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Dominion

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July 29, 2009

Mr. Byron Coy Jr.
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration
Mountain View Office Park
820 Bear Tavern Road, Suite 306
West Trenton, NJ 08628

RE: CPF 1-2009-1006

Dear Mr. Coy:

This letter is the formal response by Dominion Transmission, Inc. (DTI) to the Notice of Probable Violation dated June 26, 2009 (received by DTI on July 2, 2009), regarding the findings of the Pilot Inspection Integration performed in 2008. The following pages contain the items of concern and DTI's response to each.

If you have any questions, or should require additional information, please do not hesitate to contact Shawn Miller at (304) 627-3404.

Respectfully,

Jeffrey L. Barger
Vice President, Pipeline Operations
Dominion Transmission, Inc.

1. **§ 192.481 Atmospheric corrosion control: Monitoring**

(a) Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion, as follows:

If the pipeline is located:	**Then the frequency of inspection is:**
Onshore	**At least once every 3 calendar years, but with intervals not exceeding 39 months**
Offshore	**At least once each calendar year, but with intervals not exceeding 15 months**

Under § 192.481, DTI is required to inspect each portion of pipeline that is exposed to the atmosphere at least once every three calendar years for onshore pipe for evidence of atmospheric corrosion. DTI must perform these inspections at intervals not exceeding 39 months. However, DTI failed to inspect the run #1 back-up fuel gas regulator station near valve FGV-25 at the Oakford Compressor Station. The piping had surface rust and pits measuring up to 80 mils in depth on a 5"x 8" area on top of the run. Also, atmospheric corrosion was found on the dehydrator dry gas header outlet with pits measuring approximately 110 mils in depth at the ground to air transition. Although DTI performed an atmospheric corrosion inspection in 2007, it failed to identify these areas of atmospheric corrosion.

DTI Response:

It is apparent that the fuel gas piping in the vicinity of valve FGV-25 was overlooked during the 2007 Atmospheric Corrosion inspection. However, the corrosion at the soil-to-air interfaces on the Dehy wet and dry risers was identified in the KTA (corrosion evaluation contractor) report, and scheduled for remediation. This work was complete at the time of the PHMSA inspection; however the remediation did not comply with DTI's procedures. The below-ground coating did not extend above grade, and the above-ground coating did not extend over the below-ground coating. This resulted in bare pipe remaining at the soil-to-air interfaces, as noted in Item #1 of the NOPV. Both concerns noted in Item #1 were addressed in October 2008, and were remediated in compliance with DTI's Procedures.

Identification of the Dehy Riser Corrosion Issue (from KTA Report dated May 11, 2007):

1.16.35.51.241.1130	Piping - DDs Riser	Surface to Air Interfaces	C	NM	NR	150	Alkyd/Alkyd	Steel	Mill Scale	Surface to Air Interface	Average	Unknown				The 3 center surface to air interfaces do not appear to have a specialized surface to air interface coating. Heavy corrosion was observed on one

2. **§ 192.605 Procedural manual for operations, maintenance, and emergencies**

(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least one each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and Subpart M of this part.
(2) Controlling corrosion in accordance with the operations and maintenance requirements of Subpart I of this part.

DTI failed to follow its corrosion control maintenance requirements requiring drips to be blown at least annually. DTI's Standard Operating Procedures (SOP) Section 070/Corrosion Control, SOP 15/Internal Corrosion states that all drips should be blown at least once each calendar year. Maintenance records of the drips in the Oakford Fifth Sands and Murrysville Storage Pools show that a total of 103 and 330 drips, respectively, from 2003 to 2007 were not blown annually to remove fluids which can be corrosive to steel pipelines. Additionally, DTI has documented 69 drips which have not been blown because they cannot be accessed, cannot be blown and/or are not piped up. These 69 additional drips are in a DTI schedule to be corrected within 9 years.

DTI Response:

Item #2 of the Notice states that the Fifth Sand and Murrysville storage pools contain 103 and 330 drips respectively. In actuality, the drip total for Oakford Storage (Murrysville and Fifth Sand combined) is 331. In 2008, 63 of these were not operable, for the variety of reasons noted in Item #2. As of July 29, 2009, 42 of the 331 drips remain inoperable. 289 of the drips can, and have been blown in the past year. DTI estimates that the remaining 42 drips can be either removed or repaired by August 1, 2010.

3. **§ 192.709 Transmission lines: Record keeping.**

Each operator shall maintain the following records for transmission lines for the periods specified:

c) A record of each patrol, survey, inspection, and test required by subparts L and M of this part must be retained for at least 5 years or until the next patrol, survey, inspection, or test is completed, whichever is longer.

DTI failed to provide records for the required last 5 years (2003-2007) to demonstrate that annual capacity calculations were performed for pressure relieving devices at five compressor stations (Harrison, Ellisburg, Stateline, Oakford and JB Tonkin) as required by §192.731 and §192.743. DTI failed to provide to the PHMSA inspection team, during headquarter and field inspections, compressor stations records showing the capacity review and calculations for their relief devices. Although DTI reviews the initial capacity calculations as permitted by §192.743(b) in order to meet the annual capacity determination requirements for relief devices, DTI is still required to demonstrate that the parameters have not changed to avoid subsequent calculations. DTI could not provide records to demonstrate this required review of the parameters was performed.

DTI Response:

Prior to these being recorded electronically in DTI's Inspection Monitoring System (IMS), the records of each annual review were manually tracked in spreadsheets, which are provided for the noted locations in Appendix A of this response. Annual reviews performed after the inspections were migrated to IMS are stored electronically in DTI's database. An example of an IMS record is also included in Appendix A of this response; however the remainder have not been included in this response (as they constitute hundreds of pages of inspections), but can be furnished upon request.

DTI respectfully requests that the proposed fine associated with Item #3 be withdrawn.

4. **§ 192.739 Pressure limiting and regulating stations: Inspection and testing.**

(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is—

(1) In good mechanical condition;

(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;

(3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of §192.201(a); and

(4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

During PHMSA's field inspection, DTI technicians stated that some relief devices had not been inspected and no records of inspection were in the DTI's database. The following relief valves were not inspected at the required intervals for the period of 2003-2007:

1. Ellisburg Compressor Station fuel gas bottle inlet 1st cut regulator (Location ID CSN6361) has a regulator but the overpressure protection was not listed as inspected
2. Ellisburg Compressor Station relief valve (2" Axelson serial number 632280)
3. Stateline Compressor Station fuel gas bypass relief valve

DTI Response:

1) *The 1st cut regulator on the fuel gas volume bottle at Ellisburg Station should have been inspected annually, and documented in IMS. An inspection for this device was created on October 23, 2008 (the day after the PHMSA inspection). Subsequently, the device has been inspected per §192.739, and found to be in satisfactory condition.*
2) *The 2nd cut regulator on the Ellisburg Station fuel gas should have been inspected annually, and documented in IMS. An inspection for this device was created on October 23, 2008 (the day after the PHMSA inspection). Subsequently, the device has been inspected per §192.739, and found to be in satisfactory condition.*
3) *The fuel gas bypass relief valve at State Line Station is a tertiary protection device as it is downstream of a worker/monitor regulator set. The relief valve is only a secondary form of protection when the fuel gas run is operating on bypass, during inspection and maintenance of the worker/monitor set. In this instance, the location is manned by the DTI employee performing the work. For this reason, an annual inspection and capacity calculation are not required per §192.739 for the relief valve.*

DTI respectfully requests that the proposed fine associated with Item #4-3 be withdrawn.

5. **§192.743 Pressure limiting and regulator stations: Capacity of relief devices.**

(a) Pressure relief devices at pressure limiting stations and pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected. Except as provided in §192.739(b), the capacity must be consistent with the pressure limits of §192.201(a). This capacity must be determined at intervals not exceeding 15 months, but at least once each calendar year, by testing the devices in place or by review and calculations

(b) If review and calculations are used to determine if a device has sufficient capacity, the calculated capacity must be compared with the rated or experimentally determined relieving capacity of the device for the conditions under which it operates. After the initial calculations, subsequent calculations need not be made if the annual review documents that parameters have not changed to cause the rated or experimentally determined relieving capacity to be insufficient.

DTI failed to conduct adequate annual reviews of pressure relieving devices to determine sufficient capacity at the five pressure limiting station devices noted below. DTI only physically checked the relief devices for pressure set point and operation. DTI did not determine adequate relief capacity. DTI had no documentation showing capacity calculations for the relief devices including comparison to rated relief design at their facilities needed for the required annual relief capacity determination.

1) Stateline Compressor Station location, feed line #16 with 1st and 2nd regulator stations with 2" Welmark relief valve
2) Stateline Compressor Station location Line #24 supplied by 10" dual port regulator with overpressure protection provided by 8"relief valve having a 6" inlet pipe
3) Oakford Region, Gas sales to Peoples Gas having a 6"x 8" Axelson relief valve
4) Oakford Region, Springdale meter and regulator station with relief valve overpressure protection
5) Mockingbird Hill Station #426 regulator and relief assembly

DTI Response:

1) *It has been determined that the relief valves installed on the feed to LN16 are slightly under-sized for the upstream regulators. DTI has installed smaller orifices in the regulators to correct this issue.*
2) *After reviewing the configuration of its overpressure protection devices on LN24 at State Line Station, DTI has determined that the relief valve does indeed require an annual capacity review. An inspection has been created in IMS for this task, and was completed on July 16, 2009 (see record of capacity calculation in Appendix E of this response).*
3) *Overpressure protection is provided at Oakford (feed to Peoples Gas) primarily by single regulators (in parallel) and secondarily by a pilot-operated shutoff valve (see drawing in*

Appendix B of this response), which closes upon sensing a pressure increase above the MAOP of the downstream piping. For this reason, the relief valve is not an overpressure protection device, and does not require an annual review of its capacity per §192.739.

4) *Overpressure protection at Springdale M&R is achieved by a worker/monitor regulator set (see drawing in Appendix C of this response) in accordance with §192.195. No relief valve is utilized at this site (there is a relief valve at the facility operated by TW Phillips, but is not a DTI overpressure protection device).*
5) *DTI would like to clarify this concern at Mockingbird Hill Station. This facility was not visited during the inspection, and overpressure protection is not achieved by a regulator at this site. Rather, the compressor engine is equipped with a high pressure shutdown switch, which is the primary device. Secondary protection is achieved by a relief valve, which is sized to relieve the capacity of the compressor in accordance with §192.743(see records in Appendix D of this response).*

DTI respectfully requests that the proposed fines associated with Item Numbers 5-3, 5-4, and 5-5 be withdrawn.

6. § 192.225 Welding procedures.

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified under section 5 of API 1104 (incorporated by reference, *see* §192.7) or section IX of the ASME Boiler and Pressure Vessel Code " Welding and Brazing Qualifications" (incorporated by reference, *see* §192.7) to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify welding procedures shall be determined by destructive testing in accordance with the applicable welding standard(s).

