

# TEST REPORT



Accepted for Use

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## RENDERED TO

AREVA NP Inc.  
4100 International Plaza  
Fort Worth, TX 76109

	AREVA NP Inc.
	58-9222891-000

PRODUCTS EVALUATED: Quantum Silicones QSil 5558MC Silicone Elastomer

EVALUATION PROPERTY: Pressure Resistance (Pressure Test 4A)

**Report of Testing pressure resistance capabilities for  
compliance with the applicable requirements of AREVA  
NP Inc. Test Plan, Document No. 51-919513-004**

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## 2 Introduction

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Intertek Testing Services NA (Intertek) has conducted testing for AREVA NP Inc., on the pressure resistance capabilities of Quantum Silicones QSil 5558MC Silicone Elastomer (QSil 5558MC) in a 12" thick concrete deck for compliance with the applicable requirements of and in accordance with AREVA NP Inc. Document No. 51-9199513-004, *Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)*. This evaluation took place on October 15, 2013.

This project was undertaken to evaluate the pressure resistance capabilities of an 8" thick silicone elastomer seal when installed in and around various metallic electrical commodities at five different air pressure increments above atmospheric pressure.

## 3 Test Samples

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### 3.1 SAMPLE SELECTION

The sealant material was not independently selected for testing; they were supplied by AREVA NP Inc., and were received on June 19, 2013. The samples were received with Certificates of Conformance and are considered traceable. Basic information on sealant material(s) is presented in the table below.

Sealant Material	Lot /Batch#	Expiration Date
QSil 5558 MC	130606	6/14/2014

Information regarding receiving dates and origin can be found in Appendix F: Quality Documents. All samples were received in good condition at the Evaluation Center.

### 3.2 SAMPLE AND ASSEMBLY DESCRIPTION

The test assembly was used to simulate a confinement zone or HVAC boundary in which the penetration seal assemblies may be installed. The test deck was not considered an integral part of the penetration seal assembly being tested and therefore was not intended to replicate MOX-specific plant conditions and not considered integral in bounding the performance of the penetration seal assemblies (e.g., concrete blend, compressive strength, rebar size and spacing). The test deck will be comprised of normal weight reinforced concrete.

The opening cast into the test deck simulated certain features consistent with MOX penetrations (e.g., chamfered edges when deemed relevant, relatively smooth interior finishes, etc.).

The test deck and seal assembly used for Pressure Test 4A was the same test deck and seal assembly constructed and used in Pressure Test 4 (Intertek Report Number G100982213SAT-001D or AREVA NP, Inc. document number 58-9222547-000) with the addition of some silicone caulk to reduce the leakage observed in Pressure Test 4. A detailed description of each penetration can be found in Appendix D, AREVA NP Inc. Engineering Information Record, Document No. 51-9199513-004. Included in that document is a table of revision history with a description of changes made to the approved plan. The installation and documentation of

penetration seal assemblies contained within the test slab was performed by AREVA under AREVA's Quality Assurance Program [Reference 12.4 in the test plan found in Appendix D].

In Pressure Test 4, the leakage rate exceeded the available input air and the test was terminated prior to reaching the required pressure levels. For Pressure Test 4A, a bead of Dow Corning 732 caulk (DC-732) was applied at the interface of the seal and the commodities in accordance with the approved Test Plan, as a means to reduce the leakage to a level that would allowed the pressure testing to be performed. This application of DC-732 is not intended to be an approved method for MOX electrical penetration seal designs. It was only used as a means to continue the pressure testing required to substantiate Stages 2-5 where seal leakage is not a condition of acceptance. For this reason, there are no QC Records associated with the DC-732 application in Pressure Test 4A.

The test was performed with the test deck oriented in the horizontal position, and pressurized on the top side.

## **4 Testing and Evaluation Methods**

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The Test Plan in Appendix D defines the test methods, acceptance criteria and test report documentation requirements for penetration seal Pressure Test 4A. Additionally, the detailed Test Plan defines the roles and responsibilities of MOX Services, AREVA, the selected testing laboratory, and any other subcontracted entity engaged in support of pressure testing efforts.

The detailed Test Plan also describes the procurement plan for materials associated with penetration seal Pressure Test 4A, and identifies the entities responsible for procuring the various components of the test assemblies based on the quality level assigned to each component.

This Test Plan also establishes minimum quality requirements for the penetration seal materials used in the test assemblies and links quality requirements in the AREVA Quality Assurance (QA) program to customer/project quality requirements.

### **4.1 TEST APPARATUS**

In the absence of any consensus codes or standards related to the pressure testing of penetration seal assemblies, the MOX Penetration Seal Program has developed a standardized method for conducting pressure testing of MOX penetration seal designs. In support of this effort, Intertek assisted in the design and construction of a pressure test apparatus to be use in the conduct of MOX penetration seal pressure tests.

The pressure chamber apparatus consists of two hemispherical 72" diameter steel pressure vessels, calibrated equipment and a data acquisition system. The apparatus accurately maintains the desired air pressure, using one of two sensitive, manually adjustable pressure regulators; a high (0-15 psi) and a low (0-2 psi) range. The sealed collection chamber feeds any leakage air back to the test device, where it is channeled through one of two calibrated flow meters, once again, a high (0-200 L/min) and a low (0-20 L/min) range. A calibrated electronic pressure transducer (0-5 psi) measures the differential pressure between the two chambers and

the data acquisition software determines the net pressure drop across the test seal and the leakage through the seal. The chambers are interchangeable and the direction can be reversed very quickly so both can serve as the pressure or the collection chamber.

The primary components described above include the following devices:

Pressure Chamber	2-piece hemispherical 72" diameter steel vessel
	3 connection ports per piece
	16 flange attachment points per piece
	Flange attachment via 3/8" diameter holes @ 22-1/2° spacing



Pressure Cart      Stainless steel rolling cart with control equipment and associated  
Data Acquisition System



Regulator (low)      Control Air, Inc., Amherst, NH  
Type 700  
0-2 psi  
Regulator (high)      Control Air, Inc., Amherst, NH  
Type 700  
0-15 psi



Mass Flow Meter      Omega Engineering, Inc., Stamford, CT  
Model No. FMA-872A-V-NIST  
Serial No. 4270050001001  
0-20 lpm



Mass Flow Meter      Omega Engineering, Inc., Stamford, CT  
Model No. FMA-875A-V-NIST  
Serial No. 4270050003001  
0-200 lpm





Pressure Transducer      Omegadyne Inc., Sunbury, OH  
Model No. PX409-005 DWUV  
Serial No. 406707  
Pressure Range: 0-5 psi  
Input 0-100mVdc



Power Supply	Omega Engineering, Inc., Stamford, CT Model No. PSS-10 +10V @ 400 mA Input 115 VAC 50/60 Hz
Multifunction DAQ	National Instruments, Model No. NI USB-6210 16 Input, 16-bit, 250 kS/s, Multifunction I/O



Dedicated CPU

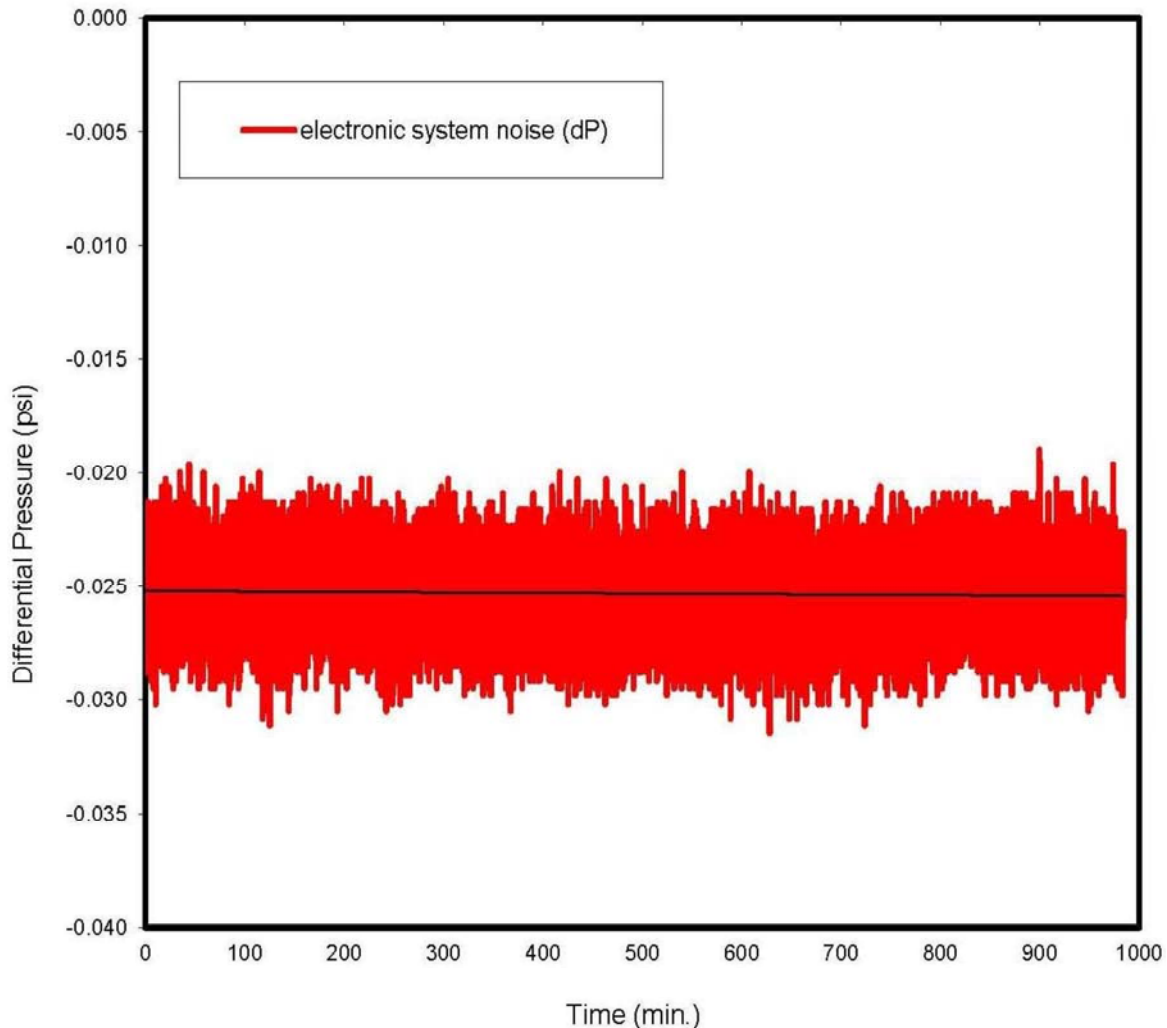
HP Compaq Pro-6300 Microtower  
Serial No. MXL3090LN6  
OS Windows 7 Pro





Additionally, during initial system start-up testing and verification, it was discovered that the data acquisition system (DAQ) was so sensitive that “signal noise” resulted in data fluctuations for reported differential pressure even when the system was at equilibrium (i.e., both high side and low side pressure chambers were at atmospheric conditions). After collecting data for 16 hours overnight, the average fluctuation was -0.025 psi.

### 16-hr Average Electronic Noise (dP = -0.0253 psi)



Since the initial pressure stage prescribed by the AREVA NP Test Plan is 1.0 inches of water (0.0361 psi) and the average data fluctuation due to “signal noise” was to almost 70% of this value (-0.025 psi), it was decided that an incline-plane manometer would be used to ensure that the Stage 1 differential pressure was applied at precisely 1.0 inches of water.



For subsequent pressure stages (i.e., Stages 2-5), the Test Plan required pressure was applied and maintained using the DAQ reported differential pressure without consideration for any “signal noise”. Since the “signal noise” always reported some level of negative pressure at the beginning of the test, this method assured that the tests were conducted with additional margin, as the actual differential pressure that the test specimen was subjected to was equal to the DAQ

reported differential pressure plus the additional pressure needed to overcome the negative “signal noise” reported at the beginning of the test when both pressure chambers were at atmospheric conditions.

## 4.2 TEST STANDARD

### AREVA NP Inc. Document No. 51-9199513-004

Pressure rated penetration seals at the MOX facility are required to remain “sufficiently leak-tight” at various pressure levels in order to support the functional goals of the various pressure rating requirements (i.e., confinement, suppression system clean agent concentration, fire induced pressure loads or HVAC pressure boundary loads). The term “sufficiently leak-tight” indicates that the penetration seal meets the predetermined acceptance criteria for the pressure level(s) being tested.

The acceptance criteria that constitutes “sufficiently leak-tight” varies based on the pressure requirement and the operating mode of the plant. For most pressure conditions and operating modes, “sufficiently leak-tight” means that the penetration seal assembly must remain in place but is allowed to leak (i.e., the penetration seal cannot become dislodged from the opening or otherwise catastrophically fail such that a substantial leakage path is created).

Per MOX Services Calculation “Confinement Boundary Air Leakage Criteria” (Test Plan Reference 12.1) penetration seals that function as confinement zone 3b boundary components must maintain a leakage rate less than 0.01 cfm/sq. ft. of penetration area when tested at a pressure that bounds C3b to non-C3b zone pressures during normal operating conditions.

The table below identifies the differential pressure levels (stages) for conducting pressures tests, as well as, the acceptance criteria in order to be considered “sufficiently leak-tight”.

**Differential Pressure Test Levels**

Test Stage	Differential Pressure (inch w.g.)	Required Hold Time (minutes)	Acceptance Criteria	Basis for the Selected Differential Pressure
1	1.0	30	Leakage $\leq$ 0.01 cfm/sq. ft. of penetration area	Testing at this differential pressure bounds the 0.51 inches w.g. pressure for C3b to C2 areas during normal operation [Test Plan Reference 12.9]
2	5.0	30	Seal Remains In Place	Testing at this differential pressure bounds the 4.0 inches w.g. pressure anticipated as a result of clean agent suppression system discharge [Test Plan Reference 12.7].

Test Stage	Differential Pressure (inch w.g.)	Required Hold Time (minutes)	Acceptance Criteria	Basis for the Selected Differential Pressure
3	10.0	30	Seal Remains In Place	Testing at this differential pressure bounds the 7.0 inches w.g. pressure used as the screening pressure cutoff for fire induced pressures [Test Plan References 12.7 and 12.8] and some of the HVAC pressure boundaries [Test Plan Reference 12.9].
4	20.0	30	Seal Remains In Place	Testing at this differential pressure bounds all of the calculated fire induced pressures [Test Plan Reference 12.8] and many of the HVAC pressure boundaries [Test Plan Reference 12.9].
5	40.0	30	Seal Remains In Place	Testing at this differential pressure bounds all of the HVAC pressure boundaries [Test Plan Reference 12.9].

Each test assembly shall be attached to the pressure test apparatus and subjected to air pressure tests at the select pressure levels identified in the table above, beginning with the Stage 1 pressure of 1.0 inch w.g. Once this pressure has been obtained, the pressure shall be maintained for the hold time specified. The maximum leakage rate observed during the hold time shall be recorded. If the leakage rate exceeds the acceptance criteria during Stage 1 testing, the time of failure shall be noted and the test shall be continued, since leakage alone does not constitute failure after Stage 1.

Once the designated hold time has been achieved, the pressure shall be increased to the next pressure level identified (Stage 2, then Stage 3, then Stage 4 and finally Stage 5) and held for the designated hold time. The maximum leakage rate observed during each hold time shall be recorded.

Following completion of Stage 5 pressure testing, the test may continue at the discretion of the AREVA test engineer and the testing laboratory manager in charge. Subsequent pressures, hold times and maximum leakage rates shall be recorded as directed by the AREVA test engineer.

If at any pressure level (or test stage) the penetration seal becomes dislodged from the opening or otherwise catastrophically fails, the pressure test shall be terminated and the time to failure and pressure at which the failure occurred shall be recorded.

## 5 Testing and Evaluation Results

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### 5.1 RESULTS AND OBSERVATIONS

The test deck was mounted horizontally between two 72" diameter hemispherical pressure vessels. The deck was fixed to the pressure chamber using (16) 5/16" x 2-1/2" long sleeve anchors (Red Head) through 16 pre-drilled holes. Silicone II caulk (GE) was used to create a pressure tight seal between the pressure chamber and the test deck.

The test was initiated at 11:15 a.m. on October 15, 2013. Scott Groesbeck, representing AREVA NP Inc., was present to witness the test. The ambient temperature at the start of the test was 81°F, with a relative humidity of 69%.

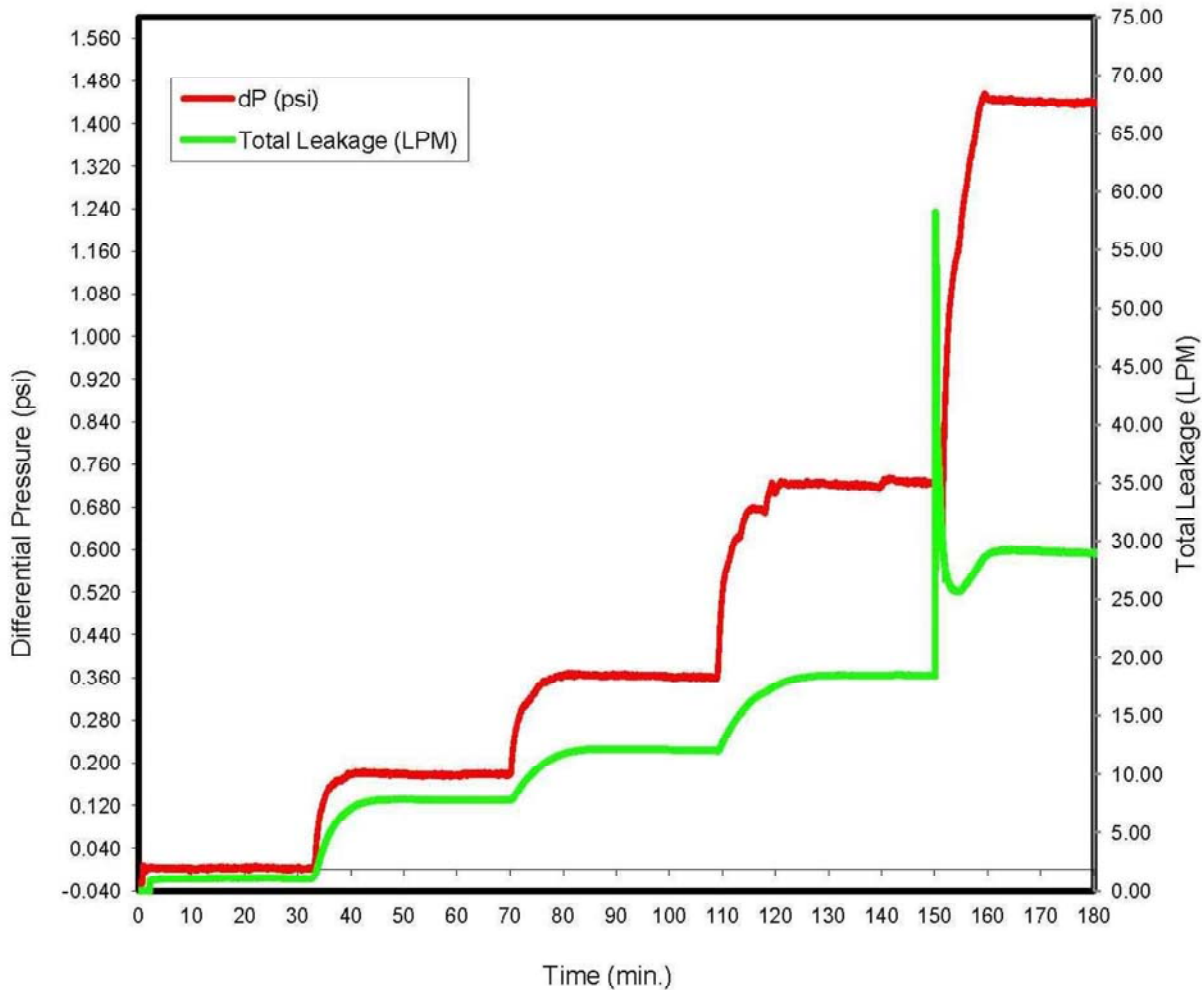
The test procedure followed that presented in Section 9.0 of the Test Plan. The graph and table on the following page(s) provides a summary of results and observations for the five pressure stages, any observed leakage, and the maximum leakage rate. Additionally, the raw data for Pressure Test 4A is contained in Appendix B of this test report. The official start and stop times for each pressure stage were timed using a traceable, calibrated stopwatch. The approximate start and stop times for each pressure stage are recorded below. These start and stop times can be correlated to the data in Appendix B using the heading "Time (min)".

**Pressure Test 4A Start and Stop Times**

Stage	Start Time	Stop Time
1	1.7	31.7
2	39.6	69.6
3	78.5	109
4	120	150
5	159	189



**Chamber Differential Pressure and Seal Leakage  
Pressure Test 4A**



The spike in the Total Leakage between 150-154 minutes occurred between Stages 4 and 5 and was due to a recording anomaly as a result of closing the valve on the 0-20 LPM mass flowmeter and opening the valve on the 0-200 LPM mass flowmeter (refer to the raw data in Appendix B). The actual leakage remained below 30 LPM during the entire final pressure stage which started at Time = 159 and ended at Time = 189.

When changing between mass flowmeters during a pressure a test, valve lineups and flowpath routes are changed. The time it takes to manipulate the valves, differences in tubing sizes, orifice sizes and mass flowmeter throughput capacity all affect bonnet pressure on the leakage side of the test assembly which can affect recorded leakage values. Generally, the input air on the opposite side of the test assembly remains constant during this time period, since manipulation of the input pressure regulator would require additional operator action. This results in reported differential pressure fluctuations which typically show up as pressure spikes when the raw data is graphed. Within a few minutes of mass flowmeter switchover, the system stabilizes to the new lineup and the data results in a more uniform graph.

### Test Results and Observations

Test Stage	Differential Pressure inch w.g. (psi)	Required Hold Time (minutes)	Acceptance Criteria	PASS/ FAIL	Max Leakage (Total LPM)	Max Leakage (Total cfm)
1	1.0 (0.036)	30	Leakage $\leq$ 0.01 cfm/sq. ft. of penetration area	PASS <sup>1</sup>	1.24	0.044
2	5.0 (0.181)	30	Seal Remains In Place	PASS	7.83	0.277
3	10.0 (0.361)	30	Seal Remains In Place	PASS	12.19	0.431
4	20.0 (0.722)	30	Seal Remains In Place	PASS	18.55	0.655
5	40.0 (1.44)	30	Seal Remains In Place	PASS	29.29	1.035

<sup>1</sup> Based on the table above and the allowable leakage for Pressure Test 4A per the Test Plan, the test specimen was allowed to have up to 0.113 cfm of leakage at Stage 1. There was 0.044 cfm of actual leakage.

## 5.2 POST TEST EXAMINATION

No post test examination was conducted on Pressure Test 4A, since the test specimen underwent seismic pressure testing shortly after the completion of Pressure Test 4A.

Refer to the test report for MOX Seismic Pressure Test 3 for additional information (Intertek Test Report 100982213SAT-003 or AREVA NP, Inc. document number 58-9224037-000).

## Conclusion

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Intertek Testing Services NA (Intertek) has conducted testing for AREVA NP Inc., on the pressure resistance capabilities of Quantum Silicones QSil 5558MC Silicone Elastomer (QSil 5558MC) in a 12" thick concrete deck for compliance with the applicable requirements of and in accordance with AREVA NP Inc. Document No. 51-9199513-004, *Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)*. This evaluation took place on October 15, 2013.

The seal in Pressure Test 4A met the acceptance criteria as defined in the test plan.

This project was undertaken to evaluate the pressure resistance capabilities of an 8" thick silicone elastomer seal when installed in and around various metallic electrical commodities at five different air pressure increments above atmospheric pressure.

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

### INTERTEK TESTING SERVICES NA

Reported by:



Mike Dey  
Staff Engineer

Reviewed by:



Project Engineer, Fire Resistance

Reviewed by:



Michael A. Brown  
Quality Supervisor



## APPENDIX A

### Assembly Drawings

The test assembly used in Pressure Test 4A was the same assembly constructed and tested first as Pressure Test 4, with the minor modification described in the approved Test Plan. Specifically, the modification to the Pressure Test 4 assembly included the addition of a bead of Dow Corning 732 Multi-Purpose Sealant at the interface of the elastomer seal and through-penetrating items. For drawings of the assembly, please see Intertek Report No.100982213SAT-001D (AREVA NP document number 58-9222547-000).

## APPENDIX B

### Test Data

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
0	-0.0255	0	0	0
0.0333	-0.0272	0.0091	0.0011	0.0102
0.0667	-0.0236	0.0091	0	0.0091
0.1	-0.0308	0	0.0011	0.0011
0.1333	-0.0269	0.0091	0	0.0091
0.1667	-0.0279	0	0	0
0.2	-0.0275	0.0223	0	0.0223
0.2333	-0.0252	0.0091	0	0.0091
0.2667	-0.0265	0	0	0
0.3	-0.0269	0	0.0011	0.0011
0.3333	-0.0246	0	0.0011	0.0011
0.3667	-0.0255	0	0	0
0.4	-0.0223	0	0	0
0.4333	-0.0252	0	0	0
0.4667	-0.0259	0	0.0024	0.0024
0.5	-0.0252	0	0	0
0.5333	-0.0269	0	0.0011	0.0011
0.5667	-0.0239	0	0	0
0.6	-0.0275	0	0.0011	0.0011
0.6333	-0.0249	0	0	0
0.6667	-0.0229	0.0091	0.0011	0.0102
0.7	-0.0252	0	0.0011	0.0011
0.7333	-0.0242	0.0091	0	0.0091
0.7667	-0.0223	0	0	0
0.8	-0.015	0	0	0
0.8333	-0.0022	0	0	0
0.8667	0.0087	0.0091	0	0.0091
0.9	0.0084	0	0	0
0.9333	0.009	0	0	0
0.9667	0.0054	0.0091	0.0011	0.0102
1	0.0005	0	0	0
1.0333	0.0018	0.0091	0	0.0091
1.0667	-0.0025	0	0	0
1.1	-0.0018	0	0	0
1.1333	0.0001	0.0091	0.0011	0.0102
1.1667	-0.0012	0.0091	0	0.0091
1.2	-0.0015	0	0	0
1.2333	-0.0045	0	0	0
1.2667	0.0001	0	0	0
1.3	-0.0022	0.0091	0	0.0091
1.3333	-0.0025	0	0	0
1.3667	-0.0002	0.0091	0	0.0091
1.4	0.0018	0.0091	0	0.0091

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
1.4333	0.0011	0	0	0
1.4667	0.0008	0	0	0
1.5	0.0034	0	0	0
1.5333	0.0018	0	0	0
1.5667	0.0011	0	0	0
1.6	0.0011	0	0.0011	0.0011
1.6333	0.0031	0.0091	0	0.0091
1.6667	0.0018	0.0091	0.0024	0.0115
1.7	0.0028	0.0223	0	0.0223
1.7333	0.0024	0.0091	0	0.0091
1.7667	0.0041	0	0	0
1.8	-0.0005	0.0091	0	0.0091
1.8333	0.0047	0	0	0
1.8667	0.0047	0	0	0
1.9	0.0051	0.0091	0	0.0091
1.9333	0.0054	0.0223	0	0.0223
1.9667	0.0034	0	0	0
2	0.0051	0	0.0011	0.0011
2.0333	0.0047	0.0091	0	0.0091
2.0667	0.0024	0	0.0011	0.0011
2.1	0.0037	0.0223	0.819	0.8413
2.1333	0.0034	0	0.8322	0.8322
2.1667	0.0047	0	0.8374	0.8374
2.2	0.0028	0	0.8414	0.8414
2.2333	0.0031	0.0091	0.8506	0.8597
2.2667	0.0054	0	0.8585	0.8585
2.3	0.0034	0	0.8677	0.8677
2.3333	0.0051	0	0.8769	0.8769
2.3667	0.0064	0	0.8848	0.8848
2.4	0.0047	0.0091	0.8887	0.8978
2.4333	0.0034	0	0.8835	0.8835
2.4667	0.0041	0	0.8913	0.8913
2.5	0.0028	0.0223	0.9032	0.9254
2.5333	0.0031	0.0091	0.9019	0.911
2.5667	0.0074	0.0091	0.9071	0.9162
2.6	0.0041	0.0223	0.9058	0.9281
2.6333	0.0037	0.0091	0.9124	0.9215
2.6667	0.0034	0	0.9163	0.9163
2.7	0.0021	0	0.9255	0.9255
2.7333	0.0041	0.0091	0.9269	0.936
2.7667	0.0047	0	0.9334	0.9334
2.8	0.0034	0	0.9308	0.9308
2.8333	0.0028	0	0.9321	0.9321

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
2.8667	0.0037	0.0091	0.94	0.9491
2.9	0.0031	0.0091	0.9453	0.9544
2.9333	0.0054	0.0091	0.9492	0.9583
2.9667	0.0021	0	0.9571	0.9571
3	0.0011	0.0091	0.9597	0.9688
3.0333	0.0028	0	0.9597	0.9597
3.0667	0.0044	0	0.9676	0.9676
3.1	0.0011	0	0.9676	0.9676
3.1333	0.0021	0	0.9702	0.9702
3.1667	0.0037	0.0091	0.9729	0.982
3.2	0.0014	0.0091	0.9781	0.9872
3.2333	0.0031	0	0.9795	0.9795
3.2667	0.0044	0	0.9834	0.9834
3.3	0.0034	0.0091	0.9873	0.9964
3.3333	0.0047	0.0091	0.986	0.9951
3.3667	0.0021	0	0.986	0.986
3.4	0.0021	0.0091	0.9887	0.9978
3.4333	-0.0002	0	0.9926	0.9926
3.4667	0.0031	0	0.9913	0.9913
3.5	0.0047	0	0.9939	0.9939
3.5333	0.0021	0.0091	0.99	0.9991
3.5667	0.0018	0	0.9873	0.9873
3.6	0.0011	0	0.9952	0.9952
3.6333	0.0047	0.0091	0.9979	1.007
3.6667	0.0005	0	0.9952	0.9952
3.7	0.0018	0	0.9965	0.9965
3.7333	0.0021	0.0091	0.9979	1.007
3.7667	0.0021	0.0091	1.0084	1.0175
3.8	0.0014	0.0091	1.0058	1.0149
3.8333	0.0018	0	0.9992	0.9992
3.8667	0.0021	0.0091	1.011	1.0201
3.9	0.0034	0	1.0176	1.0176
3.9333	0.0044	0	1.0163	1.0163
3.9667	0.0044	0.0091	1.0176	1.0267
4	0.0018	0	1.0163	1.0163
4.0333	0.0028	0	1.0123	1.0123
4.0667	0.0044	0	1.0071	1.0071
4.1	0.0034	0	1.011	1.011
4.1333	0.0008	0.0091	1.0136	1.0227
4.1667	0.0014	0	1.0202	1.0202
4.2	0.0047	0	1.0189	1.0189
4.2333	0.0031	0	1.0136	1.0136
4.2667	0.0028	0	1.0189	1.0189

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
4.3	0.0054	0	1.0215	1.0215
4.3333	0.0028	0.0091	1.0281	1.0372
4.3667	0.0034	0.0091	1.0268	1.0359
4.4	0.0024	0	1.0268	1.0268
4.4333	0.0031	0.0091	1.0268	1.0359
4.4667	0.0021	0.0091	1.0334	1.0425
4.5	0.0041	0	1.0334	1.0334
4.5333	0.0021	0.0091	1.0373	1.0464
4.5667	0.0034	0	1.0399	1.0399
4.6	0.0031	0.0091	1.0334	1.0425
4.6333	0.0024	0	1.0347	1.0347
4.6667	0.0054	0	1.0255	1.0255
4.7	0.0011	0	1.0281	1.0281
4.7333	0.0018	0	1.0347	1.0347
4.7667	0.0024	0	1.0439	1.0439
4.8	0.0028	0.0223	1.0386	1.0609
4.8333	0.0021	0	1.0426	1.0426
4.8667	0.0028	0.0091	1.036	1.0451
4.9	0.0014	0	1.0321	1.0321
4.9333	0.0044	0	1.0373	1.0373
4.9667	0.0041	0.0091	1.0347	1.0438
5	0.0021	0.0091	1.0439	1.053
5.0333	-0.0002	0	1.0478	1.0478
5.0667	0.0041	0.0091	1.0505	1.0596
5.1	0.0011	0	1.0505	1.0505
5.1333	0.0037	0	1.0505	1.0505
5.1667	0.0008	0	1.0491	1.0491
5.2	-0.0002	0	1.0505	1.0505
5.2333	-0.0002	0	1.0465	1.0465
5.2667	0.0014	0	1.0505	1.0505
5.3	0.0044	0	1.0491	1.0491
5.3333	0.0051	0.0223	1.0399	1.0622
5.3667	0.0024	0	1.0465	1.0465
5.4	0.0028	0	1.0518	1.0518
5.4333	0.0024	0.0223	1.0544	1.0767
5.4667	-0.0002	0	1.0478	1.0478
5.5	0.0021	0.0091	1.0452	1.0543
5.5333	0.0014	0.0091	1.0426	1.0517
5.5667	0.0041	0	1.0491	1.0491
5.6	0.0001	0	1.0452	1.0452
5.6333	0.0024	0	1.0426	1.0426
5.6667	0.0044	0.0091	1.0465	1.0556
5.7	0.0051	0	1.0505	1.0505

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
5.7333	0.0014	0	1.0505	1.0505
5.7667	0.0018	0	1.0505	1.0505
5.8	0.0014	0.0091	1.0465	1.0556
5.8333	0.0044	0.0091	1.0452	1.0543
5.8667	0.0047	0.0091	1.0452	1.0543
5.9	0.0037	0	1.0505	1.0505
5.9333	0.0037	0	1.0505	1.0505
5.9667	0.0037	0	1.0505	1.0505
6	0.0028	0.0091	1.0478	1.0569
6.0333	0.0034	0.0091	1.0465	1.0556
6.0667	0.0008	0	1.0439	1.0439
6.1	0.0034	0	1.0478	1.0478
6.1333	0.0034	0	1.0465	1.0465
6.1667	0.0014	0.0091	1.0518	1.0609
6.2	0.0047	0	1.0478	1.0478
6.2333	0.0008	0	1.0465	1.0465
6.2667	0.0037	0.0223	1.0531	1.0753
6.3	0.0044	0.0091	1.0531	1.0622
6.3333	0.0028	0	1.0505	1.0505
6.3667	0.0021	0	1.0491	1.0491
6.4	0.0034	0	1.0439	1.0439
6.4333	0.0031	0.0091	1.0491	1.0582
6.4667	0.0024	0.0091	1.057	1.0661
6.5	0.0051	0.0091	1.0491	1.0582
6.5333	0.0011	0	1.0465	1.0465
6.5667	0.0034	0	1.0465	1.0465
6.6	0.0024	0.0091	1.0439	1.053
6.6333	0.0037	0	1.0531	1.0531
6.6667	0.0051	0.0091	1.0531	1.0622
6.7	0.006	0.0091	1.0557	1.0648
6.7333	0.0034	0	1.057	1.057
6.7667	0.0031	0	1.0557	1.0557
6.8	0.0037	0	1.0557	1.0557
6.8333	0.0005	0.0091	1.0544	1.0635
6.8667	0.0028	0.0091	1.0531	1.0622
6.9	0.0021	0	1.0557	1.0557
6.9333	0.0034	0	1.0531	1.0531
6.9667	0.0031	0.0091	1.0518	1.0609
7	0.0021	0	1.0544	1.0544
7.0333	0.0041	0	1.057	1.057
7.0667	0.0024	0	1.0584	1.0584
7.1	0.0001	0	1.0662	1.0662
7.1333	0.0028	0	1.061	1.061

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
7.1667	0.0024	0	1.0662	1.0662
7.2	0.0028	0.0091	1.0636	1.0727
7.2333	0.0011	0	1.0636	1.0636
7.2667	0.0021	0	1.0649	1.0649
7.3	0.0041	0	1.0689	1.0689
7.3333	0.0008	0	1.0662	1.0662
7.3667	0.0031	0	1.0649	1.0649
7.4	0.0031	0.0091	1.0636	1.0727
7.4333	0.0001	0.0091	1.0715	1.0806
7.4667	0.0014	0.0091	1.0689	1.078
7.5	0.0001	0	1.0676	1.0676
7.5333	0.0021	0.0223	1.0702	1.0924
7.5667	0.0011	0	1.0662	1.0662
7.6	0.0021	0	1.0597	1.0597
7.6333	0.0047	0.0091	1.0649	1.074
7.6667	0.0001	0	1.061	1.061
7.7	0.0001	0	1.0662	1.0662
7.7333	0.0028	0	1.0649	1.0649
7.7667	0.0005	0	1.0623	1.0623
7.8	0.0044	0	1.0636	1.0636
7.8333	0.0005	0	1.0636	1.0636
7.8667	0.0014	0	1.0689	1.0689
7.9	0.0024	0	1.0636	1.0636
7.9333	0.0014	0.0091	1.0649	1.074
7.9667	0.0005	0	1.0623	1.0623
8	0.0031	0.0091	1.0623	1.0714
8.0333	0.0014	0	1.0597	1.0597
8.0667	0.0011	0	1.0649	1.0649
8.1	0.0037	0	1.0597	1.0597
8.1333	0.0051	0	1.0649	1.0649
8.1667	-0.0002	0	1.0676	1.0676
8.2	0.006	0	1.0662	1.0662
8.2333	-0.0005	0	1.0623	1.0623
8.2667	-0.0002	0	1.0662	1.0662
8.3	0.0005	0	1.0662	1.0662
8.3333	0.0034	0	1.0623	1.0623
8.3667	0.0044	0	1.061	1.061
8.4	0.0014	0.0091	1.0662	1.0753
8.4333	0.0018	0.0091	1.0662	1.0753
8.4667	0.0028	0	1.0649	1.0649
8.5	0.0041	0	1.0702	1.0702
8.5333	0.0028	0.0091	1.0689	1.078
8.5667	0.0008	0.0091	1.0662	1.0753



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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
8.6	0.0037	0.0091	1.0702	1.0793
8.6333	0.0051	0	1.0662	1.0662
8.6667	0.0047	0.0091	1.0623	1.0714
8.7	0.0051	0	1.0597	1.0597
8.7333	0.0037	0.0091	1.0636	1.0727
8.7667	0.0044	0.0091	1.0702	1.0793
8.8	0.0021	0	1.0702	1.0702
8.8333	0.0018	0	1.0702	1.0702
8.8667	0.0034	0.0091	1.0715	1.0806
8.9	0.0037	0.0091	1.0702	1.0793
8.9333	0.0024	0.0091	1.0768	1.0859
8.9667	0.0034	0.0091	1.0689	1.078
9	0.0044	0	1.0754	1.0754
9.0333	0.0047	0	1.0741	1.0741
9.0667	0.0034	0	1.0689	1.0689
9.1	0.0051	0	1.0728	1.0728
9.1333	0.0034	0.0223	1.0689	1.0911
9.1667	0.0021	0.0223	1.0728	1.0951
9.2	0.0041	0.0223	1.0741	1.0964
9.2333	0.0001	0	1.0649	1.0649
9.2667	0.0037	0.0223	1.0689	1.0911
9.3	0.0024	0	1.0676	1.0676
9.3333	0.0014	0	1.0702	1.0702
9.3667	0.0018	0	1.0636	1.0636
9.4	0.0047	0	1.0702	1.0702
9.4333	0.0031	0	1.0623	1.0623
9.4667	0.0041	0.0091	1.0636	1.0727
9.5	-0.0002	0	1.0662	1.0662
9.5333	0.0031	0.0091	1.0689	1.078
9.5667	0.0041	0	1.0623	1.0623
9.6	0.0011	0	1.0636	1.0636
9.6333	-0.0035	0	1.0689	1.0689
9.6667	0.0018	0.0091	1.061	1.0701
9.7	-0.0009	0	1.0662	1.0662
9.7333	0.0024	0	1.0715	1.0715
9.7667	0.0051	0.0091	1.0689	1.078
9.8	0.0021	0	1.0702	1.0702
9.8333	0.0041	0	1.0676	1.0676
9.8667	0.0018	0.0091	1.0649	1.074
9.9	0.0031	0	1.0662	1.0662
9.9333	0.0014	0	1.061	1.061
9.9667	0.0034	0.0091	1.0662	1.0753
10	-0.0005	0	1.0662	1.0662

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
10.0333	0.0028	0.0091	1.0676	1.0767
10.0667	0.0005	0.0091	1.0754	1.0845
10.1	0.0024	0	1.0636	1.0636
10.1333	0.0028	0	1.0584	1.0584
10.1667	0.0021	0	1.0636	1.0636
10.2	0.0024	0	1.0636	1.0636
10.2333	0.0011	0	1.0702	1.0702
10.2667	0.0031	0	1.061	1.061
10.3	0.0028	0	1.0636	1.0636
10.3333	0.0024	0	1.057	1.057
10.3667	0.0044	0.0091	1.0597	1.0688
10.4	0.0028	0	1.0623	1.0623
10.4333	0.0021	0	1.0636	1.0636
10.4667	0.0024	0.0091	1.0584	1.0675
10.5	0.0008	0	1.057	1.057
10.5333	0.0031	0	1.057	1.057
10.5667	0.0031	0	1.0649	1.0649
10.6	0.0018	0	1.061	1.061
10.6333	0.0024	0.0091	1.061	1.0701
10.6667	0.0028	0	1.061	1.061
10.7	-0.0015	0.0091	1.057	1.0661
10.7333	0.0021	0	1.057	1.057
10.7667	0.0005	0	1.0584	1.0584
10.8	-0.0009	0	1.0623	1.0623
10.8333	0.0011	0	1.0557	1.0557
10.8667	0.0024	0	1.057	1.057
10.9	0.0008	0	1.0597	1.0597
10.9333	-0.0012	0.0091	1.0584	1.0675
10.9667	-0.0002	0	1.0649	1.0649
11	0.0031	0	1.0597	1.0597
11.0333	-0.0012	0	1.0557	1.0557
11.0667	0.0034	0.0223	1.0584	1.0806
11.1	-0.0002	0.0091	1.0584	1.0675
11.1333	0.0005	0	1.061	1.061
11.1667	0.0011	0.0091	1.0636	1.0727
11.2	-0.0002	0.0091	1.0623	1.0714
11.2333	0.0031	0.0091	1.057	1.0661
11.2667	0.0011	0.0091	1.0623	1.0714
11.3	0.0037	0	1.0557	1.0557
11.3333	0.0021	0	1.0491	1.0491
11.3667	0.0028	0.0091	1.0557	1.0648
11.4	0.0031	0	1.057	1.057
11.4333	0.0021	0	1.0584	1.0584

Areva NP Inc.

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
11.4667	0.0024	0.0091	1.0584	1.0675
11.5	0.0034	0.0091	1.0584	1.0675
11.5333	0.0034	0	1.0623	1.0623
11.5667	0.0041	0	1.0597	1.0597
11.6	0.0018	0	1.0623	1.0623
11.6333	0.0047	0.0091	1.0584	1.0675
11.6667	0.0031	0	1.0597	1.0597
11.7	0.0031	0	1.0636	1.0636
11.7333	0.0057	0.0091	1.0557	1.0648
11.7667	0.0037	0	1.0636	1.0636
11.8	0.0054	0	1.0597	1.0597
11.8333	0.0021	0	1.061	1.061
11.8667	0.0014	0	1.0623	1.0623
11.9	0.0054	0	1.0689	1.0689
11.9333	0.0021	0	1.0676	1.0676
11.9667	0.0037	0	1.0662	1.0662
12	0.0037	0	1.0689	1.0689
12.0333	0.0037	0	1.0702	1.0702
12.0667	0.0014	0.0091	1.0728	1.0819
12.1	0.0008	0	1.0715	1.0715
12.1333	0.0057	0	1.0689	1.0689
12.1667	0.0024	0	1.0636	1.0636
12.2	0.0001	0	1.0741	1.0741
12.2333	0.0024	0.0091	1.0636	1.0727
12.2667	0.0011	0.0091	1.0649	1.074
12.3	0.0031	0	1.0623	1.0623
12.3333	0.0031	0	1.0597	1.0597
12.3667	0.0011	0	1.0623	1.0623
12.4	0.0005	0	1.0636	1.0636
12.4333	0.0044	0.0223	1.061	1.0832
12.4667	0.0041	0	1.0662	1.0662
12.5	0.0024	0	1.0689	1.0689
12.5333	0.0051	0	1.0649	1.0649
12.5667	0.0037	0	1.0702	1.0702
12.6	0.0044	0	1.0741	1.0741
12.6333	0.0024	0	1.0781	1.0781
12.6667	0.0034	0	1.0794	1.0794
12.7	0.0041	0	1.0741	1.0741
12.7333	0.0037	0	1.0715	1.0715
12.7667	0.0044	0	1.0741	1.0741
12.8	0.0014	0	1.0754	1.0754
12.8333	0.0044	0	1.082	1.082
12.8667	0.0051	0	1.0794	1.0794

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
12.9	0.0037	0	1.0689	1.0689
12.9333	0.0051	0	1.086	1.086
12.9667	0.0011	0	1.0768	1.0768
13	0.0034	0	1.082	1.082
13.0333	-0.0012	0	1.0768	1.0768
13.0667	0.0057	0	1.0833	1.0833
13.1	0.0021	0	1.0794	1.0794
13.1333	0.0028	0.0091	1.0807	1.0898
13.1667	0.0047	0	1.0833	1.0833
13.2	0.0021	0.0091	1.0781	1.0872
13.2333	0.0031	0	1.086	1.086
13.2667	0.0041	0	1.0781	1.0781
13.3	0.0044	0	1.0794	1.0794
13.3333	0.0014	0	1.0781	1.0781
13.3667	0.0014	0	1.086	1.086
13.4	0.0037	0.0091	1.0781	1.0872
13.4333	0.0031	0.0091	1.086	1.0951
13.4667	0.0021	0	1.0794	1.0794
13.5	0.006	0.0091	1.0781	1.0872
13.5333	0.0057	0	1.082	1.082
13.5667	0.0014	0.0091	1.0781	1.0872
13.6	0.0067	0.0091	1.0741	1.0832
13.6333	0.0047	0.0091	1.0768	1.0859
13.6667	0.0008	0.0091	1.0794	1.0885
13.7	0.0028	0	1.0807	1.0807
13.7333	0.0034	0.0223	1.0728	1.0951
13.7667	0.0011	0	1.0768	1.0768
13.8	0.0014	0	1.0807	1.0807
13.8333	0.0034	0.0091	1.0781	1.0872
13.8667	0.0031	0.0091	1.082	1.0911
13.9	0.0018	0	1.0833	1.0833
13.9333	0.0008	0	1.0781	1.0781
13.9667	0.0028	0	1.0794	1.0794
14	0.0021	0	1.0768	1.0768
14.0333	0.0034	0	1.0807	1.0807
14.0667	0.0031	0.0091	1.0807	1.0898
14.1	0.0054	0.0091	1.082	1.0911
14.1333	0.0037	0.0091	1.0781	1.0872
14.1667	0.0047	0.0091	1.0794	1.0885
14.2	0.0028	0.0091	1.0781	1.0872
14.2333	0.0041	0.0223	1.0781	1.1003
14.2667	0.0034	0	1.0794	1.0794
14.3	0.0044	0	1.086	1.086

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
14.3333	0.0041	0.0091	1.0847	1.0938
14.3667	0.0057	0	1.0833	1.0833
14.4	0.0044	0.0091	1.086	1.0951
14.4333	0.0047	0.0091	1.0833	1.0924
14.4667	0.0034	0	1.0899	1.0899
14.5	0.0034	0	1.0899	1.0899
14.5333	0.0037	0	1.0886	1.0886
14.5667	0.0014	0	1.0925	1.0925
14.6	0.0014	0	1.0925	1.0925
14.6333	0.0037	0	1.0912	1.0912
14.6667	0.0028	0.0091	1.0886	1.0977
14.7	0.0014	0	1.0847	1.0847
14.7333	0.0028	0	1.0873	1.0873
14.7667	0.0014	0	1.0833	1.0833
14.8	0.0021	0	1.0847	1.0847
14.8333	0.0018	0.0091	1.0912	1.1003
14.8667	0.0047	0	1.0886	1.0886
14.9	0.0034	0	1.0833	1.0833
14.9333	0.0044	0	1.0886	1.0886
14.9667	0.0031	0	1.0952	1.0952
15	0.0047	0	1.0886	1.0886
15.0333	0.0054	0.0091	1.0886	1.0977
15.0667	0.0051	0.0091	1.0807	1.0898
15.1	0.0024	0	1.0768	1.0768
15.1333	0.0028	0	1.0847	1.0847
15.1667	0.0057	0.0091	1.0912	1.1003
15.2	0.0057	0.0091	1.0952	1.1043
15.2333	0.0041	0	1.0912	1.0912
15.2667	0.0064	0	1.0886	1.0886
15.3	0.0021	0	1.0925	1.0925
15.3333	0.0024	0.0091	1.086	1.0951
15.3667	0.0034	0	1.0912	1.0912
15.4	0.0037	0.0091	1.086	1.0951
15.4333	0.0014	0.0091	1.0886	1.0977
15.4667	0.0024	0	1.0939	1.0939
15.5	0.0034	0	1.0886	1.0886
15.5333	0.0028	0	1.082	1.082
15.5667	0.0028	0	1.0912	1.0912
15.6	0.0041	0	1.0925	1.0925
15.6333	0.0024	0	1.0886	1.0886
15.6667	0.0001	0	1.0847	1.0847
15.7	0.0034	0	1.0939	1.0939
15.7333	0.0028	0.0223	1.0912	1.1135

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
15.7667	0.0051	0.0091	1.0886	1.0977
15.8	0.0051	0	1.0886	1.0886
15.8333	0.0057	0.0091	1.0952	1.1043
15.8667	0.0064	0.0091	1.0939	1.103
15.9	0.0051	0	1.0886	1.0886
15.9333	0.0034	0.0091	1.0925	1.1016
15.9667	0.0051	0	1.0925	1.0925
16	0.0031	0.0091	1.0899	1.099
16.0333	0.0057	0	1.0965	1.0965
16.0667	0.0021	0	1.0873	1.0873
16.1	0.0034	0	1.0873	1.0873
16.1333	0.0014	0	1.0833	1.0833
16.1667	0.0047	0.0091	1.0833	1.0924
16.2	0.0037	0.0091	1.0807	1.0898
16.2333	0.0051	0	1.082	1.082
16.2667	0.0034	0	1.0807	1.0807
16.3	0.0021	0.0091	1.0807	1.0898
16.3333	0.0008	0	1.082	1.082
16.3667	0.0021	0	1.0847	1.0847
16.4	0.0034	0.0091	1.0939	1.103
16.4333	0.0034	0	1.0912	1.0912
16.4667	0.0037	0.0091	1.0978	1.1069
16.5	0.0037	0	1.0978	1.0978
16.5333	0.0011	0	1.1031	1.1031
16.5667	0.0047	0	1.0978	1.0978
16.6	0.0034	0.0091	1.0952	1.1043
16.6333	0.0031	0	1.0978	1.0978
16.6667	0.0044	0.0091	1.0965	1.1056
16.7	0.0034	0.0091	1.0952	1.1043
16.7333	0.0064	0	1.0991	1.0991
16.7667	0.0018	0	1.0925	1.0925
16.8	0.0044	0	1.0886	1.0886
16.8333	0.0014	0	1.0899	1.0899
16.8667	0.0028	0	1.0939	1.0939
16.9	0.0018	0.0091	1.0925	1.1016
16.9333	0.0037	0.0223	1.0939	1.1161
16.9667	0.0008	0	1.0939	1.0939
17	0.0021	0	1.0939	1.0939
17.0333	0.0011	0.0091	1.086	1.0951
17.0667	0.0021	0	1.086	1.086
17.1	0.0021	0.0091	1.082	1.0911
17.1333	0.0008	0	1.0912	1.0912
17.1667	0.0044	0.0091	1.0925	1.1016



Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
17.2	0.0028	0	1.0807	1.0807
17.2333	0.0028	0	1.086	1.086
17.2667	0.0031	0	1.0899	1.0899
17.3	0.0034	0	1.0925	1.0925
17.3333	0.0037	0	1.0886	1.0886
17.3667	0.0014	0.0091	1.0873	1.0964
17.4	0.0021	0	1.0899	1.0899
17.4333	0.0044	0	1.0886	1.0886
17.4667	0.0021	0.0091	1.0847	1.0938
17.5	0.0014	0.0091	1.0886	1.0977
17.5333	0.0054	0.0091	1.086	1.0951
17.5667	-0.0002	0	1.0781	1.0781
17.6	0.0014	0.0091	1.086	1.0951
17.6333	0.0031	0.0091	1.0965	1.1056
17.6667	0.0031	0.0091	1.0965	1.1056
17.7	0.0031	0.0091	1.0965	1.1056
17.7333	0.0051	0	1.0899	1.0899
17.7667	0.0031	0.0223	1.0886	1.1108
17.8	0.0041	0	1.0847	1.0847
17.8333	0.0037	0	1.0939	1.0939
17.8667	0.0041	0	1.0833	1.0833
17.9	0.0031	0	1.0912	1.0912
17.9333	0.0001	0	1.086	1.086
17.9667	0.0008	0	1.0886	1.0886
18	0.0037	0.0091	1.0886	1.0977
18.0333	0.0021	0.0091	1.0899	1.099
18.0667	0.0005	0	1.0912	1.0912
18.1	0.0024	0.0091	1.0925	1.1016
18.1333	0.0018	0	1.0939	1.0939
18.1667	0.0021	0	1.0952	1.0952
18.2	0.0021	0.0091	1.0912	1.1003
18.2333	0.0067	0	1.0873	1.0873
18.2667	0.006	0.0091	1.082	1.0911
18.3	0.0028	0	1.0794	1.0794
18.3333	0.0028	0	1.082	1.082
18.3667	0.0028	0	1.0781	1.0781
18.4	0.0011	0	1.0741	1.0741
18.4333	0.0037	0	1.0833	1.0833
18.4667	0.0008	0	1.0873	1.0873
18.5	0.0044	0.0091	1.0873	1.0964
18.5333	0.0037	0	1.0794	1.0794
18.5667	0.0047	0	1.0741	1.0741
18.6	0.0034	0	1.082	1.082

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
18.6333	0.0057	0	1.0754	1.0754
18.6667	0.0034	0	1.0794	1.0794
18.7	0.0044	0	1.0899	1.0899
18.7333	0.0037	0	1.0912	1.0912
18.7667	0.0044	0	1.0912	1.0912
18.8	0.0037	0	1.0873	1.0873
18.8333	0.0021	0	1.0807	1.0807
18.8667	0.0051	0.0223	1.0768	1.099
18.9	0.0037	0	1.086	1.086
18.9333	0.0041	0	1.082	1.082
18.9667	0.0051	0	1.0833	1.0833
19	0.0028	0	1.0886	1.0886
19.0333	0.0041	0	1.082	1.082
19.0667	0.0024	0.0091	1.0912	1.1003
19.1	0.0031	0	1.0899	1.0899
19.1333	0.0021	0	1.0873	1.0873
19.1667	0.0044	0	1.0886	1.0886
19.2	0.0021	0	1.0873	1.0873
19.2333	0.0054	0	1.0899	1.0899
19.2667	0.0041	0.0091	1.0965	1.1056
19.3	0.0034	0.0223	1.0899	1.1122
19.3333	0.0021	0.0091	1.0978	1.1069
19.3667	0.0044	0.0091	1.0952	1.1043
19.4	0.0031	0	1.0939	1.0939
19.4333	0.0047	0	1.0873	1.0873
19.4667	0.0047	0.0223	1.0873	1.1095
19.5	0.0044	0	1.086	1.086
19.5333	0.0008	0	1.0925	1.0925
19.5667	0.0057	0.0091	1.0873	1.0964
19.6	0.0034	0.0091	1.0886	1.0977
19.6333	0.0028	0.0091	1.0833	1.0924
19.6667	0.0037	0	1.0847	1.0847
19.7	0.0054	0	1.0807	1.0807
19.7333	0.0037	0	1.0833	1.0833
19.7667	0.0054	0.0091	1.0833	1.0924
19.8	0.0028	0	1.0873	1.0873
19.8333	-0.0005	0	1.0807	1.0807
19.8667	0.0005	0.0091	1.0807	1.0898
19.9	0.0054	0	1.0873	1.0873
19.9333	-0.0005	0.0091	1.0847	1.0938
19.9667	0.0051	0	1.086	1.086
20	0.0011	0	1.0925	1.0925
20.0333	0.0051	0.0091	1.0847	1.0938



Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
20.0667	0.0037	0.0091	1.0873	1.0964
20.1	0.0031	0.0091	1.0939	1.103
20.1333	0.0021	0.0091	1.0873	1.0964
20.1667	0.0021	0	1.0847	1.0847
20.2	0.0077	0.0091	1.086	1.0951
20.2333	0.0024	0	1.0886	1.0886
20.2667	0.0031	0.0091	1.0886	1.0977
20.3	0.0028	0	1.0886	1.0886
20.3333	0.006	0	1.0952	1.0952
20.3667	0.0051	0.0091	1.0899	1.099
20.4	0.0021	0	1.0886	1.0886
20.4333	0.0028	0	1.0925	1.0925
20.4667	0.0057	0	1.0925	1.0925
20.5	0.0001	0.0091	1.086	1.0951
20.5333	0.0031	0	1.0886	1.0886
20.5667	0.0031	0	1.086	1.086
20.6	0.0047	0	1.0925	1.0925
20.6333	0.0024	0	1.0807	1.0807
20.6667	0.0037	0	1.0886	1.0886
20.7	0.0014	0.0091	1.0899	1.099
20.7333	0.0037	0	1.082	1.082
20.7667	0.0008	0.0091	1.0873	1.0964
20.8	0.0037	0	1.0886	1.0886
20.8333	0.0018	0	1.086	1.086
20.8667	-0.0018	0	1.0886	1.0886
20.9	0.0067	0	1.0939	1.0939
20.9333	0.0018	0.0091	1.086	1.0951
20.9667	0.0037	0	1.0873	1.0873
21	0.0028	0	1.0912	1.0912
21.0333	0.0021	0.0091	1.0873	1.0964
21.0667	0.0028	0	1.0847	1.0847
21.1	0.0051	0	1.0899	1.0899
21.1333	0.0028	0.0223	1.0873	1.1095
21.1667	0.0051	0.0091	1.0873	1.0964
21.2	0.0037	0.0091	1.0899	1.099
21.2333	0.0047	0	1.0886	1.0886
21.2667	0.0034	0	1.082	1.082
21.3	0.007	0.0091	1.086	1.0951
21.3333	0.006	0	1.0847	1.0847
21.3667	0.0021	0	1.086	1.086
21.4	0.0034	0	1.0873	1.0873
21.4333	0.0057	0	1.0925	1.0925
21.4667	0.0041	0	1.0978	1.0978

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
21.5	0.0018	0	1.0847	1.0847
21.5333	0.0051	0.0091	1.0886	1.0977
21.5667	0.0005	0	1.0886	1.0886
21.6	0.0011	0	1.0873	1.0873
21.6333	0.0021	0	1.0939	1.0939
21.6667	0.0051	0.0091	1.0873	1.0964
21.7	0.0014	0.0091	1.0886	1.0977
21.7333	0.0037	0.0091	1.0847	1.0938
21.7667	0.0028	0	1.0899	1.0899
21.8	0.0014	0	1.0939	1.0939
21.8333	0.006	0.0223	1.0925	1.1148
21.8667	0.0021	0.0091	1.0991	1.1082
21.9	0.0021	0	1.0925	1.0925
21.9333	0.0041	0.0091	1.0978	1.1069
21.9667	0.0051	0	1.0939	1.0939
22	0.0047	0	1.0912	1.0912
22.0333	0.0084	0	1.0925	1.0925
22.0667	0.0044	0	1.0939	1.0939
22.1	0.0031	0	1.0807	1.0807
22.1333	0.0047	0	1.0754	1.0754
22.1667	0.0037	0	1.0873	1.0873
22.2	0.0037	0.0091	1.086	1.0951
22.2333	0.0011	0.0223	1.0833	1.1056
22.2667	0.0028	0.0091	1.0768	1.0859
22.3	0.0031	0	1.0833	1.0833
22.3333	0.0021	0	1.0952	1.0952
22.3667	0.0028	0	1.0912	1.0912
22.4	0.0028	0.0091	1.0899	1.099
22.4333	0.0037	0.0091	1.0873	1.0964
22.4667	0.0011	0	1.086	1.086
22.5	0.0051	0	1.0873	1.0873
22.5333	0.0021	0.0091	1.0886	1.0977
22.5667	0.0057	0	1.082	1.082
22.6	0.0028	0.0091	1.082	1.0911
22.6333	0.0047	0	1.086	1.086
22.6667	0.0021	0	1.0833	1.0833
22.7	0.0011	0.0091	1.0886	1.0977
22.7333	0.0028	0.0091	1.0939	1.103
22.7667	0.0077	0.0091	1.086	1.0951
22.8	0.0041	0	1.0873	1.0873
22.8333	0.0028	0	1.0886	1.0886
22.8667	0.0018	0.0091	1.0965	1.1056
22.9	0.0028	0	1.0925	1.0925

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
22.9333	0.006	0	1.0899	1.0899
22.9667	0.0034	0.0091	1.0886	1.0977
23	0.0051	0	1.0886	1.0886
23.0333	0.0021	0	1.0939	1.0939
23.0667	0.0047	0.0091	1.0873	1.0964
23.1	0.0034	0	1.0925	1.0925
23.1333	0.0037	0	1.0899	1.0899
23.1667	0.0028	0	1.082	1.082
23.2	0.0031	0	1.086	1.086
23.2333	0.0041	0	1.0952	1.0952
23.2667	0.0021	0	1.0939	1.0939
23.3	0.0014	0.0091	1.0965	1.1056
23.3333	0.0021	0	1.0952	1.0952
23.3667	0.0024	0.0091	1.0991	1.1082
23.4	0.0031	0.0091	1.0991	1.1082
23.4333	0.0044	0	1.0952	1.0952
23.4667	0.0037	0	1.0965	1.0965
23.5	0.0047	0	1.0952	1.0952
23.5333	0.006	0.0223	1.1031	1.1253
23.5667	0.0041	0	1.1031	1.1031
23.6	0.0018	0	1.0991	1.0991
23.6333	0.0021	0	1.0978	1.0978
23.6667	0.0054	0	1.1031	1.1031
23.7	0.0051	0.0223	1.1017	1.124
23.7333	0.0031	0	1.0965	1.0965
23.7667	0.0054	0	1.1031	1.1031
23.8	0.0047	0	1.1031	1.1031
23.8333	0.0047	0.0091	1.0952	1.1043
23.8667	0.0047	0	1.0952	1.0952
23.9	0.0041	0	1.1031	1.1031
23.9333	0.0031	0	1.1004	1.1004
23.9667	0.0028	0	1.0978	1.0978
24	0.006	0	1.1031	1.1031
24.0333	0.0018	0.0223	1.0939	1.1161
24.0667	0.0034	0	1.0886	1.0886
24.1	0.0047	0.0091	1.0886	1.0977
24.1333	0.0054	0.0091	1.0925	1.1016
24.1667	0.0005	0.0091	1.0952	1.1043
24.2	0.0044	0	1.0899	1.0899
24.2333	0.0011	0	1.0952	1.0952
24.2667	0.0037	0	1.0886	1.0886
24.3	0.0001	0	1.0952	1.0952
24.3333	0.0064	0.0091	1.0939	1.103

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
24.3667	0.0028	0	1.0925	1.0925
24.4	0.0054	0	1.0899	1.0899
24.4333	0.0028	0	1.0912	1.0912
24.4667	0.0031	0.0091	1.0939	1.103
24.5	0.0018	0	1.1004	1.1004
24.5333	0.0018	0	1.0978	1.0978
24.5667	0.0037	0.0091	1.1017	1.1108
24.6	0.0011	0	1.0991	1.0991
24.6333	0.0054	0	1.107	1.107
24.6667	0.0037	0	1.1017	1.1017
24.7	0.0034	0.0091	1.1004	1.1095
24.7333	0.0047	0	1.1057	1.1057
24.7667	0.0031	0.0091	1.1004	1.1095
24.8	0.0034	0	1.0965	1.0965
24.8333	0.0028	0.0091	1.1031	1.1122
24.8667	0.0037	0	1.0925	1.0925
24.9	0.0041	0	1.0965	1.0965
24.9333	0.0057	0	1.1136	1.1136
24.9667	0.0024	0.0091	1.0939	1.103
25	0.0021	0.0091	1.0912	1.1003
25.0333	0.0044	0	1.0952	1.0952
25.0667	0.006	0	1.1017	1.1017
25.1	0.0044	0.0091	1.1083	1.1174
25.1333	0.0037	0	1.0912	1.0912
25.1667	0.0021	0.0091	1.1004	1.1095
25.2	0.0031	0.0091	1.0991	1.1082
25.2333	0.0051	0	1.1044	1.1044
25.2667	0.0037	0	1.0965	1.0965
25.3	0.0028	0.0091	1.0912	1.1003
25.3333	0.0051	0	1.0847	1.0847
25.3667	0.0018	0.0091	1.0873	1.0964
25.4	0.0067	0	1.0873	1.0873
25.4333	0.0031	0	1.0925	1.0925
25.4667	0.0054	0	1.0912	1.0912
25.5	0.0021	0	1.0886	1.0886
25.5333	0.0037	0	1.0899	1.0899
25.5667	0.0024	0	1.1057	1.1057
25.6	0.0047	0	1.0952	1.0952
25.6333	0.0051	0	1.0965	1.0965
25.6667	0.0037	0	1.1031	1.1031
25.7	0.0031	0	1.0965	1.0965
25.7333	0.0054	0	1.0899	1.0899
25.7667	0.0014	0.0091	1.0965	1.1056

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
25.8	0.0041	0.0091	1.0925	1.1016
25.8333	0.0051	0	1.086	1.086
25.8667	0.0051	0.0223	1.0807	1.103
25.9	0.0041	0	1.0873	1.0873
25.9333	0.0008	0	1.0952	1.0952
25.9667	0.0028	0	1.1017	1.1017
26	0.0051	0	1.0952	1.0952
26.0333	0.0024	0	1.0978	1.0978
26.0667	0.0034	0	1.1044	1.1044
26.1	0.0054	0.0091	1.1017	1.1108
26.1333	0.0034	0.0091	1.1017	1.1108
26.1667	0.0014	0	1.1017	1.1017
26.2	0.0001	0	1.1004	1.1004
26.2333	0.0028	0.0091	1.1083	1.1174
26.2667	0.0037	0.0091	1.1031	1.1122
26.3	0.0018	0	1.0991	1.0991
26.3333	0.0011	0	1.1031	1.1031
26.3667	0.0041	0	1.1004	1.1004
26.4	0.0018	0.0223	1.0952	1.1174
26.4333	0.0014	0	1.0886	1.0886
26.4667	0.0021	0	1.1031	1.1031
26.5	0.0014	0	1.0886	1.0886
26.5333	0.0041	0	1.0886	1.0886
26.5667	0.0011	0.0091	1.0939	1.103
26.6	0.0008	0.0223	1.0939	1.1161
26.6333	0.0018	0.0091	1.0873	1.0964
26.6667	0.0024	0.0091	1.0833	1.0924
26.7	0.0005	0	1.0833	1.0833
26.7333	0.0034	0	1.0873	1.0873
26.7667	0.0034	0.0091	1.0833	1.0924
26.8	0.0034	0	1.0873	1.0873
26.8333	-0.0005	0	1.0847	1.0847
26.8667	0.0011	0	1.0847	1.0847
26.9	0.0014	0	1.0794	1.0794
26.9333	0.0024	0	1.0833	1.0833
26.9667	0.0031	0.0223	1.0847	1.1069
27	0.0047	0.0091	1.0768	1.0859
27.0333	0.0028	0	1.0728	1.0728
27.0667	0.0005	0	1.0676	1.0676
27.1	0.0001	0	1.0676	1.0676
27.1333	-0.0009	0	1.0702	1.0702
27.1667	0.0014	0.0091	1.082	1.0911
27.2	0.0041	0	1.0847	1.0847

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
27.2333	0.0008	0	1.0807	1.0807
27.2667	0.0005	0.0091	1.0807	1.0898
27.3	0.0037	0	1.082	1.082
27.3333	0.0024	0	1.0912	1.0912
27.3667	0.0011	0	1.0873	1.0873
27.4	0.0047	0	1.0794	1.0794
27.4333	0.0054	0	1.0768	1.0768
27.4667	0.0031	0	1.0754	1.0754
27.5	0.0054	0.0223	1.0715	1.0938
27.5333	0.0018	0	1.0741	1.0741
27.5667	0.0028	0.0091	1.0754	1.0845
27.6	0.0051	0	1.0807	1.0807
27.6333	-0.0002	0	1.0768	1.0768
27.6667	0.0014	0	1.0781	1.0781
27.7	0.0014	0	1.0715	1.0715
27.7333	-0.0002	0.0223	1.0689	1.0911
27.7667	0.0014	0.0091	1.0768	1.0859
27.8	0.0021	0	1.0728	1.0728
27.8333	0.0024	0	1.0741	1.0741
27.8667	0.0024	0	1.0794	1.0794
27.9	0.0051	0	1.0715	1.0715
27.9333	0.0021	0	1.0754	1.0754
27.9667	-0.0009	0	1.0768	1.0768
28	0.0001	0.0091	1.0781	1.0872
28.0333	0.0005	0	1.0754	1.0754
28.0667	0.0018	0.0091	1.0781	1.0872
28.1	0.0011	0	1.0741	1.0741
28.1333	0.0041	0.0091	1.0741	1.0832
28.1667	0.0005	0	1.0689	1.0689
28.2	0.0008	0	1.0676	1.0676
28.2333	0.0021	0	1.0715	1.0715
28.2667	0.0047	0.0091	1.0715	1.0806
28.3	0.0031	0	1.0662	1.0662
28.3333	0.0031	0	1.0676	1.0676
28.3667	0.0034	0.0091	1.0754	1.0845
28.4	0.0037	0	1.0728	1.0728
28.4333	0.0031	0	1.0728	1.0728
28.4667	0.0057	0	1.0662	1.0662
28.5	0.0051	0	1.0676	1.0676
28.5333	0.0047	0.0091	1.0715	1.0806
28.5667	0.0001	0	1.0676	1.0676
28.6	0.0054	0	1.0689	1.0689
28.6333	0.0054	0.0091	1.0689	1.078



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
28.6667	-0.0009	0	1.0649	1.0649
28.7	0.0057	0.0091	1.0662	1.0753
28.7333	0.0047	0	1.0557	1.0557
28.7667	0.0021	0.0091	1.061	1.0701
28.8	0.0047	0	1.0754	1.0754
28.8333	0.0034	0	1.0715	1.0715
28.8667	0.0057	0.0091	1.0807	1.0898
28.9	0.0034	0	1.082	1.082
28.9333	0.0037	0	1.0833	1.0833
28.9667	0.0031	0	1.0873	1.0873
29	0.0008	0.0223	1.0741	1.0964
29.0333	-0.0002	0	1.0715	1.0715
29.0667	0.0021	0.0091	1.0781	1.0872
29.1	0.0001	0	1.0754	1.0754
29.1333	-0.0002	0	1.0649	1.0649
29.1667	0.0041	0	1.0689	1.0689
29.2	0.0001	0.0091	1.0689	1.078
29.2333	0.0044	0.0091	1.0689	1.078
29.2667	0.0024	0	1.0741	1.0741
29.3	0.0014	0	1.0715	1.0715
29.3333	0.0008	0.0091	1.0676	1.0767
29.3667	0.0014	0	1.0728	1.0728
29.4	0.0044	0	1.0702	1.0702
29.4333	0.0021	0	1.0715	1.0715
29.4667	0.0014	0	1.0702	1.0702
29.5	0.0021	0.0091	1.0702	1.0793
29.5333	0.0034	0.0091	1.0702	1.0793
29.5667	0.0044	0	1.0715	1.0715
29.6	0.0034	0	1.0689	1.0689
29.6333	0.0034	0.0091	1.0662	1.0753
29.6667	0.0024	0.0091	1.0728	1.0819
29.7	0.0011	0.0091	1.0807	1.0898
29.7333	0.0034	0	1.0715	1.0715
29.7667	0.0031	0.0091	1.0768	1.0859
29.8	0.0047	0.0091	1.0768	1.0859
29.8333	0.0054	0	1.0768	1.0768
29.8667	0.0037	0	1.0781	1.0781
29.9	0.0024	0	1.0754	1.0754
29.9333	0.0024	0	1.0715	1.0715
29.9667	0.0034	0.0091	1.0689	1.078
30	0.0054	0	1.0768	1.0768
30.0333	0.0047	0	1.0676	1.0676
30.0667	0.0031	0	1.0715	1.0715

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
30.1	0.0064	0.0091	1.0649	1.074
30.1333	0.0051	0.0091	1.061	1.0701
30.1667	0.0034	0	1.0649	1.0649
30.2	0.0057	0.0091	1.0584	1.0675
30.2333	0.0014	0	1.0584	1.0584
30.2667	0.0047	0.0091	1.0649	1.074
30.3	0.0037	0	1.0636	1.0636
30.3333	0.006	0	1.0676	1.0676
30.3667	0.0031	0	1.0623	1.0623
30.4	0.0014	0	1.061	1.061
30.4333	0.0021	0	1.0623	1.0623
30.4667	0.0018	0	1.0662	1.0662
30.5	0.0024	0	1.0662	1.0662
30.5333	0.0031	0.0091	1.0754	1.0845
30.5667	0.0034	0	1.0728	1.0728
30.6	0.0001	0	1.0728	1.0728
30.6333	0.0014	0	1.0636	1.0636
30.6667	0.0031	0	1.0544	1.0544
30.7	0.0021	0	1.061	1.061
30.7333	-0.0009	0	1.0623	1.0623
30.7667	0.0024	0.0091	1.0636	1.0727
30.8	0.0031	0.0091	1.0689	1.078
30.8333	0.0031	0	1.0715	1.0715
30.8667	0.0018	0	1.0676	1.0676
30.9	0.0031	0	1.0702	1.0702
30.9333	0.0014	0.0091	1.0636	1.0727
30.9667	0.0028	0	1.0662	1.0662
31	0.0021	0	1.0636	1.0636
31.0333	0.0008	0	1.0676	1.0676
31.0667	0.0018	0.0091	1.0794	1.0885
31.1	0.0001	0	1.0768	1.0768
31.1333	0.0005	0.0223	1.0715	1.0938
31.1667	0.0037	0.0091	1.0689	1.078
31.2	0.0021	0.0091	1.0715	1.0806
31.2333	0.0018	0	1.0754	1.0754
31.2667	0.0037	0.0091	1.0781	1.0872
31.3	0.0021	0	1.0768	1.0768
31.3333	0.0041	0	1.0676	1.0676
31.3667	-0.0002	0.0223	1.0676	1.0898
31.4	0.0014	0.0091	1.0649	1.074
31.4333	0.0024	0	1.0715	1.0715
31.4667	0.0008	0.0091	1.0649	1.074
31.5	0.0008	0	1.0623	1.0623

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
31.5333	0.0034	0	1.0689	1.0689
31.5667	0.0028	0	1.0584	1.0584
31.6	0.0005	0	1.0649	1.0649
31.6333	0.0028	0.0091	1.0662	1.0753
31.6667	0.0031	0	1.0623	1.0623
31.7	0.0031	0	1.0649	1.0649
31.7333	0.0028	0.0091	1.0676	1.0767
31.7667	0.0005	0.0091	1.0715	1.0806
31.8	0.0021	0	1.0676	1.0676
31.8333	0.0008	0	1.0623	1.0623
31.8667	0.0011	0	1.0702	1.0702
31.9	0.0018	0	1.0728	1.0728
31.9333	0.0031	0.0091	1.0715	1.0806
31.9667	0.0001	0	1.0715	1.0715
32	0.0057	0	1.0702	1.0702
32.0333	0.0031	0	1.0662	1.0662
32.0667	0.0041	0	1.0584	1.0584
32.1	0.0044	0	1.0636	1.0636
32.1333	0.0028	0.0091	1.0676	1.0767
32.1667	0.0051	0	1.0623	1.0623
32.2	0.006	0	1.0715	1.0715
32.2333	0.0047	0	1.0715	1.0715
32.2667	0.0051	0	1.0754	1.0754
32.3	0.0037	0	1.0728	1.0728
32.3333	0.0037	0	1.0676	1.0676
32.3667	0.0028	0	1.0649	1.0649
32.4	0.0021	0	1.0597	1.0597
32.4333	0.0041	0.0091	1.0597	1.0688
32.4667	0.0011	0.0091	1.0689	1.078
32.5	0.0057	0	1.0584	1.0584
32.5333	0.0034	0	1.0741	1.0741
32.5667	0.0028	0.0091	1.0649	1.074
32.6	0.0024	0	1.0636	1.0636
32.6333	0.0018	0.0091	1.0636	1.0727
32.6667	0.0014	0.0091	1.0623	1.0714
32.7	0.0005	0.0091	1.0597	1.0688
32.7333	0.0001	0	1.0886	1.0886
32.7667	0.0024	0.0091	1.1188	1.1279
32.8	-0.0005	0.0091	1.1386	1.1477
32.8333	-0.0009	0	1.1478	1.1478
32.8667	-0.0009	0	1.1609	1.1609
32.9	0.0011	0	1.1793	1.1793
32.9333	0.0008	0	1.1977	1.1977

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
32.9667	0.0044	0	1.2161	1.2161
33	0.0051	0	1.2372	1.2372
33.0333	0.0047	0.0091	1.2582	1.2673
33.0667	0.0097	0	1.2832	1.2832
33.1	0.009	0	1.3082	1.3082
33.1333	0.0113	0	1.3279	1.3279
33.1667	0.0143	0	1.3555	1.3555
33.2	0.0186	0.0091	1.3884	1.3975
33.2333	0.0176	0	1.4094	1.4094
33.2667	0.0205	0.0091	1.4397	1.4488
33.3	0.0199	0	1.466	1.466
33.3333	0.0222	0.0091	1.5015	1.5106
33.3667	0.0255	0	1.5396	1.5396
33.4	0.0337	0	1.5817	1.5817
33.4333	0.0363	0	1.6304	1.6304
33.4667	0.0442	0	1.6685	1.6685
33.5	0.0475	0	1.7132	1.7132
33.5333	0.0505	0	1.7619	1.7619
33.5667	0.0541	0	1.8302	1.8302
33.6	0.0587	0.0091	1.8776	1.8867
33.6333	0.0643	0.0091	1.9236	1.9327
33.6667	0.0676	0	1.9828	1.9828
33.7	0.0702	0	2.0314	2.0314
33.7333	0.0752	0	2.0867	2.0867
33.7667	0.0748	0	2.1432	2.1432
33.8	0.0765	0.0223	2.1932	2.2154
33.8333	0.0808	0	2.2445	2.2445
33.8667	0.0837	0	2.2997	2.2997
33.9	0.0864	0.0091	2.3589	2.368
33.9333	0.0883	0	2.4193	2.4193
33.9667	0.0913	0	2.4614	2.4614
34	0.0923	0.0091	2.514	2.5231
34.0333	0.0946	0.0091	2.5719	2.581
34.0667	0.0956	0	2.6271	2.6271
34.1	0.0989	0.0091	2.6876	2.6967
34.1333	0.0999	0.0091	2.7257	2.7348
34.1667	0.1031	0	2.7757	2.7757
34.2	0.1035	0	2.8283	2.8283
34.2333	0.1068	0	2.8756	2.8756
34.2667	0.1061	0.0091	2.9309	2.94
34.3	0.1074	0	2.9795	2.9795
34.3333	0.1101	0	3.0321	3.0321
34.3667	0.1117	0.0091	3.0808	3.0899

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
34.4	0.1127	0	3.1281	3.1281
34.4333	0.1101	0.0091	3.1715	3.1806
34.4667	0.1124	0.0091	3.2215	3.2306
34.5	0.1133	0	3.2701	3.2701
34.5333	0.116	0	3.3096	3.3096
34.5667	0.1176	0.0091	3.3582	3.3673
34.6	0.1163	0.0091	3.4122	3.4213
34.6333	0.1189	0.0091	3.4516	3.4607
34.6667	0.1222	0.0223	3.4753	3.4975
34.7	0.1209	0	3.5213	3.5213
34.7333	0.1199	0	3.5726	3.5726
34.7667	0.1222	0.0091	3.6068	3.6159
34.8	0.1268	0	3.6462	3.6462
34.8333	0.1262	0	3.6883	3.6883
34.8667	0.1275	0	3.7317	3.7317
34.9	0.1278	0.0091	3.7803	3.7894
34.9333	0.1298	0	3.8251	3.8251
34.9667	0.1308	0	3.8671	3.8671
35	0.1314	0	3.9053	3.9053
35.0333	0.1314	0	3.9381	3.9381
35.0667	0.1314	0	3.9802	3.9802
35.1	0.1377	0	4.0262	4.0262
35.1333	0.1354	0.0223	4.0631	4.0853
35.1667	0.137	0.0091	4.1065	4.1156
35.2	0.138	0	4.1446	4.1446
35.2333	0.1397	0	4.1709	4.1709
35.2667	0.137	0	4.2103	4.2103
35.3	0.141	0	4.2511	4.2511
35.3333	0.1433	0	4.2906	4.2906
35.3667	0.1413	0	4.3274	4.3274
35.4	0.143	0	4.3721	4.3721
35.4333	0.144	0	4.3958	4.3958
35.4667	0.1426	0	4.4365	4.4365
35.5	0.143	0	4.4681	4.4681
35.5333	0.1469	0	4.4957	4.4957
35.5667	0.1489	0	4.5299	4.5299
35.6	0.1489	0	4.5614	4.5614
35.6333	0.1482	0	4.6009	4.6009
35.6667	0.1482	0	4.6324	4.6324
35.7	0.1499	0	4.6666	4.6666
35.7333	0.1512	0	4.7061	4.7061
35.7667	0.1535	0	4.7324	4.7324
35.8	0.1505	0	4.7718	4.7718

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
35.8333	0.1512	0	4.7955	4.7955
35.8667	0.1535	0.0091	4.8179	4.827
35.9	0.1525	0	4.8626	4.8626
35.9333	0.1551	0	4.8915	4.8915
35.9667	0.1509	0	4.9244	4.9244
36	0.1545	0	4.9546	4.9546
36.0333	0.1545	0	4.9822	4.9822
36.0667	0.1512	0	5.0164	5.0164
36.1	0.1568	0	5.0427	5.0427
36.1333	0.1538	0.0091	5.073	5.0821
36.1667	0.1558	0	5.1006	5.1006
36.2	0.1555	0	5.1361	5.1361
36.2333	0.1568	0	5.1492	5.1492
36.2667	0.1561	0.0091	5.1808	5.1899
36.3	0.1538	0	5.2084	5.2084
36.3333	0.1558	0.0091	5.2202	5.2293
36.3667	0.1548	0	5.2584	5.2584
36.4	0.1578	0	5.2834	5.2834
36.4333	0.1575	0.0091	5.307	5.3161
36.4667	0.1565	0.0091	5.332	5.3411
36.5	0.1607	0	5.3596	5.3596
36.5333	0.1621	0	5.3859	5.3859
36.5667	0.1581	0	5.4083	5.4083
36.6	0.1601	0	5.4385	5.4385
36.6333	0.1617	0	5.4609	5.4609
36.6667	0.1588	0.0091	5.4845	5.4937
36.7	0.1614	0	5.5108	5.5108
36.7333	0.1624	0	5.5332	5.5332
36.7667	0.1617	0.0091	5.5621	5.5712
36.8	0.1621	0	5.5911	5.5911
36.8333	0.1611	0	5.6042	5.6042
36.8667	0.1617	0.0091	5.6331	5.6422
36.9	0.1644	0.0091	5.6555	5.6646
36.9333	0.1584	0	5.6726	5.6726
36.9667	0.1627	0.0091	5.7028	5.7119
37	0.1604	0	5.7199	5.7199
37.0333	0.163	0.0091	5.7475	5.7566
37.0667	0.165	0.0091	5.762	5.7711
37.1	0.163	0	5.7791	5.7791
37.1333	0.1667	0.0091	5.7988	5.8079
37.1667	0.166	0.0091	5.8264	5.8355
37.2	0.1686	0	5.8488	5.8488
37.2333	0.167	0	5.8725	5.8725



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
37.2667	0.1673	0.0091	5.8856	5.8947
37.3	0.167	0	5.9145	5.9145
37.3333	0.1657	0.0223	5.929	5.9513
37.3667	0.167	0	5.9514	5.9514
37.4	0.1647	0	5.9737	5.9737
37.4333	0.1677	0.0091	5.9895	5.9986
37.4667	0.1637	0	6.0171	6.0171
37.5	0.1673	0	6.0276	6.0276
37.5333	0.166	0.0091	6.0552	6.0644
37.5667	0.168	0	6.0631	6.0631
37.6	0.166	0	6.0894	6.0894
37.6333	0.1657	0.0091	6.0973	6.1064
37.6667	0.1667	0	6.1236	6.1236
37.7	0.1657	0	6.1434	6.1434
37.7333	0.1686	0	6.1618	6.1618
37.7667	0.1686	0	6.1736	6.1736
37.8	0.1657	0.0091	6.1946	6.2037
37.8333	0.1667	0.0091	6.2157	6.2248
37.8667	0.166	0.0223	6.213	6.2353
37.9	0.1647	0.0091	6.2341	6.2432
37.9333	0.169	0	6.2499	6.2499
37.9667	0.1683	0	6.2696	6.2696
38	0.1683	0	6.2841	6.2841
38.0333	0.1677	0	6.3011	6.3011
38.0667	0.1673	0.0091	6.3051	6.3142
38.1	0.165	0	6.3327	6.3327
38.1333	0.1647	0	6.3432	6.3432
38.1667	0.1667	0	6.3616	6.3616
38.2	0.1696	0.0091	6.3787	6.3878
38.2333	0.1686	0	6.3853	6.3853
38.2667	0.17	0	6.405	6.405
38.3	0.1706	0.0091	6.4155	6.4247
38.3333	0.1683	0	6.4326	6.4326
38.3667	0.1693	0	6.4458	6.4458
38.4	0.169	0	6.4589	6.4589
38.4333	0.17	0	6.48	6.48
38.4667	0.17	0	6.4918	6.4918
38.5	0.1703	0	6.4997	6.4997
38.5333	0.17	0	6.5155	6.5155
38.5667	0.1726	0	6.5207	6.5207
38.6	0.1686	0	6.5418	6.5418
38.6333	0.17	0.0091	6.5523	6.5614
38.6667	0.1693	0	6.5707	6.5707

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
38.7	0.1709	0.0091	6.5733	6.5825
38.7333	0.1726	0.0091	6.5865	6.5956
38.7667	0.1703	0	6.6075	6.6075
38.8	0.1729	0	6.6273	6.6273
38.8333	0.1719	0	6.6325	6.6325
38.8667	0.1693	0	6.6457	6.6457
38.9	0.1723	0.0091	6.6693	6.6784
38.9333	0.1716	0.0091	6.6759	6.685
38.9667	0.1723	0.0091	6.6838	6.6929
39	0.1765	0.0091	6.6996	6.7087
39.0333	0.1759	0	6.7075	6.7075
39.0667	0.1723	0.0091	6.7154	6.7245
39.1	0.1756	0	6.7351	6.7351
39.1333	0.1723	0	6.7548	6.7548
39.1667	0.1746	0	6.7535	6.7535
39.2	0.1769	0.0091	6.7732	6.7823
39.2333	0.1756	0	6.7877	6.7877
39.2667	0.1772	0	6.7929	6.7929
39.3	0.1746	0.0091	6.81	6.8191
39.3333	0.1752	0.0091	6.8206	6.8297
39.3667	0.1749	0	6.8363	6.8363
39.4	0.1759	0	6.8469	6.8469
39.4333	0.1756	0.0091	6.8508	6.8599
39.4667	0.1765	0	6.8626	6.8626
39.5	0.1815	0	6.8797	6.8797
39.5333	0.1769	0	6.9034	6.9034
39.5667	0.1752	0	6.9008	6.9008
39.6	0.1759	0	6.9152	6.9152
39.6333	0.1759	0	6.9258	6.9258
39.6667	0.1759	0	6.931	6.931
39.7	0.1792	0.0091	6.9494	6.9585
39.7333	0.1769	0	6.9652	6.9652
39.7667	0.1782	0.0091	6.9731	6.9822
39.8	0.1772	0	6.9823	6.9823
39.8333	0.1788	0	6.9849	6.9849
39.8667	0.1798	0.0091	6.9955	7.0046
39.9	0.1779	0	7.0073	7.0073
39.9333	0.1775	0	7.0257	7.0257
39.9667	0.1792	0.0091	7.0296	7.0387
40	0.1792	0	7.0454	7.0454
40.0333	0.1805	0	7.0599	7.0599
40.0667	0.1779	0	7.0599	7.0599
40.1	0.1792	0.0091	7.073	7.0821

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
40.1333	0.1808	0	7.0809	7.0809
40.1667	0.1802	0	7.0993	7.0993
40.2	0.1811	0	7.1072	7.1072
40.2333	0.1769	0	7.1059	7.1059
40.2667	0.1811	0	7.123	7.123
40.3	0.1795	0	7.1296	7.1296
40.3333	0.1811	0	7.1414	7.1414
40.3667	0.1805	0.0091	7.1467	7.1558
40.4	0.1792	0.0091	7.1546	7.1637
40.4333	0.1808	0	7.1809	7.1809
40.4667	0.1821	0.0091	7.1782	7.1873
40.5	0.1811	0.0091	7.1874	7.1965
40.5333	0.1798	0	7.1953	7.1953
40.5667	0.1821	0.0091	7.2019	7.211
40.6	0.1798	0.0091	7.2058	7.215
40.6333	0.1811	0.0091	7.219	7.2281
40.6667	0.1828	0	7.2243	7.2243
40.7	0.1802	0	7.2335	7.2335
40.7333	0.1828	0	7.2414	7.2414
40.7667	0.1828	0	7.2571	7.2571
40.8	0.1805	0.0091	7.2611	7.2702
40.8333	0.1811	0.0091	7.2782	7.2873
40.8667	0.1844	0	7.2703	7.2703
40.9	0.1785	0.0223	7.2913	7.3136
40.9333	0.1795	0	7.294	7.294
40.9667	0.1805	0	7.294	7.294
41	0.1844	0.0223	7.3005	7.3228
41.0333	0.1798	0	7.311	7.311
41.0667	0.1831	0	7.3176	7.3176
41.1	0.1818	0	7.3255	7.3255
41.1333	0.1821	0.0091	7.336	7.3451
41.1667	0.1825	0	7.3373	7.3373
41.2	0.1818	0.0091	7.3426	7.3517
41.2333	0.1811	0.0091	7.3597	7.3688
41.2667	0.1802	0	7.3584	7.3584
41.3	0.1821	0	7.3781	7.3781
41.3333	0.1841	0.0223	7.3768	7.399
41.3667	0.1831	0	7.3834	7.3834
41.4	0.1815	0	7.3913	7.3913
41.4333	0.1831	0	7.3965	7.3965
41.4667	0.1821	0.0091	7.407	7.4161
41.5	0.1805	0.0091	7.4057	7.4148
41.5333	0.1802	0	7.4149	7.4149

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
41.5667	0.1838	0	7.4202	7.4202
41.6	0.1811	0	7.4215	7.4215
41.6333	0.1779	0	7.4307	7.4307
41.6667	0.1818	0	7.4333	7.4333
41.7	0.1838	0	7.4425	7.4425
41.7333	0.1835	0	7.4517	7.4517
41.7667	0.1815	0	7.4504	7.4504
41.8	0.1782	0	7.4491	7.4491
41.8333	0.1831	0	7.457	7.457
41.8667	0.1831	0	7.4675	7.4675
41.9	0.1831	0.0091	7.4807	7.4898
41.9333	0.1828	0	7.4702	7.4702
41.9667	0.1831	0	7.4754	7.4754
42	0.1818	0	7.482	7.482
42.0333	0.1818	0	7.4912	7.4912
42.0667	0.1844	0	7.4991	7.4991
42.1	0.1802	0	7.5017	7.5017
42.1333	0.1805	0	7.5057	7.5057
42.1667	0.1805	0	7.5122	7.5122
42.2	0.1825	0.0091	7.5175	7.5266
42.2333	0.1811	0	7.5201	7.5201
42.2667	0.1841	0.0223	7.5306	7.5529
42.3	0.1798	0	7.5254	7.5254
42.3333	0.1811	0	7.5333	7.5333
42.3667	0.1821	0	7.5425	7.5425
42.4	0.1811	0.0091	7.5464	7.5555
42.4333	0.1798	0	7.5491	7.5491
42.4667	0.1802	0	7.5477	7.5477
42.5	0.1831	0.0091	7.5596	7.5687
42.5333	0.1815	0	7.5648	7.5648
42.5667	0.1815	0	7.5583	7.5583
42.6	0.1848	0.0091	7.5675	7.5766
42.6333	0.1811	0.0091	7.5727	7.5818
42.6667	0.1811	0	7.5688	7.5688
42.7	0.1788	0.0091	7.5767	7.5858
42.7333	0.1825	0	7.5859	7.5859
42.7667	0.1815	0	7.5793	7.5793
42.8	0.1811	0	7.5859	7.5859
42.8333	0.1818	0.0091	7.5951	7.6042
42.8667	0.1818	0	7.599	7.599
42.9	0.1795	0	7.6003	7.6003
42.9333	0.1805	0.0091	7.6056	7.6147
42.9667	0.1838	0	7.6043	7.6043

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
43	0.1802	0	7.6188	7.6188
43.0333	0.1795	0	7.6122	7.6122
43.0667	0.1811	0	7.6095	7.6095
43.1	0.1808	0.0091	7.6188	7.6279
43.1333	0.1798	0	7.6227	7.6227
43.1667	0.1841	0	7.6266	7.6266
43.2	0.1825	0.0091	7.6201	7.6292
43.2333	0.1802	0	7.6358	7.6358
43.2667	0.1798	0	7.6293	7.6293
43.3	0.1808	0	7.6385	7.6385
43.3333	0.1825	0	7.6385	7.6385
43.3667	0.1841	0	7.6332	7.6332
43.4	0.1808	0	7.6437	7.6437
43.4333	0.1811	0	7.6464	7.6464
43.4667	0.1782	0.0091	7.6424	7.6515
43.5	0.1835	0	7.6556	7.6556
43.5333	0.1808	0	7.6648	7.6648
43.5667	0.1802	0	7.6661	7.6661
43.6	0.1825	0	7.6635	7.6635
43.6333	0.1792	0	7.6792	7.6792
43.6667	0.1802	0.0091	7.6674	7.6765
43.7	0.1798	0	7.674	7.674
43.7333	0.1828	0.0091	7.6674	7.6765
43.7667	0.1818	0	7.6621	7.6621
43.8	0.1792	0.0091	7.674	7.6831
43.8333	0.1821	0	7.6713	7.6713
43.8667	0.1821	0.0091	7.6792	7.6883
43.9	0.1831	0	7.6779	7.6779
43.9333	0.1782	0.0091	7.6845	7.6936
43.9667	0.1811	0	7.6884	7.6884
44	0.1811	0	7.6924	7.6924
44.0333	0.1838	0	7.6832	7.6832
44.0667	0.1811	0	7.6937	7.6937
44.1	0.1808	0	7.6898	7.6898
44.1333	0.1821	0	7.6937	7.6937
44.1667	0.1811	0	7.6976	7.6976
44.2	0.1811	0	7.6898	7.6898
44.2333	0.1792	0	7.7029	7.7029
44.2667	0.1795	0.0091	7.699	7.7081
44.3	0.1811	0	7.7016	7.7016
44.3333	0.1802	0	7.7029	7.7029
44.3667	0.1805	0	7.7095	7.7095
44.4	0.1815	0	7.7187	7.7187

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
44.4333	0.1798	0	7.7121	7.7121
44.4667	0.1802	0	7.7174	7.7174
44.5	0.1844	0	7.72	7.72
44.5333	0.1795	0	7.7213	7.7213
44.5667	0.1821	0	7.7213	7.7213
44.6	0.1795	0.0223	7.7161	7.7383
44.6333	0.1782	0	7.7239	7.7239
44.6667	0.1815	0.0223	7.7292	7.7515
44.7	0.1792	0	7.7318	7.7318
44.7333	0.1828	0	7.7239	7.7239
44.7667	0.1808	0	7.7332	7.7332
44.8	0.1811	0.0091	7.741	7.7501
44.8333	0.1792	0	7.741	7.741
44.8667	0.1798	0	7.7345	7.7345
44.9	0.1805	0	7.7424	7.7424
44.9333	0.1811	0.0091	7.741	7.7501
44.9667	0.1795	0	7.7332	7.7332
45	0.1805	0	7.7397	7.7397
45.0333	0.1782	0.0091	7.7489	7.758
45.0667	0.1795	0	7.7397	7.7397
45.1	0.1792	0	7.7384	7.7384
45.1333	0.1792	0	7.7542	7.7542
45.1667	0.1821	0	7.7581	7.7581
45.2	0.1825	0	7.7542	7.7542
45.2333	0.1825	0	7.7568	7.7568
45.2667	0.1808	0	7.7516	7.7516
45.3	0.1795	0	7.7608	7.7608
45.3333	0.1818	0.0091	7.7568	7.7659
45.3667	0.1802	0	7.7581	7.7581
45.4	0.1792	0	7.7595	7.7595
45.4333	0.1805	0	7.7621	7.7621
45.4667	0.1785	0	7.7673	7.7673
45.5	0.1818	0	7.7608	7.7608
45.5333	0.1808	0.0091	7.7595	7.7686
45.5667	0.1795	0	7.7673	7.7673
45.6	0.1795	0	7.766	7.766
45.6333	0.1765	0.0091	7.766	7.7751
45.6667	0.1782	0	7.766	7.766
45.7	0.1798	0	7.77	7.77
45.7333	0.1798	0.0091	7.7752	7.7843
45.7667	0.1795	0.0091	7.7673	7.7764
45.8	0.1811	0.0091	7.7805	7.7896
45.8333	0.1805	0	7.7752	7.7752



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
45.8667	0.1818	0	7.7726	7.7726
45.9	0.1831	0.0091	7.7765	7.7857
45.9333	0.1795	0	7.7752	7.7752
45.9667	0.1802	0	7.7818	7.7818
46	0.1795	0	7.7779	7.7779
46.0333	0.1802	0	7.7726	7.7726
46.0667	0.1802	0	7.7779	7.7779
46.1	0.1802	0	7.7739	7.7739
46.1333	0.1788	0	7.77	7.77
46.1667	0.1811	0	7.7752	7.7752
46.2	0.1779	0	7.7779	7.7779
46.2333	0.1779	0	7.7818	7.7818
46.2667	0.1785	0.0223	7.7858	7.808
46.3	0.1805	0	7.7884	7.7884
46.3333	0.1802	0	7.7792	7.7792
46.3667	0.1775	0	7.7844	7.7844
46.4	0.1765	0.0091	7.7897	7.7988
46.4333	0.1798	0	7.791	7.791
46.4667	0.1815	0	7.7884	7.7884
46.5	0.1835	0.0091	7.7897	7.7988
46.5333	0.1811	0	7.7818	7.7818
46.5667	0.1811	0.0091	7.791	7.8001
46.6	0.1795	0.0091	7.7831	7.7922
46.6333	0.1811	0	7.7936	7.7936
46.6667	0.1808	0	7.8015	7.8015
46.7	0.1815	0	7.7858	7.7858
46.7333	0.1818	0.0091	7.7871	7.7962
46.7667	0.1785	0	7.7976	7.7976
46.8	0.1805	0.0091	7.8068	7.8159
46.8333	0.1805	0	7.7936	7.7936
46.8667	0.1779	0	7.7963	7.7963
46.9	0.1835	0	7.795	7.795
46.9333	0.1805	0	7.8042	7.8042
46.9667	0.1802	0	7.7871	7.7871
47	0.1815	0.0091	7.7936	7.8027
47.0333	0.1805	0	7.8042	7.8042
47.0667	0.1798	0	7.8002	7.8002
47.1	0.1798	0	7.7936	7.7936
47.1333	0.1785	0	7.7884	7.7884
47.1667	0.1828	0	7.8015	7.8015
47.2	0.1792	0	7.7989	7.7989
47.2333	0.1805	0	7.8015	7.8015
47.2667	0.1785	0	7.8028	7.8028

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
47.3	0.1795	0	7.7976	7.7976
47.3333	0.1798	0.0223	7.7936	7.8159
47.3667	0.1802	0	7.7936	7.7936
47.4	0.1756	0	7.8042	7.8042
47.4333	0.1772	0	7.795	7.795
47.4667	0.1788	0.0091	7.7936	7.8027
47.5	0.1779	0	7.7989	7.7989
47.5333	0.1795	0.0091	7.8015	7.8106
47.5667	0.1792	0	7.8002	7.8002
47.6	0.1795	0	7.795	7.795
47.6333	0.1782	0	7.8015	7.8015
47.6667	0.1811	0	7.8094	7.8094
47.7	0.1808	0	7.8055	7.8055
47.7333	0.1785	0	7.8042	7.8042
47.7667	0.1808	0	7.7976	7.7976
47.8	0.1779	0	7.8042	7.8042
47.8333	0.1795	0	7.8081	7.8081
47.8667	0.1811	0	7.8094	7.8094
47.9	0.1798	0	7.8094	7.8094
47.9333	0.1798	0	7.816	7.816
47.9667	0.1792	0	7.8107	7.8107
48	0.1769	0	7.8081	7.8081
48.0333	0.1815	0	7.816	7.816
48.0667	0.1785	0	7.8147	7.8147
48.1	0.1811	0	7.8186	7.8186
48.1333	0.1779	0.0091	7.816	7.8251
48.1667	0.1795	0	7.8134	7.8134
48.2	0.1808	0.0091	7.8094	7.8185
48.2333	0.1821	0	7.8173	7.8173
48.2667	0.1769	0	7.8186	7.8186
48.3	0.1811	0	7.8173	7.8173
48.3333	0.1811	0	7.8107	7.8107
48.3667	0.1805	0	7.8173	7.8173
48.4	0.1802	0	7.8107	7.8107
48.4333	0.1772	0.0091	7.8107	7.8198
48.4667	0.1825	0	7.8081	7.8081
48.5	0.1788	0	7.8028	7.8028
48.5333	0.1779	0	7.8081	7.8081
48.5667	0.1805	0	7.8094	7.8094
48.6	0.1805	0	7.8068	7.8068
48.6333	0.1769	0.0091	7.8068	7.8159
48.6667	0.1815	0.0091	7.8068	7.8159
48.7	0.1825	0	7.8121	7.8121

