

Section 6
Setbacks and Public Safety

6. Setbacks and Public Safety

Setbacks and Public Safety

6.1 State Standards

According to the Small Wind Certification, a Small Scale Wind Energy Development:

Will be constructed with setbacks adequate to protect public safety. In making a finding pursuant to this paragraph, the Department shall consider the recommendation of a licensed professional civil engineer, as well as any applicable setback recommended by a manufacturer of the generating facilities.

And:

Will be constructed with setbacks and other considerations adequate to protect public safety, including, but not limited to, a fire protection plan. In making a finding pursuant to this paragraph, the department shall consider the recommendation of a professional licensed civil engineer as well as any applicable setback recommended by a manufacturer of any equipment to be installed on or in support of the small-scale wind energy development

6.2 Local Standards

The Town is in the unique position of having significant experience hosting wind energy projects as it is home to an operating wind project, the Record Hill Project, which consists of 22 wind turbines and related facilities. Due to this, the Town, its Boards, and its emergency response personnel have experience with the planning, construction, and operation phases of wind projects, and the safety aspects associated with operating such facilities.

RoxWind provided a site plan of the Project to the Town's Planning Board depicting the closest setbacks in each direction on February 22, 2018. In that meeting, the Planning Board stated that the setbacks on the site plan exceeded the Town's standards.

RoxWind has consulted with the Town's Fire Chief regarding site safety, access and emergency response. RoxWind submitted an Initial Fire, Health and Safety Plan in draft form to the Fire Chief during an in-person meeting on February 22, 2018. A letter memorializing this meeting is included as Exhibit 6-A.

6.3 Setback Summary

The proposed Project includes the installation of four GE-3.8-130 machines. GE provided RoxWind with a safety setback guidance document, General Description: Setback Considerations for Wind Turbine Siting (dated 2017) that describes GE's setback guidance for its wind turbines (Exhibit 6-B). The setback

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guidance addresses: falling objects, tower collapse, ice shedding and ice throw, blade failure, and industry best practices. The document recommends a setback of 1.1 times the tip height from most objects of concern (as listed in the document). With a tip height of 150 meters, the Project meets the setback of 165 meters (1.1 times 150 meters) from all objects of concern. In addition, GE recommends a minimum setback of 170 meters to protect from ice throw or the unlikely event of a blade failure from public use areas, buildings, parking lots, public roads, and passenger railroads. None of the aforementioned objects of concern, that require an additional setback for ice throw or blade failure, occur within 170 meters of any turbine. Therefore, the Project, as designed, complies with the safety setback guidelines (165 meters for all objects of concern; 170 meters for public use areas, buildings, parking lots, public roads, and passenger railroads in case of ice throw or blade failure) issued by GE, the manufacturer.

In addition, the Small Wind Certification Application includes the following language:

The recommended minimum setback is a distance of not less than the normal setback requirements for that zoning classification as dictated by the local municipal zoning ordinance, or 1.5 times the maximum turbine blade height, whichever is greater.

The proposed turbine height to the tip of the blade is 150 meters or approximately 492 feet. To comply with the recommended minimum setback, each turbine would need to be 738 feet (1.5 times 492 feet) from the closest property line.

As shown on the site plans prepared by Stantec (Exhibit 1-A), the Project setbacks from the nearest property lines are as follows:

North: The closest turbine is T1 and is 618 feet or ~1.25 times the maximum turbine blade height
East: The closest turbine is T1 and is 2,220 feet or ~4.5 times the maximum turbine blade height
South: The closest turbine is T4 and is 1,376 feet or ~2.8 times the maximum turbine blade height
West: The closest turbine is T4 and is 2,891 feet or ~5.9 times the maximum turbine blade height

In all directions other than North, the Project complies with the recommendation (1.5 times the maximum turbine blade height) in the Small Wind Certification Application. To satisfy the recommended safety setback described above, the closest landowner to the North of the Project has granted permission to waive the Small Wind setback recommendation of 1.5 times the tip height as a setback and allow the turbine to be sited at approximately 1.25 times the tip height (Exhibit 6-C). The letter summarizes the understanding between RoxWind and the adjacent property owner.¹ After an agreement is recorded in the local Registry of Deeds memorializing the understanding, RoxWind will submit a copy of the recording to the Department.

¹ The abutting 27-acre parcel is currently vacant and the landowner has represented that there are no plans to develop within the area required for the setback allowance.

6. Setbacks and Public Safety

6.4 Public Safety Summary

RoxWind prepared and submitted to the Town of Roxbury's Fire Chief an Initial Fire, Health and Safety Plan. The plan addresses initial fire, health and safety protocols during construction and operation and is included as Exhibit 6-D to this application. The Roxbury Fire Chief and his department have already undergone response training for Record Hill and the RoxWind plans to offer a refresher training after installation so the department is familiar with this specific Project and its turbines. From speaking with the Roxbury Fire Chief, it is the Applicant's understanding that the Roxbury Fire Department has experience coordinating with the Maine Forest Services ("MFS") to respond to fires. The two entities work together combining the Town's equipment and local knowledge with MFS's major firefighting equipment when necessary.

In addition to the response plans coordinated with the Town, the Project will be remotely monitored during operations. The remote monitoring includes collecting data from various sensors in each turbine (for example: heat, speed, imbalance) that informs the remote monitor of issues occurring or developing inside the turbine. While some sensors will cause the turbine to generate an error automatically and respond accordingly, the remote monitor also has access to shut the turbine off remotely.

The Project proposes installing a gate across the access road. The gate is intended to deter standard vehicle traffic and promote stability of the access road, but will permit access for emergency vehicles. The Project will coordinate with the Town of Roxbury's Fire Chief to ensure emergency access to the site for both the Town's Fire Department and MFS.

6-A

**Letter RE: Proposed RoxWind Wind Energy Facility: Fire, Health and Safety
Plan, February 22, 2018**

ROXWIND

15.2 MW Wind Facility, Roxbury, ME

RoxWind LLC

c/o Palmer Management Corporation

13 Elm Street, Suite 200, Cohasset, MA 02025

www.roxwind.com | (781) 383-3200

February 22, 2018

VIA HAND DELIVERY

Town of Roxbury
Volunteer Fire Department
PO Box 24, 1095 Roxbury Road
Roxbury, Maine 04275
Attention Fire Chief: Raymond Carver

RE: Proposed RoxWind Wind Energy Facility
Fire, Health and Safety Plan

Dear Mr. Carver,

Thank you for taking the time to meet with our team regarding the RoxWind project. As we have discussed, RoxWind is proposing a 4-turbine wind energy facility in Roxbury, Maine on North Twin Peak. The Project includes: Four wind energy generators, including their foundations and related infrastructure, access roads and crane pads to transport the equipment up the mountain and assemble it on site, and interconnecting equipment as determined by Central Maine Power and the Independent Service Operator of New England. The project, as designed, conforms to the State's Small-Wind Certification process.

As part of the State's Small-Wind Certification process, our project is required to demonstrate that we have taken adequate precautions to protect public safety. We are also required to submit a fire protection plan. Accompanying this letter, we are providing our initial plan to address fire, health and safety considerations associated with this project. We are also meeting with you on the date of this letter to review and discuss this plan.

When construction starts on this project, our construction contractors will submit their own health and safety plans that will be in effect during the construction phase of this project. A copy of this plan will be made available to you. We will also meet with you periodically, as requested and at mutually agreeable times, to discuss the schedule and progress of the work.

Prior to commencing operations on this project, we will prepare an updated version of this plan that will include more specifics about the project logistics and turbine safety details. We will also meet with you to discuss mutual emergency procedures and training & drill procedures. We will incorporate these procedures into the final version of our safety plan.

