RESULTS OF LEAKAGE MONITORING OF SYSTEMS OUTSIDE CONTAINMENT WHICH COULD CONTAIN RADIOACTIVE FLUIDS FOLLOWING AN ACCIDENT

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I. SUMMARY

The objective of the leakage monitoring program is to locate and minimize leakage from those portions of the Safety Injection System and the Post-Accident Sampling System which could contain highly radioactive fluids during a serious transient or accident. This testing ensures that leakage from these systems are maintained to as low as practical levels.

The leakage monitoring tests are performed on a schedule of at least once per refueling cycle in order to meet the requirements of PVNGS Unit 1 Technical Specification 6.8.4.a and NUREG-0737 item III.D.1.1.

The leakage monitoring tests were performed on those portions of the Safety Injection System and the Post-Accident Sampling System outside containment which are likely to contain radioactive fluids following an accident. It should be noted that only those portions of the Post-Accident Sampling System that are currently being used at PVNGS Unit 1 are included in this leakage testing. The in-line Post-Accident Sampling System Capability will not be installed and operational until after the first refueling outage for Unit 1. These additional portions of the Post-Accident Sampling System will be included in the leakage monitoring program after the first refueling outage.

The detailed results of these leakage tests are presented in Section III of this report. The overall estimated leakage from these systems are as follows:

		Estimated Leakage (gpm)
1. High Pressure Safety Injection -	Train A	0.02697
	Train B	0.00477
2. Low Pressure Safety Injection -	Train A	0.00021
	Train B	0.0

	Estimated Leakage (gpm)
3. Containment Spray System - Train A	0.00035
Train B	0.00317
4. Reactor Coolant Sample (PASS)	0.0
5. Safety Injection Sampling (PASS)	0.0
6. Containment Radwaste Sump Sampling (PASS)	0.0

II. TEST DISCUSSION

This test is designed to identify and correct any leakages from the applicable portions of the Safety Injection System and the Post-Accident Sampling System. This test consists of having an inspector walkdown the piping systems during system operation to identify any leakage from the potential leakage paths (i.e., valves, fittings, seals, etc.). The inspector can be accompanied by a plant mechanic during the performance of this test. This allows for the plant mechanic to adjust the packing on any manual valves where leakage is identified during the performance of the test. If any identified leakage cannot be corrected during the performance of the test, the inspection team can issue a work request per Station Manual Procedure 30AC-9ZZ01 ("Work Control"). This identified leakage will then be corrected as soon as possible following the inspection.

Certain portions of the Safety Injection System are not pressurized during the performance of this test due to the lack of isolation valves between the Safety Injection System and the Reactor Coolant System. However, these components have been pressurized in the past and these components are inspected during this test to determine if the components show any signs of previous leakage. If signs of previous leakage exist, corrective maintenance will be performed to correct the leakage.

III. RESULTS

The set of Tables presented in this section of this report summarize the inspection results and the identified leakage from the outside containment portions of the Safety Injection System and the Post-Accident Sampling System. The following codes are used in the Tables to identify the location of the leak and the estimated leakage rates.

Location of Leak:

- P = Packing/stem leak
- DC = Drain cap leak
- VC = Vent cap leak
- O = Other type of leak

Leakage Estimates:

- A = No leak
- B = Small leak where boron crystals are visible but have not overflowed onto the floor or other equipment (estimated leakage of less than 1 drop per day)
- C = Small leak where boron crystals are visible and there is visible overflow onto the floor or other equipment that has dried (estimated leakage of less than 6 drops per day)
- D = Small leak where boron crystals are visible and there is visible overflow onto the floor or other equipment that is wet in appearance (estimated leakage of less than 1 drop per 30 minutes)
- E = Visible leakage where an actual estimate can be made of the leakage rate

