

50-305

RESPONSE TO NUREG-0737 ITEM II.D.1

Docket # *50-305*

Control # *8403280048*

Date *3/23/84* of Document:  
REGULATORY DOCKET FILE

.1750	-1467.	-417.	797.	0.	0.	0.	.0242	.0027	.0175	.0681	-.0026	.0170	0.
.1760	-133.	-38.	72.	0.	0.	0.	.0195	-.0038	.0313	.0784	-.0204	-.0018	0.
.1770	1316.	374.	-714.	0.	0.	0.	.0136	-.0106	.0451	.0890	-.0372	-.0187	0.
.1780	2811.	800.	-1526.	0.	0.	0.	.0073	-.0182	.0587	.0975	-.0517	-.0335	0.
.1790	4432.	1261.	-2406.	0.	0.	0.	-.0000	-.0267	.0724	.1021	-.0632	-.0459	0.
.1800	6100.	1735.	-3312.	0.	0.	0.	-.0082	-.0354	.0852	.1045	-.0722	-.0558	0.
.1810	7563.	2151.	-4106.	0.	0.	0.	-.0161	-.0432	.0951	.1066	-.0785	-.0637	0.
.1820	8971.	2552.	-4871.	0.	0.	0.	-.0248	-.0502	.1029	.1079	-.0821	-.0697	0.
.1830	10242.	2913.	-5561.	0.	0.	0.	-.0332	-.0572	.1084	.1065	-.0827	-.0739	0.
.1840	11380.	3237.	-6179.	0.	0.	0.	-.0414	-.0644	.1119	.1024	-.0807	-.0765	0.
.1850	12406.	3529.	-6736.	0.	0.	0.	-.0493	-.0708	.1139	.0977	-.0761	-.0777	0.

ADLPIPE PAGE 694

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	DIS	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1860	13227.	3762.	-7182.	0.	0.	0.	-.0564	-.0756	.1143	.0941	-.0694	-.0781	0.		
.1870	13958.	3970.	-7578.	0.	0.	0.	-.0635	-.0785	.1140	.0921	-.0617	-.0775	0.		
.1880	14479.	4118.	-7861.	0.	0.	0.	-.0692	-.0803	.1127	.0900	-.0540	-.0758	0.		
.1890	14797.	4209.	-8034.	0.	0.	0.	-.0734	-.0816	.1104	.0866	-.0472	-.0729	0.		
.1900	14855.	4225.	-8065.	0.	0.	0.	-.0758	-.0820	.1069	.0825	-.0418	-.0688	0.		
.1910	14440.	4107.	-7840.	0.	0.	0.	-.0752	-.0805	.1008	.0789	-.0384	-.0637	0.		
.1920	13617.	3873.	-7393.	0.	0.	0.	-.0719	-.0774	.0924	.0755	-.0370	-.0575	0.		
.1930	12428.	3535.	-6748.	0.	0.	0.	-.0658	-.0740	.0823	.0700	-.0367	-.0501	0.		
.1940	10923.	3107.	-5930.	0.	0.	0.	-.0568	-.0706	.0712	.0619	-.0366	-.0414	0.		
.1950	9175.	2610.	-4981.	0.	0.	0.	-.0457	-.0673	.0594	.0531	-.0359	-.0313	0.		
.1960	7261.	2065.	-3942.	0.	0.	0.	-.0329	-.0640	.0473	.0456	-.0341	-.0201	0.		
.1970	5241.	1491.	-2846.	0.	0.	0.	-.0192	-.0608	.0350	.0395	-.0311	-.0086	0.		
.1980	3179.	904.	-1726.	0.	0.	0.	-.0048	-.0580	.0228	.0338	-.0265	.0023	0.		
.1990	1126.	320.	-611.	0.	0.	0.	.0097	-.0558	.0106	.0281	-.0200	.0118	0.		
.2000	-913.	-260.	496.	0.	0.	0.	.0241	-.0545	-.0019	.0234	-.0120	.0195	0.		
.2010	-2936.	-835.	1594.	0.	0.	0.	.0380	-.0539	-.0154	.0215	-.0030	.0249	0.		
.2020	-4872.	-1386.	2645.	0.	0.	0.	.0507	-.0540	-.0298	.0228	.0064	.0278	0.		
.2030	-6622.	-1884.	3595.	0.	0.	0.	.0616	-.0547	-.0443	.0270	.0162	.0277	0.		
.2040	-8123.	-2310.	4410.	0.	0.	0.	.0703	-.0560	-.0582	.0331	.0267	.0249	0.		
.2050	-9334.	-2655.	5068.	0.	0.	0.	.0768	-.0581	-.0710	.0414	.0379	.0197	0.		
.2060	-10227.	-2909.	5552.	0.	0.	0.	.0808	-.0611	-.0824	.0528	.0496	.0126	0.		
.2070	-10811.	-3075.	5869.	0.	0.	0.	.0826	-.0648	-.0925	.0676	.0514	.0042	0.		
.2080	-11130.	-3166.	6043.	0.	0.	0.	.0824	-.0689	-.1012	.0846	.0726	-.0055	0.		
.2090	-11219.	-3191.	6091.	0.	0.	0.	.0807	-.0730	-.1083	.1016	.0827	-.0162	0.		
.2100	-11099.	-3157.	6026.	0.	0.	0.	.0776	-.0770	-.1137	.1171	.0910	-.0275	0.		
.2110	-10822.	-3078.	5875.	0.	0.	0.	.0737	-.0806	-.1173	.1310	.0967	-.0388	0.		
.2120	-10431.	-2967.	5663.	0.	0.	0.	.0695	-.0838	-.1192	.1430	.0997	-.0491	0.		
.2130	-9930.	-2824.	5392.	0.	0.	0.	.0652	-.0862	-.1186	.1524	.1001	-.0578	0.		
.2140	-9303.	-2646.	5051.	0.	0.	0.	.0609	-.0876	-.1150	.1577	.0982	-.0642	0.		
.2150	-8539.	-2429.	4636.	0.	0.	0.	.0568	-.0878	-.1078	.1578	.0941	-.0681	0.		
.2160	-7652.	-2176.	4154.	0.	0.	0.	.0529	-.0869	-.0972	.1524	.0874	-.0691	0.		
.2170	-6672.	-1898.	3622.	0.	0.	0.	.0492	-.0849	-.0840	.1425	.0780	-.0669	0.		
.2180	-5645.	-1606.	3065.	0.	0.	0.	.0455	-.0816	-.0689	.1293	.0560	-.0618	0.		
.2190	-4596.	-1307.	2495.	0.	0.	0.	.0419	-.0769	-.0527	.1128	.0516	-.0545	0.		
.2200	-3519.	-1001.	1911.	0.	0.	0.	.0381	-.0714	-.0357	.0929	.0355	-.0457	0.		
.2210	-2419.	-688.	1313.	0.	0.	0.	.0339	-.0649	-.0188	.0711	.0184	-.0362	0.		
.2220	-1312.	-373.	712.	0.	0.	0.	.0289	-.0576	-.0025	.0496	.0012	-.0266	0.		
.2230	-191.	-54.	104.	0.	0.	0.	.0231	-.0496	.0128	.0304	-.0154	-.0175	0.		

ADLPIPE PAGE 695

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2130	-4930.	-2324.	5592.	0.	0.	0.	.0652	-.0862	-.1186	.1524	.1001	-.0578	0.
.2140	-5303.	-2646.	5051.	0.	0.	0.	.0609	-.0876	-.1150	.1577	.0982	-.0642	0.
.2150	-8539.	-2429.	4636.	0.	0.	0.	.0568	-.0878	-.1078	.1578	.0941	-.0681	0.
.2160	-7652.	-2176.	4154.	0.	0.	0.	.0529	-.0869	-.0972	.1524	.0974	-.0691	0.
.2170	-6672.	-1898.	3622.	0.	0.	0.	.0492	-.0849	-.0840	.1425	.0780	-.0669	0.
.2180	-5645.	-1606.	3065.	0.	0.	0.	.0455	-.0816	-.0689	.1293	.0560	-.0618	0.
.2190	-4596.	-1307.	2495.	0.	0.	0.	.0419	-.0769	-.0527	.1128	.0516	-.0545	0.
.2200	-3519.	-1001.	1911.	0.	0.	0.	.0381	-.0714	-.0357	.0929	.0355	-.0457	0.
.2210	-2419.	-.688.	1313.	0.	0.	0.	.0339	-.0649	-.0188	.0711	.0184	-.0362	0.
.2220	-1312.	-.373.	712.	0.	0.	0.	.0289	-.0576	-.0025	.0496	.0012	-.0266	0.
.2230	-.191.	-.54.	104.	0.	0.	0.	.0231	-.0496	.0128	.0304	-.0154	-.0175	0.