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
48.7333	0.1772	0	7.8134	7.8134
48.7667	0.1815	0	7.8055	7.8055
48.8	0.1785	0	7.8042	7.8042
48.8333	0.1815	0	7.816	7.816
48.8667	0.1805	0	7.8147	7.8147
48.9	0.1769	0	7.8173	7.8173
48.9333	0.1805	0	7.8107	7.8107
48.9667	0.1825	0.0091	7.8107	7.8198
49	0.1802	0.0091	7.8134	7.8225
49.0333	0.1821	0	7.8134	7.8134
49.0667	0.1782	0	7.8081	7.8081
49.1	0.1792	0.0091	7.8107	7.8198
49.1333	0.1805	0	7.8042	7.8042
49.1667	0.1775	0	7.8055	7.8055
49.2	0.1795	0.0091	7.8094	7.8185
49.2333	0.1815	0.0091	7.8094	7.8185
49.2667	0.1818	0	7.8055	7.8055
49.3	0.1808	0.0223	7.8068	7.829
49.3333	0.1798	0	7.8068	7.8068
49.3667	0.1775	0	7.8042	7.8042
49.4	0.1802	0.0091	7.8028	7.8119
49.4333	0.1805	0	7.8081	7.8081
49.4667	0.1808	0	7.8042	7.8042
49.5	0.1792	0	7.8002	7.8002
49.5333	0.1815	0	7.8002	7.8002
49.5667	0.1788	0.0091	7.8002	7.8093
49.6	0.1792	0	7.8068	7.8068
49.6333	0.1808	0.0091	7.8121	7.8212
49.6667	0.1772	0.0091	7.8055	7.8146
49.7	0.1782	0.0091	7.8042	7.8133
49.7333	0.1788	0.0091	7.8094	7.8185
49.7667	0.1811	0	7.8121	7.8121
49.8	0.1785	0	7.8107	7.8107
49.8333	0.1798	0	7.8121	7.8121
49.8667	0.1772	0	7.8121	7.8121
49.9	0.1772	0	7.8199	7.8199
49.9333	0.1785	0	7.8186	7.8186
49.9667	0.1815	0	7.8081	7.8081
50	0.1825	0	7.8186	7.8186
50.0333	0.1805	0.0091	7.8121	7.8212
50.0667	0.1808	0.0091	7.8173	7.8264
50.1	0.1792	0	7.8239	7.8239
50.1333	0.1769	0.0091	7.8121	7.8212

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
50.1667	0.1779	0	7.8094	7.8094
50.2	0.1798	0	7.8134	7.8134
50.2333	0.1798	0	7.8121	7.8121
50.2667	0.1788	0	7.816	7.816
50.3	0.1802	0	7.816	7.816
50.3333	0.1798	0	7.8186	7.8186
50.3667	0.1785	0.0223	7.8081	7.8304
50.4	0.1802	0.0091	7.8121	7.8212
50.4333	0.1798	0	7.8094	7.8094
50.4667	0.1798	0	7.8081	7.8081
50.5	0.1788	0	7.8042	7.8042
50.5333	0.1802	0	7.8081	7.8081
50.5667	0.1772	0	7.8055	7.8055
50.6	0.1815	0	7.8015	7.8015
50.6333	0.1792	0	7.8068	7.8068
50.6667	0.1792	0	7.8042	7.8042
50.7	0.1788	0	7.8068	7.8068
50.7333	0.1772	0.0091	7.8081	7.8172
50.7667	0.1779	0	7.8055	7.8055
50.8	0.1788	0	7.8121	7.8121
50.8333	0.1765	0	7.8055	7.8055
50.8667	0.1802	0	7.8199	7.8199
50.9	0.1769	0	7.8107	7.8107
50.9333	0.1752	0	7.8186	7.8186
50.9667	0.1772	0	7.8081	7.8081
51	0.1775	0.0091	7.8002	7.8093
51.0333	0.1775	0	7.8015	7.8015
51.0667	0.1769	0	7.7976	7.7976
51.1	0.1749	0.0091	7.8015	7.8106
51.1333	0.1782	0.0091	7.8134	7.8225
51.1667	0.1805	0.0091	7.8081	7.8172
51.2	0.1749	0	7.8107	7.8107
51.2333	0.1785	0.0091	7.8015	7.8106
51.2667	0.1802	0	7.8147	7.8147
51.3	0.1752	0.0091	7.8147	7.8238
51.3333	0.1765	0	7.8094	7.8094
51.3667	0.1765	0	7.8186	7.8186
51.4	0.1795	0	7.8121	7.8121
51.4333	0.1798	0.0091	7.816	7.8251
51.4667	0.1769	0	7.816	7.816
51.5	0.1775	0	7.8068	7.8068
51.5333	0.1792	0	7.8028	7.8028
51.5667	0.1779	0.0091	7.8068	7.8159

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
51.6	0.1785	0	7.8042	7.8042
51.6333	0.1808	0	7.8042	7.8042
51.6667	0.1798	0	7.8068	7.8068
51.7	0.1788	0	7.8002	7.8002
51.7333	0.1762	0	7.8028	7.8028
51.7667	0.1785	0	7.8015	7.8015
51.8	0.1802	0.0091	7.8055	7.8146
51.8333	0.1756	0	7.8055	7.8055
51.8667	0.1772	0.0091	7.8042	7.8133
51.9	0.1769	0	7.7989	7.7989
51.9333	0.1756	0.0091	7.7989	7.808
51.9667	0.1779	0	7.8081	7.8081
52	0.1798	0.0091	7.7963	7.8054
52.0333	0.1756	0	7.8042	7.8042
52.0667	0.1805	0	7.7963	7.7963
52.1	0.1785	0	7.7897	7.7897
52.1333	0.1769	0	7.8028	7.8028
52.1667	0.1765	0.0091	7.8055	7.8146
52.2	0.1805	0.0091	7.7989	7.808
52.2333	0.1782	0	7.8055	7.8055
52.2667	0.1785	0	7.8068	7.8068
52.3	0.1756	0.0091	7.8002	7.8093
52.3333	0.1795	0	7.8002	7.8002
52.3667	0.1811	0	7.8121	7.8121
52.4	0.1779	0	7.8055	7.8055
52.4333	0.1782	0	7.8081	7.8081
52.4667	0.1782	0	7.8107	7.8107
52.5	0.1802	0.0091	7.8042	7.8133
52.5333	0.1769	0	7.8002	7.8002
52.5667	0.1788	0	7.8002	7.8002
52.6	0.1746	0.0091	7.8147	7.8238
52.6333	0.1769	0	7.8028	7.8028
52.6667	0.1785	0	7.8042	7.8042
52.7	0.1752	0	7.8002	7.8002
52.7333	0.1795	0	7.8002	7.8002
52.7667	0.1772	0	7.7897	7.7897
52.8	0.1752	0	7.8055	7.8055
52.8333	0.1782	0	7.8081	7.8081
52.8667	0.1792	0	7.8042	7.8042
52.9	0.1802	0	7.7989	7.7989
52.9333	0.1792	0	7.7976	7.7976
52.9667	0.1772	0	7.7989	7.7989
53	0.1798	0	7.8028	7.8028

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
53.0333	0.1792	0.0091	7.7963	7.8054
53.0667	0.1805	0	7.791	7.791
53.1	0.1772	0	7.7976	7.7976
53.1333	0.1785	0	7.7936	7.7936
53.1667	0.1779	0.0091	7.7989	7.808
53.2	0.1805	0	7.7897	7.7897
53.2333	0.1759	0	7.7923	7.7923
53.2667	0.1795	0	7.7923	7.7923
53.3	0.1772	0	7.7858	7.7858
53.3333	0.1772	0	7.7976	7.7976
53.3667	0.1739	0	7.7963	7.7963
53.4	0.1769	0	7.7963	7.7963
53.4333	0.1805	0	7.7936	7.7936
53.4667	0.1769	0	7.7858	7.7858
53.5	0.1775	0	7.7884	7.7884
53.5333	0.1746	0	7.7923	7.7923
53.5667	0.1798	0	7.795	7.795
53.6	0.1736	0	7.7989	7.7989
53.6333	0.1769	0.0091	7.795	7.8041
53.6667	0.1769	0	7.7897	7.7897
53.7	0.1788	0	7.7831	7.7831
53.7333	0.1792	0	7.7884	7.7884
53.7667	0.1798	0	7.7884	7.7884
53.8	0.1808	0	7.7897	7.7897
53.8333	0.1792	0	7.7831	7.7831
53.8667	0.1752	0	7.791	7.791
53.9	0.1779	0	7.7884	7.7884
53.9333	0.1802	0	7.7831	7.7831
53.9667	0.1792	0.0091	7.7963	7.8054
54	0.1762	0	7.7976	7.7976
54.0333	0.1805	0.0091	7.795	7.8041
54.0667	0.1805	0.0223	7.7936	7.8159
54.1	0.1752	0	7.7831	7.7831
54.1333	0.1782	0.0223	7.7871	7.8093
54.1667	0.1785	0	7.791	7.791
54.2	0.1792	0	7.7871	7.7871
54.2333	0.1798	0	7.7897	7.7897
54.2667	0.1785	0.0091	7.7844	7.7935
54.3	0.1792	0.0091	7.7884	7.7975
54.3333	0.1775	0	7.7844	7.7844
54.3667	0.1782	0	7.7844	7.7844
54.4	0.1759	0.0091	7.7844	7.7935
54.4333	0.1756	0	7.7792	7.7792



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
54.4667	0.1805	0	7.7805	7.7805
54.5	0.1779	0	7.7831	7.7831
54.5333	0.1798	0	7.7831	7.7831
54.5667	0.1772	0	7.7871	7.7871
54.6	0.1775	0	7.7818	7.7818
54.6333	0.1772	0	7.7792	7.7792
54.6667	0.1762	0.0091	7.7831	7.7922
54.7	0.1788	0.0091	7.7752	7.7843
54.7333	0.1798	0	7.7831	7.7831
54.7667	0.1769	0.0091	7.77	7.7791
54.8	0.1765	0	7.7765	7.7765
54.8333	0.1795	0	7.7844	7.7844
54.8667	0.1788	0.0091	7.7831	7.7922
54.9	0.1769	0	7.7844	7.7844
54.9333	0.1785	0.0091	7.7792	7.7883
54.9667	0.1785	0	7.77	7.77
55	0.1785	0	7.7792	7.7792
55.0333	0.1779	0	7.7713	7.7713
55.0667	0.1798	0	7.7818	7.7818
55.1	0.1772	0	7.7739	7.7739
55.1333	0.1779	0	7.77	7.77
55.1667	0.1782	0	7.7831	7.7831
55.2	0.1795	0	7.7752	7.7752
55.2333	0.1769	0.0091	7.7713	7.7804
55.2667	0.1756	0	7.7687	7.7687
55.3	0.1795	0	7.7726	7.7726
55.3333	0.1756	0	7.7792	7.7792
55.3667	0.1769	0.0091	7.7726	7.7817
55.4	0.1779	0	7.7726	7.7726
55.4333	0.1795	0	7.77	7.77
55.4667	0.1785	0.0223	7.7779	7.8001
55.5	0.1772	0	7.7739	7.7739
55.5333	0.1779	0	7.7726	7.7726
55.5667	0.1805	0	7.7805	7.7805
55.6	0.1772	0.0091	7.7792	7.7883
55.6333	0.1772	0	7.7871	7.7871
55.6667	0.1772	0	7.7805	7.7805
55.7	0.1795	0	7.7844	7.7844
55.7333	0.1808	0	7.7779	7.7779
55.7667	0.1779	0	7.7779	7.7779
55.8	0.1756	0.0091	7.77	7.7791
55.8333	0.1795	0	7.7792	7.7792
55.8667	0.1769	0	7.7765	7.7765

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
55.9	0.1749	0	7.7739	7.7739
55.9333	0.1782	0	7.7792	7.7792
55.9667	0.1779	0	7.7779	7.7779
56	0.1795	0	7.7792	7.7792
56.0333	0.1779	0	7.7844	7.7844
56.0667	0.1782	0	7.7752	7.7752
56.1	0.1762	0	7.77	7.77
56.1333	0.1772	0	7.7779	7.7779
56.1667	0.1779	0	7.7726	7.7726
56.2	0.1772	0	7.7739	7.7739
56.2333	0.1759	0	7.7673	7.7673
56.2667	0.1772	0	7.7831	7.7831
56.3	0.1782	0	7.7818	7.7818
56.3333	0.1772	0	7.7752	7.7752
56.3667	0.1798	0	7.7673	7.7673
56.4	0.1785	0	7.7726	7.7726
56.4333	0.1798	0	7.7792	7.7792
56.4667	0.1792	0	7.7726	7.7726
56.5	0.1772	0	7.7752	7.7752
56.5333	0.1765	0	7.7752	7.7752
56.5667	0.1782	0	7.77	7.77
56.6	0.1759	0	7.7779	7.7779
56.6333	0.1762	0	7.7818	7.7818
56.6667	0.1762	0.0091	7.7739	7.783
56.7	0.1785	0.0223	7.7752	7.7975
56.7333	0.1759	0	7.7739	7.7739
56.7667	0.1769	0	7.766	7.766
56.8	0.1785	0	7.766	7.766
56.8333	0.1769	0.0091	7.7739	7.783
56.8667	0.1802	0	7.7726	7.7726
56.9	0.1772	0	7.7647	7.7647
56.9333	0.1762	0	7.7726	7.7726
56.9667	0.1765	0	7.7726	7.7726
57	0.1769	0	7.7647	7.7647
57.0333	0.1802	0	7.7687	7.7687
57.0667	0.1775	0	7.7726	7.7726
57.1	0.1772	0	7.7647	7.7647
57.1333	0.1798	0.0091	7.7765	7.7857
57.1667	0.1792	0	7.7765	7.7765
57.2	0.1769	0	7.7687	7.7687
57.2333	0.1762	0.0091	7.7595	7.7686
57.2667	0.1808	0	7.7726	7.7726
57.3	0.1782	0	7.7608	7.7608

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
57.3333	0.1752	0	7.7726	7.7726
57.3667	0.1785	0	7.7634	7.7634
57.4	0.1779	0.0091	7.7726	7.7817
57.4333	0.1798	0	7.7634	7.7634
57.4667	0.1759	0	7.766	7.766
57.5	0.1779	0.0091	7.7687	7.7778
57.5333	0.1798	0	7.7687	7.7687
57.5667	0.1726	0	7.7687	7.7687
57.6	0.1759	0	7.77	7.77
57.6333	0.1775	0	7.7634	7.7634
57.6667	0.1746	0	7.7595	7.7595
57.7	0.1746	0	7.7673	7.7673
57.7333	0.1762	0	7.7687	7.7687
57.7667	0.1759	0.0091	7.7687	7.7778
57.8	0.1746	0	7.7621	7.7621
57.8333	0.1759	0	7.7687	7.7687
57.8667	0.1772	0	7.766	7.766
57.9	0.1759	0.0091	7.7687	7.7778
57.9333	0.1762	0	7.7595	7.7595
57.9667	0.1769	0	7.7673	7.7673
58	0.1805	0.0091	7.7726	7.7817
58.0333	0.1752	0	7.7713	7.7713
58.0667	0.1792	0.0091	7.7647	7.7738
58.1	0.1782	0	7.7647	7.7647
58.1333	0.1752	0	7.7647	7.7647
58.1667	0.1798	0	7.7673	7.7673
58.2	0.1765	0.0091	7.7634	7.7725
58.2333	0.1762	0	7.7647	7.7647
58.2667	0.1772	0	7.7647	7.7647
58.3	0.1782	0	7.7687	7.7687
58.3333	0.1795	0	7.7621	7.7621
58.3667	0.1775	0	7.7634	7.7634
58.4	0.1749	0	7.7568	7.7568
58.4333	0.1772	0	7.7555	7.7555
58.4667	0.1775	0.0354	7.7595	7.7949
58.5	0.1775	0	7.7647	7.7647
58.5333	0.1762	0	7.766	7.766
58.5667	0.1749	0	7.7647	7.7647
58.6	0.1785	0	7.7687	7.7687
58.6333	0.1779	0.0091	7.7608	7.7699
58.6667	0.1802	0.0091	7.7673	7.7764
58.7	0.1772	0	7.7621	7.7621
58.7333	0.1769	0	7.7555	7.7555

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
58.7667	0.1736	0	7.766	7.766
58.8	0.1795	0	7.7673	7.7673
58.8333	0.1762	0.0091	7.766	7.7751
58.8667	0.1772	0	7.7608	7.7608
58.9	0.1762	0.0091	7.7581	7.7672
58.9333	0.1798	0	7.7608	7.7608
58.9667	0.1785	0.0091	7.7673	7.7764
59	0.1782	0.0091	7.7568	7.7659
59.0333	0.1765	0	7.7608	7.7608
59.0667	0.1769	0	7.7621	7.7621
59.1	0.1762	0.0091	7.7673	7.7764
59.1333	0.1775	0	7.7687	7.7687
59.1667	0.1775	0	7.7542	7.7542
59.2	0.1765	0.0091	7.7621	7.7712
59.2333	0.1759	0.0091	7.7634	7.7725
59.2667	0.1749	0	7.77	7.77
59.3	0.1785	0.0223	7.7595	7.7817
59.3333	0.1759	0	7.766	7.766
59.3667	0.1762	0.0091	7.7568	7.7659
59.4	0.1782	0	7.7595	7.7595
59.4333	0.1749	0	7.7608	7.7608
59.4667	0.1782	0	7.7634	7.7634
59.5	0.1775	0	7.7516	7.7516
59.5333	0.1769	0.0091	7.7516	7.7607
59.5667	0.1759	0.0091	7.7568	7.7659
59.6	0.1759	0	7.7595	7.7595
59.6333	0.1775	0	7.7621	7.7621
59.6667	0.1746	0	7.7516	7.7516
59.7	0.1772	0.0091	7.7608	7.7699
59.7333	0.1765	0	7.7581	7.7581
59.7667	0.1782	0	7.7568	7.7568
59.8	0.1772	0.0091	7.7647	7.7738
59.8333	0.1785	0	7.7581	7.7581
59.8667	0.1769	0	7.7529	7.7529
59.9	0.1792	0	7.7555	7.7555
59.9333	0.1759	0	7.7516	7.7516
59.9667	0.1759	0	7.7542	7.7542
60	0.1782	0.0091	7.7568	7.7659
60.0333	0.1782	0	7.7595	7.7595
60.0667	0.1775	0	7.7516	7.7516
60.1	0.1769	0.0091	7.7516	7.7607
60.1333	0.1752	0	7.7568	7.7568
60.1667	0.1752	0	7.7595	7.7595

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
60.2	0.1775	0.0091	7.7568	7.7659
60.2333	0.1779	0.0091	7.7568	7.7659
60.2667	0.1765	0	7.7581	7.7581
60.3	0.1756	0	7.7568	7.7568
60.3333	0.1775	0.0091	7.7542	7.7633
60.3667	0.1762	0	7.7621	7.7621
60.4	0.1769	0	7.7595	7.7595
60.4333	0.1759	0	7.7542	7.7542
60.4667	0.1769	0	7.7516	7.7516
60.5	0.1739	0	7.7621	7.7621
60.5333	0.1782	0.0091	7.7516	7.7607
60.5667	0.1795	0	7.7516	7.7516
60.6	0.1752	0	7.7529	7.7529
60.6333	0.1792	0	7.7516	7.7516
60.6667	0.1785	0	7.7568	7.7568
60.7	0.1746	0	7.7568	7.7568
60.7333	0.1746	0.0091	7.7581	7.7672
60.7667	0.1775	0.0091	7.7595	7.7686
60.8	0.1765	0	7.745	7.745
60.8333	0.1779	0	7.7516	7.7516
60.8667	0.1782	0.0091	7.7581	7.7672
60.9	0.1779	0	7.7516	7.7516
60.9333	0.1779	0	7.7568	7.7568
60.9667	0.1765	0.0091	7.7516	7.7607
61	0.1779	0.0091	7.7555	7.7646
61.0333	0.1808	0	7.7516	7.7516
61.0667	0.1762	0	7.7595	7.7595
61.1	0.1802	0.0091	7.7542	7.7633
61.1333	0.1792	0.0223	7.7463	7.7686
61.1667	0.1792	0	7.7542	7.7542
61.2	0.1788	0	7.745	7.745
61.2333	0.1782	0.0091	7.7463	7.7554
61.2667	0.1772	0	7.7568	7.7568
61.3	0.1762	0	7.7634	7.7634
61.3333	0.1782	0	7.7516	7.7516
61.3667	0.1795	0.0091	7.7542	7.7633
61.4	0.1775	0	7.7476	7.7476
61.4333	0.1798	0	7.7542	7.7542
61.4667	0.1795	0.0091	7.7634	7.7725
61.5	0.1792	0	7.7621	7.7621
61.5333	0.1805	0	7.7529	7.7529
61.5667	0.1788	0	7.7555	7.7555
61.6	0.1825	0	7.7608	7.7608

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
61.6333	0.1795	0.0091	7.7555	7.7646
61.6667	0.1782	0	7.766	7.766
61.7	0.1792	0.0091	7.7516	7.7607
61.7333	0.1805	0	7.7647	7.7647
61.7667	0.1805	0.0091	7.7621	7.7712
61.8	0.1792	0	7.77	7.77
61.8333	0.1792	0	7.7581	7.7581
61.8667	0.1759	0	7.7595	7.7595
61.9	0.1795	0	7.7634	7.7634
61.9333	0.1779	0	7.7568	7.7568
61.9667	0.1752	0.0091	7.7634	7.7725
62	0.1779	0.0091	7.7634	7.7725
62.0333	0.1779	0.0091	7.7581	7.7672
62.0667	0.1788	0	7.7673	7.7673
62.1	0.1798	0	7.7608	7.7608
62.1333	0.1811	0	7.7621	7.7621
62.1667	0.1779	0.0091	7.7608	7.7699
62.2	0.1772	0.0091	7.7568	7.7659
62.2333	0.1769	0	7.7726	7.7726
62.2667	0.1765	0	7.7687	7.7687
62.3	0.1795	0.0223	7.7713	7.7935
62.3333	0.1769	0.0091	7.7568	7.7659
62.3667	0.1779	0	7.7726	7.7726
62.4	0.1795	0.0223	7.7687	7.7909
62.4333	0.1808	0	7.7634	7.7634
62.4667	0.1792	0	7.7726	7.7726
62.5	0.1821	0	7.7647	7.7647
62.5333	0.1798	0	7.7713	7.7713
62.5667	0.1795	0	7.766	7.766
62.6	0.1775	0.0091	7.7765	7.7857
62.6333	0.1788	0	7.7739	7.7739
62.6667	0.1802	0.0091	7.7647	7.7738
62.7	0.1769	0	7.7805	7.7805
62.7333	0.1802	0	7.7687	7.7687
62.7667	0.1805	0	7.7726	7.7726
62.8	0.1805	0	7.7739	7.7739
62.8333	0.1785	0	7.7713	7.7713
62.8667	0.1798	0	7.7792	7.7792
62.9	0.1802	0.0091	7.7739	7.783
62.9333	0.1792	0.0091	7.7779	7.787
62.9667	0.1798	0	7.7779	7.7779
63	0.1785	0	7.7805	7.7805
63.0333	0.1798	0	7.7739	7.7739



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
63.0667	0.1802	0	7.7818	7.7818
63.1	0.1802	0	7.7713	7.7713
63.1333	0.1782	0	7.7765	7.7765
63.1667	0.1795	0.0091	7.7818	7.7909
63.2	0.1802	0.0091	7.7752	7.7843
63.2333	0.1821	0	7.7871	7.7871
63.2667	0.1811	0.0091	7.7831	7.7922
63.3	0.1795	0.0091	7.7844	7.7935
63.3333	0.1802	0	7.7858	7.7858
63.3667	0.1779	0	7.7844	7.7844
63.4	0.1818	0.0091	7.7805	7.7896
63.4333	0.1798	0	7.7858	7.7858
63.4667	0.1775	0	7.7752	7.7752
63.5	0.1802	0.0091	7.7831	7.7922
63.5333	0.1785	0	7.7805	7.7805
63.5667	0.1802	0	7.7871	7.7871
63.6	0.1769	0	7.7844	7.7844
63.6333	0.1772	0	7.7792	7.7792
63.6667	0.1772	0.0091	7.7779	7.787
63.7	0.1782	0	7.7779	7.7779
63.7333	0.1788	0	7.7792	7.7792
63.7667	0.1795	0	7.7818	7.7818
63.8	0.1798	0.0223	7.7831	7.8054
63.8333	0.1802	0.0091	7.7726	7.7817
63.8667	0.1782	0	7.7726	7.7726
63.9	0.1805	0.0091	7.7805	7.7896
63.9333	0.1828	0	7.7752	7.7752
63.9667	0.1808	0	7.7779	7.7779
64	0.1808	0	7.7765	7.7765
64.0333	0.1779	0	7.7884	7.7884
64.0667	0.1811	0	7.7831	7.7831
64.1	0.1779	0	7.795	7.795
64.1333	0.1785	0	7.7831	7.7831
64.1667	0.1811	0.0091	7.7871	7.7962
64.2	0.1769	0.0223	7.7858	7.808
64.2333	0.1798	0.0091	7.7844	7.7935
64.2667	0.1775	0	7.7936	7.7936
64.3	0.1798	0	7.7884	7.7884
64.3333	0.1788	0.0091	7.7884	7.7975
64.3667	0.1805	0	7.795	7.795
64.4	0.1818	0.0091	7.7858	7.7949
64.4333	0.1821	0	7.7897	7.7897
64.4667	0.1788	0	7.791	7.791

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
64.5	0.1775	0	7.7871	7.7871
64.5333	0.1775	0	7.7976	7.7976
64.5667	0.1802	0	7.7897	7.7897
64.6	0.1772	0.0091	7.7976	7.8067
64.6333	0.1795	0	7.7871	7.7871
64.6667	0.1802	0	7.7871	7.7871
64.7	0.1775	0	7.7897	7.7897
64.7333	0.1805	0	7.791	7.791
64.7667	0.1798	0	7.7884	7.7884
64.8	0.1805	0	7.7831	7.7831
64.8333	0.1805	0	7.7897	7.7897
64.8667	0.1769	0	7.791	7.791
64.9	0.1779	0.0223	7.7858	7.808
64.9333	0.1815	0	7.7923	7.7923
64.9667	0.1811	0.0091	7.7923	7.8014
65	0.1795	0	7.791	7.791
65.0333	0.1785	0	7.8015	7.8015
65.0667	0.1795	0	7.7936	7.7936
65.1	0.1779	0	7.7858	7.7858
65.1333	0.1798	0.0091	7.7858	7.7949
65.1667	0.1775	0	7.791	7.791
65.2	0.1825	0	7.7923	7.7923
65.2333	0.1818	0	7.7844	7.7844
65.2667	0.1808	0	7.7897	7.7897
65.3	0.1815	0	7.7936	7.7936
65.3333	0.1775	0.0091	7.7871	7.7962
65.3667	0.1798	0.0091	7.7963	7.8054
65.4	0.1798	0	7.7936	7.7936
65.4333	0.1802	0.0091	7.7871	7.7962
65.4667	0.1802	0	7.7963	7.7963
65.5	0.1769	0	7.7884	7.7884
65.5333	0.1792	0	7.7963	7.7963
65.5667	0.1782	0	7.8015	7.8015
65.6	0.1815	0.0091	7.7936	7.8027
65.6333	0.1775	0	7.7976	7.7976
65.6667	0.1805	0	7.7936	7.7936
65.7	0.1821	0.0091	7.7936	7.8027
65.7333	0.1811	0	7.7936	7.7936
65.7667	0.1798	0	7.7936	7.7936
65.8	0.1795	0	7.7884	7.7884
65.8333	0.1785	0	7.7936	7.7936
65.8667	0.1795	0.0091	7.795	7.8041
65.9	0.1818	0.0091	7.7923	7.8014

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
65.9333	0.1782	0	7.8002	7.8002
65.9667	0.1798	0	7.791	7.791
66	0.1802	0	7.791	7.791
66.0333	0.1795	0	7.7963	7.7963
66.0667	0.1779	0	7.8028	7.8028
66.1	0.1798	0	7.7923	7.7923
66.1333	0.1808	0.0091	7.8015	7.8106
66.1667	0.1821	0	7.7989	7.7989
66.2	0.1828	0	7.791	7.791
66.2333	0.1808	0	7.7923	7.7923
66.2667	0.1798	0	7.7936	7.7936
66.3	0.1811	0	7.7989	7.7989
66.3333	0.1769	0	7.7976	7.7976
66.3667	0.1779	0.0091	7.8094	7.8185
66.4	0.1788	0	7.8002	7.8002
66.4333	0.1798	0	7.8015	7.8015
66.4667	0.1795	0	7.7936	7.7936
66.5	0.1808	0	7.8002	7.8002
66.5333	0.1792	0	7.8028	7.8028
66.5667	0.1798	0	7.7963	7.7963
66.6	0.1798	0	7.7963	7.7963
66.6333	0.1798	0.0091	7.791	7.8001
66.6667	0.1779	0	7.7936	7.7936
66.7	0.1779	0.0091	7.8015	7.8106
66.7333	0.1769	0	7.7936	7.7936
66.7667	0.1785	0	7.7884	7.7884
66.8	0.1792	0.0223	7.7858	7.808
66.8333	0.1779	0	7.7963	7.7963
66.8667	0.1785	0	7.791	7.791
66.9	0.1802	0.0091	7.7897	7.7988
66.9333	0.1798	0.0091	7.7976	7.8067
66.9667	0.1811	0	7.791	7.791
67	0.1818	0	7.8028	7.8028
67.0333	0.1805	0.0091	7.7844	7.7935
67.0667	0.1802	0.0091	7.7884	7.7975
67.1	0.1775	0	7.7963	7.7963
67.1333	0.1808	0.0091	7.7923	7.8014
67.1667	0.1815	0.0091	7.7936	7.8027
67.2	0.1805	0.0091	7.7897	7.7988
67.2333	0.1805	0	7.7858	7.7858
67.2667	0.1792	0	7.7897	7.7897
67.3	0.1805	0	7.7936	7.7936
67.3333	0.1782	0.0091	7.7897	7.7988

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
67.3667	0.1828	0	7.7936	7.7936
67.4	0.1775	0	7.7871	7.7871
67.4333	0.1795	0.0091	7.7871	7.7962
67.4667	0.1815	0.0091	7.7963	7.8054
67.5	0.1802	0	7.791	7.791
67.5333	0.1782	0	7.7923	7.7923
67.5667	0.1815	0	7.7936	7.7936
67.6	0.1798	0	7.791	7.791
67.6333	0.1792	0.0091	7.7884	7.7975
67.6667	0.1775	0	7.7858	7.7858
67.7	0.1795	0	7.7831	7.7831
67.7333	0.1775	0.0091	7.7897	7.7988
67.7667	0.1805	0	7.7923	7.7923
67.8	0.1775	0.0091	7.791	7.8001
67.8333	0.1759	0	7.7805	7.7805
67.8667	0.1795	0.0091	7.7936	7.8027
67.9	0.1792	0.0091	7.7897	7.7988
67.9333	0.1792	0.0091	7.7897	7.7988
67.9667	0.1759	0	7.7936	7.7936
68	0.1802	0.0091	7.7858	7.7949
68.0333	0.1788	0	7.7963	7.7963
68.0667	0.1802	0.0091	7.7844	7.7935
68.1	0.1815	0	7.7871	7.7871
68.1333	0.1795	0	7.7884	7.7884
68.1667	0.1782	0	7.7884	7.7884
68.2	0.1811	0	7.7844	7.7844
68.2333	0.1798	0	7.7858	7.7858
68.2667	0.1785	0.0091	7.7884	7.7975
68.3	0.1828	0	7.7844	7.7844
68.3333	0.1785	0.0091	7.7858	7.7949
68.3667	0.1772	0	7.7792	7.7792
68.4	0.1782	0	7.7831	7.7831
68.4333	0.1818	0	7.7805	7.7805
68.4667	0.1765	0.0223	7.7805	7.8027
68.5	0.1795	0	7.7884	7.7884
68.5333	0.1828	0	7.791	7.791
68.5667	0.1805	0	7.7936	7.7936
68.6	0.1779	0	7.7792	7.7792
68.6333	0.1788	0	7.791	7.791
68.6667	0.1792	0	7.7858	7.7858
68.7	0.1811	0	7.7818	7.7818
68.7333	0.1782	0	7.7923	7.7923
68.7667	0.1795	0	7.7831	7.7831

Areva NP Inc.

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
68.8	0.1815	0.0091	7.7858	7.7949
68.8333	0.1782	0	7.7884	7.7884
68.8667	0.1815	0	7.7936	7.7936
68.9	0.1785	0	7.791	7.791
68.9333	0.1785	0	7.7805	7.7805
68.9667	0.1798	0.0091	7.7739	7.783
69	0.1775	0	7.7818	7.7818
69.0333	0.1788	0	7.7858	7.7858
69.0667	0.1795	0	7.7805	7.7805
69.1	0.1756	0.0223	7.7805	7.8027
69.1333	0.1775	0.0091	7.7844	7.7935
69.1667	0.1805	0	7.7792	7.7792
69.2	0.1792	0	7.7647	7.7647
69.2333	0.1782	0	7.7765	7.7765
69.2667	0.1775	0.0091	7.7765	7.7857
69.3	0.1788	0	7.7805	7.7805
69.3333	0.1811	0	7.7739	7.7739
69.3667	0.1779	0	7.7713	7.7713
69.4	0.1798	0.0091	7.7687	7.7778
69.4333	0.1802	0	7.77	7.77
69.4667	0.1782	0	7.7818	7.7818
69.5	0.1802	0	7.7818	7.7818
69.5333	0.1769	0	7.7831	7.7831
69.5667	0.1756	0	7.7765	7.7765
69.6	0.1802	0.0091	7.7831	7.7922
69.6333	0.1825	0.0091	7.7726	7.7817
69.6667	0.1779	0	7.7752	7.7752
69.7	0.1792	0	7.7818	7.7818
69.7333	0.1795	0	7.7765	7.7765
69.7667	0.1772	0	7.7831	7.7831
69.8	0.1792	0	7.7779	7.7779
69.8333	0.1769	0	7.7765	7.7765
69.8667	0.1775	0.0091	7.7765	7.7857
69.9	0.1782	0	7.7792	7.7792
69.9333	0.1772	0	7.7713	7.7713
69.9667	0.1811	0	7.7765	7.7765
70	0.1798	0	7.7739	7.7739
70.0333	0.1792	0.0091	7.7713	7.7804
70.0667	0.1811	0.0091	7.7739	7.783
70.1	0.1802	0	7.7726	7.7726
70.1333	0.1792	0	7.7739	7.7739
70.1667	0.1805	0	7.7726	7.7726
70.2	0.1838	0	7.7805	7.7805

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
70.2333	0.1877	0	7.7805	7.7805
70.2667	0.193	0	7.7884	7.7884
70.3	0.1966	0.0091	7.7963	7.8054
70.3333	0.2019	0	7.8134	7.8134
70.3667	0.2071	0	7.8213	7.8213
70.4	0.2101	0	7.8305	7.8305
70.4333	0.215	0.0091	7.8423	7.8514
70.4667	0.219	0.0091	7.8554	7.8645
70.5	0.2213	0.0091	7.8778	7.8869
70.5333	0.2243	0	7.8962	7.8962
70.5667	0.2289	0	7.9107	7.9107
70.6	0.2338	0	7.9357	7.9357
70.6333	0.2348	0	7.958	7.958
70.6667	0.2345	0	7.9777	7.9777
70.7	0.2411	0.0223	7.9975	8.0197
70.7333	0.2417	0	8.0172	8.0172
70.7667	0.2453	0	8.0395	8.0395
70.8	0.2447	0	8.0737	8.0737
70.8333	0.2473	0	8.0856	8.0856
70.8667	0.2503	0	8.1171	8.1171
70.9	0.2506	0.0091	8.1368	8.146
70.9333	0.2532	0	8.15	8.15
70.9667	0.2555	0.0091	8.1868	8.1959
71	0.2611	0	8.2092	8.2092
71.0333	0.2624	0.0091	8.2276	8.2367
71.0667	0.2615	0	8.2539	8.2539
71.1	0.2664	0	8.2776	8.2776
71.1333	0.2657	0	8.2986	8.2986
71.1667	0.2671	0	8.3249	8.3249
71.2	0.2661	0	8.342	8.342
71.2333	0.2664	0	8.3696	8.3696
71.2667	0.27	0	8.4025	8.4025
71.3	0.2703	0.0091	8.4183	8.4274
71.3333	0.272	0	8.4406	8.4406
71.3667	0.2746	0	8.4695	8.4695
71.4	0.2763	0	8.4985	8.4985
71.4333	0.2766	0.0091	8.5195	8.5286
71.4667	0.2776	0	8.5366	8.5366
71.5	0.2802	0	8.555	8.555
71.5333	0.2789	0.0091	8.5866	8.5957
71.5667	0.2799	0	8.6063	8.6063
71.6	0.2809	0	8.6339	8.6339
71.6333	0.2858	0	8.6628	8.6628



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
71.6667	0.2865	0.0091	8.6839	8.693
71.7	0.2865	0	8.7168	8.7168
71.7333	0.2878	0	8.7352	8.7352
71.7667	0.2878	0	8.7496	8.7496
71.8	0.2868	0	8.7707	8.7707
71.8333	0.2891	0	8.7983	8.7983
71.8667	0.2921	0	8.8193	8.8193
71.9	0.2904	0	8.8469	8.8469
71.9333	0.2924	0	8.8588	8.8588
71.9667	0.2917	0	8.8851	8.8851
72	0.2931	0.0091	8.9087	8.9178
72.0333	0.2947	0	8.9364	8.9364
72.0667	0.2954	0.0091	8.9574	8.9665
72.1	0.2973	0	8.9797	8.9797
72.1333	0.3003	0	9.0021	9.0021
72.1667	0.2954	0	9.0179	9.0179
72.2	0.2996	0.0091	9.0389	9.048
72.2333	0.2986	0	9.0757	9.0757
72.2667	0.2986	0	9.0836	9.0836
72.3	0.3026	0	9.1086	9.1086
72.3333	0.3016	0.0091	9.1336	9.1427
72.3667	0.3016	0	9.152	9.152
72.4	0.3039	0	9.1678	9.1678
72.4333	0.3056	0	9.1928	9.1928
72.4667	0.3033	0	9.2033	9.2033
72.5	0.3039	0	9.2349	9.2349
72.5333	0.3029	0	9.2559	9.2559
72.5667	0.3075	0	9.2743	9.2743
72.6	0.3072	0.0091	9.2914	9.3005
72.6333	0.3069	0	9.3151	9.3151
72.6667	0.3072	0	9.3322	9.3322
72.7	0.3065	0	9.3453	9.3453
72.7333	0.3085	0.0091	9.365	9.3741
72.7667	0.3095	0	9.3834	9.3834
72.8	0.3069	0.0091	9.4045	9.4136
72.8333	0.3049	0	9.4229	9.4229
72.8667	0.3069	0	9.44	9.44
72.9	0.3056	0	9.4571	9.4571
72.9333	0.3082	0	9.4742	9.4742
72.9667	0.3108	0.0091	9.4965	9.5056
73	0.3085	0	9.511	9.511
73.0333	0.3065	0	9.5255	9.5255
73.0667	0.3089	0	9.5412	9.5412

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
73.1	0.3105	0	9.5662	9.5662
73.1333	0.3121	0	9.5807	9.5807
73.1667	0.3115	0	9.5952	9.5952
73.2	0.3144	0	9.6162	9.6162
73.2333	0.3121	0	9.6359	9.6359
73.2667	0.3138	0.0091	9.6504	9.6595
73.3	0.3115	0	9.6609	9.6609
73.3333	0.3128	0	9.6806	9.6806
73.3667	0.3128	0	9.6951	9.6951
73.4	0.3161	0	9.7161	9.7161
73.4333	0.3125	0	9.7293	9.7293
73.4667	0.3164	0	9.7424	9.7424
73.5	0.3158	0	9.7582	9.7582
73.5333	0.3138	0	9.7819	9.7819
73.5667	0.3144	0.0091	9.7885	9.7976
73.6	0.3184	0.0091	9.8069	9.816
73.6333	0.3191	0.0091	9.8213	9.8304
73.6667	0.321	0	9.8437	9.8437
73.7	0.3187	0	9.8489	9.8489
73.7333	0.3181	0	9.8687	9.8687
73.7667	0.3177	0	9.8687	9.8687
73.8	0.3223	0.0091	9.895	9.9041
73.8333	0.3197	0	9.9107	9.9107
73.8667	0.3204	0	9.9252	9.9252
73.9	0.3204	0	9.9489	9.9489
73.9333	0.321	0	9.9463	9.9463
73.9667	0.3181	0	9.9712	9.9712
74	0.3197	0	9.9818	9.9818
74.0333	0.322	0	10.0067	10.0067
74.0667	0.323	0.0091	10.0238	10.0329
74.1	0.324	0	10.037	10.037
74.1333	0.3233	0	10.0528	10.0528
74.1667	0.3256	0.0091	10.058	10.0671
74.2	0.3253	0	10.0738	10.0738
74.2333	0.3263	0	10.0962	10.0962
74.2667	0.3283	0	10.0909	10.0909
74.3	0.326	0	10.1198	10.1198
74.3333	0.3283	0	10.133	10.133
74.3667	0.3289	0	10.1461	10.1461
74.4	0.3302	0	10.1711	10.1711
74.4333	0.327	0.0091	10.1711	10.1802
74.4667	0.3279	0	10.1895	10.1895
74.5	0.3293	0	10.2014	10.2014

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
74.5333	0.3279	0	10.2237	10.2237
74.5667	0.3312	0	10.2369	10.2369
74.6	0.3312	0.0091	10.2434	10.2525
74.6333	0.3302	0	10.2658	10.2658
74.6667	0.3319	0	10.2803	10.2803
74.7	0.3329	0	10.2934	10.2934
74.7333	0.3312	0	10.3039	10.3039
74.7667	0.3349	0.0091	10.3197	10.3288
74.8	0.3339	0	10.3237	10.3237
74.8333	0.3349	0.0091	10.3473	10.3564
74.8667	0.3365	0	10.371	10.371
74.9	0.3375	0	10.3828	10.3828
74.9333	0.3378	0	10.392	10.392
74.9667	0.3355	0	10.3999	10.3999
75	0.3355	0	10.4196	10.4196
75.0333	0.3368	0	10.4341	10.4341
75.0667	0.3411	0	10.4473	10.4473
75.1	0.3398	0	10.4551	10.4551
75.1333	0.3408	0.0091	10.4709	10.48
75.1667	0.3421	0	10.4946	10.4946
75.2	0.3404	0	10.5038	10.5038
75.2333	0.3395	0	10.517	10.517
75.2667	0.3401	0	10.5314	10.5314
75.3	0.3398	0	10.534	10.534
75.3333	0.3447	0	10.5393	10.5393
75.3667	0.3444	0.0091	10.5722	10.5813
75.4	0.347	0	10.5788	10.5788
75.4333	0.346	0.0091	10.5919	10.601
75.4667	0.3454	0	10.6024	10.6024
75.5	0.3418	0	10.6248	10.6248
75.5333	0.3457	0	10.634	10.634
75.5667	0.3444	0	10.6406	10.6406
75.6	0.346	0	10.6498	10.6498
75.6333	0.3454	0	10.6721	10.6721
75.6667	0.3454	0	10.6774	10.6774
75.7	0.3451	0.0091	10.6905	10.6996
75.7333	0.3457	0	10.701	10.701
75.7667	0.3464	0	10.726	10.726
75.8	0.3474	0	10.7221	10.7221
75.8333	0.3477	0	10.7444	10.7444
75.8667	0.346	0	10.751	10.751
75.9	0.348	0	10.7629	10.7629
75.9333	0.348	0	10.776	10.776

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
75.9667	0.3497	0	10.7931	10.7931
76	0.3493	0.0091	10.8102	10.8193
76.0333	0.3467	0	10.8089	10.8089
76.0667	0.348	0	10.826	10.826
76.1	0.35	0.0091	10.8312	10.8403
76.1333	0.349	0	10.847	10.847
76.1667	0.3493	0.0091	10.8562	10.8653
76.2	0.3487	0.0091	10.8759	10.885
76.2333	0.3513	0	10.8812	10.8812
76.2667	0.352	0	10.8838	10.8838
76.3	0.3546	0	10.9049	10.9049
76.3333	0.3516	0	10.9141	10.9141
76.3667	0.3507	0	10.9351	10.9351
76.4	0.3497	0	10.9351	10.9351
76.4333	0.3516	0	10.9299	10.9299
76.4667	0.3507	0	10.9535	10.9535
76.5	0.3543	0	10.9654	10.9654
76.5333	0.353	0	10.9785	10.9785
76.5667	0.3526	0	10.9943	10.9943
76.6	0.351	0	10.9943	10.9943
76.6333	0.351	0	10.9969	10.9969
76.6667	0.3516	0	11.0022	11.0022
76.7	0.353	0	11.0206	11.0206
76.7333	0.352	0	11.0272	11.0272
76.7667	0.349	0	11.0508	11.0508
76.8	0.353	0	11.0495	11.0495
76.8333	0.3513	0	11.0521	11.0521
76.8667	0.3543	0	11.0679	11.0679
76.9	0.3513	0	11.0771	11.0771
76.9333	0.3553	0.0091	11.0837	11.0928
76.9667	0.3516	0.0091	11.0955	11.1046
77	0.3543	0	11.1021	11.1021
77.0333	0.351	0	11.1126	11.1126
77.0667	0.3516	0.0091	11.1363	11.1454
77.1	0.3516	0	11.1468	11.1468
77.1333	0.3543	0.0091	11.1508	11.1599
77.1667	0.3526	0	11.1495	11.1495
77.2	0.3523	0	11.1679	11.1679
77.2333	0.3562	0	11.1823	11.1823
77.2667	0.3566	0.0223	11.1823	11.2046
77.3	0.353	0.0091	11.1968	11.2059
77.3333	0.3516	0	11.1981	11.1981
77.3667	0.3546	0.0091	11.2021	11.2112

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
77.4	0.3559	0	11.2178	11.2178
77.4333	0.3536	0	11.2231	11.2231
77.4667	0.3566	0.0091	11.2349	11.244
77.5	0.353	0	11.2402	11.2402
77.5333	0.3553	0	11.2494	11.2494
77.5667	0.3592	0.0091	11.2625	11.2716
77.6	0.3582	0.0091	11.2639	11.273
77.6333	0.3562	0	11.2625	11.2625
77.6667	0.3536	0.0091	11.2836	11.2927
77.7	0.3569	0	11.2967	11.2967
77.7333	0.3586	0	11.302	11.302
77.7667	0.3566	0	11.3125	11.3125
77.8	0.3569	0	11.323	11.323
77.8333	0.3589	0	11.3178	11.3178
77.8667	0.3572	0.0091	11.3243	11.3334
77.9	0.3582	0	11.3243	11.3243
77.9333	0.3579	0.0091	11.3388	11.3479
77.9667	0.3546	0	11.3441	11.3441
78	0.3562	0.0091	11.3546	11.3637
78.0333	0.3553	0	11.3704	11.3704
78.0667	0.3579	0	11.3704	11.3704
78.1	0.3572	0	11.3717	11.3717
78.1333	0.3586	0	11.3888	11.3888
78.1667	0.3582	0.0091	11.3993	11.4084
78.2	0.3579	0	11.3927	11.3927
78.2333	0.3595	0.0091	11.4124	11.4216
78.2667	0.3589	0	11.4124	11.4124
78.3	0.3592	0	11.4124	11.4124
78.3333	0.3589	0	11.4309	11.4309
78.3667	0.3582	0	11.4361	11.4361
78.4	0.3589	0	11.4361	11.4361
78.4333	0.3609	0	11.4506	11.4506
78.4667	0.3599	0.0091	11.465	11.4742
78.5	0.3622	0	11.4611	11.4611
78.5333	0.3622	0	11.4756	11.4756
78.5667	0.3632	0	11.4808	11.4808
78.6	0.3612	0	11.4861	11.4861
78.6333	0.3635	0.0091	11.4927	11.5018
78.6667	0.3615	0	11.5019	11.5019
78.7	0.3628	0	11.494	11.494
78.7333	0.3625	0.0091	11.5084	11.5175
78.7667	0.3602	0	11.5124	11.5124
78.8	0.3625	0	11.5295	11.5295

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
78.8333	0.3635	0	11.5321	11.5321
78.8667	0.3612	0	11.5321	11.5321
78.9	0.3622	0	11.5479	11.5479
78.9333	0.3605	0	11.5518	11.5518
78.9667	0.3605	0	11.5518	11.5518
79	0.3628	0	11.5755	11.5755
79.0333	0.3632	0	11.5676	11.5676
79.0667	0.3641	0	11.5781	11.5781
79.1	0.3615	0	11.5808	11.5808
79.1333	0.3628	0	11.5794	11.5794
79.1667	0.3622	0	11.5926	11.5926
79.2	0.3628	0	11.5992	11.5992
79.2333	0.3635	0	11.6044	11.6044
79.2667	0.3635	0.0091	11.611	11.6201
79.3	0.3618	0	11.6163	11.6163
79.3333	0.3618	0	11.6307	11.6307
79.3667	0.3628	0.0091	11.632	11.6412
79.4	0.3651	0	11.6281	11.6281
79.4333	0.3641	0	11.6413	11.6413
79.4667	0.3612	0	11.6452	11.6452
79.5	0.3635	0	11.6439	11.6439
79.5333	0.3615	0.0091	11.6583	11.6675
79.5667	0.3605	0	11.6715	11.6715
79.6	0.3638	0.0091	11.6715	11.6806
79.6333	0.3622	0	11.6728	11.6728
79.6667	0.3628	0.0091	11.6807	11.6898
79.7	0.3586	0	11.686	11.686
79.7333	0.3622	0	11.6846	11.6846
79.7667	0.3648	0.0091	11.6807	11.6898
79.8	0.3632	0	11.6978	11.6978
79.8333	0.3615	0	11.7057	11.7057
79.8667	0.3655	0	11.7123	11.7123
79.9	0.3648	0	11.7123	11.7123
79.9333	0.3615	0	11.732	11.732
79.9667	0.3648	0	11.7136	11.7136
80	0.3635	0	11.7241	11.7241
80.0333	0.3641	0	11.7359	11.7359
80.0667	0.3632	0	11.7386	11.7386
80.1	0.3651	0	11.7346	11.7346
80.1333	0.3638	0	11.7438	11.7438
80.1667	0.3661	0	11.7517	11.7517
80.2	0.3655	0	11.7557	11.7557
80.2333	0.3665	0	11.7622	11.7622



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
80.2667	0.3668	0	11.7701	11.7701
80.3	0.3625	0	11.7635	11.7635
80.3333	0.3635	0	11.7701	11.7701
80.3667	0.3648	0	11.7833	11.7833
80.4	0.3628	0	11.7806	11.7806
80.4333	0.3625	0	11.7806	11.7806
80.4667	0.3645	0	11.7977	11.7977
80.5	0.3638	0	11.7951	11.7951
80.5333	0.3628	0	11.8109	11.8109
80.5667	0.3678	0	11.8069	11.8069
80.6	0.3648	0	11.8017	11.8017
80.6333	0.3661	0	11.8122	11.8122
80.6667	0.3665	0	11.8201	11.8201
80.7	0.3641	0	11.8306	11.8306
80.7333	0.3622	0	11.8188	11.8188
80.7667	0.3668	0	11.8424	11.8424
80.8	0.3638	0.0223	11.8411	11.8634
80.8333	0.3641	0	11.8464	11.8464
80.8667	0.3665	0	11.8385	11.8385
80.9	0.3658	0	11.853	11.853
80.9333	0.3697	0	11.8595	11.8595
80.9667	0.3648	0	11.8503	11.8503
81	0.3665	0	11.8661	11.8661
81.0333	0.3661	0	11.8609	11.8609
81.0667	0.3671	0.0091	11.8674	11.8765
81.1	0.3671	0	11.8648	11.8648
81.1333	0.3668	0	11.8766	11.8766
81.1667	0.3668	0.0091	11.8766	11.8857
81.2	0.3641	0.0091	11.8727	11.8818
81.2333	0.3651	0	11.8885	11.8885
81.2667	0.3665	0	11.8832	11.8832
81.3	0.3681	0.0091	11.8911	11.9002
81.3333	0.3628	0	11.8964	11.8964
81.3667	0.3671	0	11.8964	11.8964
81.4	0.3665	0.0091	11.9016	11.9107
81.4333	0.3632	0	11.899	11.899
81.4667	0.3655	0	11.899	11.899
81.5	0.3645	0	11.9095	11.9095
81.5333	0.3625	0.0091	11.9095	11.9186
81.5667	0.3628	0.0091	11.9121	11.9212
81.6	0.3658	0.0091	11.9121	11.9212
81.6333	0.3697	0	11.9148	11.9148
81.6667	0.3668	0	11.9384	11.9384

