BP WIND ENERGY
POLICIES AND PROCEDURES

Lifting Operations

Document Control Details

Lifting Operations

1.0 Purpose/Scope

This chapter describes the minimum requirements for safe lifting operations. Operations covered within the scope of this chapter are those associated with lifting operations involving mobile cranes, backhoes, hoists, slings, forklifts, and other lifting equipment. Only 'fit for service' types of equipment shall be used for lifting.

This procedure is applicable to all BP Wind Energy employees and contractors that intend to perform work on BP Wind Energy premises.

NOTE: All personnel are authorized and obligated to exercise Stop Work Authority when they identify unsafe lifting operations.

No one shall override a decision by the crane operator or lifting equipment operator to cease operations they deem unsafe.

2.0 Reference

1. Occupational Safety and Health Administration, Department of Labor, 29 CFR, Part 1926.1400.
2. Occupational Safety and Health Administration, Department of Labor, 29 CFR, Part 1910.180 and 1910.184.
3. American National Standards Institute.
4. BPWE Critical Lift Procedure.
5. BPWE Crane Mobilization Procedure.

3.0 Key Responsibilities

Responsibilities Table

Position	Responsibilities
Crane Operators	• Maintain qualification through training and competency evaluations prior to operation of cranes or rigging at BPWE operations. **NOTE:** Failure to pass the competency testing disqualifies any person from operating a crane or rigging at a BPWE facility. • Work with the PIC and or the IA to confirm that conditions are satisfactory for lifting operations. • Inspect all controls and safety devices before beginning work and document daily. • Have knowledge of the load weight and confirm that it is within acceptable limits on the load chart before lifting. • Confirm that all loads are properly rigged and labeled before lifting. • Confirm that all rigging arrangements being used have a rated capacity that is greater than the weight of the load (each shackle must be rated at or above load weights). • Clear personnel from area prior to lifts. • Confer among personnel involved in the lift to determine if conditions are satisfactory for safe Lifting Operations. • Check loads to confirm that they are free for lifting and clear of obstructions (including the landing area for the load).
Qualified Riggers	• A qualified rigger is a person: – Possesses a recognized degree, certificate, or professional standing or – Has extensive knowledge, training, and experience, and – Can successfully demonstrate the ability to solve problems related to rigging loads. • All riggers must be qualified in accordance with 29 CFR 1926.1401, 1926.1404, and 1926.1425 and must be designated as riggers by the site/facility manager or delegate.
Qualified Crane Inspector (An experienced 3rd Party Contractor that is acceptable to BPWE	• Must maintain qualification according to State and Federal requirements. • Must maintain and inspect equipment in accordance with State and Federal requirements.

Position	Responsibilities
leadership, who has demonstrated his or her ability or competency to inspect equipment)	
Qualified Signal Person	• Know and understand the type of signals used. If hand signals are used, the signal person must know and understand the Standard Method for hand signals. • Be competent in the application of the type of signals used. • Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads. • Know and understand the relevant requirements of § 1926.1419 through § 1926.1422 and § 1926.1428. • Demonstrate that he/she meets the above requirements through an oral or written test, and through a practical test.
Site/Facility Manager	• Maintain a current list of qualified crane operators and riggers for the residing facility. • Provide training, consultation, and on-site support necessary to confirm compliance with the BP Crane Operating and Maintenance Program. • Ensure the contractor documents all inspections, preventive maintenance, and corrective work orders. • Ensure the Crane Mobilization Plan is in place pursuant to the BPWE Crane Mobilization Procedure.
Person in Charge (PIC)	• Confirm qualifications and documentation of all crane operators and riggers. • Determine whether conditions are satisfactory for Lifting Operations.

4.0 Acronyms and Definitions

Acronyms Table

Acronym	Definition
JSEA	Job Safety Environmental Analysis
NDE	Non Destructive Evaluation
OSHA	Occupational Safety and Health Administration
AA	Area Authority

Lifting Operations

Acronym	Definition
IA	Issuing Authority
PIC	Person in Charge
PM	Preventive Maintenance