ROXWIND

15.2 MW Wind Facility, Roxbury, ME

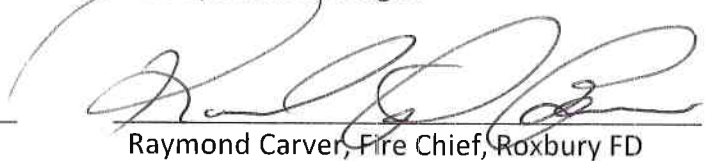
We look forward to the start of a great relationship between our company and the Roxbury Fire Department. Should you have any questions about this project, I can be reached directly at 781-389-4671 or by email at: sumul@solayaenergy.com. We respectfully request for your acknowledgement that you have received this letter and our Initial Fire, Health and Safety plan.

Respectfully Submitted,



Sumul Shah, RoxWind

Receipt Acknowledged



Raymond Carver, Fire Chief, Roxbury FD

Attachment:

Initial Fire, Health and Safety Plan, dated February 22, 2018

6-B

General Description: Setback Considerations for Wind Turbine Siting (2017)

Technical Documentation Wind Turbine Generator Systems All Onshore Turbine Types



General Description

Setback Considerations for Wind Turbine Siting



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www.gepower.com/

Visit us at
<https://renewables.gepower.com>

General Description Setback Considerations for Wind Turbine Siting All Onshore Turbine Types

All technical data is subject to change in line with ongoing technical development!

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1 Introduction

This document provides setback guidance for the siting of wind turbines. This guidance considers potential safety risks associated with wind turbines such as objects (maintenance tools, ice, etc.) directly falling from the wind turbine, unlikely occurrences such as tower collapse and blade failure, and environmental / operational risks such as ice throw. The guidance is general in nature, and is based on the published advice of recognized industry associations. Local codes and other factors may dictate setbacks greater than the guidance in this document. The owner and the developer bear ultimate responsibility to determine whether a wind turbine should be installed at a particular location, and they are encouraged to seek the advice of qualified professionals for siting decisions. It is strongly suggested that wind developers site turbines so that they do not endanger the public.

2 Falling Objects

There is the potential for objects to directly fall from the turbine. The objects may be parts dislodged from the turbine, or dropped objects such as tools. Falling objects create a potential safety risk for anyone who is within close proximity to the turbine, i.e., within approximately a blade length from the turbine.

3 Tower Collapse

In very rare circumstances a tower may collapse due to unstable ground, a violent storm, an extreme earthquake, unpredictable structural fatigue, or other catastrophic events. Tower collapse presents a possible risk to anyone who is within the distance equal to the turbine tip height (hub height plus $\frac{1}{2}$ rotor diameter) from the turbine.

4 Ice Shedding and Ice Throw

As with any structure, wind turbines can accumulate ice under certain atmospheric conditions. A wind turbine may shed accumulated ice due to gravity, and mechanical forces of the rotating blades. Accumulated ice on stationary components such as the tower and nacelle will typically fall directly below the turbine. Ice that has accumulated on the blades will likewise typically fall directly below the turbine, especially during start-up. However, during turbine operation under icing conditions, the mechanical forces of the blades have the potential to throw the ice beyond the immediate area of the turbine.

5 Blade Failure

During operation, there is the remote possibility of turbine blade failure due to fatigue, severe weather, or other events not related to the turbine itself. If one of these events should occur, pieces of the blade may be thrown from the turbine. The pieces may or may not break up in flight, and are expected to behave similarly to ice thrown from the blade. Blade failure presents a possible risk for anyone beyond the immediate area of the turbine.

6 Industry Best Practices

Recognized industry practices suggest the following actions be considered when siting turbines in order to mitigate risk resulting from the hazards listed above:

- Place physical and visual warnings such as fences and warning signs as appropriate for the protection of site personnel and the public.
- Remotely stop the turbine when ice accumulation is detected by site personnel or other means. Additionally, the wind turbine controller may have the capability to shut down or curtail an individual turbine based on the detection of certain atmospheric conditions or turbine operating characteristics.
- Restrict site personnel access to a wind turbine if ice is present on any turbine surface such as the tower, nacelle or blades. If site personnel absolutely must access a turbine with ice accumulation, safety precautions should include but are not limited to remotely shutting down the turbine, yawing the turbine to position the rotor on the side opposite from the tower door, parking vehicles at a safe distance from the turbine, and restarting the turbine remotely when the site is clear. As always, appropriate personnel protective gear must be worn.

7 Setback Considerations

Set back considerations include adjoining population density, usage frequency of adjoining roads, land availability, and proximity to other publicly accessed areas and buildings. Table 1 provides setback guidance for wind turbines given these considerations. GE recommends using the generally accepted guidelines listed in Table 1, in addition to any requirements from local codes or specific direction of the local authorities, when siting wind turbines.

Setback Distance from center of turbine tower	Objects of concern within the setback distance
All turbine sites (blade failure/ice throw): 1.1 x tip height ¹ , with a minimum setback distance of 170 meters	<ul style="list-style-type: none"> - Public use areas - Residences - Office buildings - Public buildings - Parking lots - Public roads <ul style="list-style-type: none"> - Moderately or heavily traveled roads if icing is likely - Heavily traveled roads if icing is not likely - Passenger railroads
All turbine sites (tower collapse): 1.1 x tip height ²	<ul style="list-style-type: none"> - Public use areas - Residences - Office buildings - Public buildings - Parking lots - Public roads - Private roads - Railroads - Sensitive above ground services³
All turbine sites (rotor sweep/falling objects): 1.1 x blade length ⁴	<ul style="list-style-type: none"> - Property not owned by wind farm participants⁵ - Buildings - Non-building structures - Public and private roads - Railroads - Sensitive above ground services

Table 1: Setback recommendations

The wind turbine buyer should perform a safety review of the proposed turbine location(s). Note that there may be objects of concern within the recommended setback distances that may not create a significant safety risk, but may warrant further analysis. If the location of a particular wind turbine does not meet the Table 1 recommended guidelines, contact GE for guidance, and include the information listed in Table 2 as applicable.

1 The maximum height of any blade tip when the blade is straight up (hub height + ½ rotor diameter).

2 The maximum height of any blade tip when the blade is straight up (hub height + ½ rotor diameter).

3 Services that if damaged could result in significant hazard to people or the environment or extended loss of services to a significant population. Examples include pipelines or electrical transmission lines.

4 Use ½ rotor diameter to approximate blade length for this calculation.

5 Property boundaries to vacant areas where there is a remote chance of future development or inhabitation during the life of the wind farm.

Condition/object within setback circle	Data Required
If icing is likely at the wind turbine site	- Annual number of icing days
Residences	- Number of residences within recommended setback distance - Any abandoned residences within setback distance
For industrial buildings (warehouse/shop)	- Average number of persons-hours in area during shift - Number of work shifts per week - Any abandoned buildings within setback distance
For open industrial areas (storage/parking lot)	- Average number of persons-hours in area during shift - Number of shifts per week. - Any abandoned buildings within setback distance
For sports/assembly areas	- Average number of persons in area per day - Average number of hours occupied per day - Number of days area occupied per week - If area covered, what type of cover
For roads/waterways	- Plot of road/waterway vs. turbine(s) - Average number of vehicles per day - Type of road and speed limit (residential, country, # of lanes, etc.)
For paths/trails (walk, hike, run, bike, ski)	- Plot of paths/trails vs. turbine(s) - Average number # of persons per day by type of presence (walk, hike, etc.) - Flat or uneven/hilly terrain

Table 2: Setback recommendations

6-C

Letter RE: RoxWind Project - Setback from Property Line, March 5, 2018

ROXWIND

15.2 MW Wind Facility, Roxbury, ME

RoxWind LLC
c/o Palmer Management Corporation
13 Elm Street, Suite 200, Cohasset, MA 02025
www.roxwind.com | (781) 383-3200

March 5, 2018

VIA ELECTRONIC DELIVERY

Mr. & Mrs. Bryant Hodgkins
PO Box 61
Roxbury, Maine 04275

RE: RoxWind Project – Setback from Property Line

Dear Mr. and Mrs. Hodgkins,

Thank you for taking the time to discuss the RoxWind project (the "Project") with our team. We have enjoyed getting to know you over the years and look forward to continuing our relationship as the Project is permitted, constructed, and operated.