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

During the field inspection of the Cove Point MD expansion project, DTI representatives indicated that there were no welding repair procedures on site in accordance with welding procedures qualified by §192.225; and, that welding repairs had been made to the DTI project facilities without having qualified procedures.

DTI Response:

It appears that there is some confusion concerning the information reviewed during the inspection..

DTI does not utilize separate procedures for the repair of welds. Rather, DTI's SOP 400/06 – "Welding; Repair and Removal of Defects" states that repairs are to be performed by the same

procedure used to make the original weld. These procedures were indeed on site and available during the construction of pipeline LN532.

From SOP 400/03:

> F. DTI's policy only allows one (1) weld repair without prior approval from Field Engineering - Engineering Services. The repair of a weld defect shall be in accordance with Welding Procedure Specifications used for the original weld. If a repair of a previously repaired area is needed personnel shall contact Field Engineering - Engineering Services for prior approval and a copy of the Multiple Weld Repair Procedure.

DTI respectfully requests that Item #6 be deleted from the Notice.

7. § 192.179 Transmission line valves.

(c) Each section of a transmission line, other than offshore segments, between main line valves must have a blowdown valve with enough capacity to allow the transmission line to be blown down as rapidly as practicable. Each blowdown discharge must be located so the gas can be blown to the atmosphere without hazard and, if the transmission line is adjacent to an overhead electric line, so that the gas is directed away from the electrical conductors.

DTI did not determine if the new 36" transmission line being installed for the Cove Point, MD expansion project could be blown down as rapidly as practicable as required by §192.179(c). DTI indicated that the Cove Point, MD expansion project blow-down design was made to match the blow-down design of the existing Cove Point parallel 30" transmission line. DTI did not take into consideration the larger size (36") of the new main, and just assumed the existing 30" transmission line blow-down capacity would be sufficient.

DTI Response:

While it is true that DTI's Design & Construction Manual did not offer guidance on the sizing of blow-offs on pipelines greater than 30" in diameter (this is being corrected in response to the Pilot II NOA; CPF-1-2009-1003M), Item #7 misstates a critical fact. The pipe on which DTI based its blow-off design was indeed a 36" pipeline, rather than 30" as noted in Item #7. There was no assumption that the sizing for a 30" pipeline would be adequate for a 36" pipeline.

DTI respectfully requests that Item #7 be deleted from the Notice.

8. **§ 192.163 Compressor stations: Design and construction.**

(e) Electrical facilities. Electrical equipment and wiring installed in compressor stations must conform to the National Electrical Code, ANSI/NFPA 70, so far as that code is applicable.

DTI did not conform to the National Electrical Code requirements. At the time of the inspection, DTI transformers adjacent to main compressor building at Lightburn Station did not appear to be tied into a continuous grounding circuit in explosion-proof boxes, in accordance with NFPA 70 (2005) National Electrical Code, Article 250, for the following equipment:

(1) #5 engine pre-lube pump starter

(2) #4 engine pre-lube pump starter

(3) #3 engine pre-lube pump starter.

DTI Response:

DTI has addressed the concerns noted in Item #8. The transformers on the pre-lube pump starters at engines 3, 4, and 5 at Lightburn Station have been tied into the continuous grounding circuit as required per §192.163(e).

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Dominion Transmission, Inc.(DTI) a Compliance Order incorporating the following remedial requirements to ensure the compliance of DTI with the pipeline safety regulations:

1. In regard to Item Number 2 of the Notice, DTI must provide documentation that substantiates that all the drips in the Oakford Fifth Sands and Murrysville Storage Pools that can currently be blown down have been blown down within 180 days of date of final order.

2. In reference to Item Number 2, the 69 documented drips which have not been blown per DTI standard operating procedures (SOP), DTI must develop and execute a plan to find, make accessible, and modify as needed for drip blowing operations, those 69 identified drips within 365 days of date of final order.

3. DTI shall submit the results of the Proposed Compliance Order items above to the Director, Eastern Region, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration,

4. DTI shall maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration. Costs shall be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.

DTI Response:

Per DTI's Response to Item #2 of this Notice, 42 of the drips in Oakford Storage Pool are inoperable at this time. The remaining 289 drips can, and have been blown in the past year.

Per a conversation with Mark Wendorff (Inspection Team Lead), it is DTI's understanding that the 180-day requirement noted in Item #1 of the Proposed Compliance Order means that DTI would need to blow each and every drip within Oakford Storage between the receipt of the final order, and 180 days later. DTI respectfully requests that Item #1 be amended to require documentation that all operable drips have been blown in the past year. The requirement to blow each drip within 180 days of the final order will result in the operation of these drips at the end of injection, when the presence of liquids is unlikely.

Additionally, DTI respectfully requests that the number of inoperable drips in Item #2 of this Proposed Compliance Order be amended to reflect the actual number at the time of the PHMSA inspection (63, per DTI's response to Item #2 of this Notice).

NAME ELLISBURG STATION
CSN-6361

REGULATOR & RELIEF VALVE
MASTER LEDGER

	ITEM			SERIAL			PRESSURE	PRESSURE			MEAS	DOT	Insp. Dates					Calc. Dates				
LOCATION	#	MAKE	MODEL	NUMBER	SIZE	AREA	IN/RELIEF	OUT/B.D.	FUNCTION	MAOP	#	N-DOT	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
ENGINE #1																						
SUCTION	1	AXELSON	HD	11717	1.5X2	1.767	1250	-	RELIEF	1250	626		10/30	10/21	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	2	AXELSON	HD	12835	1.5X2	1.767	1500	1250	RELIEF	1500	626		10/30	10/21	10/21	1-/12	10/26	11/1	11/26	11/7	11/24	11/4
DISCHARGE	3	AXELSON	HD	12923	1X1.5	.785	2500	2100	RELIEF	2500	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
ENGINE #2																						
SUCTION	4	AXELSON	HF	11711	1.5X2	1.767	1250	-	RELIEF	1250	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	5	AXELSON	HD	12836	1.5X2	1.767	1500	1250	RELIEF	1500	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
DISCHARGE	6	AXELSON	HD	12924	1X1.5	.785	2500	2100	RELIEF	2500	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
ENGINE #3																						
SUCTION	7	AXELSON	HF	11713	1.5X2	1.767	1250	-	RELIEF	1250	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	8	AXELSON	HD	12927	2X3	3.14	1500	1250	RELIEF	1500	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
DISCHARGE	9	AXELSON	HD	12925	1X1.5	.785	2500	2100	RELIEF	2500	626		10/30	10/22	10/21	10/12	10/26	11/1	11/26	11/7	11/24	11/4
ENGINE #4																						
SUCTION	10	AXELSON	HF	11707	1.5X2	1.767	1250	-	RELIEF	1250	626		10/30	10/22	10/22	10/12	10/26	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	11	AXELSON	HD	12926	2X3	3.14	1500	1210	RELIEF	1500	626		10/30	10/22	10/22	10/12	10/26	11/1	11/26	11/7	11/24	11/4
DISCHARGE	12	AXELSON	HD	11721	1X1.5	.785	2500	2100	RELIEF	2500	626		10/30	10/22	10/22	10/12	10/26	11/1	11/26	11/7	11/24	11/4
ENGINE #5																						
SUCTION	13	AXELSON	HF	11714	1.5X2	1.767	1250	-	RELIEF	1250	626		10/30	10/22	10/22	10/12	10/26	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	14	AXELSON	HD	12928	2X3	3.14	1500		RELIEF	1500	626		10/30	10/22	10/22	10/11	10/26	11/1	11/26	11/7	11/24	11/4
DISCHARGE	15	AXELSON	HD	11719	1X1.5	.785	2500		RELIEF	2500	626		10/30	10/22	10/22	10/11	10/26	11/1	11/26	11/7	11/24	11/4
ENGINE #6																						
SUCTION	16	AXELSON	HD	12937	4X6	12.566	1250	-	RELIEF	1250	626		10/30	10/22	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	17	AXELSON	HD	12829	4X6	12.566	1500	1150	RELIEF	1500	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
DISCHARGE	18	AXELSON	HD	12932	1.5X2	1.767	2500	2200	RELIEF	2500	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
ENGINE #7																						
SUCTION	19	AXELSON	HD	12938	4X6	12.566	1250	-	RELIEF	1250	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	20	AXELSON	HD	12830	4X6	12.566	1500	1200	RELIEF	1500	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
DISCHARGE	21	AXELSON	HD	12933	1.5X2	1.767	2500	2200	RELIEF	2500	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
ENGINE #8																						
SUCTION	22	AXELSON	HD	12939	4X6	12.566	1250	-	RELIEF	1250	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
INTERMEDIATE	23	AXELSON	HD	12831	4X6	12.566	1500	1200	RELIEF	1500	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
DISCHARGE	24	AXELSON	HD	12934	1.5X2	1.767	2500	2200	RELIEF	2500	626		10/30	10/21	10/23	10/11	10/21	11/1	11/26	11/7	11/24	11/4
TGP HEADER	25	CROSBY	JOS	03/03347	6 X 8	6	1250		RELIEF	1250					9/8	9/21	9/21			9/12	9/24	8/30
STORAGE HEADER	26	AXELSON	HD	11724	1X1.5	.785	2500		RELIEF	2500	626		9/22	9/26	9/8	9/24	9/21	9/27	10/2	9/12	9/24	8/30
G.B.S. HEADER	27	CROSBY	JOS	02/18146	6 X 8	6	1250		RELIEF	1250					9/8	9/21	9/21			9/12	9/24	8/30
TGB DISCHARGE HEADER	28	USI	D-3	12774	3X4	7.068	1250	-	RELIEF	1250	626		10/30	10/21	10/24	10/29	10/26	11/1	11/26	11/7	11/24	11/4
TGB INLET HEADER	29	AXELSON	HD	11704	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/7	8/4	8/29	8/31	10/2	9/12	8/9	8/30
TGB #1 DEHY TOWER	30	AXELSON	HF	11712	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/7	8/5	8/16	8/31	10/2	9/12	8/9	8/30
TGB #2 DEHY TOWER	31	AXELSON	HF	11709	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/7	8/5	8/16	8/31	10/2	9/12	8/9	8/30
TGB #3 DEHY TOWER	32	AXELSON	HF	11713	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/7	8/5	8/16	8/31	10/2	9/12	8/9	8/30
TGB #4 DEHY TOWER	33	AXELSON	HF	11710	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/8	8/5	8/16	8/31	10/2	9/12	8/9	8/30
TGB #5 DEHY TOWER	34	AXELSON	HF	11698	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/8	8/4	8/16	8/31	10/2	9/12	8/9	8/30
TGB #6 DEHY TOWER	35	AXELSON	HF	11716	1.5X2	1.767	1250	-	RELIEF	1250	626		8/24	8/13	8/8	8/4	8/16	8/31	10/2	9/12	8/9	8/30
CGT INLET SCRUBBER	36	AXELSON	HF	11718	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/23	8/31	10/2	9/12	8/9	8/30
CGT #1 DEHY TOWER	37	AXELSON	HF	11696	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/22	8/31	10/2	9/12	8/9	8/30
CGT #2 DEHY TOWER	38	AXELSON	HF	11700	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/22	8/31	10/2	9/12	8/9	8/30
CGT #3 DEHY TOWER	39	AXELSON	HF	11697	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/22	8/31	10/2	9/12	8/9	8/30
CGT #4 DEHY TOWER	40	AXELSON	HF	11715	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/22	8/31	10/2	9/12	8/9	8/30
CGT #5 DEHY TOWER	41	AXELSON	HF	11701	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/22	8/31	10/2	9/12	8/9	8/30
CGT #6 DEHY TOWER	42	AXELSON	HF	11699	1.5X2	1.767	1250	-	RELIEF	1250	626		8/22	8/8	8/6	8/3	8/22	8/31	10/2	9/12	8/9	8/30
TGP COOLER SEPARATOR	43	AXELSON	HF	11705	1.5X2	1.767	1250	-	RELIEF	1250	626		9/18	8/26	9/16	9/20	9/7	9/27	10/2	9/19	8/9	8/30