HIGH PRESSURE SAFETY INJECTION TRAIN A

	Location of Leak	Estimated Leakage
FO-43, Flange, Flow Limiting Orifice	-	A
FO-45, Flange, Flow Limiting Orifice	-	A
UV-637, HPSI Header to Loop 1A	P	C
V-833, HPSI Header to Loop 1B Vent	-	A
UV-647, HPSI Header to Loop 1B	P	C
V-836, HPSI Header to Loop 1B Vent	VC	E = 1 drop/sec
HV-321, HP Long Term Recirc Ctmt Isolation	P	C
*V859 & Cap, HP Long Term Recirc Drain and Test	DC	D
*V525, Ft 390 Root	P	B
*V526, Ft 390 Root	-	A
*FE-390, Flange	-	A
V037 & Cap, HPSI Header Vent	-	A
PSV-417, HPSI Header Relief	-	A
PSV-468, HP Long Term Recirc Header Relief	-	A
V039 & Cap, HP Long Term Recirc Header Vent	VC	B
V811, HPSI Header to Charging	-	A
V821, HP Long Term Recirc to Charging, Loop 1	P	D
V951 & Cap, HPSI Header Drain Valve	-	A
V839 & Cap, HP Long Term Recirc Drain and Test	-	A
*V207 & Flange, Test Connection	-	A
V205, Sump to SI Pump Check Valve	-	A
*UV674, Ctmt Isolation Valve	-	A
V828 & Cap, SI Suction Vent Valve	-	A
V508, Charging Pump to HPSI Header	P	E = 1 drop/5 min
V894 & Cap, Charging Pump to HPSI Drain	-	A
V934 & Cap, Charging to HPSI Vent	-	A
PSV-285, HPSI Recirc Relief	-	A
UV-709, HPSI Recirc to PASS	-	A
UV-660, Safety Injection Recirc to RWT Isol	-	A

	Location of Leak	Estimated Leakage
V-465, HPSI Recirc to Post Acc. Sample Cooler	-	A
V848 & Cap, HPSI Header Vent	VC	C
V849 & Cap, HPSI Header Drain	DC	B
V850 & Cap, HP Long Term Recirc Vent	-	A
V851 & Cap, HP Long Term Recirc Drain	-	A
V819 & Cap, HPSI Header Drain	-	A
V306, SI Suction from RWT Check Valve	-	A
V820 & Cap, HP Long Term Recirc Vent	VC	B
HV-531, Safety Injection Suction from RWT	-	A
V105, Ctmt Spray Suction from Sump	-	A
UV-664, Ctmt Spray Recirc to RWT	P	B
UV-669, LPSI Recirc to RWT	P	C
HV-683, LPSI Suction Isolation	P	C
V068 & Cap, LPSI Recirc to RWT Vent	VC	B
V470, HPSI Suction Isolation	-	A
V552 & Cap HPSI Suction Pressure Test	P	B
V009 & Cap HPSI Suction	-	A
FO-25, HPSI Recirc. Orifice	-	A
V218, HPSI Mini Flow Orifice Bypass	P	B
V424, HPSI Recirc to RWT Check Valve	-	A
UV-666, HPSI Recirc to RWT Isolation	P	C
V023 & Cap, HPSI Recirc to RWT Drain	P	B
V028 & Cap, HPSI Header Vent	VC	C
V032 & Cap, HPSI Header Drain	-	A
HV-604, HP Long Term Recirc Isolation	P	B
V404, HPSI Header Check Valve	-	A
FO-23, Flange	-	A
V476, HPSI Header Isolation	P	C
HV-698, HPSI to Loops Isolation	P	C
V416, HPSI Header Vent	-	A
V966, Root Valve to PT-308	P	C

	Location of Leak	Estimated Leakage
HPSI Pump Balancing Line	Flanges	B
PT308 & Limiting Orifice	-	A
HPSI Pump Casing	Casing Juncture	A/B
V956 HPSI Pump Vent and Drains	-	A
V955 HPSI Pump Drain	-	A
HPSI Pump Inboard Seal	Gland	C
HPSI Pump Outboard Seal	-	A
HPSI Pump Cyclone Filter	-	A
V046 & Cap, HPSI Header Vent	P	B
V047 & Cap, HPSI Header Drain	-	A
FO-47, Flange, Flow Limiting Orifice	-	A
FO-49, Flange, Flow Limiting Orifice	-	A
UV-617, HPSI Header to Loop 2A	P	E = Stream
V-824 & Cap, HPSI Header to Loop 2A Vent	P	B
UV-627, HPSI Header to Loop 2B	P	C
V-866 & Cap, HPSI Header to Loop 2B Vent	-	A