ADLPIPE PAGE 695

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	DIS	TYPE	RU					
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.2240	979.	279.	-532.	0.	0.	0.	.0162	-.0417	.0271	.0140	-.0305	-.0094	0.	
.2250	2222.	632.	-1206.	0.	0.	0.	.0081	-.0342	.0403	.0004	-.0437	-.0025	0.	
.2260	3529.	1004.	-1916.	0.	0.	0.	-.0010	-.0271	.0527	-.0100	-.0548	.0027	0.	
.2270	4859.	1382.	-2638.	0.	0.	0.	-.0109	-.0206	.0638	-.0170	-.0639	.0062	0.	
.2280	6151.	1749.	-3339.	0.	0.	0.	-.0210	-.0147	.0736	-.0202	-.0708	.0079	0.	
.2290	7363.	2094.	-3997.	0.	0.	0.	-.0307	-.0098	.0819	-.0205	-.0760	.0083	0.	
.2300	8483.	2413.	-4606.	0.	0.	0.	-.0397	-.0063	.0890	-.0193	-.0798	.0074	0.	
.2310	9494.	2700.	-5155.	0.	0.	0.	-.0477	-.0039	.0952	-.0178	-.0822	.0053	0.	
.2320	10360.	2947.	-5625.	0.	0.	0.	-.0545	-.0023	.1004	-.0158	-.0833	.0024	0.	
.2330	11052.	3143.	-6000.	0.	0.	0.	-.0598	-.0011	.1047	-.0133	-.0833	-.0011	0.	
.2340	11565.	3289.	-6279.	0.	0.	0.	-.0636	-.0005	.1080	-.0110	-.0821	-.0049	0.	
.2350	11882.	3380.	-6451.	0.	0.	0.	-.0657	-.0009	.1102	-.0098	-.0797	-.0087	0.	
.2360	11966.	3403.	-6497.	0.	0.	0.	-.0660	-.0020	.1107	-.0100	-.0761	-.0125	0.	
.2370	11779.	3350.	-6395.	0.	0.	0.	-.0646	-.0032	.1089	-.0112	-.0717	-.0164	0.	
.2380	11303.	3215.	-6136.	0.	0.	0.	-.0617	-.0040	.1045	-.0130	-.0668	-.0205	0.	
.2390	10543.	2999.	-5724.	0.	0.	0.	-.0575	-.0045	.0972	-.0154	-.0616	-.0248	0.	
.2400	9528.	2710.	-5173.	0.	0.	0.	-.0522	-.0046	.0871	-.0185	-.0562	-.0292	0.	
.2410	8296.	2360.	-4504.	0.	0.	0.	-.0461	-.0041	.0746	-.0220	-.0504	-.0335	0.	
.2420	6880.	1957.	-3736.	0.	0.	0.	-.0394	-.0025	.0603	-.0252	-.0440	-.0377	0.	
.2430	5321.	1514.	-2889.	0.	0.	0.	-.0322	.0004	.0446	-.0279	-.0369	-.0413	0.	
.2440	3674.	1045.	-1995.	0.	0.	0.	-.0247	.0046	.0285	-.0303	-.0292	-.0440	0.	
.2450	1983.	564.	-1076.	0.	0.	0.	-.0170	.0099	.0126	-.0332	-.0212	-.0451	0.	
.2460	268.	76.	-146.	0.	0.	0.	-.0089	.0161	-.0028	-.0369	-.0131	-.0443	0.	
.2470	-1445.	-411.	784.	0.	0.	0.	-.0006	.0232	-.0172	-.0415	-.0051	-.0411	0.	
.2480	-3113.	-885.	1690.	0.	0.	0.	.0078	.0310	-.0301	-.0471	.0025	-.0357	0.	
.2490	-4695.	-1335.	2549.	0.	0.	0.	.0160	.0393	-.0414	-.0536	.0093	-.0280	0.	
.2500	-6160.	-1752.	3344.	0.	0.	0.	.0239	.0480	-.0509	-.0613	.0154	-.0185	0.	
.2510	-7473.	-2125.	4057.	0.	0.	0.	.0310	.0569	-.0587	-.0699	.0209	-.0076	0.	
.2520	-8596.	-2445.	4667.	0.	0.	0.	.0372	.0655	-.0646	-.0792	.0261	.0041	0.	
.2530	-9501.	-2702.	5158.	0.	0.	0.	.0421	.0739	-.0690	-.0887	.0309	.0159	0.	
.2540	-10179.	-2895.	5526.	0.	0.	0.	.0453	.0818	-.0722	-.0980	.0354	.0273	0.	
.2550	-10640.	-3026.	5777.	0.	0.	0.	.0468	.0892	-.0745	-.1070	.0395	.0377	0.	
.2560	-10906.	-3102.	5921.	0.	0.	0.	.0466	.0961	-.0764	-.1160	.0435	.0468	0.	
.2570	-10990.	-3126.	5967.	0.	0.	0.	.0449	.1021	-.0780	-.1251	.0470	.0544	0.	
.2580	-10901.	-3101.	5918.	0.	0.	0.	.0418	.1068	-.0796	-.1347	.0499	.0605	0.	
.2590	-10658.	-3031.	5787.	0.	0.	0.	.0374	.1104	-.0811	-.1441	.0518	.0652	0.	
.2600	-10262.	-2924.	5582.	0.	0.	0.	.0319	.1131	-.0824	-.1528	.0527	.0683	0.	
.2610	-9770.	-2779.	5305.	0.	0.	0.	.0256	.1152	-.0830	-.1608	.0528	.0697	0.	

ADLPIPE PAGE 696

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2520	-8596.	-2445.	4667.	0.	0.	0.	.110	.0569	-.0517	-.0699	.0209	-.0076	0.
.2530	-9501.	-2702.	5158.	0.	0.	0.	.0421	.0739	-.0690	-.0887	.0309	.0159	0.
.2540	-10179.	-2895.	5526.	0.	0.	0.	.0453	.0816	-.0722	-.0980	.0354	.0273	0.
.2550	-10840.	-3026.	5777.	0.	0.	0.	.0468	.0892	-.0745	-.1070	.0395	.0377	0.
.2560	-10906.	-3102.	5921.	0.	0.	0.	.0466	.0961	-.0764	-.1160	.0435	.0468	0.
.2570	-10990.	-3126.	5967.	0.	0.	0.	.0449	.1021	-.0780	-.1251	.0470	.0544	0.
.2580	-10901.	-3101.	5918.	0.	0.	0.	.0418	.1068	-.0796	-.1347	.0499	.0605	0.
.2590	-10658.	-3031.	5787.	0.	0.	0.	.0374	.1104	-.0811	-.1441	.0518	.0652	0.
.2600	-10262.	-2924.	5592.	0.	0.	0.	.0319	.1131	-.0824	-.1528	.0527	.0683	0.
.2610	-9770.	-2779.	5305.	0.	0.	0.	.0256	.1152	-.0830	-.1608	.0528	.0697	0.

ADLPIPE PAGE 696

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	DIS	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	NZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.2620	-9102.	-2589.	4942.	0.	0.	0.	.0185	.1162	-.0824	-.1683	.0519	.0696	0.		
.2630	-8272.	-2353.	4491.	0.	0.	0.	.0109	.1163	-.0803	-.1751	.0500	.0679	0.		
.2640	-7305.	-2078.	3966.	0.	0.	0.	.0028	.1156	-.0766	-.1799	.0468	.0649	0.		
.2650	-6232.	-1773.	3384.	0.	0.	0.	-.0053	.1145	-.0713	-.1823	.0426	.0606	0.		
.2660	-5075.	-1444.	2756.	0.	0.	0.	-.0134	.1131	-.0644	-.1829	.0373	.0553	0.		
.2670	-3849.	-1095.	2090.	0.	0.	0.	-.0213	.1111	-.0560	-.1825	.0309	.0491	0.		
.2680	-2578.	-733.	1399.	0.	0.	0.	-.0287	.1086	-.0462	-.1816	.0236	.0426	0.		
.2690	-1299.	-369.	705.	0.	0.	0.	-.0355	.1057	-.0354	-.1797	.0156	.0359	0.		
.2700	-41.	-12.	22.	0.	0.	0.	-.0417	.1028	-.0238	-.1764	.0073	.0295	0.		
.2710	1195.	340.	-649.	0.	0.	0.	-.0473	.1000	-.0114	-.1722	-.0010	.0235	0.		
.2720	2419.	688.	-1313.	0.	0.	0.	-.0523	.0973	.0018	-.1680	-.0092	.0178	0.		
.2730	3612.	1027.	-1961.	0.	0.	0.	-.0568	.0948	.0155	-.1638	-.0173	.0127	0.		
.2740	4722.	1343.	-2564.	0.	0.	0.	-.0605	.0929	.0293	-.1593	-.0253	.0083	0.		
.2750	5700.	1621.	-3095.	0.	0.	0.	-.0633	.0917	.0425	-.1541	-.0333	.0047	0.		
.2760	6527.	1856.	-3544.	0.	0.	0.	-.0651	.0911	.0550	-.1490	-.0414	.0018	0.		
.2770	7189.	2045.	-3903.	0.	0.	0.	-.0659	.0910	.0664	-.1448	-.0496	-.0003	0.		
.2780	7664.	2180.	-4161.	0.	0.	0.	-.0656	.0913	.0765	-.1411	-.0577	-.0017	0.		
.2790	7942.	2259.	-4312.	0.	0.	0.	-.0641	.0920	.0850	-.1370	-.0656	-.0020	0.		
.2800	8031.	2284.	-4360.	0.	0.	0.	-.0616	.0931	.0918	-.1324	-.0728	-.0014	0.		
.2810	7956.	2263.	-4320.	0.	0.	0.	-.0583	.0942	.0970	-.1274	-.0789	.0001	0.		
.2820	7736.	2200.	-4200.	0.	0.	0.	-.0543	.0950	.1005	-.1223	-.0836	.0023	0.		
.2830	7373.	2097.	-4003.	0.	0.	0.	-.0497	.0956	.1022	-.1169	-.0865	.0053	0.		
.2840	6862.	1952.	-3725.	0.	0.	0.	-.0447	.0959	.1017	-.1111	-.0876	.0089	0.		
.2850	6206.	1765.	-3369.	0.	0.	0.	-.0392	.0957	.0989	-.1050	-.0868	.0127	0.		
.2860	5428.	1544.	-2947.	0.	0.	0.	-.0335	.0949	.0938	-.0991	-.0841	.0167	0.		
.2870	4560.	1297.	-2476.	0.	0.	0.	-.0278	.0933	.0865	-.0934	-.0798	.0208	0.		
.2880	3629.	1032.	-1971.	0.	0.	0.	-.0222	.0909	.0775	-.0879	-.0739	.0251	0.		
.2890	2674.	761.	-1452.	0.	0.	0.	-.0169	.0877	.0669	-.0824	-.0664	.0293	0.		
.2900	1734.	493.	-941.	0.	0.	0.	-.0122	.0838	.0553	-.0767	-.0574	.0334	0.		
.2910	842.	240.	-457.	0.	0.	0.	-.0081	.0791	.0430	-.0706	-.0472	.0374	0.		
.2920	15.	4.	-8.	0.	0.	0.	-.0047	.0737	.0302	-.0641	-.0359	.0411	0.		
.2930	-747.	-212.	406.	0.	0.	0.	-.0020	.0677	.0172	-.0570	-.0236	.0443	0.		
.2940	-1449.	-412.	787.	0.	0.	0.	.0000	.0614	.0040	-.0491	-.0104	.0469	0.		
.2950	-2098.	-597.	1139.	0.	0.	0.	.0015	.0550	-.0094	-.0402	.0033	.0488	0.		
.2960	-2690.	-767.	1465.	0.	0.	0.	.0024	.0486	-.0227	-.0305	.0176	.0499	0.		
.2970	-3248.	-924.	1764.	0.	0.	0.	.0028	.0424	-.0359	-.0200	.0321	.0505	0.		
.2980	-3751.	-1067.	2037.	0.	0.	0.	.0029	.0364	-.0486	-.0087	.0467	.0507	0.		
.2990	-4205.	-1196.	2283.	0.	0.	0.	.0028	.0308	-.0606	.0034	.0613	.0509	0.		

