

PROJECT SCOPE OF WORK

THE ALABAMA STATE PORT AUTHORITY'S (ASPA) McDUFFIE COAL TERMINAL RECEIVES INCOMING 23KV ELECTRICAL POWER FROM THE ALABAMA POWER COMPANY VIA THE SUBSTATION IN THE NORTH ELECTRICAL YARD. THE 23KV ELECTRICAL SUPPLY TO THE PLANT SPLITS TO TWO SEPARATE 23KV DISTRIBUTION SYSTEMS AT THE TOP OF THE DEAD-END STRUCTURE, ONE FED FROM THE SOUTH SIDE AND THE OTHER FROM THE NORTH SIDE.

THE McDUFFIE COAL TERMINAL IS REPLACING THE CABLES THAT FEED THE SOUTH SIDE ELECTRICAL DISTRIBUTION SYSTEM FROM THE BOTTOM/OUTGOING SIDE OF THE FUSE BLOCKS ON THE DEAD-END STRUCTURE TO THE INCOMING 23KV SWITCHGEAR. THIS INCLUDES TWO SETS OF 3-PHASE 23KV FEEDER CABLES (ONE CABLE PER PHASE PER SET) THAT RUN UNDERGROUND FROM THE FOOT OF THE DEAD-END STRUCTURE THROUGH TWO PARALLEL CONCRETE ENCASED 5" CONDUITS TO THE INCOMING 23KV SWITCH GEAR.

IN ADDITION, THE McDUFFIE COAL TERMINAL WILL TAKE ADVANTAGE OF THIS SHUT DOWN TO CLEAN INSPECT AND REPAIR ALL OF THE EQUIPMENT AND APPARATUSES ON THE DEAD-END STRUCTURE ON BOTH THE SOUTH AND NORTH SIDE DISTRIBUTION SYSTEMS.

THE MAIN INCOMING 23KV ELECTRICAL POWER WILL BE DISCONNECTED FROM THE ALABAMA POWER COMPANY SUPPLY AND THE NORTH YARD SUBSTATION WILL BE SHUTDOWN FOR INSTALLATION OF THE NEW 23 KV FEEDER CABLES AND INSPECTION, CLEANING AND MAINTENANCE OF THE DEAD-END STRUCTURE EQUIPMENT. THE NEW UNDERGROUND 5" CONDUITS WILL BE INSTALLED PRIOR TO THE SHUTDOWN TO MINIMIZE SHUTDOWN DURATION.

**PRE-SHUTDOWN**

- CONTRACTOR TO CHECK ROUTING FOR NEW 5" CONDUIT RUNS FOR UNEXPOSED OBSTRUCTIONS.
- EXPOSE AND PREPARE EXISTING 8" DRAIN PVC DRAIN LINE FOR CONDUIT INSTALLATION.
- PERFORM AN INFRARED SURVEY OF THE DEAD-END STRUCTURE COMPONENTS TO IDENTIFY ANY HOTSPOTS WHICH MAY NEED TO BE ADDRESSED DURING SHUTDOWN.
- INSTALL TWO NEW CONCRETE ENCASED 5" CONDUITS WEST OF AND PARALLEL TO THE EXISTING CONDUIT RUNNING UNDERGROUND FROM THE DEAD-END STRUCTURE TO THE EXISTING INCOMING 23KV SWITCHGEAR.
- CONTRACTOR SHALL SUPPLY AN ELECTRICAL PULL BOX FOR INSTALLATION AT THE REAR OF THE INCOMING 23 KV SWITCHGEAR CABINET TO FACILITATE INSTALLATION OF THE NEW 23 KV NEW FEEDER CABLES.

**SHUTDOWN**

- INSTALL THE ELECTRICAL PULL BOX AT THE REAR OF THE INCOMING 23 KV SWITCHGEAR CABINET .
- DISCONNECT AND REMOVE THE TWO EXISTING SETS OF 23KV FEEDER CABLES FROM THE BOTTOM/OUTGOING FUSE BLOCKS ON THE SOUTH SIDE OF THE DEAD-END STRUCTURE, 3 CABLE TERMINATORS ON THE DEAD-END STRUCTURE AND TWO 5" CONDUIT(AS MUCH AS PRACTICAL) GOING TO 23 KV SWITCH GEAR.
- CONTRACTOR TO SUPPLY ALL SUPERVISION, LABOR, MATERIALS, TOOLS, EQUIPMENT, ETC.
- CONTRACTOR SHALL INSTALL 2 SETS OF 1/0-25KV CABLES, ONE PER PHASE FOR EACH OF THE NEW 5" CONDUITS. THE CABLES WILL BE ATTACHED TO THE FUSE BLOCKS ON THE DEAD-END STRUCTURE UTILIZING CABLE TERMINATION KITS CONSISTING OF SPADE CONNECTORS AND STRESS CONES WITH 25 KV RATING. THE NEW CABLE WILL RUN FROM THE EXISTING BOTTOM/OUTGOING SIDE OF THE FUSE BLOCKS THROUGH THE NEW UNDERGROUND CONDUIT TO THE INCOMING 23 KV SWITCH GEAR CABINET VIA THE NEW ELECTRICAL PULL BOX, ROUTING AS SHOWN ON PLAN.