HIGH PRESSURE SAFETY INJECTION TRAIN B

	Location of Leak	Estimated Leakage
V040, HPSI Header to Charging	-	A
FO-44, Flange, Flow Limiting Orifice	O	B
FO-46, Flange, Flow Limiting Orifice	-	A
UV-636, HPSI Header to Loop 1A	P	C
V834, HPSI Header Vent	VC	E = 1 drop/sec
UV-646, HPSI Header to Loop 1B	P	C
V837, HPSI Header Vent	VC	E = 1 drop/sec
V042 & Cap, HPSI Header Vent	VC	B
V050 & Cap, HPSI Header Drain	No Cap	A
FO-48, Flange, Flow Limiting Orifice	-	A
FO-50, Flange, Flow Limiting Orifice	-	A
UV-626, HPSI Header to Loop 2B	P	D
V-867, HPSI Header to Loop 2B Vent	P	B
UV-616, HPSI Header to Loop 2A	P	E = 1 drop/18 sec
V-825, HPSI Header to Loop 2A Vent	P	C
V045 & Cap, HP Long Term Recirc Vent	VC	D
HV-331, HP Long Term Recirc Isolation	P	B
*V871 & Cap, HP Long Term Recirc Test	DC	B
*V535, Ft 391 Root	-	A
*V536, Ft 391 Root	-	A
*FE-391, Flange	-	A
PSV-409, HPSI Header Relief	-	A
PSV-166, HP Long Term Recirc Relief	-	A
V041 & Cap, HPSI Header Vent	-	A
V952 & Cap, HPSI Header Drain Valve	P	B
V832 & Cap, HP Long Term Recirc Drain and Test	VC	B
V829 & Cap, SI Suction Vent Valve	-	A
*UV676, Ctmt Sump Isolation	-	A
*V208 & Flange, Test Connection	-	A
V206, SI Suction Flow Check	-	A

	Location of Leak	Estimated Leakage
V509, Charging Pump to HPSI Header	P	E = 1 drop/5 min
PSV-286, HPSI Return to RWT Relief	-	A
UV-659, SI to RWT Isolation	-	A
V427, SI to Pass Sampler Cooler	P	C
UV-710, SI to Pass Isolation	-	A
HV-530, SI Suction from RWT	-	A
V855 & Cap, HPSI Header Drain	P	E = 1 drop/5 sec
V305, SI Suction from RWT Check Valve	-	A
V853 & Cap, HP Long Term Recirc Drain	-	A
V854 & Cap, HPSI Header Vent	-	A
V852 & Cap, HP Long Term Recirc Vent	-	A
V408 & Cap, HPSI Header Vent	-	A
V104, Ctmt Spray Suction from Sump	P	B
UV665, Ctmt Spray Recirc to RWT	P	C
HV-692, LPSI Suction Isolation	P	B
UV-668, LPSI Recirc to RWT	-	A
HV-699, HPSI to RCS Loops Isolation	-	A
V030 & Cap, HPSI Header Vent	P, VC	E = 1 drop/4 sec
V031 & Cap, HPSI Header Drain	DC	E = 1 drop/sec
HV-609, HPSI Header to HP Long Term Recirc	P	B
V967, PT309 Root	P	E = 1 drop/sec
PT309 & Flow Limiting Orifice	-	A
FO-24, Flange	-	A
V478, HPSI Header Isolation	P	B
V405, HPSI Header Check Valve	-	A
V219, Miniflow Orifice Bypass	-	A
V426, HPSI Recirc Check Valve	-	A
V400, HPSI Recirc Cross Connect	P	B
UV-667, HPSI Recirc to RWT Isolation	-	A
V024 & Cap, HPSI Recirc Drain	P	B
V402, HPSI Suction Isolation	-	A
V553 & Cap, HPSI Suction Press Test	PC	B
V011 & Cap, HPSI Suction Press Test	-	A

	Location of Leak	Estimated Leakage
FO-26, Mini-Flow Orifice	-	A
HPSI Pump Casing	0	A/B
V-954, HPSI Pump Vent & Drains	-	A
V-953 HPSI Pump Drain	-	A
HPSI Pump Balancing Line	0	B
HPSI Pump Inboard Seal	0	C
HPSI Pump Outboard Seal	0	B
HPSI Pump Cyclone Filter	-	A

