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PLANNING FOR AND MAXIMIZING THE USE OF EXISTING RIGHTS OF WAY



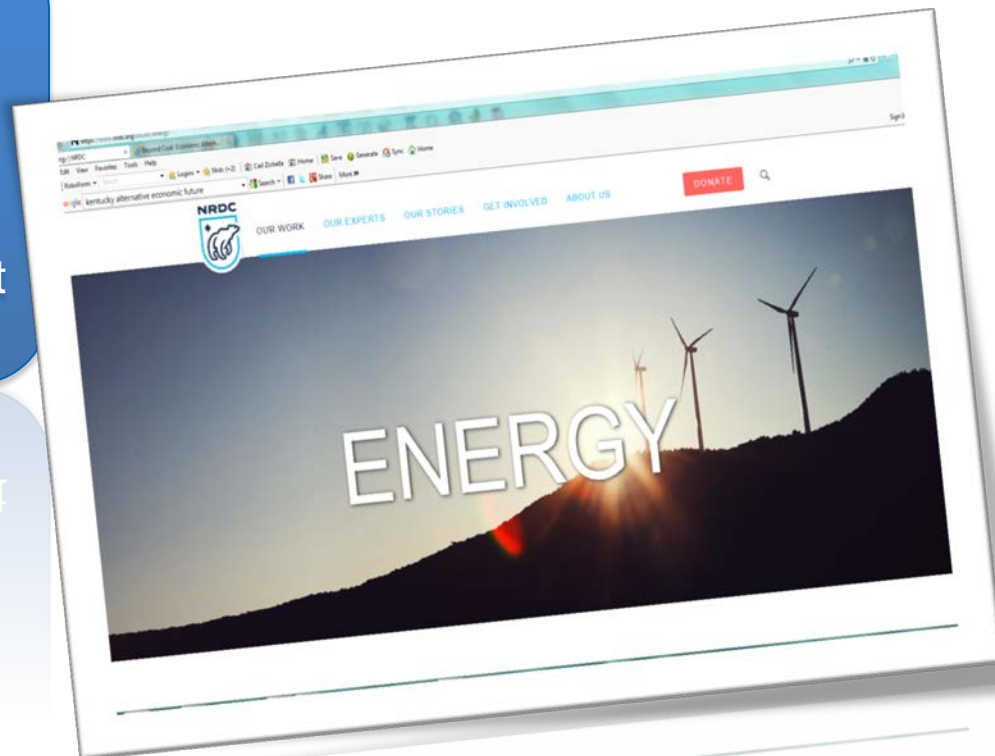
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for all living things:
a safe and healthy environment
and wild places and to ensure
to protect the planet's wildlife
members and online activists



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Agenda

- Rights of Way considerations
- Transmission design consideration
- Planning Considerations for new ROWs
- Options for extending the life of existing ROWs
 - Short term technologies, fixes
 - Longer term options
 - Reconductoring
 - Reconstruction
 - Parallel routing



Planning: Rights of Way are Precious

- Extremely difficult to site
- ROWs should be intended to meet present and *future* needs
- Could take more than a decade to site
- Mitigation costs can be high
- ATC from western interconnection power plant retirements needs to be factored in
- Transmission should be designed to be scalable/upgradable
- Transmission should be designed to meet longer term goals



ROW planning should consider grid needs

- Does the location serve renewable energy resource areas the state prioritizes?
 - Low environmental conflicts
 - Supports economic development
 - Reduces community impacts
 - Access to high quality renewable resources
 - Facilitates access to available storage



Planning, ctd.

- Does the location enhance grid modernization and expansion goals
 - Will it serve to future system upgrade/expansion needs?
 - Increase flows and allow for ↗ RE transfers to neighboring balancing areas
 - Reduce congestion in existing lines
 - Logically improve system topology



Planning CTD.

- Is it designed to be expandable?
 - Towers that can accommodate higher voltage rating conductors
 - Towers that allow for adding a circuit

Extending ROW life

New technologies and enhanced electronics can help

- Flow controllers reduce congestion
- PMUs (synchrophasors) and automation
- High capacity conductors
 - Where towers cannot easily or cost effectively be replaced
 - Defer or altogether avoid reconstruction
 - Increase transfer capacity with same or similar voltage ratings

Questions?





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