

Casey A. Furey
100 West Broadway, Suite 250
P.O. Box 2798
Bismarck, ND 58502-2798
701.223.6585
cfurey@crowleyfleck.com

April 14, 2021

Via Electronic Mail

Mr. Steve Kahl
Executive Director
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480
ndpsc@nd.gov

**In re: Tatanka Wind Power LLC
Tatanka Wind Farm - Dickey County
Case No. PU-10-073
Our File No. 010268-000001**

Dear Mr. Kahl:

On behalf of Tatanka Wind Power, LLC (“Tatanka”), enclosed please find a proposed decommissioning plan and cost estimate for the Tatanka Wind Farm. The project straddles the North Dakota/South Dakota border in Dickey County, North Dakota and McPherson County, South Dakota. The combined project is a total of 180 megawatts (“MW”), however the North Dakota portion of the project has a nameplate capacity of 91.5 MW and consists of 61-1.5 MW wind turbines. The Tatanka Wind Farm began commercial operations in 2008.

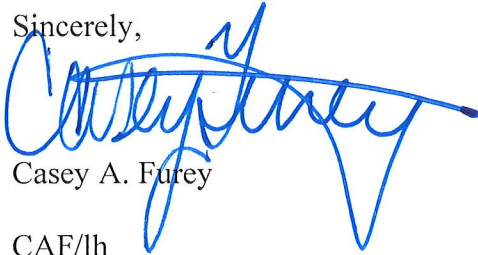
On October 21, 2020, the Commission approved a decommissioning plan and cost estimate for the project filed as Docket No. 8 in PU-10-073 (hereinafter, the “2020 plan”). The 2020 plan contained a cost estimate that was based on the crane dismantling method and totaled approximately \$15,750,000.00. Subsequently, it was brought to Tatanka’s attention that numerous wind projects that have undergone decommissioning have utilized the felling or pulling method for removal, which is discussed in more detail in the enclosed plan. Tatanka engaged Westwood to evaluate anticipated decommissioning costs utilizing the felling methodology which resulted in a substantial reduction to anticipated costs.

Tatanka respectfully requests the enclosed plan replace and supersede the 2020 plan and submits that such action is warranted based on the facts of this particular matter. Although the project has one of the earlier commercial operation dates in North Dakota and utilizes smaller turbines compared to today’s standards, a brief review of the Commission’s docket reflects that the 2020 plan contains one of the highest per turbine cost estimates compared to recently submitted plans

approved by the Commission. Westwood's decommissioning cost estimate is based on decommissioning methods utilized by industry and meets the Commission's decommissioning requirements set forth in North Dakota Administrative Code Ch. 69-09-09. Following Commission approval of the enclosed plan, Tatanka will submit a corresponding proposed financial assurance.

Please feel free to contact me with any questions.

Sincerely,



Casey A. Furey

CAF/lh
Enc.

cc: Emilie Beavers (via email)
Adam Renfandt (via email)

Westwood

DECOMMISSIONING PLAN
Tatanka Wind Farm

Dickey County, North Dakota
April 2021



Prepared For:

Tatanka Wind Power, LLC
55 East Monroe Street, Suite 1925
Chicago, Illinois 60603

Table of Contents

| | | |
|------------------------------|---|----|
| 1.0 | INTRODUCTION / PROJECT DESCRIPTION..... | 2 |
| 2.0 | DECOMMISSIONING OBJECTIVE | 2 |
| 3.0 | PROPOSED FUTURE LAND USE..... | 2 |
| 4.0 | NOTIFICATION..... | 2 |
| 5.0 | DECOMMISSIONING TASKS AND TIMING | 3 |
| 6.1 | DECOMMISSIONING | 3 |
| 6.2 | RECLAMATION | 6 |
| 7.0 | BEST MANAGEMENT PRACTICES (BMPs) | 6 |
| 7.1 | EROSION CONTROL..... | 6 |
| 7.2 | SEDIMENT CONTROL | 8 |
| 7.3 | CONTROLLING STORMWATER FLOWING ONTO AND THROUGH THE PROJECT | 8 |
| 7.4 | PERMITTING | 9 |
| 8.0 | TIMELINE..... | 9 |
| 8.1 | DECOMMISSIONING SCHEDULE | 9 |
| 8.2 | WATER REGULATORY COMPLIANCE..... | 9 |
| 8.3 | HEALTH AND SAFETY STANDARDS..... | 10 |
| 9.0 | DECOMMISSIONING COSTS AND FINANCIAL ASSURANCE | 10 |
| Table 1 – Cost Estimate..... | | 12 |

1.0 INTRODUCTION / PROJECT DESCRIPTION

The Tatanka Wind Project (the “Facility”) is a 180 megawatt (“MW”) wind power generation project owned by Tatanka Wind Power, LLC (the “Applicant”¹) in Dickey County, North Dakota, and in McPherson County, South Dakota. This decommissioning plan will discuss the provisions for removal of facilities within Dickey County, North Dakota. The Facility (within North Dakota) is located on approximately 4,950 acres of privately owned and leased land. The Facility includes permanent facilities of 61 ACCIONA AW77 1.50 MW turbines, nacelles and blades with an 80.0 meter hub height, 15.0 miles of access roads, and underground collection system. The step-up substation and the operations and maintenance facility for the project are located in South Dakota, and are not addressed in this decommissioning plan. The Facility has been in commercial operations since 2008, with a nameplate capacity of 91.5 MW.