NOTE - IF THE NEW FEEDER CABLES BEING INSTALLED ARE DIFFERENT FROM THE EXISTING FEEDER CABLES BEING REMOVED THEN THE CONTRACTOR SHALL LOCATE AND VERIFY THE RATINGS OF THE 23KV SWITCHES TO BE REUSED FOR THE NEW ELECTRICAL FEEDERS WITH APCO. THE CONTRACTOR WILL PROVIDE FUSES AS DIRECTED BY APCO.

THE CONTRACTOR SHALL CLEAN, INSPECT AND REPAIR ALL COMPONENTS, APPARATUSES, CONNECTORS AND TERMINATIONS ON THE DEAD-END STRUCTURE TO ENSURE RELIABILITY AND THAT ALL COMPONENTS ARE IN GOOD WORKING ORDER.

SWITCHGEAR REFURBISHING & RECONDITIONING: THE REFURBISHING PROCEEDURE SHALL INCLUDE BUT NOT BE LIMITED TO HE FOLLOWING:

1. REPLACING, REPAIRING OR RETROFITTING OF COMPONENTS AS NECESSARY FOR SWITCHES, FUSES, BREAKERS, CABLES, SURGE ARRESTERS, CONNECTIONS, ETC.  
 REPLACE ALL INSULATORS ON THE SOUTH SIDE 23KV SYSTEM WITH NEW LARGER INSULATORS, OF SAME MAKE, TYPE AND MODEL,
2. INSPECT, CLEANING, VACUUMING, AND WIPING COMPONENTS WITH A SUITABLE SOLVENT.
3. CHECKING COMPONENTS FOR PHYSICAL DAMAGE AND CONTACT WEAR.
4. CHECKING COMPONENTS FOR PROPER ALIGNMENT AND CALIBRATION.
5. OIL AND LUBRICATE COMPONENTS AS REQUIRED BY MANUFACTURES INSTRUCTIONS.
6. TESTING PROPER OPERATION OF ALL COMPONENTS.
7. VERIFY SAFETY INTERLOCKS ARE IN PLACE AND WORKING.
8. CONDUCT TESTING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL TESTING ASSOC. APPROVED GUIDELINES.
9. AFTER REASSEMBLY AND TESTING, CERTIFY THE EQUIPMENT AS RECONDITIONED.
10. PROVIDE DOCUMENTATION TO THE OWNER WITH WARRANTY, EXCEPTIONS AND LIMITATIONS DEFINED
11. PROVIDE A QC REPORT IDENTIFYING ALL PHASE TO PHASE AND PHASE TO GROUND REQUIREMENTS, VERIFYING ALL ARE MET AND FINAL DISTANCES DOCUMENTED.
12. PROVIDE ANIMAL PROTECTION FOR ALL ALL BARE CONDUCTORS HAVING POTENTIAL OF PHASE TO PHASE OR PHASE TO GROUND, INCORPORATING COVERS SUCH AS GreyEEL CONDUCTOR COVER OR EQUAL (PROVIDED PROPER ORIENTATION CAN BE ACHIEVED TO MINIMIZE MOISTURE ACCUMULATION). PROTECTION SHALL EXTEND TO COVER THE WINGSPAN OF A DOVE.

THE CONTRACTOR SHALL INCLUDE AS PART OF THEIR BID -THE LENGTH OF THE DOWNTIME REQUIRED TO COMPLETE THE WORK DESCRIBED. THE NORTH SUBSTATION IS AN ESSENTIAL COMPONENT IN THE OPERATION OF THE McDUFFIE COAL TERMINAL AND ITS OUTAGE WILL REQUIRE A COMPLETE SHUTDOWN OF THE FACILITY. IT IS IMPERATIVE THAT THE CONTRACTOR PERFORM THE WORK IN A MANNER THAT WILL MINIMIZE THE DOWNTIME REQUIRED AND THE LENGTH OF THE SHUTDOWN WILL BE A CONSIDERATION IN EVALUATION OF THE BIDS.

REV. NO.		DATE		BY		REVISION	
 <b>ALABAMA STATE DOCKS</b> MOBILE, ALABAMA 							
McDUFFIE COAL FACILITY INCOMING 23KV FEED REPLACEMENT PROJECT SCOPE OF WORK							
DATE BY	DATE	BY	DATE	BY	DATE	BY	DATE
PLA	2/18/21	EP	DATE	EP	DATE	EP	DATE
CHD	DATE	DATE	DATE	DATE	DATE	DATE	DATE
WA	2/12/21						