ADLPIPE PAGE 697

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2890	2674.	761.	1452.	0.	0.	0.	-.0169	.0077	.0667	-.0824	-.0564	.0293	0.
.2900	1734.	493.	-241.	0.	0.	0.	-.0122	.0838	.0553	-.0767	-.0574	.0334	0.
.2910	842.	240.	-457.	0.	0.	0.	-.0081	.0791	.0430	-.0706	-.0472	.0374	0.
.2920	15.	4.	-8.	0.	0.	0.	-.0047	.0737	.0302	-.0641	-.0359	.0411	0.
.2930	-747.	-212.	406.	0.	0.	0.	-.0020	.0677	.0172	-.0570	-.0236	.0443	0.
.2940	-1446.	-412.	787.	0.	0.	0.	.0000	.0614	.0040	-.0491	-.0104	.0469	0.
.2950	-2098.	-597.	1139.	0.	0.	0.	.0015	.0550	-.0094	-.0402	.0333	.0488	0.
.2960	-2698.	-767.	1465.	0.	0.	0.	.0024	.0486	-.0227	-.0305	.0176	.0499	0.
.2970	-3248.	-924.	1764.	0.	0.	0.	.0028	.0424	-.0359	-.0200	.0321	.0505	0.
.2980	-3751.	-1067.	2037.	0.	0.	0.	.0029	.0364	-.0486	-.0087	.0467	.0507	0.
.2990	-4205.	-1196.	2283.	0.	0.	0.	.0028	.0308	-.0606	.0034	.0517	.0509	0.

ADLPIPE PAGE 697

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	DIS	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3000	-4604.	-1310.	2500.	0.	0.	0.		.0026	.0256	-.0716	.0157	.0755	.0512	0.	
.3010	-4949.	-1408.	2687.	0.	0.	0.		.0023	.0208	-.0813	.0278	.0886	.0517	0.	
.3020	-5252.	-1494.	2851.	0.	0.	0.		.0023	.0165	-.0895	.0396	.1004	.0526	0.	
.3030	-5524.	-1571.	2999.	0.	0.	0.		.0026	.0127	-.0961	.0508	.1100	.0538	0.	
.3040	-5769.	-1641.	3132.	0.	0.	0.		.0035	.0093	-.1011	.0610	.1172	.0553	0.	
.3050	-5982.	-1701.	3248.	0.	0.	0.		.0049	.0063	-.1043	.0700	.1213	.0567	0.	
.3060	-6155.	-1751.	3342.	0.	0.	0.		.0069	.0036	-.1054	.0776	.1222	.0578	0.	
.3070	-6272.	-1784.	3405.	0.	0.	0.		.0093	.0011	-.1045	.0840	.1199	.0587	0.	
.3080	-6313.	-1796.	3428.	0.	0.	0.		.0122	-.0014	-.1014	.0893	.1146	.0591	0.	
.3090	-6251.	-1778.	3394.	0.	0.	0.		.0152	-.0042	-.0960	.0934	.1067	.0590	0.	
.3100	-6065.	-1725.	3293.	0.	0.	0.		.0183	-.0075	-.0883	.0963	.0966	.0584	0.	
.3110	-5746.	-1634.	3120.	0.	0.	0.		.0213	-.0114	-.0787	.0984	.0849	.0571	0.	
.3120	-5295.	-1506.	2875.	0.	0.	0.		.0240	-.0159	-.0674	.1000	.0722	.0551	0.	
.3130	-4716.	-1341.	2561.	0.	0.	0.		.0261	-.0211	-.0549	.1015	.0590	.0522	0.	
.3140	-4011.	-1141.	2178.	0.	0.	0.		.0276	-.0271	-.0415	.1029	.0457	.0484	0.	
.3150	-3191.	-908.	1733.	0.	0.	0.		.0283	-.0339	-.0278	.1045	.0327	.0436	0.	
.3160	-2271.	-646.	1233.	0.	0.	0.		.0282	-.0414	-.0141	.1067	.0205	.0377	0.	
.3170	-1265.	-360.	687.	0.	0.	0.		.0271	-.0495	-.0007	.1100	.0091	.0307	0.	
.3180	-189.	-54.	103.	0.	0.	0.		.0250	-.0579	.0121	.1142	-.0011	.0227	0.	
.3190	938.	267.	-509.	0.	0.	0.		.0222	-.0668	.0242	.1195	-.0103	.0138	0.	
.3200	2088.	594.	-1134.	0.	0.	0.		.0188	-.0760	.0355	.1255	-.0183	.0043	0.	
.3210	3228.	918.	-1753.	0.	0.	0.		.0149	-.0853	.0457	.1323	-.0255	-.0058	0.	
.3220	4323.	1230.	-2347.	0.	0.	0.		.0108	-.0944	.0547	.1396	-.0320	-.0162	0.	
.3230	5340.	1519.	-2899.	0.	0.	0.		.0067	-.1032	.0624	.1470	-.0379	-.0268	0.	
.3240	6251.	1778.	-3394.	0.	0.	0.		.0030	-.1116	.0689	.1538	-.0435	-.0373	0.	
.3250	7037.	2002.	-3821.	0.	0.	0.		-.0003	-.1192	.0742	.1597	-.0488	-.0476	0.	
.3260	7680.	2184.	-4170.	0.	0.	0.		-.0029	-.1260	.0782	.1643	-.0536	-.0573	0.	
.3270	8168.	2323.	-4435.	0.	0.	0.		-.0048	-.1319	.0812	.1674	-.0579	-.0661	0.	
.3280	8502.	2418.	-4616.	0.	0.	0.		-.0059	-.1366	.0833	.1688	-.0615	-.0736	0.	
.3290	8688.	2471.	-4717.	0.	0.	0.		-.0061	-.1403	.0846	.1683	-.0641	-.0797	0.	
.3300	8724.	2481.	-4737.	0.	0.	0.		-.0055	-.1428	.0851	.1656	-.0656	-.0842	0.	
.3310	8612.	2450.	-4676.	0.	0.	0.		-.0040	-.1443	.0848	.1612	-.0658	-.0867	0.	
.3320	8357.	2376.	-4535.	0.	0.	0.		-.0019	-.1447	.0836	.1553	-.0647	-.0874	0.	
.3330	7950.	2261.	-4316.	0.	0.	0.		.0010	-.1441	.0813	.1482	-.0623	-.0863	0.	
.3340	7408.	2107.	-4022.	0.	0.	0.		.0044	-.1425	.0778	.1404	-.0588	-.0838	0.	
.3350	6729.	1917.	-3659.	0.	0.	0.		.0082	-.1402	.0730	.1321	-.0541	-.0801	0.	
.3360	5960.	1695.	-3226.	0.	0.	0.		.0123	-.1372	.0669	.1239	-.0484	-.0756	0.	
.3370	5090.	1448.	-2764.	0.	0.	0.		.0165	-.1337	.0596	.1163	-.0420	-.0706	0.	

ADLPIPE PAGE 698

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3270	1367.	2323.	-4435.	0.	0.	0.	-.0048	-.1319	.0812	.1674	-.0578	-.0661	0.
.3280	2567.	2418.	-4616.	0.	0.	0.	-.0059	-.1366	.0833	.1688	-.0615	-.0736	0.
.3290	2688.	2471.	-4717.	0.	0.	0.	-.0061	-.1407	.0846	.1687	-.0641	-.0797	0.
.3300	2724.	2481.	-4737.	0.	0.	0.	-.0055	-.1420	.0851	.1656	-.0656	-.0842	0.
.3310	2612.	2450.	-4676.	0.	0.	0.	-.0040	-.1443	.0848	.1612	-.0658	-.0867	0.
.3320	2757.	2376.	-4535.	0.	0.	0.	-.0019	-.1447	.0836	.1553	-.0647	-.0874	0.
.3330	2750.	2261.	-4316.	0.	0.	0.	.0010	-.1441	.0813	.1482	-.0523	-.0863	0.
.3340	2408.	2107.	-4022.	0.	0.	0.	.0044	-.1425	.0778	.1404	-.0588	-.0838	0.
.3350	6729.	1917.	-3659.	0.	0.	0.	.0082	-.1402	.0730	.1321	-.0541	-.0801	0.
.3360	5960.	1695.	-3226.	0.	0.	0.	.0123	-.1372	.0669	.1239	-.0484	-.0756	0.
.3370	5090.	1448.	-2764.	0.	0.	0.	.0165	-.1337	.0596	.1163	-.0420	-.0706	0.