2.0 DECOMMISSIONING OBJECTIVE

The purpose of this “Decommissioning Plan” (and its succeeding and revised Decommissioning Plans, (the “Plans”) is to describe the means and methods that can be used to remove project facilities, and reclaim and restore the land in accordance with North Dakota Public Service (“NDPSC”) decommissioning requirements set forth in N.D. Admin. Code Ch. 69-09-09. The Plans identify components which may be removed, and the areas that may be restored within twelve months after abandonment of the Facility, or when the Facility has surpassed the useful lifespan of the turbines and facilities. This includes the disrepair of individual turbines which may pose a health or safety issues. The useful life of commercial size turbines is generally considered to be 30 years.

Applicant acknowledges that decommissioning is accomplished at Applicant’s (and its successors in interest and assigns) expense.

The Decommissioning Plan will be updated and re-filed with the NDPSC in accordance with N.D. Admin. § 69-09-09-06.

3.0 PROPOSED FUTURE LAND USE

Prior to the development of the Facility, the land use in the areas affected by development was primarily agricultural land with approximately one quarter planted with row crops and the remainder used for pasture or hay fields. Wetlands are numerous in the area, but the wind farm does not encroach on the wetlands, instead utilizing the higher ground which is primarily the pasture and grasslands. After affected areas are decommissioned, these areas will be returned to their predevelopment topography and topsoil conditions to the extent practical.

4.0 NOTIFICATION

After the Facility has reached the end of its useful life, and prior to the start of decommissioning activities the Applicant will notify the NDPSC, Dickey County Board, landowners, affected parties, and other local units of government in writing, of the intended decommissioning activities and schedule.

5.0 DECOMMISSIONING TASKS AND TIMING

Decommissioning includes several phases and activities such as:

¹ “Applicant” refers to any operator, subsequent owner, or transferee of the Facility.

- Removal of above ground components (turbines, transformers, and met towers);
- Removal of turbine, transformer, and met tower foundations to a depth of three feet;
- Removal of underground collection system and fiber optic cables to a depth of twenty-four (24) inches;
- Removal of access roads (unless the NDPSC approves a landowner's request for the roads to remain);
- Restoration of access roads, including decompaction;
- Reclamation, re-grading, and restoration of disturbed areas including topsoil reapplication and decompaction of soils;
- Application of necessary sediment and erosion controls during and following decommissioning; and
- Repair of public roads and culverts to pre-construction condition.

Underground utility lines deeper than twenty-four (24) inches below ground may be left in place to minimize land disturbance and associated impacts to future agricultural land use.

Decommissioning will include the removal and transportation of all turbine components and debris from the Facility site. Decommissioning will also include the removal of cabling, electrical components, access roads, and any other associated facilities in the manner described in the Plan, unless otherwise agreed upon by Applicant and the applicable landowner and approved by the NDPSC. All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing laws at the time decommissioning is initiated, and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the extent practicable. Non-recyclable materials will be disposed of in accordance with state and federal law.

There are no known hazardous materials contemplated for incorporation in the Facility, with the exception of mineral oil in the gearbox and transformers, and hydraulic fluids and grease in some mechanical components. During decommissioning, current regulations for identifying, handling, and disposing of hazardous materials will be followed.

6.1 DECOMMISSIONING

Public Road Modifications and Removal

Temporary turning radius modifications are not expected to be needed for decommissioning as turbines that have reached the end of useful life have scrap value, but little resale value. Transportation of the turbine components off site will be accomplished using conventional over the road trucks. Following removal of the decommissioned turbine components, any turning radius modifications required for decommissioning will be removed and any disturbed areas will be restored to preconstruction condition using thorough decompaction techniques and re-application of topsoil. After all hauling activities are complete the county and township public roads will be restored to pre-construction condition.

Crane Path and Crane Pad Preparation and Removal

This cost estimate is based on the felling of all turbines, which eliminates the need for large industrial cranes, the associated crane paths and crane pads and related reclamation.

Wind Turbine Felling

This cost estimate assumes the technique of "felling" will be used to bring the turbine components to the ground for disassembly and processing for recycling. The felling technique has been used on numerous wind turbine decommissioning projects, including on thousands of abandoned

turbines in Palm Springs and Tehachapi, California. As evidence of the success of this technique we have reviewed confidential information prepared for the decommissioning of the Cerro Gordo Wind Project in Clear Lake, Iowa, dated October 2018. The information listed 12 projects where the felling technique had been used in four states. The decommissioning on the Cerro Gordo Wind Project was accomplished during the summer of 2020.

