Congratulations! The most challenging work of building the wind farm is done. Financing is secured, preconstruction permits are approved, the turbines are constructed, the power purchase agreement is set, and the blades are ready to turn. But, you are not done yet. Implementation of an active environmental management program is often not appropriately prioritized during the transition from construction to operation. eSPARC has developed and maintained environmental management programs for a suite of renewable assets, and presents four environmental programs that are applicable, but often overlooked, for wind farm operations.
#1 Waste Management Plan

Turbine maintenance generates solid waste that is subject to federal regulations, state regulations, or both. Wind farms can generate industrial, universal, hazardous waste, and used oil. All wastes must be responsibly managed, and some are subject to specific disposal regulations depending on the type and quantity generated. The best way to ensure compliance with all waste regulations is to develop a waste management plan that outlines roles and responsibilities for the owner, operator, and waste shipper. The plan should provide a compliance roadmap for tasks such as:

- Managing and maintaining waste storage areas;
- Characterizing wastes for disposal;
- Coordinating transportation of wastes with the waste shipper;
- Maintaining complete records of all waste manifests and supporting documentation; and
- Designating a leadership team to call for questions and emergencies.

#2 Initial and Annual Tier II Reporting

The Federal Emergency Planning and Community Right-to-Know Act (EPCRA) was created to help communities and first responders plan for chemical emergencies. Though wind farms are perceived as innocuous when it comes to emergency planning, the amounts of lube oil in the gear boxes and turbine drives, batteries in the turbine blade drives, and transformer dielectric oil commonly cross the reporting thresholds for the EPCRA Tier II program. Each state administers its own version of this federal program. Reporting is required upon initial placement of the chemicals on site, and then annually thereafter on March 1st.
For most states, there is a requirement to obtain a stormwater construction permit prior to initiating construction of the wind farm. Implementation of a stormwater pollution prevention plan (SWPPP) is frequently a permit condition. A SWPPP provides a description of areas of disturbance, existing vegetation, potential sources of pollution, outfall locations, and responsibilities of the stormwater pollution prevention team, which may include the construction manager. These responsibilities may include:

- Implementation of Best Management Practices (BMPs) for sediment management and erosion control;
- Inspections;
- Final soil stabilization and re-seeding; and
- Recordkeeping.

We find that one area that is commonly overlooked is the proper termination and/or transition of the construction stormwater permit once construction is complete and operation of the wind farm commences. We have seen many instances in which the developer exits the project before the construction site has achieved final soil stabilization, and lapses in inspections and recordkeeping occur during the transition period, which can be problematic for the new owner. Additionally, significant erosion problems can also be an issue due to inattention to BMPs.
#4 Emergency Generator Air Permitting and Recordkeeping

Does your wind farm have an emergency generator on-site for backup power for an operator building? If so, it likely needs to have a state air permit or written documentation of why it does not need an air permit. There are also federal requirements for emissions, performance testing, recordkeeping, and reporting that may be applicable to the generator engine (as found in the EPA New Source Performance Standards for Stationary Combustion engines, either NSPS JJJJ or NSPS IIII). At a minimum, you must always maintain records of generator maintenance and run-time. Since a wind farm is a source of “green” energy, many developers and operators overlook the air permitting and compliance requirements of these emergency generators.

How eSPARC Can Help

CAMS eSPARC, LLC, is a full-service environmental consulting firm that delivers efficient strategies for permitting and regulatory compliance. eSPARC supports some of the largest financial institutions, independent power producers, manufacturers, and private equity firms in the world as an affiliate company of Consolidated Asset Management Services (CAMS). eSPARC manages the environmental compliance for dozens of energy assets, including wind farms and solar facilities. We have extensive working knowledge of how to develop and maintain environmental compliance for these facilities.

To learn more about eSPARC, please visit our website at [www.camsesparc.com](http://www.camsesparc.com) or follow us on [LinkedIn](https://www.linkedin.com).

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