41.1) NORMAL		08879
9/8/2015 5:55 AM	WASHINGTON IHP SL000 IP IHP PRESSURE (41.4)-->(0) LOW-LOW	Spoke with Shawn Lindsay and he will have someone check it out. 5:56am - SHA	07769

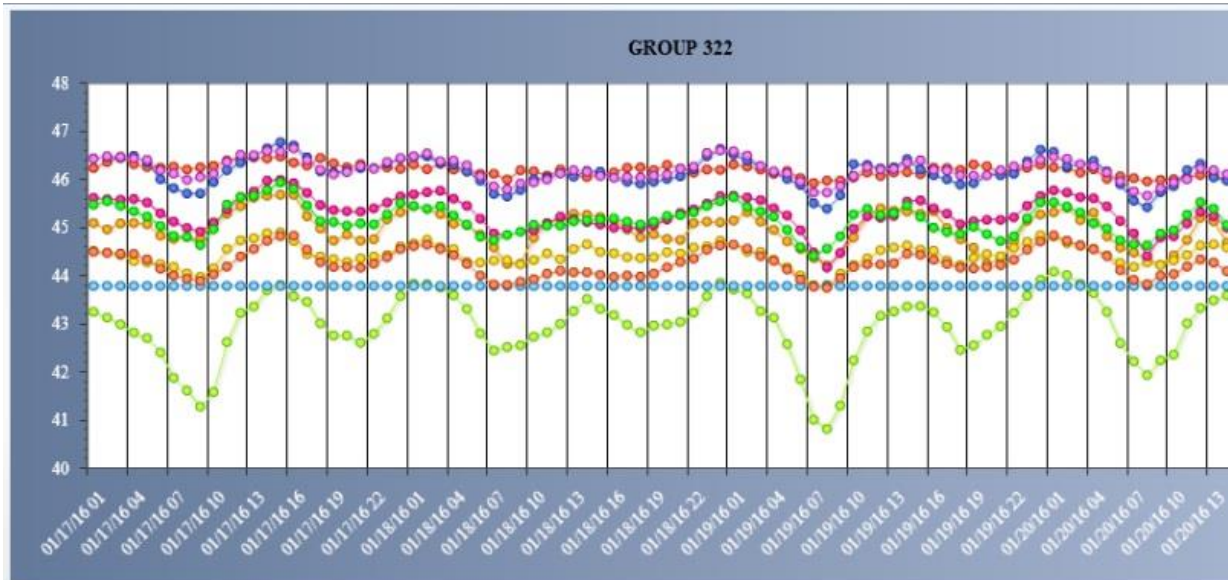
Purpose

- Active Station Monitoring
 - Alarms indicate stations that need attention, improving response time and eliminating the unnecessary release of gas.
 - Monitor both HP and IHP pressure at stations



Purpose

- Station Health Checks
 - Groups in PipeViewer allow Measurement and Control to quickly check station health



Equipment



Equipment



Questions?