Felling has several advantages over disassembly using large crawler cranes. Felling of turbines eliminates the use of crane paths and crane pads that are otherwise necessary to disassemble the components of a turbine. In addition to the costs associated with preparing crane paths and pads, this method will reduce the total disturbed area, including wetlands, that needs to be reclaimed and restored during the decommissioning process, as well as the amount of crop loss. The elimination of the use of large cranes also reduces the number of trucks delivering and removing equipment, and reduces the time required for decommissioning. It eliminates the need for crane crossings of public roads and the associated temporary road closures and potential for damage to the public roads from the crossings. This method is also potentially safer as fewer iron workers are exposed to the dangers of assembling and breaking down the large cranes, and the exposure to tower pieces and nacelles as they are hoisted from their assembled positions and lowered to the ground. Dismantling turbines requires a minimum of five picks, with each pick requiring a team of iron workers working on and around the turbine to remove bolts and cut pieces free so they can be removed.

Felling consists of disconnecting electrical connections and draining oil, hydraulic fluid, and any other liquids from the turbine. A long cable is attached to the nacelle, and to a piece of heavy equipment, such as a bulldozer, usually positioned on the access road. Wedge shaped areas are then cut out of the tower steel using cutting torches to create a hinge that will direct the turbine to fall on, or next to, the access road when pulled by the dozer.

In contrast to the safety risks of disassembling, fewer workers are directly exposed under the felling method. Only two iron workers are in the immediate vicinity of the turbine during the brief time they are actively cutting the base of the turbine. The entire area has to be evacuated and controlled for only a brief time during the actual felling.

Wind Turbine Removal

Each turbine consists of three (3) steel tower segments, nacelle, rotor and hub assembly, and three blades. If it is not cost effective to resell the turbines, the components will be processed on-site, or at an off-site location, into sizes which conform to scrap metal recycling requirements. The materials can then be sold for scrap material value and recycled. The tower sections, in particular, represent a substantial amount of high quality steel materials. The processed scrap materials will be loaded on tractor-trailers and removed from the site to a prearranged receiving location, or directly to a recycling or disposal facility. If the components are resold, the individual components will be loaded onto turbine transport vehicles similar to the vehicles originally used to deliver the turbine parts.

The fiberglass blades will be transported to the Waste Management Bismarck Recycling Center which can accept fiberglass turbine blade waste.

Turbine Foundation Removal and Restoration

Turbine foundations are fabricated of concrete and rebar. Topsoil and aggregate from the area surrounding the foundations will be stripped, segregated, and stockpiled near the work site for reapplication during restoration. The turbine foundation will be exposed using backhoes, bulldozers, or other earth moving equipment. The pedestal (upper part of the turbine foundation)

will be removed to a depth of three (3) feet below the final ground surface. Demolition of mass concrete is generally accomplished using hydraulic hammers mounted on a backhoe or similar equipment (hoe ram), or by the use of expansive chemicals placed in holes drilled in the concrete.

Concrete and rebar will be broken into manageable-sized pieces and loaded into dump trucks to be hauled off site for recycling as aggregate or disposal.

Following the removal of turbines and foundation pedestals, the resulting voids will be backfilled with clean native subsoils and compacted to a density similar to surrounding subsoils (typically approximately 90% of the fill material's standard Proctor density). Topsoil will then be reapplied to the site and graded to blend with the surrounding grade and preserve pre-existing drainage patterns. The soil and topsoil will be decompacted and restored to a tillable agriculture ready condition similar to the pre-construction condition, or re-seeded to promote re-vegetation. If necessary, the site will be temporarily or permanently re-vegetated, depending upon location, time of year, and anticipated post-decommissioning land use. Any drain tile lines damaged during removal and restoration of turbine foundation areas will be repaired to ensure drainage is maintained.

A concrete transformer pad is located next to each turbine pedestal. The pad can be removed with the same equipment as the pedestal, and loaded, transported, and disposed of the same as the pedestal. The transformer pad is located within the gravel ring around the turbine so no additional disturbance or restoration area is required.

Access Road Removal and Restoration

Access roads will be removed, or left in place based on the individual landowner's request, and NDPS approval. Removal of access roads will entail removal of the road base aggregate and any other materials used for constructing the roads. During removal, the topsoil adjacent to both sides of the roads will be stripped and stockpiled in a windrow paralleling the road. The road base materials will then be removed by bulldozers and wheeled loaders, or backhoes, and hauled off site in dump trucks to be recycled or disposed at an off-site facility. On-site processing may allow much of the aggregate to be re-used to improve public roads. The decommissioning contractor will also likely seek disposal opportunities for clean fill from nearby landowners to reduce hauling and disposal costs. The road aggregate may also be disposed of at a nearby landfill and used as "daily cover" at no cost. If geotextile fabric was utilized under the aggregate base, it will be removed and disposed of in a landfill off-site. The access road removal will proceed from the turbine area to the public roads to limit tracking and provide a stable access during removal. Following removal, topsoil will be reapplied and graded to blend with surrounding contours to promote pre-construction drainage patterns. Topsoil to cover the access roads and turbine rings will be acquired from the areas where it was stockpiled (or wasted) during the original construction. Since topsoil stayed with each parcel in the construction of the wind farm there will be adequate topsoil to restore each area to its pre-construction condition. The soil and topsoil will then be decompacted and restored to pre-construction tillable condition or re-vegetated.