CGT COOLER SEPARATOR	45	AXELSON	HD	0531	1.5X2	1.767	1250	-	RELIEF	1250	626		9/18	8/26	9/17	9/20	9/7		9/27	10/2	9/19	8/9	8/30
HORZ STOR DUMP SEP	50	AXELSON	HF	11628	1.5X2	1.767	2500	-	RELIEF	2500	626		9/26	8/26	9/17	9/25	9/15		9/27	10/2	9/19	8/9	8/30
STORAGE HEADER	51	AXELSON	HF	11625	2X3	3.14	2500	-	RELIEF	2500	626		9/24	8/26	9/17	9/23	9/12		9/27	10/2	9/19	8/9	8/30
STORAGE HEADER	52	AXELSON	HF	11624	2X3	3.14	2500	-	RELIEF	2500	626		9/24	8/26	9/17	9/23	9/12		9/27	10/2	9/19	8/9	8/30
MAIN FUEL - 1ST CUT	53	MOONEY	5	40823	2	1	1250	155	REGULATE		626		12/13	12/20	12/15	12/9			9/27	10/2	11/7	8/9	11/4
MAIN FUEL - 1ST CUT	54	MOONEY	5	40824	2	1	1250	160	REGULATE		626		12/13	12/23	12/15	12/9			9/27	10/2	11/7	8/9	11/4
MAIN FUEL - 2ND CUT	55	MOONEY	29	40825	2	1	175	60	REGULATE		626		12/13	12/23	12/15	12/9			9/27	10/2	11/7	8/9	11/4
MAIN FUEL - 2ND CUT	56	MOONEY	29	40826	2	1	175	55	REGULATE		626		12/13	12/20	12/15	12/9			9/27	10/2	11/7	8/9	11/4
#6 MAIN UNIT FUEL GAS	57	MOONEY	52	43175	2X1	0.5	175	52	REGULATE		626		4/20	4/2	4/22	4/19	4/20		5/10	6/3	11/7	8/9	8/30
#7 MAIN UNIT FUEL GAS	58	MOONEY	52	43176	2X1	0.5	175	52	REGULATE		626		4/20	4/3	4/22	4/19	4/20		5/10	6/3	11/7	8/9	8/30
#8 MAIN UNIT FUEL GAS	59	MOONEY	52	43177	2X1	0.5	175	52	REGULATE		626		4/20	4/3	4/22	4/19	4/20		5/10	6/3	11/7	8/9	8/30
MAIN FUEL F/S	60	CONSOLIDATED	1900	1L95359	1X1	0.126	1250		RELIEF		626		8/23	8/7	8/4	8/4	8/4		5/10	10/2	9/12	8/9	8/30
#1 DTI OUT OF STOR	61	MASONEILAN					1250	1130	REGULATE					10/4	10/24	10/1	10/6					11/24	11/4
#2 DTI OUT OF STOR	62	MASONEILAN					1250	1130	REGULATE					10/4	10/24	10/1	10/6					11/24	11/4
#3 DTI OUT OF STOR	63	MASONEILAN					1250	1130	REGULATE					10/4	10/24	10/1	10/6					11/24	11/4
#1 TGP OUT OF STOR	64	MASONEILAN					1250	1130	REGULATE					10/4	10/24	10/1	10/6					11/24	11/4
#2 TGP OUT OF STOR	65	MASONEILAN					1250	1130	REGULATE					10/4	10/24	10/1	10/6					11/24	11/4
#3 TGP OUT OF STOR	66	MASONEILAN					1250	1130	REGULATE					10/4	10/24	10/1	10/6					11/24	11/4
CNGT SALT BATH HEATER	67	FISHER	630		1	0.25	55	16	REGULATE					12/6	8/28	9/20	9/7				9/12	9/24	8/30
TGP SALT BATH HEATER	68	FISHER	630		1	0.25	55	16	REGULATE					12/6	8/28	9/20	9/7				9/12	9/24	8/30
OUT OF STORAGE HEATER	69	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/2	7/7	7/18						8/30
OUT OF STORAGE HEATER	70	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/1	7/7	7/18						8/30
OUT OF STORAGE HEATER	71	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/1	7/7	7/18						8/30
OUT OF STORAGE HEATER	72	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/1	7/7	7/18						8/30
OUT OF STORAGE HEATER	73	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/1	7/7	7/18						8/30
OUT OF STORAGE HEATER	74	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/1	7/7	7/18						8/30
OUT OF STORAGE HEATER	75	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/1	7/7	7/18						8/30
OUT OF STORAGE HEATER	76	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/2	7/7	7/18						8/30
OUT OF STORAGE HEATER	77	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/2	7/7	7/18						8/30
OUT OF STORAGE HEATER	78	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/2	7/7	7/18						8/30
OUT OF STORAGE HEATER	79	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/2	7/7	7/18						8/30
OUT OF STORAGE HEATER	80	FISHER	630		1	0.375	55	13	REGULATE					12/4	7/2	7/7	7/18						8/30
#1 STORAGE HEATER	02-01	WELLMARK	W7101		1	0.5	175		RELIEF		626		new 2/1	8/21	8/4	2 yr.	8/4						8/30
#2 STORAGE HEATER	02-02	WELLMARK	W7101		1	0.5	175		RELIEF		626		new 2/1	8/21	8/4	2 yr.	8/4						8/30
#3 STORAGE HEATER	02-03	WELLMARK	W7101		1	0.5	175		RELIEF		626		new 2/1	8/21	8/4	2 yr.	8/4						8/30
#4 STORAGE HEATER	02-04	WELLMARK	W7101		1	0.5	175		RELIEF		626		new 2/1	8/21	8/4	2 yr.	8/4						8/30

NAME: HARRISON STATION
CSN-6362

REGULATOR & RELIEF VALVE
MASTER LEDGER

	ITEM			SERIAL		PRESSURE	PRESSURE				MEAS	DOT		INSP.	DATES				CALC.	DATES		
LOCATION	#	MAKE	MODEL	NUMBER	SIZE	AREA	IN/RELIEF	OUT/B.D.	FUNCTION	MAOP	SPEC	N-DOT	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
ENGINE #1																						
SUCTION	1	AXELSON	HD	386158	1X2	1	1000		RELIEF	1000	626		4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
INTERMEDIATE	2	AXELSON	HD	360150	1X2	1	1450						4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
DISCHARGE	3	AXELSON	HD	360151-1	1X2	1	2500						4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
ENGINE#2																						
SUCTION	4	AXELSON	HD	395102-1	1.5X2	1.5	1000		RELIEF				4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
INTERMEDIATE	5	AXELSON	HD	360152-1	1.5X2	1.5	I460		RELIEF				4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
DISCHARGE	6	AXELSON	HD	360151-2	1X2	1	2500		RELIEF				4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
ENGINE #3																						
SUCTION	7	AXELSON	HD	396102-2	1.5X2	1.5	1000		RELIEF				4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
INTERMEDIATE	8	AXELSON	HD	360152-2	1.5X2	1.5	I460		RELIEF				4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
DISCHARGE	9	AXELSON	HD	360151-3	1 2	1	2500		RELIEF				4/3	4/26	4/4	5/20	3/29	5/10	5/31	4/9	7/2	4/1
ENGINE #4																						
SUCTION	10	GARRETT	D-3	4143	1.5X2	1.767	1000		RELIEF	1000	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
INTERMEDIATE	11	GARRETT	D-3	4132	1.5X2	1.767	I460		RELIEF	1500	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
DISCHARGE	12	GARRETT	D-3	4134	1X1.5	.785	2500		RELIEF	2500	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
ENGINE #5																						
SUCTION	13	GARRETT	D-3	4141	1.5X2	1.767	1000		RELIEF	1000	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
INTERMEDIATE	14	GARRETT	D-3	4129	1.5X2	1.767	I460		RELIEF	1500	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
DISCHARGE	15	GARRETT	D-3	4135	1X1.5	.785	2500		RELIEF	2500	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
ENGINE #6																						
SUCTION	16	GARRETT	D-3	4142	1.5X2	1.767	1000		RELIEF	1000	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
INTERMEDIATE	17	GARRETT	D-3	4130	1.5X2	1.767	I460		RELIEF	1500	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
DISCHARGE	18	GARRETT	D-3	4137	1X1.5	.785	2500		RELIEF	2500	626		4/3	4/26	4/4	5/26	3/30	5/10	5/31	4/9	7/2	4/1
SUCTION HEADER #1	19	AGCO	HD	37023-3	3X4	3	1000		RELIEF		626		5/30	5/30	5/28	5/26	5/25	8/10	5/31	7/16	7/2	6/10
SUCTION HEADER #2	20	AGCO	HD	37023-4	3X4	3	1000		RELIEF		626		5/30	5/30	5/28	5/27	5/25	8/10	5/31	7/16	7/2	6/10
T.G.P. OVERHEAD SUC & DIS	21	AGCO	HD	37023-2	3X4	3	1200		RELIEF		626		5/30	5/29	5/28	5/27	5/25	8/10	5/31	7/16	7/2	6/10
C.G.T. OVERHEAD SUC & DIS	22	AGCO	HD	37023-1	3X4	3	1000		RELIEF		626		5/30	6/29	5/28	5/27	5/25	8/10	5/31	7/16	7/2	6/10
C.G.T. DEHY TOWER #1	27	WELLMARK	9501	91823-4	1	R(.146)	1000		RELIEF								4/22					4/26
C.G.T. DEHY TOWER #2	28	WELLMARK	9501	91823-5	1	R(.146)	1000		RELIEF								4/22					4/26
T.G.P. DEHY TOWER #1	29	WELLMARK	9501	91823-1	1	R(.146)	1200		RELIEF								4/22					4/26
T.G.P. DEHY TOWER #2	30	WELLMARK	9501	91823-2	1	R(.146)	1200		RELIEF								4/22					4/26
T.G.P. INLET SEPARATOR	31	WELLMARK	9501	91823-3	1	R(.146)	1200		RELIEF								4/22					4/26
T.G.P. DEHY SEPARATOR	32	WELLMARK	9501	74094-4	1	R(.146)	1000		RELIEF								4/22					4/26
C.G.T. DEHY SEPARATOR	33	WELLMARK	9501	74094-2	1	R(.146)	1200		RELIEF								4/22					4/26
C.G.T. DEHY SEPARATOR	34	WELLMARK	9501	74094-5	1	R(.146)	1000		RELIEF								4/22					4/26
SUCTION SCRUBBER #1	35	AGCO	83	04/14747	1 X 1	0.196	1050		RELIEF							5/24	5/23				8/2	6/10
SUCTION SCRUBBER #2	36	AGCO	83	04/14748	1 X 1	0.196	1050		RELIEF							5/24	5/23				8/2	6/10
SUCTION SCRUBBER #3	37	AGCO	83	04/14749	1 X 1	0.196	1050		RELIEF							5/24	5/23				8/2	6/10
SUCTION SCRUBBER #4	38	AGCO	83	04/14750	1 X 1	0.196	1050		RELIEF							5/24	5/23				8/2	6/10
SUCTION SCRUBBER #5	39	AGCO	83	04/14751	1 X 1	0.196	1050		RELIEF							5/24	5/23				8/2	6/10
SUCTION SCRUBBER #6	40	AGCO	83	04/14752	1 X 1	0.196	1050		RELIEF							5/24	5/23				8/2	6/10
DEHY-NEW	41	CONSOLIDATED	1990C-1		.75	.110	1225		RELIEF	1350	626		5/30	5/30	5/22	5/20	5/26	8/10	5/31	7/16	6/10	6/10
DEHY-NEW	42	CONSOLIDATED	1990C-1		.75	.110	1225		RELIEF	1350	626		5/30	5/30	5/22	5/20	5/26	8/10	5/31	7/16	6/10	6/10
DEHY-NEW	43	AGCO	2736-344		3X4	6.72	1225		RELIEF	1350	626		5/30	5/30	5/22	5/20	5/26	8/10	5/31	7/16	6/10	6/10

