Tennessee Valley Authority,1101 Market Street, Chattanooga, Tennessee 37402

CNL-14-139

September 12, 2014

10 CFR 50.4
10 CFR 50.55a

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 1
Facility Operating License No. NPF-90
NRC Docket No. 50-390

Subject: **WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REQUEST FOR ALTERNATIVE ISPT-03**

References:
1. Letter from NRC to TVA, "Watts Bar Nuclear Plant, Unit 1 — Relief Request No. ISPT-09 For The First Ten-Year Inservice Inspection Interval (TAC No. MC8305)," dated July 11, 2006 (ML061730386)
2. Letter from TVA to NRC, "Watts Bar Nuclear Plant (WBN) Unit 1 - American Society of Mechanical Engineers (ASME) Section XI Inservice Pressure Testing Program Request for Relief ISPT-09," dated September 8, 2005 (ML052560093)

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), 50.55a, "Codes and Standards," paragraph (a)(3)(ii), the Tennessee Valley Authority (TVA) is submitting a request for alternative to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," as applicable to Watts Bar Nuclear Plant (WBN), Unit 1. The Code of Record for the second 10-year interval for WBN, Unit 1, is the ASME Section XI B&PV Code, 2001 Edition with Addenda through 2003.

This request for alternative ISPT-03 is submitted for Nuclear Regulatory Commission (NRC) approval of a proposed alternative to the requirement of ASME Code, Section XI, Paragraph IWB-5222(b), Inspection Item B15.10. Compliance with the specified requirements would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. The proposed alternative is to test the impacted piping sections at a reduced pressure for the duration required by the Code.

This request is a renewal of the request that was approved by NRC for the first ten-year interval in Reference 1 as ISPT-09. During development of this submittal, TVA identified discrepancies in the tables in Reference 1, and found that these had been included in TVA's request for relief (Reference 2). Our review of those discrepancies shows that they do not affect the basis for our earlier request for alternative testing. The correct information is included in the enclosure to this letter. This issue has been entered into TVA's corrective action program.

The enclosure provides a description and assessment of the proposed request for alternative.

Based on the current WBN schedule, TVA requests approval of this request by June 15, 2015.

There are no regulatory commitments associated with this submittal. Please address any questions regarding this request to Mr. Gordon Arent at 423-365-2004.

Respectfully;

Eugene W. Shea FOR

J. W. Shea
Vice President, Nuclear Licensing

Enclosure:
Request for Alternative ISPT-03

cc (Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Watts Bar Nuclear Plant, Unit 1
NRC Senior Resident Inspector - Watts Bar Nuclear Plant, Unit 2
Director, Division of Radiological Health - Tennessee State Department of Environment and Conservation

ENCLOSURE

Tennessee Valley Authority
Watts Bar Nuclear Plant, Unit 1
Second 10-Year Interval

Request for Alternative
Number ISPT-03

Systems/Components Affected

Watts Bar Nuclear (WBN) Plant, Unit 1, Reactor Coolant System (RCS) piping between and outboard of redundant check valves as described in the attached tables.

Applicable Code Edition and Addenda

For the second 10-year Inservice Inspection System Pressure Testing (ISPT) Interval, the applicable Code edition and addenda are the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel (B&PV) Code, Section XI, 2001 Edition through 2003 Addenda. The second Interval began on May 27, 2007 and will end on May 26, 2016 to return the ISPT Intervals to the original 10-year schedule due to the first Interval being extended by one year to 11 years.

Applicable Code

The applicable ASME Section XI, 2001 Edition/2003 Addenda, Table IWB-2500-1, Examination Category B-P, Note 2, requirement is that the pressure retaining boundary during the system leakage test shall include all Class 1 components within the system boundary, as specified in Paragraph IWB-5222(b). The applicable Inspection Item is B15.10 for the pressure retaining components involved in this Request for Alternative.

Reason for Request

The piping segments listed in Table 1 are connected directly to the RCS and, in accordance with the reactor coolant pressure boundary definition in 10 CFR 50.2, are classified as ASME Class 1 up to and including the second isolation valve. Each of these piping segments, except for the Residual Heat Removal (RHR) system piping, is isolated from the primary RCS by a self actuating check valve designed to prevent primary reactor coolant from escaping the RCS, while providing a passive injection flow path for coolant injection. The use of check valves in these piping segments for isolation from the RCS prevents, by design, their pressurization by the primary RCS, and conversely, their pressurization to any pressure greater than that in the RCS.