Underground Electrical Collection Lines

The electrical cables and fiber optic cables are typically installed at a minimum depth of 48 inches (by plan), and contain no material known to be harmful to the environment. The only locations where the cables are less than 48 inches deep are where cables enter pad mounted transformers and junction boxes. Accordingly, the majority of underground cables will be left in place, non-functional. Any cable at a depth of less than twenty-four (24) inches will be removed. Following cable, junction box, and route marker removals, disturbed areas will be restored by the

restoration methods described above for access roads, including the reapplication of topsoil to match the surrounding grade and preserve or promote pre-existing drainage patterns.

A pad mounted transformer is located next to each turbine, where the connection to the collection system is made.

6.2 RECLAMATION

In addition to the reclamation activities described above for each decommissioning activity, all unexcavated areas compacted by equipment and activity during the decommissioning will be de-compacted to a depth as needed to ensure proper density of topsoil consistent and compatible with the surrounding area and associated land use. All materials and debris associated with the Facility decommissioning will be removed and properly recycled or disposed of at off-site facilities.

As necessary, the topsoil will be stripped and isolated prior to removal of structures and facilities for reapplication to promote future land use activities. The topsoil will be reapplied following backfill, as necessary, and graded to blend with adjacent contours to maintain pre-construction drainage patterns. The topsoil reapplied will be free from large rocks and will not contain debris from decommissioning. If the area is not going to be used for crops, the topsoil will then be re-vegetated using seed mixes approved by the local Farm Service Agency, Soil and Water Conservation District, or Natural Resource Conservation Service. Temporary erosion protection such as mulch, hydromulch, or erosion control blanket will be applied in accordance with the requirements of the project Storm Water Pollution Prevention Plan (SWPPP).

7.0 BEST MANAGEMENT PRACTICES (BMPs)

During decommissioning, erosion and sediment control BMPs will be implemented to minimize potential for sedimentation of surface waters and waters of the state. Because decommissioning will entail disturbance to more than one acre of soil, the Applicant will prepare a Storm Water Pollution Prevention Plan (SWPPP) and obtain a National Pollutant Discharge Elimination System (NPDES) permit prior to initiating soil disturbing activities. Potential BMPs described below are examples which will be subject to refinement in the SWPPP. The decommissioning team will review the permitting requirements at the time of decommissioning, and obtain any other necessary permits, which may include a U.S. Army Corps of Engineers Section 404 Permit to Discharge Dredged or Fill Material. Because virtually all of the project area is currently used to grow crops or for pasture, exposed soil is a common condition and only minor erosion and sediment control is expected.

7.1 EROSION CONTROL

Erosion control measures are described generally here, but will be refined based on the standard of practice current at the time the SWPPP is developed for decommissioning. All disturbed areas without permanent impermeable or gravel surfaces, or planned for use as crop land, will be vegetated for final stabilization. All slopes steeper than 4:1 should be protected with erosion control blankets. Restoration should include seed application prior to application of the blanket. All slopes 4:1 or flatter should be restored with seed and mulch, which will be discanchored.

Project Phasing/Design BMP: Time periods during which disturbed soils are exposed should be minimized to the degree possible. Stabilization of soils will generally be accomplished immediately following decommissioning of the access roads, turbine sites, and electrical and fiber optic cables. Where this is not possible, temporarily exposed soils will be temporarily stabilized with vegetation in accordance with the SWPPP for decommissioning.

Erosion Control Blankets and Seed BMP: Erosion control blanket (double sided netting with wood

fiber or weed-free straw fiber blanket) will be used as temporary stabilization for areas of slopes steeper than 4:1 and for areas of concentrated flow, such as ditches, swales, and similar areas around culverts. Seed will be applied in these areas with the blanket for temporary and/or permanent vegetative growth as necessary. The SWPPP developed for decommissioning will provide detailed specifications for erosion control blankets to be used under various slope and drainage conditions.

Ditch/Channel Protection: Where new channels are formed, as in the case of culverts removed from access roads and the removal of low water crossings, the resulting channel will be protected with erosion control blankets as described in the section above.

Surface Roughening: Surface roughening or slope tracking is the act of running a dozer or other heavy tracked equipment perpendicular to the grade of disturbed slopes with a grade of 3H:1V and steeper with a continuous length of 75 feet or greater. The tracks will provide a rough surface to decrease erosion potential during an interim period until a smooth grade, seed and erosion control blanket can be applied.