DEHY-NEW	44	AXELSON	H.F.	6799	3X4	7.068	1225		RELIEF	1350	626		5/30	5/30	5/22	5/27	5/25	8/10	5/31	7/16	6/10	6/10
STORAGE SEPARATOR-NEW	45	CROSBY	JPV-55		4X6	12.56	2200		RELIEF	2250	626		5/31	5/30	5/22	5/27	5/23	8/10	5/31	7/16	6/10	6/10
DEHY DROP OUT TANK	46	FARRIS	2741	115831-KA	1X1.5	0.196	1225		RELIEF		626		5/31	5/30	5/22	5/27	5/26	8/10	5/31	7/16	6/10	6/10
FUEL GAS 1ST CUT	47	MOONEY	FG-56-35	41794	1	0.36		150	REGULATE		626		10/31	10/3	10/16	10/25	10/12	11/1	11/26	12/10	11/24	11/8
FUEL GAS 1ST CUT	48	MOONEY	FG-56-35	41795	1	0.36		145	REGULATE		626		10/31	10/3	10/16	10/25	10/12	11/1	11/26	12/10	11/24	11/8
FUEL GAS 2ND CUT	49	MOONEY	FG-56-100	41796	1	1		45	REGULATE		626		10/31	10/7	10/16	10/25	10/12	11/1	11/26	12/10	11/24	11/8
FUEL GAS 2ND CUT	50	MOONEY	FG-56-100	41797	1	1		50	REGULATE		626		10/31	10/7	10/16	10/25	10/12	11/1	11/26	12/10	11/24	11/8
	51	CONSOLIDATED	1905AC		1.5	1.09375	165		RELIEF		626		10/31	10/14	10/30	10/27	10/12	11/1	11/26	12/10	11/24	11/8
GLYCOL HEATER #1	52	FISHER	S201		2	0.75	90	3.7" W.C.	REGULATE		626		5/30	5/28	2 yr	7/22	2 yr	8/10	11/1	12/10	7/2	6/10
GLYCOL HEATER #2	53	FISHER	S201		2	0.75	90	3.5" W.C.	REGULATE		626		5/30	5/28	2 yr	7/22	2 yr	8/10	11/1	12/10	7/2	6/10
FILTER TO #1 SUCTION	54	AGCO	83SM48-4	97/64137	0.5X1	0.25	1050		RELIEF	1000	626		5/30	5/28	5/22	5/20	5/19	8/10	11/1	12/10	7/2	6/10
FILTER TO #2 SUCTION	55	AGCO	83SM48-4	97/64138	0.5X1	0.25	1050		RELIEF	1000	626		5/30	5/28	5/22	5/20	5/19	8/10	11/1	12/10	7/2	6/10
GLYCOL HEATER FUEL GAS	56	MOONEY	FG-47	40822	1 1/2 X 2			90	REGULATE		626		10/31	11/14	11/4	11/19		8/10	11/1	12/10	11/24	11/8
INST. AIR - BACK UP REG.	57	MOONEY	FG-52	37423	2 X 1			125	REGULATE		626		10/31	11/14	3 YR	3 YR		8/10	11/1	12/10	11/24	11/8
Glycol Heater Fuel Gas	58	WELLMARK	9501	49220	1	0.5	100		RELIEF		626		4/20	7/31	2 Yr	7/7	2 Yr	8/10	11/1	12/10	11/24	11/8
STEAM BOILER - FUEL	61	MOONEY	FG-53	48534	2X1	1	75	8	REGULATE		626		2 YR	2 YR	7/21	2 YR	7/28					
STEAM BOILER - FUEL	62	EQUIMETER					8	8" W.C.	REGULATE		626		2 YR	2 YR	9/16	9/17	9/30					
STORAGE SYEAM HEATER #1	63	FISHER	ET =%	12066134	2.5	2.875		60	REGULATE		626		2 YR	2 YR	7/22	2 YR	8/16					
SRORAGE STEAM HEATER #2	64	FISHER	ET =%	13652865	2	2.3125		60	REGULATE		626		2 YR	2 YR	7/22	2 YR	8/16					
HORIZ. AIR RCVR #1	71	WELLMARK	9501	42891-2	1	0.5	275		RELIEF		626		4/9	9/18	2 YR	9/17	2 YR					
HORIZ. AIR RCVR #2	72	WELLMARK	9501	42891-1	1	0.5	275		RELIEF		626		4/9	9/18	2 YR	9/17	2 YR					
HORIZ. AIR RCVR #3	73	WELLMARK	9501	42891-3	1	0.5	275		RELIEF		626		4/9	9/18	2 YR	9/17	2 YR					
HORIZ. AIR RCVR #4	74	WELLMARK	9501	42913-1	1	0.5	275		RELIEF		626		4/9	9/18	2 YR	9/17	2 YR					
STEAM BOILER	451-24	SPENCE	31JHA	PV21612-1	2 X 2		150		RELIEF						9/16	10/15	9/19					
STEAM BOILER	451-25	SPENCE	31JGA	PV21612-2	1.5 X 2		150		RELIEF						9/16	10/15	9/19					
STEAM BOILER	451-26	SPENCE	31JGA	PV21612-3	1.5 X 2		150		RELIEF						9/16	10/15	9/19					