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
81.7	0.3671	0	11.9266	11.9266
81.7333	0.3648	0	11.9398	11.9398
81.7667	0.3655	0.0091	11.9279	11.937
81.8	0.3688	0	11.945	11.945
81.8333	0.3684	0	11.9437	11.9437
81.8667	0.3665	0	11.9463	11.9463
81.9	0.3645	0.0091	11.945	11.9541
81.9333	0.3612	0	11.9529	11.9529
81.9667	0.3668	0	11.9595	11.9595
82	0.3651	0	11.9595	11.9595
82.0333	0.3632	0	11.9687	11.9687
82.0667	0.3684	0	11.9555	11.9555
82.1	0.3665	0	11.9634	11.9634
82.1333	0.3665	0	11.9674	11.9674
82.1667	0.3661	0	11.9831	11.9831
82.2	0.3671	0.0091	11.9713	11.9804
82.2333	0.3632	0	11.9753	11.9753
82.2667	0.3648	0	11.9779	11.9779
82.3	0.3648	0.0091	11.9858	11.9949
82.3333	0.3628	0	11.9818	11.9818
82.3667	0.3658	0.0091	11.9858	11.9949
82.4	0.3655	0	11.9871	11.9871
82.4333	0.3645	0.0091	11.9831	11.9923
82.4667	0.3671	0.0091	11.9976	12.0067
82.5	0.3648	0.0091	11.9989	12.008
82.5333	0.3658	0	11.9858	11.9858
82.5667	0.3638	0	12.0068	12.0068
82.6	0.3628	0.0091	12.0029	12.012
82.6333	0.3668	0	12.0042	12.0042
82.6667	0.3655	0	12.0094	12.0094
82.7	0.3668	0	12.0002	12.0002
82.7333	0.3651	0	11.9976	11.9976
82.7667	0.3658	0	12.0068	12.0068
82.8	0.3681	0	12.0173	12.0173
82.8333	0.3635	0	12.02	12.02
82.8667	0.3655	0.0091	12.0213	12.0304
82.9	0.3668	0	12.016	12.016
82.9333	0.3681	0	12.0226	12.0226
82.9667	0.3691	0	12.0252	12.0252
83	0.3688	0	12.0305	12.0305
83.0333	0.3655	0	12.0226	12.0226
83.0667	0.3635	0	12.0384	12.0384
83.1	0.3678	0	12.0252	12.0252

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
83.1333	0.3655	0.0091	12.0436	12.0527
83.1667	0.3668	0	12.0292	12.0292
83.2	0.3648	0	12.0344	12.0344
83.2333	0.3674	0	12.0384	12.0384
83.2667	0.3665	0.0091	12.0489	12.058
83.3	0.3655	0	12.0463	12.0463
83.3333	0.3661	0	12.0489	12.0489
83.3667	0.3658	0	12.0502	12.0502
83.4	0.3648	0	12.0528	12.0528
83.4333	0.3635	0	12.0476	12.0476
83.4667	0.3638	0	12.0397	12.0397
83.5	0.3665	0	12.0568	12.0568
83.5333	0.3655	0	12.0502	12.0502
83.5667	0.3661	0.0091	12.0502	12.0593
83.6	0.3641	0	12.0647	12.0647
83.6333	0.3665	0	12.062	12.062
83.6667	0.3628	0	12.0686	12.0686
83.7	0.3635	0	12.066	12.066
83.7333	0.3645	0	12.0726	12.0726
83.7667	0.3645	0	12.0647	12.0647
83.8	0.3645	0	12.0752	12.0752
83.8333	0.3655	0	12.0791	12.0791
83.8667	0.3628	0	12.0699	12.0699
83.9	0.3658	0	12.0726	12.0726
83.9333	0.3655	0.0091	12.0765	12.0856
83.9667	0.3648	0	12.0805	12.0805
84	0.3645	0	12.0805	12.0805
84.0333	0.3651	0.0091	12.0818	12.0909
84.0667	0.3635	0	12.0752	12.0752
84.1	0.3641	0	12.0791	12.0791
84.1333	0.3625	0	12.0778	12.0778
84.1667	0.3671	0	12.087	12.087
84.2	0.3635	0	12.0923	12.0923
84.2333	0.3651	0.0091	12.0949	12.104
84.2667	0.3632	0	12.0923	12.0923
84.3	0.3668	0.0091	12.0975	12.1067
84.3333	0.3655	0.0091	12.0857	12.0948
84.3667	0.3661	0	12.0936	12.0936
84.4	0.3651	0	12.1015	12.1015
84.4333	0.3658	0	12.1015	12.1015
84.4667	0.3638	0.0091	12.0883	12.0974
84.5	0.3635	0	12.1002	12.1002
84.5333	0.3668	0	12.1028	12.1028

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
84.5667	0.3668	0.0091	12.1146	12.1237
84.6	0.3655	0	12.1002	12.1002
84.6333	0.3615	0.0091	12.0923	12.1014
84.6667	0.3661	0	12.1081	12.1081
84.7	0.3645	0	12.1015	12.1015
84.7333	0.3655	0	12.0949	12.0949
84.7667	0.3638	0	12.0975	12.0975
84.8	0.3628	0	12.112	12.112
84.8333	0.3661	0	12.1094	12.1094
84.8667	0.3615	0	12.1002	12.1002
84.9	0.3641	0	12.1173	12.1173
84.9333	0.3632	0	12.1094	12.1094
84.9667	0.3655	0	12.1173	12.1173
85	0.3648	0	12.1068	12.1068
85.0333	0.3625	0	12.1186	12.1186
85.0667	0.3655	0.0091	12.1212	12.1303
85.1	0.3635	0	12.1186	12.1186
85.1333	0.3651	0	12.1094	12.1094
85.1667	0.3651	0.0091	12.1212	12.1303
85.2	0.3658	0	12.1199	12.1199
85.2333	0.3641	0	12.1344	12.1344
85.2667	0.3651	0	12.1186	12.1186
85.3	0.3618	0	12.1186	12.1186
85.3333	0.3658	0	12.1199	12.1199
85.3667	0.3625	0	12.1212	12.1212
85.4	0.3648	0	12.1238	12.1238
85.4333	0.3635	0.0091	12.1252	12.1343
85.4667	0.3658	0	12.1212	12.1212
85.5	0.3655	0	12.1265	12.1265
85.5333	0.3622	0	12.1291	12.1291
85.5667	0.3655	0.0091	12.1225	12.1316
85.6	0.3658	0	12.1331	12.1331
85.6333	0.3655	0	12.1436	12.1436
85.6667	0.3661	0	12.1317	12.1317
85.7	0.3615	0.0091	12.1462	12.1553
85.7333	0.3632	0	12.1357	12.1357
85.7667	0.3661	0	12.1317	12.1317
85.8	0.3661	0.0091	12.1357	12.1448
85.8333	0.3625	0.0091	12.1331	12.1422
85.8667	0.3645	0	12.1344	12.1344
85.9	0.3635	0	12.1344	12.1344
85.9333	0.3668	0	12.1409	12.1409
85.9667	0.3668	0	12.1331	12.1331

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
86	0.3665	0	12.1357	12.1357
86.0333	0.3641	0.0091	12.1357	12.1448
86.0667	0.3628	0	12.1383	12.1383
86.1	0.3665	0	12.1449	12.1449
86.1333	0.3648	0	12.1554	12.1554
86.1667	0.3641	0.0091	12.1488	12.1579
86.2	0.3648	0	12.1409	12.1409
86.2333	0.3665	0.0091	12.1423	12.1514
86.2667	0.3648	0	12.1304	12.1304
86.3	0.3628	0.0091	12.1409	12.15
86.3333	0.3658	0	12.1488	12.1488
86.3667	0.3645	0	12.1409	12.1409
86.4	0.3661	0.0091	12.1409	12.15
86.4333	0.3618	0.0091	12.1396	12.1487
86.4667	0.3645	0	12.1409	12.1409
86.5	0.3658	0	12.1423	12.1423
86.5333	0.3645	0	12.1396	12.1396
86.5667	0.3638	0	12.1488	12.1488
86.6	0.3622	0	12.1383	12.1383
86.6333	0.3628	0	12.1567	12.1567
86.6667	0.3645	0	12.1501	12.1501
86.7	0.3635	0	12.158	12.158
86.7333	0.3658	0.0091	12.1383	12.1474
86.7667	0.3651	0.0091	12.1567	12.1658
86.8	0.3655	0	12.1475	12.1475
86.8333	0.3622	0.0091	12.158	12.1671
86.8667	0.3632	0.0091	12.1475	12.1566
86.9	0.3609	0	12.1449	12.1449
86.9333	0.3641	0	12.1462	12.1462
86.9667	0.3648	0	12.1554	12.1554
87	0.3632	0	12.1357	12.1357
87.0333	0.3645	0	12.1423	12.1423
87.0667	0.3609	0	12.1436	12.1436
87.1	0.3641	0	12.1515	12.1515
87.1333	0.3641	0	12.1501	12.1501
87.1667	0.3635	0	12.1501	12.1501
87.2	0.3635	0	12.162	12.162
87.2333	0.3628	0	12.1567	12.1567
87.2667	0.3655	0	12.1436	12.1436
87.3	0.3632	0	12.1488	12.1488
87.3333	0.3641	0	12.1501	12.1501
87.3667	0.3622	0	12.1554	12.1554
87.4	0.3655	0	12.1501	12.1501

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
87.4333	0.3645	0.0091	12.1633	12.1724
87.4667	0.3635	0	12.1515	12.1515
87.5	0.3635	0	12.1488	12.1488
87.5333	0.3625	0	12.158	12.158
87.5667	0.3648	0.0091	12.1515	12.1606
87.6	0.3609	0	12.162	12.162
87.6333	0.3632	0	12.1594	12.1594
87.6667	0.3635	0	12.1541	12.1541
87.7	0.3651	0	12.1515	12.1515
87.7333	0.3641	0	12.1607	12.1607
87.7667	0.3635	0.0091	12.1541	12.1632
87.8	0.3638	0	12.1488	12.1488
87.8333	0.3641	0	12.1449	12.1449
87.8667	0.3612	0.0091	12.1528	12.1619
87.9	0.3628	0	12.1488	12.1488
87.9333	0.3655	0	12.1554	12.1554
87.9667	0.3671	0	12.1541	12.1541
88	0.3641	0	12.1409	12.1409
88.0333	0.3655	0	12.1541	12.1541
88.0667	0.3661	0	12.1567	12.1567
88.1	0.3648	0	12.1528	12.1528
88.1333	0.3648	0	12.1501	12.1501
88.1667	0.3635	0	12.1554	12.1554
88.2	0.3641	0	12.1488	12.1488
88.2333	0.3635	0	12.1436	12.1436
88.2667	0.3609	0	12.1567	12.1567
88.3	0.3635	0	12.1541	12.1541
88.3333	0.3628	0	12.1515	12.1515
88.3667	0.3625	0	12.1515	12.1515
88.4	0.3655	0	12.158	12.158
88.4333	0.3645	0	12.1633	12.1633
88.4667	0.3645	0	12.1567	12.1567
88.5	0.3645	0	12.1528	12.1528
88.5333	0.3648	0	12.1501	12.1501
88.5667	0.3625	0	12.1515	12.1515
88.6	0.3635	0	12.1699	12.1699
88.6333	0.3638	0	12.162	12.162
88.6667	0.3638	0	12.1528	12.1528
88.7	0.3635	0	12.1607	12.1607
88.7333	0.3648	0	12.1515	12.1515
88.7667	0.3638	0.0091	12.1541	12.1632
88.8	0.3622	0	12.1594	12.1594
88.8333	0.3651	0	12.1488	12.1488



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
88.8667	0.3645	0	12.1528	12.1528
88.9	0.3625	0	12.1528	12.1528
88.9333	0.3625	0.0091	12.1554	12.1645
88.9667	0.3625	0.0091	12.1501	12.1593
89	0.3661	0	12.1541	12.1541
89.0333	0.3661	0	12.1488	12.1488
89.0667	0.3641	0	12.1594	12.1594
89.1	0.3655	0.0091	12.1488	12.1579
89.1333	0.3625	0.0091	12.1488	12.1579
89.1667	0.3628	0.0091	12.1594	12.1685
89.2	0.3655	0.0091	12.1515	12.1606
89.2333	0.3638	0.0091	12.1488	12.1579
89.2667	0.3655	0	12.1567	12.1567
89.3	0.3655	0	12.158	12.158
89.3333	0.3681	0	12.1462	12.1462
89.3667	0.3638	0	12.1462	12.1462
89.4	0.3641	0.0091	12.1423	12.1514
89.4333	0.3665	0	12.1554	12.1554
89.4667	0.3625	0	12.1541	12.1541
89.5	0.3622	0.0091	12.1462	12.1553
89.5333	0.3661	0	12.1554	12.1554
89.5667	0.3635	0	12.1528	12.1528
89.6	0.3658	0	12.1449	12.1449
89.6333	0.3651	0.0223	12.1501	12.1724
89.6667	0.3632	0	12.1475	12.1475
89.7	0.3671	0	12.1409	12.1409
89.7333	0.3609	0.0091	12.1383	12.1474
89.7667	0.3671	0	12.1449	12.1449
89.8	0.3671	0.0091	12.1541	12.1632
89.8333	0.3638	0	12.1541	12.1541
89.8667	0.3641	0	12.1541	12.1541
89.9	0.3638	0	12.158	12.158
89.9333	0.3628	0	12.1541	12.1541
89.9667	0.3635	0	12.1633	12.1633
90	0.3632	0.0091	12.1475	12.1566
90.0333	0.3651	0	12.1449	12.1449
90.0667	0.3638	0	12.1449	12.1449
90.1	0.3632	0.0091	12.1594	12.1685
90.1333	0.3665	0	12.1488	12.1488
90.1667	0.3628	0.0223	12.1686	12.1908
90.2	0.3615	0	12.1541	12.1541
90.2333	0.3635	0.0091	12.1488	12.1579
90.2667	0.3628	0	12.1567	12.1567

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
90.3	0.3648	0.0223	12.1515	12.1737
90.3333	0.3612	0	12.1554	12.1554
90.3667	0.3635	0	12.1501	12.1501
90.4	0.3658	0	12.1515	12.1515
90.4333	0.3658	0	12.1396	12.1396
90.4667	0.3615	0.0354	12.1423	12.1777
90.5	0.3655	0	12.1475	12.1475
90.5333	0.3632	0.0091	12.1554	12.1645
90.5667	0.3665	0	12.1594	12.1594
90.6	0.3651	0	12.1515	12.1515
90.6333	0.3665	0	12.1515	12.1515
90.6667	0.3651	0	12.1488	12.1488
90.7	0.3632	0	12.1383	12.1383
90.7333	0.3661	0	12.1462	12.1462
90.7667	0.3658	0	12.1436	12.1436
90.8	0.3635	0.0091	12.1396	12.1487
90.8333	0.3632	0	12.1488	12.1488
90.8667	0.3638	0	12.1436	12.1436
90.9	0.3648	0	12.1501	12.1501
90.9333	0.3651	0	12.1515	12.1515
90.9667	0.3638	0	12.1488	12.1488
91	0.3661	0	12.1515	12.1515
91.0333	0.3622	0.0091	12.1462	12.1553
91.0667	0.3625	0.0091	12.1383	12.1474
91.1	0.3632	0	12.1436	12.1436
91.1333	0.3628	0	12.1436	12.1436
91.1667	0.3661	0.0091	12.1436	12.1527
91.2	0.3632	0	12.1541	12.1541
91.2333	0.3622	0	12.1423	12.1423
91.2667	0.3668	0.0091	12.1541	12.1632
91.3	0.3628	0	12.158	12.158
91.3333	0.3622	0.0091	12.1449	12.154
91.3667	0.3622	0.0091	12.1436	12.1527
91.4	0.3632	0	12.1541	12.1541
91.4333	0.3661	0.0091	12.1423	12.1514
91.4667	0.3622	0	12.1449	12.1449
91.5	0.3645	0	12.1541	12.1541
91.5333	0.3648	0	12.1594	12.1594
91.5667	0.3638	0.0223	12.1344	12.1566
91.6	0.3678	0.0091	12.1436	12.1527
91.6333	0.3648	0	12.1475	12.1475
91.6667	0.3625	0	12.1488	12.1488
91.7	0.3628	0	12.1449	12.1449

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
91.7333	0.3628	0	12.1462	12.1462
91.7667	0.3641	0.0091	12.1462	12.1553
91.8	0.3635	0	12.1317	12.1317
91.8333	0.3645	0	12.1304	12.1304
91.8667	0.3609	0	12.1462	12.1462
91.9	0.3648	0	12.1488	12.1488
91.9333	0.3638	0	12.1409	12.1409
91.9667	0.3612	0.0091	12.1475	12.1566
92	0.3622	0	12.1462	12.1462
92.0333	0.3645	0	12.1331	12.1331
92.0667	0.3622	0	12.1409	12.1409
92.1	0.3605	0	12.1449	12.1449
92.1333	0.3632	0	12.1462	12.1462
92.1667	0.3668	0	12.1423	12.1423
92.2	0.3628	0	12.1238	12.1238
92.2333	0.3632	0	12.1409	12.1409
92.2667	0.3641	0	12.1278	12.1278
92.3	0.3605	0	12.1304	12.1304
92.3333	0.3641	0	12.1278	12.1278
92.3667	0.3651	0	12.1423	12.1423
92.4	0.3665	0	12.1436	12.1436
92.4333	0.3638	0	12.1383	12.1383
92.4667	0.3645	0	12.1238	12.1238
92.5	0.3632	0.0091	12.1304	12.1395
92.5333	0.3638	0	12.1396	12.1396
92.5667	0.3615	0	12.1278	12.1278
92.6	0.3648	0.0091	12.1383	12.1474
92.6333	0.3628	0	12.1383	12.1383
92.6667	0.3648	0	12.1409	12.1409
92.7	0.3635	0	12.1317	12.1317
92.7333	0.3655	0	12.1304	12.1304
92.7667	0.3641	0.0091	12.1357	12.1448
92.8	0.3641	0.0091	12.1331	12.1422
92.8333	0.3618	0	12.1225	12.1225
92.8667	0.3635	0	12.1515	12.1515
92.9	0.3622	0	12.1344	12.1344
92.9333	0.3618	0.0091	12.1317	12.1408
92.9667	0.3605	0	12.1304	12.1304
93	0.3625	0	12.1304	12.1304
93.0333	0.3628	0	12.1291	12.1291
93.0667	0.3661	0	12.1291	12.1291
93.1	0.3615	0	12.1331	12.1331
93.1333	0.3635	0	12.1278	12.1278

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
93.1667	0.3638	0.0091	12.1331	12.1422
93.2	0.3648	0	12.1225	12.1225
93.2333	0.3655	0	12.1278	12.1278
93.2667	0.3658	0	12.1291	12.1291
93.3	0.3661	0	12.1304	12.1304
93.3333	0.3618	0	12.1317	12.1317
93.3667	0.3645	0.0091	12.1278	12.1369
93.4	0.3618	0	12.1278	12.1278
93.4333	0.3618	0	12.1304	12.1304
93.4667	0.3632	0.0091	12.1317	12.1408
93.5	0.3635	0	12.1331	12.1331
93.5333	0.3609	0	12.1331	12.1331
93.5667	0.3622	0	12.1291	12.1291
93.6	0.3641	0	12.1252	12.1252
93.6333	0.3625	0	12.1291	12.1291
93.6667	0.3655	0	12.1225	12.1225
93.7	0.3625	0.0091	12.1225	12.1316
93.7333	0.3635	0	12.1278	12.1278
93.7667	0.3605	0	12.1357	12.1357
93.8	0.3638	0	12.1186	12.1186
93.8333	0.3628	0	12.1265	12.1265
93.8667	0.3638	0	12.1238	12.1238
93.9	0.3651	0.0091	12.1265	12.1356
93.9333	0.3612	0	12.1317	12.1317
93.9667	0.3665	0	12.1278	12.1278
94	0.3641	0	12.1278	12.1278
94.0333	0.3665	0	12.1225	12.1225
94.0667	0.3618	0	12.1317	12.1317
94.1	0.3625	0	12.1357	12.1357
94.1333	0.3625	0	12.1238	12.1238
94.1667	0.3638	0	12.1331	12.1331
94.2	0.3648	0	12.1238	12.1238
94.2333	0.3638	0	12.1278	12.1278
94.2667	0.3635	0	12.1225	12.1225
94.3	0.3635	0	12.1344	12.1344
94.3333	0.3651	0	12.1252	12.1252
94.3667	0.3648	0	12.1304	12.1304
94.4	0.3618	0	12.1278	12.1278
94.4333	0.3655	0	12.1331	12.1331
94.4667	0.3628	0	12.1278	12.1278
94.5	0.3648	0	12.1173	12.1173
94.5333	0.3609	0.0091	12.1199	12.129
94.5667	0.3635	0.0091	12.1304	12.1395

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
94.6	0.3648	0	12.1291	12.1291
94.6333	0.3625	0	12.1344	12.1344
94.6667	0.3635	0	12.1252	12.1252
94.7	0.3622	0	12.1252	12.1252
94.7333	0.3618	0.0091	12.1344	12.1435
94.7667	0.3648	0	12.1252	12.1252
94.8	0.3615	0	12.1146	12.1146
94.8333	0.3615	0.0091	12.1278	12.1369
94.8667	0.3628	0	12.1225	12.1225
94.9	0.3618	0	12.1278	12.1278
94.9333	0.3628	0	12.1173	12.1173
94.9667	0.3615	0	12.1357	12.1357
95	0.3628	0	12.116	12.116
95.0333	0.3651	0	12.1278	12.1278
95.0667	0.3648	0	12.1291	12.1291
95.1	0.3628	0	12.1186	12.1186
95.1333	0.3648	0	12.1199	12.1199
95.1667	0.3632	0	12.1252	12.1252
95.2	0.3618	0	12.1278	12.1278
95.2333	0.3641	0	12.1225	12.1225
95.2667	0.3605	0	12.116	12.116
95.3	0.3641	0	12.116	12.116
95.3333	0.3655	0.0091	12.1291	12.1382
95.3667	0.3615	0	12.1225	12.1225
95.4	0.3641	0	12.1317	12.1317
95.4333	0.3628	0.0091	12.1212	12.1303
95.4667	0.3638	0	12.1199	12.1199
95.5	0.3645	0	12.1304	12.1304
95.5333	0.3638	0	12.1291	12.1291
95.5667	0.3605	0	12.1304	12.1304
95.6	0.3635	0	12.1238	12.1238
95.6333	0.3635	0	12.116	12.116
95.6667	0.3635	0	12.1331	12.1331
95.7	0.3648	0	12.1146	12.1146
95.7333	0.3641	0	12.1238	12.1238
95.7667	0.3632	0	12.1238	12.1238
95.8	0.3655	0	12.1252	12.1252
95.8333	0.3641	0	12.1238	12.1238
95.8667	0.3628	0	12.1252	12.1252
95.9	0.3632	0	12.1278	12.1278
95.9333	0.3632	0	12.1173	12.1173
95.9667	0.3618	0	12.1278	12.1278
96	0.3648	0.0223	12.1238	12.1461

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
96.0333	0.3628	0.0091	12.116	12.1251
96.0667	0.3641	0	12.1225	12.1225
96.1	0.3645	0	12.1238	12.1238
96.1333	0.3655	0	12.1212	12.1212
96.1667	0.3632	0	12.1186	12.1186
96.2	0.3641	0	12.1212	12.1212
96.2333	0.3651	0	12.1225	12.1225
96.2667	0.3651	0	12.1199	12.1199
96.3	0.3612	0	12.1133	12.1133
96.3333	0.3651	0	12.1146	12.1146
96.3667	0.3645	0	12.1317	12.1317
96.4	0.3628	0	12.1199	12.1199
96.4333	0.3628	0.0091	12.1252	12.1343
96.4667	0.3658	0	12.1278	12.1278
96.5	0.3641	0	12.1133	12.1133
96.5333	0.3635	0	12.1199	12.1199
96.5667	0.3622	0.0091	12.1278	12.1369
96.6	0.3632	0.0091	12.1238	12.133
96.6333	0.3658	0	12.1041	12.1041
96.6667	0.3648	0	12.1186	12.1186
96.7	0.3658	0	12.1317	12.1317
96.7333	0.3632	0	12.1133	12.1133
96.7667	0.3628	0	12.1146	12.1146
96.8	0.3628	0	12.1278	12.1278
96.8333	0.3628	0	12.1146	12.1146
96.8667	0.3625	0	12.1094	12.1094
96.9	0.3655	0	12.1199	12.1199
96.9333	0.3625	0	12.1252	12.1252
96.9667	0.3638	0	12.1146	12.1146
97	0.3645	0	12.112	12.112
97.0333	0.3615	0	12.1173	12.1173
97.0667	0.3612	0.0091	12.1133	12.1224
97.1	0.3638	0	12.1199	12.1199
97.1333	0.3661	0	12.112	12.112
97.1667	0.3632	0.0091	12.1094	12.1185
97.2	0.3635	0	12.112	12.112
97.2333	0.3648	0	12.1186	12.1186
97.2667	0.3648	0.0091	12.1107	12.1198
97.3	0.3635	0.0091	12.1133	12.1224
97.3333	0.3618	0	12.112	12.112
97.3667	0.3625	0	12.1133	12.1133
97.4	0.3605	0	12.1068	12.1068
97.4333	0.3625	0.0091	12.1133	12.1224



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
97.4667	0.3635	0	12.1173	12.1173
97.5	0.3655	0	12.116	12.116
97.5333	0.3622	0	12.1068	12.1068
97.5667	0.3618	0	12.1173	12.1173
97.6	0.3615	0.0091	12.1199	12.129
97.6333	0.3609	0	12.112	12.112
97.6667	0.3625	0	12.1225	12.1225
97.7	0.3641	0	12.1199	12.1199
97.7333	0.3655	0	12.1094	12.1094
97.7667	0.3632	0	12.1133	12.1133
97.8	0.3618	0	12.0975	12.0975
97.8333	0.3658	0	12.1068	12.1068
97.8667	0.3628	0.0091	12.1094	12.1185
97.9	0.3628	0	12.1173	12.1173
97.9333	0.3645	0	12.116	12.116
97.9667	0.3622	0	12.112	12.112
98	0.3618	0.0091	12.1173	12.1264
98.0333	0.3632	0.0091	12.1041	12.1132
98.0667	0.3605	0	12.1068	12.1068
98.1	0.3638	0	12.1173	12.1173
98.1333	0.3635	0	12.1094	12.1094
98.1667	0.3628	0	12.1068	12.1068
98.2	0.3632	0.0091	12.1068	12.1159
98.2333	0.3609	0	12.112	12.112
98.2667	0.3612	0	12.1041	12.1041
98.3	0.3602	0	12.1028	12.1028
98.3333	0.3622	0.0091	12.1094	12.1185
98.3667	0.3609	0	12.0975	12.0975
98.4	0.3645	0	12.1094	12.1094
98.4333	0.3638	0	12.1041	12.1041
98.4667	0.3622	0	12.1173	12.1173
98.5	0.3615	0	12.0975	12.0975
98.5333	0.3628	0	12.1068	12.1068
98.5667	0.3602	0	12.0975	12.0975
98.6	0.3645	0	12.1068	12.1068
98.6333	0.3628	0	12.1002	12.1002
98.6667	0.3628	0	12.1002	12.1002
98.7	0.3628	0.0091	12.0936	12.1027
98.7333	0.3635	0	12.0962	12.0962
98.7667	0.3612	0	12.0831	12.0831
98.8	0.3615	0.0091	12.0857	12.0948
98.8333	0.3625	0	12.0936	12.0936
98.8667	0.3602	0.0091	12.0962	12.1053

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
98.9	0.3645	0.0091	12.0949	12.104
98.9333	0.3632	0	12.0752	12.0752
98.9667	0.3592	0	12.0897	12.0897
99	0.3615	0	12.0923	12.0923
99.0333	0.3622	0	12.0949	12.0949
99.0667	0.3586	0	12.091	12.091
99.1	0.3589	0	12.0923	12.0923
99.1333	0.3612	0	12.0923	12.0923
99.1667	0.3635	0	12.1002	12.1002
99.2	0.3651	0	12.0857	12.0857
99.2333	0.3612	0	12.1041	12.1041
99.2667	0.3625	0.0091	12.0805	12.0896
99.3	0.3632	0	12.0975	12.0975
99.3333	0.3605	0.0091	12.091	12.1001
99.3667	0.3622	0.0091	12.091	12.1001
99.4	0.3622	0	12.0857	12.0857
99.4333	0.3622	0	12.091	12.091
99.4667	0.3609	0	12.1028	12.1028
99.5	0.3595	0.0091	12.0975	12.1067
99.5333	0.3615	0	12.0923	12.0923
99.5667	0.3648	0	12.0844	12.0844
99.6	0.3641	0.0223	12.1002	12.1224
99.6333	0.3648	0	12.1054	12.1054
99.6667	0.3641	0.0091	12.0923	12.1014
99.7	0.3618	0	12.0883	12.0883
99.7333	0.3622	0	12.0883	12.0883
99.7667	0.3609	0	12.1054	12.1054
99.8	0.3599	0.0091	12.0936	12.1027
99.8333	0.3635	0.0091	12.0975	12.1067
99.8667	0.3599	0	12.0831	12.0831
99.9	0.3612	0	12.0923	12.0923
99.9333	0.3595	0	12.0883	12.0883
99.9667	0.3622	0	12.087	12.087
100	0.3632	0	12.087	12.087
100.0333	0.3602	0	12.0857	12.0857
100.0667	0.3602	0.0091	12.0857	12.0948
100.1	0.3622	0	12.0791	12.0791
100.1333	0.3632	0	12.0805	12.0805
100.1667	0.3615	0	12.0831	12.0831
100.2	0.3622	0	12.0923	12.0923
100.2333	0.3589	0	12.0883	12.0883
100.2667	0.3599	0	12.0962	12.0962
100.3	0.3582	0	12.0778	12.0778

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
100.3333	0.3602	0	12.0844	12.0844
100.3667	0.3602	0	12.0818	12.0818
100.4	0.3602	0	12.0857	12.0857
100.4333	0.3612	0	12.0844	12.0844
100.4667	0.3609	0	12.0752	12.0752
100.5	0.3602	0	12.0752	12.0752
100.5333	0.3572	0	12.091	12.091
100.5667	0.3625	0	12.0673	12.0673
100.6	0.3595	0	12.0778	12.0778
100.6333	0.3589	0	12.0844	12.0844
100.6667	0.3595	0	12.0752	12.0752
100.7	0.3605	0	12.0805	12.0805
100.7333	0.3628	0	12.0673	12.0673
100.7667	0.3592	0.0091	12.0673	12.0764
100.8	0.3602	0.0091	12.0831	12.0922
100.8333	0.3609	0	12.0831	12.0831
100.8667	0.3615	0	12.0765	12.0765
100.9	0.3618	0	12.0752	12.0752
100.9333	0.3612	0.0091	12.0713	12.0804
100.9667	0.3602	0.0091	12.0818	12.0909
101	0.3615	0	12.0686	12.0686
101.0333	0.3625	0	12.0791	12.0791
101.0667	0.3592	0	12.0647	12.0647
101.1	0.3582	0.0223	12.0752	12.0974
101.1333	0.3618	0	12.0818	12.0818
101.1667	0.3622	0.0091	12.0818	12.0909
101.2	0.3576	0	12.0752	12.0752
101.2333	0.3595	0.0091	12.0686	12.0777
101.2667	0.3586	0	12.0713	12.0713
101.3	0.3615	0	12.0739	12.0739
101.3333	0.3618	0	12.0713	12.0713
101.3667	0.3625	0	12.0686	12.0686
101.4	0.3609	0	12.0594	12.0594
101.4333	0.3618	0	12.0726	12.0726
101.4667	0.3618	0	12.0647	12.0647
101.5	0.3576	0	12.0699	12.0699
101.5333	0.3605	0	12.0699	12.0699
101.5667	0.3576	0	12.0555	12.0555
101.6	0.3628	0	12.0765	12.0765
101.6333	0.3602	0	12.0686	12.0686
101.6667	0.3641	0	12.0673	12.0673
101.7	0.3595	0	12.0581	12.0581
101.7333	0.3599	0	12.066	12.066

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
101.7667	0.3605	0	12.0752	12.0752
101.8	0.3641	0	12.0765	12.0765
101.8333	0.3625	0.0091	12.0594	12.0685
101.8667	0.3609	0	12.0686	12.0686
101.9	0.3632	0	12.0699	12.0699
101.9333	0.3632	0.0091	12.0673	12.0764
101.9667	0.3632	0	12.0726	12.0726
102	0.3605	0.0091	12.0699	12.079
102.0333	0.3618	0	12.062	12.062
102.0667	0.3638	0	12.0581	12.0581
102.1	0.3625	0	12.0607	12.0607
102.1333	0.3628	0	12.0594	12.0594
102.1667	0.3628	0	12.062	12.062
102.2	0.3635	0	12.0515	12.0515
102.2333	0.3609	0	12.0568	12.0568
102.2667	0.3628	0	12.0673	12.0673
102.3	0.3609	0.0091	12.0528	12.0619
102.3333	0.3589	0.0091	12.0528	12.0619
102.3667	0.3632	0.0091	12.0489	12.058
102.4	0.3625	0	12.0568	12.0568
102.4333	0.3609	0	12.0568	12.0568
102.4667	0.3605	0	12.0542	12.0542
102.5	0.3618	0	12.0568	12.0568
102.5333	0.3582	0	12.0476	12.0476
102.5667	0.3615	0	12.0515	12.0515
102.6	0.3605	0.0091	12.0555	12.0646
102.6333	0.3599	0.0091	12.0489	12.058
102.6667	0.3622	0	12.0463	12.0463
102.7	0.3595	0	12.0555	12.0555
102.7333	0.3651	0	12.0489	12.0489
102.7667	0.3635	0.0091	12.0489	12.058
102.8	0.3615	0	12.0436	12.0436
102.8333	0.3612	0	12.0397	12.0397
102.8667	0.3605	0	12.0463	12.0463
102.9	0.3635	0.0091	12.0502	12.0593
102.9333	0.3615	0	12.0463	12.0463
102.9667	0.3615	0	12.0568	12.0568
103	0.3635	0	12.0489	12.0489
103.0333	0.3586	0	12.0436	12.0436
103.0667	0.3612	0.0091	12.0542	12.0633
103.1	0.3605	0	12.0568	12.0568
103.1333	0.3612	0	12.0476	12.0476
103.1667	0.3595	0	12.0463	12.0463

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
103.2	0.3622	0	12.0515	12.0515
103.2333	0.3618	0	12.0436	12.0436
103.2667	0.3622	0	12.0594	12.0594
103.3	0.3622	0	12.0489	12.0489
103.3333	0.3638	0	12.0397	12.0397
103.3667	0.3625	0	12.045	12.045
103.4	0.3648	0.0091	12.0502	12.0593
103.4333	0.3625	0	12.0371	12.0371
103.4667	0.3602	0	12.0515	12.0515
103.5	0.3592	0	12.0436	12.0436
103.5333	0.3595	0	12.0397	12.0397
103.5667	0.3602	0	12.0489	12.0489
103.6	0.3615	0.0091	12.0568	12.0659
103.6333	0.3628	0.0091	12.0463	12.0554
103.6667	0.3595	0	12.0436	12.0436
103.7	0.3628	0	12.0344	12.0344
103.7333	0.3586	0	12.0502	12.0502
103.7667	0.3576	0	12.0568	12.0568
103.8	0.3632	0.0091	12.0463	12.0554
103.8333	0.3595	0	12.041	12.041
103.8667	0.3622	0	12.0397	12.0397
103.9	0.3602	0	12.041	12.041
103.9333	0.3595	0	12.041	12.041
103.9667	0.3625	0	12.0331	12.0331
104	0.3586	0	12.0357	12.0357
104.0333	0.3605	0	12.0384	12.0384
104.0667	0.3572	0	12.0436	12.0436
104.1	0.3595	0	12.0357	12.0357
104.1333	0.3586	0	12.045	12.045
104.1667	0.3592	0.0223	12.041	12.0633
104.2	0.3615	0	12.0397	12.0397
104.2333	0.3609	0	12.0436	12.0436
104.2667	0.3615	0	12.0384	12.0384
104.3	0.3622	0	12.0397	12.0397
104.3333	0.3609	0	12.041	12.041
104.3667	0.3595	0.0091	12.0436	12.0527
104.4	0.3605	0	12.0463	12.0463
104.4333	0.3599	0	12.0489	12.0489
104.4667	0.3618	0.0091	12.0331	12.0422
104.5	0.3612	0	12.0252	12.0252
104.5333	0.3615	0	12.0305	12.0305
104.5667	0.3625	0	12.0384	12.0384
104.6	0.3645	0	12.0226	12.0226

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
104.6333	0.3625	0	12.0292	12.0292
104.6667	0.3602	0	12.0305	12.0305
104.7	0.3641	0	12.0357	12.0357
104.7333	0.3602	0	12.0384	12.0384
104.7667	0.3635	0	12.0371	12.0371
104.8	0.3618	0	12.0279	12.0279
104.8333	0.3618	0	12.0384	12.0384
104.8667	0.3622	0	12.0423	12.0423
104.9	0.3595	0	12.0331	12.0331
104.9333	0.3638	0	12.0331	12.0331
104.9667	0.3599	0	12.0292	12.0292
105	0.3599	0	12.0265	12.0265
105.0333	0.3589	0	12.0239	12.0239
105.0667	0.3569	0	12.0371	12.0371
105.1	0.3599	0	12.0265	12.0265
105.1333	0.3609	0	12.0344	12.0344
105.1667	0.3609	0	12.0344	12.0344
105.2	0.3612	0	12.0344	12.0344
105.2333	0.3618	0	12.0213	12.0213
105.2667	0.3612	0	12.016	12.016
105.3	0.3592	0.0091	12.0252	12.0343
105.3333	0.3625	0	12.0279	12.0279
105.3667	0.3618	0	12.0252	12.0252
105.4	0.3602	0	12.0239	12.0239
105.4333	0.3612	0	12.0265	12.0265
105.4667	0.3618	0	12.0239	12.0239
105.5	0.3648	0	12.0279	12.0279
105.5333	0.3599	0	12.0239	12.0239
105.5667	0.3632	0	12.0292	12.0292
105.6	0.3605	0	12.0213	12.0213
105.6333	0.3602	0.0223	12.0292	12.0514
105.6667	0.3609	0	12.0279	12.0279
105.7	0.3635	0	12.0173	12.0173
105.7333	0.3612	0	12.02	12.02
105.7667	0.3622	0	12.02	12.02
105.8	0.3586	0	12.0239	12.0239
105.8333	0.3622	0.0091	12.016	12.0251
105.8667	0.3618	0	12.0252	12.0252
105.9	0.3605	0	12.0265	12.0265
105.9333	0.3648	0	12.0239	12.0239
105.9667	0.3612	0.0091	12.0239	12.033
106	0.3589	0	12.016	12.016
106.0333	0.3579	0.0223	12.0187	12.0409



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
106.0667	0.3602	0.0091	12.0265	12.0356
106.1	0.3569	0	12.0134	12.0134
106.1333	0.3602	0	12.0265	12.0265
106.1667	0.3615	0	12.0292	12.0292
106.2	0.3622	0	12.0279	12.0279
106.2333	0.3595	0.0091	12.0187	12.0278
106.2667	0.3605	0	12.0265	12.0265
106.3	0.3599	0	12.0213	12.0213
106.3333	0.3599	0	12.0134	12.0134
106.3667	0.3582	0	12.0147	12.0147
106.4	0.3615	0	12.0173	12.0173
106.4333	0.3599	0	12.02	12.02
106.4667	0.3618	0	12.016	12.016
106.5	0.3605	0	12.0187	12.0187
106.5333	0.3612	0	12.0279	12.0279
106.5667	0.3612	0.0091	12.016	12.0251
106.6	0.3635	0	12.0252	12.0252
106.6333	0.3602	0.0091	12.0173	12.0264
106.6667	0.3579	0	12.0134	12.0134
106.7	0.3605	0	12.0252	12.0252
106.7333	0.3586	0	12.0055	12.0055
106.7667	0.3602	0	12.0279	12.0279
106.8	0.3628	0	12.02	12.02
106.8333	0.3628	0	12.0226	12.0226
106.8667	0.3638	0	12.0121	12.0121
106.9	0.3586	0	12.0121	12.0121
106.9333	0.3615	0	12.0252	12.0252
106.9667	0.3615	0	12.02	12.02
107	0.3592	0	12.016	12.016
107.0333	0.3586	0	12.02	12.02
107.0667	0.3602	0	12.016	12.016
107.1	0.3628	0	12.0279	12.0279
107.1333	0.3605	0	12.0147	12.0147
107.1667	0.3595	0.0091	12.0213	12.0304
107.2	0.3609	0	12.0094	12.0094
107.2333	0.3602	0	12.0081	12.0081
107.2667	0.3635	0	12.0121	12.0121
107.3	0.3612	0.0091	12.0016	12.0107
107.3333	0.3618	0	12.0108	12.0108
107.3667	0.3605	0	12.0134	12.0134
107.4	0.3599	0	12.0187	12.0187
107.4333	0.3612	0.0091	12.0121	12.0212
107.4667	0.3602	0	12.0016	12.0016

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
107.5	0.3628	0.0091	12.0134	12.0225
107.5333	0.3609	0	12.0147	12.0147
107.5667	0.3589	0	12.0042	12.0042
107.6	0.3579	0	12.0187	12.0187
107.6333	0.3602	0	12.02	12.02
107.6667	0.3618	0	12.0068	12.0068
107.7	0.3586	0	12.0134	12.0134
107.7333	0.3592	0	12.0121	12.0121
107.7667	0.3609	0	12.016	12.016
107.8	0.3635	0	12.016	12.016
107.8333	0.3602	0.0091	12.0081	12.0172
107.8667	0.3615	0	12.0068	12.0068
107.9	0.3615	0	12.0029	12.0029
107.9333	0.3618	0	12.016	12.016
107.9667	0.3622	0	12.0173	12.0173
108	0.3628	0	12.0081	12.0081
108.0333	0.3599	0.0091	12.016	12.0251
108.0667	0.3579	0.0091	12.0094	12.0186
108.1	0.3605	0	12.0029	12.0029
108.1333	0.3602	0	12.0134	12.0134
108.1667	0.3618	0	12.0081	12.0081
108.2	0.3612	0	12.0094	12.0094
108.2333	0.3592	0.0091	12.0134	12.0225
108.2667	0.3589	0	12.0042	12.0042
108.3	0.3572	0	11.9989	11.9989
108.3333	0.3576	0	12.0187	12.0187
108.3667	0.3612	0	12.0121	12.0121
108.4	0.3586	0.0091	12.0147	12.0238
108.4333	0.3605	0	12.0029	12.0029
108.4667	0.3609	0	12.0029	12.0029
108.5	0.3595	0	12.0213	12.0213
108.5333	0.3569	0	12.0173	12.0173
108.5667	0.3586	0	12.02	12.02
108.6	0.3622	0.0091	11.9976	12.0067
108.6333	0.3618	0.0091	12.0055	12.0146
108.6667	0.3612	0	12.0094	12.0094
108.7	0.3618	0	12.0187	12.0187
108.7333	0.3618	0	12.0016	12.0016
108.7667	0.3628	0.0091	12.0016	12.0107
108.8	0.3595	0	12.0016	12.0016
108.8333	0.3589	0	12.0121	12.0121
108.8667	0.3572	0.0091	12.0094	12.0186
108.9	0.3612	0.0223	12.0055	12.0278

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
108.9333	0.3589	0	12.0016	12.0016
108.9667	0.3602	0	12.0029	12.0029
109	0.3599	0	12.0016	12.0016
109.0333	0.3609	0	12.016	12.016
109.0667	0.3648	0	11.9897	11.9897
109.1	0.3648	0.0091	12.0068	12.0159
109.1333	0.3724	0	12.0094	12.0094
109.1667	0.3813	0	12.016	12.016
109.2	0.3878	0	12.0318	12.0318
109.2333	0.3944	0	12.0436	12.0436
109.2667	0.3954	0	12.0515	12.0515
109.3	0.4036	0.0223	12.0515	12.0738
109.3333	0.4115	0	12.0831	12.0831
109.3667	0.4158	0	12.0936	12.0936
109.4	0.426	0	12.1186	12.1186
109.4333	0.4319	0	12.1331	12.1331
109.4667	0.4379	0	12.162	12.162
109.5	0.4438	0.0223	12.1817	12.204
109.5333	0.4553	0.0091	12.1962	12.2053
109.5667	0.4579	0	12.2396	12.2396
109.6	0.4645	0	12.2567	12.2567
109.6333	0.4705	0	12.2895	12.2895
109.6667	0.4744	0	12.3106	12.3106
109.7	0.4823	0	12.3421	12.3421
109.7333	0.4836	0	12.3645	12.3645
109.7667	0.4899	0	12.4118	12.4118
109.8	0.4974	0.0091	12.4302	12.4393
109.8333	0.4997	0	12.4644	12.4644
109.8667	0.5007	0.0091	12.5052	12.5143
109.9	0.508	0	12.5157	12.5157
109.9333	0.5109	0	12.5486	12.5486
109.9667	0.5132	0	12.5723	12.5723
110	0.5188	0	12.6117	12.6117
110.0333	0.5218	0	12.6604	12.6604
110.0667	0.5238	0	12.6932	12.6932
110.1	0.5264	0	12.7222	12.7222
110.1333	0.531	0	12.7432	12.7432
110.1667	0.5373	0	12.784	12.784
110.2	0.5376	0.0091	12.8116	12.8207
110.2333	0.5396	0	12.8326	12.8326
110.2667	0.5386	0	12.8708	12.8708
110.3	0.5419	0	12.8997	12.8997
110.3333	0.5442	0	12.9365	12.9365

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
110.3667	0.5442	0	12.9602	12.9602
110.4	0.5471	0	12.9983	12.9983
110.4333	0.5504	0	13.0233	13.0233
110.4667	0.5531	0	13.0627	13.0627
110.5	0.5557	0	13.089	13.089
110.5333	0.5587	0	13.1337	13.1337
110.5667	0.5577	0	13.1403	13.1403
110.6	0.559	0.0091	13.1719	13.181
110.6333	0.5613	0	13.2192	13.2192
110.6667	0.5593	0	13.2495	13.2495
110.7	0.561	0	13.2652	13.2652
110.7333	0.5649	0	13.306	13.306
110.7667	0.5649	0	13.3428	13.3428
110.8	0.5672	0	13.3599	13.3599
110.8333	0.5669	0	13.4007	13.4007
110.8667	0.5652	0	13.4283	13.4283
110.9	0.5685	0	13.4493	13.4493
110.9333	0.5718	0	13.4875	13.4875
110.9667	0.5685	0	13.5138	13.5138
111	0.5738	0	13.5388	13.5388
111.0333	0.5748	0	13.5651	13.5651
111.0667	0.5761	0.0091	13.5953	13.6044
111.1	0.5761	0	13.6163	13.6163
111.1333	0.5761	0	13.6321	13.6321
111.1667	0.5774	0.0091	13.6755	13.6846
111.2	0.5778	0	13.6939	13.6939
111.2333	0.5794	0	13.7255	13.7255
111.2667	0.5787	0.0091	13.7557	13.7648
111.3	0.582	0	13.7847	13.7847
111.3333	0.582	0.0091	13.8004	13.8095
111.3667	0.5837	0	13.8254	13.8254
111.4	0.5853	0	13.8359	13.8359
111.4333	0.5886	0	13.8807	13.8807
111.4667	0.5883	0.0091	13.8964	13.9055
111.5	0.5922	0	13.9175	13.9175
111.5333	0.5922	0	13.9517	13.9517
111.5667	0.5919	0	13.9701	13.9701
111.6	0.5932	0	14.0056	14.0056
111.6333	0.5959	0	14.024	14.024
111.6667	0.5991	0	14.0503	14.0503
111.7	0.5998	0	14.0779	14.0779
111.7333	0.5985	0.0091	14.1187	14.1278
111.7667	0.5995	0	14.141	14.141

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
111.8	0.6038	0	14.1594	14.1594
111.8333	0.6034	0	14.1778	14.1778
111.8667	0.6047	0	14.1989	14.1989
111.9	0.6051	0	14.2199	14.2199
111.9333	0.607	0	14.2554	14.2554
111.9667	0.6077	0	14.2844	14.2844
112	0.6097	0	14.3146	14.3146
112.0333	0.607	0	14.3356	14.3356
112.0667	0.6107	0	14.3619	14.3619
112.1	0.611	0	14.3606	14.3606
112.1333	0.613	0.0091	14.3948	14.4039
112.1667	0.6113	0	14.4303	14.4303
112.2	0.6123	0	14.4382	14.4382
112.2333	0.6117	0	14.4606	14.4606
112.2667	0.6156	0	14.4987	14.4987
112.3	0.6149	0	14.5197	14.5197
112.3333	0.614	0	14.5539	14.5539
112.3667	0.6166	0	14.5526	14.5526
112.4	0.6176	0	14.5921	14.5921
112.4333	0.6173	0	14.5907	14.5907
112.4667	0.6159	0	14.6105	14.6105
112.5	0.6199	0	14.6552	14.6552
112.5333	0.6182	0	14.6749	14.6749
112.5667	0.6212	0.0091	14.6828	14.6919
112.6	0.6199	0	14.7183	14.7183
112.6333	0.6189	0	14.7393	14.7393
112.6667	0.6176	0	14.7577	14.7577
112.7	0.6196	0	14.7854	14.7854
112.7333	0.6189	0	14.8156	14.8156
112.7667	0.6219	0.0091	14.8314	14.8405
112.8	0.6179	0	14.8393	14.8393
112.8333	0.6212	0.0091	14.8669	14.876
112.8667	0.6222	0.0091	14.8748	14.8839
112.9	0.6251	0.0091	14.8945	14.9036
112.9333	0.6232	0.0091	14.9142	14.9233
112.9667	0.6212	0	14.9445	14.9445
113	0.6222	0	14.9668	14.9668
113.0333	0.6196	0	14.9787	14.9787
113.0667	0.6242	0	15.0023	15.0023
113.1	0.6255	0	15.0234	15.0234
113.1333	0.6242	0	15.0497	15.0497
113.1667	0.6238	0	15.0523	15.0523
113.2	0.6228	0	15.076	15.076

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
113.2333	0.6225	0	15.0812	15.0812
113.2667	0.6222	0	15.0944	15.0944
113.3	0.6248	0	15.1233	15.1233
113.3333	0.6219	0	15.1378	15.1378
113.3667	0.6235	0	15.1575	15.1575
113.4	0.6251	0	15.168	15.168
113.4333	0.6245	0	15.1851	15.1851
113.4667	0.6298	0.0091	15.2219	15.231
113.5	0.6317	0	15.2285	15.2285
113.5333	0.634	0	15.2417	15.2417
113.5667	0.633	0	15.2522	15.2522
113.6	0.635	0	15.2864	15.2864
113.6333	0.6357	0	15.2956	15.2956
113.6667	0.6406	0	15.3127	15.3127
113.7	0.64	0	15.3455	15.3455
113.7333	0.6439	0	15.3469	15.3469
113.7667	0.6429	0.0091	15.3745	15.3836
113.8	0.6433	0	15.3955	15.3955
113.8333	0.6459	0	15.4126	15.4126
113.8667	0.6495	0	15.4415	15.4415
113.9	0.6508	0	15.4402	15.4402
113.9333	0.6485	0.0091	15.4783	15.4875
113.9667	0.6502	0	15.4928	15.4928
114	0.6518	0.0091	15.5112	15.5203
114.0333	0.6535	0	15.5428	15.5428
114.0667	0.6554	0	15.552	15.552
114.1	0.6528	0	15.5586	15.5586
114.1333	0.6551	0	15.5901	15.5901
114.1667	0.6581	0	15.6138	15.6138
114.2	0.6584	0.0091	15.6296	15.6387
114.2333	0.6581	0	15.6414	15.6414
114.2667	0.6594	0.0091	15.6624	15.6715
114.3	0.6594	0	15.6887	15.6887
114.3333	0.6623	0	15.7006	15.7006
114.3667	0.6604	0	15.7216	15.7216
114.4	0.6669	0	15.7387	15.7387
114.4333	0.6663	0	15.7519	15.7519
114.4667	0.6653	0	15.7834	15.7834
114.5	0.6653	0.0091	15.7992	15.8083
114.5333	0.666	0	15.7966	15.7966
114.5667	0.6673	0.0091	15.8373	15.8464
114.6	0.6699	0	15.8334	15.8334
114.6333	0.6706	0	15.8465	15.8465