Temporary Mulch Cover and Seed BMP: Temporary mulch cover (wood fiber to resist loss from grazing by wildlife or domestic animals) will be applied at a rate of two tons per acre to provide temporary erosion protection of exposed soils areas with slopes flatter than or equal to 3:1. Seed will be applied with the mulch for temporary and/or permanent vegetative growth as called for in the SWPPP. Mulch will be used for all soil types where slopes are flatter than 3:1 and no significant concentrated flows are present. The mulch will be disc-anchored to the soil to keep it from blowing away. The mulch prohibits the impact of the rain drop from dislodging soil and subsequently carrying the soil away during sheet drainage. For sandy soils, tackifier may be used to assist the disc anchoring if the mulch cannot be secured to the sandy soils.

Soil Stockpiles: Topsoil that is stripped from the construction site and base materials will be stockpiled on-site. Stockpile areas will be located in areas that will not interfere with the decommissioning activities, and be located away from pavement, site drainage routes, or other areas of concentrated flow. Stockpiles will be located away from wetlands and surface waters. Perimeter controls, such as silt fence, will be installed around all stockpiles if stockpiles are not placed within existing silt fences or other sediment control, where the potential exists for material to be eroded and transported to sensitive natural areas. Soils that are stockpiled for longer durations will be temporarily seeded and mulched, or stabilized with a bonded fiber polymer emulsion.

Permanent Seed and Temporary Mulch and/or Erosion Control Blanket BMP: In areas at final grade that will not be used for agriculture, permanent seed will be applied to promote vegetative cover for permanent erosion control. Temporary mulch and/or erosion control blanket will be applied as appropriate in areas to provide temporary erosion protection until the permanent seed is established.

7.2 SEDIMENT CONTROL

Removal of Ditch Crossing BMP: Temporary ditch crossings may be needed to accommodate the movements of cranes or other heavy equipment. Perimeter controls such as silt fence will be used at crossing locations to minimize runoff from exposed soils. Crossings will be done during dry conditions, if possible. If a stream is wet at the time of the crossing, alternative BMPs will be applied. These could include a temporary dam and bypass pump to install the crossing in dry conditions. Timber construction mats will be used as needed to prevent compaction and rutting

at crossing locations. All temporary fills and construction mats will be removed immediately after the crossing is successfully completed and the temporarily disturbed area restored using the appropriate BMPs as described above.

Dewatering: A temporary sump and rock base will be used if a temporary pump is used to dewater an area of accumulated water. If a rock base cannot be used, the pump intake will be elevated to draw water from the top of the water column to avoid the intake and discharge of turbid water. Energy dissipation riprap will be applied to the discharge area of the pump hose. The water will be discharged to a large flat vegetated area for filtration/infiltration prior to draining into receiving waters of conveyances/ditches. If discharge water is unavoidably turbid, dewatering bags, temporary traps, rock weepers, or other adequate BMP will be used to control sediment discharge.

Silt Fence BMP or Fiber Logs: Silt fences or fiber logs will be used as perimeter controls down-gradient of exposed soils during construction to capture suspended sediment particles on-site, to extent possible. The standard silt fence or fiber logs will also be used in smaller watershed areas where the contributing areas are typically less than 1/4 acre of drainage per 100 feet of standard silt fence or the fiber logs. Standard silt fence or fiber logs will also be used for stockpiles 8 feet high or higher which have slopes of 3:1 or steeper. Standard silt fence or fiber logs should not be used in areas of highly erodible soils which are found within streams, slopes, or banks of creeks and streams within the Facility's site.

Rock Entrance/Exit Tracking Control BMP: Rock construction entrances will be installed where access to a construction area is needed from adjacent paved surfaces.

Street Scraping/Sweeping BMP: Street scraping and sweeping will be used to retrieve sediment tracked or washed onto paved surfaces at the end of each working day, or as needed.

7.3 CONTROLLING STORMWATER FLOWING ONTO AND THROUGH THE PROJECT

Given the low gradient of the slopes in the project area, controlling stormwater flow that enters the project area will likely require minimal effort during decommissioning activities. Only newly disturbed areas may require new, temporary stormwater control.

Diversion Berms/Swales/Ditches: It may be necessary to direct diverted flow toward temporary settling basins via berms, swales, or ditches. If diversion controls are deemed necessary for decommissioning activities, these must be stabilized by temporary mulch and seeding, erosion control blankets, or by installing riprap to protect the channel from erosive forces.

Rock Check Dams: It may be necessary to install temporary check dams within swales or ditches that convey storm water from areas disturbed by decommissioning activities. Rock check dams are effective for velocity control, sediment control, and to augment temporary stabilization of channels. Filter fabric can be utilized to help filter the flow, minimize the scour of the soil under the rock, and facilitate removal of the check dams once permanent stabilization is achieved. The height of check dams should be at least two feet. Spacing depends upon slope. Downgradient rock checks should have the top elevation at the same elevation as the bottom of the previous (upgradient) rock check.

