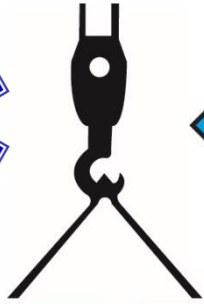
ONE ENERGY SOLUTIONS LLC

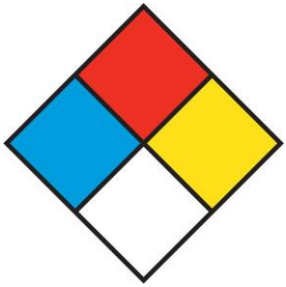
BUILDING WIND FOR INDUSTRY®

Field Safety Manual

Month, Year

Endorsed for ***PROJECT NAME – CITY, STATE***





This book belongs to:

_____

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SITE EMERGENCY PROCEDURES

Emergency Phone 911

911 Script This is the **PROJECT NAME** Wind Farm. We have an emergency. It is a (tower rescue/fire/heavy rescue/ground trauma/ground medical) emergency. Use the entrance located near _____.

CLOSEST HOSPITAL AND TRAUMA CENTER

Level X Trauma NAME
Street Address
City, State, Zip
(XXX) XXX-XXXX

Level X Trauma NAME
Street Address
City, State Zip
(XXX) XXX-XXXX

Hospital NAME
Street Address
City, State, Zip
(XXX) XXX-XXXX

SITE INFORMATION

Site Address Corner of Road ____ and Road ___
Gated entrance near
the _____
City, State, Zip

Plant Address Plant Name
Street Address
City, State, Zip

Turbine Locations

L1 XX.XXXX°, -XX.XXXX°
L2 XX.XXXX°, -XX.XXXX°
L3 XX.XXXX°, -XX.XXXX°

KEY SITE CONTACTS

OE Site Duty Phone	(XXX) XXX-XXXX
OE Project Manager	Name E-Mail (XXX) XXX-XXXX
OE Project Engineer	Name E-Mail (XXX) XXX-XXXX
CUSTOMER NAME Safety Manger	Name E-Mail Cell
CUSTOMER NAME Quarry Manager	Name E-Mail Cell
CUSTOMER NAME Plant Manager	Name E-Mail Cell
Site Specific Project Coordinator	Name E-Mail Cell

NAME Gas Company	(XXX) XXX-XXXX
Sheriff Department	_____ Sheriff (XXX) XXX-XXXX
Fire Department	_____Fire Dept (XXX) XXX-XXXX
State Poison Control	(XXX) XXX-XXXX

MSDS INFORMATION

MSDS sheets are stored digitally and are located in the folder linked to the QR code below. You can also ask any One Energy supervisor to provide the MSDS to you digitally.

QR CODE HERE

SITE RADIO CHANNELS

Channel	Use
1	Reserved
2	Civil Crew
3	Electrical Crew
4	Erection Crew
5	
6	
15	CUSTOMER NAME Radio Dispatch
16	Site Wide & Emergency Channel

SITE MAP

DRAWING HERE

QR CODE HERE

CONSTRUCTION ZONE

DRAWING HERE

QR CODE HERE

SITE TRAFFIC MAP

Traffic route to site is marked in green on the map below:

DRAWING HERE

SITE SPECIFIC SAFETY RULES

1. Employees must always carry company IDs and Training cards on their person.
2. All contractors doing work on site must have a One Energy ID guest badge. If they are on site more for than 2 days consecutively, they must have a specific (non-guest) badge issued.
3. All equipment must be inspected and recorded in the inspection log prior to being used. Inspection logs can be found in the cab of each piece of equipment.
4. Hard hats must always be worn and must have reflective tape on the sides and back.
5. Employees must always have gloves on their person, even if they are not worn

SITE SWPPP INFORMATION

This site is subject to a state issued Storm Water Pollution Prevention Plan. A Notice of Intent has been issued for this project. This project is subject to EPA inspections. Any EPA inspections outside of the Special Construction Zone must be coordinated with COMPANY NAME management.

Site SWPPP information can be found in the folder linked in the QR code below:

QR CODE HERE

MSHA INFORMATION

Employee Training Logs

Employee training records are available LOCATION

Contractor MSHA Information

Contractor ID Number XXXXX

Contractor Name _____

Site Inspection Logs

Logs for inspections can be found LOCATION

Training Plan

The MSHA Training Plan is available LOCATION.

MSHA ZONE ADDITIONAL RULES

These rules apply in all MSHA zones and they supersede all other safety rules contained in this manual.

1. All vehicles must have their tires chocked when they are not being operated.
2. All employees must wear level 1 or higher fire-resistant clothing if doing work in this area.
3. All Employees must wear high visibility clothing with reflective tape as an outer layer of clothing.

DAILY INSPECTIONS

Daily Site Inspections shall be performed by the Field Engineer or Field Supervisor on site and recorded in the site inspection book.

Site inspections shall contain the following:

1. Inspection for posted site signage and safety information including MSDS information and training logs
2. Site condition, including cleanliness and integrity of safety features such as excavation barriers, sloping and shoring of excavations, and stock pile consolidation
3. Log of all equipment on site including whether the equipment was staged that day

Daily Vehicle and Equipment Inspections shall be performed by the operator that first uses that vehicle. Inspection logs can be found in the cab of the vehicle or equipment

Current records are kept physically in the Site Control Knaack Box. All past inspections are kept digitally in ATHENA.

WEEKLY INSPECTIONS

1. SWPPP Compliance

MONTHLY INSPECTIONS

ONE ENERGY SAFETY PROGRAM

SAFETY AND QUALITY STATEMENT

Safety and quality are always first, and they always will be.

One Energy is in business to make a profit, but our operations will never be executed at the expense of the safety of our employees, our customers, or the community. We do not cut corners to improve profit. We do not hide our mistakes in safety or quality. We acknowledge them, we fix them, and we learn from them.

Safety and quality begins at the top. At One Energy, the General Manager is, and always will be, in charge of safety and quality. Likewise, every team member is responsible for the safety and quality of their work. We enable our team members to be safe and to produce a quality product through a comprehensive training program and open communication. We will hold ourselves accountable for our failures.

