The impacts of the ice and flooding were dramatic:

- 24 miles of the road were impacted;
- 28 days the road was closed;
- Two state disaster declarations issued; and
- $17 million for emergency repairs.
The James W. “Dalton” Highway

• Completed in 1975 by Alyeska Pipeline for TAPS construction and to support North Slope development. AKA “The Haul Road”

• 414-mile gravel road stretching from Livengood to Deadhorse.

• Approximately 109 miles are paved.

• State of Alaska took over maintenance in 1978.

• Opened to the public in 1994.

• 300+ vehicles/day near Fairbanks
  120/day near Deadhorse
2015 Dalton Highway Flood
The Aufeis Flood – Cause and Effect

Hydrology

• Heavy rain events in the Brooks Range - Fall 2014
• Sag River frozen all the way to the bottom
• Water pushed to surface, expanded beyond typical flood plain
• “A perfect sequence of snowfall, temperatures and winds lined up to create a massive sheet of ice that expanded for miles”
Flood Video
Synthetic Aperture Radar (SAR) Images
Timeline

- **March 20, 2015** – First water on road, eight locations, the largest spot is 12 inches deep and 200 feet long
- **March 30, 2015** – Overnight closure due to storm
- **April 1 - April 4, 2015** - One lane traffic with traffic control thru April 4
- **April 5, 2015** - Aufeis flooding causes prolonged closure of the highway, south of Deadhorse
As many as 1,100 truck loads backlogged
Impact to North Slope Operations

- Busiest construction season in recent years
- Ice road dependent drill sites - less than one month to go
- High levels of North Slope activities - fuel at minimum levels
- Disruption in the supply of specialty chemicals - threat to production
- Shortage of drilling fluids - potential to shut down rig operations
- Supplies of groceries getting low
Air Operations Resources

Lynden Air Cargo  C-130/L-382

Everts Air Cargo  DC-6
Stieger Operations
The DOT&PF Response

• Find the Road

• Find the Sag River Channel

• Divert the Water

• Open the Dalton Highway

• Prioritize the Traffic

...... Keep the water out and the trucks moving
Where is the Dalton Highway?
April 7, 2015
Gov. Walker declares a state disaster
April 7, 2015
Crews work to divert water and reinforce berms along the road April 11, 2015
Trench operations divert water away from the road
Aerial Sanding
UIC Ramps Up April 10

- ADOTPF
- ConocoPhillips
- BP
- Alyeska Pipeline Service Company
- ExxonMobil
- North Slope Borough
Unified Incident Command Goals

- Keep all responders and the public safe;
- Re-establish Dalton Highway traffic flow;
- Ensure accurate and timely release of information to stakeholders and the public;
- Coordinate to optimize highway traffic flow;
- Develop a logistics plan to support North Slope needs; and
- Protect infrastructure and the environment.
UIC Communications

- Daily public stakeholder meetings in Deadhorse
- Daily SITREPs
- Issued numerous Press Releases
- Numerous Media Events
Highway reopens to limited, pre-authorized traffic
April 13, 2015
Road opens progressively to all loads. Pilot car operations end April 28
April 13 - April 28, 2015
Warmer temperatures start to melt snow and ice on the road

May 5, 2015
Breakup arrives with another round of flooding
May 17, 2015
Highway closes again
May 17, 2015
Flooding begins in Deadhorse; Gov. Walker declares a 2nd state disaster

May 21, 2015
Flooding begins in Deadhorse;
Gov. Walker declares a 2nd state disaster
May 21, 2015
Water recedes dramatically in a day, near Mile 394
May 24-25, 2015
Repair work begins
May 28, 2015
Emergency Repairs
Dalton Flood After Action Review
Dalton Flood After Action Review

- What actions had a positive outcome and should be *replicated* in future responses?
- What actions produced a negative outcome and should be *avoided* in future responses?
- What actions could be *improved* to be more efficient or effective?
Dalton Flood After Action Review

- Communication
- Internal and External Coordination
- Logistics
- Emergency Response/Unified Incident Command
- Procurement
2016 Update
Thank You

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