The RHR suction piping segment is also connected directly to the RCS, however, this piping is isolated from the RCS by two parallel pairs of motor-operated valves (MOVs) arranged in series. These valves are interlocked to ensure redundant isolation of the RCS from the lower design pressure (600 pounds per square inch gauge [psig]) RHR system. The Technical Requirements Manual (TRM) requires that the valves be closed and de-energized before raising RCS pressure equal to or greater than 425 psig. Plant operating instructions require that these MOVs be closed before RCS pressure exceeds 370 psig or 350 degrees Fahrenheit (F).

During performance of the Section XI inservice leakage pressure test, the RCS would be brought to system normal operating pressure of approximately 2,235 psig, at which time the subject piping segments are isolated from the RCS by their respective check valves, or FCV-74-1 and FCV-74-9 in the RHR suction piping segment. For the RHR suction piping segment, plant features currently exist to align this piping segment to the discharge of the safety injection pumps and allow this piping to be pressurized to approximately 1500 psig. No method that is in compliance with the plant design and Technical Specifications, and which does not require the redesign of the RCS system piping, is available to pressurize those piping segments utilizing check valves to full test pressure during the Section XI inservice leakage test.

Three methods which were investigated related to the piping segments using check valves to test at full RCS pressure are: (1) the use of temporary high pressure hoses connected to RCS test connections, vent or drain piping to "jumper" around the isolation valves [where such connections exist], (2) the use of pumps connected to each piping segment [where connections exist], and (3) opening 1-FCV-62-84 and initiating Auxiliary Spray for the Auxiliary Spray line. Methods (1) and (2) conflict with plant design requirements and 10 CFR 50.55a(c)(2)(ii) by eliminating the double isolation boundary required for the reactor coolant pressure boundary when the reactor vessel contains nuclear fuel. Method (3) has two significant issues. First, opening 1-FCV-62-84 and initiating Auxiliary Spray will cause the expenditure of one of ten of the thermal stress cycles for which the nozzle associated with this line has been analyzed. Second, initiating Auxiliary Spray will adversely impact RCS pressurizer pressure control, in that it will cause a reduction in pressurizer pressure. If the valve fails to reclose immediately, there is a significant probability that the action will result in a safety injection actuation based on low pressurizer pressure. The use of any of these methods would require a redesign of the RCS and the installation of new piping designed to meet the plant construction code and licensing commitments. This option imposes a burden to TVA which would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety through compliance with the ASME Section XI pressure test requirement versus use of the proposed alternative test method.

The purpose of the ASME Section XI pressure test is to detect pressure retaining boundary leakage. The detection of pressure boundary leakage from such through-wall defects can be achieved at pressures lower than the pressure associated with 100% rated reactor power.

The proposed alternate testing method will achieve the greatest test pressure in each piping segment listed in the attached Table 1 which can be obtained without plant modification and which will remain in compliance with plant Technical Specifications and design requirements when nuclear fuel is contained in the reactor.

The difference in the amount of leakage (L_P) at the proposed test pressure (P_P) versus the amount of leakage (L_{XI}) at the ASME Section XI required test pressure (P_{XI}) is estimated in accordance with ISTC-3630(b)(4):

$$L_P = (L_{XI}) \times (P_P/P_{XI})^{½}$$

Where P_{XI} = the nominal operating pressure associated with 100% rated reactor power
= (2,235) psig

For the proposed test method for the safety injection system piping (exclusive of the Cold Leg Accumulator discharge piping outboard of the secondary check valves) and the RHR system suction piping, the expected leakage from a through-wall defect would be approximately:

$L_P = (L_{XI}) \times (1500/2,235)^{½} = L_{XI} \times 0.819$

or, 82% of the leakage at the higher Section XI test pressure.

For the proposed test method for the safety injection system piping between the Cold Leg Accumulator discharge motor operated valves and the secondary check valves), the expected leakage from a through-wall defect would be approximately:

LP = (LXI) x (610/2,235)½ = LXI x 0.522

or, 52% of the leakage at the higher Section XI test pressure.

In accordance with Section XI, Article IWA-5213(a)(1), Class 1 piping requires no holding time after attaining the test pressure. However, the Code requires that if the boundary contains a location subjected to Repair and Replacement (R&R) activities prior to the performance of the visual, VT-2, examination, the appropriate hold time must be observed (4 hours for insulated components and 10 minutes for non-insulated components) after attaining test pressure in order to allow sufficient fluid leakage to collect to ensure detection by the visual, VT-2, examination.