If we fail to integrate safety and quality into everything we do, we will fail as an organization.

Safety is not what we put in writing. Safety is not what we are able to hide. True safety comes from our culture and the individuals on our team.

Above all else, One Energy does not compromise on safety or quality.

Jereme Kent
General Manager

MISSION STATEMENT

To be a company that demands and enables our team members to deliver industry leading safety, quality, and customer satisfaction in the performance of our projects.

AUTHORITY

This document has been adopted and approved by a consensus of the Board Members of One Energy. This document may only be amended by a consensus of the Board of One Energy. The General Manager may make changes and amendments to these documents that are in accordance with the mission statement for a period of 30 days before formally amending this document.

GENERAL APPROACH

This document is not meant to be an all-inclusive itemization of rules and regulations that One Energy's employees, partners, and subcontractors shall follow. This document is meant to detail general principles and specific items where One Energy's safety program exceeds applicable safety standards. This document is organized to match the format of 29 CFR 1926 (OSHA Construction). Specific items in our safety program that differ from OSHA minimums are contained in the appropriate subsection.

CULTURE

All of the safety rules, training, and paperwork mean nothing without having the correct safety culture. No One Energy team member should hesitate to question the safety of anything we do. Every team member must take safety personally and consider themselves responsible for their safety and their teammates' safety at all times. Knowingly ignoring safety, whether it is yours, or your teammates', will not be tolerated and shall be considered grounds for immediate termination.

Under no circumstance will a team member be disciplined for asking a question about the safety of a situation or method. In the event that a team member is concerned about the safety of

a specific situation, regardless of the answer that their immediate supervisor gave them, they may call the General Manager without any fear of retribution.

One Energy General Manager: Jereme Kent (877) 298-5853 / (419) 905-5274

OSHA COMPLIANCE

This document shall be considered a supplement to 29 CFR 1926 and not a substitute. Additionally, if a more stringent state or local standard exists, then the more stringent rule shall govern. 29 CFR 1926 shall be considered incorporated by reference in its entirety for this document.

It is to be noted that in some circumstances, One Energy may or may not be legally subject to OSHA standards. One Energy shall, at all times, operate as though it is subject to OSHA and the balance of this document.

NATIONAL CONSENSUS STANDARDS

Throughout this document, several *National Consensus Standards* are included or referenced. It is the belief of One Energy that in many cases the additional rules, regulations, and standards contained in these documents will provide for a safer workplace. The most current version of the referenced document shall be considered part of this document. Workers who are not familiar with the specific referenced documents shall be provided training on those standards as they relate to their work.

The *National Consensus Standards* are considered a part of this manual and should be read in conjunction with this document.

SUBCONTRACTORS

All subcontractors shall comply, at a minimum, with these standards including all inclusions and references. Subcontractors are, and shall be considered, team members. We succeed together and we fail together. In order to be industry leaders in safety, we must hold all of our team

members to the highest of standards. Additionally, One Energy must not be so arrogant as to think that we have the best safety program available. We will learn from our subcontractors' safety culture and programs. In the event that there is a conflict with a subcontractor's safety program and One Energy's, then the more stringent shall govern.

1926 Subpart A - General

1. All One Energy team members shall cooperate and comply with properly identified OSHA inspectors and shall allow them reasonable access to all One Energy sites without requiring any warrants.
2. OSHA inspectors shall comply with all applicable safety regulations in this document and shall be required to review and acknowledge the JSA that covers the area(s) they are visiting.
3. Corporate office shall be informed in a timely manner that an OSHA inspector has approached or been on a project site.
4. One Energy sites shall always have at least one supervisor who has completed OSHA 30 hour, OSHA 510, or OSHA 500 training, during any time when work is being performed.
5. This supervisor shall be provided with this document in its entirety, and any referenced standards with which the supervisor is not familiar.
6. Posting of the OSHA 300 log shall take place at the corporate office only, unless directed differently by a company officer.
7. Any team member may, at any time, request and be provided with, a copy of the current OSHA 300 log in a timely manner.
8. All safety accidents or near misses shall be documented and reported to the relevant corporate officer as soon as the situation safely permits.

1926 Subpart B - General Interpretations

This section is included without modification.

1926 Subpart C - General Safety and Health Provisions

1. No construction, repair, or maintenance work shall be started at any project site until a Job Safety Analysis (JSA) is completed, discussed, and signed by all individuals who will be affected by the tasks being performed.
   a. The standard form JSA (Appendix A) shall be used or subcontractor equivalent.
   b. JSAs shall be kept and submitted regularly to the corporate office where they will be reviewed and filed.
   c. JSAs shall be specific to the site, the task(s), and the day.
   d. In the event there is a change from the tasks or hazards covered on the JSA, the JSA shall be modified accordingly, and the crew informed of the change.
2. Sites shall be kept reasonably free of trash and shall be regularly cleaned. Site cleaning shall be integrated into work practices to ensure an orderly workplace.
3. In addition to Subpart E, Personal Protective and Life Saving Equipment;
   a. Safety glasses and hard hats shall always be worn.
   b. While working over an exposed fall hazard, all hard hats shall have chin straps.
   c. Any time equipment, including pickup trucks, is at the site and is currently running all team members shall wear high visibility shirts or vests.
   d. All workers in a wind turbine shall have a light source regardless of other circumstances.
4. Stretch and Bend
   a. Prior to any work being performed at a site, all team members shall participate, as a group, in a reasonable stretch and bend program. After any prolonged break, the stretch and bend shall be repeated.

5. Smoking is strictly prohibited within the turbine tower, nacelle, and hub. Violation of this rule is grounds for immediate termination.

1926 Subpart D - Occupational Health and Environmental Controls

1. All worksites shall have ready access to first aid equipment and treatment.
   a. A First Aid kit shall be readily available at all worksites.
   b. A trauma kit shall be available at all sites where turbine erection is being performed.
2. An individual who is certified in both First Aid and CPR by a nationally recognized agency shall be available at all sites where work is being performed.
3. Potable water shall be provided at all One Energy sites.
   a. On days with a peak temperature above 90 degrees Fahrenheit, a commercially available electrolyte replenishment drink such as Gatorade™ or Powerade™ shall be provided.
4. Any employee who will be working with or around a substance that presents an inhalation, absorption, or ingestion hazard shall be made aware of the associated hazards and proper procedures by a qualified supervisor.
   a. One Energy shall provide necessary PPE (Personal Protective Equipment).
   b. The chemical, task, and precautions shall be identified on the JSA.
   c. One Energy shall make every reasonable effort to use chemicals and substances that do not present a health hazard.
5. MSDSs (Material Safety Data Sheets) shall be freely available at the project site for all chemicals on that site.
6. One Energy team members shall not be exposed to NFPA Health Hazard 3 or 4 substances or chemicals without permission from a corporate officer.

