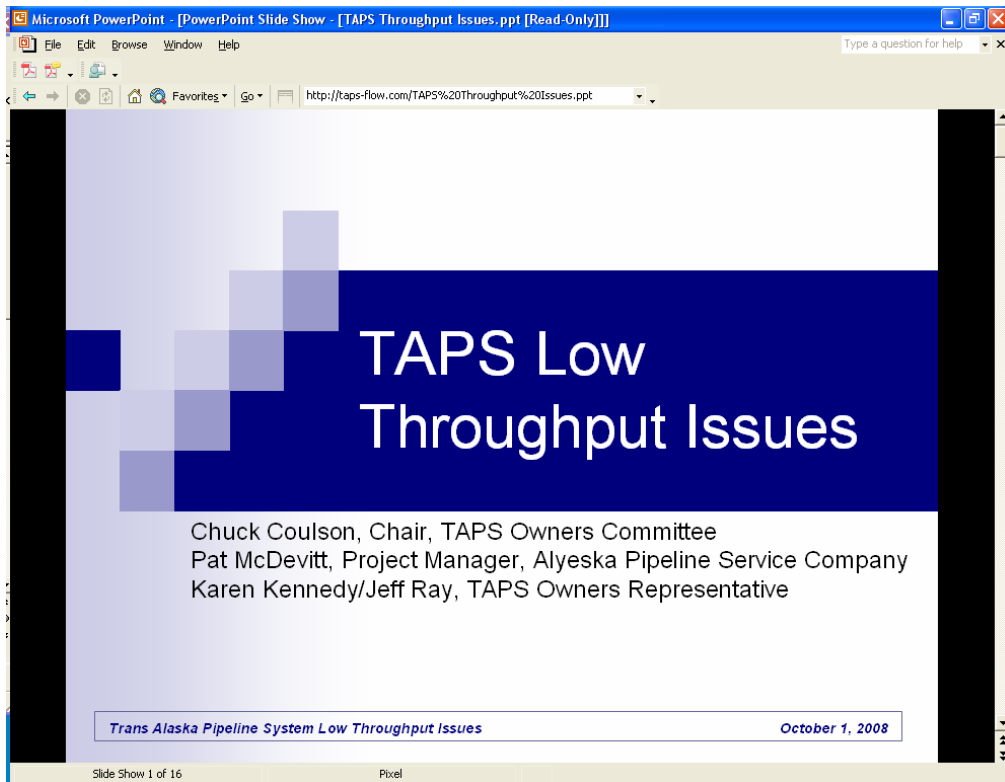


Briefing Extracts: Trans-Alaska Pipeline System Low Throughput Issues

October 1, 2008



Microsoft PowerPoint - [PowerPoint Slide Show - [TAPS Throughput Issues.ppt [Read-Only]]]

File Edit Browse Window Help

Type a question for help

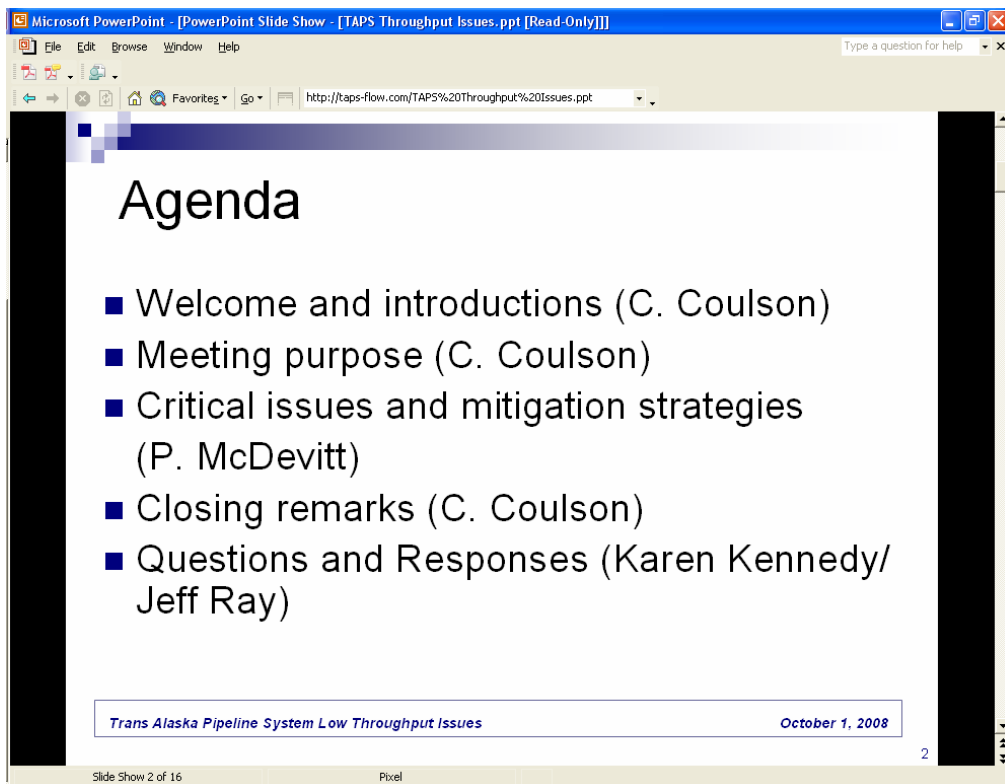
http://taps-flow.com/TAPS%20Throughput%20Issues.ppt

TAPS Low Throughput Issues

Chuck Coulson, Chair, TAPS Owners Committee
Pat McDevitt, Project Manager, Alyeska Pipeline Service Company
Karen Kennedy/Jeff Ray, TAPS Owners Representative