LOW PRESSURE SAFETY INJECTION TRAIN A

	Location of Leak	Estimated Leakage
V856 & Cap, SD Cooling/Fuel Pool Cooling Vent	VC	B
V256, SD Cooling/Fuel Pool Cooling Isolation	P	C
*V876 & Cap, Shutdown Cooling Suction Line Vent	VC	D
V419, SD Cooling/SD Purification Isol.	P	B
V429, SD Cooling to Pass Sample Cooler	P	B
V437, FT 306 Root	P	C
V438, Ft 306 Root	P	B
FE-306 Flange	-	A
FT-306 (Outside Room)	-	A
PSV-439, LPSI Header Relief	-	A
FO-39, Flange, Flow Limiting Orifice	-	A
FO-41, Flange, Flow Limiting Orifice	-	A
*FO-737, HPSI Orifice	-	A
V080, LPSI Hdr Vent	No Cap, VC	D
*V085 & Cap, LPSI Hdr Vent & Test	VC	C
*V872 & Cap, LPSI Hdr Test Connection	DC	C
V909 & Cap SD Cooling Line Loop 1	No Cap, VC	C
*FO-736, HPSI Orifice	-	A
*V835 HPSI Drain & Test	DC	B
*FE 331 and Flange	-	A
*V125, Ft 331 Root	P	C
*V126, Ft 331 Root	P	B
*FT 331 (Outside Room)	-	A
*V838 HPSI Drain & Test	P	C
*FE 341 and Flange	-	A
*V145, Ft 341 Root	-	A
*V146, Ft 341 Root	P	B
*FT 341 (Outside Room)	-	A

	Location of Leak	Estimated Leakage
*FO 747, HPSI Orifice	-	A
*FO 746, HPSI Orifice	Flanges	B
V908 & Cap, LPSI Header Drain & Test	DC	B
UV-635, LPSI Header to Loop 1A	P	C
HV-691, Shutdown Cooling Warmup Valve	P	C
UV-655, Shutdown Cooling Suction Ctmt Isolation	P	C
V874 & Cap, LPSI Header Drain & Test	-	A
UV-645, LPSI Header to Loop 1B	P	D
HV-657, Shutdown Cooling to Loop Isol.	P	E = 1 drop/5 sec
V081, Shutdown Cooling Hdr Drain	P, DC	C
V421, Shutdown Purification Isol.	-	A
V088 & Cap, SDHX Bypass Vent	VC	C
V184, Ctmt Spray Suction to Loop Isol.	-	A
V018 & Cap, Ctmt Spray Suction Vent	P, VC	C
V201, LPSI Suction Check Valve	-	A
V004 & Cap, Root Valve & Press Test	DC	D
V550 & Cap, LPSI Suction Header Drain & Test	No Cap, P	B
V005 & Cap, Root Valve & Press Test	-	A
V451, LPSI Miniflow Recirc Check Valve	-	A
FO-19, LPSI Miniflow Orifice	-	A
V840 & Cap, LPSI Flush Connection/Vent	-	A
V434, LPSI Header Check Valve	-	A
V435, LPSI Discharge Isolation	P	B
V069 & Cap, LPSI Header Drain	DC	B
V433, PT306 Root Valve	P	B
PT306 & Flow Orifice	-	A
HV-306, SDHX Bypass	P	B
LPSI Pump Casing	-	A
LPSI Pump Seal	-	A
LPSI Pump Cyclone Filter	-	A

