



EQUIPMENT STARTUP CHECKLIST

Boiler Replacement/Retrofit

Equipment type: Boiler
Equipment designation: B-1
Bar code designation: 111111

REPLACEMENT PHASING CONSIDERATIONS

- | | YES | NO |
|--|--------------------------|--------------------------|
| • Is the boiler equipment room up to current code relative to combustion air ventilation compliance, etc? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Can the boiler be removed during A/C season when boiler water plant is shut down? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Are there isolation valves in place, or will a special shutdown and drain down be required? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will isolation valves need to be installed during A/C season when boiler plant is shutdown, if project schedule calls for heating season boiler removal? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Are there HazMat considerations issues to be completed prior to boiler removal? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will buried fuel oil tank(s) be removed and/or replaced? | <input type="checkbox"/> | <input type="checkbox"/> |

ELECTRICAL INSPECTION/REQUIREMENTS

- | | YES | NO |
|--|--------------------------|--------------------------|
| • What are the new electrical requirements? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will a local gas company rebate initiative be included in construction budget? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will this new installation be on emergency power? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Identify electrical scope of work required to disconnect boiler from the system. | <input type="checkbox"/> | <input type="checkbox"/> |
| • What electrical system components will require removal, reinstallation, and/or relocation to accommodate boiler removal and new boiler installation? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Are there existing electrical code issues to address? | <input type="checkbox"/> | <input type="checkbox"/> |

HVAC INSPECTION/REQUIREMENTS

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Has optimum boiler selection been completed and agreed upon by building owner? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has the existing hot water system flow diagram been updated to reflect new system design intent and design criteria? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has the existing steam supply and condensate return system flow diagram been updated to reflect new system design intent and design criteria? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Have gpm, pressure drop, and velocity been noted on distribution points of the hot water piping flow diagrams? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Have existing pump curves been assessed for optimum performance under the new hot water management conditions? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Have #/Hr-pressure drop-velocity been noted on distribution points of the steam piping flow diagrams? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Can existing boiler be removed without disassembling and/or cutting up unit? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Can the new boiler be installed without disassembling the unit? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Can the new boiler be installed without removing other HVAC, electrical, plumbing, communication, and/or fire protection distribution or equipment? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has consideration been given to future replacement, such as a second/additional boiler? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has pressure testing of pipe distribution been determined in | | |

- | | | |
|--|--------------------------|--------------------------|
| scope of work (e.g., only new installation piping)? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has system flushing been determined in scope of work (e.g., flush only new installation piping)? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will building owner's chemical treatment service contractor be responsible for system flush and recharging of the chemical treatment system? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has consideration been given to the manufacturer's recommended clearance around equipment for service and tube removal? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has consideration been given to routine maintenance that can be achieved without shutting down the second boiler? | <input type="checkbox"/> | <input type="checkbox"/> |

PLUMBING REQUIREMENTS

- | | YES | NO |
|--|--------------------------|--------------------------|
| • Is there an existing backflow preventer for the hot water systems? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Is there an existing eyewash station and floor drain adjacent to chemical treatment workstation? | <input type="checkbox"/> | <input type="checkbox"/> |

GENERAL CONTRACTOR CONSIDERATIONS / REQUIREMENTS

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Has housekeeping removal and new housekeeping pad cost been included in scope of work? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has building demolition and disposal of material cost been included in scope of work? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Can existing overhead structure accommodate the rigging and removal of the boiler (if disassembly is needed)? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Can existing floor structure accommodate the rigging out of the existing boiler and rigging in of the new boiler? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Are any permits required? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Have insurance certificates been submitted to owner? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Has the monthly payment/cash flow been documented? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Have fire watch costs been included in the fee? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Have police/ traffic detail costs been included in the fee? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will there be an extended warranty on the boiler? | <input type="checkbox"/> | <input type="checkbox"/> |
| • Will there be a service contract submitted for the existing boiler, as well as for the new boiler? | <input type="checkbox"/> | <input type="checkbox"/> |

REFERENCE

- 2004 ASHRAE Handbook – Systems & Equipment: Chapter 1, "HVAC System Analysis & Selection."
- Refer to equipment manufacturers' literature for additional data and requirements.

DESIGN REVIEW AND TRICKS OF THE TRADE

- Attach equipment schedule and design criteria to checklist.
- Attach sequence of operation to checklist.
- Attach associated contract detail drawing to checklist. **ES**

If you have any comments, suggestions, or questions regarding this designer checklist, contact Amanda McKew at amckew@rdkengineers.com.

This column is meant to provide some basic guidelines for good design. Always consult all necessary codes and resources relevant to each particular project.

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