The estimated reduction in the amount of leakage from a through-wall defect would not be expected to prevent detection of the leak during the visual examination, nor justify the hardship of performing modifications to the RCS in order to comply with the Section XI test pressure requirement.

Proposed Alternative and Basis for Use

The piping segments in the flow path from the Cold Leg Accumulator outlet isolation valve to the RCS cold leg piping will be pressurized using the accumulators to between 610 and 660 psig, as required by the WBN Technical Specifications. The Technical Specifications also require that the outlet isolation valves [MOVs] be fully opened, which aligns this piping to the RCS whenever the RCS pressure is greater than 1000 psig.

The piping segments from the high pressure (charging system) and intermediate pressure (safety injection system) portions of the ECCS system, and RHR system piping segments will be pressurized using the safety injection pumps to approximately 1500 psig, which is the pressure achieved with a safety injection pump running in its minimum recirculation flow mode.

The piping segment in the auxiliary spray line will be examined at the pressure existing between the isolation valve (1-FCV-62-84) and the check valve (1-CKV-62-661). There are no test connections within this piping volume that will permit measurement of the pressure trapped between these two valves. Therefore, the exact pressure present in this line cannot be predicted or measured without initiating Auxiliary Spray. The pressure is bounded by the following two limits. First, if 1-CKV-62-661 has any seat leakage, then the line will be pressurized to RCS pressure via seat leakage through the check valve. This is considered the most probable case.

However, if 1-CKV-62-661 is absolutely leak-tight [i.e., no seat leakage], the pressure between 1-FCV-62-84 and 1-CKV-62-661 could be as low as the pressure existing in the line the last time Auxiliary Spray was used. Auxiliary Spray is normally used during routine plant startup to provide pressurizer pressure control prior to starting a reactor coolant pump (RCP). Once a RCP is started, pressurizer spray is available from its normal source and Auxiliary Spray is closed. The minimum pressure at which an RCP may be started is 325 psig.

Although the pressure in the Auxiliary Spray line would be somewhat higher than this due to piping friction, this pressure is assumed to be the lower bounding limit for the pressure in this line.

The minimum hold time required by ASME Section XI paragraph IWA-5213(a)(1) and IWA-5213(b) for system leakage testing will be observed. The minimum test temperature requirements of ASME Section XI paragraph IWB-5240(a) will be applied.

This proposed alternative provides an acceptable method of testing the pressure boundary integrity of the segments identified in Table 1, while maintaining compliance with plant design requirements, plant Technical Specifications, and the requirements of 10 CFR 50.55a(c)(2)(ii). By providing sufficient test pressure in conjunction with the test pressure holding time to allow detection of leakage from the pressure retaining boundary of the subject piping segments, this alternative provides acceptable levels of quality and safety. Therefore, public health and safety would not be jeopardized by the authorization of this request for alternative.

Duration of the Proposed Alternative

This request for alternative is applicable to the Second Inservice Interval for Watts Bar Nuclear Plant Unit 1, which ends on May 26, 2016.

Precedents

This request is a renewal of the request that was approved by NRC for the first ten-year interval as ISPT-09, in a letter dated July 11, 2006 (ADAMS ML061730386). During development of this request, TVA identified discrepancies in the tables in that approval letter, and found that these had been included in TVA’s initial request for relief, dated September 8, 2005 (ML052560093). Our review of those discrepancies shows that they do not affect the basis for our earlier request for alternative testing. This issue has been entered into TVA's corrective action program and the corrected information is included in Table 1.

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
Safety Injection System Cold Leg Accumulator No. 1 Outlet Piping from the Outlet Isolation Valve to the Reactor Coolant System, Including the Branch Connections from RHR and SIS, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Cold Leg Accumulator No. 1 outlet isolation valve to outlet check valve (FCV-63-118 to CKV-63-622) (Ref: C/N 83015; Dwg. E-2879 IC-89)	10	140	23	SA-376 Type 316	2485	610-660
Cold Leg Accumulator No. 1 outlet check valve to Loop 1 cold leg (CKV-63-622 to CKV-63-560) (Ref: C/N 83015; Dwg. E-2879 IC-89)			18			1500
6-inch branch connection from the 10-inch Cold Leg Accumulator 1 outlet piping to the low pressure safety injection (RHR system) check valve CKV-63-633 (Ref: C/N 83015; Dwg. E-2879 IC-89)	6	160	23	SA 376 Type 316		
2-inch branch connection from the 6-inch RHR system branch to the Safety Injection System check valve CKV-63-551 (Ref: Weld Map 435-7 Sheet 2)	2	160	10	SA-376 Type 304		