As we have discussed, RoxWind is proposing a 4-turbine wind energy facility in Roxbury, Maine on North Twin Peak. The Project includes: four wind energy generators, including their foundations and related infrastructure, access roads and crane pads to transport the equipment up the mountain and assemble it on site, and interconnecting equipment as determined by Central Maine Power and the Independent Service Operator of New England. The project, as designed, conforms to the State's Small-Wind Certification process.

As part of the State's Small-Wind Certification process, the Project is required to demonstrate that we have taken adequate precautions to protect public safety. As we have discussed, our turbine is proposed to be located 618 feet or approximately 1.25x the proposed turbine's tip height from your property line (Tax Map 2, Lot 31). This setback complies with the proposed turbine manufacturer's (GE's) safety setback of 1.1x the tip height, about 541 feet. The State recommends a safety setback of 1.5x the tip height, or approximately 738 feet to adjacent property lines, which is 120 feet greater than our proposed location. Accompanying this letter, we are providing our initial site plans depicting the setback (618 feet) of the turbine (WTG#1) from your referenced property and the setback documentation provided by GE.

We respectfully request your acknowledgement that you have received this letter, have reviewed the site plans and GE documentation, and that we have your approval to submit the Project for State-level permitting with the setback from your property line being 618 feet as depicted on the attached site plan.

ROXWIND

15.2 MW Wind Facility, Roxbury, ME

We look forward to continuing the strong relationship between our company and your family. Should you have any questions about this project, I can be reached directly at 781-383-3200 or by email at: lindsay@palmcap.com.

Respectfully Submitted,

Receipt Acknowledged and Setback
Approved


Lindsay Deane-Mayer, on behalf of
RoxWind LLC


Bryant Hodgkins


Priscilla Hodgkins

Attachments:

"North Twin Mountain Conceptual Layout Plan," draft, dated February 2018
GE Renewable Energy document - Setback Considerations for Wind Turbine Siting, dated 2017.

6-D

RoxWind - 15.2 MW Wind Project: Initial Fire, Health and Safety Plan

ROXWIND

15.2 MW Wind Project

Initial Fire, Health and Safety Plan

DRAFT February 22, 2018



Prepared By:

ROXWIND

Sumul Shah, Solaya Energy
sumul@solayaenergy.com | 781.389.4671

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1 Introduction

This Fire Protection and Emergency Response Plan (Plan) presents general health and safety (H&S) considerations and minimum requirements associated with the RoxWind Project, but does not include Fire Department specific additional requirements or procedures. The Plan may be amended or revised as project activities or conditions change or when supplemental information becomes available. All project employees as well as emergency responders are to be familiar with these standard operating procedures and the contents of this Plan.

1.1 Project Information and Description

Project Description: This project consists of four (4) 3.8 MW General Electric wind turbines (or similar) located on the top of North Twin Mountain in Roxbury, ME. In addition, there will be a control building at an address to be identified in the future. Collectively, the wind turbines, buildings, and associated infrastructure comprise the “Project”.

Project Owners: RoxWind LLC
c/o Palmer Management Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Site Access and description: The wind turbines are located on the top of North Twin Mountain in Roxbury, ME. Access to the site can be obtained from Horseshoe Valley Road.

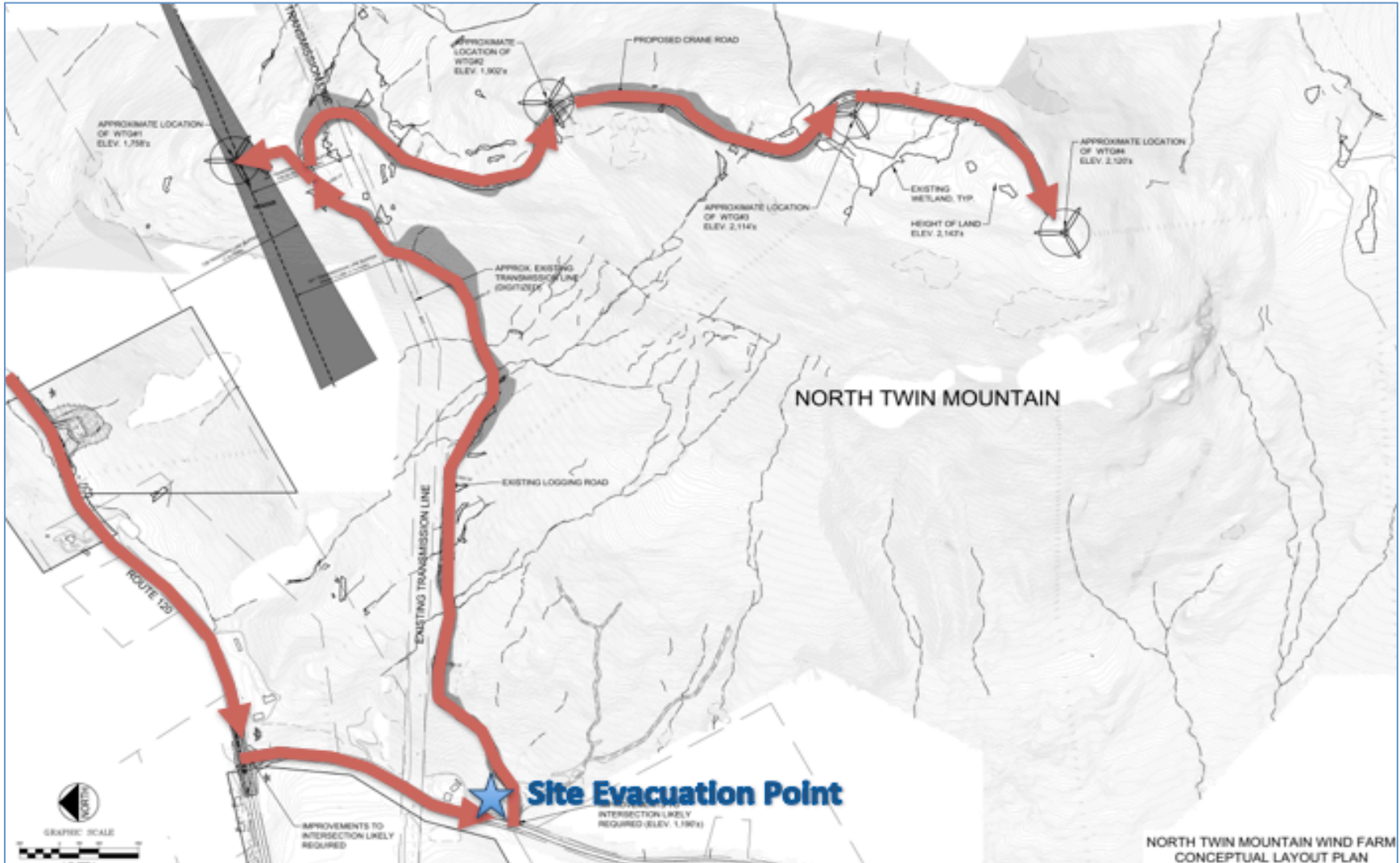
From the entrance off of Horseshoe Valley Road, a gravel road leads through property owned by Linkletter Timberlands LLC up to the turbine site.

See maps in Section 1.2 for further details. The site is heavily wooded with mountainous terrain.

