PAC Presentation Template for Transmission Line Asset Condition Projects

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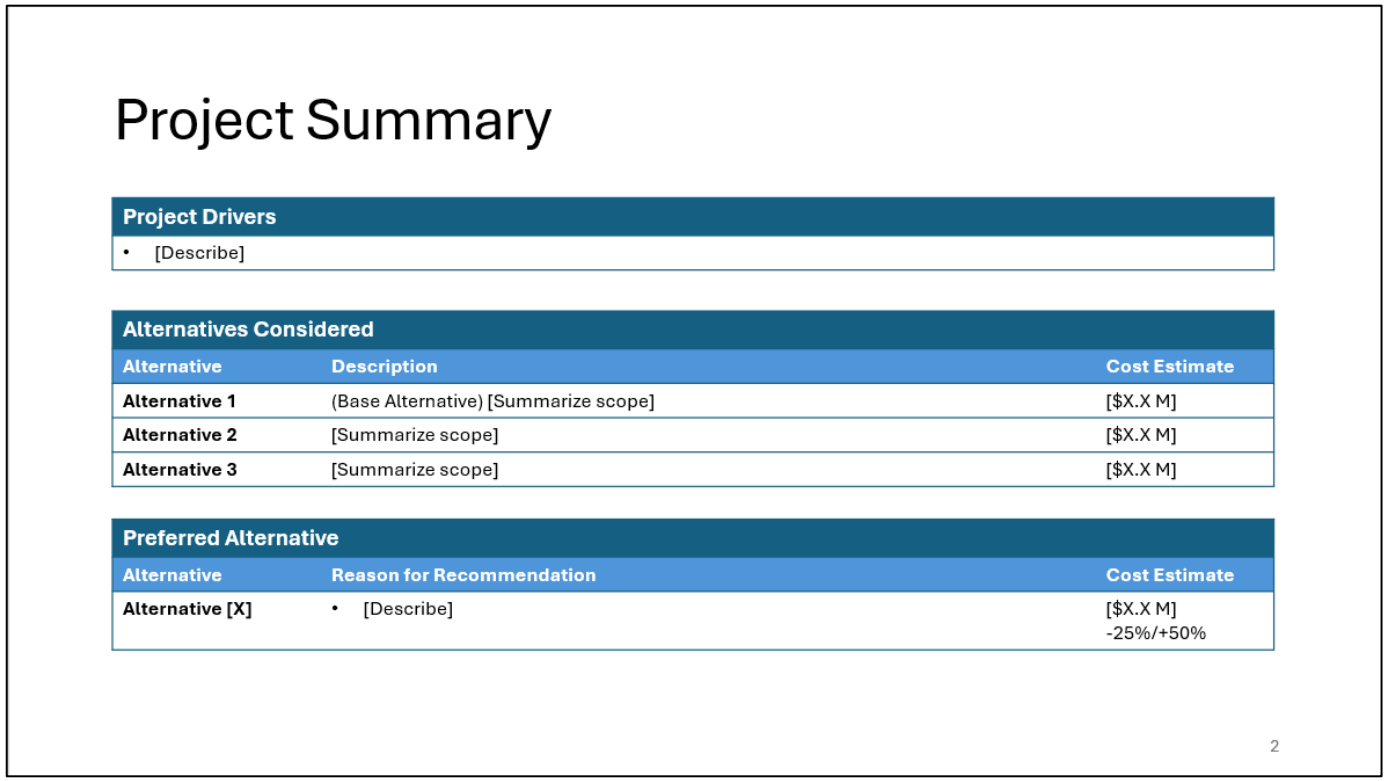
Overview

- As part of the ongoing process to improve asset condition project transparency, the Transmission Owners (TOs) have developed slide templates to be used when presenting asset condition projects on transmission lines
- Standardization of presentation slides will improve clarity of TO communications with the PAC
- This presentation provides an overview of the template slides
  - National Grid, and VELCO will also present asset condition projects at today's meeting using the templates
- Slide templates may be adapted for individual projects as needed
  - For example, slides may be added for projects that are part of larger programs
  - TO-specific logos and branding can be added
- TOs are planning to develop template slides for additional types of project (e.g. substation projects) after gaining experience with the template slides for transmission line projects