Hay Bale Check Dams: Hay bale check dams may be used for velocity control within swales of the project to slow the water runoff within the drainage channels/swales. The bales should be approximately three feet in length and anchored into the soil. The midpoint elevation of the top of the bale (i.e. ponding height) must be lower than the end points of the bale where the bale meets grade, to prohibit water from flowing around the bales thus causing erosion and scour. If the bales cannot be applied properly in the field, the use of rock checks as a replacement is recommended.

Temporary Sedimentation Basins: Sedimentation basins serve to remove sediment from runoff from disturbed areas of the site. The basins allow runoff to be detained long enough to allow the majority of the sediment to settle out prior to discharge. The location and dimensions of temporary sedimentation basins, if any are necessary, will be verified in accordance with North Dakota Department of Environmental Quality (DEQ) requirements at the time of decommissioning.

7.4 PERMITTING

All decommissioning and restoration activities will comply with federal and state permit requirements. Decommissioning activities that will disturb more than one acre of soil may trigger the NPDES Construction General permitting process and North Dakota general permit or Notice of Intent. The permits, if required, will be applied for and received prior to decommissioning construction activities commencing. A Storm Water Pollution Prevention Plan will be developed prior to filing a Notice of Intent. If permanent crossings are to be removed and no discharge of dredged or fill material will take place, a Section 404 permit is not anticipated for the decommissioning of the Facility. No air permits are currently required for construction activities typical for decommissioning. North Dakota Department of Environmental Quality (DEQ) air quality rules will be reviewed at the time the work is scheduled to determine if an air quality permit will be required. Further, no operating air quality permits are needed for ongoing operation of the wind farm facility. Should decommissioning activities cause temporary or permanent impacts to wetlands, a North Dakota Department of Environmental Quality (DEQ) Wetlands Permit will be obtained prior to any activities commencing, if required. Should decommissioning activities cause temporary or permanent impacts to vernal pools, an Army Corps of Engineers General Permit for the State of North Dakota will be obtained prior to any activities commencing. Should any interim permits become needed, they will be closed out with documentation of compliance at decommissioning. A Spill Prevention, Control and Countermeasures (SPCC) Plan for decommissioning, separate from the operating SPCC will likely be required.

8.0 TIMELINE

Decommissioning of the wind farm will be initiated within (12) months after abandonment or the end of its useful life. The following sections outline a timetable for the decommissioning plan; steps towards compliance with applicable air and water quality laws and regulations; and steps for compliance with health and safety standards.

8.1 DECOMMISSIONING SCHEDULE

It is anticipated that the decommissioning activities for the project can be completed within a 24 month period. The estimated costs for decommissioning are tied to assumptions about the amount of equipment mobilized, the crew sizes, weather and climate conditions, and the productivity of the equipment and crews.

8.2 WATER REGULATORY COMPLIANCE

Water Quality: NPDES permitting will include the following steps for compliance.

1. Complete a SWPPP consistent with the requirements of the North Dakota NPDES General Construction Permit applicable at the time of decommissioning.
2. Submit the NPDES Notice of Intent at least 30 days prior to starting construction activities associated with decommissioning.
3. Once notification of permit coverage is received, decommissioning will commence.
4. During decommissioning, compliance with the NPDES permit (applicable at the time of de-

commissioning) will be adhered to including inspections, documentation, maintenance of BMPs, record keeping, amendments to the Plans and implementation of the SWPPP.

5. Within 30 days of completing decommissioning and restoration, a Notice of Termination (NOT) will be submitted to the North Dakota Department of Environmental Quality to terminate coverage of the NPDES permit.

Water Quality: Section 404 Discharge of dredged and fill material, if required, will include the following steps for compliance.

1. Notification to the Corps of Engineers if needed, of expected activities such as temporary stream/water body crossings.
2. Verification of necessary permits (if any).
3. Apply for any necessary Section 404 permits prior to commencing work within waterways/wetlands.
4. As applicable, develop Plans to comply with necessary permit regulations.
5. Once receipt of applicable permits, decommissioning work will commence adhering to rules, timelines and requirements stated in applicable permits.

8.3 HEALTH AND SAFETY STANDARDS

Work will be conducted in strict accordance with Applicant's health and safety plan. The construction contractor hired to perform the decommissioning will also be required to prepare a site-specific health and safety plan. All site workers, including subcontractors, will be required to read, understand, and abide by the Plan. A site safety officer will be designated by the construction contractor to ensure compliance. This official will have stop-work authority over all activities on the site should unsafe conditions or lapses in the safety plan be observed.

