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**Environmental, Health and Safety
Supplemental Requirements
Coal Combustion Products (CCP)**

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1. PURPOSE

The purpose of the Environmental, Health and Safety (EHS) Supplemental Requirement document is to define business unit EHS requirements not included in the Duke Energy EHS Handbook or requiring clarification as they apply to CCP-Demo work. Contractors are to comply with all Federal, State and Local EHS regulations, the Duke Energy EHS Handbook, these business unit EHS Supplemental Requirements and Contractor-owned programs or procedures.

Certain sections or specific requirements in this document or the Duke Energy EHS Handbook may not apply depending on the Contractors' scope of work.

2. SCOPE

The Contractor and the Duke Energy point of contact (POC) shall jointly review and agree upon requirements pertinent to the scope of work before commencing activities.

3. KEYS TO LIFE

Duke Energy's Health and Safety vision is to have an injury- and illness-free workplace.

Keys to Life support the vision by identifying hazards of high-risk activities known to cause fatalities and serious injuries. They outline standards and define expectations, behaviors and controls necessary to prevent serious events.

Keys to Life do not replace existing safety procedures, policies or manuals. It is one tool of Duke Energy's fatality and serious injury prevention program.

Duke Energy expects Contractors to assess their work scope safety risks to ensure they have effective controls in place and to follow behaviors and standards defined by Keys to Life.

- **Equipment and vehicles in motion** Wear seat belts, perform 360-degree walkarounds, follow posted speed limits and comply with regulations while avoiding distractions that remove your focus from the road. Use spotters when traveling in congested areas or near plant equipment. Spotters must have a predetermined and immediate means of communicating hazards to the operator. Do not approach within 25 feet of heavy equipment until after contacting the operator and ensure operator's stop operation prior to personnel entering the immediate work area. Notify Duke any time equipment becomes stuck and have an approved plan prior to extraction. Ensure overhead obstacles such as power lines are identified prior to work.
- **Excavations and unstable surfaces** When working on excavation sites or projects, ensure the Duke-approved excavation permit requirements are understood by all workers. Use extreme caution when operating equipment on dam crest roads or near berms or slopes, especially when backing up. When operating equipment in areas where ground visibility is limited, such as heavy vegetation, ensure the travel paths are monitored or inspected for unseen obstacles or hazards. Inspect haul roads frequently and maintain them as required when cracks, settling or soft areas are identified, and never operate equipment or walk in saturated ash areas. Ensure an underground survey has been completed prior to performing any trenching and excavation activities.
- **Water safety** Wear personal flotation devices (PFD) when working near water. If leaving the line of sight of the shore team personnel, establish and communicate a float plan prior to departure that includes a means of communication with a land-based contact. Develop an emergency action plan that addresses all types of dive-related emergencies and review prior to the dive.
- **Lockout-Tagout (LOTO)** hazardous energy control Treat all electrical equipment or systems as energized unless verified to be de-energized. Ensure hazardous energy is isolated, energy isolation devices are tagged, and zero energy verification is conducted prior to work. Utilize the CCP LOTO checklist when conducting LOTO work activities to ensure key program requirements are not missed. Never manipulate or remove a red-tagged component.

- **Cranes and rigging** Ensure that the classification of every lift is understood as defined in the FHO Crane and Rigging Standard FHG-ENG-NA-STND-CS- 0028. Ensure that critical lifts are accompanied by a critical lift plan. Establish drop-zone barriers, maintain positive control of loads, and never lift over personnel. Never walk under or place a body part under a suspended load. Never walk into or through a barricaded area without obtaining permission. Maintain positive control over drop-zone boundaries.
- **Working at elevations** Utilize fall protection equipment when working at heights and inspect all equipment before use. Maintain three points of contact when changing elevation. Implement prevention measures, including barriers, exclusion zones and secured/tethered tools and materials, when there is a potential for dropped objects. One hundred percent tie-off is required at all times while working at heights.