Slide Templates

Project Summary

- Asset condition project presentations have not historically included an executive summary or overview
  - Details of analysis and preferred solutions usually found near end of presentations
- TOs plan to add a single-slide overview of key details about a project:
  - Primary drivers
  - Alternatives considered
  - Preferred alternative
  - Cost estimates for each alternative



Project Summary

Project Drivers
• [Describe]

Alternatives Considered		
Alternative	**Description**	**Cost Estimate**
Alternative 1	(Base Alternative) [Summarize scope]	[$X.X M]
Alternative 2	[Summarize scope]	[$X.X M]
Alternative 3	[Summarize scope]	[$X.X M]

Preferred Alternative		
Alternative	**Reason for Recommendation**	**Cost Estimate**
Alternative [X]	• [Describe]	[$X.X M] -25%/+50%

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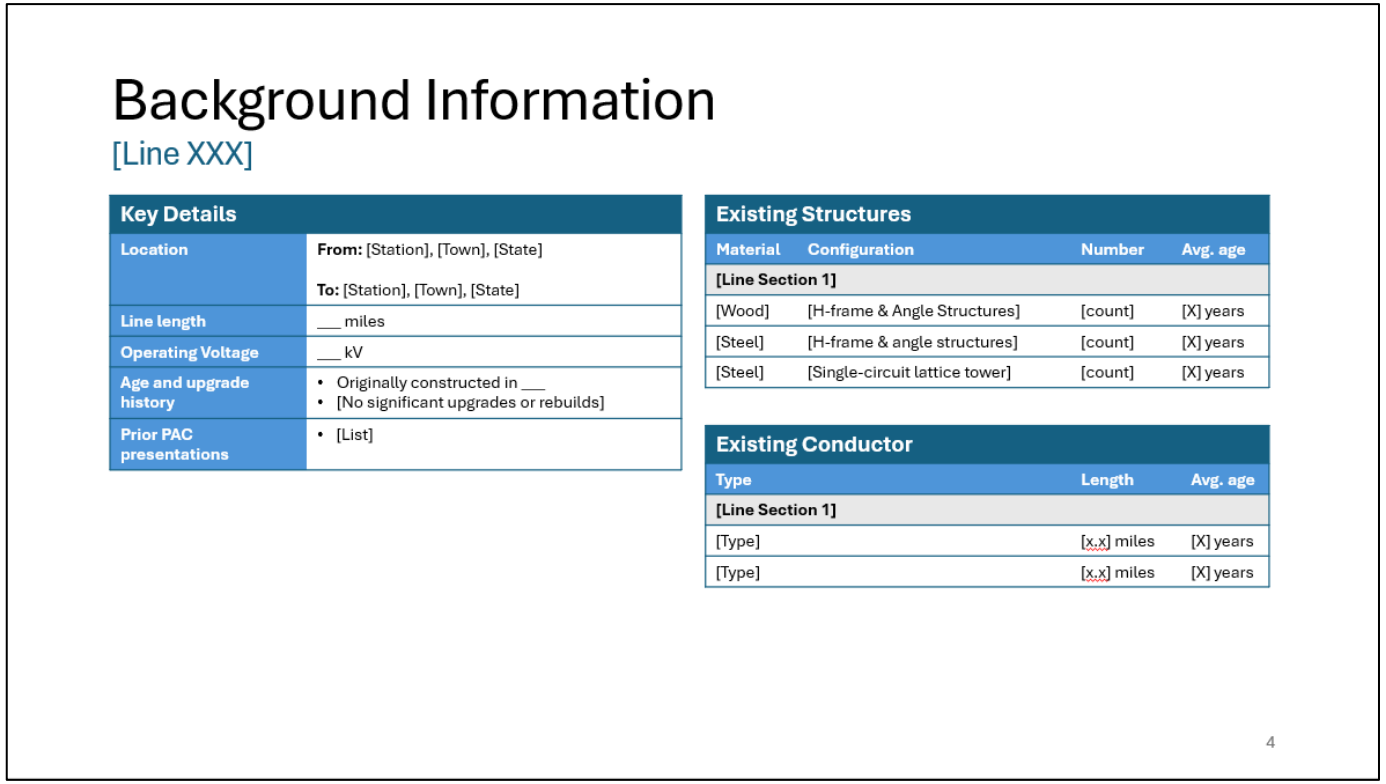
Slide Templates