Definitions Table

Term	Definition
Anti-two-blocking Device	An attachment to a crane which prevents the load block or hook assembly from coming into physical contact with the head or crown blocks
Competent Person	A person who has demonstrated that they have the knowledge, training, and experience required to perform the defined role to the standard required. A competent person is capable of identifying existing and predictable hazards, soil types in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to personnel and has authority to take prompt corrective measures to eliminate them.
Critical lifts	A critical lift is all lifts with a mobile crane, where one or more of the following conditions are present: ▪ The weight of the item to be lifted exceeds 50,000 pounds. ▪ The lift is within an operating facility and the weight of the item to be lifted exceeds 20,000 pounds. ▪ The total load to be lifted exceeds 75% of the chart or cable capacity for the lift configuration of the crane. ▪ Any other lift that is deemed as a "critical lift" by BPWE that would impact either plant operability, environmental compliance start –up or reputation. ▪ All multi pick loads. ▪ Any lift that will occur over transmission lines and substation.
A/D Director (Assembly/Disassembly Director)	An individual who meets this subpart's requirements for an A/D director, irrespective of the person's formal job title or whether the person is non-management or management personnel.
Fall Zone	The area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident.
Crane Load-Radius Chart	A manufacturer-supplied chart that delineates the capacity of the crane at any given angle of the crane's boom. There are two types of load charts, static and dynamic.

5.0 Procedure

5.1 Assembly / Disassembly

1. All crane assembly and disassembly must be completed in compliance of 29 CFR, Part 1926.1403, 1926.1404, 1926.1405, 1926.1406, and any other applicable regulation.
2. When assembling or disassembling equipment (or attachments), the employer must comply with all applicable manufacturer prohibitions and must comply with either:
    a. Manufacturer procedures applicable to assembly and disassembly, or
    b. Employer procedures for assembly and disassembly. Employer procedures may be used only where the employer can demonstrate that the procedures used meet the requirements in § 1926.1406. **Note:** The employer must follow manufacturer procedures when an employer uses synthetic slings during assembly or disassembly rigging.
3. Fall Protection is required during crane assembly/disassembly anytime there is a fall exposure over 6' in height.
4. Assembly/disassembly must be directed by a person, or people, that meet the requirements set forth in 29 CFR Part 1926.1404(a).
5. The A/D director must understand the applicable assembly/disassembly procedures.
6. The A/D director must review the applicable assembly/disassembly procedures immediately prior to the commencement of assembly/disassembly unless the A/D director understands the procedures and has applied them to the same type and configuration of equipment (including accessories, if any).
7. Prior to assembly, crew instructions must be given in compliance with 29 CFR Part 1926.1404(d).
8. If employer procedures are used instead of manufacturer procedures, the employer must ensure that the procedures are in compliance with 29 CFR Part 1926.1406(a) and (b).

5.2 Operator / Signalman / Rigger Qualifications

1. All lifting equipment operators must be qualified in accordance with 29 CFR Part 1926.1427 and must be designated by the Facility / Site Manager, or delegate, to operate that equipment. The operator shall be determined by the Site / Facility Manager, or delegate, to be competent because of training, experience, and certifications and must be able to demonstrate the understanding of signs, notices, operating instructions, and signal code in use.
2. Crane operators shall be certified by an OSHA recognized certification program, such as the ANSI accredited program offered by the National Commission of the Certification of Crane Operators, authorizing them to operate the size and type of crane they are to operate.

3. Operators must have proof of qualification with them at all times.
4. The lifting equipment operator shall inspect and properly maintain all lifting equipment. A thorough inspection by the operator must be completed prior to the start of each shift and documented.
5. All riggers must be qualified in accordance with 29 CFR 1926.1401, 1926.1404, and 1926.1425.
6. Signalmen must be qualified in accordance with 29 CFR 1926.1428 and 1926.1419, be specifically named in the JSEA.

5.3 Lift Plans / Permits

1. All crane lifts (with exception of mechanics trucks) or other lifts deemed necessary by the BPWE Site/Facility Manager that are not considered Critical by this procedure require a lift plan be completed prior to the lift. The lift plan should include, at a minimum, the following:
    a. Minimum and Maximum Lift Radius
    b. Load Weight
    c. Block Weight
    d. Rigging Weight
    e. Jib and Jib Ball Weight
    f. Hoist Line Weight
    g. Crane Manufacturer, Model, and Serial Number
    h. Crane Cable Information (Size, Parts of Line, etc.)
    i. Lift Configuration
    j. Total Lift Percentage of Crane Capacity

    * Note – A sample lift plan can be found in Section 9.0 of this procedure.
2. All Critical Lifts must be performed in compliance with the BPWE Critical Lift Procedure.
3. All Critical Lifts require a Critical Lift Permit be issued prior to the lift (See BPWE Critical Lift Procedure).