7. One Energy employees shall not be knowingly exposed to radiation, lead, asbestos, or any chemicals listed under 1926.64 Appendix A.
8. All chemicals and substances shall be stored and disposed using good industry practice.

1926 Subpart E - Personal Protective and Life Saving Equipment

1. One Energy shall provide the following Personal Protective Equipment (PPE):
   a. Hardhat
   b. Safety Glasses
   c. Vest (when required)
   d. Gloves
   e. Hearing Protection
   f. Specialty Safety Equipment
2. With the site supervisor's permission, a team member may use their own PPE, provided it meets or exceeds the applicable safety standards.
3. One Energy Team members are responsible for providing and wearing the following:
   a. Acceptable long pants
   b. A shirt with sleeves (4 inch minimum)
   c. Safety Protective Boots, either steel or composite toe
   d. Clothes necessary to deal with the effects of the weather
4. No work shall be done in areas around water where there is the potential for a team member to fall into the water unless the following conditions are met:
   a. A corporate officer has approved the project and task.
   b. An individual who has been properly equipped and trained to perform a rescue is present at the site.
   c. All employees are required to wear a U.S. Coast Guard approved personal flotation device.
5. Lasers that exceed the OSHA published maximum energy intensity for small construction lasers shall not be used.

1926 Subpart F - Fire Protection and Prevention

This section is included without modification.

1926 Subpart G - Signs, Signals, and Barricades

This section is included without modification.

1926 Subpart H - Materials Handling, Storage, Use, and Disposal

1. The following standards shall govern material handling operations that involve rigging of any sort, unless an OSHA standard is more stringent:
   a. ASME B30.9 Slings
   b. ASME B30.10 Hooks
   c. ASME B30.20 Below the Hook Lifting Devices
   d. ASME B30.26 Rigging Hardware
2. For all material handling tasks that involve the rigging of more than 500 pounds of force (including lifting and pulling), a rigger certified by an accredited agency shall be present and responsible.
   a. The towing of trucks is not subject to this statement.
   b. The following agencies are currently acceptable:
      i. NCCCO
      ii. NCCER
      iii. American Petroleum Industry
      iv. Advanced Rigging from CICB
3. Rigging shall be purchased from approved vendors only.
4. All rigging shall have an attached identification tag, indicating load rating.
5. Only rated rigging may be used for lifting operations.
6. All tag lines with possible loads above 500 lbs or longer than 100 feet shall be considered rigging.
   a. All "rigging tag lines" shall be NFPA G rated or higher and only load rated devices shall be used in the load path.
   b. Any friction or control devices shall be load rated and shall have a "life safety" rating from the NFPA or equivalent approved standard.

1926 Subpart I - Tools - Hand and Power

This section is included without modification.

1926 Subpart J - Welding and Cutting

1. No hot work shall take place inside any enclosed space without having a dedicated firewatch who shall remain at the site for 30 minutes after the hot work is completed.

1926 Subpart K - Electrical

This section is included without modification.

1926 Subpart L - Scaffolds

1. No scaffolds shall be used without written approval from a corporate officer.
   a. This approval shall only be granted when it can be shown that a scaffold is the safest way to do the work.
   b. This approval shall only be granted when an individual who is competent in the use of the particular scaffold system will be present on site.
   c. At all times, while on a scaffold of any size, all team members shall utilize 100% tie off when exposed to a potential fall of 6 feet or more.

1926 Subpart M - Fall Protection

1. One Energy team members, because of the type of work we perform, are exposed to fall hazards on a regular basis. It is important that all team members are generally familiar with safe practices for work at height. All team members who will work at height must be enabled through training, proper work methods, engineering controls, and proper equipment to work as safely as possible at height.
2. Incorporated *National Consensus Standards*
   a. ASME Z359 (all sections) Fall Protection Standard
   b. Cordage Institute International Standards shall establish the safe working rules for all life safety rope for standards not covered by NFPA
      i. CI 1201-06 Fiber Ropes, General Standard

ii. CI 1202-03 Terminology for Fiber Rope
iii. CI 1803-03 Kernmantle Accessory Cords
iv. CI 2001-04 Fiber Rope Inspection and Retirement Criteria
v. CI 2005-03 Inspection of Kernmantle Rope

3. Appointments
   a. Fall Protection Program Administrator: Jereme Kent
   b. Competent Rescue Trainer: Jereme Kent
4. All team members shall be protected from a fall when they are exposed to a potential fall of more than 6 feet.
   a. A potential fall is defined as a change in elevation of more than 6 feet from the individual's working level to the lowest surface where they could potentially land in the event of a fall.
      i. A slope of greater than 60 degrees above the horizontal shall count as a vertical wall when determining potential fall height.
   b. All systems will be inspected prior to each use by a competent individual and additionally throughout the work as required to ensure the system is operating as intended.
   c. All fall hazards and their means of protection shall be recognized on the JSA prior to work beginning.
   d. No individual may work with a harness of any kind without having been trained in the use, inspection, and methods related to the equipment used in that method of Fall Protection.
   e. The protection method will be one of the following in order of preference:
      i. Fall Prevention
         1. The use of this method removes the potential of a fall altogether.
         2. Examples of this method include guardrails, hole covers, temporary barricades, and other methods that eliminate the potential of the fall.
         3. All guardrail systems shall meet the specifications outlined in 7 CFR 1926.

