

# How to Manage Environmental and Engineering Consultants on Wind Projects



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# Introduction to Tetra Tech

- **Full-service** firm providing integrated environmental, engineering, construction, and operations services
- **\$2.1 billion (FY2008)** in revenue
- **10,000** employees in over **250** offices worldwide
- Staff has executed over **\$25 billion** in engineering and construction services, including \$5 billion of power plant construction
- Industry-leading safety performance

# Industry Leader in Wind Energy

- Providing construction services for 18 clients, projects totaling over 1,500 MW
- Involved on over 200 wind projects in 34 states totaling more than 15,000 MW
- Over 12,000 MW of wind generation we have worked on is either in operation or scheduled for construction



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# Agenda

- Objective is to provide community wind developers with basic advice on how to:
  - Create and review Requests for Proposals (RFPs) for environmental and engineering tasks
  - Ensure that contracts contain adequate scope, schedule, and budget for wind development
  - Communicate direction to and receive information from consultants
  - Manage data among multiple disciplines and/or consultants
  - Manage change on complicated projects



# Basic Considerations for the Developer Project Manager

- What tasks need to be completed?
- On what time frame must they be completed?
- Who will complete the tasks? Who will review them?
- What is the budget?
- Dealing with change
- What defines success?



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# Requests for Proposals (RFPs)

- A RFP is how you ask a consultant for help
  - RFP should include:
    - General scope of the work you need to have completed
    - General schedule for completion of the scope of work
    - Request for budget, with guidelines
  - The more detailed the RFP, the more accurate the proposed schedule and costs can be
    - If the scope of work is vague, consultants must build in contingency for the “what ifs” OR rely upon assumptions
  - The more detailed the RFP, the easier to obtain “apples to apples” comparison of the proposals you receive

# Scope: What Tasks Need to be Completed?

- Basic components of all wind development projects in US include:
  - Land
  - Wind
  - Environmental and Permitting
  - Transmission
  - Engineering
  - Power Sales
  - Public Relations
- Because these elements are interconnected, consider how your internal development team, as well as your consultants, will share information and work together to develop the project

# Planning the Project Scope

- No one knows it all – the Developer Project Manager should involve the experts (internal if you have them, external otherwise) and get their buy in on the final plans
- Details are incredibly important in most aspects of our work so the scope cannot be vague
- Wind developments change a lot and development plans must keep up with the pace of change – make sure that the entire team is aware of changes as they occur
- Avoid taking costly shortcuts – saving \$5K in the short term can translate to spending much more \$ and time down the road

# Schedule

- How to make a schedule:
  - Project management software helps
  - Developer PM should involve the experts – again, get their buy in
  - Identify areas of dependency
  - Identify critical drivers and key milestones
  - Update schedule for changes and keep the team informed
- Wind projects are iterative and schedules must be somewhat fluid
- At the same time, wind projects have fixed critical drivers that can make or break construction starts



# Resources

- The Developer Project Manager is responsible for making sure that jobs are properly resourced, that the teams assigned are making progress against the schedule, and costs are controlled
- The Developer Project Manager will not be an expert in every area, so the PM must rely upon the experts to help ensure quality
- Most tasks needs multidisciplinary review (layout touches, at least, wind, land, environmental, and engineering, for example)



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# Dealing with Change

- Significant change will occur frequently on wind projects
- Most of these changes are outside of the Developer Project Manager's control
- Projects must progress in an environment of uncertainty
- Changes affect everyone – changes should be documented and communicated as to how they change the scope, schedule, resourcing, and budget for a project across teams
- Bad news does NOT improve with age

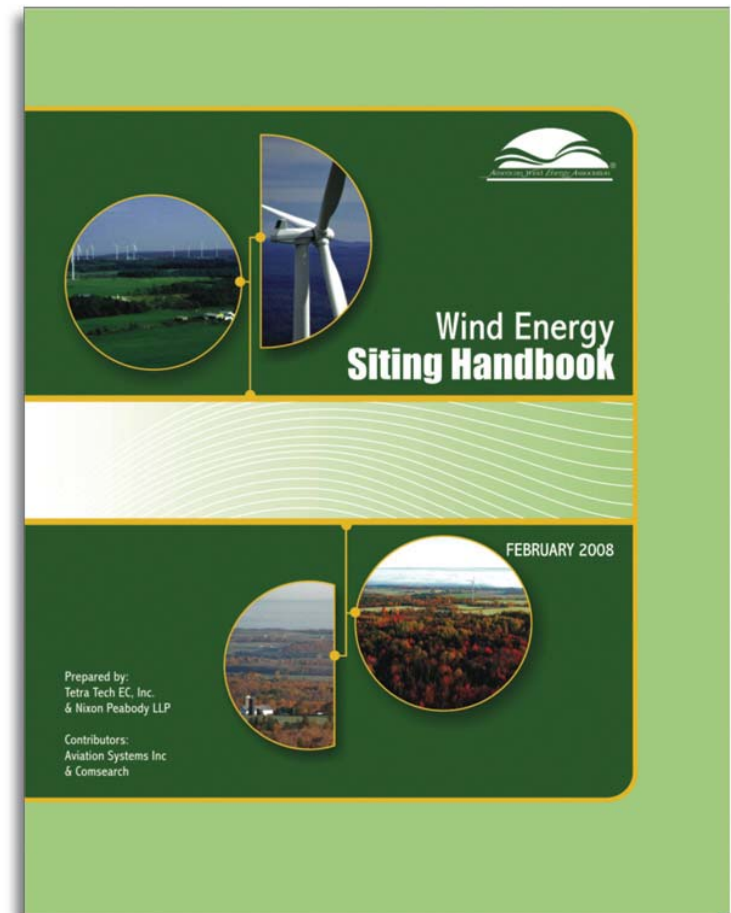
# What Defines Success

- Define performance measures
- Honestly assess the project's performance
- Identify issues early before they become problems
- Communicate
- Commit your team to continual improvement
- Create a healthy work atmosphere – support your team through the difficult times
- Cultivate relationships internally and externally to support yourself



# Resources

- AWEA Siting Guide
  - <http://www.awea.org/sitinghandbook/>
  - Prepared by Tetra Tech and Nixon Peabody
- Community Wind Toolbox
  - <http://www.windustry.org/CommunityWindToolbox>



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# Contact Information



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