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# EHS GUIDELINES UPDATE WIND ENERGY

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# TOP CHANGES

- Importance of site selection
- Biodiversity
- Cumulative impacts
- Shadow flicker
- Working at heights and protection from falling objects
- Blade / ice throw
- Abnormal load transportation

# SITE SELECTION

- Increased emphasis on the importance of ‘avoidance’ tier of the mitigation hierarchy
- Both in terms of siting and layout design
- Relevant to many topics (visual, noise)
- Critical to avoiding / minimizing impacts on biodiversity

# BIODIVERSITY

- Scoping and desktop survey prior to field survey
- Field survey should be site-, species- and season-specific
- Targeted surveys to ‘at-risk’ / priority birds and bats
- Design surveys *to adequately guide the micro-siting of turbines*
- Pre-construction surveys should usually be conducted for one year when at-risk wildlife is identified

# BIODIVERSITY

- Use of radar “may be” appropriate - particularly useful for offshore
- Same for collision risk models: project-by-project basis
- A long list of potential mitigation measures are provided

# BIODIVERSITY

- Curtailment and shut-down on-demand procedures:
  - should be considered
  - factored into financial modeling and sensitivities at an early stage
  - Adaptive and *guided by a well-developed post-construction monitoring program.*
- Strong emphasis on post-construction monitoring
  - Focused on at-risk/priority bird species
  - Emphasis on fatality monitoring

# CUMULATIVE IMPACTS

- Noted that cumulative impacts are often associated with the sector
- Cumulative assessments ‘...especially warranted when multiple wind energy facilities are sited in close proximity to sensitive receptors such as areas of high biodiversity value.’
- In the absence of relevant country-specific guidance, international sources of good practice guidance on this topic should serve as references (refs provided)
- Specific references in relation to noise, biodiversity

# OTHER ISSUES

- **Shadow flicker:** 30 hours per year / 30 minutes per day on the worst affected day, based on worst-case scenario
- **Blade throw:** establish minimum setback distances between turbines and populated locations:  $1.5 \times$  turbine height (tower + rotor radius)
- **Health & Safety:** more emphasis on mitigating dangers of working at height and risks of falling objects
- **Abnormal load component transport:** added as a risk factor