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
114.6667	0.6686	0	15.8768	15.8768
114.7	0.6686	0.0091	15.8899	15.899
114.7333	0.6709	0	15.9176	15.9176
114.7667	0.6725	0	15.9294	15.9294
114.8	0.6693	0	15.9386	15.9386
114.8333	0.6712	0.0091	15.9596	15.9687
114.8667	0.6716	0	15.9846	15.9846
114.9	0.6719	0	15.9938	15.9938
114.9333	0.6742	0	16.007	16.007
114.9667	0.6742	0	16.0293	16.0293
115	0.6712	0	16.0438	16.0438
115.0333	0.6719	0	16.0517	16.0517
115.0667	0.6716	0	16.0661	16.0661
115.1	0.6719	0	16.0819	16.0819
115.1333	0.6745	0	16.0911	16.0911
115.1667	0.6739	0	16.1069	16.1069
115.2	0.6772	0	16.1411	16.1411
115.2333	0.6739	0	16.149	16.149
115.2667	0.6719	0	16.1674	16.1674
115.3	0.6739	0	16.1805	16.1805
115.3333	0.6765	0	16.1976	16.1976
115.3667	0.6768	0	16.1963	16.1963
115.4	0.6755	0	16.2384	16.2384
115.4333	0.6762	0.0091	16.2397	16.2488
115.4667	0.6772	0	16.2476	16.2476
115.5	0.6778	0	16.2713	16.2713
115.5333	0.6762	0	16.2765	16.2765
115.5667	0.6765	0	16.2831	16.2831
115.6	0.6765	0.0091	16.3002	16.3093
115.6333	0.6798	0	16.3094	16.3094
115.6667	0.6778	0	16.3383	16.3383
115.7	0.6788	0	16.3383	16.3383
115.7333	0.6775	0	16.3712	16.3712
115.7667	0.6758	0	16.3607	16.3607
115.8	0.6788	0	16.3883	16.3883
115.8333	0.6788	0.0091	16.3923	16.4014
115.8667	0.6768	0.0223	16.3988	16.4211
115.9	0.6801	0	16.3962	16.3962
115.9333	0.6804	0	16.4357	16.4357
115.9667	0.6775	0	16.4527	16.4527
116	0.6785	0.0091	16.4527	16.4618
116.0333	0.6795	0.0091	16.4751	16.4842
116.0667	0.6775	0	16.4909	16.4909

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
116.1	0.6788	0	16.4988	16.4988
116.1333	0.6765	0	16.4988	16.4988
116.1667	0.6748	0	16.5211	16.5211
116.2	0.6775	0	16.5211	16.5211
116.2333	0.6785	0	16.5422	16.5422
116.2667	0.6775	0.0091	16.5461	16.5552
116.3	0.6765	0	16.554	16.554
116.3333	0.6778	0	16.5566	16.5566
116.3667	0.6772	0.0091	16.5724	16.5815
116.4	0.6772	0.0091	16.5895	16.5986
116.4333	0.6778	0	16.6053	16.6053
116.4667	0.6775	0	16.6197	16.6197
116.5	0.6795	0	16.6224	16.6224
116.5333	0.6795	0	16.6434	16.6434
116.5667	0.6788	0.0091	16.6421	16.6512
116.6	0.6775	0	16.6526	16.6526
116.6333	0.6762	0.0091	16.6723	16.6815
116.6667	0.6748	0	16.6802	16.6802
116.7	0.6768	0	16.6789	16.6789
116.7333	0.6788	0	16.6986	16.6986
116.7667	0.6791	0	16.7144	16.7144
116.8	0.6775	0.0091	16.7092	16.7183
116.8333	0.6772	0.0091	16.7223	16.7314
116.8667	0.6748	0	16.7355	16.7355
116.9	0.6781	0	16.7499	16.7499
116.9333	0.6772	0	16.7473	16.7473
116.9667	0.6755	0	16.7526	16.7526
117	0.6745	0	16.7631	16.7631
117.0333	0.6778	0	16.7867	16.7867
117.0667	0.6775	0	16.7881	16.7881
117.1	0.6768	0.0091	16.792	16.8011
117.1333	0.6748	0.0091	16.7907	16.7998
117.1667	0.6775	0.0091	16.8249	16.834
117.2	0.6791	0	16.8183	16.8183
117.2333	0.6755	0	16.8249	16.8249
117.2667	0.6765	0.0091	16.8328	16.8419
117.3	0.6762	0.0091	16.8564	16.8655
117.3333	0.6739	0	16.8643	16.8643
117.3667	0.6758	0	16.8551	16.8551
117.4	0.6732	0	16.8946	16.8946
117.4333	0.6762	0	16.8722	16.8722
117.4667	0.6735	0	16.8827	16.8827
117.5	0.6732	0	16.8841	16.8841

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
117.5333	0.6742	0.0091	16.8919	16.9011
117.5667	0.6739	0	16.909	16.909
117.6	0.6742	0	16.9051	16.9051
117.6333	0.6735	0	16.9275	16.9275
117.6667	0.6716	0.0091	16.9261	16.9352
117.7	0.6732	0	16.934	16.934
117.7333	0.6722	0.0091	16.9419	16.951
117.7667	0.6725	0	16.9432	16.9432
117.8	0.6702	0	16.9524	16.9524
117.8333	0.6772	0	16.9735	16.9735
117.8667	0.6739	0	16.9748	16.9748
117.9	0.6745	0	16.9801	16.9801
117.9333	0.6742	0	16.9761	16.9761
117.9667	0.6742	0	16.9906	16.9906
118	0.6712	0.0091	16.9998	17.0089
118.0333	0.6696	0	17.0156	17.0156
118.0667	0.6739	0	17.0064	17.0064
118.1	0.6742	0	17.0129	17.0129
118.1333	0.6719	0	17.0169	17.0169
118.1667	0.6739	0.0091	17.0287	17.0378
118.2	0.6745	0	17.0353	17.0353
118.2333	0.6798	0	17.0313	17.0313
118.2667	0.6811	0.0091	17.0563	17.0654
118.3	0.6841	0	17.0682	17.0682
118.3333	0.6854	0.0091	17.08	17.0891
118.3667	0.6906	0	17.0629	17.0629
118.4	0.6906	0	17.076	17.076
118.4333	0.6916	0	17.0997	17.0997
118.4667	0.6926	0	17.1063	17.1063
118.5	0.6939	0	17.105	17.105
118.5333	0.6982	0	17.1234	17.1234
118.5667	0.6995	0.0091	17.1181	17.1272
118.6	0.7012	0.0091	17.1392	17.1483
118.6333	0.7015	0	17.1549	17.1549
118.6667	0.7038	0	17.1628	17.1628
118.7	0.7018	0	17.1628	17.1628
118.7333	0.7061	0	17.1694	17.1694
118.7667	0.7045	0	17.1839	17.1839
118.8	0.7071	0.0091	17.2167	17.2259
118.8333	0.7087	0.0091	17.2141	17.2232
118.8667	0.7104	0	17.2286	17.2286
118.9	0.7097	0	17.2365	17.2365
118.9333	0.7117	0	17.2483	17.2483

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
118.9667	0.7127	0	17.2746	17.2746
119	0.7153	0.0091	17.2746	17.2837
119.0333	0.7143	0	17.2983	17.2983
119.0667	0.7163	0	17.2917	17.2917
119.1	0.716	0	17.2983	17.2983
119.1333	0.7193	0.0091	17.3049	17.314
119.1667	0.717	0	17.3272	17.3272
119.2	0.7213	0	17.3443	17.3443
119.2333	0.7213	0	17.3456	17.3456
119.2667	0.7232	0	17.3627	17.3627
119.3	0.7232	0	17.3772	17.3772
119.3333	0.7262	0	17.3837	17.3837
119.3667	0.7252	0.0091	17.3903	17.3994
119.4	0.7242	0.0091	17.3995	17.4086
119.4333	0.7226	0	17.4035	17.4035
119.4667	0.7173	0	17.4298	17.4298
119.5	0.7166	0	17.4403	17.4403
119.5333	0.7173	0	17.4429	17.4429
119.5667	0.713	0	17.4482	17.4482
119.6	0.7101	0	17.4482	17.4482
119.6333	0.7091	0.0091	17.4679	17.477
119.6667	0.7114	0	17.4784	17.4784
119.7	0.7068	0.0091	17.4982	17.5073
119.7333	0.7094	0.0091	17.4797	17.4888
119.7667	0.7097	0	17.4876	17.4876
119.8	0.7058	0	17.4876	17.4876
119.8333	0.7074	0	17.5126	17.5126
119.8667	0.7071	0.0091	17.5126	17.5217
119.9	0.7051	0	17.5245	17.5245
119.9333	0.7097	0	17.5231	17.5231
119.9667	0.7104	0	17.5363	17.5363
120	0.7084	0	17.5455	17.5455
120.0333	0.7107	0	17.5534	17.5534
120.0667	0.712	0	17.5521	17.5521
120.1	0.7127	0.0091	17.5639	17.573
120.1333	0.7114	0	17.5797	17.5797
120.1667	0.7091	0	17.5797	17.5797
120.2	0.7147	0	17.5863	17.5863
120.2333	0.7157	0	17.5889	17.5889
120.2667	0.7173	0	17.5955	17.5955
120.3	0.7153	0	17.6047	17.6047
120.3333	0.7137	0.0091	17.6257	17.6348
120.3667	0.7163	0	17.6283	17.6283

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
120.4	0.718	0	17.6415	17.6415
120.4333	0.7176	0	17.6349	17.6349
120.4667	0.7183	0.0091	17.6454	17.6545
120.5	0.7176	0	17.6533	17.6533
120.5333	0.7173	0	17.6415	17.6415
120.5667	0.7183	0	17.6546	17.6546
120.6	0.7183	0	17.6652	17.6652
120.6333	0.7216	0	17.6744	17.6744
120.6667	0.7216	0	17.6822	17.6822
120.7	0.7229	0	17.7033	17.7033
120.7333	0.7236	0	17.7072	17.7072
120.7667	0.7236	0	17.702	17.702
120.8	0.7206	0	17.7151	17.7151
120.8333	0.7206	0	17.7375	17.7375
120.8667	0.7226	0	17.7243	17.7243
120.9	0.7239	0	17.7533	17.7533
120.9333	0.7216	0.0091	17.7533	17.7624
120.9667	0.7249	0	17.769	17.769
121	0.7282	0	17.7638	17.7638
121.0333	0.7245	0	17.7743	17.7743
121.0667	0.7282	0	17.7822	17.7822
121.1	0.7275	0.0091	17.7861	17.7952
121.1333	0.7272	0	17.794	17.794
121.1667	0.7269	0	17.819	17.819
121.2	0.7269	0.0091	17.8124	17.8215
121.2333	0.7265	0	17.8203	17.8203
121.2667	0.7236	0	17.8124	17.8124
121.3	0.7249	0	17.8282	17.8282
121.3333	0.7229	0	17.8282	17.8282
121.3667	0.7262	0	17.8532	17.8532
121.4	0.7239	0	17.8637	17.8637
121.4333	0.7242	0	17.8571	17.8571
121.4667	0.7245	0.0091	17.8611	17.8702
121.5	0.7265	0	17.8742	17.8742
121.5333	0.7249	0.0091	17.8821	17.8912
121.5667	0.7219	0	17.8861	17.8861
121.6	0.7226	0	17.8979	17.8979
121.6333	0.7269	0	17.9071	17.9071
121.6667	0.7262	0	17.9005	17.9005
121.7	0.7275	0	17.9124	17.9124
121.7333	0.7236	0	17.9255	17.9255
121.7667	0.7262	0	17.9176	17.9176
121.8	0.7239	0	17.9295	17.9295

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
121.8333	0.7232	0	17.9255	17.9255
121.8667	0.7222	0	17.9492	17.9492
121.9	0.7269	0	17.9321	17.9321
121.9333	0.7232	0	17.9466	17.9466
121.9667	0.7216	0.0091	17.9426	17.9517
122	0.7242	0.0091	17.9623	17.9714
122.0333	0.7236	0	17.9558	17.9558
122.0667	0.7236	0	17.9571	17.9571
122.1	0.7232	0	17.9834	17.9834
122.1333	0.7249	0	17.9755	17.9755
122.1667	0.7236	0	17.99	17.99
122.2	0.7245	0	17.9834	17.9834
122.2333	0.7213	0	17.9939	17.9939
122.2667	0.7245	0	18.0005	18.0005
122.3	0.7222	0	18.0031	18.0031
122.3333	0.7239	0	18.0084	18.0084
122.3667	0.7229	0	18.0097	18.0097
122.4	0.7245	0.0223	18.0163	18.0385
122.4333	0.7229	0	18.0307	18.0307
122.4667	0.7229	0	18.0281	18.0281
122.5	0.7219	0	18.0333	18.0333
122.5333	0.7193	0	18.0452	18.0452
122.5667	0.7242	0	18.0373	18.0373
122.6	0.7199	0	18.0439	18.0439
122.6333	0.7219	0	18.0531	18.0531
122.6667	0.7213	0	18.0504	18.0504
122.7	0.7245	0.0091	18.061	18.0701
122.7333	0.7226	0	18.0662	18.0662
122.7667	0.7229	0	18.061	18.061
122.8	0.7209	0	18.0741	18.0741
122.8333	0.7239	0.0091	18.0649	18.074
122.8667	0.7213	0.0091	18.0807	18.0898
122.9	0.7242	0	18.0952	18.0952
122.9333	0.7245	0.0091	18.0965	18.1056
122.9667	0.7222	0	18.0952	18.0952
123	0.7232	0	18.0925	18.0925
123.0333	0.7222	0	18.1096	18.1096
123.0667	0.7239	0	18.0938	18.0938
123.1	0.7259	0	18.1017	18.1017
123.1333	0.7259	0	18.1057	18.1057
123.1667	0.7252	0	18.1241	18.1241
123.2	0.7239	0.0091	18.1293	18.1384
123.2333	0.7203	0.0091	18.1201	18.1292



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
123.2667	0.7219	0	18.1162	18.1162
123.3	0.7239	0	18.1267	18.1267
123.3333	0.7236	0	18.1399	18.1399
123.3667	0.7232	0	18.1477	18.1477
123.4	0.7226	0.0091	18.1451	18.1542
123.4333	0.7213	0	18.1451	18.1451
123.4667	0.7232	0	18.1477	18.1477
123.5	0.7222	0	18.1688	18.1688
123.5333	0.7209	0	18.1583	18.1583
123.5667	0.7199	0.0091	18.1701	18.1792
123.6	0.7229	0	18.1517	18.1517
123.6333	0.7236	0	18.1648	18.1648
123.6667	0.7213	0	18.1727	18.1727
123.7	0.7226	0	18.174	18.174
123.7333	0.7222	0.0091	18.1833	18.1924
123.7667	0.7249	0	18.1688	18.1688
123.8	0.7232	0.0091	18.1767	18.1858
123.8333	0.7245	0	18.1727	18.1727
123.8667	0.7209	0	18.1793	18.1793
123.9	0.7222	0	18.1819	18.1819
123.9333	0.7226	0.0223	18.203	18.2252
123.9667	0.7213	0	18.2043	18.2043
124	0.7232	0	18.2109	18.2109
124.0333	0.7209	0	18.2096	18.2096
124.0667	0.7213	0	18.1898	18.1898
124.1	0.7232	0.0091	18.2174	18.2265
124.1333	0.7226	0	18.2174	18.2174
124.1667	0.7232	0	18.2109	18.2109
124.2	0.7242	0	18.2174	18.2174
124.2333	0.7229	0	18.228	18.228
124.2667	0.7255	0	18.2174	18.2174
124.3	0.7199	0	18.249	18.249
124.3333	0.7245	0	18.2306	18.2306
124.3667	0.7245	0	18.2398	18.2398
124.4	0.7222	0	18.2543	18.2543
124.4333	0.7209	0	18.2306	18.2306
124.4667	0.7226	0	18.2411	18.2411
124.5	0.7242	0	18.2529	18.2529
124.5333	0.7236	0	18.2543	18.2543
124.5667	0.7219	0	18.2516	18.2516
124.6	0.7216	0	18.2635	18.2635
124.6333	0.7249	0	18.2608	18.2608
124.6667	0.7229	0	18.2687	18.2687

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
124.7	0.7229	0	18.2687	18.2687
124.7333	0.7229	0.0091	18.2661	18.2752
124.7667	0.7242	0	18.2674	18.2674
124.8	0.7203	0	18.2898	18.2898
124.8333	0.7219	0.0091	18.2792	18.2884
124.8667	0.7226	0.0091	18.2714	18.2805
124.9	0.7232	0	18.2766	18.2766
124.9333	0.7239	0	18.2792	18.2792
124.9667	0.7196	0	18.2714	18.2714
125	0.7229	0	18.2753	18.2753
125.0333	0.7216	0	18.2898	18.2898
125.0667	0.7213	0.0091	18.2885	18.2976
125.1	0.7222	0.0091	18.3095	18.3186
125.1333	0.7222	0	18.2898	18.2898
125.1667	0.7196	0	18.2911	18.2911
125.2	0.7193	0	18.3187	18.3187
125.2333	0.7213	0	18.3029	18.3029
125.2667	0.7206	0.0091	18.3029	18.312
125.3	0.7219	0	18.3095	18.3095
125.3333	0.7196	0.0091	18.3279	18.337
125.3667	0.7236	0	18.3121	18.3121
125.4	0.7216	0	18.3003	18.3003
125.4333	0.7239	0	18.3371	18.3371
125.4667	0.7245	0	18.3069	18.3069
125.5	0.7209	0	18.3095	18.3095
125.5333	0.7216	0	18.32	18.32
125.5667	0.7236	0	18.324	18.324
125.6	0.7209	0	18.3148	18.3148
125.6333	0.7262	0.0091	18.32	18.3291
125.6667	0.7249	0.0091	18.3318	18.341
125.7	0.7232	0.0091	18.3266	18.3357
125.7333	0.7229	0	18.3345	18.3345
125.7667	0.7229	0	18.3279	18.3279
125.8	0.7259	0	18.3411	18.3411
125.8333	0.7236	0	18.3397	18.3397
125.8667	0.7203	0	18.3437	18.3437
125.9	0.7249	0.0091	18.3608	18.3699
125.9333	0.7269	0	18.3345	18.3345
125.9667	0.7232	0	18.345	18.345
126	0.7288	0.0091	18.3489	18.358
126.0333	0.7249	0.0091	18.3555	18.3646
126.0667	0.7226	0.0091	18.3424	18.3515
126.1	0.7236	0	18.3555	18.3555

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
126.1333	0.7219	0	18.3595	18.3595
126.1667	0.7259	0	18.3634	18.3634
126.2	0.7236	0	18.3529	18.3529
126.2333	0.7239	0.0091	18.3647	18.3738
126.2667	0.7222	0.0091	18.3766	18.3857
126.3	0.7242	0	18.3779	18.3779
126.3333	0.7245	0	18.37	18.37
126.3667	0.7232	0	18.37	18.37
126.4	0.7242	0	18.3739	18.3739
126.4333	0.7259	0	18.3687	18.3687
126.4667	0.7252	0	18.3713	18.3713
126.5	0.7236	0	18.37	18.37
126.5333	0.7216	0	18.37	18.37
126.5667	0.7249	0.0091	18.3792	18.3883
126.6	0.7252	0	18.3884	18.3884
126.6333	0.7255	0	18.3937	18.3937
126.6667	0.7239	0	18.3713	18.3713
126.7	0.7232	0	18.4029	18.4029
126.7333	0.7242	0	18.3739	18.3739
126.7667	0.7242	0.0091	18.3858	18.3949
126.8	0.7213	0	18.3963	18.3963
126.8333	0.7245	0	18.4029	18.4029
126.8667	0.7242	0	18.3884	18.3884
126.9	0.7262	0	18.4002	18.4002
126.9333	0.7255	0	18.3963	18.3963
126.9667	0.7255	0	18.4015	18.4015
127	0.7222	0.0091	18.3884	18.3975
127.0333	0.7232	0	18.3976	18.3976
127.0667	0.7206	0.0091	18.4029	18.412
127.1	0.7255	0	18.3871	18.3871
127.1333	0.7232	0	18.3923	18.3923
127.1667	0.7249	0	18.4134	18.4134
127.2	0.7226	0	18.4147	18.4147
127.2333	0.7229	0	18.4186	18.4186
127.2667	0.7252	0	18.4265	18.4265
127.3	0.7236	0	18.4173	18.4173
127.3333	0.7255	0	18.4107	18.4107
127.3667	0.7226	0	18.4213	18.4213
127.4	0.7255	0	18.4173	18.4173
127.4333	0.7262	0	18.4278	18.4278
127.4667	0.7239	0	18.4199	18.4199
127.5	0.7275	0	18.4199	18.4199
127.5333	0.7252	0	18.4239	18.4239

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
127.5667	0.7255	0	18.4239	18.4239
127.6	0.7242	0	18.4239	18.4239
127.6333	0.7252	0	18.4344	18.4344
127.6667	0.7275	0	18.4436	18.4436
127.7	0.7259	0	18.4305	18.4305
127.7333	0.7265	0	18.4423	18.4423
127.7667	0.7236	0	18.4331	18.4331
127.8	0.7249	0.0091	18.4239	18.433
127.8333	0.7252	0	18.4292	18.4292
127.8667	0.7236	0	18.4173	18.4173
127.9	0.7259	0	18.4344	18.4344
127.9333	0.7252	0.0091	18.4462	18.4554
127.9667	0.7226	0	18.4252	18.4252
128	0.7219	0	18.4344	18.4344
128.0333	0.7199	0	18.437	18.437
128.0667	0.7236	0	18.4292	18.4292
128.1	0.7245	0	18.4265	18.4265
128.1333	0.7252	0	18.4515	18.4515
128.1667	0.7226	0	18.4384	18.4384
128.2	0.7242	0	18.4436	18.4436
128.2333	0.7229	0	18.4397	18.4397
128.2667	0.7242	0.0091	18.4331	18.4422
128.3	0.7242	0	18.4423	18.4423
128.3333	0.7249	0.0091	18.4541	18.4632
128.3667	0.7269	0	18.4555	18.4555
128.4	0.7239	0.0091	18.4397	18.4488
128.4333	0.7222	0	18.4607	18.4607
128.4667	0.7232	0	18.4502	18.4502
128.5	0.7222	0	18.4462	18.4462
128.5333	0.7242	0.0091	18.4476	18.4567
128.5667	0.7226	0.0091	18.4436	18.4527
128.6	0.7249	0	18.4673	18.4673
128.6333	0.7269	0	18.4541	18.4541
128.6667	0.7255	0	18.4581	18.4581
128.7	0.7255	0	18.4502	18.4502
128.7333	0.7236	0	18.4647	18.4647
128.7667	0.7249	0.0091	18.4502	18.4593
128.8	0.7242	0	18.4633	18.4633
128.8333	0.7229	0	18.4515	18.4515
128.8667	0.7236	0	18.4541	18.4541
128.9	0.7255	0.0091	18.466	18.4751
128.9333	0.7239	0	18.4686	18.4686
128.9667	0.7236	0	18.4594	18.4594

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
129	0.7265	0	18.4739	18.4739
129.0333	0.7229	0.0091	18.4752	18.4843
129.0667	0.7249	0	18.4765	18.4765
129.1	0.7255	0.0091	18.4686	18.4777
129.1333	0.7249	0.0091	18.4555	18.4646
129.1667	0.7259	0.0091	18.4844	18.4935
129.2	0.7252	0	18.4555	18.4555
129.2333	0.7245	0	18.4778	18.4778
129.2667	0.7239	0	18.4647	18.4647
129.3	0.7239	0	18.4633	18.4633
129.3333	0.7213	0	18.4594	18.4594
129.3667	0.7239	0	18.4568	18.4568
129.4	0.7242	0	18.491	18.491
129.4333	0.7229	0	18.466	18.466
129.4667	0.7229	0	18.4568	18.4568
129.5	0.7203	0	18.4831	18.4831
129.5333	0.7232	0	18.4844	18.4844
129.5667	0.7239	0	18.4923	18.4923
129.6	0.7242	0	18.462	18.462
129.6333	0.7213	0	18.4778	18.4778
129.6667	0.7239	0	18.462	18.462
129.7	0.7229	0.0091	18.4896	18.4987
129.7333	0.7209	0.0091	18.4844	18.4935
129.7667	0.7216	0	18.487	18.487
129.8	0.7242	0	18.4686	18.4686
129.8333	0.7226	0.0091	18.4923	18.5014
129.8667	0.7236	0	18.4765	18.4765
129.9	0.7206	0.0091	18.4818	18.4909
129.9333	0.7219	0.0091	18.4831	18.4922
129.9667	0.7232	0	18.4791	18.4791
130	0.7219	0	18.4831	18.4831
130.0333	0.7213	0	18.4857	18.4857
130.0667	0.7196	0	18.4739	18.4739
130.1	0.7199	0	18.5054	18.5054
130.1333	0.7216	0	18.5015	18.5015
130.1667	0.7196	0	18.4949	18.4949
130.2	0.7219	0	18.4857	18.4857
130.2333	0.7229	0	18.4896	18.4896
130.2667	0.7186	0.0091	18.4857	18.4948
130.3	0.7196	0	18.4949	18.4949
130.3333	0.7193	0	18.4896	18.4896
130.3667	0.719	0.0091	18.4975	18.5066
130.4	0.7209	0	18.4712	18.4712

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
130.4333	0.7219	0	18.4988	18.4988
130.4667	0.7236	0	18.4883	18.4883
130.5	0.719	0.0091	18.4975	18.5066
130.5333	0.7242	0	18.4896	18.4896
130.5667	0.7199	0	18.4988	18.4988
130.6	0.7226	0.0091	18.4936	18.5027
130.6333	0.7209	0.0091	18.4818	18.4909
130.6667	0.7229	0	18.487	18.487
130.7	0.7213	0.0091	18.4936	18.5027
130.7333	0.7199	0	18.4975	18.4975
130.7667	0.7216	0	18.487	18.487
130.8	0.7229	0	18.4896	18.4896
130.8333	0.7242	0	18.4962	18.4962
130.8667	0.7245	0.0091	18.4949	18.504
130.9	0.7226	0	18.4896	18.4896
130.9333	0.7213	0	18.5054	18.5054
130.9667	0.7245	0	18.5041	18.5041
131	0.7229	0	18.491	18.491
131.0333	0.7242	0	18.5067	18.5067
131.0667	0.7222	0	18.5002	18.5002
131.1	0.7186	0	18.4831	18.4831
131.1333	0.7219	0	18.4831	18.4831
131.1667	0.7219	0.0091	18.4936	18.5027
131.2	0.7226	0	18.4988	18.4988
131.2333	0.7245	0	18.4975	18.4975
131.2667	0.7236	0	18.5015	18.5015
131.3	0.7226	0	18.5028	18.5028
131.3333	0.7213	0	18.4936	18.4936
131.3667	0.7265	0	18.4857	18.4857
131.4	0.7222	0	18.4896	18.4896
131.4333	0.7226	0	18.5107	18.5107
131.4667	0.7213	0	18.5041	18.5041
131.5	0.7239	0.0091	18.5159	18.525
131.5333	0.7203	0	18.5015	18.5015
131.5667	0.7203	0	18.4936	18.4936
131.6	0.7213	0	18.4962	18.4962
131.6333	0.7236	0	18.5028	18.5028
131.6667	0.7226	0	18.5015	18.5015
131.7	0.7203	0	18.4818	18.4818
131.7333	0.7216	0	18.4844	18.4844
131.7667	0.7203	0	18.4975	18.4975
131.8	0.718	0	18.5107	18.5107
131.8333	0.7203	0.0091	18.4923	18.5014



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
131.8667	0.7222	0.0091	18.5002	18.5093
131.9	0.7213	0.0091	18.5146	18.5237
131.9333	0.7213	0	18.4988	18.4988
131.9667	0.7219	0.0091	18.4923	18.5014
132	0.7196	0	18.512	18.512
132.0333	0.7199	0	18.4923	18.4923
132.0667	0.7229	0	18.5015	18.5015
132.1	0.7226	0	18.5015	18.5015
132.1333	0.7213	0	18.5002	18.5002
132.1667	0.7236	0	18.4896	18.4896
132.2	0.719	0	18.5002	18.5002
132.2333	0.7229	0.0091	18.4975	18.5066
132.2667	0.7213	0	18.5041	18.5041
132.3	0.7226	0	18.5054	18.5054
132.3333	0.7229	0.0091	18.5107	18.5198
132.3667	0.7226	0	18.4962	18.4962
132.4	0.7183	0	18.4936	18.4936
132.4333	0.7213	0.0091	18.512	18.5211
132.4667	0.719	0	18.5067	18.5067
132.5	0.7226	0	18.4936	18.4936
132.5333	0.7226	0	18.5015	18.5015
132.5667	0.7219	0	18.5067	18.5067
132.6	0.7229	0	18.5041	18.5041
132.6333	0.7209	0	18.5081	18.5081
132.6667	0.7242	0	18.512	18.512
132.7	0.7245	0	18.4975	18.4975
132.7333	0.7203	0	18.5002	18.5002
132.7667	0.7183	0	18.4975	18.4975
132.8	0.7209	0	18.4844	18.4844
132.8333	0.7186	0.0091	18.4975	18.5066
132.8667	0.7216	0.0091	18.4975	18.5066
132.9	0.7209	0	18.5081	18.5081
132.9333	0.7219	0	18.5094	18.5094
132.9667	0.7239	0.0091	18.5133	18.5224
133	0.7216	0	18.4949	18.4949
133.0333	0.7213	0	18.5002	18.5002
133.0667	0.7229	0.0091	18.5002	18.5093
133.1	0.7229	0	18.491	18.491
133.1333	0.7236	0	18.4962	18.4962
133.1667	0.7245	0	18.5225	18.5225
133.2	0.7219	0.0091	18.5094	18.5185
133.2333	0.7206	0	18.5041	18.5041
133.2667	0.7226	0	18.4975	18.4975

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
133.3	0.7226	0	18.5159	18.5159
133.3333	0.7219	0	18.5002	18.5002
133.3667	0.7213	0	18.4975	18.4975
133.4	0.7229	0	18.5015	18.5015
133.4333	0.7213	0	18.4949	18.4949
133.4667	0.7176	0.0091	18.5067	18.5158
133.5	0.7216	0	18.5028	18.5028
133.5333	0.7206	0	18.4949	18.4949
133.5667	0.7222	0.0091	18.4818	18.4909
133.6	0.7222	0.0091	18.5041	18.5132
133.6333	0.7222	0	18.5094	18.5094
133.6667	0.7196	0	18.5146	18.5146
133.7	0.7163	0	18.5081	18.5081
133.7333	0.7209	0	18.487	18.487
133.7667	0.719	0	18.4988	18.4988
133.8	0.7213	0	18.5002	18.5002
133.8333	0.719	0	18.5081	18.5081
133.8667	0.7226	0	18.4988	18.4988
133.9	0.7226	0.0091	18.5015	18.5106
133.9333	0.7209	0	18.5028	18.5028
133.9667	0.7213	0	18.5015	18.5015
134	0.7213	0.0091	18.4923	18.5014
134.0333	0.7199	0.0091	18.4686	18.4777
134.0667	0.7183	0	18.4988	18.4988
134.1	0.7226	0	18.4883	18.4883
134.1333	0.7226	0	18.5041	18.5041
134.1667	0.7186	0.0091	18.4883	18.4974
134.2	0.7206	0	18.4949	18.4949
134.2333	0.7232	0	18.5041	18.5041
134.2667	0.7173	0	18.4949	18.4949
134.3	0.719	0.0091	18.4923	18.5014
134.3333	0.7219	0	18.491	18.491
134.3667	0.719	0	18.491	18.491
134.4	0.7199	0	18.4936	18.4936
134.4333	0.7176	0	18.5002	18.5002
134.4667	0.7209	0	18.4936	18.4936
134.5	0.7222	0.0091	18.5094	18.5185
134.5333	0.7186	0	18.5028	18.5028
134.5667	0.7183	0.0091	18.5002	18.5093
134.6	0.7219	0	18.4949	18.4949
134.6333	0.7209	0	18.4988	18.4988
134.6667	0.7213	0	18.4857	18.4857
134.7	0.7173	0	18.4883	18.4883

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
134.7333	0.7242	0	18.4949	18.4949
134.7667	0.7196	0	18.4923	18.4923
134.8	0.7229	0.0091	18.4988	18.508
134.8333	0.7216	0	18.5067	18.5067
134.8667	0.7193	0	18.4975	18.4975
134.9	0.7173	0	18.5067	18.5067
134.9333	0.7209	0.0091	18.491	18.5001
134.9667	0.7213	0	18.487	18.487
135	0.7213	0	18.4949	18.4949
135.0333	0.7226	0	18.4896	18.4896
135.0667	0.7209	0.0091	18.4975	18.5066
135.1	0.7206	0	18.4857	18.4857
135.1333	0.7199	0	18.5054	18.5054
135.1667	0.7203	0	18.4988	18.4988
135.2	0.7226	0	18.5054	18.5054
135.2333	0.7252	0.0223	18.4923	18.5145
135.2667	0.7226	0.0091	18.4988	18.508
135.3	0.7193	0	18.4883	18.4883
135.3333	0.7196	0.0091	18.4896	18.4987
135.3667	0.7219	0	18.4844	18.4844
135.4	0.7209	0.0091	18.4844	18.4935
135.4333	0.7183	0.0091	18.4883	18.4974
135.4667	0.7222	0	18.4883	18.4883
135.5	0.7203	0	18.4962	18.4962
135.5333	0.7236	0.0091	18.4844	18.4935
135.5667	0.7193	0.0091	18.4962	18.5053
135.6	0.7199	0	18.5002	18.5002
135.6333	0.7222	0	18.4804	18.4804
135.6667	0.7183	0	18.4923	18.4923
135.7	0.7199	0	18.4896	18.4896
135.7333	0.7213	0	18.5015	18.5015
135.7667	0.7183	0	18.4896	18.4896
135.8	0.719	0	18.4739	18.4739
135.8333	0.7157	0	18.487	18.487
135.8667	0.7196	0	18.4831	18.4831
135.9	0.7173	0.0091	18.4883	18.4974
135.9333	0.718	0	18.4975	18.4975
135.9667	0.7219	0	18.4844	18.4844
136	0.7199	0	18.491	18.491
136.0333	0.7166	0	18.5067	18.5067
136.0667	0.7183	0	18.4936	18.4936
136.1	0.7193	0	18.4988	18.4988
136.1333	0.7183	0	18.487	18.487

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
136.1667	0.719	0	18.487	18.487
136.2	0.7183	0	18.4791	18.4791
136.2333	0.7219	0	18.4923	18.4923
136.2667	0.7206	0	18.4712	18.4712
136.3	0.7199	0	18.4923	18.4923
136.3333	0.7173	0.0091	18.4725	18.4817
136.3667	0.7203	0	18.4844	18.4844
136.4	0.7203	0	18.4844	18.4844
136.4333	0.7196	0.0091	18.4778	18.4869
136.4667	0.7206	0	18.4857	18.4857
136.5	0.7206	0	18.4712	18.4712
136.5333	0.7239	0	18.4896	18.4896
136.5667	0.7203	0.0091	18.4739	18.483
136.6	0.7199	0	18.4712	18.4712
136.6333	0.7226	0	18.487	18.487
136.6667	0.7239	0	18.4791	18.4791
136.7	0.7193	0.0091	18.4831	18.4922
136.7333	0.7196	0	18.4712	18.4712
136.7667	0.7166	0	18.4883	18.4883
136.8	0.7183	0	18.4686	18.4686
136.8333	0.7206	0	18.4791	18.4791
136.8667	0.7226	0	18.4818	18.4818
136.9	0.7216	0	18.4857	18.4857
136.9333	0.7216	0.0091	18.4962	18.5053
136.9667	0.7196	0	18.4765	18.4765
137	0.7206	0.0091	18.4765	18.4856
137.0333	0.7203	0	18.4686	18.4686
137.0667	0.7196	0	18.487	18.487
137.1	0.7186	0	18.4818	18.4818
137.1333	0.7229	0.0091	18.4712	18.4803
137.1667	0.7183	0	18.4804	18.4804
137.2	0.719	0.0091	18.4555	18.4646
137.2333	0.718	0	18.4581	18.4581
137.2667	0.7203	0	18.4673	18.4673
137.3	0.7213	0	18.4699	18.4699
137.3333	0.7176	0	18.4607	18.4607
137.3667	0.7206	0	18.4673	18.4673
137.4	0.7199	0.0091	18.4647	18.4738
137.4333	0.7193	0.0091	18.4804	18.4895
137.4667	0.7176	0.0091	18.466	18.4751
137.5	0.7209	0.0091	18.4712	18.4803
137.5333	0.7173	0.0091	18.4647	18.4738
137.5667	0.7183	0	18.4541	18.4541

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
137.6	0.7196	0	18.4555	18.4555
137.6333	0.7173	0	18.4673	18.4673
137.6667	0.7183	0	18.466	18.466
137.7	0.7203	0.0091	18.4791	18.4882
137.7333	0.7199	0	18.4568	18.4568
137.7667	0.7193	0	18.4515	18.4515
137.8	0.7196	0	18.4765	18.4765
137.8333	0.7183	0	18.4594	18.4594
137.8667	0.7199	0	18.4725	18.4725
137.9	0.7206	0	18.4633	18.4633
137.9333	0.7203	0	18.4725	18.4725
137.9667	0.7219	0.0091	18.466	18.4751
138	0.717	0	18.4607	18.4607
138.0333	0.7183	0.0091	18.4686	18.4777
138.0667	0.7176	0	18.4633	18.4633
138.1	0.7153	0	18.4528	18.4528
138.1333	0.7183	0	18.466	18.466
138.1667	0.7199	0	18.4712	18.4712
138.2	0.7157	0	18.4489	18.4489
138.2333	0.7176	0	18.4581	18.4581
138.2667	0.7157	0	18.4607	18.4607
138.3	0.7163	0.0091	18.4633	18.4724
138.3333	0.7173	0.0091	18.4673	18.4764
138.3667	0.7186	0	18.4633	18.4633
138.4	0.7166	0	18.4686	18.4686
138.4333	0.7186	0	18.462	18.462
138.4667	0.715	0	18.4594	18.4594
138.5	0.7209	0	18.4541	18.4541
138.5333	0.7196	0	18.4568	18.4568
138.5667	0.719	0	18.4686	18.4686
138.6	0.7203	0.0091	18.4462	18.4554
138.6333	0.7196	0	18.462	18.462
138.6667	0.7196	0.0091	18.4712	18.4803
138.7	0.7153	0	18.4581	18.4581
138.7333	0.7209	0	18.4607	18.4607
138.7667	0.7203	0.0223	18.4384	18.4606
138.8	0.7199	0	18.4581	18.4581
138.8333	0.7199	0.0091	18.4476	18.4567
138.8667	0.7186	0	18.4462	18.4462
138.9	0.7163	0.0091	18.441	18.4501
138.9333	0.7186	0	18.4423	18.4423
138.9667	0.7166	0	18.4476	18.4476
139	0.7176	0	18.4436	18.4436

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
139.0333	0.717	0.0091	18.4462	18.4554
139.0667	0.7163	0	18.4397	18.4397
139.1	0.7186	0	18.4344	18.4344
139.1333	0.716	0	18.4515	18.4515
139.1667	0.7186	0	18.4489	18.4489
139.2	0.7176	0.0091	18.4344	18.4435
139.2333	0.7186	0	18.4502	18.4502
139.2667	0.715	0	18.4594	18.4594
139.3	0.7147	0	18.4397	18.4397
139.3333	0.7183	0.0091	18.4515	18.4606
139.3667	0.7166	0.0091	18.4449	18.454
139.4	0.717	0	18.4476	18.4476
139.4333	0.7157	0	18.4292	18.4292
139.4667	0.7157	0	18.4502	18.4502
139.5	0.7153	0	18.4397	18.4397
139.5333	0.7134	0	18.4397	18.4397
139.5667	0.7186	0.0091	18.437	18.4461
139.6	0.715	0	18.4331	18.4331
139.6333	0.715	0	18.4344	18.4344
139.6667	0.7203	0	18.4555	18.4555
139.7	0.7166	0	18.4252	18.4252
139.7333	0.7176	0	18.4344	18.4344
139.7667	0.7173	0	18.441	18.441
139.8	0.7183	0	18.4344	18.4344
139.8333	0.7193	0	18.4121	18.4121
139.8667	0.7213	0	18.437	18.437
139.9	0.7176	0	18.4331	18.4331
139.9333	0.7203	0	18.4186	18.4186
139.9667	0.7186	0	18.4213	18.4213
140	0.7196	0	18.4462	18.4462
140.0333	0.7249	0	18.4292	18.4292
140.0667	0.7216	0.0091	18.437	18.4461
140.1	0.7242	0	18.4476	18.4476
140.1333	0.7242	0	18.4489	18.4489
140.1667	0.7226	0.0091	18.4489	18.458
140.2	0.7259	0	18.4397	18.4397
140.2333	0.7265	0	18.4344	18.4344
140.2667	0.7269	0	18.4397	18.4397
140.3	0.7242	0	18.4423	18.4423
140.3333	0.7292	0	18.4462	18.4462
140.3667	0.7239	0	18.4423	18.4423
140.4	0.7252	0.0091	18.4502	18.4593
140.4333	0.7324	0	18.4581	18.4581



Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
140.4667	0.7292	0	18.4502	18.4502
140.5	0.7269	0	18.4449	18.4449
140.5333	0.7269	0	18.4436	18.4436
140.5667	0.7285	0	18.4633	18.4633
140.6	0.7298	0.0091	18.4568	18.4659
140.6333	0.7278	0.0223	18.4633	18.4856
140.6667	0.7288	0	18.4633	18.4633
140.7	0.7298	0	18.4541	18.4541
140.7333	0.7278	0.0091	18.4686	18.4777
140.7667	0.7305	0	18.4752	18.4752
140.8	0.7275	0	18.4607	18.4607
140.8333	0.7311	0	18.4528	18.4528
140.8667	0.7311	0	18.4568	18.4568
140.9	0.7305	0	18.4528	18.4528
140.9333	0.7315	0	18.4607	18.4607
140.9667	0.7292	0	18.462	18.462
141	0.7275	0	18.4581	18.4581
141.0333	0.7275	0	18.4673	18.4673
141.0667	0.7288	0	18.4673	18.4673
141.1	0.7324	0	18.4765	18.4765
141.1333	0.7308	0	18.4673	18.4673
141.1667	0.7282	0	18.4712	18.4712
141.2	0.7308	0	18.462	18.462
141.2333	0.7334	0.0091	18.4752	18.4843
141.2667	0.7318	0	18.4791	18.4791
141.3	0.7331	0	18.4725	18.4725
141.3333	0.7318	0.0091	18.4857	18.4948
141.3667	0.7308	0	18.4712	18.4712
141.4	0.7315	0	18.4712	18.4712
141.4333	0.7295	0	18.4831	18.4831
141.4667	0.7354	0	18.4673	18.4673
141.5	0.7341	0	18.4765	18.4765
141.5333	0.7318	0	18.4923	18.4923
141.5667	0.7331	0.0091	18.487	18.4961
141.6	0.7328	0.0091	18.4791	18.4882
141.6333	0.7341	0	18.4791	18.4791
141.6667	0.7351	0	18.4857	18.4857
141.7	0.7318	0	18.4739	18.4739
141.7333	0.7311	0	18.4844	18.4844
141.7667	0.7315	0	18.4936	18.4936
141.8	0.7338	0	18.4949	18.4949
141.8333	0.7321	0	18.4818	18.4818
141.8667	0.7328	0	18.4844	18.4844

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
141.9	0.7344	0	18.4883	18.4883
141.9333	0.7315	0	18.4923	18.4923
141.9667	0.7315	0.0091	18.491	18.5001
142	0.7341	0	18.5159	18.5159
142.0333	0.7351	0	18.4923	18.4923
142.0667	0.7351	0	18.4988	18.4988
142.1	0.7341	0	18.5028	18.5028
142.1333	0.7334	0	18.4883	18.4883
142.1667	0.7338	0	18.5107	18.5107
142.2	0.7308	0	18.4962	18.4962
142.2333	0.7321	0	18.5054	18.5054
142.2667	0.7318	0	18.4844	18.4844
142.3	0.7321	0	18.4883	18.4883
142.3333	0.7311	0	18.5028	18.5028
142.3667	0.7315	0.0091	18.5225	18.5316
142.4	0.7298	0	18.5028	18.5028
142.4333	0.7315	0	18.5199	18.5199
142.4667	0.7301	0	18.5094	18.5094
142.5	0.7295	0	18.4988	18.4988
142.5333	0.7298	0	18.5094	18.5094
142.5667	0.7308	0	18.5094	18.5094
142.6	0.7278	0	18.5015	18.5015
142.6333	0.7311	0	18.4936	18.4936
142.6667	0.7292	0	18.4975	18.4975
142.7	0.7282	0	18.5054	18.5054
142.7333	0.7292	0	18.5002	18.5002
142.7667	0.7301	0.0223	18.5054	18.5277
142.8	0.7282	0	18.5067	18.5067
142.8333	0.7308	0	18.5094	18.5094
142.8667	0.7295	0	18.5054	18.5054
142.9	0.7259	0	18.5067	18.5067
142.9333	0.7315	0	18.4962	18.4962
142.9667	0.7278	0	18.4988	18.4988
143	0.7298	0.0091	18.5107	18.5198
143.0333	0.7298	0	18.5002	18.5002
143.0667	0.7288	0.0223	18.5225	18.5448
143.1	0.7288	0	18.512	18.512
143.1333	0.7282	0	18.5225	18.5225
143.1667	0.7288	0	18.5041	18.5041
143.2	0.7305	0.0091	18.4975	18.5066
143.2333	0.7295	0	18.5133	18.5133
143.2667	0.7311	0	18.5107	18.5107
143.3	0.7275	0	18.4949	18.4949

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
143.3333	0.7269	0	18.4936	18.4936
143.3667	0.7259	0.0091	18.5146	18.5237
143.4	0.7269	0	18.5094	18.5094
143.4333	0.7282	0	18.5173	18.5173
143.4667	0.7275	0	18.5186	18.5186
143.5	0.7255	0	18.5041	18.5041
143.5333	0.7278	0	18.5107	18.5107
143.5667	0.7265	0	18.5054	18.5054
143.6	0.7255	0.0091	18.4883	18.4974
143.6333	0.7298	0.0223	18.5278	18.55
143.6667	0.7255	0	18.5067	18.5067
143.7	0.7249	0	18.5159	18.5159
143.7333	0.7269	0	18.5067	18.5067
143.7667	0.7265	0	18.5067	18.5067
143.8	0.7278	0	18.5015	18.5015
143.8333	0.7282	0	18.5002	18.5002
143.8667	0.7285	0.0223	18.5107	18.5329
143.9	0.7265	0.0091	18.4962	18.5053
143.9333	0.7265	0	18.4923	18.4923
143.9667	0.7305	0	18.5002	18.5002
144	0.7265	0	18.5041	18.5041
144.0333	0.7275	0.0091	18.5107	18.5198
144.0667	0.7278	0.0091	18.4988	18.508
144.1	0.7278	0.0091	18.4988	18.508
144.1333	0.7278	0	18.5002	18.5002
144.1667	0.7252	0	18.5028	18.5028
144.2	0.7262	0	18.4896	18.4896
144.2333	0.7252	0	18.4949	18.4949
144.2667	0.7259	0	18.5094	18.5094
144.3	0.7252	0	18.512	18.512
144.3333	0.7269	0	18.5028	18.5028
144.3667	0.7262	0	18.5054	18.5054
144.4	0.7255	0	18.5054	18.5054
144.4333	0.7275	0	18.5028	18.5028
144.4667	0.7298	0	18.5002	18.5002
144.5	0.7285	0	18.4988	18.4988
144.5333	0.7249	0	18.4936	18.4936
144.5667	0.7275	0	18.5041	18.5041
144.6	0.7288	0	18.4923	18.4923
144.6333	0.7282	0	18.491	18.491
144.6667	0.7262	0	18.4857	18.4857
144.7	0.7262	0	18.4962	18.4962
144.7333	0.7269	0	18.5015	18.5015

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
144.7667	0.7305	0.0091	18.5041	18.5132
144.8	0.7236	0	18.5015	18.5015
144.8333	0.7272	0	18.5015	18.5015
144.8667	0.7272	0	18.4975	18.4975
144.9	0.7275	0	18.5094	18.5094
144.9333	0.7222	0	18.5186	18.5186
144.9667	0.7239	0	18.5015	18.5015
145	0.7269	0	18.5041	18.5041
145.0333	0.7265	0	18.4988	18.4988
145.0667	0.7288	0	18.4949	18.4949
145.1	0.7269	0	18.5041	18.5041
145.1333	0.7259	0	18.5081	18.5081
145.1667	0.7272	0	18.4949	18.4949
145.2	0.7262	0	18.4975	18.4975
145.2333	0.7278	0	18.4765	18.4765
145.2667	0.7275	0	18.5186	18.5186
145.3	0.7272	0	18.4883	18.4883
145.3333	0.7265	0	18.4725	18.4725
145.3667	0.7259	0	18.4936	18.4936
145.4	0.7265	0	18.4949	18.4949
145.4333	0.7278	0	18.5002	18.5002
145.4667	0.7239	0	18.4923	18.4923
145.5	0.7262	0	18.491	18.491
145.5333	0.7265	0	18.491	18.491
145.5667	0.7249	0	18.512	18.512
145.6	0.7269	0.0091	18.491	18.5001
145.6333	0.7252	0	18.4936	18.4936
145.6667	0.7272	0	18.4778	18.4778
145.7	0.7292	0	18.4949	18.4949
145.7333	0.7242	0	18.4923	18.4923
145.7667	0.7272	0	18.5002	18.5002
145.8	0.7278	0	18.4988	18.4988
145.8333	0.7282	0	18.4896	18.4896
145.8667	0.7252	0	18.4949	18.4949
145.9	0.7282	0.0091	18.4975	18.5066
145.9333	0.7275	0.0091	18.4818	18.4909
145.9667	0.7275	0	18.491	18.491
146	0.7269	0	18.4818	18.4818
146.0333	0.7252	0.0091	18.487	18.4961
146.0667	0.7262	0.0091	18.5028	18.5119
146.1	0.7308	0	18.4857	18.4857
146.1333	0.7255	0.0091	18.4923	18.5014
146.1667	0.7249	0.0091	18.4818	18.4909