5.4 In Cab Crane Books

1. Each crane will have a binder with various documents which will aid an operator and the crew in pre-planning and completing the work in a safe manner. The book must contain, at a minimum, crane specific lift plans / permits, wind speed lifting restrictions, daily crane inspections, the annual crane inspection, crane maintenance log, a copy of the operator's Crane Certification, and any other documentation deemed necessary by the BPWE Site/Facility Manager or delegate.

5.5 General Requirements

1. Backhoes, track hoes, front-end loaders and similar earth moving equipment may be used only for minor incidental lifting. Such use of this equipment shall comply with

the equipment manufacturer's requirements, specifications and designs for lifting use.

2. When rigging to an all terrain forklift, a lifting/jib attachment must be used that is in compliance with the manufacturer's recommendations. Rigging can not be connected directly to the forks or mast of the forklift.
3. Lifting with equipment other than cranes shall not commence if the load exceeds the dynamic and/or static capacities of the lifting equipment.
4. Lifting with a crane shall not commence if the weight of the load exceeds 95% of the crane's capacity.
5. If the lifting/crane operator is unable to see the load, a second qualified signalman shall aid the operator.
6. When multiple personnel are involved in a lift, there can only be one designated signal person signaling the operator.
7. Lifting shall not commence unless safety devices installed on lifting equipment are operational.
8. All suspended loads must have a tagline attached for control of the load and to prevent employees from placing their hands directly on the load.
9. Placing hands on loads shall be avoided. Where loads have to be physically guided or stabbed into place by hand, precautions shall be implemented to minimize exposure to personnel and documented on the JSEA.
10. Anti-two-blocking systems must be installed on all cranes and hoists and must be operational. Bypassing this device for any reason is prohibited.
11. Wind speed data loggers are required on all lattice boom crawler cranes. The data logger information must be available to the BPWE Site/Facility Manager or delegate. When the data logger is available online, BPWE Site/Facility Manager, or delegate, shall be provided access to the website.
12. All cranes shall be equipped with a functional weight indicator on the main hoist and a boom angle indicator, both visible by the operator.
13. All cranes shall default to their heavy usage schedule for preventative maintenance.
14. All cranes must undergo the annual inspection requirements set forth in 29 CFR Part 1926.1412(f).
15. All lifts require a JSEA be completed prior to the lift.
16. All cranes and associated rigging equipment shall be inspected, maintained, and operated in compliance with appropriate state and federal regulations. The PIC must confirm this requirement prior to equipment use.
17. Rigging must be thoroughly inspected, by a competent person, prior to each lift with a documented inspection taking place at the beginning of each shift prior to use. A sample rigging inspection form can be found in Section 8.0 of this procedure.

18. All rigging equipment must be stamped or tagged to identify working load limits. Alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and reach.
19. Inspection of chain slings must include a thorough periodic inspection of alloy steel chain slings in use and shall be made on a regular basis, to be determined on the basis of (A) frequency of sling use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of slings used in similar circumstances. Such inspections shall in no event be at intervals greater than once every 12 months. he employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such record available for examination.
20. The thorough inspection of alloy steel chain slings shall be performed by a competent person designated by the employer, and shall include a thorough inspection for wear, defective welds, deformation and increase in length. Where such defects or deterioration are present, the sling shall be immediately removed from service.
21. Proof testing. The employer shall ensure that before use, each new, repaired, or reconditioned alloy steel chain sling, including all welded components in the sling assembly, shall be proof tested by the sling manufacturer or equivalent entity, in accordance with paragraph 5.2 of the American Society of Testing and Materials Specification A391-65, which is incorporated by reference as specified in Sec. 1910.6 (ANSI G61.1-1968). The employer shall retain a certificate of the proof test and shall make it available for examination.
22. Any change to crane configuration (boom length, cable size, number of parts of line, etc.) shall require authorization from the BPWE Site/Facility Manager or delegate.
23. Bypassing of the boom kick-out, anti-two blocking, or any other safety device is prohibited on any crane.
24. All lattice boom crawler cranes shall have a means by which the operator can determine wind speed at the tip of the boom or jib.
25. All non-lattice boom crane operators shall have an anemometer available at the location of the lift.
26. Upon completion of crane assembly, the equipment must be inspected by a 3rd party qualified person to assure that it is configured in accordance with the manufacturer's equipment criteria.
27. Equipment manufactured after November 8, 2011 with lattice booms must be equipped with walkways on the boom(s) if the vertical profile of the boom (from cord centerline to cord centerline) is 6 or more feet.
28. Only when it has been determined that there are no other means possible may an employee perform his/her work under a suspended load. The BPWE Site/Facility Manager, or delegate, must review the procedure prior to this taking place.
29. Prior to turbine component lifting taking place, the lifting contractor and BPWE must develop and agree upon cut off wind speeds by turbine component.