LOW PRESSURE SAFETY INJECTION TRAIN B

	Location of Leak	Estimated Leakage
*V870 & Cap, Vent Upstream UV656	-	A
*V868 & Cap, Test Vlv Dnstrm UV625	-	A
UV656, SDC Suction from RC Loop #2	P	C
V869 & Cap, Vent Dnstrm UV656	VC	B
V442, Fuel Pool to SDC Suction	-	A
V418, SDC Purification Return	P	B
V886 & Cap, Vent Upstrm V418	P, VC	D
V445, Sample Isolation SDC Suction Hdr	P	D
V440, Hi Side Root Ft 307	P	D
V441, Lo Side Root Ft 307	P	B
FE307, Flange	-	A
FT307, (Outside Room)	-	A
PSV449, LPSI Header Relief	-	A
V093 & Cap, LPSI Header Vent	P	D
*F0717, HPSI Orifice	-	A
F040, LPSI to RC Loop 2A Orifice	-	A
F042, LPSI to RC Loop 2B Orifice	-	A
*F0716, HPSI Orifice	-	A
*F0727, HPSI Orifice	-	A
*FE 311 and Flange	-	A
*V115, Ft 311 Root	P	B
*V116, Ft 311 Root	P	B
*Ft 311 (Outside Room)	-	A
*F0726, HPSI Orifice	-	A
*FE 321 and Flange	-	A
*V135, Ft 321 Root	P	B
*V136, Ft 321 Root	P	B
*FT 321 (Outside Room)	-	A
*V826 & Cap, HPSI Hdr Drain	No Cap	A
*V830 & Cap, HPSI Hdr Drain	DC	B
*V827 & Cap, Test Valve Dnstrm UV615	P	C
V831 & Cap, Vent Upstream UV625	DC	B

	Location of Leak	Estimated Leakage
UV625, LPSI Loop Isolation to RC Loop 2B	P	B
V097 & Cap, Drain Upstream UV615	-	A
UV615, LPSI Loop Isolation to RC Loop 2A	P	D
HV690, SDC Train "B" Warmup Valve	-	A
CHV-327 RWT to Charging pumps	P	B
HV658, SDC HX#2 Flow Control	P	B
V814 & Cap, Drain Downstream of HV658	-	A
V420, SDC Purif. Isolation	-	A
V094 & Cap, High PT Vent Dnstrm HV307	VC, P	C
V185, Suction Isolation from SDC Hdr	P	C
V019 & Cap, Vent Upstream V185	P, VC	C
V200, Suction Check Valve	-	A
V555 & Cap, LPSI Pump Suction Drain	No Cap, P	B
V014 & Cap, LPSI Pump Inlet PI Root	No Cap, P	C
V015 & Cap, LPSI Pump Inlet PI Root	P	B
FO-20, LPSI Recirc Orifice	-	A
V448, LPSI Recirc to RWT Check Valve	-	A
HV307, SDC HX#2 Bypass Discharge Control	P	B
V861 & Cap, LPSI Pump Discharge Vent	VC, P	B
V842 & Cap, LPSI Pump Discharge Hdr Vent	VC	B
V446, LPSI Discharge Hdr Check	-	A
V447, LPSI Pump #2 Discharge	P	B
V075 & Cap, Drain Dnstrm V447	VC	B
V436, LPSI Pump #2 Discharge Press Root	-	A
PT307 & Orifice, Discharge Press Transmitter	-	A
LPSI Pump Casing	-	A
LPSI Pump Cyclone Filter	-	A
LPSI Pump Seal	-	A

CONTAINMENT SPRAY SYSTEM TRAIN A

	Location of Leak	Estimated Leakage
V483, PT303X Root	P	C
PT303X & Flow Orifice	-	A
V262, SDHX Tube Side Drain	-	A
V260, SDHX Tube Side Vent	-	A
V807 & Cap, LPSI Header Vent	VC, P	C
TE303X, Thermowell	-	A
PSV-194, LPSI Header Relief	-	A
HV-678, Ctmt Spray to SDHX	P	B
HV-685, LPSI to SDHX	P	B
HV-686, SDHX to Shutdown Cooling Hdr Isol.	P	D
PSV-161, SD Cooling Header Relief	-	A
V460, SD Cooling to RWT Isol.	P	B
V257, Analysis Pt. Isolation	-	A
V817 & Cap, Fuel Pool Cooling Vent	VC, P	B
V458, Fuel Pool Cooling Isol.	-	A
*PSV-289, CS Hdr Relief	-	A
HV-688, CS Pump to Hdr Isolation	P	B
V089 & Cap, Ctmt Spray Header Vent	VC	B
HV-687, Shutdown Cooling to Containment Spray Isolation	-	A
*V084 & Cap, CS Header Drain	DC	B
*V083 & Cap, CS Header Vent	P	E = 1 drop/3 sec
*UV672, CS Flow Control Valve	-	A
*V500, CS Header Test PT	-	A
CS Pump Cyclone Filter	-	A
V157, Ctmt Spray Suction Check Valve	-	A
V130, Spray Chem Sto Tk to Ctmt Spray Check Valve	-	A
V551, CS Pump Suction Test/Flush Conn	P	B
V006 & Cap, Ctmt Spray Pump Suction Test Conn.	-	A