4. EVENT REPORTING AND INVESTIGATIONS

1. It is imperative that the Duke Point of Contact (POC) remain abreast of all aspects of contractor performance. Contractors shall verbally notify the POC immediately after any event or near miss. The POC can assist with ensuring the appropriate event response action is taken. When in doubt, notify the POC.
2. Contractors shall report the following events **within 24 hours of occurrence** by submitting the “Injury/Illness Incident Report” (IIR) to the POC.
 - a. Occupational Safety and Health Administration (OSHA) recordable injuries
 - b. Environmental Events - Reportable Environmental Event (REE)-1, REE-2 and Category 3 environmental event when a notification is made to an external agency.
 - i. Duke Energy management may request an IIR be submitted for other environmental events to allow EH&S evaluation on classification and reporting requirements.
3. The IIR shall be submitted **within two hours** for a Fatality, Life-Altering injury (LAI), or Serious Injury.
4. REE-1's, REE-2's, Fatalities, Life Altering Injuries, Serious Injuries (SIF's) and Significant Customer Outage events caused by a contractor will require a causal analysis. The causal analysis investigation will be in accordance with the contractor’s procedures but must meet the defined elements of the Duke Energy Corrective Action Program (CAP) (See ADMP-ADM-OPX-00065, Corrective Action Program or the respective Business Unit CAP program).
5. Contractors may be requested to conduct causal analysis investigations on Significant Near Misses based on the discretion of business unit leadership.

5. HEALTH AND SAFETY ORIENTATION (POWERSAFE)

1. Before performing work at Duke Energy’s site, Contractor and Subcontractor employees are required to complete Duke Energy-specified Health and Safety orientation by completing specified PowerSafe modules.
 - a. Duke Energy-provided orientation includes topics such as: General & Site Orientation, LOTO Protected Worker, Dropped Object Prevention, Hazardous Locations & Intrinsically Safe Equipment, Combustible Dust, Human Performance, Spotter, Coal Ash Awareness, and where applicable, Process Safety Management (PSM).
 - b. Duke Energy-provided requirements will depend on the type of facility where work will be performed. See the "Contractor Onboarding Matrix" available through the Duke POC to select the appropriate PowerSafe Course Curriculum for the work scope and location.

2. PowerSafe modules shall be completed before arriving on-site. Contractor shall provide to Duke Energy written documentation, in the form of a training matrix, showing its employees have completed the required H&S orientation for Contractor's and Subcontractor's employees.
3. As required by Duke Energy, instructor lead Site-Specific and LOTO orientation will be provided either on-site or by a method specified by Duke Energy.
4. Truck drivers (concrete, soil, etc.) shall be provided a handout or watch an orientation video / presentation that addresses emergency information, event reporting, site maps, equipment inspection, required PPE, and acceptable work practices (e.g. speed limits, vehicle road worthiness).

6. CONTRACTOR COMPANY PRE-QUALIFICATION PROCESS

1. Pre-qualification is required for Prime Contractor Companies who perform either
 - a. Medium EHS Risk Work with a PO/Contract 1-year or longer, OR
 - b. High EHS risk work.
2. Prime Contractor Companies must register an account with Avetta, which is a 3rd party web-based application pre-approves data and documents submitted by contractor companies. The pre-approval process consists of safety evaluations/ratings and manual audits. Avetta reviews, verifies, documents data submitted by contractors to Duke Energy's Avetta account. A green rated = Approved (passed) Safety Rating is required for DE to issue PO or Contracts.
3. Avetta conducts the safety & environmental evaluation/rating, compares data against Duke Energy and Business Unit specific safety targets, and issues either an Approved (Green/Pass) or Not Approved (Red/Fail) safety rating. (See Targets below)
 - a. Prime Contractor Companies shall review all sub-contractor's environmental, health and safety programs for compliance with environmental, health, and safety requirements, Local, State, Federal requirements, Duke Energy EHS Handbook requirements, and the requirements of this document i.e., EH&S Performance Targets below.
 - b. Manual Audit is the verification by Avetta that contract companies have OSHA compliant written H&S programs. Audits occur every 3 years.
 - c. QuickVett is a module that allows contractors who do not currently participate in Avetta to provide a limited amount of information/safety data to determine if the contractor will meet Duke Energy's safety performance targets should work be awarded. This process does not allow a safety rating to be issued.
4. All targets are 3-year averages except for fatalities, Contractor shall use the following minimum requirements to pre-qualify, provide documentation as requested, and qualify sub-contractor companies:

Contract companies with 1 - 10 employees – all business units:

- a. One or fewer workplace fatalities within the previous three (3) years. If one (1) fatality, no confirmed Serious OSHA citation relating to the fatality.
- b. Experience Modification Rate (EMR) <1.00
- c. Confirmed OSHA Citations <1 serious with 0 willful or repeat Citations
- d. Environmental Notice of Violation (NOV) (federal or state) with penalties > \$100

Companies with 11 but less than 99 employees - all business units

- a. One or fewer workplace fatalities within the previous three (3) years. If one (1) fatality, no confirmed Serious OSHA citation relating to the fatality.
- b. Experience Modification Rating (EMR) = 1.0 or less.
- c. Environmental Notice of Violation (NOV) (federal or state) with penalties greater than \$1000 = one (1) or less confirmed
- d. OSHA citations = one (1) or less serious with 0 willful.

e. Total Recordable Injuries = three (3) or less.

Contractors must pass the fatality target (a) and three of the remaining four targets (b-e).

Companies with 100 or more employees - all business units

- a. One or fewer workplace fatalities within the previous three (3) years. If one (1) fatality, no confirmed Serious OSHA citation relating to the fatality.
- b. Experience Modification Rating (EMR) = 1.0 or less.
- c. Environmental Notice of Violation (NOV) (federal or state) with penalties greater than \$1000 = two (2) or less confirmed.
- d. OSHA citations = two (2) or less serious with 0 willful.
- e. Total Incident Case Rate (TICR) = Business unit specific Targets. Total Recordable Incident Rate (TRIR) is an equivalent term)
- f. Days Away/Restricted Time (DART) = Business Unit Specific Targets

Contractors must pass the fatality target (a) and four of the remaining five targets (b-f).

7. LOCK OUT-TAG OUT

- 1. LOTO shall be performed in accordance with Fossil Hydro Ops - Lockout Tagout - LOTO - Energy Control Program when protection is required from Duke equipment. In some cases, it may be desirable for a contractor to utilize their LOTO program for contractor owned or operated equipment. In these situations, the Duke Contract Interface will ensure Contractor's LOTO program is approved by Duke.
- 2. When contractors utilize the Fossil Hydro Ops - Lockout Tagout - LOTO - Energy Control Program, the requirements below apply:
- 3. Duke Energy uses Red Tags (Tagout Devices) in place of locks for hazardous energy control.
- 4. All work performed on systems and equipment with the potential for hazardous energy will be performed under the direction of a LOTO Work Leader who is responsible for:
 - a. the work task that requires the system or equipment to be isolated by the LOTO Program;
 - b. discussing the hazards associated with the work with all protected persons;
 - c. providing the opportunity for protected persons to verify the LOTO boundary; and
 - d. ensuring that Zero Energy Verification has been performed to ensure that all energy sources have been secured or eliminated and communicating the zero- energy verification method to all protected persons.
- 5. All protected persons MUST be signed on to the CORRECT LOTO before starting work. Ensure that the LOTO covers the correct unit and equipment for the work to be performed.
- 6. DO NOT OPERATE any device (valve, switch, breaker, etc.) that has an attached LOTO Tagout Device (Red Tag).
- 7. DO NOT REMOVE or physically alter in any way valves or equipment that has an attached LOTO Tagout Device (Red Tag).
- 8. Ensure that all work performed is included in the LOTO boundary.
- 9. Once a protected person signs off a LOTO, they are no longer a protected person and shall not enter the LOTO boundary or perform any additional work on the system or equipment.

8. MOVING EQUIPMENT ON SITE

To prevent injuries and incidents during equipment movement on site, CCP's Equipment Movement on Site Guidance, CCP-GDL-NA-AD-016, shall be followed to ensure that identifying and protecting against overhead structures such as overhead powerlines, pipe "high-lines," etc., are considered and factored in to all equipment movement activities. A formal, documented walkdown is expected to ensure overhead structures are appropriately considered.