ii. Fall Restraint
   1. This method prevents individuals who are exposed to a potential from physically being able to put themselves in a position to fall.
   2. All fall restraint systems shall be required to meet the strength specifications of Fall Arrest systems.
      a. All connectors and attachment points shall have a minimum strength of 5000 lbs per individual attached to that connector.
   3. A full body harness must be worn with all fall restraint systems.
   4. All cable grab systems that are used as part of a fall restraint system shall meet the following specifications:
      a. They must be attached to a chest D ring on a full body harness
      b. They must limit the total fall exposure to no more the 18 inches total in any configuration used.
      c. They must be used with a system strength of 5000 pounds per person on the system at any one time.
      d. They must be on 8.0 to 9.5 mm aircraft grade wire rope.
      e. All wire rope end connections must be installed with the most current Crosby recommendations as found in the Crosby manual.
      f. Wire rope used in fall restraint systems must have no other use.
      g. All wire rope systems installed by One Energy will be 9mm wire rope.
   5. Rope Grab Systems
      a. The only rope grab system allowed by One Energy is the Petzl ASAP.
      b. This system must be attached to the dorsal D ring and shall be treated as a fall arrest system.
      c. This system must be installed using NFPA G rated static rope that is in accordance with the most current Petzl guidance.

6. Work positioning systems shall not be considered Fall Restraint.
   a. An individual who is using a work position system shall also be required to have in place a Fall Arrest system.
   b. All work positioning systems shall have minimum system strength of 5000 pounds.
   c. Individuals who climb lattice towers shall be required to climb with at least one Work Positioning System and a harness with side D Rings.

iii. Fall Arrest

1. This method must be used when neither Fall Prevention nor Fall Restraint can be used to control fall exposure.
2. This method is a way of controlling the forces placed on the body once a fall has occurred to safely stop the individual.
3. All forces on the body shall be limited to 1800 pounds.
4. The Fall Arrest system must be designed to have minimum system strength of 5000 pounds per person on the system.
5. All Fall Arrest systems must be attached to the dorsal D Ring of the individual.
6. All team members who will be climbing a tower, regardless of type, shall climb with two shock absorbing lanyards or a "Y" lanyard (preferred).
7. Only Fall Arrest harnesses approved by a company officer shall be used. This includes personal harnesses provided by team members.
8. One Energy shall provide harnesses for team members. Team members may use own harnesses provided the above approval is given.
9. Regardless of fall exposure, all individuals who are climbing a tower of any type shall keep their

harness on at all times unless doing so would present a greater risk.

a. The "greater risk" exemption may only apply when there is ZERO potential for a fall exposure.
b. An example is when working inside an enclosed nacelle and around the rotating drive shaft where the potential for the harness or lanyards to become caught presents a greater risk.

10. The Fall Arrest system must be designed so that the individual can maintain 100% tie off, meaning that at no point are they exposed to an un-arrested fall.

f. Tower Rescue

i. No individual may climb more than 20 feet on any lattice tower without a rescue system in place and a trained individual, other than the worker, present at the immediate worksite.
ii. For heights above 50 feet, a rope tower rescue system shall be in on site and readily available.
iii. The Rope Tower Rescue System shall:
1. Meet the requirements of a rescue system under ANSI Z359.4.
2. Consist of the Petzl ID Large as the primary descent control device. Alternate systems may be used only with corporate approval.
3. Be packed only by an authorized individual as defined by ANSI Z359.4.
4. Be inspected and documented at least monthly.
iv. The Rescuer shall:
1. Have completed a Tower Rescue Course that meets the requirements of one of the following standards:
a. National Association of Tower Erectors
b. ANSI Z359.4 for Authorized Rescuer
c. NFPA Rope Rescue Technician Level 1 or Higher
d. SPRAT Level 1 or higher
2. Regardless of the initial training, be trained specifically for the Petzl ID and the specific way in which it is packed for their job tasks.

3. Regularly (every 6 months) receive refresher training on the system.

v. Post Rescue

1. All individuals who are rescued after a fall from height where they hung suspended for any period of time shall be treated for orthostatic shock.
   a. They shall be transported to the hospital by advanced life support qualified paramedics only.
   b. They shall be screened for kidney function.

5. Rope Access
   a. It is not the intention of One Energy to engage in rope access work.
   b. In the event that rope access is the only reasonable means to accomplish the work, then only individuals who have received rope access training by a nationally accredited agency may perform the work.
6. Crane Assembly Exception
   a. A specific fall protection plan shall be in place for crane assembly operations.

1926 Subpart N - Helicopters, Hoists, Elevators, and Conveyors

This section is included without modification.

1926 Subpart O - Motor Vehicles, Mechanized Equipment, and Marine Operations

This section is included without modification.

1926 Subpart P - Excavations

1. No shoring or trench boxes of any kind shall be used.
2. No multi-angle sloping systems shall be used as a protection system.
3. The balance of this Subpart is adopted without modification.

1926 Subpart Q - Concrete and Masonry Construction

This section is included without modification.

1926 Subpart R - Steel Erection

The provisions of Subpart R that differ from Subpart M with respect to fall protection are not adopted. Otherwise, the balance of Subpart R is adopted without modification.

1926 Subpart S - Underground Construction, Caissons, Cofferdams, and Compressed Air

This section is included without modification.

1926 Subpart T - Demolition

This section is included without modification.

1926 Subpart U - Blasting and the Use of Explosives

This section is included without modification.

1926 Subpart V - Power Transmission and Distribution

This section is included without modification.

1926 Subpart W - Rollover Protective Structures; Overhead Protection

This section is included without modification.

1926 Subpart X - Ladders

This section is included without modification.

1926 Subpart Y - Commercial Diving Operations

No commercial diving operations shall be performed by One Energy or its team members.

1926 Subpart Z - Toxic and Hazardous Substances

This section is included without modification.

1926 Subpart CC - Cranes and Derricks in Construction

1. All cranes that are erected on site and will be used for critical picks require that an inspector not involved in the

crane erection do a complete inspection on the crane after it is assembled.