Location #	Plant	Area	Item #	Class	Location	MFG	Model	S/N	Valve Type	Size	INNER	IN/RV	OUT	SPEC	DOT/O&M	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
CSN 5463	Oakford Station	W	001	Regulator	Monitor Fuel Gas Run 2	Fisher	ET		Piston	2	1.3125	690	108	510	DOT	7/28	7/18	7/9	7/29	9/13	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	002	Regulator	Primary Fuel Gas Run 2	Fisher	399		Boot	2	1.375	690	68	510	DOT	7/28	7/18	7/9	7/29	9/13	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	003	Regulator	Monitor Fuel Gas Run 3	MOONEY	FG-31	48123	SINGLE	2	1		95		DOT	8/23	8/27	8/11	6/8	9/21	9/6	10/1	9/16	8/10	8/2
CSN 5463	Oakford Station	W	004	Regulator	Primary Fuel Gas Run 3	MOONEY	FG-31	48124	SINGLE	2	1		105		DOT	8/23	8/27	8/11	6/8	9/20	9/6	10/1	9/16	8/10	8/2
CSN 5463	Oakford Station	W	011	Relief	High Stage Engine #1	Axelson	D3		Piston	2.5x3	2.5	1500		510	DOT	6/15	6/3	6/12	6/2	6/16	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	012	Relief	High Stage Engine #2	Axelson	D3		Piston	2.5x3	2.5	1500		510	DOT	6/13	6/4	6/19	6/1	6/15	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	013	Relief	High Stage Engine #3	Axelson	D3		Piston	2.5x3	2.5	1500		510	DOT	6/1	6/5	6/23	6/21	6/14	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	014	Relief	High Stage Engine #4	Axelson	D3		Piston	2.5x3	2.5	1500		510	DOT	6/14	6/18	6/16	6/15	6/2	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	015	Relief	High Stage Engine #5	Axelson	D3		Piston	2.5x3		1500		510	DOT	6/18	6/19	6/17	6/17	6/3	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	016	Relief	High Stage Engine #6	Axelson	D3		Piston	2.5x3		1350		510	DOT	6/18	6/12	6/19	6/3	6/13	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	017	Relief	High Stage Engine # 7	Garrett	D2		Piston	2.5x3	2.5	1350		510	DOT	5/7	5/2	5/21	6/13	5/31	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	018	Relief	High Stage Engine #8	Garrett	D2		Piston	2.5x3	2.5	1350		510	DOT	6/7	5/6	5/16	5/5	5/31	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	019	Relief	Low Stage Engine #9	Garrett	D2		Piston	2.5x3	2.5	550		510	DOT	5/9	5/9	5/15	5/12	5/25	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	020	Relief	Low Stage Engine #10	Garrett	D2		Piston	2.5x3	2.5	550		510	DOT	5/9	5/9	5/15	5/11	5/25	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	021	Relief	Low Stage Engine #11	Garrett	D2		Piston	2.5x3	2.5	550		510	DOT	5/10	5/8	5/9	5/7	5/20	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	022	Relief	Low Stage Engine #12	Garrett	D2		Piston	2.5x3	2.5	550		510	DOT	5/11	5/7	5/7	6/6	5/17	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	023	Relief	Low Stage Engine #9	Garrett	D2		Piston	4x6	4	550		510	DOT	5/15	5/3	5/22	6/17	5/27	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	024	Relief	Low Stage Engine #10	Garrett	D2		Piston	4x6	4	550		510	DOT	5/15	5/16	5/22	6/18	5/24	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	025	Relief	Low Stage Engine #11	Garrett	D2		Piston	4x6	4	550		510	DOT	5/14	5/15	5/22	5/19	5/23	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	026	Relief	Low Stage Engine #12	Garrett	D2		Piston	4x6	4	550		510	DOT	5/14	5/14	5/23	5/20	5/16	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	027	Relief	ASME Discharge Separator	Axelson	HF		Piston	2x3	1.4375	1500		510	DOT	5/16	5/10	5/29	5/27	5/5	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	028	Relief	ASME Discharge Separator	Axelson	HF		Piston	2x3	1.4375	1500		510	DOT	5/17	5/17	5/29	5/27	5/5	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	029	Relief	ASME Discharge Separator	Axelson	HF		Piston	2x3	1.4375	1500		510	DOT	5/17	5/21	5/28	5/26	5/5	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	030	Relief	ASME Discharge Separator	Axelson	HF		Piston	2x3	1.4375	1500		510	DOT	5/18	5/22	5/28	5/25	5/11	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	031	Relief	ASME Discharge Separator	Axelson	HF		Piston	2x3	1.4375	1500		510	DOT	5/18	5/23	5/28	5/25	5/12	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	032	Relief	Asme Discharge Separator	Axelson	HF		Piston	2x3	1.4375	1500		510	DOT	5/22	5/28	5/27	5/24	5/13	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	033	Relief	Manifold Bank #5	Axelson	HD		Piston	6x8	6	900		510	DOT	9/5	9/16	9/18	9/15	9/28	9/6	10/1	9/16	9/24	8/2
CSN 5463	Oakford Station	W	034	Relief	manifold Bank #6	Axelson	HD		Piston	6x8	6	900		510	DOT	9/5	9/16	9/18	8/16	9/20	9/6	10/1	9/16	9/24	8/2
CSN 5463	Oakford Station	W	038	Relief	ASME Suction Separator #4	Anderson Greenwood	80SRV		Piston	3/4	0.375	1000		510	DOT	6/19	6/24	6/2	6/14	6/22	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	039	Relief	ASME Suction Separator #3	Anderson Greenwood	80SRV		Piston	3/4	0.375	1000		510	DOT	6/19	6/20	6/2	6/14	6/22	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	040	Relief	ASME Suction Separator #2	Anderson Greenwood	80SRV		Piston	3/4	0.375	1000		510	DOT	6/19	6/20	6/2	6/14	6/23	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	041	Relief	ASME Suction Separator #1	Anderson Greenwood	80SRV		Piston	3/4	0.375	1000		510	DOT	6/19	6/20	6/3	6/8	6/23	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	052	RELIEF	DEHY FUEL HEATER	AGCO	83	99/11576	SINGLE	1X1	0.196	1000			DOT	10/5	6/25	6/3	6/8	10/18	11/15	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	054	Relief	Fuel Gas Run #2	Hydro Seal	4FTTOO		Piston	1x1.5	0.625	80		510	DOT	6/20	6/26	6/3	6/8	6/8	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	055	Relief	Fuel Gas Run #3	Hydro Seal	4FTTOO		Piston	1x1.5	0.625	80		510	DOT	6/21	6/25	6/10	6/7	6/9	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	056	Relief	Fuel Gas Run #1	Hydro Seal	4FTTOO		Piston	1x1.5	0.625	80		510	DOT	6/20	6/27	6/10	6/7	6/9	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	057	Relief	Fuel Gas System	FLOWSAFE	F7000	F0007017	Piston	4X6	3.816	110			DOT	6/21	6/26	6/10	6/23	6/24	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	058	Relief	ASME Fuel Scubber	Farris	2676		Piston	1x1.5	0.375	860		510	DOT	6/20	6/24	6/10	6/24	6/20	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	059	Relief	Bead Catcher Dehy #1	Anderson Greenwood	80SRV		Piston	1		1000		510	DOT	6/20	6/24	6/11	6/4	6/20	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	060	Relief	Bead Catcher Dehy #2	Anderson Greenwood	80SRV		Piston	1		1000		510	DOT	6/20	6/24	6/11	6/4	6/21	7/13	7/16	7/30	8/10	8/2
CSN 5463	Oakford Station	W	061	Regulate	Fifth Sand regulators	Fisher	A	13963841	Dual	8 X 8	6		0			8/23	8/26	8/22	8/18	8/15	9/6	10/1	9/16	9/24	8/2
CSN 5463	Oakford Station	W	062	Regulate	Fifth Sand regulators	Fisher	A	13963840	Gual	8 X 8	6		0			8/23	8/26	8/22	8/19	8/15	9/6	10/1	9/16	9/24	8/2
CSN 5463	Oakford Station	W	070	Relief	5th Sand F/S at F.G.	AGCO	83MC88-8	98/28131	single	ROSSBUR(	0.5	1300		510		7/10	7/8	7/3	7/2	7/7	11/13	12/3	10/20	8/10	8/2
CSN 5463	Oakford Station	W	071	Relief	Murraysville F/S #1 at F.G.	AGCO	83MC88-8	98/18223	single	1X1	0.5	1050		510		7/10	7/8	7/17	7/2	7/7	11/13	12/3	10/20	8/10	8/2
CSN 5463	Oakford Station	W	072	Relief	Murraysville F/S #2 at F.G.	AGCO	83MC88-8	98/18224	single	1X1	0.5	1050		510		7/10	7/10	7/17	7/12	7/14	11/13	12/3	10/20	8/10	8/2
CSN 5463	Oakford Station	W	073	Relief	#1 FURNACE INLET	AGCO	83MC88-8	99/10807	single	1X1	0.5	1000		510	DOT	10/11	10/1	10/15	10/5	10/19	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	074	Relief	#2 FURNACE INLET	AGCO	83MC88-8	99/11575	single	1X1	0.5	1000		510	DOT	10/11	10/1	10/14	10/5	10/19	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	075	Relief	#1 DEHY TOWER	AGCO	L18FBES1M	98/44643	single	1X1		1500		510	DOT	10/11	10/2	10/20	10/6	10/21	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	076	Relief	#2 DEHY TOWER	AGCO	L18FBES1M	98/44644	single	1X1		1500		510	DOT	10/11	10/2	10/22	10/8	10/24	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	077	Relief	#3 DEHY TOWER	AGCO	L18FBES1M	98/44641	single	1X1		1500		510	DOT	10/11	10/3	10/22	10/8	10/25	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	078	Relief	#4 DEHY TOWER	AGCO	L18FBES1M	98/44642	single	1X1		1500		510	DOT	10/11	10/4	10/23	10/11	10/25	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	079	Relief	#5 DEHY TOWER	AGCO	L18FBES1M	98/44645	single	1X1		1500		510	DOT	10/11	10/4	10/23	10/11	10/27	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	080	Relief	#1 SEPARATOR B/4 DEHY	AGCO	83CM88-8	98/44648	single	1X1	0.5	645		510	DOT	10/12	10/8	10/20	10/6	10/28	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	081	Relief	#2 SEPARATOR B/4 DEHY	AGCO	83CM88-8	98/44646	single	1X1	0.5	645		510	DOT	10/12	10/4	10/20	10/6	10/28	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	082	Relief	DEHY REGEN DRIP TOWER	AGCO	83CM88-8	98/44647	single	1X1	0.5	645		510	DOT	10/11	10/4	10/20	10/6	10/20	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	083	Relief	#13 ENGINE DISCHARGE	AXELSON	HL	17138	SINGLE	3X4		1225		510	DOT	10/16	10/17	10/6	10/22	10/5	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	084	Relief	#14 ENGINE DISCHARGE	AXELSON	HL	17139	SINGLE	3X4		1225		510	DOT	10/17	10/18	10/8	10/14	10/4	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	085	Relief	#15 ENGINE DISCHARGE	AXELSON	HL	17140	SINGLE	3X4		1225		510	DOT	10/15	10/21	10/6	10/15	10/3	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	086	Relief	#13 ENGINE DISCHARGE	AXELSON	HL	17099	SINGLE	2X3		1225		510	DOT	10/15	10/14	10/9	10/12	10/6	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	087	Relief	#14 ENGINE DISCHARGE	AXELSON	HL	17100	SINGLE	2X3		1225		510	DOT	10/17	10/17	10/8	10/13	10/5	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	088	Relief	#15 ENGINE DISCHARGE	AXELSON	HL	17101	SINGLE	2X3		1225		510	DOT	10/15	10/18	10/8	10/13	10/3	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	089	Relief	#3 PUMPHOUSE BESIDE GAS FAN	AGCO	81CM88-4	H98/21774	SINGLE	1X1	0.25	1275		510	DOT	10/4	10/8	10/9	10/5	10/6	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	090	Relief	#3 PUMPHOUSE BESIDE GAS FAN	AGCO	81CM88-4	H98/30485	SINGLE	1X1	0.25	1275		510	DOT	10/5	10/10	10/9	10/4	10/6	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	091	Relief	#3 PUMPHOUSE BESIDE GAS FAN	AGCO	81CM88-4	H98/30486	SINGLE	1X1	0.25	1275		510	DOT	10/5	10/10	10/10	10/4	10/7	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	092	Relief	#3 PUMPHOUSE BESIDE GAS FAN	AGCO	81CM88-4	H98/30487	SINGLE	1X1	0.25	1275		510	DOT	10/5	10/10	10/10	10/4	10/7	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	093	Relief	#3 PUMPHOUSE BESIDE GAS FAN	AGCO	81CM88-4	H98/30488	SINGLE	1X1	0.25	1275		510	DOT	10/8	10/11	10/10	10/1	10/7	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	094	Relief	#3 PUMPHOUSE BESIDE GAS FAN	AGCO	81CM88-4	H98/30489	SINGLE	1X1	0.25	1275		510	DOT	10/8	10/11	10/10	10/1	10/18	11/13	12/3	10/20	12/9	11/17
CSN 5463	Oakford Station	W	095		AUX. FUEL RUN	MOONEY	FG-51	58012	SINGLE	2X1	1		70	510		8/23	8/26	9/15	9/8	9/8					
CSN 5463	Oakford Station	W	096		AUX. ENGINE FUEL	MOONEY	FG-51	58011	SINGLE	2X1	1		55	510		8/23	8/26	9/16	8/20	8/8					
CSN 5463	Oakford Station	W	097		AUX. ENGINE FUEL	MOONEY	FG-51	58010	SINGLE	2X1	1		58	510		8/23	8/26	9/16	8/20	8/8					
CSN 5463	Oakford Station	W	098	RELIEF	JP 300 FILTER	MERCER	8100	8114421113	SINGLE	1X1	0.212	550		510		5/11	5/29	5/29	5/28	5/27					
CSN 5463	Oakford Station	W	101	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	169402		3		1/2 OZ.		510		03/13 9/1(	3/2 9/4	3/17 9/9	3/15 9/1	3/18					