Fire Prevention Roxbury Fire Department
Town of Roxbury
Volunteer Fire Department
PO Box 24, 1095 Roxbury Road
Roxbury, Maine 04275
Fire Chief: Raymond Carver

1.2 Project Site Plan and Evacuation Routes

1.2.1 Project Overview Map (Preliminary)



ROXWIND

1.2.2 Turbine Designation Map



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1.2.3 Recommended Fire Safe Zone

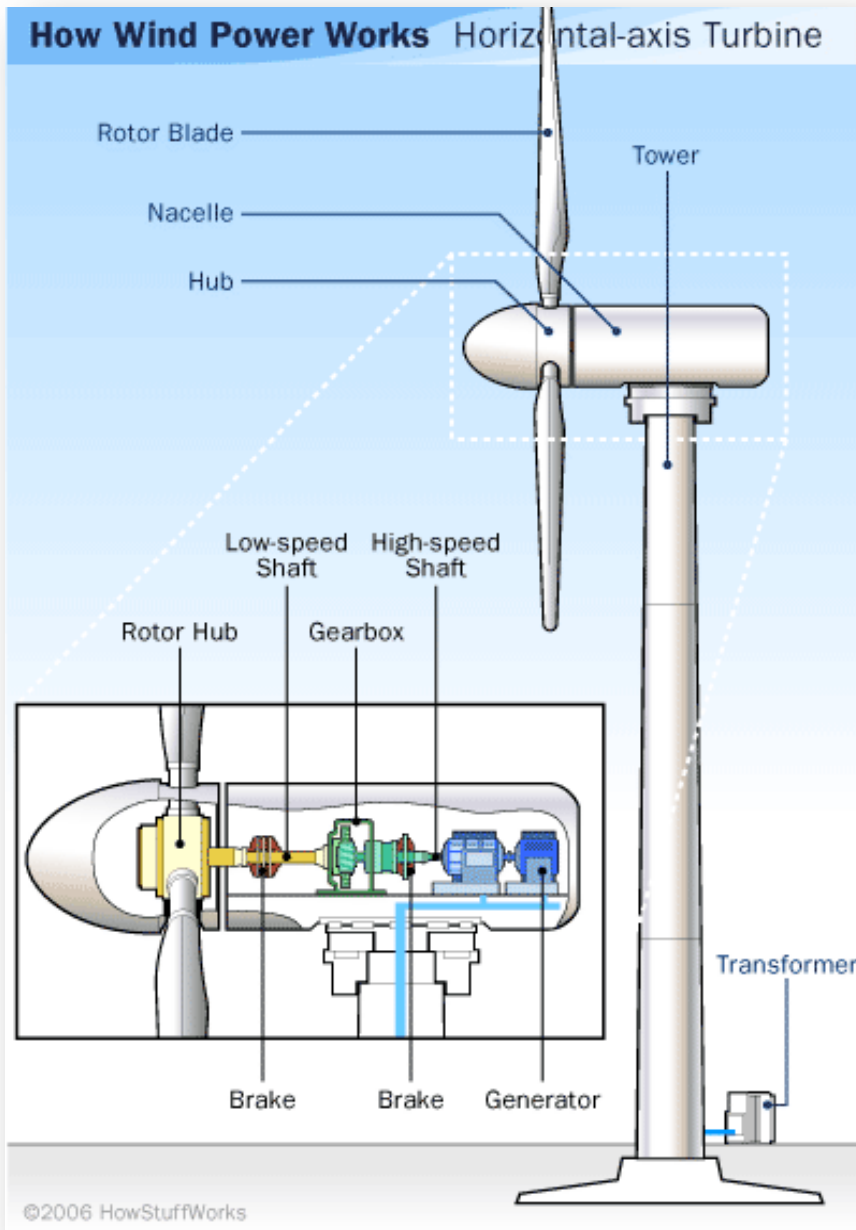


During a fire incident the actual fire safe zone is to be determined by the Roxbury FD Incident commander. RoxWind will support the Roxbury FD in its efforts to establish a safe perimeter.

ROXWIND

1.3 Wind Turbine Orientation

When working around a wind turbine, it is helpful to understand the basic components of a wind turbine so that conditions can be described properly to emergency response personnel. The following is a diagram¹ indicating the key components of a wind turbine:



¹ For the RoxWind, the transformer is inside the tower and is not accessible or visible from outside the turbine.

2 Health and Safety Plan for Turbine Hazards

This section provides safe work practices and control measures used to reduce or eliminate potential hazards. These practices and controls are to be implemented by the party in control of either the site or the particular hazard. Emergency Services, project staff and subcontractors must remain aware of the hazards affecting them regardless of who is responsible for controlling the hazards. Emergency Services, project staff and subcontractors who do not understand any of these provisions should contact their supervisor for clarification.

2.1 General Turbine Safety

Follow all applicable and site specific Health and Safety Plans, Accident Prevention Plans, Fire Protection Procedures, and Environmental Regulations when working on the Project. Particular requirements shall be followed when working inside the wind turbine, both down-tower and within the nacelle. The nacelle is the up-tower housing that contains all of the generating components in a wind turbine, including the generator, gearbox, drive train, and brake assembly.

Follow and update applicable Activity Hazard Analysis (AHA) that directly pertains to wind turbine operations. Work on the wind turbine must always be performed prudently and carefully. All personnel must be equipped with personal protection equipment (PPE), first aid kits, communication devices (radios or cell phones), and have proper training. All technicians' skills must be ascertained before starting any work and all personnel must be qualified to perform work on the turbine. Task specific AHA should be prepared before performing any work on the turbine. When working in the turbine or climbing the turbine, the "buddy system" must be utilized for safety.

2.1.1 Personal Protective Equipment (PPE)

Each person who climbs the tower must use an approved and inspected safety harness, fall protection, safety climbing aids, and adequate safety equipment specific to the turbine being accessed.

Tower Climbing and Tower/Nacelle Work Safety Equipment and PPE:

- Full body safety harness specific to climbing and turbine work, rated for the user's size and weight.
- Slides or clips specific for the turbine ladder fall protection system.
- Safety climbing helmet with locking chin strap and head lamp.
- Protective clothing and gloves for protection against injuries and the effects of oils and greases.
- Protective gloves for climbing and working on the turbine.
- Proper clothing for the work conditions/temperature.
- Steel toe safety boots with electrical safety rating.

- Hearing protection (ear plugs or ear muffs) as needed.

Tower Base and outside working area of the Turbine PPE:

- A safety helmet or hard hat.
- Steel toe safety boots (with an electrical safety rating if performing energized electrical work).
- Hearing protection (ear plugs or ear muffs) as needed.
- Proper clothing for the work conditions/temperature.

2.1.2 Mechanical/Rotating Dangers

Personnel must tie back long hair and not wear loose clothing or jewelry.

Be aware of your surroundings at all times.

Keep machine guards in place at all times unless equipment is properly locked out.

2.1.3 Falling Objects Inside and Outside the Wind Turbine

There are personnel and equipment falling hazards when climbing and working inside the turbine. Keep all hatchways closed when not in use and be aware of your surroundings. Do not carry tools or equipment while climbing. Use the tower utility winch system for bringing equipment and tools up and down from the nacelle. Maintain a tower section between personnel when climbing to minimize the risk of falling objects onto personnel below. In order to protect personnel against falling objects, do not access the danger area around the outside base of the turbine without proper PPE and always be aware of your surroundings.

2.1.4 Working at Heights

Working at heights may be required during operation and maintenance of the Project.

Prevention and control of hazards associated with working at heights include:

- Implementation of a fall protection program to include regular testing for structural integrity and training for personnel in climbing techniques.
- When working above 6 feet, fall protection system(s) must be used 100 percent of the time.
- The fall protection system(s) should be appropriate for the tower structure and movements including ascent, descent, and point to point.
- Ensure that equipment is properly rated and maintained, including PPE appropriately sized per user.
- Secure all tools operated at heights with a secondary safety strap.
- Remove all obstructions prior to work.
- Avoid maintenance work during poor weather conditions.

Work in or around the turbines requires at least two personnel to be present as a safety precaution. Any work within the hub requires a minimum of three project personnel to be at the tower. One person must remain at ground level and one person must remain in the nacelle while the third person enters the hub to perform work or inspection.

No work is anticipated to be performed inside the turbine blades. However if work inside the blades becomes necessary, it would require a Confined Space Entry (CSE) and personnel trained in CSE.

For additional information regarding working at heights, consult Section 2.3.7.