9.0 DECOMMISSIONING COSTS AND FINANCIAL ASSURANCE

Since there are few utility sized wind farms that have been decommissioned to date, the availability of historical cost data is limited. This cost estimate was prepared: (1) in current dollars; (2) with the salvage value of equipment or materials calculated separately. The estimate includes: (i) an analysis of the physical activities necessary to implement the approved reclamation plan, with physical construction and demolition costs based on applicable North Dakota Department of Transportation unit bid prices and RS Means material and labor cost indices; (ii) the level of effort or number of crews required to perform each of the activities; and (iii) an amount to cover contingencies above the calculated cost. The Estimate is shown on a total cost and on a per-turbine basis. The decommissioning plan and cost estimate will be revised periodically.

Cost and quantities for the Facility are based on as-built data provided by the client. Since this revised estimate is being made after more than ten years of the wind farm operation Westwood has assumed that there will be no resale value for the turbines, only scrap salvage value.

Turbines that are not resold will have the materials recycled as scrap. The estimate uses a current structural scrap price of \$250 per ton, in the Midwest, based on prices posted on scrapmonster.com, November 2020. The posted prices are three months old. Scrap metal prices are very volatile. Current prices are approximately 50 percent of the peak prices in 2008. Electrical transformers have significant value for aluminum or copper used in the windings and the steel used in other parts of the transformer. Newer transformers can be resold. Older transformers are recycled as scrap. There are few companies that accept used transformers for resale or recycling so finding pricing is difficult. For this estimate we used pricing posted scrapmonster.com of \$0.34 per pound for used transformers. We assumed the posted price is similar to the price offered by Dakota American Transformers/Solomon Corporation in Flandreau, South Dakota which was

identified as a regional transformer recycler. In this first cycle of cost estimating it may be possible to resell all of the transformers at a much higher price than the scrap value used.

Spot prices for insulated copper wire (85% recovery) are \$1.55 per pound, scrap electrical motors are \$0.25 per pound, and E.C. aluminum wire are \$0.86 per pound.

Discounts from the posted spot prices used in the cost estimate range from twenty-five percent (25%) for structural steel to fifty percent (50%) for aluminum wire to reflect the difficulty in realizing spot prices from local recyclers.

The method and schedule for updating the cost estimates for decommissioning and restoration of the Facility site will be similar to this cycle of revisions. An engineering evaluation of the current construction techniques and equipment used for decommissioning will be performed and the cost estimate will be revised to reflect any changes in productivity resulting from new techniques and equipment. Current unit prices from industry recognized sources, such as RS Means, will be used to compute the revised costs. The markets for scrap materials – steel, copper, aluminum, transformer oil, etc. – will be investigated, and the salvage value of materials will be recomputed.

The amount of the financial assurance will be based on the net decommissioning cost estimate which includes project management/administration costs, dismantling and removal costs of project infrastructure, restoration and reclamation costs of the land used by the facility, disposal cost of materials that cannot be salvaged and recycled, public road restoration costs, a contingency amount, county administration costs, and crop loss costs. From these costs the salvage values of the materials, after deducting transportation costs, will be deducted to determine the net cost.

The total cost of the decommissioning of the Tatanka Wind Project (North Dakota) is approximately \$8,878,400 (\$145,600 per turbine) including a ten percent (10%) contingency on the demolition costs, public road repair, crop loss. Salvage/scrap value of the turbines, transformers, and other materials is approximately \$2,808,200, or \$46,100 per turbine. Including resale and salvage values the net cost is approximately \$6,070,200, or \$99,600 per turbine.

See detailed cost estimate on next page.