Location #	Plant		Area	Item #	Class	Location	MFG	Model	S/N	Valve Type	Size	INNER	IN/RV	OUT	SPEC	DOT/O&M	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
CSN 5463	Oakford Station		W	102	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	169421		3		1/2 OZ.		510		03/13 9/10	3/2 9/4	3/17 9/9	3/15 9/1	3/18					
CSN 5463	Oakford Station		W	103	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	169400		3		1/2 OZ.		510		03/13 9/10	3/2 9/4	3/17 9/9	3/15 9/1	3/21					
CSN 5463	Oakford Station		W	104	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	169399		3		1/2 OZ.		510		03/13 9/10	3/2 9/4	3/17 9/9	3/15 9/1	3/21					
CSN 5463	Oakford Station		W	105	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	169401		3		1/2 OZ.		510		03/13 9/10	3/2 9/4	3/17 9/9	3/15 9/1	3/18					
CSN 5463	Oakford Station		W	106	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	169403		3		1/2 OZ.		510		03/13 9/10	3/2 9/4	3/17 9/9	3/15 9/1	3/22					
CSN 5463	Oakford Station		W	108	RELIEF	DISCHARGE COLLECTION TANK	PROTECTOSEAL	83314	169601	single	2X3	3.1416	1/2 OZ.		510		03/13 9/10	3/2 9/4	3/17 9/9	3/15 9/1	3/22					
CSN 5463	Oakford Station		W	109	RELIEF	DEHY SKID	MERCER		13785	SINGLE			50				8/2	9/4	8/11	8/2	8/30					
CSN 5463	Oakford Station		W	110	RELIEF	DEHY SKID	MERCER		23500	SINGLE			1000				8/2	9/4	8/11	8/2	8/31					
CSN 5463	Oakford Station		W	111	RELIEF	GAS TANK COLLECTION VESSEL	MERCER		13784	SINGLE			50				8/2	9/5	8/11	8/2	8/31					
CSN 5463	Oakford Station		W	112	RELIEF	GAS TANK COLLECTION VESSEL	MERCER		13785	SINGLE			50				8/2	9/5	8/11	8/2	8/31					
CSN 5463	Oakford Station		W	114	REGULATE	OLD METER BLDG.	FISHER	630		SINGLE	1	0.0125		27					9/11	8/27	8/15					
CSN 5463	Oakford Station		W	116	REGULATE	OLD METER BLDG.	FISHER	289H		SINGLE	1			30					9/12	8/22	8/15					
CSN 5463	Oakford Station		W	117	REGUAYE	DEHY PLANT	FISHER	627M		SINGLE	2	0.25		70					9/12	6/9	6/28					
CSN 5463	Oakford Station		W	118	REGUAYE	DEHY PLANT	FISHER	627M		SINGLE	2	0.25		36					9/12	6/8	6/28					
CSN 5463	Oakford Station		W	120	REGUAYE	DEHY PLANT	FISHER	299		SINGLE	2	0.75		19					9/12	6/9	6/28					
CSN 5463	Oakford Station		W	121	REGUAYE	DEHY PLANT	FISHER	299		SINGLE	2	0.75		19					9/12	6/9	6/28					
CSN 5463	Oakford Station		W	123	REGULATE	#1 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		47					9/12	9/22	9/21					
CSN 5463	Oakford Station		W	124	REGULATE	#1 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		44					9/12	9/22	9/21					
CSN 5463	Oakford Station		W	125	REGULATE	#1 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		45					9/12	9/22	9/21					
CSN 5463	Oakford Station		W	126	REGULATE	#2 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		45					10/6	10/20	10/31					
CSN 5463	Oakford Station		W	128	REGULATE	#2 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		43					10/8	10/20	10/31					
CSN 5463	Oakford Station		W	129	REGULATE	#2 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		44					10/8	10/20	10/29					
CSN 5463	Oakford Station		W	130	REGULATE	#2 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		44					10/9	10/20	10/31					
CSN 5463	Oakford Station		W	131	REGULATE	AUX. BLDG.	FISHER	99		SINGLE	2	7/8		8					9/12	12/6	11/19					
CSN 5463	Oakford Station		W	132	REGULATE	AUX. BLDG.	FISHER	99		SINGLE	2	7/8		8					9/12	12/6	11/19					
CSN 5463	Oakford Station		W	133	REGULATE	AUX. BLDG.	FISHER	99		SINGLE	2	7/8		8					9/12	12/13	11/19					
CSN 5463	Oakford Station		W	134	REGULATE	AUX. BLDG.	FISHER	99		SINGLE	2	7/8		8					9/12	12/13	11/19					
CSN 5463	Oakford Station		W	135	RELIEF	COLLECTION TANK	KUNKLE	62**JH		SINGLE	2 X 3	1.287								7/12	7/21					
CSN 5463	Oakford Station		W	426-96	RELIEF	#1 NEW OIL TANK	FISHER	289H		SINGLE	1			10					9/9	9/9	9/8					
CSN 5463	Oakford Station		W	426-97	RELIEF	#2 NEW OIL TANK	FISHER	289H		SINGLE	1			10					9/9	9/9	9/8					
CSN 5463	Oakford Station		W	003X	Regulator	Monitor Fuel Gas Run 3	Fisher	657		Piston	2		690	75	510	DOT										
CSN 5463	Oakford Station		W	004X	Regulator	Primary Fuel Gas Run 3	Fisher	657		Single Port	2		690	60	510	DOT										
CSN 5463	Oakford Station		W	005X	Regulator	EMERGENCY FUEL 6-9-94	Fisher	627		Single Port	1					DOT										
CSN 5463	Oakford Station		W	006X	Regulator	EMERGENCY FUEL 6-9-94	Fisher	627M		Single Port	1					DOT	X						X			
CSN 5463	Oakford Station		W	042x	Relief	Boiler #1 Road	Conbraco	Series 19		Piston	2x2				ASME	DOT										
CSN 5463	Oakford Station		W	043x	Relief	Boiler #1 Catwalk	Conbraco	Series 19		Piston	1.5x1.5				ASME	DOT										
CSN 5463	Oakford Station		W	044x	Relief	Boiler #2 Road	Conbraco	Series 19		Piston	2x2				ASME	DOT										
CSN 5463	Oakford Station		W	045x	Relief	Boiler #2 Catwalk	Conbraco	Series 19		Piston	1.5x1.5				ASME	DOT										
CSN 5463	Oakford Station		W	046x	Relief	ASME Dehy Separator #1	Axelson	HF		Piston	3x4	1.9375	875		510	DOT										
CSN 5463	Oakford Station		W	047x	Relief	ASME Dehy Separator #2	Axelson	HF		Piston	3x4	1.9375	875		510	DOT										
CSN 5463	Oakford Station		W2	048x	Relief	ASME Dehy Separator #3	Axelson	HF		Piston	3x4	1.9375	875		510	DOT										
CSN 5463	Oakford Station		W	049X	Relief	ASME Dehy Separator #4	Axelson	HF		Piston	3x4	1.9375	875		510	DOT										
CSN 5463	Oakford Station		W	050X	Relief	ASME Dehy Separator #5	Axelson	HF		Piston	3x4	1.9375	875		510	DOT										
CSN 5463	Oakford Station		W	051X	Relief	ASME Dehy Separator #6	Axelson	HF		Piston	3x4	1.9375	875		510	DOT										
CSN 5463	Oakford Station		W	052X	Relief	ASME Discharge Separator	Farris	2676	5307A	Piston	3x4	1.5625	910		510	DOT										
CSN 5463	Oakford Station		W	053X	Relief	Dehy Plant Recycling Engi	Farris	2676	5484A	Piston	2x3	1.25	875		510	DOT										
CSN 5463	Oakford Station		W	057X	Relief	Fuel Gas System	Farris	2550		Piston	4x6	2.3125	80		510	DOT	X					X				
CSN 5463	Oakford Station		W	061X	F/W Cntl	Fifth Sand Regulators	Fisher	A Body		Dual Port	8x8		735	flow	510	O&M	X					X				
CSN 5463	Oakford Station		W	062X	F/W Cntl	Fifth Sand Regulators	Fisher	A Body		Dual Port	8x8		735	flow	510	O&M	X					X				
CSN 5463	Oakford Station		W	063X	HTR RV	SALT BATH HEATER #2	FISHER	630		SINGLE	2X2	0.5	51	20	510	O&M										
CSN 5463	Oakford Station		W	064X	HTR RV	SALT BATH HEATER #2	SAGE	451134A		SINGLE	1X1		50		510	O&M										
CSN 5463	Oakford Station		W	065X	HTR REG	SALT BATH HEATER #1	FISHER	630		SINGLE	2X2	0.5	51	20	510	O&M										
CSN 5463	Oakford Station		W	066X	HTR RV	SALT BATH HEATER #1	SAGE	451134A		SINGLE	1X1		50		510	O&M										
CSN 5463	Oakford Station		W	107	RELIEF	GAS TANK RELIEF	PROTECTOSEAL	83314	154522	single	2X3	3.1416	1/2 OZ		510		03/13 X									
CSN 5463	Oakford Station		W	113	REGULATE	OLD METER BUILDING	FISHER	630		SINGLE	1	0.125		30					7/28							
CSN 5463	Oakford Station		W	122	REGULATE	#1 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		45					9/12							
CSN 5463	Oakford Station		W	127	REGULATE	#2 PUMPHOUSE	FISHER	99		SINGLE	2	1 1/8		47					10/7	10/20						