ADLPIPE PAGE 690

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.36.

S/RV PIPING KEWAUNEE GKNORF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	DIS	TYPE	RU					
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.3380	4155.	1182.	-2256.	0.	0.	0.	.0206	-.1297	.0510	.1095	-.0350	-.0656	0.	
.3390	3178.	904.	-1725.	0.	0.	0.	.0245	-.1255	.0414	.1037	-.0276	-.0607	0.	
.3400	2181.	620.	-1184.	0.	0.	0.	.0282	-.1212	.0309	.0987	-.0200	-.0562	0.	
.3410	1181.	336.	-641.	0.	0.	0.	.0315	-.1169	.0198	.0941	-.0124	-.0522	0.	
.3420	193.	55.	-105.	0.	0.	0.	.0345	-.1129	.0082	.0899	-.0049	-.0488	0.	
.3430	-774.	-220.	420.	0.	0.	0.	.0373	-.1092	-.0036	.0856	.0024	-.0458	0.	
.3440	-1709.	-486.	928.	0.	0.	0.	.0398	-.1060	-.0155	.0809	.0094	-.0433	0.	
.3450	-2600.	-739.	1411.	0.	0.	0.	.0422	-.1032	-.0269	.0756	.0162	-.0412	0.	
.3460	-3429.	-975.	1862.	0.	0.	0.	.0445	-.1009	-.0377	.0693	.0226	-.0395	0.	
.3470	-4184.	-1190.	2271.	0.	0.	0.	.0467	-.0991	-.0475	.0623	.0286	-.0381	0.	
.3480	-4854.	-1381.	2635.	0.	0.	0.	.0487	-.0977	-.0560	.0549	.0340	-.0370	0.	
.3490	-5430.	-1545.	2948.	0.	0.	0.	.0507	-.0966	-.0631	.0472	.0389	-.0363	0.	
.3500	-5907.	-1680.	3207.	0.	0.	0.	.0525	-.0958	-.0686	.0394	.0429	-.0360	0.	
.3510	-6280.	-1786.	3410.	0.	0.	0.	.0541	-.0949	-.0725	.0319	.0459	-.0361	0.	
.3520	-6553.	-1864.	3558.	0.	0.	0.	.0554	-.0941	-.0749	.0251	.0477	-.0367	0.	
.3530	-6729.	-1914.	3653.	0.	0.	0.	.0565	-.0929	-.0759	.0191	.0481	-.0378	0.	
.3540	-6812.	-1937.	3698.	0.	0.	0.	.0571	-.0914	-.0755	.0143	.0472	-.0395	0.	
.3550	-6798.	-1934.	3691.	0.	0.	0.	.0573	-.0894	-.0738	.0106	.0450	-.0415	0.	
.3560	-6683.	-1901.	3629.	0.	0.	0.	.0569	-.0868	-.0709	.0080	.0417	-.0440	0.	
.3570	-6466.	-1839.	3510.	0.	0.	0.	.0558	-.0835	-.0669	.0063	.0373	-.0466	0.	
.3580	-6147.	-1748.	3338.	0.	0.	0.	.0541	-.0795	-.0619	.0055	.0322	-.0493	0.	
.3590	-5730.	-1630.	3111.	0.	0.	0.	.0516	-.0748	-.0558	.0053	.0265	-.0518	0.	
.3600	-5218.	-1484.	2833.	0.	0.	0.	.0485	-.0694	-.0487	.0052	.0203	-.0540	0.	
.3610	-4616.	-1313.	2506.	0.	0.	0.	.0447	-.0634	-.0408	.0048	.0138	-.0557	0.	
.3620	-3936.	-1120.	2137.	0.	0.	0.	.0404	-.0569	-.0321	.0038	.0070	-.0567	0.	
.3630	-3190.	-907.	1732.	0.	0.	0.	.0357	-.0501	-.0226	.0021	.0001	-.0568	0.	
.3640	-2387.	-679.	1296.	0.	0.	0.	.0306	-.0429	-.0125	-.0006	-.0070	-.0560	0.	
.3650	-1537.	-437.	835.	0.	0.	0.	.0253	-.0355	-.0019	-.0043	-.0141	-.0543	0.	
.3660	-651.	-185.	354.	0.	0.	0.	.0199	-.0281	.0092	-.0090	-.0212	-.0517	0.	
.3670	255.	72.	-138.	0.	0.	0.	.0143	-.0207	.0204	-.0146	-.0282	-.0483	0.	
.3680	1159.	330.	-629.	0.	0.	0.	.0086	-.0133	.0315	-.0207	-.0350	-.0442	0.	
.3690	2041.	581.	-1108.	0.	0.	0.	.0030	-.0061	.0421	-.0271	-.0417	-.0396	0.	
.3700	2882.	820.	-1565.	0.	0.	0.	-.0026	.0010	.0520	-.0338	-.0480	-.0346	0.	
.3710	3665.	1042.	-1990.	0.	0.	0.	-.0081	.0079	.0607	-.0405	-.0538	-.0294	0.	
.3720	4371.	1243.	-2373.	0.	0.	0.	-.0135	.0144	.0679	-.0470	-.0589	-.0240	0.	
.3730	4987.	1419.	-2708.	0.	0.	0.	-.0188	.0206	.0734	-.0529	-.0632	-.0187	0.	
.3740	5509.	1567.	-2991.	0.	0.	0.	-.0240	.0266	.0771	-.0581	-.0664	-.0134	0.	
.3750	5935.	1688.	-3222.	0.	0.	0.	-.0291	.0322	.0790	-.0625	-.0682	-.0082	0.	

ADLPIPE PAGE 690

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.36.

S/RV PIPING KEWAUNEE GKNORF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3640	-1537.	-437.	635.	0.	0.	0.	0.	.0153	-.0355	-.0019	-.0043	-.0141	-.0543	0.
.3650	-651.	-155.	354.	0.	0.	0.	0.	.0199	-.0281	.0092	-.0090	-.0212	-.0517	0.
.3670	255.	72.	-138.	0.	0.	0.	0.	.0143	-.0207	.0204	-.0146	-.0282	-.0483	0.
.3680	1159.	330.	-619.	0.	0.	0.	0.	.0086	-.0127	.0315	-.0207	-.0350	-.0442	0.
.3690	2041.	581.	-1108.	0.	0.	0.	0.	.0030	-.0061	.0421	-.0271	-.0417	-.0396	0.
.3700	2982.	820.	-1565.	0.	0.	0.	0.	-.0026	.0010	.0520	-.0338	-.0480	-.0346	0.
.3710	3665.	1042.	-1990.	0.	0.	0.	0.	-.0081	.0079	.0607	-.0405	-.0538	-.0294	0.
.3720	4371.	1243.	-2373.	0.	0.	0.	0.	-.0135	.0144	.0679	-.0470	-.0589	-.0240	0.
.3730	4987.	1419.	-2708.	0.	0.	0.	0.	-.0188	.0206	.0734	-.0529	-.0632	-.0187	0.
.3740	5509.	1567.	-2991.	0.	0.	0.	0.	-.0240	.0266	.0771	-.0581	-.0664	-.0134	0.
.3750	5935.	1688.	-3227.	0.	0.	0.	0.	-.0291	.0322	.0790	-.0625	-.0682	-.0082	0.

ADLPIPE PAGE 699

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	DIS	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.3760	6264.	1782.	-3401.	0.	0.	0.	-.0340	.0374	.0790	-.0661	-.0685	-.0032	0.		
.3770	6491.	1846.	-3524.	0.	0.	0.	-.0388	.0423	.0772	-.0689	-.0673	.0017	0.		
.3780	6611.	1880.	-3589.	0.	0.	0.	-.0432	.0469	.0739	-.0706	-.0644	.0063	0.		
.3790	6622.	1823.	-3595.	0.	0.	0.	-.0472	.0513	.0690	-.0717	-.0500	.0109	0.		
.3800	6526.	1856.	-3543.	0.	0.	0.	-.0507	.0555	.0630	-.0725	-.0541	.0154	0.		
.3810	6323.	1798.	-3433.	0.	0.	0.	-.0534	.0596	.0560	-.0731	-.0470	.0199	0.		
.3820	6012.	1710.	-3264.	0.	0.	0.	-.0554	.0636	.0484	-.0736	-.0388	.0246	0.		
.3830	5595.	1591.	-3038.	0.	0.	0.	-.0566	.0676	.0403	-.0741	-.0298	.0295	0.		
.3840	5078.	1444.	-2757.	0.	0.	0.	-.0568	.0718	.0320	-.0747	-.0204	.0348	0.		
.3850	4467.	1271.	-2425.	0.	0.	0.	-.0560	.0760	.0238	-.0755	-.0106	.0404	0.		
.3860	3768.	1072.	-2046.	0.	0.	0.	-.0542	.0804	.0157	-.0766	-.0008	.0464	0.		
.3870	2982.	848.	-1619.	0.	0.	0.	-.0516	.0851	.0077	-.0779	.0087	.0527	0.		
.3880	2114.	601.	-1148.	0.	0.	0.	-.0480	.0900	-.0001	-.0791	.0176	.0593	0.		
.3890	1171.	333.	-636.	0.	0.	0.	-.0437	.0951	-.0079	-.0801	.0258	.0660	0.		
.3900	169.	48.	-92.	0.	0.	0.	-.0388	.1003	-.0156	-.0809	.0331	.0727	0.		
.3910	-874.	-248.	474.	0.	0.	0.	-.0334	.1057	-.0231	-.0815	.0393	.0792	0.		
.3920	-1936.	-551.	1051.	0.	0.	0.	-.0277	.1111	-.0306	-.0813	.0446	.0854	0.		
.3930	-2995.	-852.	1626.	0.	0.	0.	-.0220	.1164	-.0378	-.0805	.0489	.0912	0.		
.3940	-4017.	-1143.	2181.	0.	0.	0.	-.0163	.1214	-.0447	-.0790	.0523	.0966	0.		
.3950	-4974.	-1415.	2700.	0.	0.	0.	-.0110	.1260	-.0511	-.0771	.0551	.1015	0.		
.3960	-5839.	-1661.	3170.	0.	0.	0.	-.0061	.1301	-.0568	-.0751	.0572	.1058	0.		
.3970	-6594.	-1876.	3580.	0.	0.	0.	-.0017	.1336	-.0618	-.0728	.0589	.1094	0.		
.3980	-7225.	-2055.	3923.	0.	0.	0.	.0019	.1364	-.0659	-.0705	.0600	.1124	0.		
.3990	-7714.	-2194.	4188.	0.	0.	0.	.0047	.1383	-.0692	-.0683	.0607	.1146	0.		
.4000	-8046.	-2288.	4368.	0.	0.	0.	.0068	.1393	-.0714	-.0665	.0611	.1159	0.		