2. Cranes may be partially disassembled and reassembled on site provided the following are met:
   a. If more than a boom and counterweight disassembly is required, then an independent inspector is required after reassembly.
   b. A qualified erector must be present for any modifications, or full or partial breakdowns.
3. A crane erection specific JSA must be done prior to any erection activities.
4. A hard copy of the crane assembly manual must be present at the site prior to any assembly/ disassembly activity taking place.
5. "Walking the Boom" will only be permitted below 10 feet and when no other option is feasible or safer. If this is to be done, it must be addressed on the JSA.
6. Incorporated Standards
   a. ASME B30.5 Mobile Cranes
7. All crane operators for mobile cranes as defined by ASME B30.5 above 3 tons shall be certified by a nationally accredited crane operator program.
8. A pre-pick meeting shall be held prior to ALL critical picks.
9. Critical Pick Policy
   a. All picks above 30,000 lbs, 50% of crane gross capacity, or valued at more than US$50,000, shall be considered critical picks. Critical picks shall be planned in writing with the appropriate level of detail per the following schedule:
      i. <u>Level 1 Critical Pick</u>
         1. Any of the following: 30,000 lbs, 50% gross capacity, valued at US$50,000 or greater.
         2. Written pick plan that includes crane capacity, detailed weight calculation, percentage of capacity, maximum wind speed, maximum radius, and other data necessary to ensure a safe crane pick.

3. Approval: Certified Crane Operator, Certified Rigger, foreman in charge (may be rigger).

ii. Level 2 Critical Pick

1. Any of the following: 75,000 lbs, 75% gross capacity, valued at US$100,000 or greater, or tandem picks.
2. Written pick plan that includes crane capacity, detailed weight calculation, percentage of capacity, maximum wind speed, maximum radius, maximum height, and other data necessary to ensure a safe crane pick.
3. Written ground loading, bearing pressure, matting plan.
4. Written boom and load geometry plan.
5. Written rigging and tagline plan.
6. Written pre-pick checklist.
7. Approval: Contractor qualified pick planner, One Energy qualified pick planner review, certified crane operator, certified rigger, foreman in charge (may be rigger).

iii. Level 3 Critical Pick

1. Any of the following: 150,000 lbs, 90% gross capacity, valued at US$500,000 or greater.
2. Written pick plan that includes crane capacity, detailed weight calculation, percentage of capacity, maximum wind speed, maximum radius, maximum height, and other data necessary to ensure a safe crane pick.
3. Written ground loading, bearing pressure, matting plan.
4. Written boom and load geometry plan.
5. Written wind loading evaluation.
6. Written certification of load weight, or plan to determine weight.
7. Written hazard/ failure mode analysis.

8. Written rigging and tagline plan.
9. Written pre-pick checklist.
10. Approval: Contractor qualified pick planner (must demonstrate experience on similar picks, PE alone is not acceptable), One Energy General Manager, certified crane operator, certified rigger, foreman in charge (may be rigger).

iv. Notes

1. One copy of the pick plan materials shall be kept in the crane cab.
2. One copy of the pick plan materials shall be maintained by One Energy.
3. One copy of the pick plan materials shall be maintained by contractor.
4. The pre-pick plan checklist, when required, shall be completed in writing by the crane operator prior to the pick beginning.

10. Methods shown in the latest edition of the reference text, *Cranes and Derricks* by Shapiro and Shapiro, shall be used to calculate the wind and ground loading of all picks exceeding 50,000 lbs.
    a. All calculations shall be attached to the pick plan.
    b. All calculations shall be made by a certified rigger with professional education or training in engineering calculations of this type.
11. Crawler crane walks shall be planned and executed only by those approved by the General Manager. All such walks shall include a written plan, geotechnical engineer review, bearing pressure analysis, and proof roll.

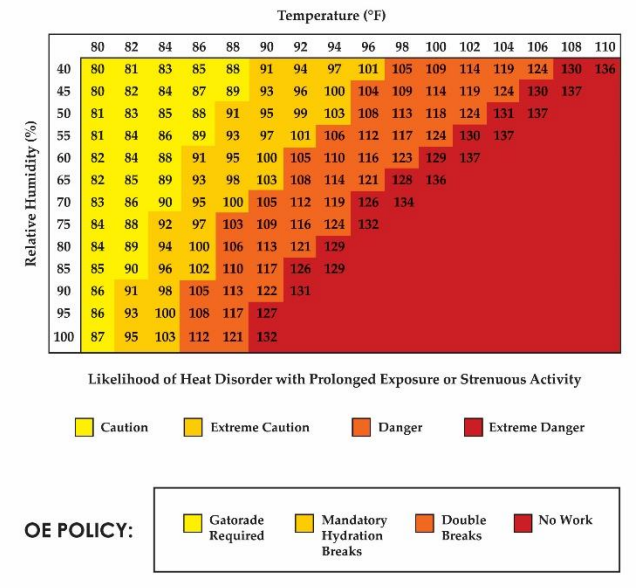
12. Tandem Picks
    a. All tandem crane picks, including tailing operations, shall require a pick plan for both cranes, and a summary sheet that shows the geometry used in each crane's pick plan.

b. During a tandem pick, no crane shall make a pick exceeding 75% of its rated capacity.
c. The certified rigger responsible for the tandem pick shall have experience and engineering abilities necessary to calculate the loading of each crane throughout the lifting process.
d. During a tandem pick, no crane's load line shall be allowed to become more the 10 degrees off vertical.

13. Man Baskets
    a. No man basket picks shall be made without the review and approval of the General Manager.
    b. All man basket picks shall be subject to the restrictions in 1926 Subpart M.
14. Wind speed shall be based on the crane, the load, and the task. Maximum speeds must be identified on the JSA and the pick plan. The highest gust at tip height shall be the speed.