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
Safety Injection System Cold Leg Accumulator No. 2 Outlet Piping from the Outlet Isolation Valve to the Reactor Coolant System, Including the Branch Connections from RHR and SIS, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Cold Leg Accumulator No. 2 outlet isolation valve to outlet check valve (FCV-63-98 to CKV-63-623) (Ref: C/N 83015; Dwg. E-2879 IC-90)	10	140	16	SA-376 Type 316	2485	610-660
Cold Leg Accumulator No. 2 outlet check valve to Loop 2 cold leg (CKV-63-623 to CKV-63-561) (Ref: C/N 83015; Dwg. E-2879 IC-90)			15			1500
6-inch branch connection from the 10-inch Cold Leg Accumulator 2 outlet piping to the low pressure safety injection (RHR system) check valve CKV-63-632 (Ref: C/N 83015; Dwg. E-2879 IC-90)	6	160	12			
2-inch branch connection from the 6-inch RHR system branch to the Safety Injection System CKV-63-553 (Ref: Weld Map 435-8 Sheet 6)	2		19	SA-376 Type 304		

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
Safety Injection System Cold Leg Accumulator No. 3 Outlet Piping from the Outlet Isolation Valve to the Reactor Coolant System, Including the Branch Connections from RHR and SIS, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Cold Leg Accumulator No. 3 outlet isolation valve to outlet check valve (FCV-63-80 to CKV-63-624) (Ref: C/N 83015; Dwg. E-2879 IC-91)	10	140	9	SA-376 Type 316	2485	610-660
Cold Leg Accumulator No. 3 outlet check valve to Loop 3 cold leg (CKV-63-624 to CKV-63-562) (Ref: C/N 83015; Dwg. E-2879 IC-91)			17			1500
6-inch branch connection from the 10-inch Cold Leg Accumulator 3 outlet piping to the low pressure safety injection (RHR system) check valve CKV-63-634 (Ref: C/N 83015; Dwg. E-2879 IC-91)	6	160	17			
2-inch branch connection from the 6-inch RHR system branch to the Safety Injection System check valve CKV-63-555 (Ref: Weld Map 435-9 Sheet 4)	2		19	SA-376 Type 304		

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
Safety Injection System Cold Leg Accumulator No. 4 Outlet Piping from the Outlet Isolation Valve to the Reactor Coolant System, Including the Branch Connections from RHR and SIS, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Cold Leg Accumulator No. 4 outlet isolation valve to outlet check valve (FCV-63-67 to CKV-63-625) (Ref: C/N 83015; Dwg. E-2879 IC-92)	10	140	22	SA-376 Type 316	2485	610-660
Cold Leg Accumulator No. 4 outlet check valve to Loop 4 cold leg (CKV-63-625 to CKV-63-563) (Ref: C/N 83015; Dwg. E-2879 IC-92)			24			1500
6-inch branch connection from the 10-inch Cold Leg Accumulator 4 outlet piping to the low pressure safety injection (RHR system) check valve CKV-63-635 (Ref: C/N 83015; Dwg. E-2879 IC-92)	6	160	21			
2-inch branch connection from the 6-inch RHR system branch to the Safety Injection System check valve CKV-63-557 (Ref: Weld Map 435-6 Sheet 9)	2		7	SA-376 Type 304		

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
High Pressure [BIT Injection] Safety Injection System Piping from Check Valve CKV-63-581 to the Reactor Coolant System, Consisting of the Following Piping Segments UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
High pressure safety injection piping from CKV-63-581 to Loop 3 cold leg injection check valve CKV-63-588	3	160	17	SA-376 Type 304	2485	1500
(Ref: C/N 83015; Dwg. E-2879 IC-86; Weld Map 435-9 Sheet 2)	2½		80			
	1½		39			
1½-inch branch connection from the 3-inch common header coming from CKV-63-581 to Loop 1 cold leg injection check valve CKV-63-586 (Ref: Weld Maps 435-6 Sheet 3 and 435-7 Sheets 16-17; 47W435-7)	1½		123			
1½-inch branch connection from the 3-inch common header coming from CKV-63-581 to Loop 4 cold leg injection check valve CKV-63-589 (Ref: Weld Map 435-6 Sheet 4)			27			
1½-inch branch connection from the 2½-inch common header coming from CKV-63-581 to Loop 2 cold leg injection check valve CKV-63-587 (Ref: Weld Maps 435-8 Sheet 14 and 435-9 Sheet 1)			107			