Background Info

- Slide template for background information will improve consistency of information provided to the PAC
- Background information will include:
  - Links to prior PAC presentations
  - Technical information and statistics about the existing line
- Additional slides (not shown) may be added with maps, diagrams, etc. as needed



Background Information

[Line XXX]

Key Details	
Location	**From:** [Station], [Town], [State] **To:** [Station], [Town], [State]
Line length	___ miles
Operating Voltage	___ kV
Age and upgrade history	• Originally constructed in ___ • [No significant upgrades or rebuilds]
Prior PAC presentations	• [List]

Existing Structures

Material	Configuration	Number	Avg. age
[Line Section 1]			
[Wood]	[H-frame & Angle Structures]	[count]	[X] years
[Steel]	[H-frame & angle structures]	[count]	[X] years
[Steel]	[Single-circuit lattice tower]	[count]	[X] years

Existing Conductor

Type	Length	Avg. age
[Line Section 1]		
[Type]	[x.x] miles	[X] years
[Type]	[x.x] miles	[X] years

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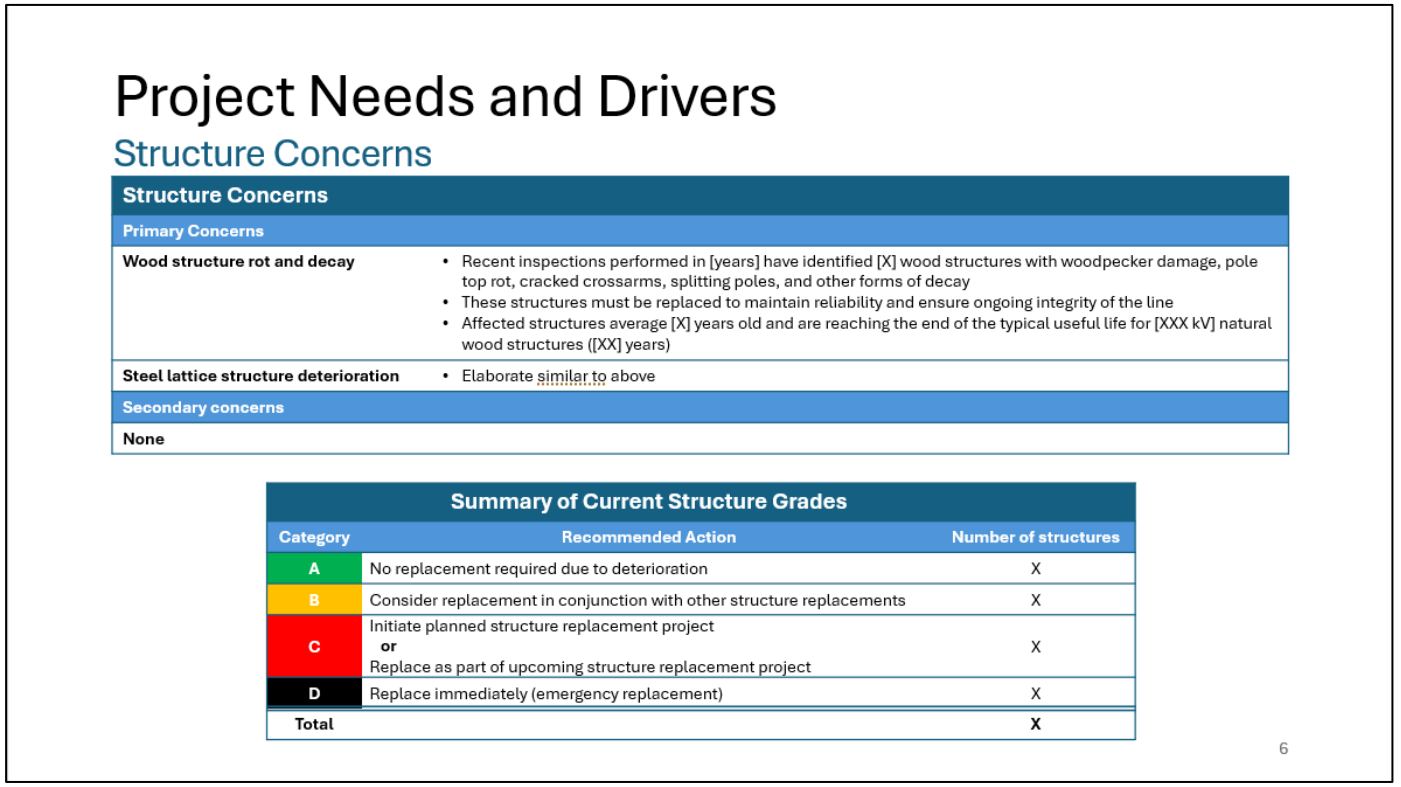
Slide Templates