HELPFUL REFERENCES

ONE ENERGY'S HEAT SAFETY POLICY



OE POLICY:

Gatorade Required | Mandatory Hydration Breaks | Double Breaks | No Work

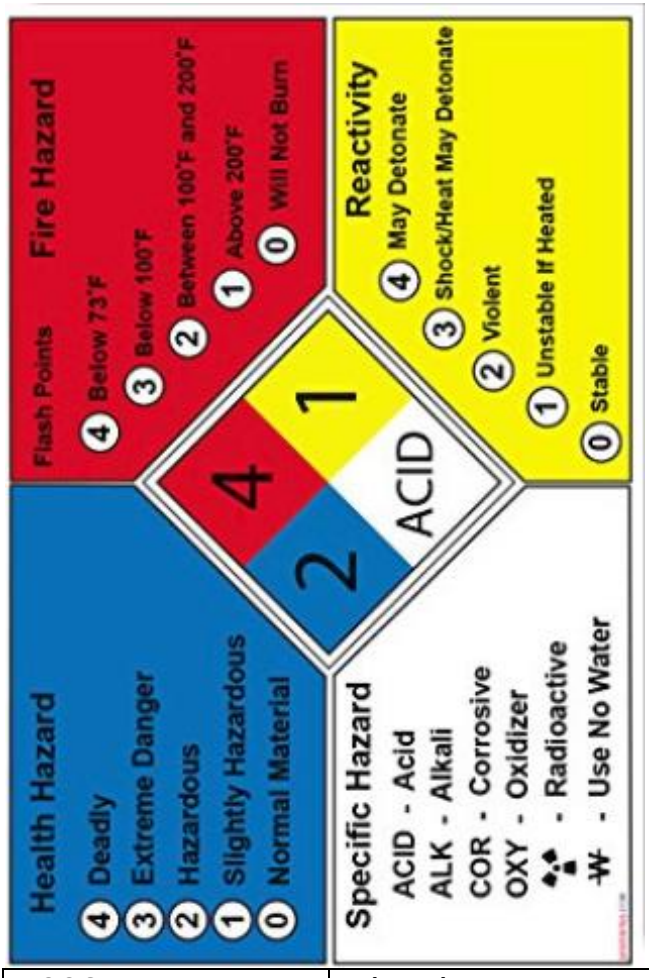
One Energy's Heat Safety Policy is based on the Heat Index published by the National Weather Service, a division of the National Oceanic and Atmospheric Administration (NOAA).

Source: http://www.nws.noaa.gov/os/heat/index.shtml

Avoid/limit exposed work. Clothing Checks. Ensure heated space is available.

Emergency Work Only

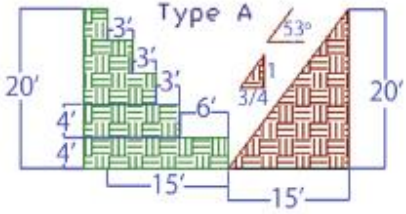
No Work

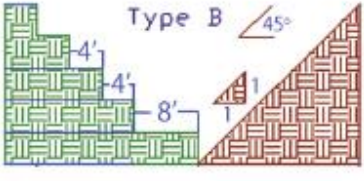


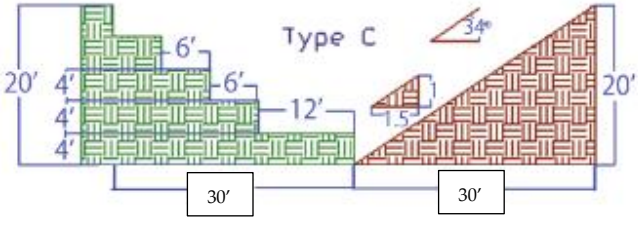
1993	Diesel
1263	Gas

****Download "CARGO DECODER" app to identify all ID Codes**

Soil Benching/Sloping



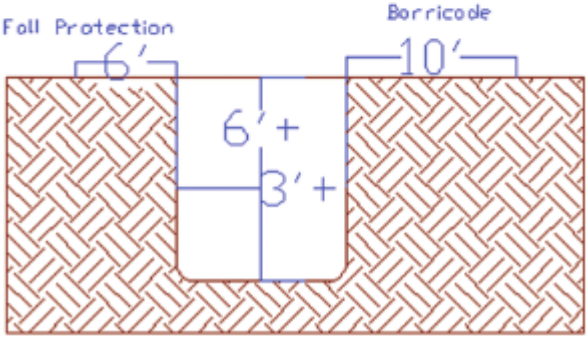




Trench Excavation Rules

- Egress within 25ft of work for trenches over 4ft deep
- Over 5ft deep requires shoring/protection
- Inspected daily/prior to entry
- Over 4ft deep may require gas testing
- Spoils/Equipment 3' clear of edges
- Over 20' depth requires PE

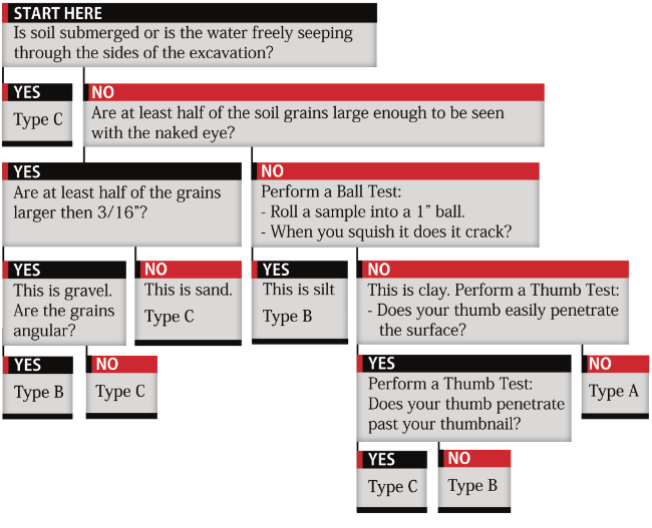
Unprotected Shaft Excavation



811 Color Codes

White	Proposed Excavation
Pink	Temporary Survey Markings
Red	Electric Power Lines, Cables, Conduit, and Lighting Cables
Yellow	Gas, Oil, Steam, Petroleum, or Gaseous Materials
Orange	Communication, Alarm or Signal Lines, Cables, or Conduit
Blue	Potable Water
Purple	Reclaimed Water, Irrigation, and Slurry Lines
Green	Sewers and Drain Lines