MAXIMUM VALUE OF DISCONTINUITY FORCE OCCURS AT

TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	FORCE
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(LB)
.0420	19895.	5659.	-10802.	0.	0.	0.	-.1216	-.0784	.1228	.0411	-.0774	-.0314	23335.

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		

ADLPIPE PAGE 700

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

MAXIMUM VALUE OF DISPLACEMENT OCCURS AT

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	FORCE (LB)
.0420	19895.	5659.	-10000.	0.	0.	0.	-.1216	-.0704	.1228	.0411	-.0774	-.0314	23335.

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS (PSI)
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)			

ADLPIPE PAGE 700 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS (PSI)
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)			
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	0.	0.	0.	0.	0.	-0.	.0000	-.0000	-.0000	.0000	-.0000	-.0000	-.0000	-.0000	-.0000	0.
.0020	0.	0.	0.	0.	0.	-0.	.0000	-.0000	-.0002	.0000	-.0001	-.0000	-.0000	-.0000	-.0000	0.
.0030	-0.	0.	-0.	-0.	0.	0.	.0000	-.0000	-.0005	.0001	-.0004	-.0001	-.0001	-.0001	-.0001	0.
.0040	0.	-0.	-0.	-0.	0.	-0.	-.0000	-.0000	-.0012	.0001	-.0007	-.0003	-.0003	-.0003	-.0003	0.
.0050	-0.	0.	0.	0.	0.	0.	-.0001	.0001	-.0020	-.0000	-.0012	-.0006	-.0006	-.0006	-.0006	0.
.0060	0.	0.	-0.	-0.	0.	-0.	-.0002	.0003	-.0032	-.0003	-.0016	-.0009	-.0009	-.0009	-.0009	0.
.0070	0.	-0.	0.	0.	0.	-0.	-.0003	.0006	-.0050	-.0007	-.0022	-.0013	-.0013	-.0013	-.0013	0.
.0080	0.	-0.	0.	0.	0.	-0.	-.0002	.0009	-.0077	-.0013	-.0029	-.0016	-.0016	-.0016	-.0016	0.
.0090	0.	0.	0.	0.	0.	0.	.0004	.0014	-.0116	-.0026	-.0038	-.0021	-.0021	-.0021	-.0021	0.
.0100	0.	-0.	-0.	-0.	0.	0.	.0016	.0022	-.0165	-.0051	-.0048	-.0026	-.0026	-.0026	-.0026	0.
.0110	0.	-0.	0.	0.	0.	-0.	.0042	.0033	-.0222	-.0094	-.0058	-.0031	-.0031	-.0031	-.0031	0.
.0120	0.	0.	0.	0.	0.	-0.	.0075	.0045	-.0283	-.0154	-.0068	-.0031	-.0031	-.0031	-.0031	0.
.0130	0.	-0.	0.	0.	0.	0.	.0117	.0059	-.0342	-.0227	-.0074	-.0023	-.0023	-.0023	-.0023	0.
.0140	0.	-0.	0.	0.	0.	0.	.0166	.0073	-.0394	-.0314	-.0070	-.0005	-.0005	-.0005	-.0005	0.
.0150	0.	0.	0.	0.	0.	-0.	.0221	.0088	-.0430	-.0421	-.0046	.0023	.0023	.0023	.0023	0.
.0160	0.	-0.	0.	0.	-0.	-0.	.0282	.0101	-.0449	-.0542	.0006	.0061	.0061	.0061	.0061	0.
.0170	-0.	0.	0.	0.	0.	0.	.0347	.0112	-.0460	-.0661	.0087	.0105	.0105	.0105	.0105	0.
.0180	0.	-0.	-0.	-0.	-0.	-0.	.0416	.0122	-.0471	-.0762	.0187	.0149	.0149	.0149	.0149	0.
.0190	0.	-0.	0.	0.	0.	0.	.0491	.0131	-.0496	-.0833	.0286	.0184	.0184	.0184	.0184	0.
.0200	-0.	-0.	-0.	-0.	0.	0.	.0582	.0142	-.0556	-.0871	.0356	.0197	.0197	.0197	.0197	0.
.0210	-0.	0.	-0.	-0.	0.	0.	.0695	.0161	-.0659	-.0895	.0389	.0176	.0176	.0176	.0176	0.
.0220	0.	0.	-0.	-0.	0.	-0.	.0805	.0185	-.0758	-.0935	.0398	.0122	.0122	.0122	.0122	0.
.0230	0.	-0.	-0.	-0.	0.	0.	.0891	.0201	-.0814	-.0985	.0384	.0048	.0048	.0048	.0048	0.
.0240	0.	-0.	-0.	-0.	0.	-0.	.0947	.0205	-.0827	-.0983	.0380	-.0029	-.0029	-.0029	-.0029	0.
.0250	0.	0.	0.	0.	0.	0.	.0972	.0195	-.0818	-.0977	.0389	-.0106	-.0106	-.0106	-.0106	0.
.0260	0.	-0.	0.	0.	0.	0.	.0952	.0165	-.0791	-.0692	.0370	-.0193	-.0193	-.0193	-.0193	0.
.0270	0.	0.	-0.	0.	0.	-0.	.0862	.0123	-.0712	-.0496	.0326	-.0295	-.0295	-.0295	-.0295	0.
.0280	-0.	-0.	0.	0.	0.	0.	.0743	.0091	-.0603	-.0326	.0324	-.0415	-.0415	-.0415	-.0415	0.
.0290	0.	-0.	-0.	-0.	0.	-0.	.0633	.0054	-.0506	-.0180	.0367	-.0548	-.0548	-.0548	-.0548	0.
.0300	0.	-0.	-0.	-0.	0.	-0.	.0495	-.0030	-.0415	-.0035	.0377	-.0681	-.0681	-.0681	-.0681	0.
.0310	-0.	-0.	-0.	-0.	0.	0.	.0322	-.0149	-.0330	-.0143	.0347	-.0811	-.0811	-.0811	-.0811	0.
.0320	-0.	-0.	-0.	-0.	0.	0.	.0137	-.0242	-.0245	.0373	.0290	-.0942	-.0942	-.0942	-.0942	0.
.0330	-0.	-0.	0.	0.	0.	0.	-.0052	-.0282	-.0126	.0608	.0246	-.1067	-.1067	-.1067	-.1067	0.
.0340	0.	0.	-0.	-0.	0.	-0.	-.0253	-.0318	.0057	.0761	.0221	-.1156	-.1156	-.1156	-.1156	0.
.0350	0.	0.	0.	0.	-0.	-0.	-.0452	-.0412	.0278	.0808	.0172	-.1182	-.1182	-.1182	-.1182	0.
.0360	0.	0.	0.	0.	-0.	-0.	-.0628	-.0547	.0489	.0825	.0073	-.1140	-.1140	-.1140	-.1140	0.
.0370	-0.	-0.	0.	0.	-0.	0.	-.0782	-.0641	.0677	.0885	-.0051	-.1049	-.1049	-.1049	-.1049	0.

ADLPIPE PAGE 701 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING



.0270	0.	-0.	-0.	0.	0.	-0.	.0862	.0123	-.0712	-.0496	.0326	-.0295	0.
.0280	-0.	-0.	0.	0.	0.	0.	.0743	.0091	-.0603	-.0326	.0324	-.0415	0.
.0290	0.	-0.	-0.	-0.	-0.	-0.	.0633	.0054	-.0506	-.0180	.0367	-.0548	0.
.0300	0.	-0.	-0.	-0.	-0.	-0.	.0495	-.0030	-.0415	-.0035	.0377	-.0681	0.
.0310	-0.	-0.	-0.	-0.	0.	0.	.0322	-.0149	-.0330	.0143	.0347	-.0811	0.
.0320	-0.	-0.	-0.	-0.	0.	0.	.0137	-.0242	-.0245	.0373	.0290	-.0942	0.
.0330	-0.	-0.	0.	0.	0.	0.	-.0052	-.0282	-.0126	.0608	.0246	-.1067	0.
.0340	0.	0.	-0.	-0.	-0.	-0.	-.0253	-.0318	.0057	.0761	.0221	-.1156	0.
.0350	0.	0.	0.	0.	-0.	-0.	-.0452	-.0412	.0278	.0808	.0172	-.1182	0.
.0360	0.	0.	0.	0.	-0.	-0.	-.0628	-.0547	.0489	.0825	.0073	-.1140	0.
.0370	-0.	-0.	0.	0.	-0.	0.	-.0782	-.0641	.0677	.0885	-.0051	-.1049	0.