STATE LINE STATION
CSN-6565

REGULATOR & RELIEF VALVE
MASTER LEDGER

	ITEM			SERIAL		PRESSURE	PRESSURE				SPEC			INSP.	DATES				CALC.	DATES		
LOCATION	'#	MAKE	MODEL	NUMBER	SIZE	AREA	IN/RELIEF	OUT/B.D.	FUNCTION	MAOP	#	DOT	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
ENGINE #1												N-DOT										
DISCHARGE HEADER	1	AGCO	27312-34	89-01722	3	2.853	1050	-	RELIEF	1000	618		10/4	10/25	10/13	10/19	10/28	11/14	12/3	10/21	12/9	11/17
DISCHARGE SCRUBBER	2	AGCO	81MC-88-8	88-17432	1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/19	11/14	12/3	10/21	12/9	11/17
SUCTION SCRUBBER	3	AGCO	81MC-88-8	88-17431	1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/18	11/14	12/3	10/21	12/9	11/17
ENGINE #2																						
DISCHARGE HEADER	4	AGCO	27312-34		3	2.853	1050	-	RELIEF	1000	618		10/4	10/25	10/13	10/19	10/28	11/14	12/3	10/21	12/9	11/17
DISCHARGE SCRUBBER	5	AGCO	81MC-88-8		1	.196	1050	-	RELIEF	1000	618		10/4	10/8	10/14	10/19	10/19	11/14	12/3	10/21	12/9	11/17
SUCTION SCRUBBER	6	AGCO	81MC-88-8		1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/18	11/14	12/3	10/21	12/9	11/17
ENGINE #3																						
DISCHARGE HEADER	7	AGCO	27312-34		3	2.853	1050	-	RELIEF	1000	618		10/4	10/25	10/13	10/18	10/28	11/14	12/3	10/21	12/9	11/17
DISCHARGE SCRUBBER	8	AGCO	81MC-88-8		1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/19	11/14	12/3	10/21	12/9	11/17
SUCTION SCRUBBER	9	AGCO	81MC-88-8		1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/24	11/14	12/3	10/21	12/9	11/17
ENGINE #4																						
DISCHARGE HEADER	10	AGCO	27312-34		3	2.853	1050	-	RELIEF	1000	618		10/4	10/25	10/13	10/18	10/26	11/14	12/3	10/21	12/9	11/17
DISCHARGE SCRUBBER	11	AGCO	81MC-88-8		1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/24	11/14	12/3	10/21	12/9	11/17
SUCTION SCRUBBER	12	AGCO	81MC-88-8		1	.196	1050	-	RELIEF	1000	618		10/3	10/8	10/14	10/19	10/24	11/14	12/3	10/21	12/9	11/17
DEHY	13	AGCO	0.00504877		1		1050		RELIEF	1000	618		10/4	10/25	10/14	10/18	10/19	11/14	12/3	10/21	12/9	11/17
DEHY	14	AGCO	81	88/17430			1050		RELIEF				10/4	10/25	10/14	10/18	10/19	11/14	12/3	10/21	12/9	11/17
ENGINE FUEL	15	MOONEY	FG-56	40071	1	1		80	MONITOR		618		2/13	2/21	2/11	2/19	2/16	3/8	5/17	4/1	5/10	8/3
ENGINE FUEL	16	MOONEY	FG-56	40072	1	1		70	REGULATE		618		2/13	2/21	2/11	2/19	2/16	3/8	5/17	4/1	5/10	8/3
ENGINE FUEL	17	WELLMARK	9501	539232	1	0.5	90		RELIEF		618		2/13	2/20	2/11	2/19	2/16	03/08	5/17	4/1	5/10	8/3
ENGINE FUEL BY-PASS	18	MOONEY	FG-56	40253	1			70	BYPASS		618		2/13	2/21	2/11	2/19	2/16	3/8	5/17	4/1	5/10	8/3
SHRN - OUT / STORAGE	19	FISHER	627		1	0.0375	60	16	REGULATE					12/11	7/1	7/29	7/18			4/1	5/10	8/3
SHARON DEHY	20	FISHER	630		1	0.25	230	60	REGULATE					12/12	7/1	7/29	7/18			4/1	5/10	8/3
SHARON DEHY	21	FISHER	630		1	0.125	1050	230	REGULATE					12/12	7/1	7/29	7/18			4/1	5/10	8/3
STATELINE DEHY	22	WELLMARK	9501		1	0.5	300		RELIEF						4/9	4/8	4/21			4/1	5/10	8/3
STATELINE DEHY	23	WELLMARK	9501		1	0.5	90		RELIEF						4/9	4/8	4/21			4/1	5/10	8/3
DEHY	14X	WELLMARK		7903	1		1050		RELIEF	1000	618											
ENGINE FUEL	15X	FISHER	657 EZ		1	0.5	70	80	MONITOR		618											
ENGINE FUEL	16X	FISHER	657 EZ		1	0.5	70	70	REGULATE		618											
ENGINE FUEL	17X	CONSOLIDATED	1990 C		1/2X1	0.11	90		RELIEF		618		02/13X					3/8				

Location #	Plant		Area	Item #	Class	Location	MFG	Model	S/N	Valve Type	Size	INNER	IN/RV	OUT	SPEC	DOT/O&M	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
CSN 5465	Tonkin Station		W	001	Relief	Station Discharge Piping	Axelson	HF6400		Single Port	6x8x8	6	935		510	DOT	7/18	7/25	7/24	7/15	7/20	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	002	Regulator	Monitor - 1st Cut Fuel Gas	Fisher	667 E		Single Port	1x1	0.5	520	140	510	DOT	7/11	7/31	7/24	7/13	8/3	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	003	Regulator	Primary - 1st cut Fuel	Fisher	667 E		Single Port	1x1	0.5	520	130	510	DOT	7/11	7/31	7/24	7/13	8/3	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	004	Regulator	2nd Cut Fuel	Fisher	630		Single Port	1x1	0.375	400	44	510	DOT	7/17	7/12	7/21	7/14	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	005	Relief	2nd Cut Fuel	Axelson	HF 6413		Single Port	1x1 1/2	1	65		510	DOT	7/17	7/25	7/21	7/15	7/20	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	006		Aux Fuel	Fisher	630-8043		Single Port	2x2	0.375	45	10	510	DOT	7/17	7/12	7/21	7/15	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	007	Relief	3rd Cut Fuel	Farris	1855		Single Port	3/4x1	0.75	15		510	DOT	7/17	7/12	7/21	7/15	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	009	Relief	ASME Suction Filter	Taylor	T-7900-1		Single Port	0.75x1	0.75	1060		510	DOT	7/18	7/12	7/21	7/13	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	010	Relief	Staton Piping, Pressure Vessel	AGCO	80SRV		Single Port	1x1	1	1060		510	DOT	7/18	7/11	7/21	7/13	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	011	Relief	Station Piping	Farris	1852APRD		Single Port	0.5x1	0.5	150		510	O&M	7/18	7/25	7/22	7/13	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	012	Regulator		Fisher	630		Single Port	1X1	0.25	520	400	510	O&M	7/18	7/11	7/21	7/13	7/18	7/30	9/30	7/30	8/5	8/1
CSN 5465	Tonkin Station		W	012	Relief	Gas Cooler Thermal Relief	Farris			Single Port			1200								10/11					
CSN 5465	Tonkin Station		W	441-01	Regulator	INST. AIR	FISHER	630		Single Port	2X2	0.5	120	100	515	O&M	8/7	9/10	9/25	9/20	9/14					
CSN 5465	Tonkin Station		W	441-02	Relief	ANST. AIR	FARRIS	2850-OL		Single Port	3/4X1		110			O&M	8/7	9/10	9/23	9/20	9/14					
CSN 5465	Tonkin Station		W	441-03	Relief	VESSEL START AIR	FARRIS	2850-OL		Single Port	3/4X1		300			O&M	8/7	9/10	9/23	9/27	9/14					
CSN 5465	Tonkin Station		W	441-04	Relief	VESSEL START AIR	FARRIS	2850-OL		Single Port	3/4X1		300			O&M	8/7	9/10	9/23	9/20	9/13					
CSN 5465	Tonkin Station		W	441-05	Relief	VESSEL START AIR	FARRIS	2850-OL		Single Port	3/4X1		150			O&M	8/7	9/10	9/23	9/28	9/14					
CSN 5465	Tonkin Station		W	441-06	Relief	CRANE START AIR	FARRIS	2850-OL		Single Port	3/4X1		110			O&M	8/7	9/10	9/23	9/20	9/16					
CSN 5465	Tonkin Station		W	441-07	Regulator	CRANE START AIR	FISHER	85		Single Port	2X2		230	100		O&M	8/7	9/10	9/24	9/20	9/16					
CSN 5465	Tonkin Station		W	441-08	Regulator	OIL TANK AIR	FISHER	630		Single Port	1X1	0.5	100	10		O&M	8/7	9/10	9/25	9/20	9/13					
CSN 5465	Tonkin Station		W	441-09	Relief	OIL TANK AIR	FARRIS	2850-OL		Single Port	3/4X1		20			O&M	8/7	9/10	9/24	9/20	9/13					
CSN 5465	Tonkin Station		W	441-10	Relief	INST. AIR COMP #1	FARRIS	2850-OL		Single Port	3/4X1		150			O&M	8/7	9/10	9/23	9/17	9/15					
CSN 5465	Tonkin Station		W	441-11	Relief	START AIR COMP. #1	TAYLOR	8200		Single Port	3/4X1	0.5	291					12/31	9/24	9/17	9/15					
CSN 5465	Tonkin Station		W	441-12	Relief	START AIR COMP. #2	FARRIS	2850-OL		Single Port	3/4X1		291			O&M	9/2	9/10	9/24	9/17	8/16					
CSN 5465	Tonkin Station		W	008	Relief	ASME Boiler	Kunkle	537G01		Single Port	1.5x2	1	125		510	DOT	7/17	x				7/30	9/30			
CSN 5465	Tonkin Station		W	441-11t	Relief	START AIR COMP. #1	FARRIS	2850-OL		Single Port	3/4X1		291			O&M	9/6	9/10								

Appendix A – Annual Regulator/Relief Valve Capacity Reviews at Ellisburg, Harrison, Oakford, State Line, and JB Tonkin Compressor Stations (see following pages)

Appendix A (cont.) – Example of IMS Inspection of Relief Device Capacity Calculation Review

Inspection Monitoring System Online - Central Database

File Edit View Tools Window Help

Due Tasks | Retrieve | Items | Users | IMS Printer | Exit

Inspection History - Ellisburg Station - Regulator Relief Valve - Listing

Inspection	Due	Complete	Compliance	Att	Type	Freq	Inspected By	Contractor/Inspector	Follow Up	Resp. Inspector	Last Updated By	
Item: CSN6361 426 012 ELLISBURG STATION AXELSON HD					Active	012	REGVL Eng #4 HS Discharge R/V					
Capacity Calculations Inspection												
	September 2006	12/01/2006	12/01/2006	☑	REGVL	12 months	May, Greg		Inspection OK		Radcliff, Scott	12/04/2006
	September 2007	08/10/2007	12/31/2007	☐	REGVL	12 months	Layfield, Ky		Inspection OK		Layfield, Ky	08/10/2007
	September 2008	09/12/2008	11/08/2008	☐	REGVL	12 months	Radcliff, Scott		Inspection OK		Radcliff, Scott	09/12/2008
	September 2009	00/00/0000	12/12/2009	☐	REGVL	12 months						00/00/0000

Dominion Transmission, Inc.
Relief Valve Capacity Calculation

Date:	**11/30/2006**	*Location:*	**Ellisburg CS**
Manufacturer:	**Axelson**	*Facility ID:*	**CSN 6361**
Model:	**HD**	*IMS Item Number:*	**426-012**
Body Size:	**1" x 2"**	*Calculated by:*	**cgm**
Orifice Size:	**1" (0.785 in2)**		

Pressure Setpoint:	**2500**	psig
Temperature:	**60**	°F
Specific Gravity:	**0.6**	