30. The contractor must erect and maintain control lines, warning lines, railings or similar barriers around cranes swing radius to mark the boundaries of the hazard areas.
31. No employees are allowed stand on a suspended load.
32. Without prior approval by the BPWE Site/Facility Manager, chains may not be used for lifting.
33. Outrigger pads must be placed under all outriggers regardless of soil type. The size of the outrigger pads must be in compliance with the manufacturers recommendations as well as, when making a critical lift, the requirements of the BPWE Critical Lift Procedure in regards to ground bearing pressures.
34. Non-essential personnel in the vicinity of the lifting operations who are not directly involved with the lift shall stay out of the area of maximum boom radius.
35. While the operator is not moving a suspended load, no employee must be within the fall zone, except for employees:
    i. Engaged in hooking, unhooking or guiding a load
    ii. Engaged in the initial attachment of the load to a component or structure
    iii. Operating a concrete hopper or concrete bucket

5.6 Power Line Requirements

1. All crane operations, either lifting or walking, near power lines must comply with 29 CFR 1926.1407, 1926.1408, 1926.1409, 1926.1410, 1926.1411, or any other applicable regulations.
2. It must be assumed that all power lines are energized unless the utility owner/operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.
3. All overhead powerlines, which site roads intersect, that are within the project's boundaries must be identified by, but not limited to, signage which identifies the height of the line and voltage of the line. The signs must be placed on the operator's side of the road on both sides of the powerline.
4. Prior to lifting, the operator must determine if any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a 350 kV or less power line (If the line is in excess of 350 kV refer to 29 CFR Part 1926.1409). If so, the contractor must meet the one of the three following requirements:
    I. Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.
    II. Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in 29 CFR 1926.1408(b).

III. Maintain required clearances specified in Table A below.

TABLE A—MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

5. Equipment operations in which any part of the equipment, load line, or load (including rigging and lifting accessories) is closer than the minimum approach distance under Table A of § 1926.1408 to an energized power line is prohibited, except where the employer demonstrates that all of the requirements are met set forth in 29 CFR Part 1926.1410, at a minimum, are met.
6. All crane walking/mobilization must comply with the 29 CFR Part 1926.1411, the BPWE Crane Mobilization Procedure, crane manufacturer's requirements, and any other applicable requirements.

5.7 Special Provisions for Personnel Lifts

1. The use of equipment to hoist employees is prohibited except where the employer demonstrates that the erection, use, and dismantling of conventional means of reaching the work area, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform, or scaffold, would be more hazardous, or is not possible because of the project's structural design or worksite conditions.
2. In the case of personnel lifting, the lift shall be conducted in accordance with the guidelines detailed in 29 CFR Part 1926.1431.
3. A visual inspection for damage shall be conducted by the operator before using any lifting equipment and at least quarterly thereafter.
4. A trial lift must be completed in accordance with 29 CFR Part 1926.1431(h).
5. Equipment with outriggers or stabilizers must have them all extended and locked.
6. Two-way communication shall be maintained between the crane operator and the riggers/signalman. If communications fail, the job shall be shut down as soon as it can be done safely until communication is re-established.

7. *Capacity: Use of suspended personnel platforms*. The total load (with the platform loaded, including the hook, load line and rigging) must not exceed 50 percent of the rated capacity for the radius and configuration of the equipment, except during proof testing.
8. *Capacity: Use of boom-attached personnel platforms*. The total weight of the loaded personnel platform must not exceed 50 percent of the rated capacity for the radius and configuration of the equipment (except during proof testing).
9. Crane load-radius charts for static and dynamic lifting must be located in plain sight of the operator and used for each lift.
10. Hooks used in the connection between the hoist line and the personnel platform (including hooks on overhaul ball assemblies, lower load blocks, bridle legs, or other attachment assemblies or components) must be closed and locked when attached.