Project Needs and Drivers

- Slide templates are provided for common needs and drivers for asset condition projects:
  - Structures
  - Conductors
  - Insulators
  - Shield Wire
  - Telecommunication
  - Planning
  - Operations
  - Other
- Needs and drivers will be categorized into ”primary concerns” and “secondary concerns”
  - Primary concerns are the most pressing needs that will be addressed by all solution alternatives under evaluation
  - Secondary concerns may be addressed by *some* solution alternatives
- Slides can be removed and summarized if certain needs and drivers are not relevant to a particular project



Project Needs and Drivers

Structure Concerns

Structure Concerns	
Primary Concerns	
Wood structure rot and decay	• Recent inspections performed in [years] have identified [X] wood structures with woodpecker damage, pole top rot, cracked crossarms, splitting poles, and other forms of decay • These structures must be replaced to maintain reliability and ensure ongoing integrity of the line • Affected structures average [X] years old and are reaching the end of the typical useful life for [XXX kV] natural wood structures ([XX] years)
Steel lattice structure deterioration	• Elaborate similar to above
Secondary concerns	
None	

Summary of Current Structure Grades		
Category	**Recommended Action**	**Number of structures**
A	No replacement required due to deterioration	X
B	Consider replacement in conjunction with other structure replacements	X
C	Initiate planned structure replacement project **or** Replace as part of upcoming structure replacement project	X
D	Replace immediately (emergency replacement)	X
Total		**X**