Trans Alaska Pipeline System Low Throughput Issues *October 1, 2008*

Slide Show 1 of 16 Pixel



Microsoft PowerPoint - [PowerPoint Slide Show - [TAPS Throughput Issues.ppt [Read-Only]]]

File Edit Browse Window Help

Type a question for help

http://taps-flow.com/TAPS%20Throughput%20Issues.ppt

Agenda

- Welcome and introductions (C. Coulson)
- Meeting purpose (C. Coulson)
- Critical issues and mitigation strategies (P. McDevitt)
- Closing remarks (C. Coulson)
- Questions and Responses (Karen Kennedy/ Jeff Ray)

Trans Alaska Pipeline System Low Throughput Issues *October 1, 2008*

Slide Show 2 of 16 Pixel

Microsoft PowerPoint - [PowerPoint Slide Show - [TAPS Throughput Issues.ppt [Read-Only]]]

File Edit Browse Window Help

Type a question for help

Favorite Go <http://taps-flow.com/TAPS%20Throughput%20Issues.ppt>

TAPS Challenges

- Longer transit times result in crude cooling and increased precipitation of water and wax
 - Currently $\geq 105^{\circ}\text{F}$ at PS1 and $< 60^{\circ}\text{F}$ (average) on arrival in Valdez Temperature drop more significant in winter, may lead to ice formation in flowing conditions
 - During shutdown conditions, crude will cool quickly, potentially impacting ability to restart line
 - Increased water and wax precipitation creates a potential for a corrosion-susceptible environment
 - Protective thaw bulb surrounding buried pipe may shrink or disappear
- Changing crude composition may result in a higher viscosity crude stream in the future

Trans Alaska Pipeline System Low Throughput Issues October 1, 2008

Slide Show 5 of 16 Pixel 5

Microsoft PowerPoint - [PowerPoint Slide Show - [TAPS Throughput Issues.ppt [Read-Only]]]

File Edit Browse Window Help

Type a question for help

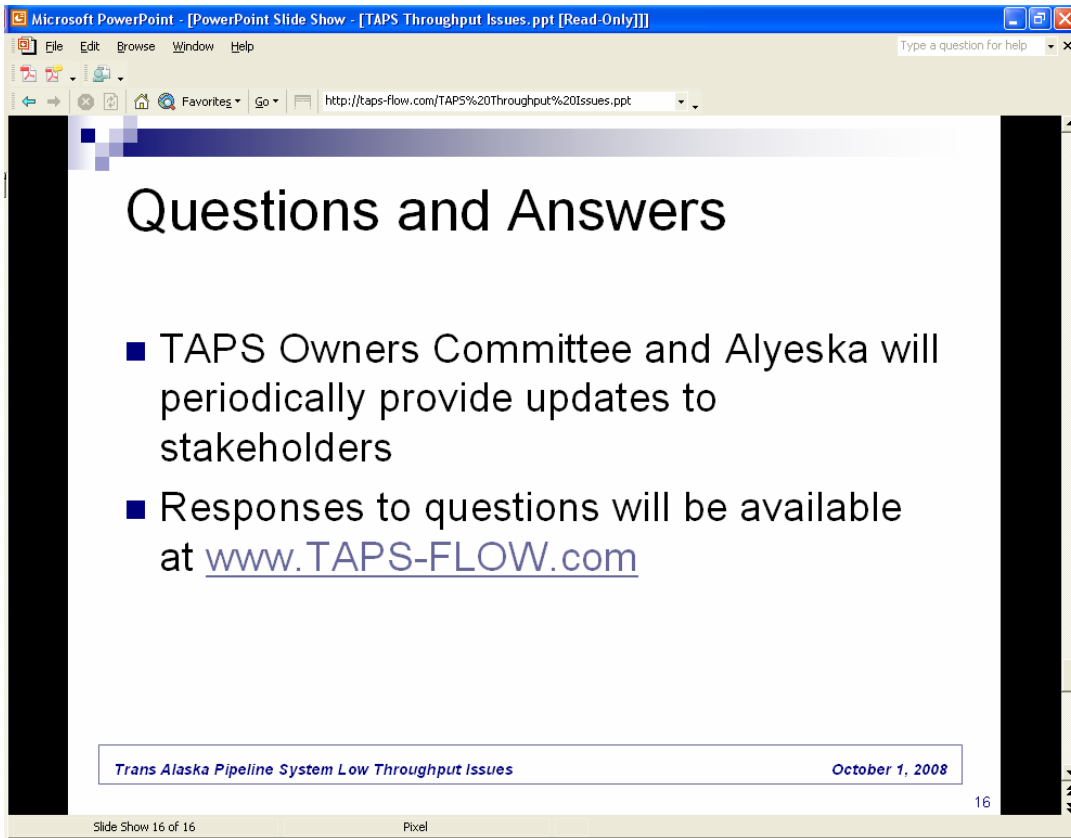
Favorite Go <http://taps-flow.com/TAPS%20Throughput%20Issues.ppt>

Critical Issues

- Free water
- Geohazards
- Wax
- Viscosity

Trans Alaska Pipeline System Low Throughput Issues October 1, 2008

Slide Show 6 of 16 Pixel 6



Sourcing Note *

This October, 2008 outline of TAPS low throughput issues was accessed on the TAPS web site March 25, 2011 at <http://taps-flow.com/TAPS%20Throughput%20Issues.ppt> but is no longer readily accessible.

Alyeska has recently revised its web site format and company personnel state that, as a matter of policy, copies of press releases and monthly or semi-monthly newsletters more than one year old are no longer readily accessible for review. (Two other hyperlinks to this report constitute examples of information formerly available on the Alyeska web site that is no longer readily accessible.)

**This revised sourcing note replaced the original (Dec. 18, 2012) sourcing note, which contained only the URL.*