

SECTION 01790CP – CAMPUS UTILITY CONNECTIONS AND INTERRUPTIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Brown University operates and maintains an extensive campus utility distribution system. These systems include: water, chilled water, process water, steam, medium and high temperature hot water, electrical distribution (low and medium voltage), fire alarm, security, building automation systems (BAS) and metering systems. This section details minimum coordination requirements for connections and required utility system interruptions that may be required for new construction and renovation projects.
- B. Facilities Management (FM) Operations and Engineering staff will assist the architect/engineer/Contractor in identifying the necessary valves or switching required to accommodate the tie-in of new utility systems or shutdown of existing systems for these projects.
- C. Prior to any utility system shutdowns and tie-ins, an outage procedure checklist shall be prepared by the Contractor and submitted to Brown, clearly identifying the following essential issues:
 - Project impacts (what buildings, utility systems and/or system loads are impacted by the work);
 - Physical walkdown and verification of what systems are affected by the proposed shutdown.
 - Outage schedule (time/date of when work will be performed and outage durations);
 - Required prep work required to be completed or to be in place prior to support the actual outage work (install portable generator(s), pipe flushing procedures, filling and venting procedures, etc.);
 - Brief description of the actual outage work and essential tasks being performed during the outage (Switches or valves being opened/closed, piping connections, etc.);
 - Note key coordination issues that need to be included as a part of the outage (need for portable generators to maintain power, street closure(s), police details, etc.);
 - For hydronic systems, include how system draining, flushing, refilling and venting will be accomplished.
 - Listing of key contacts and phone numbers for the Contractor, Brown FM staff and affected building staff.

1.2 REQUIREMENTS

- A. If a project or contract work requires the shutdown or de-energizing of any campus central utility or building system, FM Operations and Engineering staff must be first contacted for general direction and scheduling availability prior to the work being performed. Refer to Scheduling and Coordination section. The project team (Engineer, Architect and Contractor) shall be responsible for the development of the Utility Outage checklist.
- B. In general, Contractors are not allowed to operate valves open or closed, or energize and de-energize switches without prior coordination and approval from FM Operations staff. Exceptions to this policy are for new construction or within buildings that are closed for total renovation, where the utilities affected are within the construction zone and have been verified ahead of time not to have an adverse effect on other building or campus operations.
- C. As a prerequisite of outage planning and preparations, it is the responsibility of the Contractor/project team to perform a visual inspection and walk down to verify what utilities and systems will be physically affected by the shut down. This effort shall be made after review of available Record documentation, and consultations with FM Operations and Engineering staff. The intent of the physical inspection and walkdown is to verify known systems and system loads that will be affected by the outage, as well as to identify any other undocumented systems and loads that may be affected by the proposed outage.
- D. Contractors shall provide a minimum 48 hour notice requesting shutoff or turn on of campus utilities. FM personnel will generally perform this work for the Contractor. Proper lockout/tagout procedures will be followed by both the Contractor and FM staff.
- E. Contractors shall coordinate to have the building fire alarm system disabled prior to performing any work, such as cutting or welding that may cause inadvertent operation of the fire alarm system, and arrange for it to be enabled at the completion of the work.
- F. Location of existing system isolation switches, valves, bypasses, and temporary services shall be a coordinated effort between FM Operations, Engineering staff, and the FM Project Manager.
- G. Other than Brown-owned or operated utilities shall be coordinated directly with the respective utility owner by the project manager.

1.3 SCHEDULING AND COORDINATING INTERRUPTIONS

- A. The FM project manager shall coordinate the shutdown details required for the project with the FM Operations and Engineering staff and the project team. A minimum of two (2) weeks notice is required for shutdown scheduling and proper notice to those affected; four (4) weeks is preferred for major shutdowns.
- B. A coordination meeting shall be held with representatives of the Contractor, affected building Users, and other concerned parties to review the planned outage sequences and timing. FM Operations, Service Response and Engineering staff will generally advise of what campus operations and building Users will be affected by the proposed outage or

shutdown; the project manager is in turn responsible to contact all the affected groups to determine the proper time for the shutdown and any special requirements to be provided during the shutdown.

- C. A Utility Outage draft checklist (Section 01791) is required to be filled out by the Contractor and the project manager (Blank copy attached). This checklist includes relevant pre-outage work required prior to the outage, sequence(s) of work to be performed during the outage, expected outage times and durations, and key contact (cell phone) information for the Contractor, FM staff and affected Users. The checklist will be reviewed and updates provided by FM Operations and Engineering staff, with updates to be completed by the Contractor. The completed checklist requires sign-off from key FM Operations personnel.
- D. The FM Project Manager will submit the signed checklist to the Brown Service Response Office as well as a Project Support Service Order for the appropriate Divisional resource allocation to perform and monitor the shutdown. Service Response will in turn formally notify all affected parties of the planned outage date(s) by e-mail and physical posting of the impacted buildings.

1.4 UTILITY CONNECTION COSTS

- A. All costs incurred for shutdowns, interconnecting of temporary utilities, valving, switching, or connection of temporary electrical lines and services shall be paid for by the project.

1.5 RECORD DRAWINGS

- A. New lines, valves, and switches installed as part of the project are to be included on the Campus Record Utility drawings. The architect or engineer shall include these details on the as-built documentation to be delivered at the completion of the project.

END OF SECTION