Table 1: Detailed Cost Estimate

| Tatanka Wind North Dakota Decommissioning Cost Estimate | | | | |
|---|----------|-------------|--------------|-------------|
| | Quantity | Unit | Unit Cost | Total Cost |
| Number of Turbines | 61 | Each | | |
| Mobilization/Demobilization | 1 | Lump Sum | \$384,000.00 | \$384,000 |
| Permitting | | | | |
| County Permits | 1 | Lump Sum | \$2,000.00 | \$2,000 |
| State Permits (SWPPP, SPCC) | 1 | Lump Sum | \$5,000.00 | \$5,000 |
| Subtotal Permits | | | | \$7,000 |
| Disconnect Turbine Wiring | 61 | Each | \$2,725.60 | \$166,262 |
| Fell Turbine | 61 | Each | \$1,678.88 | \$102,412 |
| Process to Size and Load Turbine Components | 41,618 | Tons | \$69.85 | \$2,907,018 |
| Haul Turbine Components Offsite for Recycling | 41,618 | Tons | \$15.67 | \$652,321 |
| Haul Turbine Components For Disposal | 3,446 | Tons | \$18.44 | \$63,539 |
| Turbine Components Disposal | 3,446 | Tons | \$74.00 | \$254,985 |
| Excavate Around Turbine Foundation | 61 | Each | \$267.00 | \$16,287 |
| Remove Turbine Foundation to a Depth of 3 feet and Load | 1,922 | Cubic Yards | \$176.47 | \$339,117 |
| Backfill Excavation Area from Turbine Foundation Removal | 61 | Each | \$228.16 | \$13,918 |
| Haul Concrete (Turbine Foundation) | 3,891 | Tons | \$18.44 | \$71,758 |
| Disposal of Concrete from Turbine Foundation | 3,901 | Tons | \$74.00 | \$288,677 |
| Remove and Load Transformer | 61 | Each | \$524.17 | \$31,974 |
| Freight Transformer to Recycler | 61 | Each | \$359.58 | \$21,934 |
| Remove Transformer Pad | 292 | Cubic Yards | \$129.58 | \$37,876 |
| Transformer Disposal (Including Oil) - All material can be recycled | 61 | Each | \$0.00 | \$0 |
| Haul Concrete (Transformer Pad) | 592 | Tons | \$18.44 | \$10,914 |
| Disposal of Concrete from Transformer Pad | 592 | Tons | \$74.00 | \$43,800 |
| Decompact Wind Turbine Generator Site | 61 | Each | \$144.18 | \$8,795 |
| Grade Wind Turbine Generator Site | 61 | Each | \$1,867.49 | \$113,917 |
| Erosion and Sediment Control at Turbine/Transformer Site | 61 | Each | \$295.50 | \$18,026 |
| Revegetation at Turbine/Transformer Sites | 61 | Each | \$3,300.00 | \$201,300 |
| Subtotal Wind Turbine Generators | | | | \$5,364,829 |
| Electrical Collection/Transmission System (Remove at Junction Boxes) | | | | 21.6 |
| Removal of Underground Collector System Cables (34.5 kV) | 72 | Each | \$400.00 | \$28,800 |
| Haul Underground Collector System Cables (34.5 kV) | 4.9 | Tons | \$15.67 | \$77 |
| Disposal of Removed Cables (See Salvage Value) | 1.3 | Tons | \$0.00 | \$0 |
| Removal of Junction Box | 11 | Each | \$100.00 | \$1,100 |
| Erosion and Sediment Control at Junction Box Location | 11 | Each | \$100.00 | \$1,100 |
| Revegetation at Junction Box Location | 11 | Each | \$88.00 | \$968 |
| Subtotal Electrical Collection/Transmission System | | | | \$32,045 |

| | | | | |
|---|---------|-------------|-------------|---------------------|
| Access Roads | | | | 76,922 |
| Remove and Load Gravel Surfacing from Access Roads | 22,792 | Cubic Yards | \$2.42 | \$55,042 |
| Haul Gravel Removed from Access Roads | 36,923 | Tons | \$18.44 | \$680,852 |
| Disposal of Gravel Removed from Access Roads (Use as "Daily Cover") | 36,923 | Tons | \$0.00 | \$0 |
| Remove and Load Culvert from Beneath Access Roads | 94 | Each | \$448.00 | \$42,112 |
| Haul Culvert Removed from Access Roads | 48 | Tons | \$18.44 | \$887 |
| Disposal of Culverts | 48 | Tons | \$10.00 | \$481 |
| Remove Low Water Crossing from Access Roads | 10 | Each | \$3,400.00 | \$34,000 |
| Decompact Access Road Corridor | 76,922 | Linear Feet | \$0.23 | \$17,745 |
| Grade Access Road Corridor | 76,922 | Linear Feet | \$1.60 | \$122,693 |
| Erosion and Sediment Control Along Access Roads | 11,538 | Linear Feet | \$1.97 | \$22,730 |
| Revegetation on Access Roads | 42.4 | Acres | \$9,583.20 | \$406,148 |
| Subtotal Access Roads | | | | \$1,382,692 |
| Public Roads Restoration | 20.4 | Miles | \$44,000.00 | \$899,550 |
| Total Direct Costs | | | | \$8,070,115 |
| Contingency (10%) | | | | \$807,012 |
| Total Demolition Costs | | | | \$8,877,127 |
| Cost Per Turbine | | | | \$145,526.67 |
| Crop Loss | 2.5 | Acres | \$500.00 | \$1,250 |
| Total Cost | | | | \$8,878,377 |
| Salvage/Recycle | | | | |
| Turbine Towers (Structural Steel) | 8,736 | Tons | \$187.50 | \$1,637,993 |
| Turbine Nacelles (Structural Steel) | 4,602 | Tons | \$187.50 | \$862,959 |
| Turbine Generators | 927,200 | Pounds | \$0.19 | \$173,850 |
| Aluminum Electrical Conductor (Supported) | 2,581 | Pounds | \$0.19 | \$484 |
| Transformers (copper windings) | 365,115 | Pounds | \$0.26 | \$93,104 |
| Transformer (Steel) | 110 | Tons | \$187.50 | \$20,651 |
| Transformers (oil) | 27,346 | Gallons | \$0.70 | \$19,142 |
| Subtotal Salvage | | | | \$2,808,184 |
| Total Demolition Minus Resale and Salvage Value | | | | \$6,070,193 |
| Total Demolition Minus Salvage per Turbine | | | | \$99,511 |