2.1.5 Electrical Dangers

Only qualified and properly trained individuals shall perform electrical work in the turbine. Before opening a high voltage electrical cabinet or before working with any interconnected components, the wind turbine must be in a voltage-free state (de-energized). Always observe the following five safety rules in the specified order to ensure that a voltage-free state has been achieved.

1. Disconnect completely.
 - Make sure that the part on which work is to be carried out is disconnected from all sources of supply.
2. Secure it against unexpected re-connection and utilize Lock out/Tag Out (LOTO).
 - All switching devices that have been used to disconnect the electrical installation for the work activity must be secured against re-connection preferably by locking the operating mechanism, commonly referred to as Lock out/Tag out or LOTO.
 - Parts of the electrical installation still remaining charged after complete disconnection of the electrical installation, for example capacitors and cables, shall be discharged using suitable devices.
3. Verify that the turbine is in a voltage-free state (de-energized).
 - The dead condition must be verified on all equipment at or as near as practicable to the work location.
 - Utilize proper equipment (multi-meter, etc.) to verify that the device being worked on is in a voltage-free state.
4. Carry out grounding and short-circuiting as necessary (capacitors, etc.).
5. Provide protection against adjacent live parts.
 - If there are parts of an electrical installation in the vicinity of the work location that cannot be de-energized, special additional precautions are necessary and must be taken before work starts.

2.1.6 Pressurized Hydraulic Oil

The maximum operating pressure of the hydraulic system must be observed. Excess pressure exerts extreme loads on pressure carrying parts and the system; this can cause the hydraulic system to rupture. Be aware of hydraulic oil under pressure. Block and bleed pressure in the system before working on the hydraulics. Follow LOTO procedures when working on the hydraulic systems.

2.1.7 Severe Weather Conditions

The wind turbine must not be accessed during heavy winds and thunder/lightning storms. Monitor weather conditions prior to and during all work activities in or around the wind

turbine. Climb down the wind turbine and exit immediately if a storm starts while you are working in or around the tower or nacelle. Tornados, lightning, or other threatening weather conditions will result in an immediate shut down of maintenance operations and evacuation of personnel. When lightning is observed, the site operations manager shall shut the maintenance operations down for a minimum of 30 minutes between strikes. At a minimum, maintenance operations will be shut down for the period of the storm passing plus an additional **30 minutes** prior to any up-tower work resuming.

2.1.8 Safety Chain/Emergency Stops

Personnel must be aware of the locations and the proper use of all emergency stops when working in or around the wind turbine.

The safety chain is triggered by:

- Emergency stop button at the tower base (at the cabinet).
- Emergency stop button in the nacelle (at the nacelle cabinet).
- Over speed control switch (for rotational speed).
- Vibration sensors (on the main frame).
- Working position switch for blade pitch.
- Brake signal.
- Twist protection.

2.1.9 Emergency Exit

There are three emergency exit locations:

- The main exit is located in the base of the tower. This exit is accessible on the bottom deck of the tower and is the primary method of egress for the turbine.
- There is an emergency exit located in the nacelle and is to only be used in emergencies.
- There is a secondary emergency exit located in the hub. As this is the most technically complicated exit of the three options, this exit should only be used when required by the type of emergency.

Injured personnel can be rescued from the nacelle using ascent/descent type safety equipment (such as a Tractel). Project technicians are regularly trained on proper procedures to use the two up-tower emergency exits.

2.1.10 Public Access

Safety issues may arise with unauthorized public access to the wind turbine.

Prevention and control measures to manage public access include:

- Maintain safety, hazard, and emergency contact information on public information boards.

2.2 Hazard Communication

This Written Communication Program explains how RoxWind LLC meets the requirements of the federal Occupational Safety and Health Administration's hazard communication standard

(29CFR 1926.59). It spells out how this company will obtain and use material safety data sheets, inventory and maintain labels on chemical substances, and train employees and contract workers on hazards of chemical they are likely to encounter on the job. During the maintenance and operations of the wind turbines, RoxWind will designate a Site Safety & Health Officer (SSHO). It is the responsibility of the SSHO to ensure that this communications plan is executed.

The turbine's operator is responsible for providing copies of this program.

2.2.1 Pollution Control Policy

The monitoring of activities that have the potential to cause pollution and the detection of emissions from these activities is the responsibility of the SSHO. The following procedures will be continually followed by personnel at the Project site:

1. Refueling of any equipment or machinery will be done with the utmost care to prevent spillage. In the event that a spill does take place, the individual performing the refueling will immediately clean up the material spilled using the onsite spill kit and report the incident to the SSHO. The SSHO will inspect the site to ensure all material has been recovered and properly containerized for disposal. SSHO will also determine the volume of the spilled material and if the incident warrants additional reporting.
2. Hydraulic line breaks or leaks shall be attended to in the same manner as refueling spills above. Hydraulic equipment will be inspected on a daily basis when working onsite and leaks will be reported to the equipment owner for immediate repair. Leaking equipment will be dead lined and not allowed to operate on the turbine site. This includes turbine equipment as well as delivery equipment such as truck mounted cranes and small truck carried forklifts.
3. Other equipment within the project site will be inspected regularly. This may include the nacelle and storage containers that may be operating or remaining in place and contain hazardous material within the boundaries of the turbine area. Leaks detected in such items will be contained and reported to Owner for coordination of repairs and disposal of the spilled material.
4. Clean up of any other spilled materials such as paint, adhesives, lubricants, oils or other commonly used products will be accomplished quickly and in accordance with the material's Material Safety and Data Sheet (MSDS). All such spills and clean up actions will be reported to the SSHO for review and further action if required.

2.2.2 List of Hazardous Chemicals; Material Safety and Data Sheets

At the project site, a binder will be maintained containing a master list of all hazardous chemicals used. Called the Master Chemical List (MCL), this hazardous chemical list is updated

whenever new chemicals are received at the project site. The hazardous substances may include: paint, adhesives, lubricants, oils, refrigerant, etc.

No new hazardous chemical substances may be purchased or brought into this facility unless the SSHO is informed in advance and such hazardous substance is subsequently recorded in the MCL.

To comply with the hazard communication standard, the SSHO maintains a library of MSDS for chemicals used in this project. The MSDS consist of a fully completed OSHA form 174 or equivalent. Receiving, storing, maintaining and controlling MSDS will be administered and supervised by the SSHO. The MSDS library location will be provided prior to commencing Project operations.

2.2.3 Labels, Labeling and Warnings

The SSHO will ensure that all chemicals used in the project are properly labeled. SSHO will verify that the identifying information and other data on the label correspond with the information on the MSDS for that hazardous chemical. Labels on incoming containers of chemicals may not be removed or defaced, however, containers into which an employee transfers hazardous chemicals for his or her own immediate use do not require labeling.

Labels, tags or markings on containers will list at least:

- The identity of the hazardous chemicals as listed on the MSDS.
- Appropriate hazard warnings to help employees protect themselves from the hazards of the substance.
- Labels provided by chemical manufacturers, distributors and importers must list the name and address of the manufacturer, importer or other person responsible for the chemical and from whom more information about the chemical can be obtained.

2.2.4 Training for Working with Hazardous Substances

Employees who work with or may be exposed to hazardous chemicals will be trained on safe use of those substances. Additional training will be provided whenever a new hazard is introduced into the work area. The training will consist of visual and/or printed handouts about hazard communication about MSDS and related information. This will include hazard communication standards, and the content and location of this written program and the hazardous chemicals. Detection, presence or release of hazardous chemicals including appearance and odor and use of monitoring and control measures will be discussed in training sessions. The sessions will also cover an explanation of the operation of the hazard communication program. This will include the means and use of labels and materials safety

data sheets, information about worker's rights under the hazard communication program, and how to obtain and use appropriate and/or additional hazard information.