	Location of Leak	Estimated Leakage
CS Pump Casing	-	A
V007 & Cap, Ctmt Spray Pump Suction Test Conn.	-	A
V016 & Cap, Ctmt Spray Pump Discharge Test Conn.	-	A
C.S. Pump Seal	Where Cyclone Filter Lines Enter Seal	C
V070 & Cap, Ctmt Spray Discharge Drain	-	A
FE338, Flange	-	A
V174, Ctmt Spray Flow Transmitter Hi Side Root	P	B
V175, Ctmt Spray Flow Transmitter Lo Side Root	P	B
FT338, Ctmt Spray Flow Transmitter	Manifold	B
FO-21 CS Recirc Orifice	-	A
V486, Ctmt Spray Recirc to RWT Check Valve	-	A
V841 & Cap, Ctmt Spray Header Flush Conn.	-	A
V485, Ctmt Spray Header Flow Check	Bottom of Insulation	C
V071 & Cap, Ctmt Spray Header Drain	DC	C
HV684, Ctmt Spray Pump Discharge Isol.	P	B

CONTAINMENT SPRAY SYSTEM TRAIN B

	Location of Leak	Estimated Leakage
V482, SDC HX#2 Inlet Press Root	P	B
PT303Y, SDC HX#2 Inlet Press Transmitter	-	A
V266, SDC HX#2 Tube Drain	P	B
V096, SDC HX#2 Inlet Valve	VC	C
V264, SDC HX#2 Tube Vent	-	A
TE303Y, Thermowell	-	A
PSV191, Shutdown Cooling Outlet Relief	-	A
HV679, Ctmt Spray Pump #2 Discharge Isol.	P	C
HV694, SDC HX#2 Inlet Isol.	P	C
HV696, SDC HX#2 Discharge Isol.	P	B
PSV193, SDC Discharge Relief	-	A
V464, SDC HX#2 Outlet to RWT	P	B
V202, SDC Discharge Analysis Pt. Root	P	B
V910 & Cap, SDC to Fuel Pool Cooling Vent	P	B
V455, SDC to Fuel Pool Cooling Isol.	P	B
*PSV-287, CS Hdr Relief	-	A
HV-693, CS Pump to Hdr Isol.	P	C
V090 & Cap, Vent Upstrm HV695	-	A
HV695, SDC HX#2 Outlet to CS Hdr	P	B
*V091 & Cap, CS Header Vent	VC, P	E = 2 drop/sec
*V092 & Cap, CS Header Drain	DC	E = 1 drop/sec
*UV671, CS Flow Control Valve	-	A
*V501 & Flange, CS Header Test Conn	-	A
*V891 & Cap, CS Header Vent	VC	B
V158, CS Suct Check Valve	-	A
V120, Spray Chem Sto Tk to CS Check Valve	-	A
V554 & Cap, CS Pump Suction Test/Flush Conn	P	B
V012 & Cap, CS Pump Suction Test Conn	P	B

	Location of Leak	Estimated Leakage
V013 & Cap, CS Pump Suction Test Conn	-	A
V073 & Cap, CS Discharge Drain	-	A
V017, CS Pump Discharge Test Conn	-	A
FE348, Flange	-	A
V176, CS Flow Transmitter Hi Side Root	-	A
V177, CS Flow Transmitter Lo Side Root	P	C
Ft 348	-	A
V487, CS Recirc to RWT Check Valve	-	A
V843 & Cap, CS Spray Header Flush Conn	P, VC	C
V484, CS Header Flow Check	Bottom of Insulation	C
V074 & Cap, CS Header Drain	-	A
HV689, CS Pump Discharge Isolation	-	A
FO-22, CS Recirc Orifice	-	A
CS Pump Casing	-	A
CS Pump Seal	At Piping Input From Cyclone Filter	C
CS Pump Cyclone Filter	-	A

NOTE: *indicates those components which were inspected while they were in an unpressurized state.