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
146.2	0.7252	0	18.5081	18.5081
146.2333	0.7242	0	18.4844	18.4844
146.2667	0.7252	0	18.4725	18.4725
146.3	0.7249	0	18.4962	18.4962
146.3333	0.7255	0	18.487	18.487
146.3667	0.7229	0	18.4831	18.4831
146.4	0.7255	0	18.487	18.487
146.4333	0.7262	0.0091	18.487	18.4961
146.4667	0.7275	0	18.4804	18.4804
146.5	0.7265	0.0091	18.4923	18.5014
146.5333	0.7236	0.0091	18.4988	18.508
146.5667	0.7245	0.0091	18.4831	18.4922
146.6	0.7265	0	18.466	18.466
146.6333	0.7255	0.0091	18.4883	18.4974
146.6667	0.7269	0	18.4712	18.4712
146.7	0.7236	0	18.4818	18.4818
146.7333	0.7269	0.0091	18.487	18.4961
146.7667	0.7236	0	18.487	18.487
146.8	0.7249	0	18.4831	18.4831
146.8333	0.7272	0.0091	18.4739	18.483
146.8667	0.7262	0	18.4791	18.4791
146.9	0.7255	0	18.4818	18.4818
146.9333	0.7311	0	18.4818	18.4818
146.9667	0.7272	0.0091	18.4831	18.4922
147	0.7278	0.0091	18.4633	18.4724
147.0333	0.7249	0	18.4936	18.4936
147.0667	0.7295	0.0091	18.4699	18.479
147.1	0.7265	0	18.4555	18.4555
147.1333	0.7252	0	18.4752	18.4752
147.1667	0.7285	0	18.4791	18.4791
147.2	0.7278	0	18.4804	18.4804
147.2333	0.7252	0	18.4555	18.4555
147.2667	0.7252	0	18.4765	18.4765
147.3	0.7269	0	18.4686	18.4686
147.3333	0.7255	0	18.4765	18.4765
147.3667	0.7249	0	18.4686	18.4686
147.4	0.7229	0	18.4699	18.4699
147.4333	0.7259	0	18.4752	18.4752
147.4667	0.7265	0.0091	18.4739	18.483
147.5	0.7265	0	18.4739	18.4739
147.5333	0.7278	0	18.4739	18.4739
147.5667	0.7259	0	18.4883	18.4883
147.6	0.7239	0	18.4936	18.4936

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
147.6333	0.7216	0	18.4686	18.4686
147.6667	0.7262	0	18.4818	18.4818
147.7	0.7255	0	18.4752	18.4752
147.7333	0.7252	0	18.4778	18.4778
147.7667	0.7269	0	18.4936	18.4936
147.8	0.7275	0	18.4712	18.4712
147.8333	0.7278	0.0223	18.4791	18.5014
147.8667	0.7301	0	18.4765	18.4765
147.9	0.7275	0	18.4712	18.4712
147.9333	0.7245	0.0091	18.4765	18.4856
147.9667	0.7249	0	18.4778	18.4778
148	0.7252	0	18.4699	18.4699
148.0333	0.7269	0	18.4555	18.4555
148.0667	0.7242	0.0091	18.4633	18.4724
148.1	0.7278	0.0091	18.4673	18.4764
148.1333	0.7262	0	18.4883	18.4883
148.1667	0.7301	0	18.4686	18.4686
148.2	0.7265	0	18.4673	18.4673
148.2333	0.7259	0.0091	18.4568	18.4659
148.2667	0.7262	0.0091	18.4791	18.4882
148.3	0.7232	0	18.4725	18.4725
148.3333	0.7275	0	18.4686	18.4686
148.3667	0.7226	0	18.466	18.466
148.4	0.7209	0	18.4699	18.4699
148.4333	0.7269	0	18.4712	18.4712
148.4667	0.7262	0	18.4712	18.4712
148.5	0.7262	0	18.4725	18.4725
148.5333	0.7242	0	18.466	18.466
148.5667	0.7242	0	18.4686	18.4686
148.6	0.7275	0.0091	18.4607	18.4698
148.6333	0.7239	0	18.4594	18.4594
148.6667	0.7249	0.0091	18.4673	18.4764
148.7	0.7252	0.0091	18.4699	18.479
148.7333	0.7245	0	18.4568	18.4568
148.7667	0.7249	0.0091	18.4712	18.4803
148.8	0.7245	0	18.466	18.466
148.8333	0.7229	0	18.4476	18.4476
148.8667	0.7229	0	18.4699	18.4699
148.9	0.7278	0.0091	18.4686	18.4777
148.9333	0.7229	0	18.4568	18.4568
148.9667	0.7262	0.0091	18.4581	18.4672
149	0.7255	0	18.4581	18.4581
149.0333	0.7259	0	18.4581	18.4581



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
149.0667	0.7275	0	18.4581	18.4581
149.1	0.7265	0.0223	18.4725	18.4948
149.1333	0.7265	0	18.462	18.462
149.1667	0.7252	0.0091	18.4673	18.4764
149.2	0.7275	0	18.4633	18.4633
149.2333	0.7249	0	18.4673	18.4673
149.2667	0.7262	0	18.4686	18.4686
149.3	0.7278	0	18.4515	18.4515
149.3333	0.7285	0	18.462	18.462
149.3667	0.7245	0.0091	18.4568	18.4659
149.4	0.7229	0	18.4541	18.4541
149.4333	0.7272	0	18.4489	18.4489
149.4667	0.7242	0	18.4528	18.4528
149.5	0.7272	0.0091	18.4712	18.4803
149.5333	0.7249	0	18.462	18.462
149.5667	0.7259	0	18.4449	18.4449
149.6	0.7272	0.0091	18.4528	18.4619
149.6333	0.7259	0	18.4476	18.4476
149.6667	0.7216	0	18.4502	18.4502
149.7	0.7255	0.0091	18.466	18.4751
149.7333	0.7249	0	18.4528	18.4528
149.7667	0.7229	0	18.4502	18.4502
149.8	0.7242	0.0091	18.4541	18.4632
149.8333	0.7242	0	18.4594	18.4594
149.8667	0.7249	0	18.4462	18.4462
149.9	0.7242	0.0091	18.4502	18.4593
149.9333	0.7265	0.0091	18.4528	18.4619
149.9667	0.7262	0	18.4436	18.4436
150	0.7262	0	18.4397	18.4397
150.0333	0.7255	0	18.4515	18.4515
150.0667	0.7249	0	18.4568	18.4568
150.1	0.7245	0	18.4449	18.4449
150.1333	0.7344	38.4326	14.93	53.3626
150.1667	0.7545	44.4683	13.7663	58.2346
150.2	0.7825	42.5485	13.6913	56.2398
150.2333	0.7904	41.194	13.5914	54.7854
150.2667	0.7989	40.5366	13.5309	54.0674
150.3	0.8002	39.5898	13.2455	52.8353
150.3333	0.8026	38.8008	12.9418	51.7426
150.3667	0.8065	41.3124	0	41.3124
150.4	0.795	40.8259	0.0011	40.827
150.4333	0.7937	40.2341	0	40.2341
150.4667	0.7868	39.9185	0	39.9185

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
150.5	0.7838	39.4714	0	39.4714
150.5333	0.7766	39.2347	0	39.2347
150.5667	0.7706	38.6299	0	38.6299
150.6	0.765	38.4063	0	38.4063
150.6333	0.7604	38.1039	0	38.1039
150.6667	0.7529	37.6436	0	37.6436
150.7	0.7476	37.3412	0	37.3412
150.7333	0.7446	37.0913	0	37.0913
150.7667	0.7384	36.7494	0.0011	36.7506
150.8	0.7321	36.3681	0.0011	36.3692
150.8333	0.7275	36.0525	0	36.0525
150.8667	0.7229	35.6975	0	35.6975
150.9	0.715	35.3819	0	35.3819
150.9333	0.7127	35.0531	0	35.0531
150.9667	0.7094	34.7375	0	34.7375
151	0.7009	34.4219	0	34.4219
151.0333	0.6936	34.0669	0.0011	34.068
151.0667	0.689	33.7513	0.0011	33.7524
151.1	0.6834	33.4752	0	33.4752
151.1333	0.6791	33.1464	0	33.1464
151.1667	0.6735	32.844	0	32.844
151.2	0.6722	32.6467	0.0011	32.6478
151.2333	0.663	32.2259	0.0024	32.2284
151.2667	0.6604	31.9629	0	31.9629
151.3	0.6508	31.6342	0	31.6342
151.3333	0.6488	31.3844	0	31.3844
151.3667	0.6452	31.1477	0	31.1477
151.4	0.6383	30.8978	0	30.8978
151.4333	0.6317	30.5296	0	30.5296
151.4667	0.6258	30.3324	0.0011	30.3335
151.5	0.6357	30.0825	0	30.0825
151.5333	0.6571	29.8195	0	29.8195
151.5667	0.6814	29.6223	0	29.6223
151.6	0.7025	29.3724	0.0011	29.3736
151.6333	0.7232	29.1752	0	29.1752
151.6667	0.7423	28.978	0.0011	28.9791
151.7	0.7598	28.8728	0	28.8728
151.7333	0.7775	28.7413	0	28.7413
151.7667	0.7923	28.5046	0.0011	28.5057
151.8	0.8055	28.3862	0	28.3862
151.8333	0.818	28.2416	0	28.2416
151.8667	0.8371	28.1495	0	28.1495
151.9	0.8486	28.0838	0	28.0838

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
151.9333	0.8615	27.9917	0.0011	27.9928
151.9667	0.8707	27.8339	0	27.8339
152	0.8838	27.755	0.0011	27.7561
152.0333	0.8927	27.3211	0.0011	27.3222
152.0667	0.9052	26.6636	0	26.6636
152.1	0.9128	27.1501	0	27.1501
152.1333	0.9224	27.3868	0.0011	27.3879
152.1667	0.9322	27.2816	0.0011	27.2828
152.2	0.9405	27.1896	0	27.1896
152.2333	0.9493	27.137	0	27.137
152.2667	0.9572	27.0055	0.0011	27.0066
152.3	0.9661	26.9397	0.0011	26.9409
152.3333	0.9714	26.9134	0.0011	26.9146
152.3667	0.9829	26.7951	0	26.7951
152.4	0.9859	26.7951	0.0011	26.7962
152.4333	0.9938	26.7556	0	26.7556
152.4667	1.0004	26.6768	0.0011	26.6779
152.5	1.0063	26.5584	0.0011	26.5595
152.5333	1.0129	26.5453	0	26.5453
152.5667	1.0162	26.4927	0	26.4927
152.6	1.0221	26.4532	0.0011	26.4543
152.6333	1.0313	26.4532	0	26.4532
152.6667	1.0333	26.4401	0	26.4401
152.7	1.0379	26.3612	0.0011	26.3623
152.7333	1.0428	26.3612	0.0024	26.3636
152.7667	1.0471	26.256	0	26.256
152.8	1.0524	26.2954	0	26.2954
152.8333	1.0563	26.2165	0	26.2165
152.8667	1.0573	26.1902	0	26.1902
152.9	1.0622	26.1376	0	26.1376
152.9333	1.0659	26.1376	0.0011	26.1387
152.9667	1.0695	26.0982	0	26.0982
153	1.0715	26.0587	0	26.0587
153.0333	1.0738	26.0587	0.0011	26.0598
153.0667	1.0767	26.0587	0	26.0587
153.1	1.0813	26.0324	0	26.0324
153.1333	1.0836	25.9272	0	25.9272
153.1667	1.0856	25.9535	0	25.9535
153.2	1.0892	25.8878	0.0024	25.8902
153.2333	1.0905	25.9272	0.0011	25.9283
153.2667	1.0958	25.9535	0.0011	25.9546
153.3	1.1024	25.8878	0	25.8878
153.3333	1.1017	25.9141	0	25.9141

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
153.3667	1.104	25.8878	0	25.8878
153.4	1.107	25.8746	0	25.8746
153.4333	1.1063	25.8352	0.0024	25.8376
153.4667	1.1103	25.8352	0.0011	25.8363
153.5	1.1165	25.822	0	25.822
153.5333	1.1188	25.7957	0	25.7957
153.5667	1.1198	25.8615	0.0011	25.8626
153.6	1.1198	25.7431	0	25.7431
153.6333	1.1238	25.7826	0	25.7826
153.6667	1.1258	25.7431	0	25.7431
153.7	1.1254	25.7957	0	25.7957
153.7333	1.1287	25.7563	0	25.7563
153.7667	1.1327	25.73	0	25.73
153.8	1.1317	25.7037	0	25.7037
153.8333	1.136	25.7168	0.0011	25.7179
153.8667	1.1376	25.6905	0	25.6905
153.9	1.1402	25.7037	0	25.7037
153.9333	1.1409	25.6905	0	25.6905
153.9667	1.1429	25.6774	0	25.6774
154	1.1425	25.6774	0	25.6774
154.0333	1.1462	25.6642	0.0011	25.6653
154.0667	1.1449	25.6379	0	25.6379
154.1	1.1485	25.6905	0	25.6905
154.1333	1.1501	25.6774	0	25.6774
154.1667	1.1491	25.6774	0	25.6774
154.2	1.1508	25.6511	0.0011	25.6522
154.2333	1.1524	25.73	0	25.73
154.2667	1.1564	25.7168	0	25.7168
154.3	1.157	25.6905	0.0011	25.6916
154.3333	1.1554	25.6642	0.0011	25.6653
154.3667	1.1587	25.6905	0	25.6905
154.4	1.1593	25.6905	0.0011	25.6916
154.4333	1.1583	25.6642	0.0011	25.6653
154.4667	1.1646	25.6511	0	25.6511
154.5	1.1639	25.6511	0.0011	25.6522
154.5333	1.1669	25.6774	0	25.6774
154.5667	1.1679	25.7037	0	25.7037
154.6	1.1725	25.6905	0	25.6905
154.6333	1.1791	25.6642	0	25.6642
154.6667	1.1807	25.7431	0	25.7431
154.7	1.183	25.7431	0	25.7431
154.7333	1.182	25.6905	0	25.6905
154.7667	1.184	25.7431	0.0011	25.7442

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
154.8	1.189	25.7431	0	25.7431
154.8333	1.1919	25.6905	0	25.6905
154.8667	1.1949	25.7563	0.0011	25.7574
154.9	1.2015	25.7431	0.0011	25.7442
154.9333	1.2021	25.7694	0.0024	25.7718
154.9667	1.2103	25.7957	0	25.7957
155	1.2113	25.822	0	25.822
155.0333	1.2143	25.8089	0	25.8089
155.0667	1.2199	25.8483	0.0011	25.8494
155.1	1.2229	25.8746	0.0011	25.8757
155.1333	1.2265	25.8483	0	25.8483
155.1667	1.2265	25.8746	0.0011	25.8757
155.2	1.2278	25.9141	0	25.9141
155.2333	1.2357	25.9141	0	25.9141
155.2667	1.2354	25.9535	0	25.9535
155.3	1.238	25.9404	0.0011	25.9415
155.3333	1.2423	25.9798	0	25.9798
155.3667	1.2429	25.993	0	25.993
155.4	1.2442	25.9798	0.0011	25.9809
155.4333	1.2482	26.0193	0	26.0193
155.4667	1.2502	26.0587	0	26.0587
155.5	1.2538	26.0719	0	26.0719
155.5333	1.2551	26.1113	0	26.1113
155.5667	1.2577	26.1113	0	26.1113
155.6	1.2571	26.0719	0.0011	26.073
155.6333	1.261	26.1639	0.0011	26.165
155.6667	1.266	26.1639	0	26.1639
155.7	1.264	26.2034	0	26.2034
155.7333	1.2663	26.2297	0.0024	26.2321
155.7667	1.2716	26.2691	0	26.2691
155.8	1.2726	26.3349	0.0011	26.336
155.8333	1.2739	26.2691	0	26.2691
155.8667	1.2742	26.2691	0	26.2691
155.9	1.2765	26.3349	0	26.3349
155.9333	1.2772	26.3217	0.0024	26.3241
155.9667	1.2791	26.3086	0.0011	26.3097
156	1.2841	26.3875	0	26.3875
156.0333	1.2847	26.3612	0	26.3612
156.0667	1.2903	26.4006	0	26.4006
156.1	1.289	26.4138	0.0011	26.4149
156.1333	1.2913	26.3875	0	26.3875
156.1667	1.2972	26.4795	0	26.4795
156.2	1.2972	26.4532	0	26.4532

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
156.2333	1.3015	26.4664	0	26.4664
156.2667	1.3018	26.4927	0	26.4927
156.3	1.3081	26.5979	0	26.5979
156.3333	1.3088	26.5847	0	26.5847
156.3667	1.3094	26.5716	0	26.5716
156.4	1.314	26.5979	0	26.5979
156.4333	1.3147	26.6768	0	26.6768
156.4667	1.3193	26.6636	0.0011	26.6647
156.5	1.3232	26.6899	0	26.6899
156.5333	1.3219	26.7294	0	26.7294
156.5667	1.3229	26.7425	0	26.7425
156.6	1.3285	26.7819	0	26.7819
156.6333	1.3318	26.8214	0	26.8214
156.6667	1.3341	26.8214	0	26.8214
156.7	1.3344	26.8214	0.0024	26.8238
156.7333	1.3361	26.8214	0	26.8214
156.7667	1.3344	26.9134	0	26.9134
156.8	1.3364	26.9003	0	26.9003
156.8333	1.3407	26.9003	0	26.9003
156.8667	1.3381	26.874	0	26.874
156.9	1.3427	27.0055	0	27.0055
156.9333	1.3427	26.9792	0.0011	26.9803
156.9667	1.3466	27.0449	0.0011	27.0461
157	1.3476	27.0186	0	27.0186
157.0333	1.3492	27.0712	0	27.0712
157.0667	1.3483	27.0844	0	27.0844
157.1	1.3532	27.0318	0.0011	27.0329
157.1333	1.3548	27.1107	0.0011	27.1118
157.1667	1.3558	27.0975	0	27.0975
157.2	1.3575	27.1501	0	27.1501
157.2333	1.3598	27.2027	0	27.2027
157.2667	1.3598	27.1633	0.0011	27.1644
157.3	1.3644	27.2027	0.0024	27.2052
157.3333	1.3624	27.2553	0.0011	27.2565
157.3667	1.3614	27.229	0	27.229
157.4	1.3618	27.2685	0.0011	27.2696
157.4333	1.3621	27.3079	0	27.3079
157.4667	1.3687	27.2816	0	27.2816
157.5	1.3703	27.3868	0.0024	27.3893
157.5333	1.372	27.4	0	27.4
157.5667	1.3739	27.3868	0	27.3868
157.6	1.3775	27.4526	0.0011	27.4537
157.6333	1.3785	27.4	0.0011	27.4011



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157.6667	1.3799	27.4131	0	27.4131
157.7	1.3841	27.5052	0.0011	27.5063
157.7333	1.3864	27.5183	0	27.5183
157.7667	1.3868	27.5446	0	27.5446
157.8	1.3914	27.5315	0	27.5315
157.8333	1.395	27.5972	0.0011	27.5983
157.8667	1.3947	27.663	0	27.663
157.9	1.3973	27.6498	0	27.6498
157.9333	1.3976	27.6761	0.0024	27.6786
157.9667	1.3996	27.6498	0	27.6498
158	1.3986	27.7287	0	27.7287
158.0333	1.4045	27.6893	0	27.6893
158.0667	1.4085	27.7156	0.0024	27.718
158.1	1.4075	27.8339	0.0011	27.835
158.1333	1.4098	27.8076	0.0011	27.8087
158.1667	1.4105	27.7945	0	27.7945
158.2	1.4134	27.8471	0.0011	27.8482
158.2333	1.417	27.8734	0	27.8734
158.2667	1.4138	27.8865	0	27.8865
158.3	1.4197	27.926	0.0011	27.9271
158.3333	1.422	27.8997	0.0011	27.9008
158.3667	1.4217	27.9391	0.0011	27.9402
158.4	1.4223	27.9523	0	27.9523
158.4333	1.4259	27.9786	0	27.9786
158.4667	1.4276	28.0706	0	28.0706
158.5	1.4296	28.1495	0	28.1495
158.5333	1.4312	28.1101	0.0011	28.1112
158.5667	1.4296	28.1101	0	28.1101
158.6	1.4332	28.189	0	28.189
158.6333	1.4335	28.1232	0	28.1232
158.6667	1.4345	28.1627	0	28.1627
158.7	1.4368	28.2153	0	28.2153
158.7333	1.4358	28.2416	0	28.2416
158.7667	1.4384	28.2021	0	28.2021
158.8	1.4378	28.2679	0	28.2679
158.8333	1.4421	28.2284	0	28.2284
158.8667	1.4391	28.2942	0	28.2942
158.9	1.4411	28.3468	0	28.3468
158.9333	1.4463	28.3994	0	28.3994
158.9667	1.4444	28.3862	0	28.3862
159	1.4444	28.3862	0	28.3862
159.0333	1.4454	28.3862	0	28.3862
159.0667	1.445	28.4257	0	28.4257

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
159.1	1.449	28.4651	0	28.4651
159.1333	1.4467	28.4783	0.0011	28.4794
159.1667	1.4486	28.5177	0	28.5177
159.2	1.4513	28.544	0.0024	28.5464
159.2333	1.4513	28.5835	0	28.5835
159.2667	1.4486	28.5703	0.0024	28.5727
159.3	1.4523	28.5703	0	28.5703
159.3333	1.4549	28.5572	0	28.5572
159.3667	1.4569	28.5835	0	28.5835
159.4	1.4516	28.6361	0	28.6361
159.4333	1.4532	28.6361	0.0011	28.6372
159.4667	1.4536	28.7018	0.0011	28.7029
159.5	1.4516	28.715	0	28.715
159.5333	1.4506	28.7413	0	28.7413
159.5667	1.4519	28.7018	0	28.7018
159.6	1.4503	28.7544	0.0011	28.7555
159.6333	1.4529	28.7413	0	28.7413
159.6667	1.4513	28.715	0.0011	28.7161
159.7	1.4503	28.7281	0.0011	28.7292
159.7333	1.4529	28.7676	0.0011	28.7687
159.7667	1.4496	28.7939	0	28.7939
159.8	1.4447	28.7807	0.0011	28.7818
159.8333	1.4496	28.807	0	28.807
159.8667	1.4483	28.8333	0	28.8333
159.9	1.4463	28.7939	0.0011	28.795
159.9333	1.448	28.8596	0.0011	28.8607
159.9667	1.4444	28.8596	0	28.8596
160	1.4483	28.8465	0	28.8465
160.0333	1.4444	28.8333	0	28.8333
160.0667	1.447	28.8596	0	28.8596
160.1	1.4444	28.8596	0	28.8596
160.1333	1.445	28.9122	0	28.9122
160.1667	1.4467	28.8991	0	28.8991
160.2	1.4467	28.9385	0	28.9385
160.2333	1.4427	28.8991	0	28.8991
160.2667	1.447	28.9648	0	28.9648
160.3	1.444	28.9517	0	28.9517
160.3333	1.4457	28.9385	0.0011	28.9396
160.3667	1.447	28.9648	0.0011	28.9659
160.4	1.445	28.9648	0.0011	28.9659
160.4333	1.444	28.9385	0	28.9385
160.4667	1.4444	28.9517	0	28.9517
160.5	1.4427	28.9648	0	28.9648

Areva NP Inc.

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
160.5333	1.4447	29.0174	0	29.0174
160.5667	1.4421	29.0306	0	29.0306
160.6	1.445	29.0306	0.0011	29.0317
160.6333	1.4427	28.9648	0.0011	28.9659
160.6667	1.4447	28.9911	0	28.9911
160.7	1.4447	28.9911	0.0011	28.9922
160.7333	1.4424	29.0306	0.0011	29.0317
160.7667	1.4454	28.9911	0	28.9911
160.8	1.445	29.0437	0	29.0437
160.8333	1.447	29.0306	0	29.0306
160.8667	1.446	29.07	0	29.07
160.9	1.443	29.1095	0.0011	29.1106
160.9333	1.446	29.1095	0.0011	29.1106
160.9667	1.4417	29.0043	0.0011	29.0054
161	1.445	29.0832	0	29.0832
161.0333	1.4473	29.0832	0	29.0832
161.0667	1.444	29.1095	0	29.1095
161.1	1.4437	29.1095	0	29.1095
161.1333	1.4447	29.1095	0.0011	29.1106
161.1667	1.446	29.0963	0	29.0963
161.2	1.4437	29.0963	0.0011	29.0974
161.2333	1.4447	29.1095	0	29.1095
161.2667	1.4463	29.0832	0	29.0832
161.3	1.443	29.1226	0	29.1226
161.3333	1.4454	29.07	0	29.07
161.3667	1.4447	29.0832	0.0011	29.0843
161.4	1.446	29.1226	0	29.1226
161.4333	1.4467	29.162	0	29.162
161.4667	1.4437	29.1095	0	29.1095
161.5	1.4437	29.0569	0	29.0569
161.5333	1.4417	29.0963	0	29.0963
161.5667	1.445	29.0437	0	29.0437
161.6	1.443	29.1226	0	29.1226
161.6333	1.4411	29.0832	0	29.0832
161.6667	1.4421	29.1358	0	29.1358
161.7	1.4454	29.1226	0	29.1226
161.7333	1.443	29.1358	0	29.1358
161.7667	1.4444	29.1095	0	29.1095
161.8	1.445	29.1358	0.0011	29.1369
161.8333	1.4437	29.1883	0.0011	29.1895
161.8667	1.4447	29.1226	0	29.1226
161.9	1.444	29.1752	0	29.1752
161.9333	1.4457	29.1752	0.0011	29.1763

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
161.9667	1.4463	29.1358	0.0024	29.1382
162	1.445	29.1489	0	29.1489
162.0333	1.4457	29.1358	0	29.1358
162.0667	1.446	29.1883	0	29.1883
162.1	1.4411	29.2015	0	29.2015
162.1333	1.4447	29.1883	0	29.1883
162.1667	1.4417	29.2146	0	29.2146
162.2	1.4424	29.162	0	29.162
162.2333	1.4457	29.2146	0.0011	29.2158
162.2667	1.4477	29.1883	0	29.1883
162.3	1.4411	29.2146	0	29.2146
162.3333	1.4454	29.2146	0.0011	29.2158
162.3667	1.443	29.1358	0	29.1358
162.4	1.4421	29.162	0	29.162
162.4333	1.4467	29.2146	0	29.2146
162.4667	1.445	29.2409	0	29.2409
162.5	1.443	29.2146	0	29.2146
162.5333	1.4427	29.162	0	29.162
162.5667	1.445	29.2146	0	29.2146
162.6	1.444	29.2146	0	29.2146
162.6333	1.443	29.2409	0.0011	29.2421
162.6667	1.4463	29.2278	0	29.2278
162.7	1.4467	29.2278	0	29.2278
162.7333	1.4457	29.162	0	29.162
162.7667	1.4424	29.1883	0	29.1883
162.8	1.4444	29.1883	0	29.1883
162.8333	1.4421	29.2146	0.0011	29.2158
162.8667	1.4437	29.2146	0	29.2146
162.9	1.4427	29.2278	0	29.2278
162.9333	1.4401	29.2015	0.0011	29.2026
162.9667	1.445	29.2278	0	29.2278
163	1.4444	29.2015	0	29.2015
163.0333	1.4447	29.2015	0	29.2015
163.0667	1.4427	29.2146	0	29.2146
163.1	1.443	29.2146	0.0011	29.2158
163.1333	1.4424	29.2278	0	29.2278
163.1667	1.443	29.2146	0.0024	29.2171
163.2	1.4444	29.2015	0.0011	29.2026
163.2333	1.4421	29.2015	0	29.2015
163.2667	1.4414	29.2672	0	29.2672
163.3	1.444	29.2278	0	29.2278
163.3333	1.4447	29.2146	0	29.2146
163.3667	1.4457	29.2278	0.0011	29.2289

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
163.4	1.445	29.1752	0.0011	29.1763
163.4333	1.4417	29.2278	0	29.2278
163.4667	1.4411	29.2146	0	29.2146
163.5	1.4444	29.2409	0.0011	29.2421
163.5333	1.443	29.2146	0	29.2146
163.5667	1.4404	29.1883	0	29.1883
163.6	1.4444	29.2146	0	29.2146
163.6333	1.4414	29.2146	0.0024	29.2171
163.6667	1.4427	29.2015	0	29.2015
163.7	1.443	29.2146	0	29.2146
163.7333	1.446	29.2278	0	29.2278
163.7667	1.4434	29.2278	0	29.2278
163.8	1.4444	29.2278	0.0011	29.2289
163.8333	1.4421	29.2278	0	29.2278
163.8667	1.444	29.2146	0.0011	29.2158
163.9	1.4421	29.2409	0	29.2409
163.9333	1.4424	29.2409	0	29.2409
163.9667	1.4421	29.2278	0	29.2278
164	1.4417	29.1489	0.0011	29.15
164.0333	1.4447	29.2409	0	29.2409
164.0667	1.4424	29.2409	0	29.2409
164.1	1.4454	29.2672	0	29.2672
164.1333	1.4411	29.2146	0	29.2146
164.1667	1.4467	29.2278	0.0011	29.2289
164.2	1.4427	29.162	0	29.162
164.2333	1.4404	29.2409	0	29.2409
164.2667	1.4427	29.2146	0	29.2146
164.3	1.4421	29.2541	0.0011	29.2552
164.3333	1.4434	29.2804	0	29.2804
164.3667	1.445	29.2278	0	29.2278
164.4	1.447	29.2278	0.0011	29.2289
164.4333	1.445	29.2935	0	29.2935
164.4667	1.445	29.2278	0	29.2278
164.5	1.445	29.1883	0	29.1883
164.5333	1.4454	29.2278	0	29.2278
164.5667	1.4473	29.2278	0	29.2278
164.6	1.4444	29.2935	0	29.2935
164.6333	1.443	29.2541	0.0024	29.2565
164.6667	1.443	29.2015	0.0011	29.2026
164.7	1.4434	29.2146	0.0011	29.2158
164.7333	1.4424	29.2409	0	29.2409
164.7667	1.4447	29.2015	0	29.2015
164.8	1.4424	29.2278	0	29.2278

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October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
164.8333	1.4437	29.2409	0.0011	29.2421
164.8667	1.4447	29.2541	0	29.2541
164.9	1.4434	29.2804	0.0011	29.2815
164.9333	1.4444	29.2541	0	29.2541
164.9667	1.4407	29.2409	0	29.2409
165	1.4444	29.2278	0.0011	29.2289
165.0333	1.444	29.2278	0.0011	29.2289
165.0667	1.443	29.2015	0	29.2015
165.1	1.4407	29.2146	0.0011	29.2158
165.1333	1.4417	29.2409	0	29.2409
165.1667	1.443	29.2146	0	29.2146
165.2	1.4398	29.2541	0	29.2541
165.2333	1.4421	29.2804	0.0024	29.2828
165.2667	1.4424	29.2541	0.0011	29.2552
165.3	1.4394	29.2672	0.0024	29.2697
165.3333	1.4404	29.2146	0	29.2146
165.3667	1.4427	29.2804	0.0011	29.2815
165.4	1.4404	29.2672	0	29.2672
165.4333	1.4411	29.2146	0	29.2146
165.4667	1.4427	29.2146	0.0011	29.2158
165.5	1.4398	29.2278	0	29.2278
165.5333	1.4427	29.2146	0.0011	29.2158
165.5667	1.4384	29.2015	0.0011	29.2026
165.6	1.4434	29.162	0	29.162
165.6333	1.4414	29.2278	0.0024	29.2302
165.6667	1.4417	29.2409	0	29.2409
165.7	1.4414	29.2409	0.0011	29.2421
165.7333	1.444	29.2146	0	29.2146
165.7667	1.4417	29.1883	0	29.1883
165.8	1.443	29.2278	0.0011	29.2289
165.8333	1.4384	29.2278	0	29.2278
165.8667	1.4424	29.2146	0	29.2146
165.9	1.443	29.2804	0	29.2804
165.9333	1.443	29.2146	0	29.2146
165.9667	1.4437	29.2672	0	29.2672
166	1.4437	29.2015	0.0011	29.2026
166.0333	1.4414	29.2541	0	29.2541
166.0667	1.443	29.2278	0.0011	29.2289
166.1	1.443	29.2409	0	29.2409
166.1333	1.443	29.2541	0	29.2541
166.1667	1.4401	29.2146	0.0011	29.2158
166.2	1.4407	29.2146	0	29.2146
166.2333	1.4417	29.2278	0	29.2278



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
166.2667	1.443	29.1489	0	29.1489
166.3	1.4417	29.2409	0.0011	29.2421
166.3333	1.4411	29.2146	0.0011	29.2158
166.3667	1.444	29.1226	0	29.1226
166.4	1.4404	29.2146	0	29.2146
166.4333	1.4434	29.2015	0	29.2015
166.4667	1.4398	29.2409	0	29.2409
166.5	1.444	29.2409	0	29.2409
166.5333	1.4407	29.2015	0.0011	29.2026
166.5667	1.4417	29.2278	0.0011	29.2289
166.6	1.4388	29.1752	0	29.1752
166.6333	1.4384	29.1883	0	29.1883
166.6667	1.4414	29.2015	0.0011	29.2026
166.7	1.4401	29.2409	0	29.2409
166.7333	1.4394	29.2015	0	29.2015
166.7667	1.4401	29.1883	0	29.1883
166.8	1.4398	29.1883	0	29.1883
166.8333	1.4381	29.1752	0.0011	29.1763
166.8667	1.4361	29.2015	0.0011	29.2026
166.9	1.4407	29.2146	0	29.2146
166.9333	1.4417	29.2015	0	29.2015
166.9667	1.4424	29.2278	0.0011	29.2289
167	1.4424	29.2278	0	29.2278
167.0333	1.4411	29.2015	0	29.2015
167.0667	1.4424	29.1752	0	29.1752
167.1	1.4398	29.2146	0	29.2146
167.1333	1.4391	29.162	0	29.162
167.1667	1.4378	29.2278	0	29.2278
167.2	1.4407	29.2146	0	29.2146
167.2333	1.4407	29.162	0.0011	29.1632
167.2667	1.4404	29.1489	0	29.1489
167.3	1.4398	29.2672	0	29.2672
167.3333	1.4404	29.2146	0.0011	29.2158
167.3667	1.4407	29.1095	0	29.1095
167.4	1.4394	29.2146	0	29.2146
167.4333	1.4407	29.1883	0.0011	29.1895
167.4667	1.4388	29.2015	0	29.2015
167.5	1.4388	29.1752	0.0024	29.1776
167.5333	1.4394	29.1752	0	29.1752
167.5667	1.4394	29.2146	0	29.2146
167.6	1.4424	29.2146	0	29.2146
167.6333	1.4388	29.2015	0	29.2015
167.6667	1.4404	29.162	0	29.162

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
167.7	1.443	29.2015	0.0011	29.2026
167.7333	1.4381	29.1883	0	29.1883
167.7667	1.4417	29.2015	0	29.2015
167.8	1.4421	29.1752	0	29.1752
167.8333	1.4414	29.1883	0	29.1883
167.8667	1.4394	29.2015	0	29.2015
167.9	1.4421	29.2146	0	29.2146
167.9333	1.4434	29.2278	0.0011	29.2289
167.9667	1.4388	29.1883	0.0024	29.1908
168	1.4381	29.1883	0	29.1883
168.0333	1.4391	29.162	0	29.162
168.0667	1.4434	29.1752	0	29.1752
168.1	1.4388	29.1752	0	29.1752
168.1333	1.4414	29.2146	0	29.2146
168.1667	1.4384	29.1489	0	29.1489
168.2	1.4391	29.162	0	29.162
168.2333	1.4394	29.2015	0.0011	29.2026
168.2667	1.4401	29.2015	0.0011	29.2026
168.3	1.4404	29.2278	0.0011	29.2289
168.3333	1.4414	29.1752	0.0011	29.1763
168.3667	1.4407	29.1883	0	29.1883
168.4	1.4398	29.1752	0.0011	29.1763
168.4333	1.4424	29.1489	0.0011	29.15
168.4667	1.4401	29.2146	0	29.2146
168.5	1.4401	29.2146	0.0011	29.2158
168.5333	1.4414	29.1752	0	29.1752
168.5667	1.4411	29.162	0	29.162
168.6	1.4401	29.1752	0	29.1752
168.6333	1.4398	29.2541	0.0011	29.2552
168.6667	1.4371	29.1883	0.0011	29.1895
168.7	1.4391	29.2146	0	29.2146
168.7333	1.4394	29.2015	0.0024	29.2039
168.7667	1.4388	29.1883	0.0011	29.1895
168.8	1.4417	29.1489	0	29.1489
168.8333	1.443	29.162	0	29.162
168.8667	1.4407	29.1489	0.0011	29.15
168.9	1.4365	29.2015	0	29.2015
168.9333	1.4378	29.1752	0.0011	29.1763
168.9667	1.4401	29.2146	0	29.2146
169	1.4411	29.1752	0	29.1752
169.0333	1.443	29.2015	0	29.2015
169.0667	1.4411	29.2015	0	29.2015
169.1	1.4417	29.1226	0	29.1226

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
169.1333	1.4424	29.2015	0.0011	29.2026
169.1667	1.4375	29.1358	0	29.1358
169.2	1.4417	29.1752	0.0011	29.1763
169.2333	1.4391	29.1226	0.0011	29.1237
169.2667	1.4414	29.1489	0	29.1489
169.3	1.4398	29.2015	0	29.2015
169.3333	1.4388	29.1883	0	29.1883
169.3667	1.4378	29.1752	0.0011	29.1763
169.4	1.4411	29.2146	0	29.2146
169.4333	1.4381	29.2409	0.0011	29.2421
169.4667	1.4407	29.2409	0.0011	29.2421
169.5	1.4394	29.162	0.0011	29.1632
169.5333	1.4404	29.1883	0.0011	29.1895
169.5667	1.4421	29.1752	0	29.1752
169.6	1.4407	29.162	0.0024	29.1645
169.6333	1.4411	29.2146	0	29.2146
169.6667	1.4381	29.2146	0.0024	29.2171
169.7	1.4444	29.1358	0.0011	29.1369
169.7333	1.4417	29.162	0.0011	29.1632
169.7667	1.4378	29.1358	0	29.1358
169.8	1.4398	29.2015	0	29.2015
169.8333	1.4371	29.1489	0	29.1489
169.8667	1.4381	29.2146	0.0011	29.2158
169.9	1.4401	29.2146	0.0011	29.2158
169.9333	1.4417	29.1489	0	29.1489
169.9667	1.4394	29.1752	0.0024	29.1776
170	1.4437	29.162	0	29.162
170.0333	1.4421	29.1752	0	29.1752
170.0667	1.4375	29.1489	0	29.1489
170.1	1.4424	29.07	0	29.07
170.1333	1.4365	29.2015	0	29.2015
170.1667	1.4378	29.0963	0.0011	29.0974
170.2	1.4381	29.1095	0.0011	29.1106
170.2333	1.4407	29.1095	0.0011	29.1106
170.2667	1.4365	29.1489	0	29.1489
170.3	1.4394	29.162	0.0011	29.1632
170.3333	1.4401	29.1226	0.0011	29.1237
170.3667	1.4375	29.1226	0	29.1226
170.4	1.4391	29.1095	0.0011	29.1106
170.4333	1.4381	29.162	0.0011	29.1632
170.4667	1.4388	29.1358	0	29.1358
170.5	1.4391	29.162	0	29.162
170.5333	1.4401	29.1752	0.0011	29.1763

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
170.5667	1.4391	29.1883	0	29.1883
170.6	1.4411	29.2015	0	29.2015
170.6333	1.4404	29.162	0.0011	29.1632
170.6667	1.4391	29.1226	0	29.1226
170.7	1.4388	29.1358	0	29.1358
170.7333	1.4384	29.2015	0	29.2015
170.7667	1.4394	29.1358	0.0011	29.1369
170.8	1.4394	29.1489	0.0011	29.15
170.8333	1.4394	29.1752	0.0024	29.1776
170.8667	1.4368	29.1226	0.0011	29.1237
170.9	1.4414	29.162	0.0011	29.1632
170.9333	1.4381	29.162	0.0011	29.1632
170.9667	1.4394	29.162	0	29.162
171	1.4401	29.162	0	29.162
171.0333	1.4411	29.1095	0	29.1095
171.0667	1.4391	29.1095	0.0011	29.1106
171.1	1.4407	29.2015	0	29.2015
171.1333	1.4401	29.07	0.0011	29.0711
171.1667	1.4391	29.1095	0.0011	29.1106
171.2	1.4371	29.1095	0	29.1095
171.2333	1.4398	29.1489	0	29.1489
171.2667	1.4411	29.1752	0	29.1752
171.3	1.4371	29.1095	0	29.1095
171.3333	1.4375	29.1883	0	29.1883
171.3667	1.4375	29.1489	0	29.1489
171.4	1.4388	29.1358	0.0011	29.1369
171.4333	1.4388	29.1358	0	29.1358
171.4667	1.4398	29.162	0.0011	29.1632
171.5	1.4401	29.1752	0	29.1752
171.5333	1.4404	29.0963	0.0011	29.0974
171.5667	1.4417	29.1358	0.0011	29.1369
171.6	1.4398	29.2015	0.0011	29.2026
171.6333	1.4407	29.1095	0.0011	29.1106
171.6667	1.4404	29.0832	0	29.0832
171.7	1.4398	29.1226	0.0011	29.1237
171.7333	1.4414	29.07	0.0011	29.0711
171.7667	1.4421	29.0963	0.0011	29.0974
171.8	1.4381	29.1489	0	29.1489
171.8333	1.4401	29.1489	0	29.1489
171.8667	1.4394	29.1226	0	29.1226
171.9	1.4388	29.1358	0.0011	29.1369
171.9333	1.4411	29.1752	0.0011	29.1763
171.9667	1.4375	29.162	0	29.162

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
172	1.4391	29.1752	0.0011	29.1763
172.0333	1.4401	29.162	0	29.162
172.0667	1.4391	29.1489	0	29.1489
172.1	1.4381	29.1226	0	29.1226
172.1333	1.4411	29.1358	0	29.1358
172.1667	1.4398	29.1883	0.0011	29.1895
172.2	1.4401	29.1226	0	29.1226
172.2333	1.4375	29.1226	0	29.1226
172.2667	1.4401	29.1095	0.0011	29.1106
172.3	1.4381	29.162	0.0011	29.1632
172.3333	1.4427	29.1358	0	29.1358
172.3667	1.4414	29.07	0	29.07
172.4	1.4391	29.1358	0	29.1358
172.4333	1.4427	29.0437	0.0011	29.0448
172.4667	1.4375	29.1226	0	29.1226
172.5	1.4394	29.1358	0	29.1358
172.5333	1.4381	29.1489	0.0011	29.15
172.5667	1.4404	29.1226	0.0011	29.1237
172.6	1.4404	29.1883	0	29.1883
172.6333	1.4407	29.162	0	29.162
172.6667	1.4414	29.0832	0	29.0832
172.7	1.4391	29.0963	0	29.0963
172.7333	1.4384	29.1226	0	29.1226
172.7667	1.4404	29.1095	0	29.1095
172.8	1.4375	29.1095	0.0011	29.1106
172.8333	1.4378	29.0832	0.0011	29.0843
172.8667	1.4394	29.1095	0	29.1095
172.9	1.4404	29.1489	0.0011	29.15
172.9333	1.4365	29.0832	0	29.0832
172.9667	1.4384	29.1752	0	29.1752
173	1.4388	29.1095	0.0011	29.1106
173.0333	1.4378	29.0569	0.0011	29.058
173.0667	1.4388	29.1095	0	29.1095
173.1	1.4371	29.1226	0	29.1226
173.1333	1.4391	29.1095	0	29.1095
173.1667	1.4381	29.0832	0	29.0832
173.2	1.4414	29.1358	0	29.1358
173.2333	1.4404	29.0963	0.0024	29.0987
173.2667	1.4381	29.0832	0	29.0832
173.3	1.4388	29.1226	0	29.1226
173.3333	1.4351	29.0832	0	29.0832
173.3667	1.4384	29.0043	0	29.0043
173.4	1.4398	29.1095	0.0024	29.1119

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
173.4333	1.4388	29.0832	0.0011	29.0843
173.4667	1.4375	29.1489	0	29.1489
173.5	1.4375	29.1226	0.0011	29.1237
173.5333	1.4375	29.1095	0	29.1095
173.5667	1.4378	29.1226	0.0011	29.1237
173.6	1.4368	29.1358	0	29.1358
173.6333	1.4365	29.1489	0.0024	29.1513
173.6667	1.4355	29.0569	0	29.0569
173.7	1.4365	29.1226	0	29.1226
173.7333	1.4388	29.0437	0.0011	29.0448
173.7667	1.4371	29.0569	0	29.0569
173.8	1.4381	29.07	0.0011	29.0711
173.8333	1.4361	29.0832	0	29.0832
173.8667	1.4388	29.0174	0	29.0174
173.9	1.4381	29.07	0.0011	29.0711
173.9333	1.4365	29.1226	0.0011	29.1237
173.9667	1.4378	29.1095	0	29.1095
174	1.4398	29.0437	0	29.0437
174.0333	1.4394	29.1095	0.0011	29.1106
174.0667	1.4388	29.0832	0	29.0832
174.1	1.4398	29.0963	0	29.0963
174.1333	1.4411	29.07	0	29.07
174.1667	1.4414	29.0569	0	29.0569
174.2	1.4404	29.1226	0	29.1226
174.2333	1.4411	29.1489	0	29.1489
174.2667	1.4401	29.0832	0	29.0832
174.3	1.4365	29.07	0	29.07
174.3333	1.4375	29.1095	0	29.1095
174.3667	1.4381	29.0569	0.0024	29.0593
174.4	1.4398	29.0963	0	29.0963
174.4333	1.4368	29.0832	0	29.0832
174.4667	1.4391	29.1226	0	29.1226
174.5	1.4398	29.1226	0.0011	29.1237
174.5333	1.4378	29.0569	0	29.0569
174.5667	1.4375	29.07	0	29.07
174.6	1.4368	29.0963	0.0011	29.0974
174.6333	1.4404	29.0569	0.0011	29.058
174.6667	1.4384	29.07	0	29.07
174.7	1.4391	29.0043	0.0011	29.0054
174.7333	1.4401	29.0963	0	29.0963
174.7667	1.4398	29.1095	0	29.1095
174.8	1.4365	29.0437	0	29.0437
174.8333	1.4417	29.07	0.0024	29.0724



Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
174.8667	1.4378	29.0437	0	29.0437
174.9	1.4394	29.0569	0.0024	29.0593
174.9333	1.4398	29.0963	0.0011	29.0974
174.9667	1.4401	29.0569	0	29.0569
175	1.4394	29.0832	0.0011	29.0843
175.0333	1.4384	29.0963	0	29.0963
175.0667	1.4414	29.0832	0	29.0832
175.1	1.4398	29.0832	0	29.0832
175.1333	1.4378	29.0306	0	29.0306
175.1667	1.4378	28.9911	0.0011	28.9922
175.2	1.4401	29.0306	0	29.0306
175.2333	1.4384	29.0437	0.0011	29.0448
175.2667	1.4375	29.07	0.0011	29.0711
175.3	1.4411	29.0569	0	29.0569
175.3333	1.4388	29.0306	0.0011	29.0317
175.3667	1.4388	29.0569	0	29.0569
175.4	1.4378	29.0437	0.0011	29.0448
175.4333	1.4391	29.0043	0.0011	29.0054
175.4667	1.4351	29.0306	0	29.0306
175.5	1.4371	29.0437	0	29.0437
175.5333	1.4368	29.0832	0.0011	29.0843
175.5667	1.4401	29.0306	0.0011	29.0317
175.6	1.4391	29.1226	0	29.1226
175.6333	1.4371	29.0963	0	29.0963
175.6667	1.4398	29.0437	0	29.0437
175.7	1.4404	29.0437	0	29.0437
175.7333	1.4371	29.07	0.0011	29.0711
175.7667	1.4361	29.0569	0.0011	29.058
175.8	1.4345	29.07	0	29.07
175.8333	1.4381	29.0306	0	29.0306
175.8667	1.4384	29.0043	0	29.0043
175.9	1.4391	28.9911	0	28.9911
175.9333	1.4404	29.0437	0.0011	29.0448
175.9667	1.4384	29.0569	0	29.0569
176	1.4355	29.0043	0	29.0043
176.0333	1.4358	29.0043	0	29.0043
176.0667	1.4375	29.07	0	29.07
176.1	1.4401	29.0043	0	29.0043
176.1333	1.4398	29.0306	0.0011	29.0317
176.1667	1.4398	28.9911	0	28.9911
176.2	1.4371	29.0306	0	29.0306
176.2333	1.4414	28.9911	0	28.9911
176.2667	1.4378	29.0437	0	29.0437

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
176.3	1.4388	29.0832	0	29.0832
176.3333	1.4381	28.9911	0	28.9911
176.3667	1.4332	28.978	0.0011	28.9791
176.4	1.4384	29.0174	0.0011	29.0185
176.4333	1.4371	29.0306	0	29.0306
176.4667	1.4361	29.0043	0.0011	29.0054
176.5	1.4384	29.0569	0.0011	29.058
176.5333	1.4394	29.0437	0.0011	29.0448
176.5667	1.4404	29.0174	0.0011	29.0185
176.6	1.4371	29.0306	0	29.0306
176.6333	1.4388	29.07	0	29.07
176.6667	1.4381	29.0306	0	29.0306
176.7	1.4398	29.0306	0.0011	29.0317
176.7333	1.4345	29.0569	0	29.0569
176.7667	1.4365	29.0569	0.0024	29.0593
176.8	1.4371	29.0174	0	29.0174
176.8333	1.4407	28.978	0.0011	28.9791
176.8667	1.4375	29.0043	0	29.0043
176.9	1.4391	29.0043	0	29.0043
176.9333	1.4421	29.0306	0.0011	29.0317
176.9667	1.4407	29.0306	0	29.0306
177	1.4371	29.0569	0.0024	29.0593
177.0333	1.4394	29.0174	0	29.0174
177.0667	1.4351	29.0437	0	29.0437
177.1	1.4358	29.0569	0.0011	29.058
177.1333	1.4378	29.0306	0	29.0306
177.1667	1.4411	28.9911	0	28.9911
177.2	1.4401	29.0174	0	29.0174
177.2333	1.4371	29.0306	0	29.0306
177.2667	1.4371	29.0043	0	29.0043
177.3	1.4404	29.0306	0	29.0306
177.3333	1.4401	29.0174	0	29.0174
177.3667	1.4388	29.0569	0	29.0569
177.4	1.4388	29.0174	0	29.0174
177.4333	1.4394	29.07	0.0024	29.0724
177.4667	1.4375	29.0569	0	29.0569
177.5	1.4391	28.9517	0.0011	28.9528
177.5333	1.4394	29.07	0	29.07
177.5667	1.4371	29.0043	0.0011	29.0054
177.6	1.4375	29.0043	0	29.0043
177.6333	1.4375	29.0437	0	29.0437
177.6667	1.4358	29.0174	0	29.0174
177.7	1.4358	29.0174	0	29.0174

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
177.7333	1.4348	28.978	0	28.978
177.7667	1.4361	29.0306	0	29.0306
177.8	1.4391	29.0437	0	29.0437
177.8333	1.4388	29.0569	0.0011	29.058
177.8667	1.4404	29.0174	0	29.0174
177.9	1.4404	28.9648	0	28.9648
177.9333	1.4411	29.0043	0.0024	29.0067
177.9667	1.4391	28.9911	0.0011	28.9922
178	1.4391	28.9911	0	28.9911
178.0333	1.4371	28.978	0	28.978
178.0667	1.4365	29.0043	0.0011	29.0054
178.1	1.4384	29.0043	0	29.0043
178.1333	1.4348	29.0043	0	29.0043
178.1667	1.4394	29.0174	0	29.0174
178.2	1.4388	28.9911	0	28.9911
178.2333	1.4404	29.0043	0	29.0043
178.2667	1.4381	29.0043	0	29.0043
178.3	1.4365	29.0437	0.0011	29.0448
178.3333	1.4361	28.9911	0	28.9911
178.3667	1.4365	28.9911	0	28.9911
178.4	1.4381	28.978	0.0011	28.9791
178.4333	1.4381	29.0043	0	29.0043
178.4667	1.4394	28.9517	0.0011	28.9528
178.5	1.4378	29.07	0	29.07
178.5333	1.4404	28.9911	0	28.9911
178.5667	1.4384	28.9911	0	28.9911
178.6	1.443	29.0437	0.0011	29.0448
178.6333	1.4404	29.0437	0.0011	29.0448
178.6667	1.4394	28.9517	0.0011	28.9528
178.7	1.4384	29.0437	0	29.0437
178.7333	1.443	28.9648	0	28.9648
178.7667	1.4407	29.0437	0.0024	29.0461
178.8	1.4384	28.9517	0.0024	28.9541
178.8333	1.4398	28.9911	0	28.9911
178.8667	1.4381	29.0437	0	29.0437
178.9	1.4381	29.0043	0	29.0043
178.9333	1.4388	28.9911	0	28.9911
178.9667	1.4361	28.9517	0	28.9517
179	1.4381	29.0306	0	29.0306
179.0333	1.4384	28.9648	0	28.9648
179.0667	1.4394	29.0306	0.0011	29.0317
179.1	1.4375	29.0043	0.0011	29.0054
179.1333	1.4381	28.9385	0	28.9385

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
179.1667	1.4381	28.978	0	28.978
179.2	1.4398	28.9911	0	28.9911
179.2333	1.4411	28.978	0	28.978
179.2667	1.4411	29.0043	0	29.0043
179.3	1.4381	28.978	0	28.978
179.3333	1.4378	29.0306	0.0011	29.0317
179.3667	1.4421	28.9648	0.0011	28.9659
179.4	1.4414	28.9911	0	28.9911
179.4333	1.4391	29.0043	0	29.0043
179.4667	1.4375	29.0174	0	29.0174
179.5	1.4407	29.0174	0	29.0174
179.5333	1.4368	28.9517	0	28.9517
179.5667	1.4417	29.0043	0.0024	29.0067
179.6	1.4388	28.978	0	28.978
179.6333	1.4404	28.9517	0	28.9517
179.6667	1.4411	29.0569	0	29.0569
179.7	1.4401	29.0437	0	29.0437
179.7333	1.4384	29.0043	0	29.0043
179.7667	1.4394	28.978	0.0011	28.9791
179.8	1.4358	28.9911	0	28.9911
179.8333	1.4368	28.9517	0	28.9517
179.8667	1.4388	29.0043	0.0011	29.0054
179.9	1.4404	28.9648	0.0011	28.9659
179.9333	1.4388	28.978	0	28.978
179.9667	1.4378	28.978	0.0011	28.9791
180	1.4401	28.9648	0	28.9648
180.0333	1.4351	28.9385	0.0011	28.9396
180.0667	1.4404	28.9254	0	28.9254
180.1	1.4375	29.0043	0	29.0043
180.1333	1.4391	28.9648	0	28.9648
180.1667	1.4371	28.9911	0	28.9911
180.2	1.4378	29.0174	0.0011	29.0185
180.2333	1.4358	28.9517	0	28.9517
180.2667	1.4407	29.0174	0.0011	29.0185
180.3	1.4384	28.978	0	28.978
180.3333	1.4381	28.9648	0.0024	28.9672
180.3667	1.4391	28.9517	0	28.9517
180.4	1.4401	29.0043	0.0011	29.0054
180.4333	1.4404	28.9254	0	28.9254
180.4667	1.4414	28.9385	0.0024	28.9409
180.5	1.4384	28.9254	0.0011	28.9265
180.5333	1.4381	28.978	0	28.978
180.5667	1.4365	28.9122	0	28.9122

Areva NP Inc.