2.3 Other General Hazards

2.3.1 General Practices and Housekeeping

- Site work should be performed during daylight hours whenever possible.
- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Specific areas should be designated for the proper storage of materials.
- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- Never leave electrical cords lying on the ground or with an end plugged into an outlet.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.
- All spills shall be quickly cleaned up. Oil and grease shall be cleaned from walking and working surfaces.

2.3.2 Shipping and Transportation of Chemical Products

Chemicals brought to the site might be defined as hazardous materials by the U.S. Department of Transportation. All staff who ship the materials or transport them by road must receive training in shipping dangerous goods. All hazardous materials that are shipped (e.g., via Federal Express) or are transported by road must be properly identified, labeled, packed, and documented by trained staff.

2.3.3 Lifting

- Back injuries are the leading cause of disabling work; most back injuries are the result of improper lifting techniques or overexertion. Office or field tasks and activities involving manual lifting are to be identified and a program implemented to assist employees to mitigate the risks associated with manual lifting.
- When possible, the task should be modified to minimize manual lifting hazards.
- Using mechanical lifting devices are the preferred means of lifting heavy objects such as forklifts; cranes, hoists, and rigging; hand trucks; and trolleys.
- Personnel shall seek assistance when performing manual lifting tasks that appear beyond their physical capabilities.

In general, the following steps must be practiced when planning and performing manual lifts: assess the situation before you lift, ask for assistance if needed, ensure good lifting and body positioning practices, ensure good carrying and setting down practices.

2.3.4 Fire Prevention

- When 5 gallons or more of a flammable or combustible liquid is being used, an extinguisher must be within 50 feet.
- Extinguishers must be:
 - Maintained in a fully charged and operable condition,
 - Visually inspected each quarter and inspection documented, and undergo a maintenance check each year.
 - Kept clear and accessible.
- Combustible materials stored outside should be at least 10 feet from any building.
- Solvent waste and oily rags must be kept in fire resistant, covered containers until removed from the site.
- Flammable/combustible liquids must be kept and stored in approved containers and storage cabinets.

2.3.5 Electrical

- Only qualified personnel are permitted to work on energized electrical systems.
- Only authorized personnel are permitted to enter high-voltage areas.
- Do not tamper with electrical wiring and equipment unless qualified to do so.
- All electrical wiring and equipment must be considered energized until LOTO procedures are implemented.
- Inspect electrical equipment, power tools, and extension cords for damage prior to use.
- Do not use defective electrical equipment; remove from service.
- All temporary wiring, including extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.
- Extension cords must be:
 - Equipped with third-wire grounding.
 - Covered, elevated, or protected from damage when passing through work areas.
 - Protected from pinching if routed through doorways.
 - Not fastened with staples, hung from nails, or suspended with wire.
 - Use only extension cords that have been visually inspected prior to use.
- Electrical power tools and equipment must be effectively grounded or double insulated Underwriters Laboratories, Inc. (UL) approved.
- Operate and maintain electric power tools and equipment according to manufacturers' instructions.
- Maintain safe clearance distances between overhead power lines and any electrical conducting material unless the power lines have been de-energized and grounded, or where insulating barriers have been installed to prevent physical contact. Maintain at least 10 feet from overhead power lines for voltages of 50 kV or less, and 10 feet plus ½ inch for every 1 kV over 50 kV.
- Protect all electrical equipment, tools, switches, and outlets from environmental elements.

2.3.6 Portable Generator Hazards

Portable generators are useful when temporary or remote electric power is needed, but they also can be hazardous. The primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, and fire.

- NEVER use a generator indoors or in similarly enclosed or partially-enclosed spaces. Generators can produce high levels of CO very quickly. **Remember that you cannot smell or see CO.**
- If you start to feel sick, dizzy, or weak while using a generator, get to fresh air RIGHT AWAY. DO NOT DELAY. CO can rapidly lead to full incapacitation and death.
- If you experience serious symptoms, get medical attention immediately. Inform project staff that CO poisoning is suspected. If you experienced symptoms while indoors have someone call the fire department to determine when it is safe to re-enter the building.
- Follow the instructions that come with your generator. Locate the unit outdoors and away from doors, windows, and vents that could allow CO to come indoors.
- Keep the generator dry and do not use in rain or wet conditions. To protect from moisture, operate it on a dry surface under an open, canopy-like structure. Dry your hands if wet before touching the generator.
- Plug appliances directly into the generator. Or, use a heavy duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin.
- Most generators come with GFCI. Test the GFCI daily to determine whether they are working.
- If the generator is not equipped with GFCI protected circuits plug a portable GFCI into the generator and plug appliances, tools and lights into the portable GFCI.
- Never store fuel near the generator or near any sources of ignition.
- Before refueling the generator turn it off and let it cool down. Gasoline spilled on hot engine parts could ignite.

2.3.7 Fall Protection

- Fall protection systems must be used to eliminate fall hazards when performing construction activities at a height of 6 feet or greater.
- Staff exposed to fall hazards must complete a fall protection training course and receive project-specific fall protection training. Do not use fall protection systems that you have not been trained to use.
- A project fall protection evaluation, or similar evaluation, must be completed for each event.
- A competent person shall inspect and oversee the use of fall protection systems. Follow all requirements established by the competent person for the use and limitation of fall protection systems.
- Qualified personnel shall oversee the use of lifelines.
- Only one person shall be attached to each vertical lifeline.

- Remain within the guardrail system when provided. Leaning over or stepping across a guardrail system is not permitted.
- Do not stand on objects (boxes, buckets, bricks, blocks, etc.) or ladders to increase working height on top of platforms protected by guardrails.
- Inspect personal fall arrest systems prior to each use. Do not use damaged fall protection systems at any time, or for any reason.
- Set-up personal fall arrest systems so that you can neither free-fall more than 6 feet or contact any lower level.
- Only attach personal fall arrest systems to anchorage points capable of supporting at least 5,000 pounds (lbs).
- Use fall protection equipment for fall protection only and not to hoist materials.
- Do not use personal fall arrest systems that have been subjected to impact loading.

2.3.8 Lifts

- Only authorized and trained personnel are permitted to operate aerial lifts or forklifts.
- Inspect forklifts or aerial lifts and test lift controls prior to use. Reverse alarm must be in working order.
- Wear a full body harness with lanyard attached to the boom or platform.
- Do not attach lanyard to any adjacent structures or equipment while working from an aerial lift.
- Stand firmly on the floor of the platform and do not sit or climb on the railings of the platform or use planks, ladders, or other devices to increase working height.
- Remain in the platform at all times and do not leave the platform to climb to adjacent structures.
- Position lifts on firm, level surfaces when possible, with the brakes set.
- Use wheel chocks on inclines.
- If outriggers are provided, position on solid surfaces or cribbing.
- Maintain safe clearance distances between overhead power lines and any part of the aerial lift or conducting material unless the power lines have been de-energized and grounded, or where insulating barriers have been installed to prevent physical contact. Maintain at least 10 feet from overhead power lines for voltages of 50 kV or less, and 10 feet plus ½ inch for every 1 kV over 50 kV.
- Do not exceed the boom and basket load limits.
- Do not use lifts as cranes, unless specifically designed and approved by the lift manufacturer.
- Do not work or stand below lift operations.
- Do not use aerial lifts when winds exceed 30 miles per hour (mph) or as directed by operations manual.

2.3.9 Rigging

- All rigging equipment shall be used only for its intended purpose, inspected by a competent person prior to use, and shall not be loaded in excess of its capacity rating.