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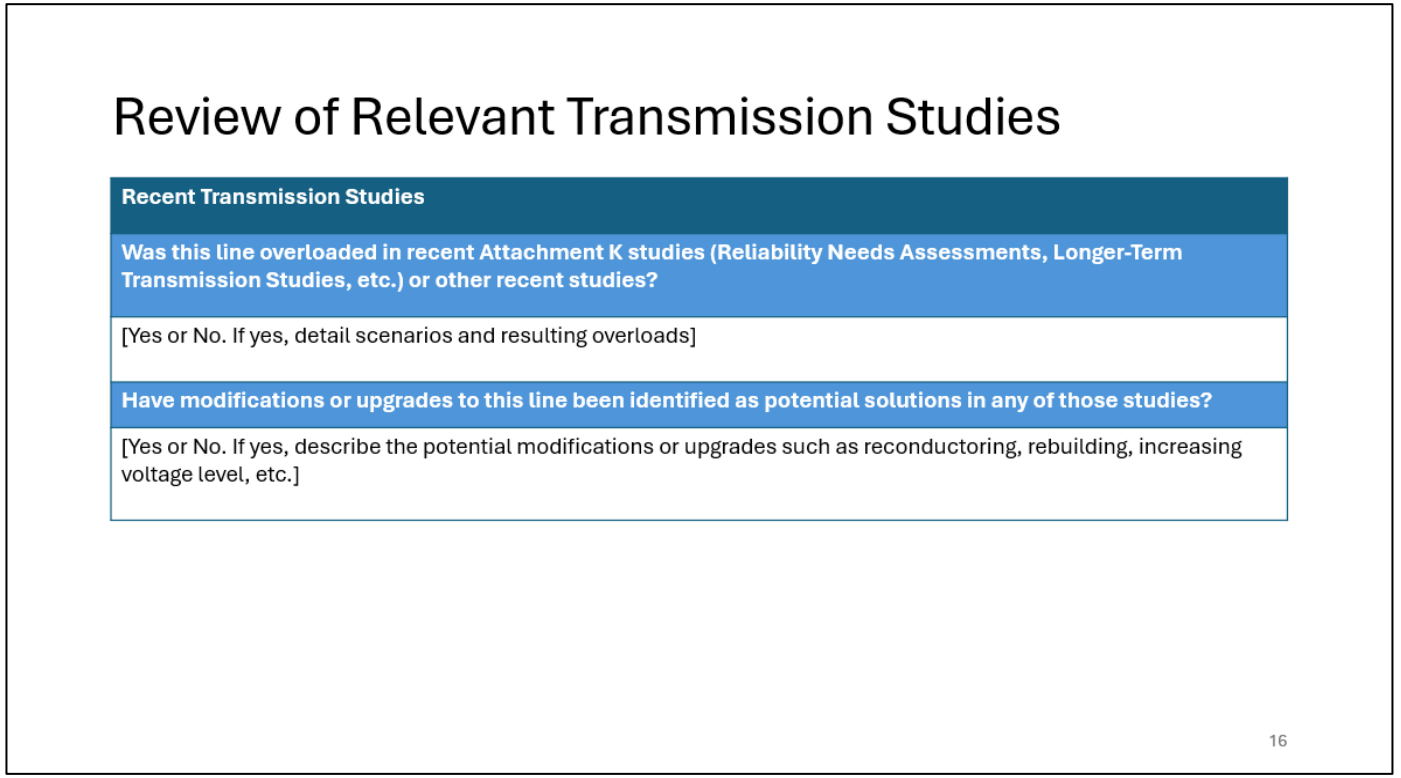
Slide Templates

Relevant Transmission Studies

- TOs will review recent studies performed by ISO-NE under Attachment K to the Open Access Transmission Tariff (OATT) for any overlap with the proposed asset condition project

- Studies reviewed will include:
  - Reliability Needs Assessments
  - Longer-Term Transmission Planning studies (e.g. 2050 Transmission Study)