Project No. G100982213SAT-005A

October 15, 2013

Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
180.6	1.4348	29.0569	0	29.0569
180.6333	1.4398	28.9517	0	28.9517
180.6667	1.4398	28.9122	0.0011	28.9133
180.7	1.4361	28.9385	0.0011	28.9396
180.7333	1.4361	28.8991	0	28.8991
180.7667	1.4388	28.9517	0.0011	28.9528
180.8	1.4371	28.9254	0.0011	28.9265
180.8333	1.4384	28.8728	0	28.8728
180.8667	1.4361	28.9648	0.0011	28.9659
180.9	1.4381	28.9385	0	28.9385
180.9333	1.4388	28.9517	0.0011	28.9528
180.9667	1.4398	28.9385	0	28.9385
181	1.4398	28.8859	0.0011	28.887
181.0333	1.4365	28.9911	0	28.9911
181.0667	1.4358	29.0043	0.0024	29.0067
181.1	1.4401	28.9385	0	28.9385
181.1333	1.4371	28.978	0.0011	28.9791
181.1667	1.4384	28.9517	0	28.9517
181.2	1.4391	28.978	0	28.978
181.2333	1.4407	28.9254	0	28.9254
181.2667	1.4355	28.9648	0	28.9648
181.3	1.4381	28.9385	0	28.9385
181.3333	1.4398	28.9122	0	28.9122
181.3667	1.4371	29.0306	0	29.0306
181.4	1.4365	29.0043	0.0011	29.0054
181.4333	1.4384	29.0306	0.0011	29.0317
181.4667	1.4368	28.8728	0.0011	28.8739
181.5	1.4398	28.9122	0	28.9122
181.5333	1.4401	28.9517	0	28.9517
181.5667	1.4371	28.9517	0	28.9517
181.6	1.4381	28.8991	0	28.8991
181.6333	1.4375	28.9648	0	28.9648
181.6667	1.4368	28.9254	0	28.9254
181.7	1.4371	28.9385	0	28.9385
181.7333	1.4361	28.9517	0.0011	28.9528
181.7667	1.4384	28.9517	0.0011	28.9528
181.8	1.4407	28.9254	0	28.9254
181.8333	1.4365	28.9254	0.0011	28.9265
181.8667	1.4365	28.9122	0	28.9122
181.9	1.4398	28.9385	0	28.9385
181.9333	1.4388	28.9517	0.0011	28.9528
181.9667	1.4378	28.9122	0.0011	28.9133
182	1.4414	28.978	0.0011	28.9791



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
182.0333	1.4398	28.9254	0	28.9254
182.0667	1.4371	28.9254	0.0011	28.9265
182.1	1.4401	28.9517	0	28.9517
182.1333	1.4391	28.9385	0.0011	28.9396
182.1667	1.4404	28.9385	0.0011	28.9396
182.2	1.4378	28.9517	0.0011	28.9528
182.2333	1.4368	29.0043	0	29.0043
182.2667	1.4342	28.9254	0	28.9254
182.3	1.4371	28.9517	0	28.9517
182.3333	1.4388	28.9648	0	28.9648
182.3667	1.4388	28.8991	0.0011	28.9002
182.4	1.4401	28.9122	0	28.9122
182.4333	1.4358	28.978	0.0011	28.9791
182.4667	1.4365	28.9385	0	28.9385
182.5	1.4368	28.9385	0	28.9385
182.5333	1.4368	28.9122	0	28.9122
182.5667	1.4378	28.9254	0	28.9254
182.6	1.4378	28.9385	0	28.9385
182.6333	1.4384	28.9517	0	28.9517
182.6667	1.4407	28.9517	0.0011	28.9528
182.7	1.4411	28.9517	0.0011	28.9528
182.7333	1.4411	28.9517	0	28.9517
182.7667	1.4404	28.9648	0	28.9648
182.8	1.4375	28.9385	0	28.9385
182.8333	1.4391	28.9648	0.0011	28.9659
182.8667	1.4391	28.9122	0	28.9122
182.9	1.4375	28.9254	0	28.9254
182.9333	1.4394	28.9911	0	28.9911
182.9667	1.4368	28.978	0	28.978
183	1.4394	28.8859	0	28.8859
183.0333	1.4398	28.9385	0.0011	28.9396
183.0667	1.4371	28.9385	0	28.9385
183.1	1.4365	28.9648	0	28.9648
183.1333	1.4378	28.978	0.0011	28.9791
183.1667	1.4368	28.9254	0.0011	28.9265
183.2	1.4381	28.978	0	28.978
183.2333	1.4388	28.9254	0.0011	28.9265
183.2667	1.4388	28.9254	0	28.9254
183.3	1.4371	28.8991	0.0011	28.9002
183.3333	1.4398	28.9122	0.0011	28.9133
183.3667	1.4388	28.8991	0	28.8991
183.4	1.4404	28.9254	0	28.9254
183.4333	1.4365	28.9517	0	28.9517



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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
183.4667	1.4358	28.9254	0	28.9254
183.5	1.4391	28.8991	0.0011	28.9002
183.5333	1.4401	28.8991	0	28.8991
183.5667	1.4368	28.8859	0	28.8859
183.6	1.4391	28.8596	0.0011	28.8607
183.6333	1.4398	28.9122	0.0024	28.9146
183.6667	1.4384	28.9517	0	28.9517
183.7	1.4375	28.8991	0	28.8991
183.7333	1.4381	28.9385	0	28.9385
183.7667	1.4375	28.8991	0.0011	28.9002
183.8	1.4375	28.9122	0	28.9122
183.8333	1.4348	28.9122	0	28.9122
183.8667	1.4348	28.9648	0	28.9648
183.9	1.4371	28.8991	0	28.8991
183.9333	1.4365	28.9122	0	28.9122
183.9667	1.4358	28.8991	0	28.8991
184	1.4381	28.9517	0	28.9517
184.0333	1.4368	28.9122	0	28.9122
184.0667	1.4358	28.9122	0.0024	28.9146
184.1	1.4371	28.9122	0.0011	28.9133
184.1333	1.4384	28.9254	0	28.9254
184.1667	1.4371	28.8991	0.0011	28.9002
184.2	1.4365	28.9648	0	28.9648
184.2333	1.4358	28.9122	0	28.9122
184.2667	1.4398	28.8465	0.0011	28.8476
184.3	1.4404	28.9254	0	28.9254
184.3333	1.4375	28.8596	0	28.8596
184.3667	1.4394	28.9254	0.0011	28.9265
184.4	1.4384	28.8991	0.0011	28.9002
184.4333	1.4398	28.8859	0	28.8859
184.4667	1.4361	28.8991	0	28.8991
184.5	1.4351	28.8728	0	28.8728
184.5333	1.4365	28.8728	0	28.8728
184.5667	1.4365	28.8991	0	28.8991
184.6	1.4371	28.8991	0.0011	28.9002
184.6333	1.4375	28.8859	0	28.8859
184.6667	1.4378	28.9122	0.0011	28.9133
184.7	1.4371	28.8465	0	28.8465
184.7333	1.4378	28.8991	0	28.8991
184.7667	1.4375	28.8859	0.0011	28.887
184.8	1.4378	28.8859	0	28.8859
184.8333	1.4368	28.9517	0	28.9517
184.8667	1.4381	28.8728	0	28.8728

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
184.9	1.4371	28.8596	0	28.8596
184.9333	1.4361	28.8859	0	28.8859
184.9667	1.4365	28.8465	0.0011	28.8476
185	1.4371	28.9254	0.0011	28.9265
185.0333	1.4381	28.8728	0	28.8728
185.0667	1.4355	28.8859	0	28.8859
185.1	1.4401	28.8991	0.0011	28.9002
185.1333	1.4407	28.8333	0.0011	28.8344
185.1667	1.4361	28.8728	0.0011	28.8739
185.2	1.4398	28.8465	0	28.8465
185.2333	1.4401	28.8991	0.0011	28.9002
185.2667	1.4411	28.8728	0.0024	28.8752
185.3	1.4378	28.8728	0.0011	28.8739
185.3333	1.4375	28.8596	0	28.8596
185.3667	1.4361	28.8465	0	28.8465
185.4	1.4375	28.8465	0.0011	28.8476
185.4333	1.4394	28.8728	0	28.8728
185.4667	1.4375	28.8465	0	28.8465
185.5	1.4365	28.8596	0.0011	28.8607
185.5333	1.4361	28.8465	0	28.8465
185.5667	1.4348	28.8859	0	28.8859
185.6	1.4371	28.8465	0.0011	28.8476
185.6333	1.4371	28.8465	0.0011	28.8476
185.6667	1.4358	28.8596	0	28.8596
185.7	1.4381	28.8202	0.0024	28.8226
185.7333	1.4355	28.8859	0	28.8859
185.7667	1.4371	28.8859	0	28.8859
185.8	1.4345	28.8465	0.0011	28.8476
185.8333	1.4375	28.8202	0	28.8202
185.8667	1.4384	28.8202	0	28.8202
185.9	1.4365	28.8991	0.0011	28.9002
185.9333	1.4375	28.8333	0.0024	28.8357
185.9667	1.4371	28.8333	0.0024	28.8357
186	1.4391	28.7807	0	28.7807
186.0333	1.4384	28.8465	0	28.8465
186.0667	1.4345	28.807	0	28.807
186.1	1.4388	28.8991	0.0011	28.9002
186.1333	1.4355	28.8333	0	28.8333
186.1667	1.4345	28.8991	0	28.8991
186.2	1.4361	28.807	0.0011	28.8081
186.2333	1.4391	28.8333	0	28.8333
186.2667	1.4348	28.8991	0.0011	28.9002
186.3	1.4365	28.8991	0	28.8991

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
186.3333	1.4384	28.8333	0.0011	28.8344
186.3667	1.4338	28.8333	0	28.8333
186.4	1.4368	28.8728	0	28.8728
186.4333	1.4358	28.8465	0	28.8465
186.4667	1.4388	28.8596	0.0011	28.8607
186.5	1.4388	28.807	0.0011	28.8081
186.5333	1.4368	28.8202	0.0011	28.8213
186.5667	1.4384	28.7939	0	28.7939
186.6	1.4368	28.8202	0	28.8202
186.6333	1.4355	28.807	0	28.807
186.6667	1.4378	28.8465	0	28.8465
186.7	1.4375	28.807	0	28.807
186.7333	1.4361	28.7939	0.0011	28.795
186.7667	1.4371	28.7544	0	28.7544
186.8	1.4375	28.8202	0	28.8202
186.8333	1.4384	28.8465	0	28.8465
186.8667	1.4375	28.8465	0	28.8465
186.9	1.4384	28.8333	0	28.8333
186.9333	1.4342	28.7807	0	28.7807
186.9667	1.4348	28.8596	0.0011	28.8607
187	1.4342	28.7939	0.0011	28.795
187.0333	1.4365	28.8465	0.0011	28.8476
187.0667	1.4345	28.7939	0	28.7939
187.1	1.4338	28.807	0.0011	28.8081
187.1333	1.4348	28.8202	0.0024	28.8226
187.1667	1.4358	28.8202	0.0011	28.8213
187.2	1.4368	28.8202	0.0024	28.8226
187.2333	1.4381	28.8465	0.0011	28.8476
187.2667	1.4371	28.8202	0	28.8202
187.3	1.4338	28.8465	0	28.8465
187.3333	1.4361	28.8202	0	28.8202
187.3667	1.4361	28.8333	0	28.8333
187.4	1.4368	28.7807	0	28.7807
187.4333	1.4371	28.7676	0.0011	28.7687
187.4667	1.4345	28.7676	0	28.7676
187.5	1.4381	28.8465	0	28.8465
187.5333	1.4351	28.8333	0.0011	28.8344
187.5667	1.4388	28.8333	0.0011	28.8344
187.6	1.4404	28.8728	0.0011	28.8739
187.6333	1.4368	28.7676	0.0011	28.7687
187.6667	1.4381	28.8333	0	28.8333
187.7	1.4414	28.7939	0	28.7939
187.7333	1.4394	28.8728	0	28.8728

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
187.7667	1.4388	28.7939	0	28.7939
187.8	1.4391	28.8465	0.0011	28.8476
187.8333	1.4388	28.807	0	28.807
187.8667	1.4361	28.8465	0	28.8465
187.9	1.4384	28.807	0	28.807
187.9333	1.4368	28.8202	0	28.8202
187.9667	1.4361	28.8202	0.0011	28.8213
188	1.4381	28.8333	0.0011	28.8344
188.0333	1.4345	28.7939	0	28.7939
188.0667	1.4361	28.7939	0.0011	28.795
188.1	1.4368	28.715	0	28.715
188.1333	1.4358	28.7939	0.0011	28.795
188.1667	1.4355	28.7807	0	28.7807
188.2	1.4371	28.8465	0.0011	28.8476
188.2333	1.4365	28.7807	0	28.7807
188.2667	1.4365	28.7939	0	28.7939
188.3	1.4388	28.7939	0	28.7939
188.3333	1.4342	28.8465	0	28.8465
188.3667	1.4375	28.7939	0	28.7939
188.4	1.4388	28.7676	0.0011	28.7687
188.4333	1.4378	28.8202	0.0024	28.8226
188.4667	1.4371	28.8333	0.0011	28.8344
188.5	1.4388	28.8333	0.0011	28.8344
188.5333	1.4407	28.7413	0.0011	28.7424
188.5667	1.4371	28.7807	0	28.7807
188.6	1.4391	28.807	0	28.807
188.6333	1.4365	28.807	0	28.807
188.6667	1.4391	28.8596	0	28.8596
188.7	1.4345	28.7807	0	28.7807
188.7333	1.4388	28.8465	0.0011	28.8476
188.7667	1.4348	28.8202	0.0011	28.8213
188.8	1.4371	28.807	0	28.807
188.8333	1.4365	28.7676	0	28.7676
188.8667	1.4371	28.8202	0	28.8202
188.9	1.4361	28.7807	0	28.7807
188.9333	1.4371	28.7676	0	28.7676
188.9667	1.4398	28.7676	0	28.7676
189	1.4384	28.807	0.0011	28.8081
189.0333	1.4378	28.7807	0.0011	28.7818
189.0667	1.4335	28.7939	0	28.7939
189.1	1.4368	28.7939	0	28.7939
189.1333	1.4355	28.7676	0.0011	28.7687
189.1667	1.4388	28.7413	0	28.7413

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Time (min)	Ch 1 dP (psi)	Ch 2 High Flow (LPM)	Ch 3 Low Flow (LPM)	Total Flow (LPM)
189.2	1.4361	28.7939	0	28.7939
189.2333	1.4365	28.8202	0	28.8202
189.2667	1.4378	28.7018	0	28.7018
189.3	1.4345	28.7676	0	28.7676
189.3333	1.4342	28.7676	0	28.7676
189.3667	1.4384	28.7939	0.0011	28.795
189.4	1.4361	28.7939	0	28.7939
189.4333	1.4388	28.7413	0	28.7413
189.4667	1.4384	28.7939	0	28.7939
189.5	1.4368	28.807	0.0011	28.8081
189.5333	1.4361	28.7544	0	28.7544
189.5667	1.4378	28.7544	0	28.7544
189.6	1.4371	28.807	0	28.807
189.6333	1.4342	28.807	0.0024	28.8094
189.6667	1.4358	28.7676	0	28.7676
189.7	1.4381	28.7544	0	28.7544
189.7333	1.4381	28.7939	0	28.7939
189.7667	1.4375	28.7544	0	28.7544
189.8	1.4358	28.8465	0	28.8465
189.8333	1.4355	28.7807	0.0011	28.7818
189.8667	1.4375	28.7939	0	28.7939
189.9	1.4351	28.8333	0.0011	28.8344
189.9333	1.4378	28.7676	0	28.7676
189.9667	1.4388	28.7676	0.0024	28.77
190	1.4371	28.7676	0	28.7676
190.0333	1.4368	28.8465	0.0011	28.8476
190.0667	1.4361	28.7676	0	28.7676
190.1	1.4378	28.7676	0	28.7676
190.1333	1.4398	28.8202	0.0024	28.8226
190.1667	1.4368	28.7281	0	28.7281
190.2	1.4358	28.7281	0	28.7281
190.2333	1.4371	28.7676	0	28.7676
190.2667	1.4371	28.7544	0	28.7544
190.3	1.4391	28.7807	0	28.7807
190.3333	1.4348	28.7939	0	28.7939
190.3667	1.4358	28.807	0.0011	28.8081
190.4	1.4378	28.7413	0.0011	28.7424
190.4333	1.4368	28.7676	0.0011	28.7687

## APPENDIX C

### Photographs









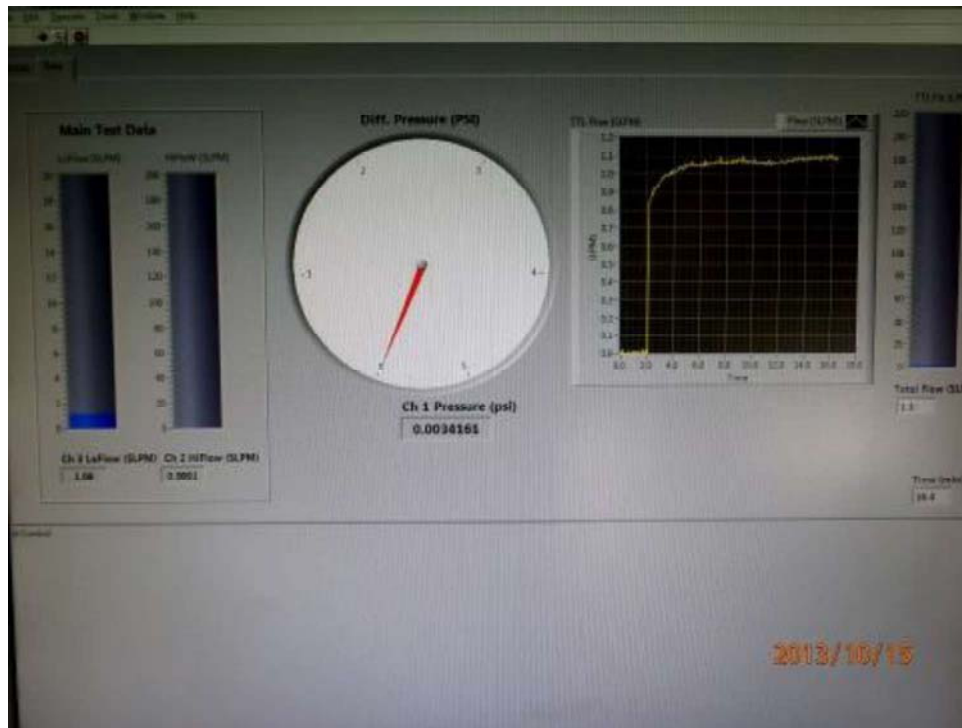


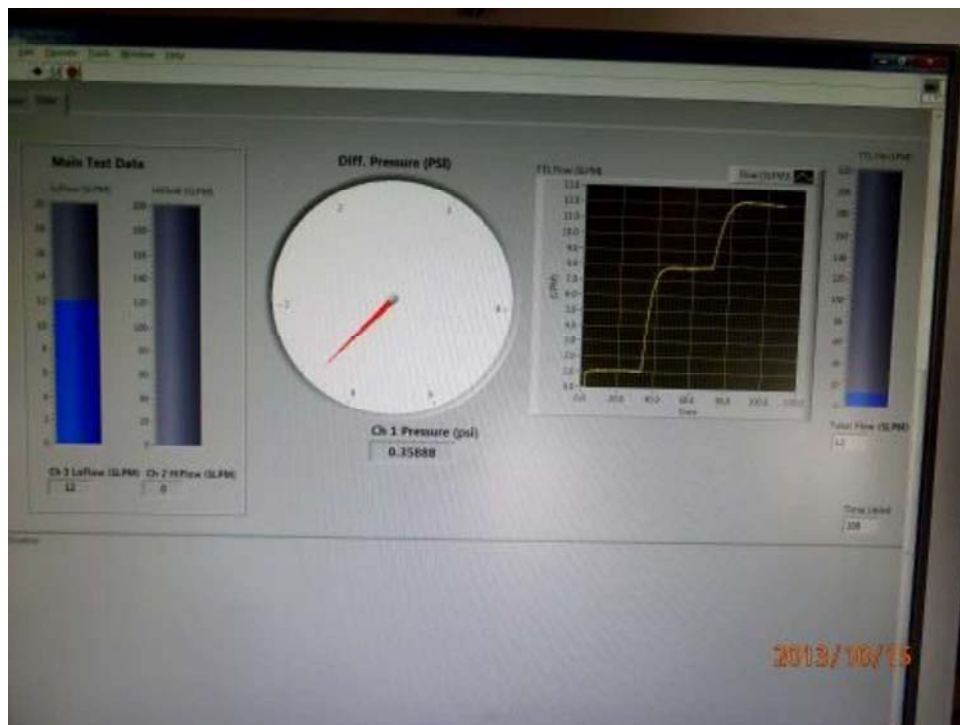
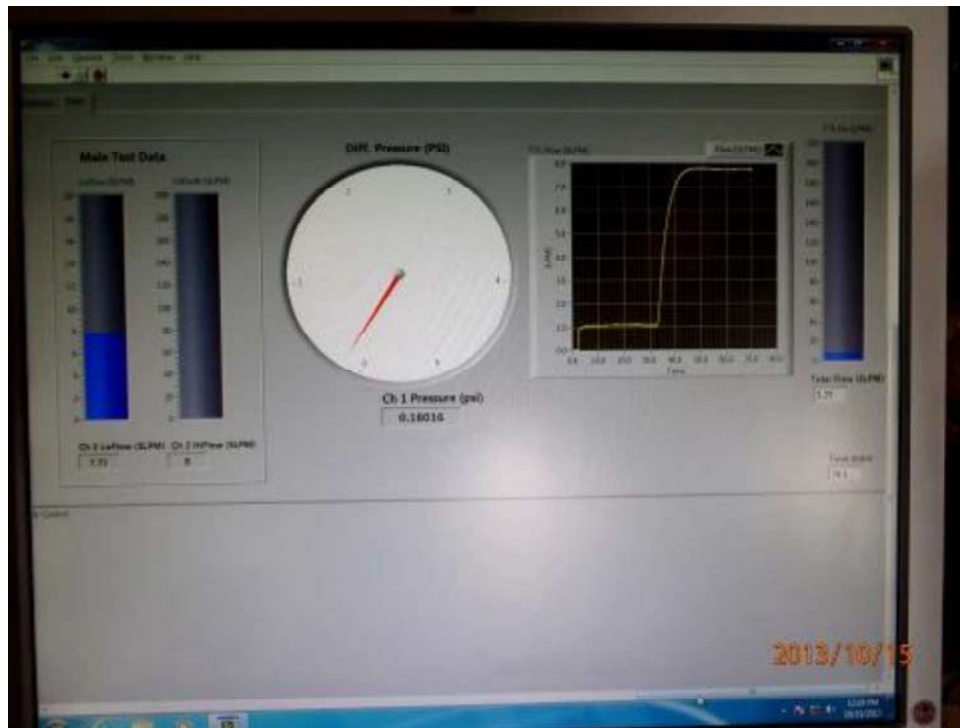


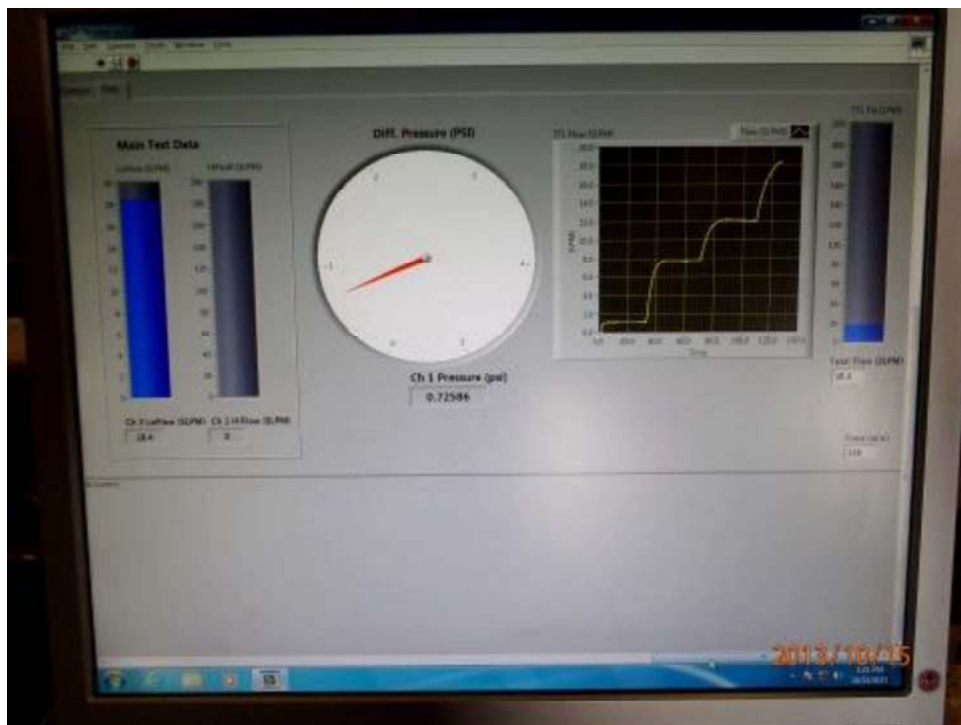


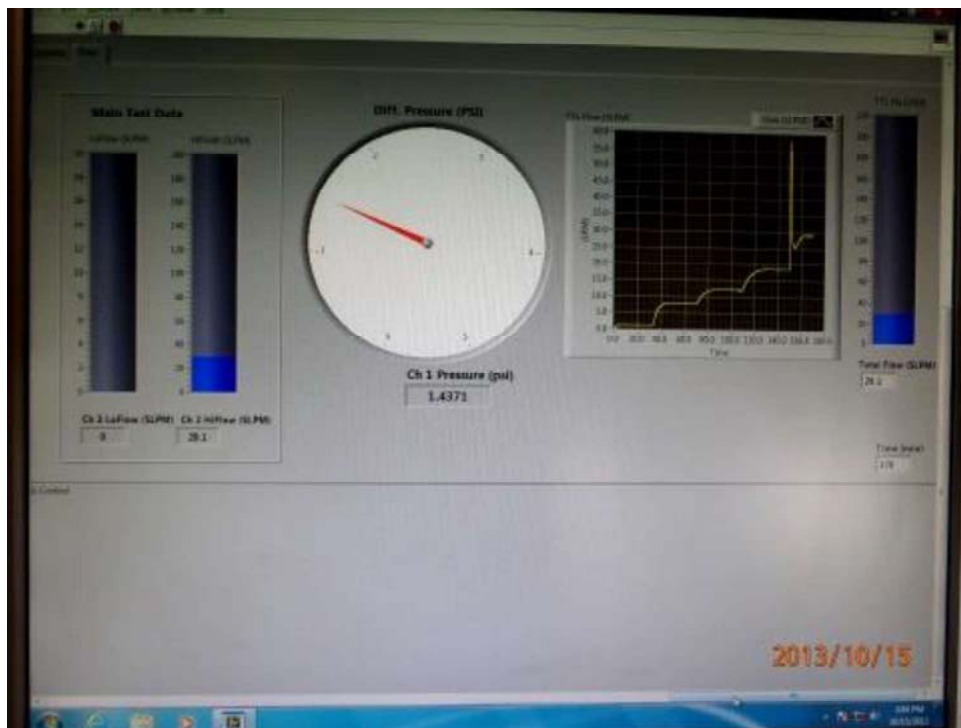




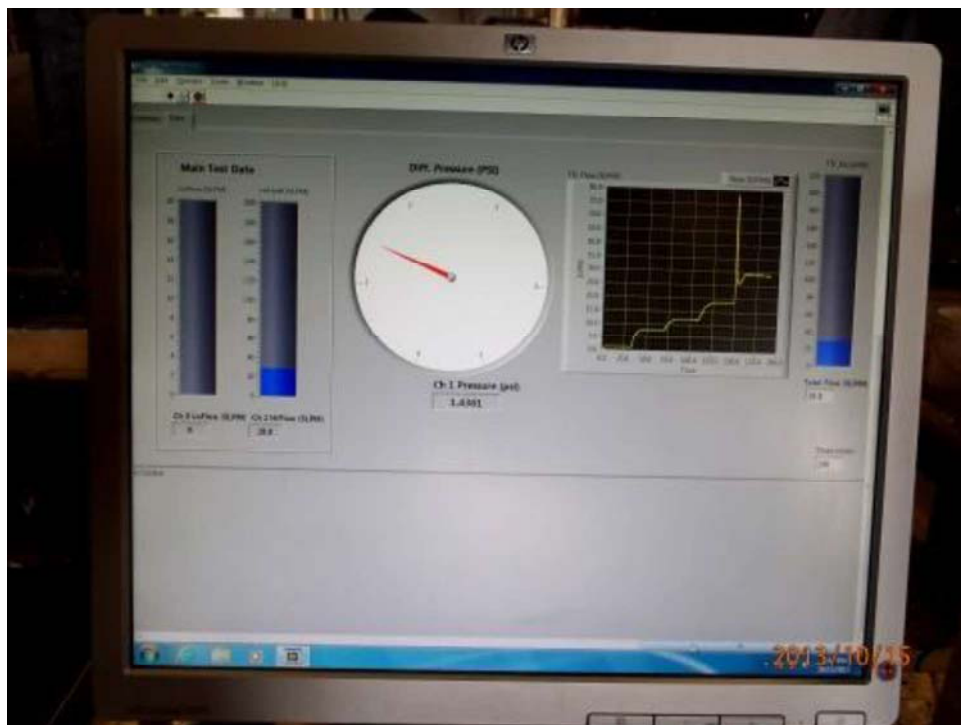




























## APPENDIX D

### Test Plan



Controlled Document

20004-019 (11/20/2012)



## AREVA NP Inc.

### Engineering Information Record

Document No.: 51 - 9199513 - 004 |

Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed) |



Mike Dey  
Staff Engineer, Intertek



Michael A. Brown  
Quality Supervisor, Intertek

Page 1 of 31

Controlled Document



20004-019 (11/20/2012)

Document No.: 51-9199513-004

Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

Safety Related? ☒ YES ☐ NO

Does this document establish design or technical requirements? ☐ YES ☒ NO

Does this document contain assumptions requiring verification? ☐ YES ☒ NO

Does this document contain Customer Required Format? ☐ YES ☒ NO

Signature Block

Name and Title/Discipline	Signature	P/LP, R/LR, A-CRF, A	Date	Pages/Sections Prepared/Reviewed/ Approved or Comments
Aaron Adrian Princ Des Eng Spec II / PEYFI-A		P	10-10-13	All
Vic Kaldenbach Princ Des Eng Spec II / PEYFI-A		R	10/10/2013	All
Scott Groesbeck Manager Tech Ops / PEYFI-A		A	10/10/13	All
Perry Calos Project Manager / IBL-A		A	10/10/13	All

Note: P/LP designates Preparer (P), Lead Preparer (LP)  
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A-CRF designates Project Manager Approver of Customer Required Format (A-CRF)  
A designates Approver/RTM – Verification of Reviewer Independence

MOX Services concurrence: <u>Rich</u>	<u>10Oct13</u>
Name / Title	Date

## Controlled Document



Document No.: 51-9199513-004

Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

### Record of Revision

Revision No.	Pages/Sections/ Paragraphs Changed	Brief Description / Change Authorization
000	All	Initial Issue. This document contains the main body of the report (pages 1-18), Appendix A (2 pages), Appendix B (3 pages), Appendix C (4 pages), Appendix D (2 pages) for a total of 29 pages.
001	Page 7	Added penetration seal material acronyms.
001	Section 2.1	Corrected orientation to be consistent.
001	Section 2.2 and 2.3	Modified penetration descriptions to update penetration seal material.
001	Section 5.1	Added penetration seal materials to procurement plan.
001	Section 8.2	Removed material selection hold.
001	Appendix B	Modified description and division of penetration seal material.
001	Appendix C	Modified penetration seal material Bill of Materials.
001	General	This document contains the main body of the report (pages 1-18), Appendix A (2 pages), Appendix B (4 pages), Appendix C (4 pages), and Appendix D (2 pages), for a total of 30 pages.
002	Page 8	Added note stating that slab from Pressure Test 1 is to be reused for this test.
002	Page 9	Added notes stating that slab from Pressure Test 1 is to be reused for this test.
002	Page 16	Deleted Section 9.2.1 as this step is unnecessary for the testing equipment being used.
002	General	This document contains the main body of the report (pages 1-18), Appendix A (2 pages), Appendix B (4 pages), Appendix C (4 pages), and Appendix D (2 pages), for a total of 30 pages.
003	Section 2.1 (Boxed Notes)	Changed referenced test from Pressure Test 1 to Pressure Test 2 and added reference to removal of surface coatings.
003	Section 2.2	Changed test description to detail the use of the Pressure Test 2 slab in lieu of the Pressure Test 1 slab.
003	Section 2.3	Added SSLB tray and enamel removal adherence to critical parameters.
003	Section 5.1	Corrected typo
003	Table 9.1	Added footnote for allowable leakage.
003	Section 11	Deleted event log requirement.
003	Section 12	Updated reference document revisions as necessary.
003	General	All references to SF-60-IR and DC-170 have been replaced with QSiil 5558MC throughout. A project decision was made to use only 1 material in this pressure test.
003	General	Conduits capped on bottom side only. Commodity lengths extended to three feet overall.
003	General	This document contains the main body of the report (pages 1-18), Appendix A (2 pages), Appendix B (4 pages), Appendix C (4 pages), and Appendix D (2 pages), for a total of 30 pages.

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Revision No.	Pages/Sections/ Paragraphs Changed	Brief Description / Change Authorization
004	General	Modified the document to include provisions for repairing a failed Pressure Test 4 and conducting a subsequent Pressure Test 4A. All changes are identified by revision bars in the right hand margin
004	General	This document contains the main body of the report (pages 1-19), Appendix A (2 pages), Appendix B (4 pages), Appendix C (4 pages), and Appendix D (2 pages), for a total of 31 pages.

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### ACRONYMS

CGD	Commercial Grade Dedication
CGI	Commercial Grade Item
GLB	Galvanized Ladder Back
GS	Galvanized Steel
GSB	Galvanized Solid Bottom
IROFS	Items Relied On For Safety
MOX	Mixed Oxide
MFFF	Mixed Oxide Fuel Fabrication Facility
PCCS	Powder Coated Carbon Steel
QA	Quality Assurance
QL	Quality Level
RGS	Rigid Galvanized Steel
SS	Stainless Steel
SSC	Structures, Systems and Components
SSSB	Stainless Steel Solid Bottom
w.g.	Water Gauge

#### Penetration Seal Materials

QSil 5558MC      Quantum Silicones QSil 5558MC Silicone Elastomer

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## BACKGROUND

AREVA NP (AREVA) is assisting Shaw AREVA MOX Services (MOX Services) in the development and implementation of a penetration seal program for the Mixed Oxide Fuel Fabrication Facility (MFFF). One aspect of the MOX penetration seal program includes conducting various types of qualification tests of penetration seal assemblies to substantiate the performance capabilities of specific penetration seal designs. Pressure testing is one type of qualification testing that needs to be performed in order to demonstrate the pressure retaining capability of MOX penetration seal designs. The data collected during pressure testing is needed to determine acceptable levels of leakage to maintain the necessary pressure differentials between confinement zones within the MFFF under various conditions, such as normal operation or inadvertent clean agent discharge. Other types of qualification testing, such as fire testing and testing for seismic qualification of penetration seal assemblies, are addressed by other test plans.

## 1.0 PURPOSE

The purpose of this test plan is to define the test assembly, test methods and acceptance criteria for conducting pressure tests in support of the MOX penetration seal program.

This test plan defines the test methods, acceptance criteria and test report documentation requirements for penetration seal Pressure Test 4 and Pressure Test 4A (if needed). Additionally, this detailed test plan defines the roles and responsibilities of MOX Services, AREVA, the selected testing laboratory, and any other subcontracted entity engaged in support of pressure testing efforts.

This detailed test plan also describes the procurement plan for materials associated with penetration seal Pressure Test 4, and identifies the entities responsible for procuring the various components of the test assemblies based on the quality level assigned to each component.

This test plan also establishes minimum quality requirements for the penetration seal materials used in the test assemblies and links quality requirements in the AREVA Quality Assurance (QA) program to customer/project quality requirements.

## 2.0 OBJECTIVE

The primary objective of this test plan is to evaluate the pressure resistance capability of an 8" thick silicone elastomer seal when installed in and around various metallic electrical commodities at air pressure increments above atmospheric pressure provided in Section 9.2.

The specific configuration to be tested is described below. Critical characteristics and the associated limiting parameters that will be substantiated by a successful test are also provided.

## 2.1 Test Deck Description

The test deck will consist of a 12" thick concrete slab measuring approximately 96" x 96" (8' x 8') [Note: Final test slab size to be determined by Intertek and documented in the final test report]. Within this slab will be one (1) precast 48" x 34" opening sized to replicate penetrations found in the MOX facility. The test deck will be horizontally oriented with a hemispherical 72" diameter steel pressure vessel mounted above and below the precast opening in the slab.

**Note:** It is anticipated that the slab with the silicone elastomer seal material used for Pressure Test 2 will not be damaged during Pressure Test 2 and will be available for reuse in this pressure test. For the purpose of Pressure Test 4, the silicone elastomers and surface coatings installed for Pressure Test 2 are to be removed, the electrical commodities for Pressure Test 4 are to be installed in the existing opening and the silicone elastomer for Pressure Test 4 is to be installed around the electrical commodities in accordance with this test plan and Document 01-9198306

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(latest revision), "Installation Instruction Manual for MOX Penetration Seal Test Program"  
[Reference 12.5].

Additionally, most of the openings (penetrations) in the MOX facility have been cast with a  $\frac{3}{4}$ " bevel on both sides of the opening. For testing and qualification purposes, this feature is considered aesthetic, and it has no adverse effect on the functional performance of the penetration seal installation. In fact for some applications, such as in the case of pressure resistant penetrations seals, the bevel provides a benefit over non-beveled openings. Therefore, for the purposes of the penetration seal test program, the bevel feature will not be included for pressure tests covered in this test plan.

Drawings showing the general layout of the test deck (test slab) for this pressure test can be found in Appendix A.

**Note:** If the slab from Pressure Test 2 was damaged during testing or is otherwise not available, this test plan will require revision.

## 2.2 Test Description

The opening to be sealed and tested in Pressure Test 4 is a 48" x 34" blockout containing electrical raceways (e.g., cable trays, conduits, wireways). Three sides of the opening will be unrepaired concrete while the remaining side will have three small repairs with a maximum area of less than one (1) square inch and a maximum depth of 3/16". The repairs will be made using Panel Patch by Nox-crete. All sides of the opening will then be coated with Keeler & Long KL 3500 Kolor-Poxy Self Priming Surfacing Enamel. The Keeler & Long KL 3500 Kolor-Poxy Self Priming Surfacing Enamel will then be mechanically removed on two adjacent sides with a needle gun scaler and on the other two sides with a masonry grinding wheel until all coating material has been visually eliminated. The test will be performed with the test deck oriented in the horizontal position, and pressurized on the top side.

**Note:** The Nox-crete and Keeler & Long KL 3500 Kolor-Poxy Self Priming Surfacing Enamel were installed on the slab during construction of Pressure Test 2. Keeler & Long KL 3500 Kolor-Poxy Self Priming Surfacing Enamel removal and subsequent penetration seal material adherence will be evaluated in this test.

An opening size of 34" x 48" was selected because it represents the largest opening size that can be tested with the current pressure chamber design, when considering that the most challenging geometric shape for a flat plate with respect to flexural response occurs when the Length is  $\approx 1.4$  times the Width (34" x 1.4 = 47.6").

All sides of the opening will be unlined, with the previously installed enamel surface coating removed. The penetrating items for this blockout will include the following:

- (1) 6" diameter empty rigid galvanized steel (RGS) conduit to be capped on bottom side
- (1) 3" diameter empty rigid galvanized steel (RGS) conduit to be capped on bottom side
- (1)  $\frac{3}{4}$ " diameter empty rigid galvanized steel (RGS) conduit to be capped on bottom side
- (1) 4" diameter empty stainless steel (SS) conduit to be capped on bottom side
- (1) 3" diameter empty stainless steel (SS) conduit to be capped on bottom side
- (1)  $\frac{3}{4}$ " diameter empty stainless steel (SS) conduit to be capped on bottom side
- (1) 4"x4" powder-coated carbon steel (PCCS) wire way without cables or cover
- (1) 4"x4" galvanized steel (GS) wire way without cables or cover
- (1) 4"x4" stainless steel (SS) wire way without cables or cover
- (1) 18"x4" galvanized steel, solid-bottom (GSB) cable tray without cables or cover



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- (1) 18"x4" galvanized steel, ladder-back (GLB) cable tray without cables or cover
- (1) 18"x4" stainless steel, solid-bottom (SSSB) cable tray without cables or cover

The opening will be sealed with an eight (8) inch thick Quantum Silicones QSi 5558MC Silicone Elastomer (QSi 5558MC) penetration seal with no permanent damming installed in and around the various penetrating commodities.

The test will be performed with the test deck oriented in the horizontal position.

### 2.3 Critical Characteristics and Limiting Parameters Being Tested

The specific critical characteristics and associated limiting parameters being tested for Pressure Test 4 are as follows.

This test will evaluate pressure resistance capabilities of an eight (8) inch thick Quantum Silicones QSi 5558MC Silicone Elastomer (QSi 5558MC) seal with no permanent damming installed in an unlined (bare concrete) penetration. The various sized galvanized, powder coated, and stainless steel conduits, wire ways and cable trays are being included to evaluate the pressure resistance capability of the silicone elastomer seal material at the interface of these commodities. A successful test will substantiate the acceptability of this seal configuration to function as a pressure seal when installed in and around the following types of commodities, regardless of commodity size:

- RGS conduits
- SS conduits
- SS wire ways
- GS wire ways
- PCCS wire ways
- GSB cable trays
- GLB cable trays
- SSSB cable trays
- SSIB cable trays (SS cable tray material is being tested and ladder back and solid back configurations are being tested)

Additionally, this test will evaluate pressure resistance capabilities of seal to concrete interface after Keeler & Long KL 3500 *Kolor-Poxy Self Priming Surfacing Enamel* is mechanically removed on two adjacent sides with a needle gun scaler and on the other two sides with a masonry grinding wheel.

### 3.0 ACCEPTANCE CRITERIA

Pressure rated penetration seals at the MOX facility are required to remain "sufficiently leak-tight" at various pressure levels in order to support the functional goals of the various pressure rating requirements (i.e., confinement, suppression system clean agent concentration, fire induced pressure loads or HVAC pressure boundary loads). The term "sufficiently leak-tight" indicated that the penetration seal meets the predetermined acceptance criteria for the pressure level(s) being tested.

The acceptance criteria that constitutes "sufficiently leak-tight" varies based on the pressure requirement and the operating mode of the plant. For most pressure conditions and operating modes, "sufficiently leak-tight" means that the penetration seal assembly must remain in place but is allowed to leak (i.e., the penetration seal cannot become dislodged from the opening or otherwise catastrophically fail such that a substantial leakage path is created).

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Per MOX Services Calculation "Confinement Boundary Air Leakage Criteria" [Reference 12.1], penetration seals that function as confinement zone 3b boundary components must maintain a leakage rate less than 0.01 cfm/sq. ft. of penetration area when tested at a pressure that bounds C3b to non-C3b zone pressures during normal operating conditions.

Table 9-1 identifies the differential pressure levels (stages) for conducting pressure tests, as well as, the acceptance criteria in order to be considered "sufficiently leak-tight".

#### 4.0 RESPONSIBILITIES

The following roles and responsibilities apply to this test plan.

##### 4.1 MOX Services

- 4.1.1 Provide review and concurrence of this detailed pressure test plan.
- 4.1.2 Provide concurrence for any revisions made to this test plan during test specimen construction activities.
- 4.1.3 Provide some of the materials for test assembly construction from MOX Services surplus or scrap (if available).
- 4.1.4 Witness pressure tests (if desired).

##### 4.2 AREVA

- 4.2.1 Develop and revise (if necessary) this detailed pressure test plan.
- 4.2.2 Provide management and oversight of all aspects of the MOX penetration seal test program.
- 4.2.3 Select the pressure testing facility and establish sub-contract agreements. The testing laboratory selected for performance of this pressure test is Intertek Testing Services NA, Inc., Elmendorf, TX.
- 4.2.4 Provide engineering instructions to the testing laboratory for performance of the test including test parameters, acceptance criteria, requirements for documenting the test results in a final test report, etc.
- 4.2.5 Procure all primary penetration seal materials, devices and components (i.e., any materials, devices and components intended to replicate future Safety Related (QL-1) designs to be installed in the MOX facility) as designated in the procurement plan section (Section 5.0) of this test plan.
- 4.2.6 Notify MOX Services at least 10 days prior to test date to facilitate MOX Services decision to witness the pressure test.
- 4.2.7 Witness pressure test.
- 4.2.8 Perform post-test examinations.
- 4.2.9 Review, approve and issue final test reports.

##### 4.3 Testing Laboratory (Intertek Testing Services NA, Inc.)

- 4.3.1 Notify AREVA at least 5 days prior to the start of test assembly construction activities.
- 4.3.2 Construct test decks in accordance with this test plan and AREVA direction.
- 4.3.3 Procure test deck materials and any other test assembly components identified under the Testing Laboratory scope in the procurement plan section (Section 5.0) of this test plan.



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- 4.3.4 Procure testing equipment necessary for pressure testing services in accordance with this test plan and verify that the testing equipment is properly calibrated.
- 4.3.5 Provide pressure testing services in accordance with this test plan.
- 4.3.6 Assist AREVA, as necessary, in conducting detailed post-test destructive examinations of the test assemblies.
- 4.3.7 Dispose of test assemblies upon completion of the pressure tests.
- 4.3.8 Generate final test reports in accordance with test plan requirements (Section 11.0).

#### 4.4 Other Subcontracted Entities

There are no other Subcontractors for this pressure test plan.

### 5.0 PROCUREMENT PLAN

This penetration seal pressure test plan involves many elements beyond the penetration seal material being qualified. Some of these elements include the test deck or test slab, various fasteners for securing laboratory instrumentation to the test assembly, etc. Not all elements of the test assembly are required to be procured to the same quality level as the penetration seal material, which must be capable of satisfying the quality requirements of the end product (i.e., QL-1 qualified penetration seal assemblies for plant applications). The following procurement plan takes into consideration the required quality level of the various materials required for these penetration seal pressure tests and prescribes an approach for material procurement which considers cost, schedule and quality requirements.

#### 5.1 Penetration Seal Materials

The vast majority of penetration seals that will be installed throughout the MFFF are designated QL-1. MOX Services defines QL-1 in PP9-1, "SSC Quality Levels & Marking Design Documents" [Reference 12.2] as follows:

*QL-1 SSCs are typically IROFS (all IROFS are QL-1 and may be either SSCs or Administrative Controls) credited in the Integrated Safety Analysis with a required function to prevent or mitigate design basis events such that high-consequence events are made highly unlikely; intermediate-consequence events are made unlikely; or to prevent criticality. For example, the failure of an IROFS item could cause:*

1. *Loss of a primary confinement feature leading to release of material resulting in exceeding 10CFR70.61 performance requirements;*
2. *Failure to satisfy the double contingency principle for the prevention of a criticality accident; or*
3. *Loss of other safety function required to meet 10CFR70.61 performance requirements.*

This definition correlates with the following definition of "Nuclear Safety Related" in AREVA Administrative Procedure (AP) 1702-25, "Assignment of Nuclear Safety Classification to Products and Services" [Reference 12.3]:

*Definition of "Nuclear Safety Related"*

*Company products and services are considered to be nuclear safety related if they involve the evaluation, specification, design or change in design, operation, or performance of structures, systems, and components which must function directly, or must support other systems which function, to ensure any of the following:*

- *The integrity of the reactor coolant pressure boundary*
- *The capability to shut down the reactor and maintain it in a safe shutdown condition*

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- *The capability to prevent or mitigate the consequences of accidents which could result in potential offsite radiation exposures greater than accepted limits.*

On this basis, permanent penetration seal materials used in this test program shall be procured by AREVA or supplied by MOX Services and suitably base-lined so that future procurements of the same commercial materials can undergo the commercial grade dedication process in support of Nuclear Safety Related (i.e., MOX QL-1) plant installations. Only the primary seal material specified as a part of the final seal design and which are left in place during testing become an integral part of the seal assembly and need to be base-lined for future dedication of similarly procured materials.

The quality level of the penetration seal materials procured for this test plan is **Non-Safety**.

Note: Commercial Grade Dedication (CGD) must be performed for Commercial Grade Items (CGIs) used in Safety Related applications when procured from suppliers where specific quality controls for nuclear applications cannot be imposed in a practical manner in accordance with 56-9141754-001, "AREVA NP Inc. Quality Assurance Program" [Reference 12.4]. However, none of the seal materials to be procured and used in the test program are intended or approved for installation in the MOX facility. Therefore, CGD of penetration seal materials used for test purposes is not required.

