MET Tower Installation Techniques in Alaska

Alaska Energy Authority
Alternative Energy and Energy Efficiency

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Presentation Overview

• Introduction
• General Installation Steps
• Difficult Conditions
• Summary
Introduction

• Site selection and approval
  – Local governments, FWS, FAA, topography, vegetation, etc.

• Preparation, logistics, and planning
  – Limited resources at site?
  – Shipping the materials?
  – Time of year?
General Installation Steps

• Clear the site and measure anchor points

If you’re fortunate… If you’re not…
General Installation Steps

- Drive the anchor
General Installation Steps

• Lay out main tower: sections attachments base plate

• Paint tower sections
General Installation Steps

• Horizontally assemble tower sections collars guy wires gin pole

• Mount booms, sensors, sensor and ground wires
General Installation Steps

• Support and raise gin pole
General Installation Steps

- Final arrangement of booms and sensors
General Installation Steps

• Erect tower while controlling side guy wires
General Installation Steps

• Attach gin pole wires to anchor, and straighten tower by adjusting guy wire tension
General Installation Steps

• Attach, wire, and configure data logger
General Installation Steps

• Clean-up and final check of site
Difficult Conditions

• Permafrost and anchors
  – Drive anchors during summer
  – Contract a backhoe to bury them manually
Difficult Conditions

- Winter daylight hours shortened
- Winter temperatures, protective clothing complicate efforts
Difficult Conditions

- Broken or missing winch components
- Expensive transportation of tools and materials to job sites
Summary

• Installation of 30 m MET tower with instruments
• Lack of resources, difficult locations require extensive planning prior to installation

Photos Courtesy of Doug Vaught (V3 Energy, LLC), Hannah Manser, Mia Devine, and Zach Adam

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