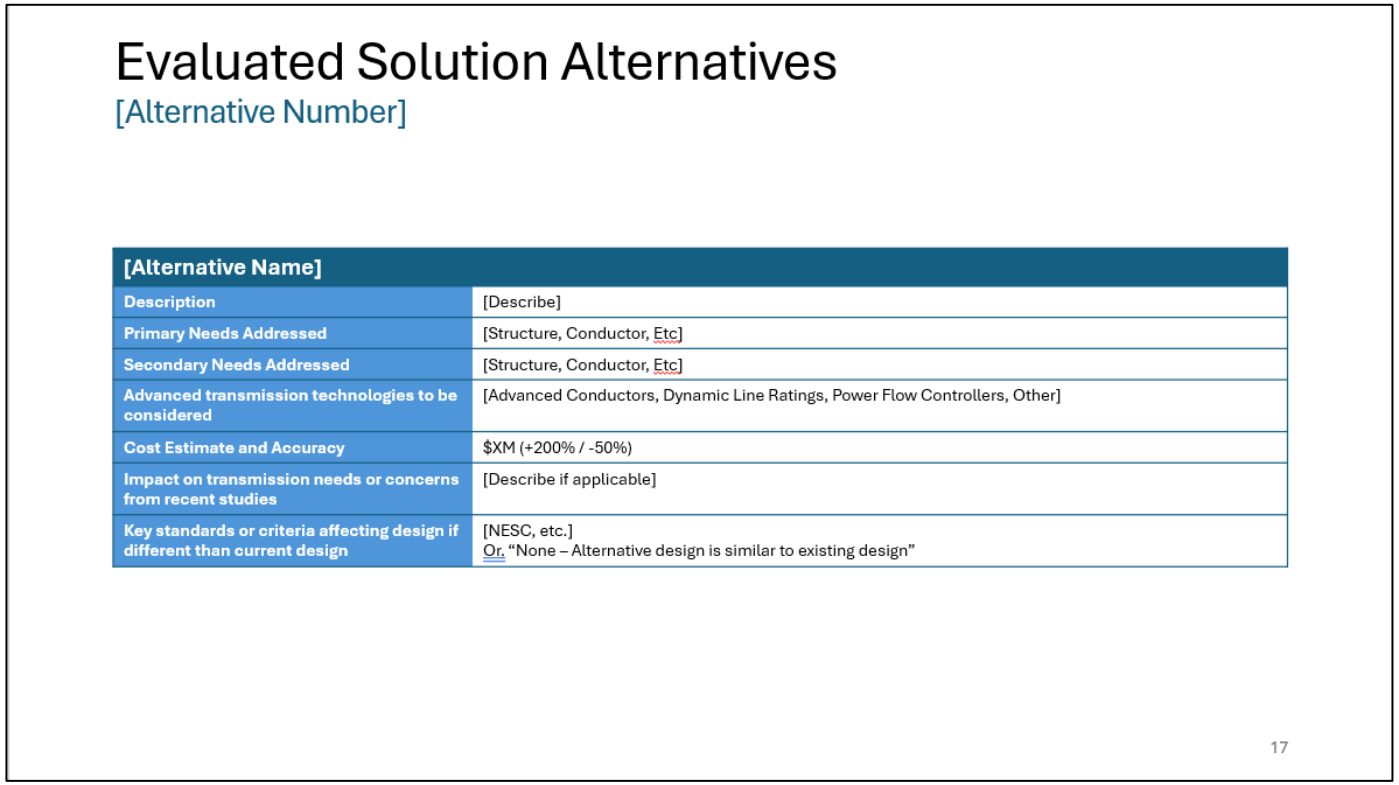
- TOs will indicate when facilities included in the proposed asset condition project were associated with needs identified in these studies (for example, if the facilities were overloaded) or included as components of potential solutions



Slide Templates

Evaluated Solution Alternatives

- Each alternative solution will be presented on a standardized slide
  - The Base Alternative will always be included, usually as Alternative 1
- Information provided will include:
  - Key standards or criteria affecting the design of the alternative
  - Any advanced transmission technologies considered



Evaluated Solution Alternatives

[Alternative Number]

[Alternative Name]	
Description	[Describe]
Primary Needs Addressed	[Structure, Conductor, Etc]
Secondary Needs Addressed	[Structure, Conductor, Etc]
Advanced transmission technologies to be considered	[Advanced Conductors, Dynamic Line Ratings, Power Flow Controllers, Other]
Cost Estimate and Accuracy	$XM (+200% / -50%)
Impact on transmission needs or concerns from recent studies	[Describe if applicable]
Key standards or criteria affecting design if different than current design	[NESC, etc.] Or, "None – Alternative design is similar to existing design"