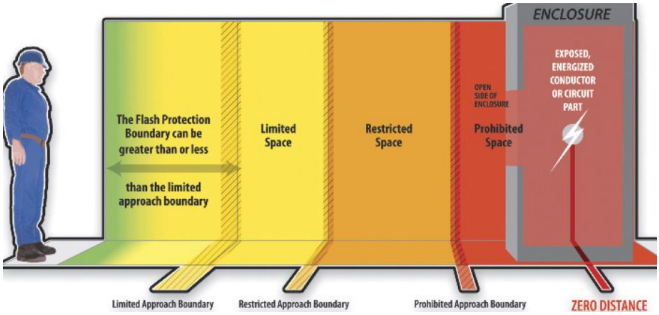
SOIL CLASSIFICATIONS



Type: Extinguisher / Fire	CLASS A: Combustible materials (e.g. paper & wood)	CLASS B: Flammable liquids (e.g. paint & petrol)	CLASS C: Flammable gases (e.g. butane and methane)	CLASS D: Flammable metals (e.g. lithium & potassium)	Electrical: Electrical equipment (e.g. computers & generators)	CLASS F: Deep fat fryers (e.g. chip pans)	Comments
Water	✓	✗	✗	✗	✗	✗	Do not use on liquid or electric fires
Foam	✓	✓	✗	✗	✗	✗	Not suited to domestic use
Dry Powder	✓	✓	✓	✓	✓	✗	Can be used safely up to 1000 volts
CO2	✗	✓	✗	✗	✓	✗	Safe on both high and low voltage
Wet Chemical	✓	✗	✗	✗	✗	✓	Use on extremely high temperatures

NFPA 70 E TABLE 130.2 (C)

NOMINAL SYSTEM VOLTAGE RANGE	LIMITED APPROACH BOUNDARY	LIMITED APPROACH BOUNDARY	RESTRICTIVE APPROACH BOUNDARY	PROHIBITIVE APPROACH BOUNDARY
PHASE TO PHASE	EXPOSED MOVABLE CONDUCTOR	EXPOSED FIXED CIRCUIT	INCLUDES INADVERTENT MOVEMENT ADDER	INCLUDES REDUCED INADVERTENT MOVEMENT ADDER
LESS THAN 50 V	NOT SPECIFIED	NOT SPECIFIED	NOT SPECIFIED	NOT SPECIFIED
50 TO 300 V	10 FEET 0 INCH	3 FEET 6 INCH	AVOID CONTACT	AVOID CONTACT
301 TO 750 V	10 FEET 0 INCH	3 FEET 6 INCH	1 FEET 0 INCH	0 FEET 1 INCH
751 TO 15 KV	10 FEET 0 INCH	5 FEET 0 INCH	2 FEET 2 INCH	0 FEET 7 INCH
15.1 TO 36 KV	10 FEET 0 INCH	6 FEET 0 INCH	2 FEET 7 INCH	0 FEET 10 INCH
	DISTANCE IN FEET AND INCHES OF THE ENERGIZED PART FROM THE PERSONNEL			



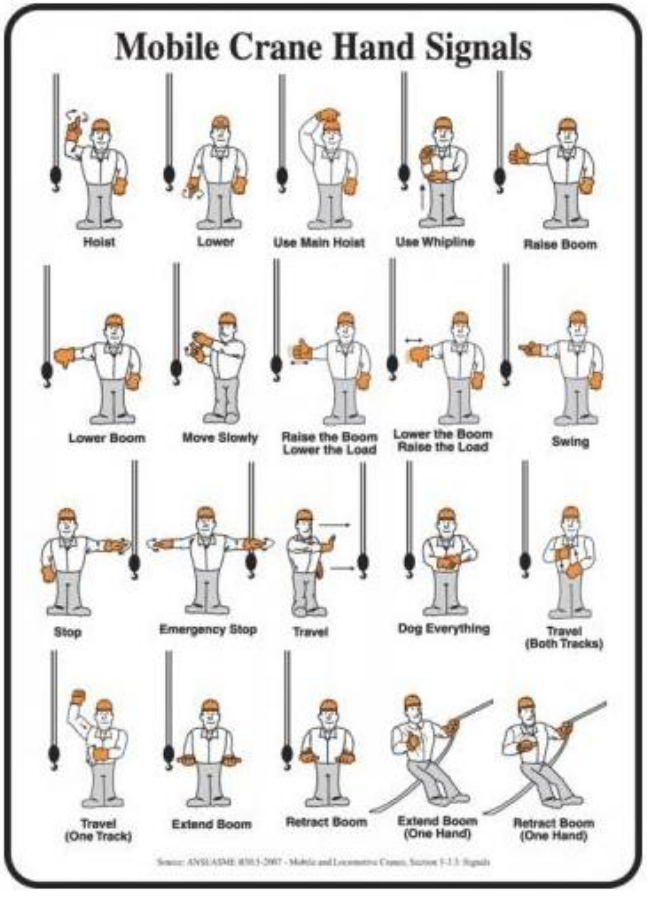
Crane Operation Near Power Lines

Operation Near High-Voltage Power Lines	
Normal Voltage	**Minimum Clearance**
to 50 kV	10 feet
Over 50 to 200 kV	15 feet
Over 200 to 350 kV	20 feet
Over 350 to 500 kV	25 feet
Over 500 to 750 kV	35 feet
Over 750 to 1000 kV	45 feet

ASME B30.5-2004

Operation In Transit With No Load And Boom Lowered	
Normal Voltage	**Minimum Clearance**
to 0.75 kV	4 feet
Over 0.75 to 50 kV	6 feet
Over 50 to 345 kV	10 feet
Over 345 to 750 kV	16 feet
Over 750 to 1000 kV	20 feet

ASME B30.5-2004


Mobile Crane Hand Signals
Hoist
Lower
Use Main Hoist
Use Whipline
Raise Boom
Lower Boom
Move Slowly
Raise the Boom
Lower the Load
Lower the Boom
Raise the Load
Swing
Stop
Emergency Stop
Travel
Dog Everything
Travel
(Both Tracks)
Travel
(One Track)
Extend Boom
Retract Boom
Extend Boom
(One Hand)
Retract Boom
(One Hand)

