S-687 NOTE: TYPICAL INSTALLATION OF TWO VORTEX STEAM METERS WITH ONE MOTOR OPERATED BALL-TYPE METER REG. VALVE

(a) ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER EXCEPT METERS, METER GASKETS, METER REGULATING VALVES, RELAYS, FLOW COMPUTERS AND ORIFICE PLATES WHICH WILL BE FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CUSTOMER. ITEMS SUPPLIED BY THE COMPANY ARE SHOWN CROSS-HATCHED OR OTHERWISE MARKED.

(b) METER SIZE DETERMINES SIZE OF METER PIPING. THE INTERIOR SURFACE OF THE METER PIPING SHALL BE SMOOTH AND ROUND, WITHOUT SHOULDERS. WELDING NECK FLANGES FOR METER PIPING SHALL BE INSTALLED WITHOUT BACKING RINGS. ALL TRACES OF WELDING HEAT OR FLASH INSIDE OF PIPE SHALL BE REMOVED. ALL METER PIPING SHALL BE INSPECTED BY THE COMPANY AFTER ITS FABRICATION AND PRIOR TO ITS ERECTION.

FOR FOUR PIPE DIAMETERS UPSTREAM AND TWO PIPE DIAMETERS DOWNSTREAM OF THE METER THE INTERNAL SURFACE OF THE PIPE SHALL BE:

- ROUGHNESS NO GREATER THAN 0.0015", 0.003", 0.0061" AND 0.008" FOR 1", 2", 3" AND 4" PIPE RESPECTIVELY.
- SURFACE TO BE FREE FROM MILL SCALE, FITS, HOLES, REAMING SCORES, RIFFLING, BUMPS OR OTHER IRREGULARITIES.
- PIPE INSIDE DIAMETER SHALL IN NO WAY DEPART FROM THE NOMINAL PIPE INSIDE DIAMETER BY MORE THAN 0.33%.

(c) ORIFICE PLATES

LOAD ORIFICE PLATES OR SPACER PLATES WILL BE SUPPLIED BY THE COMPANY AS REQUIRED. PLATES SHALL BE INSTALLED BY THE CUSTOMER, WITH THE IDENTIFICATION DATA ON THE HANDLE FACING THE SERVICE SIDE AND THE HANDLE EXTENDING HORIZONTALLY TO THE RIGHT WHEN VIEWED FROM THE SERVICE SIDE.

(d) FLANGES SHALL CONFORM TO ASTM SPECIFICATION A105 ANSI B16.5.

(e) BOLTS SHALL BE CHROME-MOLY CONFORMING TO ASTM SPECIFICATION A193, GRADE B7, HEXAGONAL HEAD.

(f) NUTS SHALL BE CARBON STEEL CONFORMING TO ASTM SPECIFICATION A194, GRADE 2H, HEXAGONAL.

(g) GASKETS SHALL CONFORM TO CON EDISON CO. SPECIFICATION S-9051. FLANGE GASKETS SHALL BE FIELD COATED WITH HIGH TEMPERATURE ANTI-SEIZE AND LUBRICATING COMPOUND - NEVER SEEZ OR EQUAL. FLEXITELIC GASKET OF 300W DESIGN IS ACCEPTABLE AS AN ALTERNATE.

(h) THERMAL INSULATION OF THE PIPING UP TO THE CUSTOMER'S MAIN STOP VALVE SHALL CONFORM TO CON EDISON SPECIFICATION S-9021.

(i) STEEL PIPE SHALL CONFORM TO ASTM SPECIFICATION A53, GRADE B, SCHEDULE 40 FOR 4" AND LARGER SIZE. 2" AND SMALLER DIAMETER PIPE SHALL BE SCHEDULE 80 0.3" AND LARGER DIAMETER PIPE SHALL BE Schedule 40.

(j) ALL CONSTRUCTION OR THE DATE OF SERVICE TERMINATION TO THE CUSTOMER'S SECONDARY PRESSURE REDUCING VALVE STATION SHALL BE SUBJECT TO APPROVAL BY THE COMPANY.

(k) THE STEAM METER OR BALL VALVE SHALL BE INSTALLED LEVEL WITH ELECTRONIC HOUSING OR MOTOR IN THE HORIZONTAL POSITION (0 O'CLOCK OR 9 O'CLOCK POSITION). THE METER PIPING SHALL BE STRAIGHT, HORIZONTAL AND LEVEL. CLEARANCE ABOVE, BELOW, BEHIND & IN FRONT OF THE METERS AND SERVICE EQUIPMENT MUST BE PROVIDED FOR MAINTENANCE.

(l) THE INSTALLATION OF ALL STEAM PIPING AND EQUIPMENT SHALL CONFORM TO ASME CODE B31.

(m) STEAM TRAPS WILL BE FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CUSTOMER IN ACCORDANCE WITH CON EDISON COMPANY DRAWING B3-9532-B.

(n) THE COMPANY WILL INSTALL METERS, MAKE FINAL WIRING CONNECTION, AND SEAL METER STOP VALVES.

(o) METER PIPING SHALL BE ADEQUATELY SUPPORTED AT POINTS INDICATED OR WHERE PIPING SUPPORT DOES NOT INTERFERE WITH THE REMOVAL OF NUTS & BOLTS FROM THE FLANGES OR THE MAINTENANCE & OPERATE OF BLOW DOWN VALVES. PROVISIONS FOR ATTACHING HOUSING, EQUIPMENT MUST BE PROVIDED FOR INSTALLATION AND MAINTENANCE OF 4" MOTORIZED VALVES AND 4" METERS IN A MANNER ACCEPTABLE TO THE COMPANY.

(p) SEE STEAM ENGINEERING SPECIFICATION NO. S-598 FOR ASSEMBLY OF VORTEX METER.

(q) STEAM METER ENGINEERING SPECIFICATION NO. S-624 AND S-599 FOR WIRING CONNECTIONS AND RELAY MOUNTING PANEL FOR CONTROL OF THE METER REGULATING VALVES.

(r) NO PERMANENT THERMAL INSULATION SHALL BE INSTALLED AT THE FLANGES OF ORIFICE PLATE, METER AND METER REGULATING VALVES. REMOVABLE INSULATION JACKETS ARE PERMITTED ON THE METER AND Meter REGULATING VALVE MAIN BODY.

(s) DRILL 1/2" HOLE THROUGH PIPE WALL AT CENTER OF SOCKET. TAP HOLE MUST BE FREE OF BURRS AND OBSTRUCTIONS.

(t) MOTORIZED INSIDE SERVICE STOP VALVE MUST BE DESIGNED TO CLOSE ELECTRONICALLY, AND OPEN MANUALLY. CONTROL SWITCH SHALL BE LOCATED OUTSIDE STEAM ROOM AND IN A SECURE LOCATION SUCH AS OFFICE OF ENG. OR BLDG. MGR.

* SEE "APPROVED STEAM SERVICE EQUIPMENT" BOOKLET.

STEAM DISTRIBUTION ENGINEERING
SPECIFICATION NO. S-595

TYPICAL INSTALLATION OF TWO VORTEX
STEAM METERS (1" TO 4") WITH ONE MOTOR
OPERATED BALL-TYPE METER REG. VALVE

CONSOLIDATED EDISON COMPANY OF N.Y., INC.
STEAM ENGINEERING DEPT.

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