- Defective rigging shall be removed from service.
- Tag lines shall be attached to every load being lifted by a crane.
- No modification or addition that could affect the capacity and/or safe operation of the equipment shall be made without the manufacturer's written approval.
- All rigging equipment shall be load tested at least annually by a competent person and documented.
- Special hoisting devices, slings, chokers, hooks, clamps, or other lifting accessories shall be marked to indicate the safe working loads and shall be proof tested prior to initial use to 125% of their rated load.
- Wire rope shall not be used if, in any length of eight diameters, the number of total number of visible broken wires exceeds 10% of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.
- Synthetic web slings shall be immediately removed from service if any of the following conditions are present:
 - acid or caustic burns; melting or charring of any part of the sling surface; snags, punctures, tears or cuts; broken or worn stitches; distortion of fittings; discoloration or rotting; red warning line showing.
- Never use makeshift hooks, links or other fasteners. Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, or other such attachments, shall not be used.
- Alloy steel chains shall have permanently affixed identification stating size, grade, rated capacity and reach.
- Shackles and hooks shall be constructed of forged alloy steel with the identifiable load rating on the shackle or hook.
- Rigging shall not be pulled from under a load when the load is resting on the rigging.
- Place sling(s) in center bowl of hook.
- When attaching slings to the load hoist hook, corners and sharp edges should be "packed" to prevent cutting or damaging the rope or slings.
- Never use nylon, polyester, or polypropylene web slings, or web slings with aluminum fittings where fumes, vapors, sprays, mists or liquids of acids, caustics or phenolics are present.
- Natural and synthetic fiber rope slings, except for wet frozen slings, may be used in a temperature range from minus 20° F to plus 180° F without decreasing the working load limit. For operations outside this temperature range, and for wet frozen slings, the sling manufacturer's recommendations shall be followed.
- When used for eye splices, the U-bolt shall be installed so that the "U" section is in contact with the dead end of the rope.

2.3.10 Gasoline

In addition to the readily apparent physical hazards created by improperly stored gasoline including fire and explosion, skin exposure to gasoline can cause dermatitis. Inhalation exposure can cause eye, nose, and throat irritation. Exposure can cause dizziness, headache,

fatigue, and vomiting. Ingesting gasoline is very dangerous and can lead to pulmonary edema and death.

2.3.11 Heat Stress

To prevent heat related injury:

- Drink 16 ounces of water before beginning work. Water maintained at 50°F to 60°F should be available. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of coffee and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads (e.g., do not begin with extremely demanding activities).
- Observe one another for signs of heat stress. Persons who experience signs of heat syncope, heat rash, or heat cramps should consult the SSHO to avoid progression of heat-related illness.

2.3.12 Cold Stress

To prevent cold related injury:

- Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.
- Persons who experience initial signs of immersion foot, frostbite, or hypothermia should cease work activities and consult their supervisor to avoid progression of cold-related illness.
- Observe one another for initial signs of cold-related disorders.
- Obtain and review weather forecast – be aware of predicted weather systems along with sudden drops in temperature, increase in winds, and precipitation.
- Even in cold weather, continue consuming water to prevent dehydration.

2.3.13 General Exposure

- Wear sturdy footwear appropriate for site activities.
- Observe work area for tripping hazards; be alert.
- Carry a cellular phone or radio.
- Should a physical condition develop or appear to develop with site personnel, seek medical attention.
- Be careful to avoid exposure to bees. Bee and other stinging insects may be encountered almost anywhere and may present a serious hazard, particularly to people who are allergic.
- Blisters most commonly occur on the feet, especially if someone uses inappropriate socks, wet socks or boots, or boots that do not fit or are not broken in. Preventing blisters is the most important first aid: if someone feels a “hot spot” starting (from friction between the skin and the boot) stop immediately and do something about it

- Nosebleeds more commonly occur in cold than in hot weather because of the very dry air. If someone gets a nosebleed, try to stop the bleeding by pinching the nostrils with your fingers.
- Headaches result from many different things: dehydration, sunlight, tension, etc. You can best treat the headache by treating the cause, if you know it. Also take aspirin, acetaminophen (e.g., Tylenol), or ibuprofen (e.g., Advil), drink water, eat a little, and, if possible, take a rest break.
- Fainting results from loss of blood from the brain and is best treated by lowering the head in relation to the heart. If someone feels faint, have him or her sit down, or lie down (on a sleeping pad or some other insulation, if possible) until feeling better.
- Take the time to wash cuts and scrapes with soap and water, or an antiseptic towelette. Cleaning the wound immediately will help prevent infection.
- If someone experiences muscle cramps, have him or her sit or lie down and relax. Massage and stretch the sore muscle slowly, gently, and carefully. Have him or her drink water, eat a little, and start again slowly.
- If the sprain is minor, the victim may be able to walk with little or no assistance, otherwise seek medical attention immediately.

If any medical conditions are suspected to occur or to be occurring, DO NOT ASCEND THE TOWER.

3 Emergency Notification Procedure

In the event of an emergency, first follow the notification procedure listed below. Then follow the procedures listed below pertaining to the type of emergency.

3.1 Notification Procedure

All emergency situations should immediately be reported. The following five-step Emergency Notification Procedure should be used:

1. Notify 911 Immediately

- Give the site name, address, and directions to the operator.

2. Describe the type of emergency situation and provide pertinent details.

Typically the categories include:

- Medical Emergency
- Fire
- Construction Emergency
 - Equipment Failure
 - Hazardous Spillage
 - Turbine Structural Failure
 - Power Failure
- Extreme Weather Conditions
 - Thunderstorm/Electrical Storm
 - Extreme High Winds
 - Severe Hail
 - Snow/Ice Storm
- Transport Incident
 - Passenger Vehicle
 - Heavy Hauler
 - Aircraft Impact
- Extreme Site Conditions
 - Flood
 - Earthquake
- Act of Sabotage/Vandalism
 - Act of Terrorist
 - Bomb Threat

When describing personnel involved, indicate the numbers affected and the following initial assessment:

- a. Fatality
- b. Major Illness (e.g., heart attack, not breathing, unconscious, etc.)
- c. Major Injury (e.g., broken bone, loss of limb, severe cuts/bleeding, etc.)
- d. Minor Injury (e.g., twisted ankle, foreign body in eyes, minor cuts, etc.)
- e. Bite/Sting (e.g., snake, scorpion, spider, etc.)
- f. Weather Effect (e.g., effects of heat, sun, cold, wind chill, lightning strike, etc.)
- g. Incident Type (e.g., fall, crush, vehicle crash, fire, electric shock, etc.)

3. Location

Give the operator the location of the emergency, by referring to the RoxWind Project at North Twin Mountain accessible via Horseshoe Valley Road, Roxbury, ME. Indicate the turbine or turbines involved in the incident. Let the operator know whether casualties are in the open, trapped in a vehicle or site equipment, or at height within a turbine.

4. Shut the Turbine Down or Notify RoxWind

Shut the turbine down immediately. Otherwise, contact a RoxWind representative (a full list of emergency contacts is provided in the Appendix to this Plan). RoxWind personnel are able to check remotely that the turbines have been stopped.

5. Coordinate

If the emergency involves injury to personnel, stay with the injured person if safe to do so until emergency personnel arrive on the scene. If there are no injuries involved, move away from the turbines and meet with first responders at the nearest site evacuation point as shown in Section 1 of this Plan. Coordinate with emergency personnel and first responders and escort them to the location of the emergency. Assist injured personnel in getting to the nearest hospital as indicated in the Appendix.

3.2 Post-Incident Review of Response Procedure

Following an emergency response incident, RoxWind will hold a meeting with all relevant project personnel and emergency response providers to review how successfully the Plan was implemented. Following this review, actions may be taken to correct any deficiencies, either by improved communication or modification of the Plan.

4 Emergency Procedures

4.1 Fire Emergency

In the event of a fire, stop the wind turbine immediately (emergency stop button), exit immediately, and alert medical and fire services immediately (Roxbury Fire Department).

Emergency Phone Numbers:

- Emergency Services: 911
- Roxbury Fire Department: 603-752-3134.

In the event of a fire and if you cannot descend the tower using the internal ladder safely, you can descend from the nacelle or hub using the “rope-down” devices.

- Personnel should be trained and qualified to use the “rope-down” device before performing any up-tower work in the turbine.
- The “rope-down” technique should be used as a last resort for exiting.
- The turbine is equipped with manual fire extinguishers:
 - One fire extinguisher in the tower base at the entrance.
 - One fire extinguisher in the back of the nacelle.