ADLPIPE PAGE 701

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.0380	0.	-0.	0.	0.	-0.	-0.		-.0930	-.0660	.0859	.0931	-.0175	-.0932	0.
.0390	-0.	0.	-0.	-0.	-0.	0.		-.1065	-.0665	.1040	.0835	-.0305	-.0796	0.
.0400	-0.	0.	0.	0.	-0.	0.		-.1149	-.0724	.1176	.0603	-.0455	-.0646	0.
.0410	0.	-0.	0.	0.	0.	-0.		-.1198	-.0789	.1239	.0428	-.0618	-.0478	0.
.0420	0.	-0.	-0.	-0.	0.	-0.		-.1216	-.0784	.1228	.0411	-.0774	-.0314	0.
.0430	-0.	0.	0.	0.	-0.	-0.		-.1183	-.0733	.1161	.0398	-.0922	-.0177	0.
.0440	-0.	-0.	0.	0.	-0.	-0.		-.1108	-.0706	.1111	.0231	-.1035	-.0069	0.
.0450	-0.	0.	0.	-0.	0.	0.		-.1020	-.0693	.1100	.0019	-.1111	.0037	0.
.0460	0.	-0.	0.	0.	0.	-0.		-.0925	-.0661	.1095	-.0049	-.1168	.0162	0.
.0470	0.	-0.	0.	0.	0.	-0.		-.0797	-.0625	.1085	.0018	-.1190	.0300	0.
.0480	-0.	0.	0.	0.	0.	-0.		-.0637	-.0603	.1094	.0097	-.1161	.0432	0.
.0490	0.	0.	-0.	-0.	0.	-0.		-.0471	-.0567	.1116	.0137	-.1107	.0537	0.
.0500	0.	0.	-0.	-0.	0.	-0.		-.0298	-.0515	.1121	.0134	-.1042	.0606	0.
.0510	-0.	-0.	0.	0.	0.	0.		-.0099	-.0482	.1081	.0120	-.0960	.0640	0.
.0520	-0.	-0.	0.	-0.	0.	0.		.0117	-.0459	.0981	.0203	-.0851	.0646	0.
.0530	0.	-0.	0.	0.	0.	-0.		.0324	-.0415	.0830	.0440	-.0716	.0626	0.
.0540	-0.	0.	0.	0.	0.	0.		.0508	-.0376	.0666	.0713	-.0543	.0571	0.
.0550	0.	0.	0.	0.	0.	-0.		.0671	-.0387	.0522	.0908	-.0324	.0479	0.
.0560	-0.	-0.	-0.	-0.	0.	0.		.0807	-.0418	.0378	.1129	-.0083	.0358	0.
.0570	-0.	0.	-0.	0.	0.	0.		.0908	-.0425	.0196	.1512	.0142	.0226	0.
.0580	0.	0.	0.	0.	0.	-0.		.0986	-.0442	-.0023	.1977	.0340	.0090	0.
.0590	0.	-0.	-0.	-0.	0.	-0.		.1051	-.0510	-.0254	.2345	.0509	-.0056	0.
.0600	0.	-0.	-0.	-0.	0.	-0.		.1097	-.0594	-.0485	.2581	.0651	-.0217	0.
.0610	0.	0.	-0.	-0.	0.	-0.		.1120	-.0643	-.0719	.2757	.0772	-.0383	0.
.0620	0.	-0.	-0.	-0.	0.	-0.		.1131	-.0668	-.0957	.2901	.0885	-.0533	0.
.0630	-0.	-0.	0.	0.	-0.	0.		.1134	-.0700	-.1187	.2984	.0985	-.0640	0.
.0640	0.	0.	-0.	-0.	0.	-0.		.1111	-.0738	-.1379	.2963	.1075	-.0688	0.
.0650	-0.	-0.	-0.	-0.	0.	0.		.1055	-.0772	-.1501	.2797	.1172	-.0675	0.
.0660	0.	-0.	-0.	-0.	0.	-0.		.0975	-.0798	-.1559	.2498	.1276	-.0607	0.
.0670	0.	0.	0.	0.	0.	-0.		.0883	-.0801	-.1590	.2154	.1361	-.0489	0.
.0680	0.	-0.	0.	0.	0.	-0.		.0780	-.0780	-.1616	.1822	.1407	-.0327	0.
.0690	0.	-0.	0.	0.	0.	0.		.0671	-.0763	-.1628	.1452	.1424	-.0140	0.
.0700	-0.	-0.	-0.	-0.	-0.	0.		.0567	-.0762	-.1615	.1005	.1419	.0047	0.
.0710	-0.	0.	-0.	-0.	0.	0.		.0464	-.0748	-.1581	.0557	.1383	.0210	0.
.0720	-0.	0.	-0.	-0.	0.	0.		.0346	-.0689	-.1523	.0216	.1307	.0343	0.
.0730	-0.	0.	0.	0.	0.	0.		.0212	-.0603	-.1432	-.0003	.1197	.0448	0.
.0740	-0.	0.	-0.	-0.	0.	0.		.0082	-.0524	-.1296	-.0158	.1064	.0529	0.
.0750	0.	-0.	-0.	-0.	0.	-0.		-.0040	-.0462	-.1109	-.0286	.0920	.0597	0.

ADLPIPE PAGE 702

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.36.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING



.1020	0.	0.	0.	0.	0.	0.	0.	.0311	-.0166	.0247	-.0348	-.0496	-.0422	0.
.1040	0.	0.	-0.	0.	0.	0.	-0.	.0314	-.0036	.0074	-.0532	-.0329	-.0166	0.
.1050	0.	0.	-0.	-0.	0.	-0.	0.	.0320	.0105	-.0115	-.0726	-.0165	.0097	0.
.1060	-0.	-0.	-0.	-0.	-0.	0.	0.	.0330	.0246	-.0314	-.0964	-.0013	.0358	0.
.1070	0.	0.	-0.	-0.	-0.	-0.	0.	.0344	.0383	-.0515	-.1239	.0126	.0610	0.
.1080	-0.	0.	-0.	-0.	0.	0.	0.	.0369	.0513	-.0731	-.1501	.0240	.0843	0.
.1090	-0.	0.	-0.	-0.	-0.	-0.	0.	.0422	.0640	-.0992	-.1698	.0306	.1034	0.
.1100	0.	-0.	-0.	-0.	0.	0.	-0.	.0447	.0776	-.1209	-.1859	.0372	.1175	0.
.1110	0.	0.	0.	0.	0.	-0.	-0.	.0452	.0896	-.1354	-.2021	.0458	.1256	0.
.1120	0.	0.	-0.	0.	-0.	-0.	-0.	.0448	.0981	-.1441	-.2141	.0569	.1283	0.
.1130	-0.	0.	0.	0.	-0.	0.	0.	.0428	.1048	-.1495	-.2116	.0695	.1260	0.

ADLPIPE PAGE 703

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1140	0.	0.	-0.	-0.	0.	0.	.0392	.1110	-.1536	-.1951	.0826	.1184	0.		
.1150	-0.	0.	0.	0.	0.	0.	.0354	.1141	-.1561	-.1776	.0950	.1050	0.		
.1160	0.	-0.	-0.	-0.	-0.	0.	.0312	.1131	-.1562	-.1662	.1061	.0863	0.		
.1170	0.	0.	-0.	-0.	-0.	-0.	.0259	.1107	-.1552	-.1536	.1150	.0642	0.		
.1180	0.	0.	-0.	-0.	-0.	-0.	.0171	.1089	-.1515	-.1319	.1221	.0418	0.		
.1190	0.	0.	-0.	-0.	0.	0.	.0076	.1048	-.1459	-.1047	.1284	.0211	0.		
.1200	0.	0.	-0.	-0.	0.	0.	-.0016	.0964	-.1371	-.0793	.1348	.0031	0.		
.1210	0.	0.	-0.	-0.	0.	-0.	-.0120	.0866	-.1254	-.0578	.1388	-.0127	0.		
.1220	0.	-0.	-0.	-0.	-0.	-0.	-.0223	.0787	-.1122	-.0423	.1391	-.0277	0.		
.1230	0.	-0.	-0.	-0.	0.	-0.	-.0323	.0717	-.0971	-.0342	.1343	-.0416	0.		
.1240	-0.	0.	-0.	-0.	0.	0.	-.0408	.0651	-.0811	-.0297	.1240	-.0532	0.		
.1250	-0.	0.	0.	0.	0.	0.	-.0483	.0601	-.0649	-.0231	.1078	-.0612	0.		
.1260	0.	-0.	-0.	-0.	-0.	-0.	-.0554	.0562	-.0475	-.0178	.0859	-.0652	0.		
.1270	-0.	0.	-0.	-0.	0.	0.	-.0583	.0512	-.0300	-.0222	.0600	-.0667	0.		
.1280	-0.	0.	0.	0.	0.	0.	-.0582	.0469	-.0117	-.0353	.0305	-.0662	0.		
.1290	-0.	0.	0.	0.	0.	0.	-.0563	.0471	.0070	-.0501	-.0018	-.0637	0.		
.1300	-0.	-0.	0.	0.	0.	0.	-.0526	.0501	.0264	-.0659	-.0351	-.0581	0.		
.1310	-0.	0.	-0.	-0.	0.	0.	-.0480	.0510	.0489	-.0855	-.0670	-.0484	0.		
.1320	-0.	0.	0.	0.	0.	0.	-.0421	.0502	.0731	-.1059	-.0959	-.0350	0.		
.1330	-0.	0.	0.	0.	0.	0.	-.0370	.0517	.0977	-.1220	-.1219	-.0197	0.		
.1340	0.	0.	-0.	-0.	0.	-0.	-.0320	.0561	.1210	-.1362	-.1442	-.0051	0.		
.1350	0.	0.	-0.	-0.	0.	-0.	-.0261	.0610	.1412	-.1523	-.1625	.0078	0.		
.1360	-0.	0.	-0.	-0.	0.	-0.	-.0214	.0655	.1579	-.1673	-.1777	.0193	0.		
.1370	-0.	-0.	0.	0.	0.	0.	-.0176	.0699	.1695	-.1768	-.1895	.0294	0.		
.1380	0.	0.	0.	0.	0.	-0.	-.0160	.0731	.1772	-.1800	-.1972	.0377	0.		
.1390	-0.	0.	-0.	0.	0.	0.	-.0165	.0758	.1813	-.1772	-.1993	.0435	0.		
.1400	-0.	-0.	0.	0.	0.	-0.	-.0197	.0796	.1824	-.1669	-.1952	.0461	0.		
.1410	0.	-0.	0.	0.	0.	-0.	-.0264	.0837	.1812	-.1506	-.1849	.0460	0.		
.1420	-0.	0.	0.	0.	-0.	0.	-.0338	.0853	.1764	-.1316	-.1684	.0436	0.		
.1430	0.	0.	-0.	-0.	0.	-0.	-.0417	.0845	.1671	-.1090	-.1475	.0400	0.		
.1440	-0.	0.	0.	0.	-0.	0.	-.0498	.0840	.1522	-.0810	-.1244	.0355	0.		
.1450	-0.	-0.	-0.	-0.	0.	0.	-.0578	.0843	.1326	-.0520	-.0996	.0300	0.		
.1460	-0.	-0.	0.	0.	0.	0.	-.0652	.0837	.1108	-.0286	-.0735	.0245	0.		
.1470	-0.	0.	-0.	-0.	-0.	-0.	-.0701	.0817	.0867	-.0107	-.0458	.0203	0.		
.1480	-0.	0.	0.	0.	0.	0.	-.0737	.0791	.0619	.0068	-.0167	.0192	0.		
.1490	0.	-0.	-0.	-0.	-0.	-0.	-.0756	.0759	.0373	.0242	.0136	.0214	0.		
.1500	0.	0.	0.	0.	0.	-0.	-.0751	.0717	.0137	.0376	.0437	.0260	0.		
.1510	0.	0.	-0.	-0.	-0.	-0.	-.0733	.0676	-.0077	.0456	.0718	.0323	0.		