5.8 Maintenance

1. Adhere to manufacturers requirements for all cranes and rigging.
2. Maintenance and repair personnel must meet the definition of a qualified person with respect to the equipment and maintenance/repair tasks performed.
3. Maintenance, inspection and repair personnel are permitted to operate the equipment only where all of the following requirements are met:
    a. The operation is limited to those functions necessary to perform maintenance, inspect the equipment, or verify its performance.
    b. The personnel either:
        i. Operate the equipment under the direct supervision of an operator who meets the requirements of § 1926.1427 or are familiar with the operation, limitations, characteristics and hazards associated with the type of equipment.
4. During night work, the main load block and auxiliary hoist shall be marked with high visibility reflective tape / markings.

NOTE: The hook shall not be painted.

5. When equipped, weight indicators must be maintained in accordance with the manufacturer's recommendations.
6. Confirm that all repairs or replacement of parts are performed only by qualified mechanics or qualified operators. Only qualified inspectors shall perform repairs to or replacement of critical components (structural parts, ball ringbolts, wire rope, winches, sheaves, pins, boom sections).
7. Report any malfunction of the crane to the site/facility manager immediately. Document and correct the malfunction.
8. Confirm that all cranes have been inspected annually by an independent agency prior to use.

9. Confirm that annual calibrations have been completed on boom mounted anemometers.
10. Confirm that boom mounted anemometers are operational and mounted such that no part of the crane structure obstructs the anemometers functionality.

5.9 Wire Ropes and Slings

1. Select and use rope and slings, including nylon slings and associated fittings, according to the manufacturer's recommended guidelines.
2. Conduct a visual inspection for damage before prior to each lift. Any sling found defective shall be immediately removed from service and destroyed.
3. Documented daily inspections, by a competent person, are required at the beginning of each shift.
4. Never shorten slings with knots or bolts. Knots should never be used with any sling, chain, or wire rope.
5. Never pull slings from under a load when the load is resting on the sling.
6. Never place hands or fingers between the sling and the load.
7. Chains shall not be used for lifting unless it has been determined by the Site / Facility Manager, or delegate, and the PIC that all other means of rigging are not possible.
8. All inspections and documentation must be in compliance with 29 CFR Part 1926.1413.

At a minimum, equipment shall be inspected for the following:

- Kinking
- Crushing
- Cutting
- Upstanding or broken wires of sling ropes and damage to nylon slings from ultra violet light
- Cuts, tears and or unreadable detail on the sling label
- Properly applied and in good condition clips and fittings
- For synthetic slings, slings that are free of tears and raveled edges
- Properly lubricated metal ropes or metal slings (where applicable)

The following shall be considered criteria for rejection of the sling and immediate removal from service:

- For strand laid and single part slings, ten randomly distributed broken wires in one rope lay or five broken wires in one strand in a one rope lay
- For multi-part braid or cable, laid slings with less than an 8 part braid, 20 allowable broken wires per lay or braid, or 1 broken strand per sling length

- For 8 part and greater braided slings, 40 allowable broken wires per lay or braid, or 2 broken strands per sling length

> **NOTE:** Either the broken wire count or broken strand count shall apply separately to one braid length or one lay length in the cable-laid body.

- Abrasion, scrubbing or peening causing loss of more than 1/3 the original diameter or outside individual wires
- Evidence of rope deterioration from corrosion
- Kinking, crushing or other damage that results in detrimental distortion of the rope structure
- Any evidence of heat damage, including bare electrical conductor grounding, welding arc, or lightning strike
- Any marked reduction in diameter either along the entire main length or in any single section
- Unlaying or opening up of a tucked splice such as that formed for a flemished eye
- Core protrusion along the main length
- End attachments that are cracked, deformed, worn or loosened
- Any indication of strand or wire slippage in end attachments
- More than one broken wire in the vicinity of a zinced-on or swaged fitting, including resin poured sockets

6.0 Training

6.1 All personnel working with cranes, slings, or other lifting related devices shall be properly trained in accordance with this HSSE procedure.