NIMS

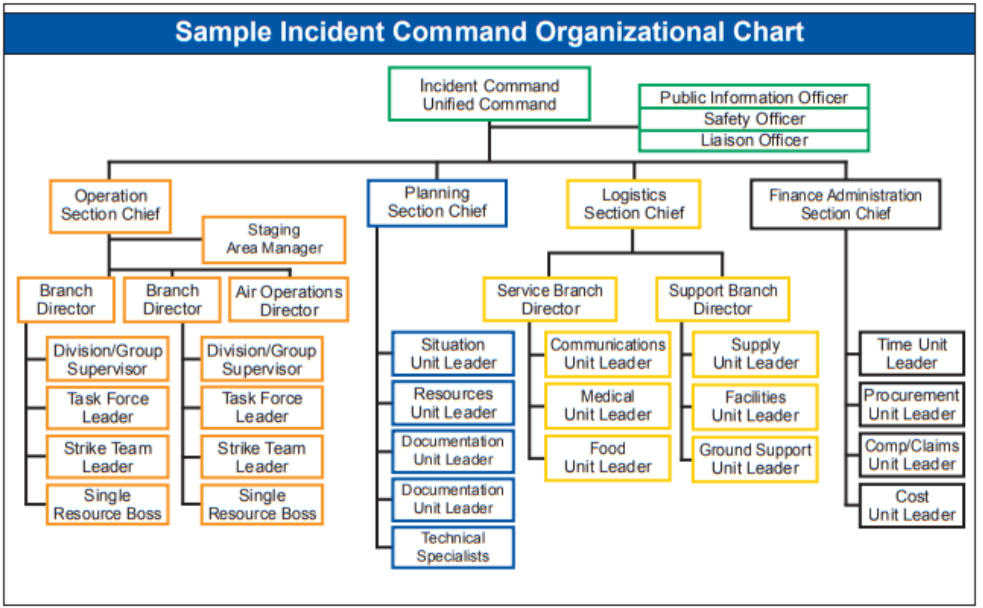
ICS Position Titles

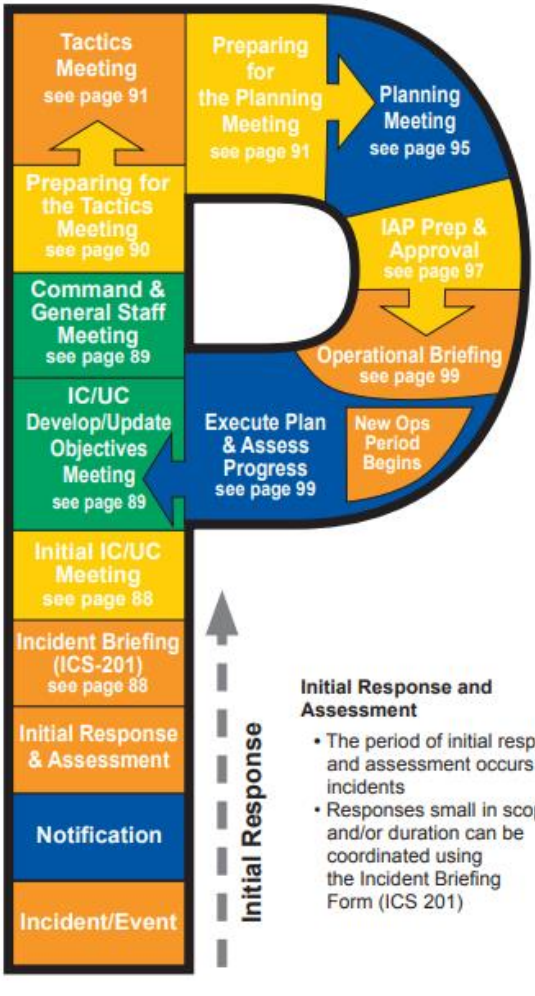
Organizational Element	Leadership Position Titles	Support Positions
Incident Command	Incident Commander	Deputy
Command Staff	Officer	Assistant
Section	Section Chief	Deputy
Branch	Branch Director	Deputy
Divisions & Groups*	Supervisors	N/A
Unit**	Unit Leader	Manager, Coordinator
Strike Team/Task Force	Leader	Single Resource Boss, Companies/Crews
Single Resource Boss	Boss	N/A
Technical Specialist Specialist	Specialist	N/A

ICS Organization and Operations

ICS organizations have five major functional areas, referred to as **Command** and **General Staff**: **Command, Operations, Planning, Logistics, Finance/Administration**, and may include the **Intelligence/Investigations** function which can be organized a number of ways.

- **Command**
  - The **Command Position** can be a single Incident Commander (**IC**), or Unified (**UC**)
  - **Command Staff** consists of the Public Information Officer (**PIO**), Safety Officer (**SO**), and the Liaison Officer (**LNO**)
- **General Staff**
  - **General Staff** consist of the **Operations Section Chief**, **Planning Section Chief**, **Logistics Section Chief**, and the **Finance/Admin Section Chief**


Sample Incident Command Organizational Chart
Incident Command
Unified Command
Public Information Officer
Safety Officer
Liaison Officer
Operation
Section Chief
Staging
Area Manager
Branch
Director
Branch
Director
Air Operations
Director
Division/Group
Supervisor
Task Force
Leader
Strike Team
Leader
Single
Resource Boss
Division/Group
Supervisor
Task Force
Leader
Strike Team
Leader
Single
Resource Boss
Planning
Section Chief
Situation
Unit Leader
Resources
Unit Leader
Documentation
Unit Leader
Documentation
Unit Leader
Technical
Specialists
Logistics
Section Chief
Service Branch
Director
Support Branch
Director
Communications
Unit Leader
Medical
Unit Leader
Food
Unit Leader
Supply
Unit Leader
Facilities
Unit Leader
Ground Support
Unit Leader
Finance Administration
Section Chief
Time Unit
Leader
Procurement
Unit Leader
Comp/Claims
Unit Leader
Cost
Unit Leader


Tactics Meeting
see page 91
Preparing for the Planning Meeting
see page 91
Planning Meeting
see page 95
Preparing for the Tactics Meeting
see page 90
IAP Prep & Approval
see page 97
Command & General Staff Meeting
see page 89
Operational Briefing
see page 99
IC/UC Develop/Update Objectives Meeting
see page 89
Execute Plan & Assess Progress
see page 99
New Ops Period Begins
Initial IC/UC Meeting
see page 88
Incident Briefing (ICS-201)
see page 88
Initial Response & Assessment
Notification
Incident/Event
Initial Response
Initial Response and Assessment
• The period of initial response and assessment occurs in all incidents
• Responses small in scope and/or duration can be coordinated using the Incident Briefing Form (ICS 201)

NOTES… ADD TO THE BOOK