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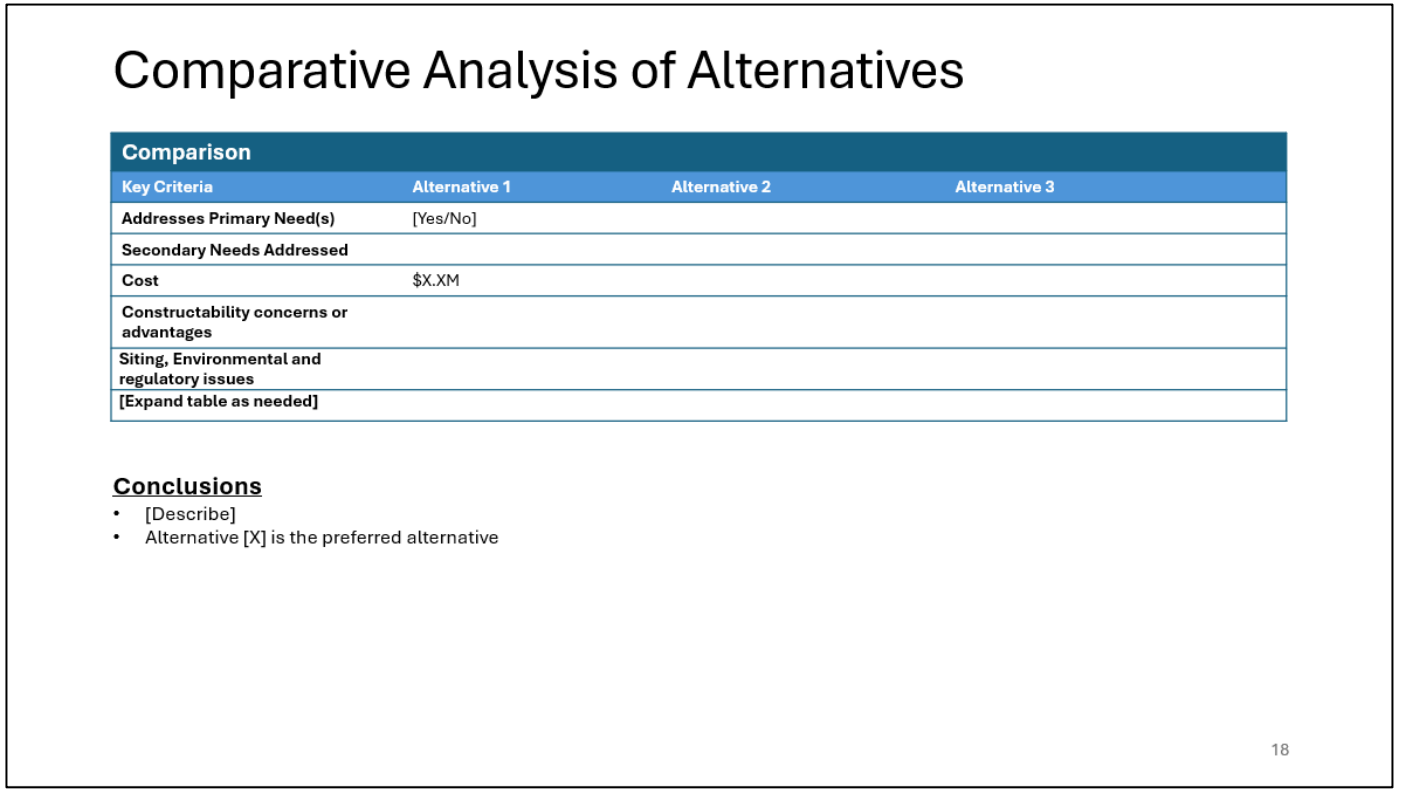
Slide Templates

Comparative Analysis of Alternatives

- TOs will provide side-by-side comparative analysis of solution alternatives based on criteria listed in Table 4-1 of the Asset Condition Process Guide
- Table may be expanded or adapted as needed for individual projects
- Conclusions and preferred solution will be based on comparative analysis



Comparative Analysis of Alternatives

Comparison			
Key Criteria	**Alternative 1**	**Alternative 2**	**Alternative 3**
Addresses Primary Need(s)	[Yes/No]		
Secondary Needs Addressed			
Cost	$X.XM		
Constructability concerns or advantages			
Siting, Environmental and regulatory issues			
[Expand table as needed]			