REACTOR COOLANT SAMPLE (PASS)

	Location of Leak	Estimated Leakage
SS-UV-200, RCS-C.I.V.	-	A
SSV818, 1JSSNC02 Isol	-	A
RCS Pipe to Tube Fitting	-	A
RCS - Pass Bulkhead Fitting	-	A
Pass-HV-1	-	A
Pass SV-4 (EDT)	-	A
Pass CV-4 (EDT)	-	A
Pass HV-4 (EDT)	-	A
EDT Pass Bulkhead Fitting	-	A
EDT Pipe to Tube Fitting	-	A
SSV847, 1JSSNC02 Isol	-	A
SSV209, EDT Isolation (EDT Pump Room)	-	A
Pass RDT HV-5	-	A
Pass RDT CV-5	-	A
Pass RDT SV-5	-	A
Pass RDT Bulkhead Fitting	-	A
Pass RDT Pipe to Tube Fitting	-	A
SSV848, 1JSSNC02 Isol	-	A
CHUV715, Pass-Rdt C.I.V.	-	A
CHV085, Vent Valve at CHUV715	-	A
AV-26 Depressurized Grab Sampler Valve	-	A
Depressurized Liquid Sample Septum	-	A
HV-1 RCS Manual Isol	-	A
AV-1 RCS Isol.	-	A
AV-6 Filter Flush	-	A
F-1 Filter	-	A
AV-7 Flush Isol	-	A
AV-8 Cooler Inlet	-	A
AV-9 Booster Pump Inlet	-	A
Coolers Inlet/Outlet	0	D
AV-12 PRGS Isol Supply	-	A
AV-13 PRGS Bypass	-	A

	Location of Leak	Estimated Leakage
AV-15 PRGS Isol Return	-	A
AV-20 Dual 3-way RGS Transfer (At Module)	-	A
AV-16 Orifice Inlet	-	A
AV-17 Orifice Bypass	-	A
SV-18 Depressurized Grab Sample Supply	-	A
SV-19 Sample Recirc	-	A
CV-19 Depressurized Grab Sample Return	-	A
BPCV-19 Backpressure Regulator	-	A
SSV850 (RGS) 1JSSNC02 Isolation	-	A
SSV849 (RGS) 1JSSNC02 Isolation	-	A
AV-20 RGS Transfer Valve Dual 3-Way	-	A
AV-22 PRGS Sample Valve Dual 3-Way	-	A
CV-21 N_2 Check Valve	-	A
AV-23 Degas Valve	-	A
Off Gas Sample Septum	-	A
AV-24 Evacuation Isol	-	A
CV-25 IA Check Valve	-	A

SAFETY INJECTION SAMPLING (PASS)

	Location of Leak	Estimated Leakage
PASS SI-A AV-2	-	A
PASS SI-A HV-2	-	A
PASS SI-A Bulkhead Fitting	-	A
PASS SI-A Pipe to Tube Fitting	-	A
SSV840 1JSSNC02 Isol	-	A
SSV080 Vent Valve at SIUV709	VC	B
SIUV709 Pass Isol	-	A

CONTAINMENT RADWASTE SUMP SAMPLING (PASS)

	Location of Leak	Estimated Leakage
Pass CRWS AV-3	-	A
Pass CRWS HV-3	-	A
Pass CRWS Bulkhead Fitting	-	A
Pass CRWS Pipe to Tube Fitting	-	A
SSV841 1JSSNC02 Isol	-	A
RDUV407 Pass Isol	-	A
RDV083 Vent Valve at RDUV407	-	A

IV. CONCLUSIONS

The results of this leakage monitoring testing are presented in Section III of this report. The results indicate the estimated leakage from those portions of the Safety Injection System and the Post-Accident Sampling System outside containment that could contain radioactive fluids following an accident. Corrective maintenance activities will be initiated to correct the identified leakage as soon as possible after the completion of the inspection.

The leakage inspection that was performed satisfies the requirements of Technical Specification 6.8.4.a for the first cycle of operation for PVNGS Unit 1 and satisfies the commitments that were made in response to NUREG-0737 item III.D.1.1.