9. AERIAL LIFT OPERATIONS

Whenever aerial lift (man-lift) operations are planned, contractors shall ensure onsite rescue equipment is available to retrieve personnel from a stuck or malfunctioning manlift. This could be a second lift of equal or greater reach, a personnel basket with associated crane, etc. If the contractor relies on off-site rescue equipment / support, such as rental equipment or the local fire department, they will verify the capability and availability of the equipment and tailor work hours as required.

10. CRANES, RIGGING AND LIFTING

1. Lifting activities that pose a risk to Duke Energy property or assets will require written lift plans reviewed by Duke Energy.
2. If Contractor operates Duke-owned cranes, compliance with the Duke Energy FHO-Cranes, Rigging, and Lifting Program is required.

11. HOT WORK PERMITS

Contractor shall use a Duke Energy-approved hot work permit process for all hot work (cutting, welding, grinding). If Contractor does not have an approved process, use a Duke Energy provided permit process.

12. TRENCHING, EXCAVATIONS, AND LAND DISTURBING ACTIVITIES

1. The following activities do not require locating underground utilities with an underground locating device and do not require completing a Duke Energy-approved Trench and Excavation Permit:
 - a. Surface conditioning (that does not penetrate the earth’s surface) established gravel roadways, including roadways inside ash basins/ash landfills
 - b. Well drilling and sampling within the perimeter of ash basins and ash fills
 - c. Installing survey stakes/flags, coir log and silt sock stakes and landscape staples
2. When installing silt fencing outside the Power Block, which normally consists of Generation Facility, Substation, Coal/Fuel Handling, Railroad, Combustion Turbines, or Yard Drainage Pumps area, Contractor shall use an electro-magnetic device and field review to accomplish zero energy verification for work area.
3. Prior to breaking ground, Contractor’s competent person shall establish hold points identifying the excavation boundaries. No excavation activity shall take place within the established hold points until the area has been surveyed with an underground locating device and the utility has been located. Hold points shall be clearly marked on the ground with paint indicating the presence of a utility.
4. Where underground utilities are identified, Contractor shall “soft dig” (air/water excavation, vacuum truck) or hand dig unless otherwise approved by the Duke Energy. Mechanical digging shall not take place within 10 feet of the identified utility, unless approved by Duke Energy.

13. CONFINED SPACE ENTRY

Contractor shall have a documented Confined Space Program, subject review by Duke Energy. Contractor may be required to comply with Duke Energy’s Confined Space program subject to the verification of Contractor’s employees Confined Space training.

14. LIGHTNING

Contractor shall develop and utilize their own lightning work policy or follow the recommendations provided in the Duke EHS Handbook.

15. WORKING OVER OR NEAR WATER

At least one lifesaving skiff shall be immediately available at locations where workers are working over or adjacent to water.” However, the staging of lifesaving skiffs may not be required for non-waterborne work based on the hazard (e.g., working by the shoreline of shallow sediment pond or Lake). If in doubt as to the necessity of a skiff, contact the Duke point of contact.

16. MOBILE EQUIPMENT CONTAINMENTS

Containment shall be utilized any time mobile equipment is to be staged unattended for greater than one shift in location less than 125 feet away from jurisdictional waters or any conveyance path, such as a ditch or storm water drain, to catch any equipment leaks.

17. PROCEDURE DEVIATION DOCUMENTATION

1. If exceptions to this document are made, any exceptions will be determined by Duke Energy.
2. To request a variance of any section of the EHS Supplemental Requirements document, Enclosure 1 shall be completed and routed through the Duke Energy interface for approval by CCP management.

No changes to EHS supplemental requirements shall be implemented until a variance request is reviewed, approved, accepted, and signed.

18. ENCLOSURE 1 - VARIANCE REQUEST

Date:	
Location	
Project:	
Supplemental Section #	
Supplemental Subsection #	
Title	

Variance Details:

Reason for Variance:

Variance Requested By: _____ Date: _____

Variance: (Check One)

Approved	Rejected

Variance Approved or Rejected By (Signature Required)

Management Signature
(or assigned designee)

Date

Note:

- CCP Work requires General Manager approval
- Variance request must be entered into Plant View as a For Record Only (FRO),
- Attach completed/signed Variance Request Form to Plant View entry.