ADLPIPE PAGE 704

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.1410	0.	-0.	0.	0.	0.	-0.	-0.	-.264	.0837	.1812	-.1506	-.1849	.0460	0.
.1420	-0.	0.	0.	0.	0.	-0.	0.	-.338	.0853	.1764	-.1316	-.1684	.0436	0.
.1430	0.	0.	-0.	-0.	0.	-0.	0.	-.0417	.0845	.1671	-.1090	-.1475	.0400	0.
.1440	-0.	0.	0.	0.	0.	-0.	0.	-.0498	.0840	.1522	-.0810	-.1244	.0355	0.
.1450	-0.	-0.	-0.	-0.	0.	0.	0.	-.0578	.0843	.1326	-.0520	-.0996	.0300	0.
.1460	-0.	-0.	0.	0.	0.	0.	0.	-.0652	.0837	.1108	-.0286	-.0735	.0245	0.
.1470	-0.	0.	-0.	-0.	-0.	-0.	-0.	-.0701	.0817	.0867	-.0107	-.0458	.0203	0.
.1480	-0.	0.	0.	0.	0.	0.	0.	-.0737	.0791	.0619	.0068	-.0167	.0192	0.
.1490	0.	-0.	-0.	-0.	-0.	-0.	-0.	-.0756	.0759	.0373	.0242	.0136	.0214	0.
.1500	0.	0.	0.	0.	0.	-0.	-0.	-.0751	.0717	.0137	.0376	.0437	.0260	0.
.1510	0.	0.	-0.	-0.	-0.	-0.	-0.	-.0733	.0676	-.0077	.0456	.0718	.0323	0.

ADLPIPE PAGE 704

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITSINTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1520	-0.	-0.	0.	0.	0.	0.	-.0696	.0647	-.0283	.0497	.0961	.0393	0.		
.1530	0.	0.	-0.	0.	-0.	-0.	-.0646	.0623	-.0482	.0508	.1152	.0466	0.		
.1540	-0.	0.	-0.	-0.	0.	0.	-.0569	.0595	-.0688	.0491	.1286	.0535	0.		
.1550	0.	0.	0.	0.	0.	-0.	-.0469	.0569	-.0897	.0463	.1366	.0596	0.		
.1560	0.	-0.	-0.	-0.	-0.	-0.	-.0368	.0556	-.1088	.0431	.1401	.0651	0.		
.1570	0.	-0.	0.	0.	0.	-0.	-.0255	.0551	-.1257	.0376	.1406	.0694	0.		
.1580	-0.	0.	-0.	-0.	0.	0.	-.0142	.0543	-.1387	.0301	.1389	.0736	0.		
.1590	-0.	-0.	-0.	-0.	0.	0.	-.0045	.0536	-.1472	.0243	.1354	.0788	0.		
.1600	-0.	0.	-0.	-0.	-0.	0.	.0044	.0532	-.1523	.0218	.1304	.0854	0.		
.1610	0.	0.	-0.	-0.	0.	-0.	.0130	.0524	-.1543	.0193	.1250	.0930	0.		
.1620	0.	-0.	0.	0.	0.	-0.	.0207	.0508	-.1530	.0140	.1193	.1008	0.		
.1630	0.	0.	0.	0.	-0.	-0.	.0284	.0494	-.1500	.0072	.1135	.1080	0.		
.1640	-0.	-0.	0.	0.	0.	-0.	.0353	.0482	-.1451	.0005	.1074	.1143	0.		
.1650	0.	-0.	0.	0.	0.	-0.	.0406	.0460	-.1373	-.0051	.1011	.1194	0.		
.1660	0.	0.	-0.	-0.	0.	0.	.0448	.0432	-.1276	-.0074	.0947	.1224	0.		
.1670	-0.	0.	-0.	-0.	0.	0.	.0465	.0408	-.1150	-.0051	.0880	.1229	0.		
.1680	0.	0.	0.	0.	-0.	-0.	.0465	.0380	-.0996	-.0010	.0817	.1201	0.		
.1690	0.	-0.	-0.	-0.	0.	-0.	.0449	.0342	-.0815	.0034	.0752	.1137	0.		
.1700	-0.	-0.	-0.	-0.	-0.	0.	.0420	.0299	-.0626	.0108	.0673	.1035	0.		
.1710	-0.	0.	-0.	-0.	0.	0.	.0394	.0259	-.0450	.0228	.0576	.0899	0.		
.1720	-0.	-0.	0.	0.	-0.	0.	.0358	.0213	-.0279	.0366	.0458	.0740	0.		
.1730	-0.	-0.	-0.	-0.	0.	0.	.0324	.0157	-.0121	.0486	.0318	.0560	0.		
.1740	0.	-0.	-0.	-0.	0.	-0.	.0289	.0093	.0029	.0586	.0154	.0366	0.		
.1750	-0.	-0.	-0.	-0.	0.	0.	.0242	.0027	.0175	.0681	-.0026	.0170	0.		
.1760	-0.	-0.	0.	0.	0.	0.	.0195	-.0038	.0313	.0784	-.0204	-.0018	0.		
.1770	-0.	0.	-0.	-0.	0.	0.	.0136	-.0106	.0451	.0890	-.0372	-.0187	0.		
.1780	0.	0.	-0.	-0.	0.	-0.	.0073	-.0182	.0587	.0975	-.0517	-.0335	0.		
.1790	-0.	-0.	0.	0.	0.	0.	-.0000	-.0267	.0724	.1021	-.0632	-.0459	0.		
.1800	-0.	-0.	0.	-0.	0.	0.	-.0082	-.0354	.0852	.1045	-.0722	-.0558	0.		
.1810	0.	-0.	0.	0.	0.	-0.	-.0161	-.0432	.0951	.1066	-.0785	-.0637	0.		
.1820	-0.	-0.	0.	0.	-0.	0.	-.0248	-.0502	.1029	.1079	-.0821	-.0697	0.		
.1830	0.	0.	-0.	-0.	-0.	-0.	-.0332	-.0572	.1084	.1065	-.0827	-.0739	0.		
.1840	-0.	-0.	0.	0.	0.	0.	-.0414	-.0644	.1119	.1024	-.0807	-.0765	0.		
.1850	-0.	-0.	0.	0.	0.	-0.	-.0493	-.0708	.1139	.0977	-.0761	-.0777	0.		
.1860	0.	-0.	0.	0.	0.	-0.	-.0564	-.0756	.1143	.0941	-.0694	-.0781	0.		
.1870	-0.	-0.	0.	0.	0.	0.	-.0635	-.0785	.1140	.0921	-.0617	-.0775	0.		
.1880	0.	-0.	0.	0.	0.	-0.	-.0692	-.0803	.1127	.0900	-.0540	-.0758	0.		
.1890	0.	-0.	0.	0.	-0.	-0.	-.0734	-.0816	.1104	.0866	-.0472	-.0729	0.		