For this pressure test, the following materials shall be procured by AREVA and base-lined for future dedication activities.

1. Quantum Silicones QSiil 5558MC Silicone Elastomer

## 5.2 Test Deck/Test Slab

The test deck will be used to simulate a confinement zone or HVAC boundary in which the penetration seal assemblies may be installed. The test deck is not considered an integral part of the penetration seal assembly being tested and therefore is not intended to replicate MOX-specific plant conditions and not considered integral in bounding the performance of the penetration seal assemblies (e.g., concrete blend, compressive strength, rebar size and spacing). The test deck will be comprised of normal weight reinforced concrete.

The opening cast into the test deck will simulate certain features consistent with MOX penetrations (e.g., chamfered edges when deemed relevant, relatively smooth interior finishes, etc.) as defined by detailed test plan drawings contained in Appendix A.

The testing laboratory shall be responsible for procuring all materials and components associated with the construction of the test deck, unless otherwise specified below. The test deck shall comply with the requirements of the approved detailed test plan drawings contained in Appendix A, and in accordance with the testing facility's Quality Assurance Program.

The quality level of the test deck is **Non-safety**.

## 5.3 Penetrating Items

Penetrating items (e.g., conduits, cable trays and wire ways) will be used in this pressure test to simulate MOX-specific plant commodities during the pressure test but are not considered an integral part of the penetration seal assembly being tested. Therefore, the quality level of the penetrating items is **Non-safety**.

Penetrating items for this pressure test will come from one of two sources: MOX Services or the testing laboratory. MOX Services supplied items are identified on the MOX Services Bill of Materials in Section C.2 of Appendix C. Items provided by the testing laboratory are identified on the Testing Laboratory Bill of Materials in Section C.3 of Appendix C.

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#### 6.0 SPECIAL PRECAUTIONS

##### 6.1 Precautions for Construction of Test Assemblies

Observe testing facilities safe work practices for construction, lifting, and moving of test assemblies.

##### 6.2 Precautions for Installation of Seal Assemblies

Observe specific precautions recommended by seal material manufacturer as noted on product literature and material safety data sheets contained in AREVA NP Inc. Document 01-9198306, *Installation Instruction Manual for MOX Penetration Seal Test Program* [Reference 12.5].

##### 6.3 Precautions for Conducting Pressure Tests

Proper safety precautions shall be exercised to preclude personnel from direct exposure to loss of pressure events, unexpected disengaging of testing equipment from the test deck, and all other related hazards.

#### 7.0 PREREQUISITES

##### 7.1 General Test Configuration Requirements

The test assembly, including slab layout and penetration seal configurations shall be as specified by AREVA and in accordance with the drawings and information contained in Appendix A of this test plan, and AREVA NP Inc. Document 01-9198306, *Installation Instruction Manual for MOX Penetration Seal Test Program* [Reference 12.5].

##### 7.2 Safety Related Materials

Penetration seal materials that are purchased **Non-Safety** for this test program but are to be base-lined for future Nuclear Safety Related via the Commercial Grade Dedication process are indicated on the AREVA Bill of Materials (Appendix C.1).

##### 7.3 Dimensioned Drawings

All test articles shall conform to the dimensioned drawings supplied by AREVA and contained in Appendix A and B of this test plan. Any differences between designed and constructed/tested assemblies shall be noted in final drawings contained within the test report.

##### 7.4 Test Configuration

All test articles shall be securely fastened to the test apparatus by the laboratory. All openings shall be sealed in accordance with test plan instructions, drawings (Appendix A and B) and AREVA Document 01-9198306 [Reference 12.5].

#### 8.0 TEST ASSEMBLY CONSTRUCTION

##### 8.1 Test Slab Construction

The Testing Laboratory shall construct the test slab, including location and size of openings and placement of penetrating items, in accordance with the drawings contained in Appendix A of this Test Plan.



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AREVA QC (or approved designee) shall conduct an inspection of the test slab for compliance with the approved Test Plan drawings prior to installation of individual penetration seal test assemblies. Any differences between the approved Test Plan drawings and the as-built test slab configuration shall be corrected (if deemed necessary by the AREVA Test Engineer) or noted by the QC Inspector (if correction is not required). Completion of this verification shall be documented as required by AREVA Document 01-9198306, *Installation Instruction Manual for MOX Penetration Seal Test Program*.

#### 8.2 Penetration Seal Installation

AREVA (or approved designee) shall install the penetration seal test assemblies in accordance with the drawings contained in Appendix A of this Test Plan and in accordance with AREVA Document 01-9198306, *Installation Instruction Manual for MOX Penetration Seal Test Program*.

QA/QC verification of penetration seal installations shall be documented as required by AREVA Document 01-9198306, *Installation Instruction Manual for MOX Penetration Seal Test Program*.

#### 8.3 Pre-Test Verifications

Prior to conducting the pressure test for each test assembly, the AREVA Test Engineer shall sign-off indicating that the test article (test penetration) is complete and ready for testing as required by AREVA Document 01-9198306, *Installation Instruction Manual for MOX Penetration Seal Test Program*.

### 9.0 PROCEDURE

#### 9.1 Pressure Test Apparatus

The pressure test apparatus to be used for these pressure tests shall be constructed and maintained by the testing laboratory. Two hemispherical 72" diameter steel pressure vessels shall be used to construct the assembly. One side shall be used to induce the testing pressures above atmospheric pressure based on Table 9-1, while the other side shall measure the pressure increase or "leakage" through the penetration. The test apparatus shall be "leak-tight" and substantial enough to withstand the pressures created for test purposes. Attachment shall be sufficient to withstand the forces imposed on the pressure vessels during the test.

#### 9.2 Process

The anticipated differential pressures, as they apply to MFFF penetration seal designs, are discussed in DCS01-BRA-DS-TRD-B-01365-0 [Reference 12.6]. Depending upon its location in the plant, a penetration seal may be subjected to differential pressures from one or more of the following sources:

- Clean agent suppression system discharge (inadvertent or in response to a fire)
- Normal HVAC operation in support of facility confinement zone separation
- Fire induced pressure
- HVAC pressure boundary

The full range of differential pressures under various conditions is identified in Calculations DCS01-XGA-DS-CAL-B-01105-0 [Reference 12.7], DCS01-ASI-DS-CAL-R-10552-0 [Reference 12.8], and DCS01-QJJ-DS-CAL-V-10421-0 [Reference 12.9].

The pressure levels specified in Table 9-1 are to be used in the pressure tests. These pressures are intended to bound a range of calculated differential pressures anticipated based on the various pressure conditions described above and detailed in the referenced calculations, with additional margin. The bounding differential pressures to be used for each penetration seal pressure test, the test hold time at

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each pressure, the acceptance criteria to be considered "sufficiently leak-tight", and the basis for each pressure, are identified in Table 9-1.

A hold time of 30 minutes has been established for each pressure level to ensure that sufficient time at pressure is maintained to; 1) confirm that no leakage occurs at that pressure, or 2) stabilize make up air and attain reasonably accurate leakage rate information for those configurations where leakage is detected.

**Table 9-1: Differential Pressure Test Levels**

Test Stage	Differential Pressure (inch w.g.)	Required Hold Time (minutes)	Acceptance Criteria	Basis for the Selected Differential Pressure
1	1.0	30	Leakage $\leq 0.01$ cfm/sq. ft. of penetration area - Note <sup>1</sup>	Testing at this differential pressure bounds the 0.51 inches w.g. pressure for C3b to C2 areas during normal operation [Reference 12.9]
2	5.0	30	Seal Remains In Place	Testing at this differential pressure bounds the 4.0 inches w.g. pressure anticipated as a result of clean agent suppression system discharge [Reference 12.7].
3	10.0	30	Seal Remains In Place	Testing at this differential pressure bounds the 7.0 inches w.g. pressure used as the screening pressure cutoff for fire induced pressures [References 12.7 and 12.8] and some of the HVAC pressure boundaries [Reference 12.9].
4	20.0	30	Seal Remains In Place	Testing at this differential pressure bounds all of the calculated fire induced pressures [Reference 12.8] and many of the HVAC pressure boundaries [Reference 12.9].
5	40.0	30	Seal Remains In Place	Testing at this differential pressure bounds all of the HVAC pressure boundaries [Reference 12.9].

Note <sup>1</sup>: 34" x 48" seal area @  $\leq 0.01$  cfm/sq. ft. leakage = maximum leakage of 0.113 cfm.

Each test assembly shall be attached to the pressure test apparatus and subjected to the pressures identified in Table 9-1 as described below.

- 9.2.1 The test assembly shall be attached to the pressure test apparatus and subjected to air pressure tests at the select pressure levels identified in Table 9-1, beginning with the Stage 1 pressure of 1.0 inches w.g. Once this pressure has been obtained, the pressure shall be maintained for the hold time specified in Table 9-1. The maximum leakage rate observed during the hold time shall be recorded. If the leakage rate exceeds the acceptance criteria during Stage 1 testing, the time of failure shall be noted and the test shall be continued, since leakage alone does not constitute failure after Stage 1.
- 9.2.2 Once the designated hold time has been achieved, the pressure shall be increased to the next pressure level identified in Table 9-1 (Stage 2, then Stage 3, then Stage 4 and finally Stage 5) and held for the designated hold time. The maximum leakage rate observed during each hold time shall be recorded.
- 9.2.3 Following completion of Stage 5 pressure testing, the test may continue at the discretion of the AREVA test engineer and the testing laboratory manager in charge. Subsequent

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### Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

pressures, hold times and maximum leakage rates shall be recorded as directed by the AREVA test engineer.

- 9.2.4 If at any pressure level (or test stage) the penetration seal becomes dislodged from the opening or otherwise catastrophically fails, the pressure test shall be terminated and the time to failure and pressure at which the failure occurred shall be recorded.

**NOTE:** If at any time during any test stage leakage should occur such that there is insufficient make-up air to achieve/maintain the required differential pressure, then Pressure Test 4 test shall be stopped, the repair described below performed, and the test continued under the description of Pressure Test 4A to accumulate meaningful test data.

**Test 4A Repair:** Apply a bead of Dow Corning 732 caulk at the interface between leaking commodities and the silicone elastomer seal on the top side of the seal assembly. A similar repair may also be needed on the bottom side of the test assembly. If deemed necessary, repair the bottom side interfaces. Re-install the pressure bonnets and allow the caulk to cure overnight before resuming the pressure test. All test data recorded from the repair forward shall be captured and classified as Pressure Test 4A. A detailed description of the repair shall be included in the final test report provided by the testing laboratory.

### 9.3 Post Test Examination

Following completion of the pressure test, visual, non-destructive post-test examinations shall be performed. These examinations shall include, but not necessarily be limited to, the following:

Visual observations of penetration seal condition including:

- Integrity of seal and conditions on the exposed and unexposed side of the penetration
- Location of any penetration seal degradation
- Condition of seal to barrier interface
- Condition of seal to penetrating item interfaces

Once visual observations are complete, this test assembly shall be re-purposed for use in Seismic Pressure Test 3.

### 10.0 DATA SYSTEMS

During the pressure tests, the various data systems connected to the test apparatus (blowers, anemometers, manometers, etc.) shall be controlled and monitored by the testing laboratory. Data recorded for these components shall be compiled and contained in the pressure test report.

### 11.0 TEST REPORT

The testing laboratory shall submit a report on the results of the test. The test report shall contain the collected data and required quality control documentation. The final test report shall be prepared in sufficient detail to summarize the total testing activity. The final report shall include as a minimum:

- Date of test
- Location of test
- Description of test apparatus and test articles
- Calibration documentation for all data systems connected to the test apparatus



## Controlled Document



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### Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

- Test procedures used
- Acceptance criteria
- Provide quality control records
- Results of the pressure test
- Color digital photographs of the test project

## 12.0 REFERENCES

- 12.1 Shaw AREVA MOX Services Calculation DCS01-QJJ-DS-CAL-V-13312-0, "Confinement Boundary Air Leakage Criteria"
- 12.2 Shaw AREVA MOX Services Procedure PP9-1, Revision 14, SSC "Quality Levels & Marking Design Documents"
- 12.3 AREVA NP Inc. Procedure 1702-25, Revision 018, "Assignment of Nuclear Safety Classification to Products and Services"
- 12.4 AREVA NP Inc. Document 56-9141754-001, "AREVA NP Inc. Quality Assurance Program"
- 12.5 AREVA NP Inc. Document 01-9198306 (latest revision), "Installation Instruction Manual for MOX Penetration Seal Test Program"
- 12.6 Shaw AREVA MOX Services Document DCS01-BRA-DS-TRD-B-01365-0, "Technical Requirements Document for MFFF Penetration Seals"
- 12.7 Shaw AREVA MOX Services Calculation DCS01-XGA-DS-CAL-B-01105-0, "BMF HVAC and Fire Induced Pressure Loads"
- 12.8 Shaw AREVA MOX Services Calculation DCS01-ASI-DS-CAL-R-10552-0, "Fire Induced Room Pressure Analysis"
- 12.9 Shaw AREVA MOX Services Calculation DCS01-QJJ-DS-CAL-V-10421-0, "Pressure Differentials Across Internal Barriers within the MOX Facility"

### Retrieval of Reference Documents

References 12.1, 12.2, 12.6, 12.7, 12.8 and 12.9 of this document were not entered into the AREVA NP Records Management system because they can be retrieved using the Shaw AREVA MOX Services Records Management system. These documents have been authorized for use as design information in this document with the AREVA NP Project Manager's written authorization as indicated by the PM's signature on Page 2.

Controlled Document



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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

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**APPENDIX A: TEST DECK/TEST SLAB DRAWINGS**

This appendix contains a drawing outlining the basic layout of the test deck/test slab to be used for this pressure test. Concrete reinforcement details and additional test deck features, such as perimeter framing details and lug locations for lifting the test deck, are the responsibility of the testing laboratory. Additionally, this appendix contains notes that are to be used in conjunction with the layout drawing to construct the test deck.

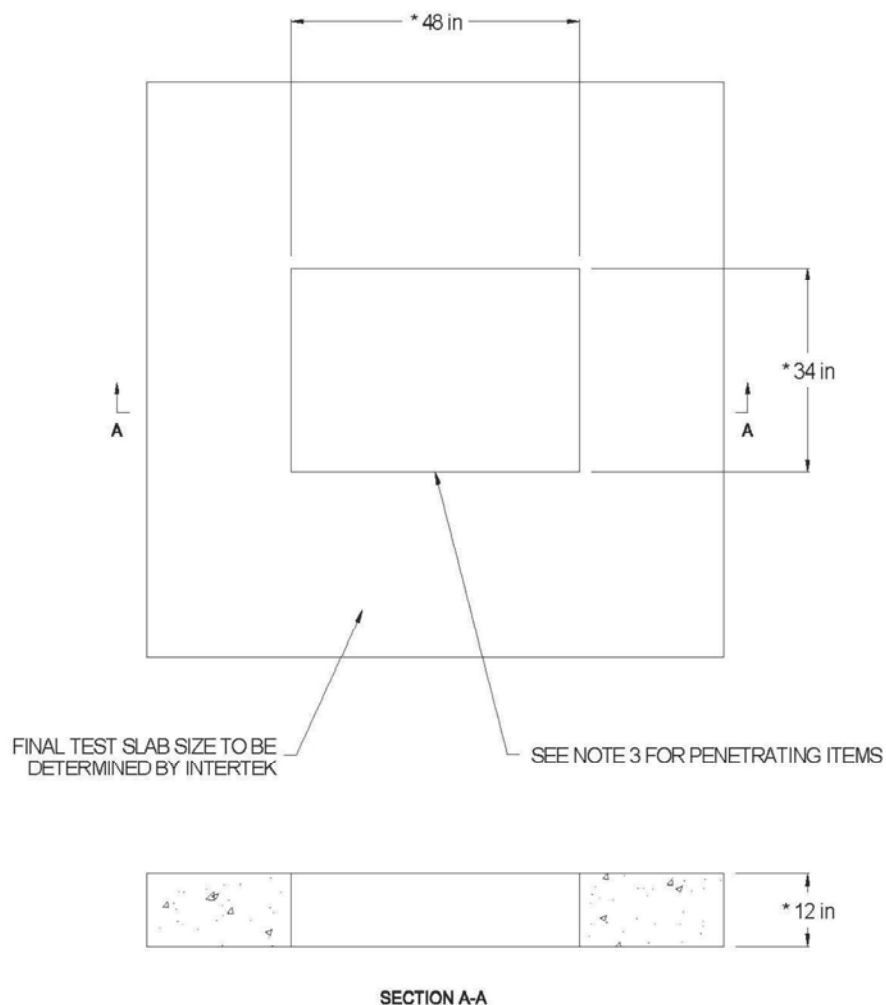
Controlled Document



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Detailed Test Plan for Conducting MOX Pressure Test 1 and 4A (If Needed)

Figure A-1: Pressure Test P4 Test Deck



NOTES:

1. TOLERANCE ON ALL SLAB DIMENSIONS IS  $\pm 1/4"$
2. \* INDICATES DIMENSIONS TO BE VERIFIED BY AREVA QC (OR APPROVED DESIGNEE).
3. SEE APPENDIX B FOR PENETRATING ITEMS AND PENETRATION SEAL DESIGN.

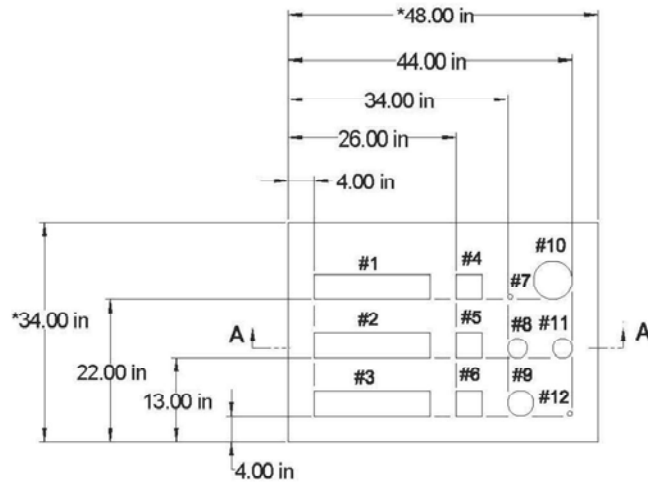
Controlled Document



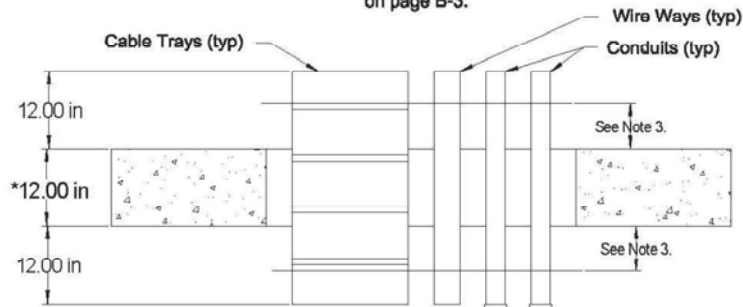
Document No.: 51-9199513-004

Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

**Pressure Test P4  
Penetrating Item Locations**



Penetrant descriptions are provided  
on page B-3.



**Section A-A**

**NOTES:**

1. TOLERANCE ON ALL SLAB DIMENSIONS IS +/- 1/4"
2. \* INDICATES DIMENSIONS TO BE VERIFIED BY AREVA QC.
3. INSTALL SUPPORT APPROXIMATELY 6" TO 8" ABOVE AND BELOW SLAB.

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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

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### Pressure P4

#### Penetrant Description:

- Penetrating Item #1 = 18"x4" galvanized steel, solid-bottom (GSB) cable tray without cables or cover
- Penetrating Item #2 = 18"x4" galvanized steel, ladder-back (GLB) cable tray without cables or cover
- Penetrating Item #3 = 18"x4" stainless steel, solid-bottom (SSSB) cable tray without cables or cover
- Penetrating Item #4 = 4"x4" powder-coated carbon steel (PCCS) wire way without cables or cover
- Penetrating Item #5 = 4"x4" galvanized steel (GS) wire way without cables or cover
- Penetrating Item #6 = 4"x4" stainless steel (SS) wire way without cables or cover
- Penetrating Item #7 = ¾" diameter empty stainless steel (SS) conduit capped on bottom side
- Penetrating Item #8 = 3" diameter empty stainless steel (SS) conduit capped on bottom side
- Penetrating Item #9 = 4" diameter empty stainless steel (SS) conduit capped on bottom side
- Penetrating Item #10 = 6" diameter empty rigid galvanized steel (RGS) conduit capped on bottom side
- Penetrating Item #11 = 3" diameter empty rigid galvanized steel (RGS) conduit capped on bottom side
- Penetrating Item #12 = ¾" diameter empty rigid galvanized steel (RGS) conduit capped on bottom side

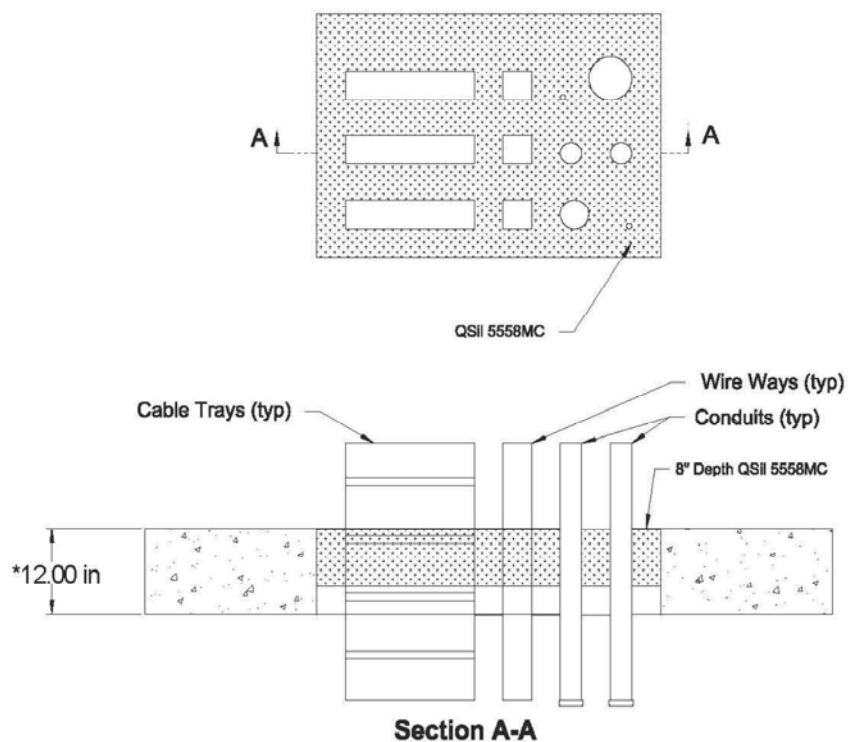
Controlled Document



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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

### Pressure Test P4 Penetration Seal Material Installation



#### NOTES:

1. TOLERANCE ON ALL SLAB DIMENSIONS IS +/- 1/4"
2. \* INDICATES DIMENSIONS TO BE VERIFIED BY AREVA QC.



Controlled Document



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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

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**APPENDIX C: BILL OF MATERIALS**

This appendix contains the Bill of Materials for this pressure test. The Bill of Materials in Section C.1 identifies materials to be provided by AREVA. The Bill of Materials in Section C.2 identifies materials to be provided by MOX Services. The Bill of Materials in Section C.3 identifies materials to be provided by Intertek.

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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

C.1 Table Bill of Materials for AREVA Supplied Items

Bill of Material for AREVA Supplied Items					
Item	Description	Part Number	Quantity	Units	Total
1	Quantum Silicones QSil 5558MC (50lb part A, 50lb part B, 100lb set)	N/A	9	Set	9 Sets

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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

C.2 Bill of Materials for MOX Services Supplied Items

Bill of Material for MOX Services Supplied Items					
Item	Description	Part Number	Quantity	Units	Total
1	3/4" Diameter Stainless Steel Conduit-- Calbrite Stainless Steel Conduit Systems, Type 304, or Equal with Cap (Need 1 @ 3 LF w/1 Cap)	S40710CT00	10	Ft.	10 Ft.
2	3/4" Diameter Galvanized Conduit-- Calconduit or Equal with Cap (Need 1 @ 3 LF w/1 Cap)	ST0710CT00	10	Ft.	10 Ft.
3	3" Diameter Stainless Steel Conduit-- Calbrite Stainless Steel Conduit Systems, Type 304, or Equal with Cap (Need 1 @ 3 LF w/1 Cap)	S43010CT00	10	Ft.	10 Ft.
4	3" Diameter Galvanized Conduit-- Calconduit or Equal with Cap (Need 1 @ 3 LF w/1 Cap)	ST3010CT00	10	Ft.	10 Ft.
5	4" Diameter Stainless Steel Conduit --Calbrite Stainless Steel Conduit Systems, Type 304, or Equal with Cap (Need 1 @ 3 FL w/1 Cap)	S44010CT00	10	Ft.	10 Ft.
6					
7					
8					
9					

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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

### C.3 Bill of Materials for Intertek Supplied Items

Bill of Material for Intertek Supplied Items*					
Item	Description	Part Number	Quantity	Units	Total
1	6" Diameter Galvanized Conduit – Calconduit or Equal with Cap (Need 1 @ 3 LF w/1 Cap)	ST6010CT00	10	Ft.	10 Ft.
2	4"x4" Painted Wire Way – Cooper B-Line or Equal (Need 1 @ 3 LF)	4460 G NK	5	Ft.	5 Ft.
3	4"x4" Galvanized Wire Way – Cooper B-Line or Equal (Need 1 @ 3 LF)	4460 GGV NK	5	Ft.	5 Ft.
4	4"x4" Stainless Steel Wire Way – Cooper B-Line or Equal (Need 1 @ 3 LF)	4460-4XSFW	5	Ft.	5 Ft.
5	18"x4" Galvanized Solid Bottom Cable Tray – Cooper B-Line or Equal (Need 1 @ 3 LF)	444 G ST 18 120	10	Ft.	10 Ft.
6	18"x4" Galvanized Ladder Back Cable Tray – Cooper B-Line or Equal (Need 1 @ 3 LF)	444 G 09 18 120	10	Ft.	10 Ft.
7	18"x4" Stainless Steel Solid Bottom Cable Tray – Cooper B-Line or Equal (Need 1 @ 3 LF)	348 SS4 SB 18 120	10	Ft.	10 Ft.

\* This BOM applies to Intertek Supplied Items other than materials required to construct the test slab. Construction of the test slab, including procurement of any materials required for the test slab and commodity supports, is the responsibility of Intertek.

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# Controlled Document



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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

## APPENDIX D: DESIGN VERIFICATION CHECKLIST

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AREVA		DESIGN VERIFICATION CHECKLIST		
Document Identifier 51 - 9199513 - 004				
Title Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)				
1.	Were the inputs correctly selected and incorporated into design or analysis?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
2.	Are assumptions necessary to perform the design or analysis activity adequately described and reasonable? Where necessary, are the assumptions identified for subsequent re-verifications when the detailed design activities are completed? Note: If there are no assumptions (of any type), then N/A shall be checked.	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
3.	Are the appropriate quality and quality assurance requirements specified? Or, for documents prepared per AREVA NP Inc. procedures, have the procedural requirements been met?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
4.	If the design or analysis cites or is required to cite requirements or criteria based upon applicable codes, standards, specific regulatory requirements, including issue and addenda, are these properly identified, and are the requirements/criteria for design or analysis met?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
5.	Have applicable construction and operating experience been considered?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
6.	Have the design interface requirements been satisfied?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
7.	Was an appropriate design or analytical method used?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
8.	Is the output reasonable compared to inputs?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
9.	Are the specified parts, equipment and processes suitable for the required application?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
10.	Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
11.	Have adequate maintenance features and requirements been specified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
12.	Are accessibility and other design provisions adequate for performance of needed maintenance and repair?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
13.	Has adequate accessibility been provided to perform the in-service inspection expected to be required during the plant life?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
14.	Has the design properly considered radiation exposure to the public and plant personnel?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
15.	Are the acceptance criteria incorporated in the design documents sufficient to allow verification that design requirements have been satisfactorily accomplished?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
16.	Have adequate preoperational and subsequent periodic test requirements been appropriately specified?	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
17.	Are adequate handling, storage, cleaning and shipping requirements specified?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
18.	Are adequate identification requirements specified?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
19.	Is the document prepared and being released under the AREVA NP Inc. Quality Assurance Program? If not, are requirements for record preparation review, approval, retention, etc., adequately specified?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

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Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (If Needed)

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		<b>DESIGN VERIFICATION CHECKLIST</b>	
Document Identifier 51 - 9199513 - 004			
Comments on the preceding responses: N/A			
Verified By: (First, MI, Last)	Victor E. Kaldenbach Printed / Typed Name	 Signature	10/10/2013 Date



## APPENDIX E

### Commercial Grade Dedication-Related Documents

The vast majority of penetration seals that will be installed throughout the MFFF will be designated as quality level QL-1. For this reason, permanent penetration seal materials used in this test program were procured by AREVA or supplied by MOX Services and suitably base-lined so that future procurements of the same commercial materials can undergo the Commercial Grade Dedication process in support Nuclear Safety Related (i.e., MOX QL-1) plant installations.

Only the primary seal material(s) that were specified as a part of the final penetration seal design and left in place during the test needed to be base-lined for future dedication of similarly procured materials. For this pressure test, the following AREVA document contains information associated with materials that underwent the base-lining process. This document establishes material critical characteristics as a baseline for future Commercial Grade Dedication.

- AREVA Document 51-9212663-000, "Quantum Silicones QSil 5558MC Silicone Elastomer Critical Characteristics"

This document is available from the AREVA Records Management System or the MOX Records Management System.

**Note:** The Dow Corning 732 Multi-Purpose Sealant (DC-732) that was used in Pressure Test 4A to seal the interface between the QSil 5558MC silicone elastomer and the penetrating items was installed to reduce the leakage observed in Pressure Test 4 so that the pressure test could continue under Pressure Test 4A. This application of DC-732 is not intended to be an approved method for MOX electrical penetration seal designs. It was only used as a means to continue the pressure testing required to substantiate Stages 2-5 where seal leakage is not a condition of acceptance. For this reason, there are no QC Records associated with the DC-732 application and base-lining of the DC-732 used in Pressure Test 4A is not required.

## APPENDIX F

### Quality Documents

The test assembly used in Pressure Test 4A was the same assembly built and tested first as Pressure Test 4, with minor modifications (i.e., the addition of Dow Corning 732 sealant at seal to penetrating item interfaces). For quality records associated with test assembly construction, please see the Quality Documents in the Appendix F of Intertek Report No. 100982213SAT-001D, Pressure Test 4 (AREVA NP, Inc. document number 58-9222547-000).

## LIST OF CALIBRATED EQUIPMENT

Description	Serial No.	Calibration Due Date
Thermo-Hygrometer	111901142	11/2/2013
Data Acquisition System	18041FE	1/16/2014*
Pressure Transducer	406707	7/16/2014*
Mass Flowmeter	4270050001001	2/1/2014*
Mass Flowmeter	4270050003001	2/1/2014*
Stop watch	122601005	10/23/2014

\*See Intertek Corrective Action Request (CAR) 51-AMER-SAT-2014-INT and AREVA Contract Variation Approval Request (CVAR) 87-9224669-000



Calibration  
Certificate No. 1750.01

Calibration complies with ISO/IEC  
17025, ANSI/NCSL Z540-1, and 9001

J2 [Redacted]  
Cert. No.: 4094-3993529

**Traceable® Certificate of Calibration for Digital Humidity/Temp. Meter**

Manufactured for and distributed by: Fisher Scientific, 300 Industry Drive, Pittsburgh, PA 15275-1001

**Instrument Identification:**

Model Numbers: 11-661-11, FB61252, 255TB S/N: 111901142 Manufacturer: Control Company

**Standards/Equipment:**

Description	Serial Number	Due Date	NIST Traceable Reference
Chilled Mirror Hygrometer	31874/H2048MCR	5/12/12	9193
Digital Thermometer	90969500	9/14/12	4000-3893285

**Certificate Information:**

Technician: 104 Procedure: CAL-17 Cal Date: 11/02/11 Cal Due: 11/02/13  
Test Conditions: 22.5°C 45.0 %RH 1017 mBar

**Calibration Data: (New Instrument)**

Unit(s)	Nominal	As Found	In Tol	Nominal	As Left	In Tol	Min	Max	±U	TUR
°C		N.A.		23.667	23	Y	23	25	0.590	1.7:1
%RH		N.A.		41.450	41	Y	37	45	0.000	0.0:1

**This Instrument was calibrated using Instruments Traceable to National Institute of Standards and Technology.**

A Test Uncertainty Ratio of at least 4:1 is maintained unless otherwise stated and is calculated using the expanded measurement uncertainty. Uncertainty evaluation includes the instrument under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor k=2 to approximate a 95% confidence level. In tolerance conditions are based on test results falling within specified limits with no reduction by the uncertainty of the measurement. The results contained herein relate only to the item calibrated. This certificate shall not be reproduced except in full, without written approval of Control Company.

Nominal=Standard's Reading; As Left=Instrument's Reading; In Tol=In Tolerance; MinMax=Acceptance Range; ±U=Expanded Measurement Uncertainty; TUR=Test Uncertainty Ratio;  
Accuracy=±(Max-Min)/2; Min = Nominal(Rounded) - Tolerance; Max = Nominal(Rounded) + Tolerance; Date=MM/DD/YY

[Redacted]  
Teresa Rodriguez, Quality Manager

[Redacted]  
Wallace Berry, Technical Manager

**Maintaining Accuracy:**

In our opinion once calibrated your Digital Humidity/Temp. Meter should maintain its accuracy. There is no exact way to determine how long calibration will be maintained. Digital Humidity/Temp. Meters change little, if any at all, but can be affected by aging, temperature, shock, and contamination.

**Recalibration:**

For factory calibration and re-certification traceable to National Institute of Standards and Technology contact Control Company.

CONTROL COMPANY 4455 Rex Road Friendswood, TX 77546 USA  
Phone 281 482-1714 Fax 281 482-9448 service@control3.com www.control3.com

Control Company is an ISO 17025:2005 Calibration Laboratory Accredited by (A2LA) American Association for Laboratory Accreditation, Certificate No. 1750.01.  
Control Company is ISO 9001:2008 Quality Certified by (DNV) Det Norske Veritas, Certificate No. CERT-01805-2008-AQ-HOU-ANAB.  
International Laboratory Accreditation Cooperation (ILAC) - Multilateral Recognition Arrangement (MRA).

## Certificate of Calibration

Certificate Number:	2994344	Date:	28-MAY-2014
Serial Number:	18041FE	Part Number:	194710E-04L
Description:	CCA,USB-6210		
Calibration Date:	06-DEC-2012	Shelf Life:	0 Days
Calibration Due Date*:	-	Recommended Calibration Interval:	12 Months
Temperature:	22.26 °C	Humidity:	40.7% RH

### Standards Used

Manufacturer	Model	Tracking Number	Calibration Date	Calibration Due
NATIONAL INSTRUMENTS	PXI-4070	6712	26-JUN-12	26-JUN-13
NATIONAL INSTRUMENTS	PXI-6259	6871	27-JUN-12	27-JUN-13
NATIONAL INSTRUMENTS	PXI-5421	7591	25-JUN-12	25-JUN-13
VAISALA	HMT331	7885	24-MAY-12	24-MAY-13

National Instruments certifies that at the time of test, the above product was calibrated in accordance with applicable National Instruments procedures. The procedures are designed to ensure that the product listed above meets or exceeds National Instruments specifications.

We further certify that the environment in which this product was calibrated is maintained within the operating specifications of the instrument(s) standards. The measurement standards used during calibration are traceable to NIST and/or other International Measurement Institutes (NMI's) that signatories of the International Committee of Weights and Measure (CIPM) Mutual Recognition Agreement (MRA).

The information shown on this certificate applies only to the instrument identified above and this certificate may not be reproduced, except in full, without prior written consent of National Instruments.

\*Optional field, **Calibration Due Date**, may be established by combining the **Recommended Calibration Interval**, **Calibration Date** and, when applicable, accounting for **Shelf Life**. Shelf life defines how long an instrument may be stored, after calibration, without impact to its specifications.

The instrument's Calibration Due Date can be calculated using the following methods:

- If date placed in service is within **Calibration Date + Shelf Life**: **Calibration Due Date** = date placed in service + **Recommended Calibration Interval**
- If date placed in service is outside **Calibration Date + Shelf Life**: **Calibration Due Date** = **Calibration Date** + **Shelf Life** + **Recommended Calibration Interval**

For questions or comments, please contact National Instruments Technical Support.



Andrew Krupp  
Vice President, Quality and Continuous Improvement



## OMEGADYNE INC. CERTIFICATE OF CALIBRATION

**Model Number:** PX409-005DWUV  
**Serial Number:** 406707  
**Date:** 7/15/2011  
**Job:** R3274

**Capacity:** 5.00 PSID  
**Excitation:** 10.00 Vdc  
**Technician:** KAPOME

**Pressure Connection:** 1/4-18 NPT Male

### WIRING CODE

**Electrical Connection:** Integral Cable 4-Cond  
BLACK = - EXCITATION  
WHITE = + SIGNAL  
GREEN = - SIGNAL  
RED = + EXCITATION

### CALIBRATION WORKSHEET

### NOTES

Pressure PSID	OUTPUT mVdc
0.00	0.007
2.50	50.008
5.00	100.016
2.50	50.007
0.00	0.007

### NIST Traceable Number(s): C-1954, C-1289

Omegadyne Inc. certifies that the above instrumentation has been calibrated and tested to meet or to exceed the published specifications. This calibration was performed using instrumentation and standards that are traceable to the National Institute of Standards and Technology. This document also ensures that all testing performed complies with MIL-STD 45662-A, ISO 10012-1, and ANSI/NCSL Z540-1-1994 requirements. After Final Calibration our products are stored in an environmentally controlled stock room and are considered in bonded storage. Depending on environmental conditions and severity of use, factory calibration is recommended every one to three years after the initial service installation date.

\_\_\_\_\_  
Accepted and Certified By

7/15/2011  
Date



CERTIFICATE OF ACCURACY

This is to certify that meter serial number 4270050001001 is certified to an accuracy of  $\pm$  1 % of 20 ppm of n2 and has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology (N.I.S.T.) according to our procedures.

All traceable certifications and related procedures for the equipment used are on file.

Barometer Number:	<u>n/a</u>
Vol-U-Meter Number:	<u>Base 1920</u> <u>cell 1898</u>
Type of Gas:	<u>n2</u>
Gas Used for Calibration:	<u>n2</u>
Pressure Gauge Number:	<u>162</u>
Timer Number:	<u>n/a</u>
Thermometer Number:	<u>n/a</u>
Voltmeter:	<u>NA</u>
Calibrated By:	<u>[REDACTED]</u>
Date Calibrated:	<u>2-1-13</u>

Uncertainty of measurements:  $\pm$  0.3 % of reading

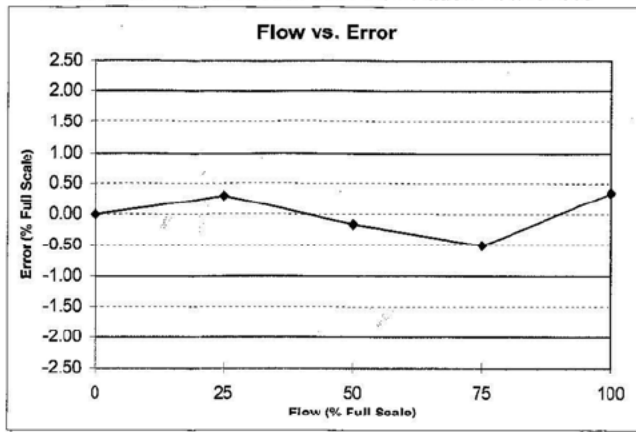
Calibrations were performed under a controlled Quality System Manual, which incorporates the requirements of ISO Guide 25, ISO 10012-1, ISO 9001 (1994) and ISO 13485. The released ISO 13485 registration (Medical Devices – Quality Management Systems – System Requirements for Regulatory Purposes) includes Design Controls and Metrology Systems.

0122220B

FM-1011 REV B



**Mass Flowmeter/Flow Controller Calibration Data Sheet**



**Calibration Data**

Setpoint (SLPM)	Flow Signal (Volts)	Device Flow (SLPM)	Actual Flow (SLPM)	% FS Error *
00.00	0.000	00.00	00.00	0.00
05.00	1.253	05.01	05.07	0.30
10.00	2.502	10.01	09.98	-0.16
15.00	3.752	15.01	14.91	-0.50
20.00	5.000	20.00	20.07	0.35

\* % Full Scale (FS) Error = (100)(Actual Flow - Device Flow) / Full Scale Flow

DATE 2/1/2013  
TIME 7:59:59 AM  
Shop Order No. 427005  
Serial No. 4270050001001

**GAS**  
Nameplate (Actual) Nitrogen  
Surrogate (Calibration) Nitrogen (N2)

**STANDARD CONDITIONS**  
Std. Pressure 101.32 kPa (760 Torr)  
Std. Temperature 21.1 °C

**PRESSURE**  
Inlet (P<sub>1</sub>) 20 PSIG  
Outlet (P<sub>2</sub>) N/A

**TEMPERATURE**  
Calib. Temperature 21.9 °C  
Oper. Temperature 70 °F

Max. Flow Rate 20 SLPM  
Gas Factor 1

Calibrator MT  
Flow Standard PICO 1898-1  
Unit Accuracy 1.0 FS & 0.0 Rate  
Calib. Attitude Horizontal (base down)

**LEAK TEST DATA**  
Inboard (Externally Pressurized) Helium Leak Rate: < 1 x 10<sup>-8</sup> atm cc/sec  
Vacuum Pressure: < 5 milliTor

Tested By: [Redacted] Date: 2-1-13

FM-1119 Rev. K



CERTIFICATE OF ACCURACY

This is to certify that meter serial number 4270050003001 is certified to an accuracy of +/- 1 % of 200 slpm of N<sub>2</sub> and has been calibrated using standards whose accuracies are traceable to the National Institute of Standards and Technology (N.I.S.T.) according to our procedures.

All traceable certifications and related procedures for the equipment used are on file.

Barometer Number:	<u>1667</u>
Vol-U-Meter Number:	<u>613</u>
Type of Gas:	<u>N<sub>2</sub></u>
Gas Used for Calibration:	<u>N<sub>2</sub></u>
Pressure Gauge Number:	<u>1950</u>
Timer Number:	<u>1876</u>
Thermometer Number:	<u>985</u>
Voltmeter:	<u>NA</u>
Calibrated By:	<u>[REDACTED]</u>
Date Calibrated:	<u>2-7-13</u>

Uncertainty of measurements: +/- 0.3 % of reading

Calibrations were performed under a controlled Quality System Manual, which incorporates the requirements of ISO Guide 25, ISO 10012-1, ISO 9001 (1994) and ISO 13485. The released ISO 13485 registration (Medical Devices – Quality Management Systems – System Requirements for Regulatory Purposes) includes Design Controls and Metrology Systems.

0122220B

FM-1011 REV B



## MASS FLOWMETER/FLOW CONTROLLER CALIBRATION DATA SHEET

### SPECIFICATIONS

MODEL #: FMA-875A-V-NIST SERIAL #: 4270050003001  
FLOW RANGE: 200 SLPM OPERATING TEMPERATURE: 70 F  
NAMEPLATE (PROCESS) GAS: N2 SURROGATE (CALIBRATION) GAS: N2  
STANDARD TEMPERATURE: 21.1 C STANDARD PRESSURE: 101.32 kPa (760 Torr)  
P1 (INLET PRESSURE): 20 PSIG P2 (OUTLET PRESSURE): N/A  
CALIBRATION TEMPERATURE: 18.7 °C  
CALIBRATION ATTITUDE (calibration attitude checked):  
☒ Horizontal (base down) ☐ Horizontal (upside down)  
☐ Horizontal (front down) ☐ Horizontal (back down)  
☐ Vertical (inlet up) ☐ Vertical (inlet down)  
CALIBRATION ACCURACY: ± 1 % OF FULL SCALE FLOW

### CALIBRATION DATA

% FULL SCALE (Nominal)	FLOW SIGNAL OUTPUT (signal type checked) <input checked="" type="checkbox"/> Vdc <input type="checkbox"/> mAde	STANDARD VOLUMETRIC FLOW (Units: SLPM )		ERROR * (% Full Scale)
		DEVICE	MEASURED	
100	5.000	200.000	200.079	.5395
75	3.750	150.000	149.317	-.3415
50	2.500	100.000	100.488	.2440
25	1.250	50.000	50.852	.4260
0	0.00	0.000	0.000	-----

\* % FULL SCALE ERROR = (100) (MEASURED FLOW - DEVICE FLOW) ÷ FULL SCALE FLOW

CALIBRATED BY: [REDACTED] DATE: 2-7-13

### LEAK TEST DATA

INBOARD (EXTERNALLY-PRESSURIZED) HELIUM LEAK RATE: <1x 10<sup>-8</sup> atm cc/sec

VACUUM PRESSURE: <5 millitorr

TESTED BY: [REDACTED] DATE: 2-1-13

FM-355-OE Rev. 0





Calibration complies with ISO 9001  
ISO/IEC 17025 AND ANSI/NCSL Z540-1

Calibration  
Certificate No. 1750.01

Cert. No.: 1042-4689088

**Traceable® Certificate of Calibration for Waterproof Stopwatch**

Manufactured for and distributed by: Fisher Scientific, 300 Industry Drive, Pittsburgh, PA 15275-1001

**Instrument Identification:**

Model Numbers: 0666256, FB70240 S/N: 122601005 Manufacturer: Control Company

**Standards/Equipment:**

Description	Serial Number	Due Date	NIST Traceable Reference
Non-contact Frequency Counter	26.8 2025	3/06/13	1000313632

**Certificate Information:**

Technician: 67 Procedure: CAL-01 Cal Date: 10/23/12 Cal Due: 10/23/14  
Test Conditions: 22.5°C 45.0 %RH 1015 mBar

**Calibration Data: (New Instrument)**

Unit(s)	Nominal	As Found	In Tol	Nominal	As Left	In Tol	Min	Max	±U	TUR
Sec/24hr		N.A.		0.000	-0.600	Y	-8.640	8.640	0.130	>4:1

**This Instrument was calibrated using Instruments Traceable to National Institute of Standards and Technology.**

A Test Uncertainty Ratio of at least 4:1 is maintained unless otherwise stated and is calculated using the expanded measurement uncertainty. Uncertainty evaluation includes the instrument under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor k=2 to approximate a 95% confidence level. In tolerance conditions are based on test results falling within specified limits with no reduction by the uncertainty of the measurement. The results contained herein relate only to the item calibrated. This certificate shall not be reproduced except in full, without written approval of Control Company.

Nominal=Standard's Reading; As Left=Instrument's Reading; In Tol=In Tolerance; Min/Max=Acceptance Range; ±U=Expanded Measurement Uncertainty; TUR=Test Uncertainty Ratio; Accuracy=±(Max-Min)/2; Min = Nominal(Rounded) - Tolerance; Max = Nominal(Rounded) + Tolerance; Date=MM/DD/YY

Nicol Rodriguez, Quality Manager

Wallace Berry, Technical Manager

**Maintaining Accuracy:**

In our opinion once calibrated your Waterproof Stopwatch should maintain its accuracy. There is no exact way to determine how long calibration will be maintained. Waterproof Stopwatches change little, if any at all, but can be affected by aging, temperature, shock, and contamination.

**Recalibration:**

For factory calibration and re-certification traceable to National Institute of Standards and Technology contact Control Company.

CONTROL COMPANY 4455 Rex Road Friendswood, TX 77546 USA  
Phone 281 482-1714 Fax 281 482-9448 service@control3.com www.control3.com

Control Company is an ISO 17025:2005 Calibration Laboratory Accredited by (A2LA) American Association for Laboratory Accreditation, Certificate No. 1750.01.  
Control Company is ISO 9001:2008 Quality Certified by (DNV) Det Norske Veritas, Certificate No. CERT-01806-2008-AQ-HOU-ANAB.  
International Laboratory Accreditation Cooperation (ILAC) - Multilateral Recognition Arrangement (MRA).



## TEST ARTICLE ATTRIBUTE CHECKLIST

PROJECT NO: G100982213 SAT-005A CLIENT: AREVA  
-003

Project Description PRESSURE 4A AND SEISMIC 3

	SAT	UNSAT
<b>I. ASSEMBLY</b>		
Proper materials used .....	X	
Material documentation complete.....	X	
Configuration/dimensions in accordance w/ approved drawings....	X	
Description of assembly: <u>MOX AREVA P4A + S3</u>		
<b>II. ELECTRICAL CABLE</b>		
Correct material used .....	N/A	
Material documentation complete .....		
Correct cable lay-in and fill requirements .....		
Description of electrical cable: .....		
<b>III. THERMOCOUPLES</b>		
Correct thermocouple type, certs received .....	N/A	
Thermocouples positioned in accordance with test plan .....		
Adequately labeled and secured .....		
Quality Assurance verification done .....		
Description of thermocouples: .....		
<b>IV. FIRE BARRIER</b>		
Name or type of material <u>Q SIL 5558 MC + DC 732 REPAR</u>		
INTERTEK received material documentation provided by Client.....	X	
Materials provided by INTERTEK properly documented .....	X	
Materials installed by INTERTEK in accordance with test plan .....	X	
INTERTEK Quality Assurance responsibilities determined .....	X	
QA responsibilities of Client installation determined .....	X	
Moisture check required .....	Yes	No X
Special requirements .....		
<b>V. FINAL PREBURN VERIFICATION</b>		
Final visual inspection & approval (initials)	INTERTEK	Client
CALIBRATION DOCUMENTATION (S/N and calibration due date)		
Data Acquisition Equipment: <u>SEE TEST DATA PACKAGE</u>		
Other Measurement Devices: .....		
Temperature <u>81</u> Humidity <u>69</u> Date <u>10-15-13</u> Time of Test start <u>11:15 A</u>		
INTERTEK pre-burn checklist performed by .....		
Client representative present to witness test .....		
Note: Verification to be made using initials by INTERTEK Quality Assurance or test personnel.		

9/12 NQAP-007.7.3

### Certificate of Conformance

Client Name: Areva NP Inc.  
Project No: G100982213SAT-005A

Date: July 31, 2014

Intertek Testing Services NA (Intertek) has conducted testing for Areva NP Inc., on the pressure resistance capabilities of Quantum Silicones QSil 5558MC Silicone Elastomer (QSil 5558MC) in a 12" thick concrete deck for compliance with the applicable requirements of and in accordance with Areva NP Inc. Document No. 51-9199513-004, *Detailed Test Plan for Conducting MOX Pressure Test 4 and 4A (Test Plan)*. This evaluation took place on October 15, 2013.

The materials, processes), and deliverable(s) in this project were managed under and conform to the test laboratory's 10CFR50 Appendix B Quality Assurance Program.



Michael A Brown  
Quality Supervisor

July 31, 2014

Date

### **Quality Assurance Statement**

Intertek is devoted to engineering, inspection, quality assurance and testing of building materials, products and assemblies. Intertek has developed and implemented a Quality Assurance Program designed to provide its clients with a planned procedure of order and document processing for inspection and testing services it provides to assure conformity to requirements, codes, standards and specifications. The Program is designed to meet the intent of ANSI 45.2 Quality Assurance Program Requirements for Nuclear Power Plants, and complies with the requirements of the ASME Code, SPPE, Military Standards and other less stringent programs. It is the Laboratory's intention to adhere strictly to this Program, to assure that the services offered to its clients remains of the highest quality and accuracy possible.

All QA Surveillance documents remain on file at the Laboratory, and are available for inspection by authorized personnel in the performance of an on-site QA Audit. All materials, services and supplies used herein were obtained with appropriate QA Certifications of Compliance.

## REVISION SUMMARY

DATE	SUMMARY
July 31, 2014	Original Issue Date