Conclusions

- [Describe]
- Alternative [X] is the preferred alternative

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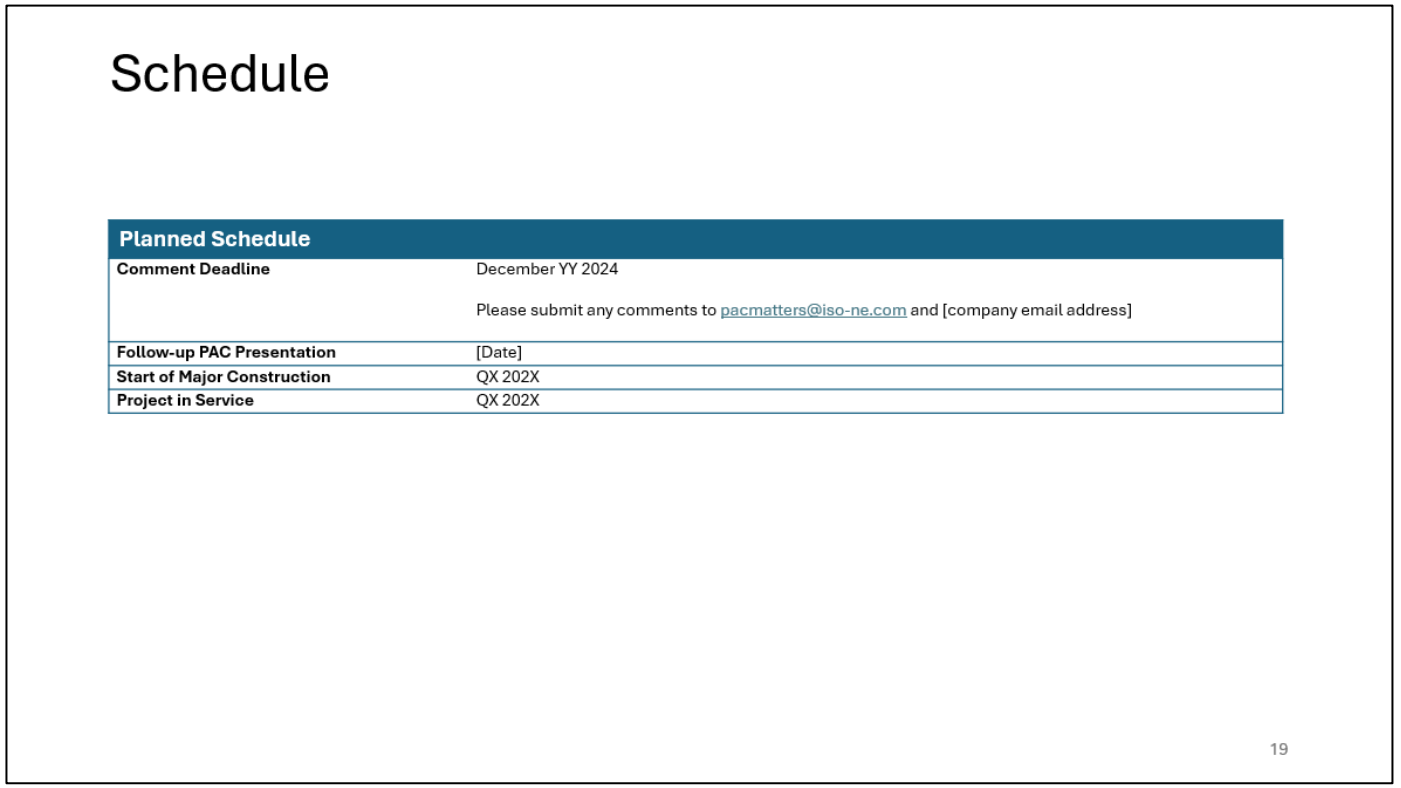
Slide Templates

Schedule

- TOs will continue to provide contact information for comments from the PAC

- TOs will list the anticipated start of major construction and in-service dates



Questions