4.1.1 Fire Department Response

In the event of a fire, firefighters should not enter the turbine unless there is a concern for the health and safety of personnel working in the turbine. The Fire Department Incident Commander will make a decision on how to mitigate any emergency it is called to with/and or technical assistance from any RoxWind employee or subcontractor as deemed necessary.

4.1.2 Fire Hazard Safety Zone

In the event of a fire, the public and facility personnel should be kept a minimum distance away from the base of the turbines. Fire response personnel will make a determination on maintaining a safe perimeter around the turbines. The map in Section 1 depicts potential recommended safe zones around the turbines in the event of fire.

4.2 Blade Icing/Ice Throw and Rotor/Blade Unbalanced Condition

Ice can build up on the rotor blades at certain air-streams and climate conditions. The additional weight may lead to an unbalance of the rotor/blade assembly. The appearance of ice and unbalance condition is detected by the control system and the wind turbine will shut down automatically. The turbine will not restart until the control system deems the turbine safe to start itself.

There is a danger of falling ice outside the wind turbine during certain climate conditions. Personnel should be aware of these conditions and aware of their surroundings at all times.

4.3 Severe Weather Conditions

Severe weather conditions, particularly gusting high wind speed and electrical storms, have a pronounced effect on the operation of wind turbines. Records will be kept of prevailing weather conditions on a daily basis and periodically throughout the day weather forecast updates will be reviewed and assessed to ensure the safe continuity of work, while ensuring that weather sensitive activity is only commenced on the understanding that existing or imminent weather conditions will not exceed the risk assessed for that activity. In any event, due diligence should be proactive with routine observation by all concerned about obvious local changing atmospheric conditions that could indicate deteriorating weather conditions.

The turbine manufacturers have recommendations in the turbine installation manuals that specify maximum wind speeds that are allowed for:

Item	Maximum Wind Speed
Working at height inside a turbine	20 m/s
Working at height external to the turbine	14 – 20 m/s
Working with a locked rotor	14 m/s

With regard to atmospheric electrical activity, tall metal structures like wind turbines and heavy lifting cranes are prone to attract such activity until such time as suitable grounding is in place. In the event of local electrical storms or thunderstorms, all turbine locations should be evacuated and site personnel seek safety in the cab of their vehicle at least 400 feet from the turbine location until such time as the storm has passed or abated.

4.4 Emergency within a Turbine

In the event that an incident occurs at height within a turbine, Emergency Services should be made aware of the need for specialized recovery equipment and techniques to enable injured personnel to be removed to safety. RoxWind and/or the wind turbine manufacturer will have available such equipment and trained personnel to support and assist the Emergency Services in such a recovery.

Emergency response equipment will be stored in the turbine supplier's office and shall be transported to the appropriate turbine in the case of an emergency incident.

4.5 Natural Disasters

Natural disasters like earthquake and flash flood may occur without warning. In such cases it is important that the site be evacuated with all possible haste. All site personnel should move away from the location of the event and get to a safe distance location. It is essential that personnel remain calm and do not panic.

Once personnel are in a safe location, Emergency Notification Procedures should be enacted.

4.6 Acts of Sabotage or Terrorism

With the advent of potentially increased levels of terrorist activity in the United States, it has become essential that all personnel consider the implications to the health and safety of the public should a terrorist attack occur in the workplace. Acts of terrorism, vandalism or sabotage by their nature frequently come without warning and require that Emergency Notification Procedures be enacted.

The primary concerns are threatened bombing attacks and the potential for chemical or biological attack. The local Police Department has law enforcement authority over the site and is responsible for assuming control of response actions.

4.7 Bomb Threat Procedure

In the event that a bomb threat call is received, the main objective is to record every word of the threat message accurately and obtain as much information as possible from the caller. To this end, the following questions should be asked:

- When will the bomb go off?
- Where is the bomb?
- What type of bomb is it?
- What does it look like?
- When was it put there?
- Why are you doing this?
- Who are you?

While talking to the person, try to determine:

- The gender of the caller.
- The style of speech.
- The accent and mannerisms of the caller.
- Listen for background noises that could be helpful to an investigator.

After receiving the call, the recipient will then follow the emergency notification procedure in Section 3 and ensure the immediate evacuation of the area of the bomb's supposed location and the surrounding areas.

4.8 Chemical and Biological Threat

It is difficult to have a contingency Plan that takes into consideration all the possibilities that avoid the consequences of a chemical or biological attack. However, should a warning or threat be issued, the identical procedure should be applied as that used for a bomb threat. Leaving the area is even more imperative. Keeping your body covered as far as possible to avoid any skin contact with the threatened substance is a priority. Cover your nose and mouth to avoid inhalation.

In the event that a letter or parcel is suspected to spread a noxious medium, all site personnel shall vigilantly examine any such suspicious or unsolicited deliveries. If there are any doubts as to the content of a letter or parcel, and if the sender's address and the postmark do not match, the item should be treated as suspect and the authorities contacted to examine the piece under controlled conditions.

DO NOT APPROACH, TOUCH, OR ATTEMPT TO REMOVE ANY SUSPICIOUS OBJECT OR DEVICE.

5 Training

All project employees as well as emergency responders are to be familiar with these standard operating procedures and the contents of this Plan.

5.1 Project Personnel Training

All project personnel are required to review the procedures contained in this plan at the start of their assignment to the Project and also on an annual basis.

5.2 Fire Department Training

RoxWind will provide an on-site orientation to Roxbury Fire Department personnel regarding the orientation of the turbines and the policies and procedures in this Plan. All personnel attending the training will be provided with an orientation of the turbine and the general safety procedures outlined in this Plan.

5.3 Training Drills

RoxWind will conduct annual drills on site to review the procedures outlined in this manual and to discuss emergency response procedures. Fire Department and Emergency Services personnel will be invited to participate the training drills.

6 Appendix A: Emergency Contact Information

6.1 RoxWind Emergency Contact Calling Sequence

1st

Turbine Manufacturer Emergency Response Center

2nd

Operations & Maintenance Provider Contact Information

3rd

Turbine Owner Emergency Contact

6.2 Emergency Service Providers

Roxbury Fire Department

Address: 1095 Roxbury Road, Roxbury, Maine
04275

Emergencies: 911 or 603-752-3134

Non-emergencies: TBD

Local Police Department

Emergencies: 911

Non-emergencies: TBD

Ambulance Service

Med-Care Ambulance

Address: 290 Highland Terrace, Mexico, ME
04257

Phone: (207) 364-8748

Hospital

Rumford Hospital

Address: 420 Franklin St, Rumford, ME 04276

Phone: (207) 369-1000

Spill Reports—National Response Center

Emergencies: 911

Non-emergencies: 800-424-8802

Poison Center: 800-222-1222

6.3 Other Useful Contacts

Center for Disease Control (CDC)
<http://www.cdc.gov/>

Department of Homeland Security
<http://www.dhs.gov/dhspublic/>

Environmental Protection Agency
<http://www.epa.gov/>

Federal Bureau of Investigation (FBI)
<http://www.fbi.gov/>

National Response Center to report Toxic
 Chemical and Oil Spills
<http://www.nrc.uscg.mil/nrchp.html>

Federal Emergency Management Agency
 (FEMA)
<http://www.fema.gov/>

Poisons Control Center
<http://www.aapcc.org/>

United States Postal Service
<http://www.usps.com/>

Maine Dept of Health and Human Services
www.maine.gov/dhhs/

Occupational Safety and Health Admin (OSHA)
<http://www.osha.gov/>

Maine Department of Environmental
 Protection (DEP)
www.maine.gov/dep/

NH Department of Labor, Safety and Training
 Division
<http://www.nh.gov/labor/inspection/safety-training.htm>

ME DEP, Spill Hotline

Oil Spills - 800.482.0777

Hazardous Materials - 800.452.4664

DEP Regional Offices (Augusta) -
 207.287.7688

Maine Emergency Management Agency -
 207.624.4400