Quintillion Subsea Cable System Project

PRESENTED BY:
Frank Cuccio

North Pacific Fishery Management Council
226th Plenary Session
Anchorage, Alaska
December 10, 2015
About Quintillion

• Headquartered in Anchorage, Alaska

• Carrier for the local provider – we provide high speed “broadband” capacity to the local providers – ASTAC, ACS, GCI, etc.

• Managed by Elizabeth Pierce, CEO and Founding Partner

• Funded by US private investment group and select Alaska investors including Arctic Slope Regional Corporation (ASRC)
Purpose and Benefit to Community

High-speed Bandwidth stimulates community development:

• Enables extensions to connect more communities
• Carrier neutral: All telecoms can use the networks
• Substantially improve communication/Internet service while reducing costs
• Enables improvements in education, health care, public safety, search and rescue
• Stimulates economic growth

User Pays Business

• All costs that go into delivering Broadband are passed on to the users at each landing

Short Term Activity for Long Term Benefit

• One summer to install
• No return work except for damage
Route Map – Phase I Alaska
2015 Project Work

1. Marine Survey: confirms cable route and required burial depth
   • Geophysical Survey: map the sea floor using side scan and multi beam sonar
     ▪ Completed July and August 2015
   • Geotechnical Survey analyze sea floor soil properties to design the cable burial plan
     ▪ Ongoing through late October/early November
   • Fugro, subcontractor to Alcatel Submarine Networks, conducting Marine Survey work

2. Horizontal Directional Drilling: install conduit in shallows near shore to protect cable
   • Drill from shore side with a surface drilling rig: up to 1 mile offshore
   • Bore drilled 60 – 80 feet deep below sea floor and steel casing installed for cable
   • Minimal impact on the surrounding area and shoreline

3. Cable Landing Stations: work continues to install buildings and equipment
Why do we need to bury the cable?

- Human activities present the greatest risk to subsea cables
- In the Arctic, ice gouging presents a serious risk
- Cable must be protected by burying it in the sea floor in the shallow waters

<table>
<thead>
<tr>
<th>Causes of service-impacting cable breaks</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Fish trawling</td>
<td>40%</td>
</tr>
<tr>
<td>Ship anchorages</td>
<td>28%</td>
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<tr>
<td>Subsea earthquakes or subsidence</td>
<td>8%</td>
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<tr>
<td>Shunt (electrical faults) failures</td>
<td>8%</td>
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<tr>
<td>Amplifier or branching unit failure</td>
<td>4%</td>
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<tr>
<td>Abrasion (wave, seabed, ice)</td>
<td>3%</td>
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<tr>
<td>Other factors, sabotage, etc.</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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*International Submarine Cable Protection Committee, 2013*
2016 Summer Activities: Cable Installation

Details on the cable lay are still being finalized
• Cable laying vessel details to be determined
• Final route of cable to be confirmed
• Target cable lay late June through early September

System Builder: Alcatel Submarine Networks
• A leading global supplier of subsea cable systems
• Progress is slow and steady
• Systematic process to be successfully installed
• Must be conducted as a continuous operation

Coordinating our Plan of Cooperation
• Glenn Ruckhaus at Owl Ridge is leading our planning efforts
• Community information meetings starting in March/April 2016
Preliminary 2016 Summer Schedule
For more information

Please contact Quintillion for more information

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Thank You