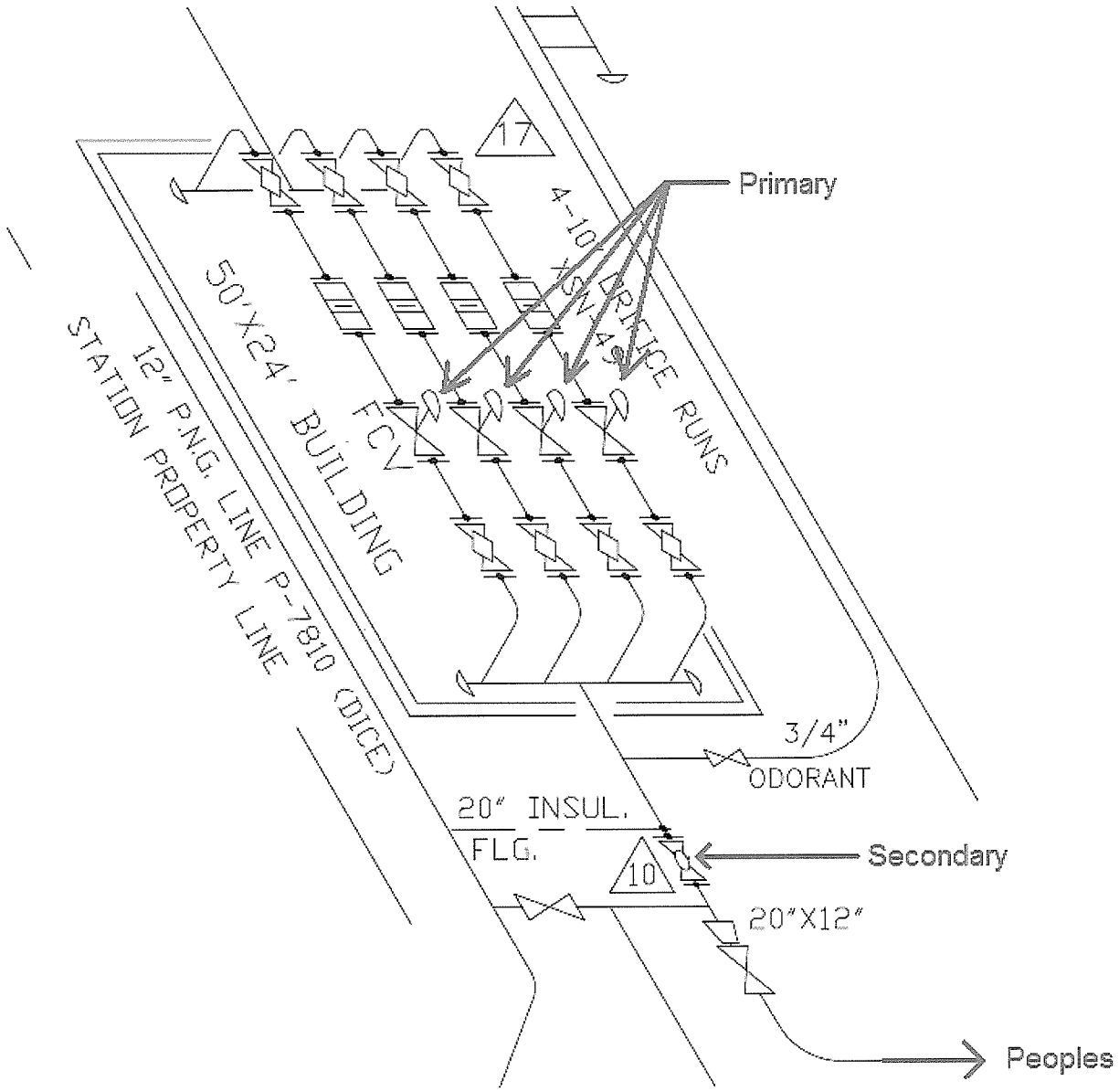
A (orifice area):	**0.785**	in^2 (per Axelson charts)
C (Natural Gas):	344	
K_d (flow coefficient):	0.859	
P_aS (set pressure):	2764.7	psia
MW (Natural Gas):	19	moles
T_a (temperature):	520	°R

$$Q = \frac{6.32 \times C \times P_aS \times K_d \times A}{\sqrt{MW} \times \sqrt{T_a}}$$

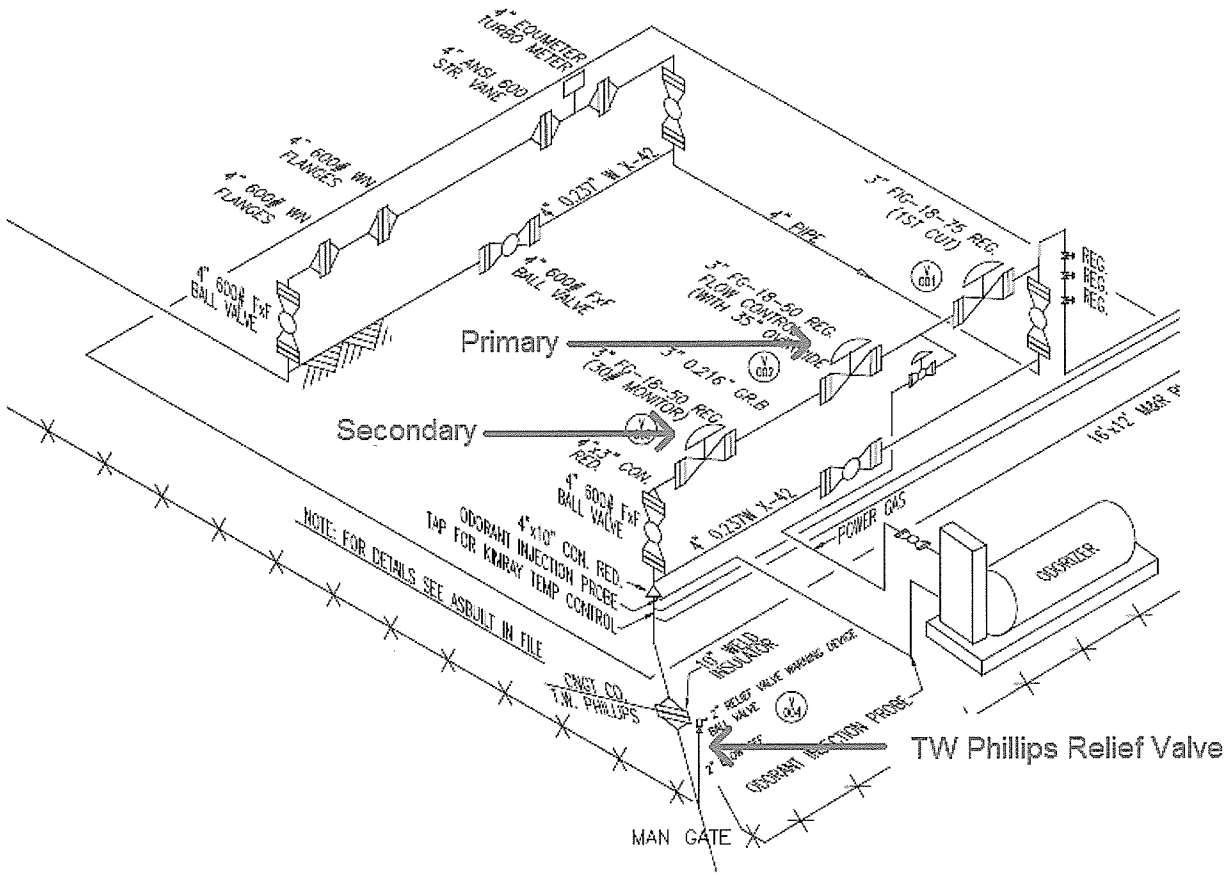
Q=	**40,776**	SCFM
Q=	**2,446,578**	SCFH
Q=	**58,717,881**	SCFD
Q=	**58,718**	MSCFD
Q=	**58.72**	MMSCFD

Reference: Axelson Pilot Operated Safety-Relief Valves Series H & G pp. 13-18.

Appendix B – Oakford (feed to Peoples Gas) Overpressure Protection Devices



Appendix C – Springdale M&R Overpressure Protection Devices



Appendix D – Mockingbird Hill Relief Valve Capacity

- Primary Overpressure Protection Device is High Pressure Shutdown Switch on Unit.
- Secondary Device is Relief Valve 426-001 (Required capacity = 573,484 MMCFD)

Dominion Transmission, Inc.
Relief Valve Capacity Calculation

Date:	**06/16/2006**	*Location:*	**Mockingbird Hill Station**
Manufacturer:	**Consolidated**	*Facility ID:*	**CSN4407**
Model:	**1900**	*IMS Item Number:*	**426-001**
Body Size:	**6" x 8"**	*Calculated by:*	**D. A. Fitch**
Orifice Size:	**P**		

Pressure Setpoint:	**1060**	psig
Temperature:	**120**	°F
Specific Gravity:	**0.6**	

A_c (orifice area):	**16**	in^2 (per Consolidated charts)
ρ (density):	0.04578	lbs/ft^3
T (temperature):	580	°R
Z (compressibility):	1	
C (Natural Gas):	344	
K_d (flow coefficient):	**0.950**	(from table to right)
P_1 (set pressure):	1180.7	psia
M (molecular weight):	19	moles
K_b (pressure Factor):	1	

Series	Kd
1900 (API)	0.950
1900 (actual size)	0.855

$$Q = \frac{A_c C K_d P_1 \sqrt{M} K_b}{60 \rho \sqrt{T} \sqrt{Z}}$$

Q=	**406,797**	SCFM
Q=	**24,407,798**	SCFH
Q=	**585,787,164**	SCFD
Q=	**585,787**	MSCFD
Q=	**585.79**	MMSCFD

Reference: Consolidated Safety Relief Valves SRV-1 Fall 1993 - Valve Sizing pp 3-1 through 3-22.

Appendix E – Capacity Calculation for Relief Valve at State Line Station (LN24)

Dominion Transmission, Inc.
Relief Valve Capacity Calculation

Date:	7/16/2009	*Location:*	Stateline
Manufacturer:	AGCO	*Facility ID:*	RLS6024
Model:	473	*IMS Item Number:*	101-001
Body Size:	6" x 8" x 8"	*Calculated by:*	S Lyon
Orifice Size:	20.244 in2		

Pressure Setpoint:	893	psig
Temperature:	60	°F
Specific Gravity:	0.6	

A (orifice area):	20.244	in^2 (per AGCO Technical Supplement Tables)
C (Natural Gas):	344	
K (flow coefficient):	0.860	(from table to right)
P_1:	907.7	psia
K_b (pressure factor):	1.0	
M (Natural Gas):	17.4	moles
T (temperature):	520	°R
Z (compressibility):	1.0	

Flow Coefficient of Discharge (K)

Valve Type	K
223, 233, 423, 433, 623, 923, 933	0.860
273, 473, 673, 973	0.860
226, 526	0.860
727	0.975
D/DB Series, L Series	0.971

Models 233, 223, 226, 273, 433, 423, 473, 526, 576, 727

$$Q = \frac{6.32\ ACKP_1K_b}{\sqrt{MTZ}}$$

Q=	361,191	SCFM
Q=	21,671,431	SCFH
Q=	520,114,345	SCFD
Q=	520,114	MSCFD
Q=	520.11	MMSCFD

Reference: Anderson, Greenwood & Co. Technical Supplement Catalog 2-TS-92 May, 1994.