7.0 Auditing

7.1 This procedure shall be reviewed every three years.

8.0 Sample Rigging Inspection Document

Common Descriptions of Rigging
Nylon Choker, Nylon Sling
Twin-Path Sling
Endless / Round Sling
Steel Choker, Steel Sling
Shackle
Picking Beam / Hoisting Beam
Chain Fall
Rolling Block
J - Hook
Multi Way Spreader

Rigging Inspection Form

Project Name: _____

Project Number: _____

Crew: _____

Foreman: _____

►Place initials for rigging that passes inspection

►Put an X for rigging that fails inspection then tag as defective and return it to your Supervisor

				Date:	Date:	Date:	Date:	Date:	Date:	Date:
Rigging Description	Part # or Serial #	Vertical Load Rating	Length / NA	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

9.0 Sample Lift Plan

Lift Plan

Component: Revision Date: 21SEP2011

1. Project Name/Plant	2. Contractor	3. Lift Date and time	4. Lift Location
5. Crane Manufacturer	6. Model Number	7. Serial Number	8. Total Boom/Boom Ext and/or Jib Lgth (ft) @ time of Lift
9. Max. radius during Lift (pick, swing and set)	10. Swing Dir. & Degrees of swing	11. Lift Elevation (ft) _____Max. _____Min.	12. Boom Angle _____Pick _____Set
13. Will Jib and/or Boom Ext be used? Yes ____ No _____ Removed _____ Erected Stowed If Yes: Length (ft) _____ _____ Weight (lb) _____ _____		14. Mfr. rated capacity from chart as outlined in Blocks 8 - 13	15. Load Description and Weight:

16. Component Weights:		
Jib / Boom Extension		Wt. _____
Headache Ball	Size: _____	Wt. _____
Load Block	Size: _____	Wt. _____
Auxiliary Boom Head:		Wt. _____
Weight of Cable (Load Fall)		Wt. _____
Slings, Rigging, Shackles, & Etc		Wt. _____
Lifting Beam or Bars		Wt. _____
Allowance for Unaccounted Material and Equipment		Wt. _____
Other		Wt. _____
Total Weight		_____

17. Weight of Load and Lift Determined By? Name: How:	
18. Total Lift Load (Block 15 + 16)	19. Load % of **Crane** Capacity (Divide Block 18 by 14)
20. Rigging Safety factor 5 to 1? Yes _____ No _____	23. Load % of **Cable** Capacity
21. Crane Quadrant Lift will be Made in?	24. Rigging Accessories, Size and Condition: Slings: Shackles: Other:
22. Rigging Inspected Prior to Lift? Yes _____ No _____ By: _____	Rated: Yes _____ No _____

25. Crane Cable and Reeving: Hoist Cable Size (In): _____ Permissible Line Pull: _____ Minimum Required Parts of Line: _____ Actual Parts of Line Reeved: _____ Maximum Load per Reeving: _____	26. Wind Speed and Direction: Time: _____ How Determined? _____ Anemometer Operable? _____ Data Logger Operable? _____ Checked By:	27. Soil Verification: Type: _____ Condition: _____ Compaction: _____ Soil Bearing Capacity Under Crane: _____ Method & Date of Determination: _____	28. Soil / Matting Requirements: Crane Ground Pressure @ Max Radius: Matting Required? Yes ____ No ____ Minimum Crane Mat Dimensions Required: Soil Bearing Pressure Under Mats:

29. Obstructions / Hazards:			30. Crane Inspection:
Electrical?	Yes ____ No ____	If Yes, Describe:	Date of Last Crane Certification _____
Rain?	Yes ____ No ____	If Yes, Describe:	Date of Last Annual Inspection _____
Overhead?	Yes ____ No ____	If Yes, Describe:	Daily Crane Inspection Completed? Yes _____ No _____
Wind Speed	Yes ____ No ____	If Yes, Describe:	Inspected By:
Underground?	Yes ____ No ____	If Yes, Describe:	
Others?	Yes ____ No ____	If Yes, Describe:	

31. Crane Level: Is Crane Level? _____ (Crane Pad < or = to 1% Side-to-Side, Front- to-Back) Checked By: _____	32. Pre-lift Meeting: Held? yes____ no_____ Date:	33. All Required Training & Certifications verified? Yes _____ No _____ By (Contractor) _____ Date _____

34. Contractor Personnel Signatures:

_____ Foreman - (Person In Charge) Date

_____ Crane Operator - (Performing Authority) Date

_____ Rigger / Rigging Inspector Date

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Lifting Operations

Document Control Details

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