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
RHR Hot Leg Injection Piping from Check Valve CKV-63-640 to the Reactor Coolant System, Including the Branch Connection from SIS, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Low pressure safety injection from RHR system CKV-63-640 to the Loop 1 hot leg injection CKV-63-641	8	160	29	SA-376 Type 304	2485	1500
(Ref: C/N 83015; Dwg. E-2879 IC-54)	6		2			
2-inch branch connection from the 8-inch RHR piping to Safety Injection System Check Valve CKV-63-543 (Ref: Weld Map 435-7 Sheet 6)	2		5			
RHR Hot Leg Injection Piping from Check Valve CKV-63-643 to the Reactor Coolant System, Including the Branch Connection from SIS, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Low pressure safety injection from RHR system CKV-63-643 to the Loop 3 hot leg injection CKV-63-644 [Reduces to 6” NPS at the inlet to CKV-63-644] (Ref: C/N 83015; Dwg. E-2879 IC-55)	8	160	44	SA-376 Type 304	2485	1500
2-inch branch connection from the 8-inch RHR piping to Safety Injection System Check Valve CKV-63-545 (Ref: Weld Map 435-8 Sheet 9)	2		7			

TABLE 1 – PIPING SEGMENT DESCRIPTIONS

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
SIS Hot Leg Injection Piping from Check Valve CKV-63-647 to the Reactor Coolant System, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Safety Injection pump piping from CKV-63-547 to CKV-63-559 (Ref: C/N 83015, Dwg. E-2879 IC-90; Weld Map 435-8 Sheet 13)	2	160	38	SA-376 Type 304	2485	1500
	6		0.5	SA-376 Type 316		
SIS Hot Leg Injection Piping from Check Valve CKV-63-649 to the Reactor Coolant System, Consisting of the Following Piping Segments: UFSAR FIGURE 6.3-1 SH 1 (TVA DRAWING 1-47W811-1)						
Safety Injection pump piping from CKV-63-549 to CKV-63-558 in the 6 inch Loop 4 hot leg injection line (Ref: C/N 83015; Dwg. E-2879 IC-92; Weld Map 435-6 Sheet 1)	2	160	44	SA-376 Type 304	2485	1500
	6		1.5	SA-376 Type 316		
RHR Loop 4 Suction Piping from 1-FCV-74-2 and its Bypass Valve 1-FCV-74-8, to the Reactor Coolant System, Consisting of the Following Piping Segments: UFSAR FIGURE 5.5-4-1 SH 1 (TVA DRAWING 1-47W810-1)						
RHR piping between FCV-74-1 (and its bypass valve FCV-74-9) and FCV-74-2 (and its bypass valve FCV-74-8)	10	140	22	SA-376 Type 316	2485	1500
(Ref: C/N 83015; DWG. E-2879 IC-53)	14		62			
Auxiliary Spray Piping Consisting of the Following Piping Segments: UFSAR FIGURE 9.3-15 SH 1 (TVA DRAWING 1-47W809-1)						
Auxiliary spray piping from 1-FCV-62-84 through 1-CKV-62-661 (Ref: Weld Map 406-9, Sheet 17; 47W406-8 & -9; 47W465-206)	3	160	37	SA-376 Type 304	2485	325 to 2235

Description	Nominal Pipe Diameter (inches)	Pipe Schedule	Segment Length (feet)	Pipe Material	Piping Design Pressure (psig)	Proposed Test Pressure (psig)
CVCS Piping From the Regenerative Heat Exchanger To RCS Cold Leg 1 Consisting of the Following Piping Segments: UFSAR FIGURE 9.3-15 SH 1 (TVA DRAWING 1-47W809-1)						
CVCS piping from 1-CKV-62-659 through 1-CKV-62-638 (Ref: C/N 83015; Dwg. E-2879 IC-895; Weld Map E-2879 IC-33; 47W406-8 & -9)	3	160	0.33	SA-376 Type 304	2485	325 to 2235
CVCS Piping From the Regenerative Heat Exchanger To RCS Cold Leg 4 Consisting of the Following Piping Segments: UFSAR FIGURE 9.3-15 SH 1 (TVA DRAWING 1-47W809-1)						
CVCS piping from 1-CKV-62-660 through 1-CKV-62-640 (Ref: C/N 83015; Dwg. E-2879 IC-907; Weld Map E-2879 IC-34; 47W406-8 & -9)	3	160	0.67	SA-376 Type 304	2485	325 to 2235