ADLPIPE PAGE 705

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE

.1790	-0.	-0.	0.	0.	0.	0.	0.	-.0000	-.0267	.0724	.1021	-.0632	-.0459	0.
.1800	-0.	-0.	0.	-0.	0.	0.	0.	-.0082	-.0354	.0852	.1045	-.0722	-.0553	0.
.1810	0.	-0.	0.	0.	0.	0.	-0.	-.0161	-.0432	.0951	.1066	-.0785	-.0637	0.
.1820	-0.	-0.	0.	0.	0.	0.	0.	-.0240	-.0502	.1029	.1079	-.0821	-.0697	0.
.1830	0.	0.	-0.	-0.	-0.	-0.	-0.	-.0327	-.0572	.1084	.1065	-.0827	-.0739	0.
.1840	-0.	-0.	0.	0.	0.	0.	0.	-.0414	-.0644	.1119	.1024	-.0807	-.0765	0.
.1850	-0.	-0.	0.	0.	0.	0.	-0.	-.0493	-.0708	.1139	.0977	-.0761	-.0777	0.
.1860	0.	-0.	0.	0.	0.	0.	-0.	-.0564	-.0756	.1143	.0941	-.0694	-.0781	0.
.1870	-0.	-0.	0.	0.	0.	0.	0.	-.0635	-.0785	.1140	.0921	-.0617	-.0775	0.
.1880	0.	-0.	0.	0.	0.	0.	-0.	-.0692	-.0803	.1127	.0900	-.0540	-.0758	0.
.1890	0.	-0.	0.	0.	-0.	-0.	-0.	-.0734	-.0816	.1104	.0866	-.0472	-.0729	0.

ADLPIPE PAGE 705

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKWC8F 2 RUP DISK

2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(PSI)
.1900	-0.	0.	-0.	-0.	0.	0.	-.0758
.1910	0.	0.	-0.	-0.	0.	-0.	-.0752
.1920	0.	0.	-0.	-0.	0.	-0.	-.0719
.1930	-0.	0.	0.	0.	-0.	0.	-.0658
.1940	-0.	0.	0.	0.	-0.	0.	-.0568
.1950	-0.	0.	0.	-0.	-0.	-0.	-.0457
.1960	0.	-0.	0.	0.	-0.	-0.	-.0329
.1970	-0.	0.	0.	0.	-0.	0.	-.0192
.1980	0.	0.	0.	0.	-0.	-0.	-.0048
.1990	-0.	-0.	-0.	0.	-0.	-0.	.0097
.2000	0.	-0.	-0.	-0.	-0.	-0.	.0241
.2010	0.	0.	-0.	0.	-0.	-0.	.0380
.2020	-0.	0.	0.	0.	0.	0.	.0507
.2030	-0.	-0.	-0.	-0.	-0.	0.	.0616
.2040	0.	0.	0.	0.	-0.	-0.	.0703
.2050	0.	0.	-0.	-0.	0.	-0.	.0768
.2060	0.	-0.	-0.	-0.	0.	-0.	.0803
.2070	0.	0.	-0.	-0.	0.	-0.	.0826
.2080	0.	-0.	-0.	-0.	0.	-0.	.0824
.2090	0.	-0.	-0.	-0.	0.	-0.	.0807
.2100	-0.	0.	0.	0.	0.	0.	.0776
.2110	-0.	-0.	0.	0.	0.	0.	.0737
.2120	0.	-0.	-0.	-0.	0.	-0.	.0695
.2130	0.	-0.	-0.	-0.	0.	-0.	.0652
.2140	0.	0.	-0.	-0.	0.	-0.	.0609
.2150	0.	-0.	-0.	-0.	0.	-0.	.0561
.2160	0.	0.	0.	-0.	0.	0.	.0513
.2170	-0.	0.	-0.	-0.	0.	0.	.0492
.2180	0.	-0.	0.	0.	0.	0.	.0455
.2190	-0.	0.	-0.	-0.	0.	0.	.0419
.2200	-0.	0.	-0.	-0.	0.	0.	.0381
.2210	0.	0.	0.	0.	0.	0.	.0339
.2220	0.	0.	0.	0.	-0.	-0.	.0289
.2230	0.	-0.	-0.	-0.	0.	-0.	.0231
.2240	0.	-0.	0.	0.	0.	-0.	.0162
.2250	0.	0.	-0.	-0.	-0.	-0.	.0081
.2260	-0.	0.	0.	0.	-0.	-0.	-.0010
.2270	-0.	-0.	0.	0.	-0.	-0.	-.0109

ADLPIPE PAGE 706

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKWC8F 2 RUP DISK

2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING



.2550	-0.	0.	-0.	-0.	0.	0.	0.	.0468	.0892	-.0745	-.1070	.0395	.0377	0.
.2560	-0.	0.	-0.	-0.	-0.	-0.	0.	.0466	.0961	-.0764	-.1160	.0435	.0468	0.
.2570	0.	0.	0.	0.	0.	0.	-0.	.0449	.1021	-.0780	-.1251	.0470	.0544	0.
.2580	0.	0.	0.	0.	0.	-0.	-0.	.0418	.1068	-.0796	-.1347	.0499	.0605	0.
.2590	-0.	0.	0.	0.	0.	0.	0.	.0374	.1104	-.0811	-.1441	.0518	.0652	0.
.2600	0.	0.	-0.	-0.	0.	0.	-0.	.0319	.1131	-.0824	-.1528	.0527	.0683	0.
.2610	0.	0.	-0.	-0.	-0.	-0.	-0.	.0256	.1152	-.0830	-.1608	.0528	.0697	0.
.2620	0.	-0.	0.	0.	-0.	-0.	-0.	.0185	.1162	-.0824	-.1683	.0519	.0696	0.
.2630	0.	0.	-0.	-0.	-0.	-0.	-0.	.0109	.1163	-.0803	-.1751	.0500	.0679	0.
.2640	0.	-0.	-0.	-0.	0.	-0.	-0.	.0028	.1156	-.0766	-.1799	.0468	.0649	0.
.2650	-0.	0.	0.	0.	-0.	0.	-0.	.0053	.1145	-.0713	-.1823	.0426	.0606	0.

ADLPIPE PAGE 707

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU						
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)		
.2660	-0.	0.	0.	0.	-0.	0.	-.0134	.1131	-.0644	-.1829	.0373	.0553	0.		
.2670	0.	-0.	-0.	-0.	-0.	-0.	-.0213	.1111	-.0560	-.1825	.0309	.0491	0.		
.2680	0.	-0.	-0.	0.	-0.	-0.	-.0287	.1086	-.0462	-.1816	.0236	.0426	0.		
.2690	0.	-0.	-0.	-0.	-0.	-0.	-.0355	.1057	-.0354	-.1797	.0156	.0359	0.		
.2700	-0.	0.	-0.	0.	-0.	0.	-.0417	.1028	-.0238	-.1764	.0073	.0295	0.		
.2710	-0.	-0.	0.	0.	0.	0.	-.0473	.1000	-.0114	-.1722	-.0010	.0235	0.		
.2720	0.	0.	-0.	-0.	-0.	-0.	-.0523	.0973	.0018	-.1680	-.0092	.0178	0.		
.2730	-0.	-0.	-0.	-0.	0.	0.	-.0568	.0948	.0155	-.1638	-.0173	.0127	0.		
.2740	0.	0.	0.	-0.	0.	-0.	-.0605	.0929	.0293	-.1593	-.0253	.0083	0.		
.2750	0.	0.	0.	0.	0.	-0.	-.0633	.0917	.0425	-.1541	-.0333	.0047	0.		
.2760	-0.	0.	0.	0.	0.	-0.	-.0651	.0911	.0550	-.1490	-.0414	.0018	0.		
.2770	-0.	0.	0.	0.	0.	0.	-.0659	.0910	.0664	-.1448	-.0496	-.0003	0.		
.2780	-0.	-0.	0.	0.	0.	0.	-.0656	.0913	.0765	-.1411	-.0577	-.0017	0.		
.2790	-0.	-0.	0.	0.	0.	0.	-.0641	.0920	.0850	-.1370	-.0656	-.0020	0.		
.2800	-0.	0.	0.	0.	-0.	0.	-.0616	.0931	.0918	-.1324	-.0728	-.0014	0.		
.2810	-0.	0.	0.	0.	-0.	0.	-.0583	.0942	.0970	-.1274	-.0789	.0001	0.		
.2820	-0.	0.	-0.	-0.	0.	0.	-.0543	.0950	.1005	-.1223	-.0836	.0023	0.		
.2830	0.	-0.	0.	0.	0.	-0.	-.0497	.0956	.1022	-.1169	-.0865	.0053	0.		
.2840	-0.	0.	0.	0.	0.	0.	-.0447	.0959	.1017	-.1111	-.0876	.0089	0.		
.2850	-0.	0.	0.	-0.	0.	0.	-.0392	.0957	.0989	-.1050	-.0868	.0127	0.		
.2860	-0.	-0.	0.	0.	0.	0.	-.0335	.0949	.0938	-.0991	-.0841	.0167	0.		
.2870	-0.	-0.	0.	0.	0.	-0.	-.0278	.0933	.0865	-.0934	-.0798	.0208	0.		
.2880	-0.	0.	0.	0.	0.	0.	-.0222	.0909	.0775	-.0879	-.0739	.0251	0.		
.2890	-0.	0.	0.	0.	0.	0.	-.0169	.0877	.0669	-.0824	-.0664	.0293	0.		
.2900	-0.	-0.	0.	0.	0.	0.	-.0122	.0838	.0553	-.0767	-.0574	.0334	0.		
.2910	-0.	-0.	-0.	-0.	0.	0.	-.0081	.0791	.0430	-.0706	-.0472	.0374	0.		
.2920	-0.	-0.	-0.	-0.	-0.	0.	-.0047	.0737	.0302	-.0641	-.0359	.0411	0.		
.2930	-0.	-0.	0.	0.	0.	0.	-.0020	.0677	.0172	-.0570	-.0236	.0443	0.		
.2940	0.	-0.	-0.	-0.	0.	-0.	.0000	.0614	.0040	-.0491	-.0104	.0469	0.		
.2950	-0.	-0.	-0.	-0.	-0.	0.	.0015	.0550	-.0094	-.0402	.0033	.0488	0.		
.2960	-0.	-0.	-0.	-0.	-0.	0.	.0024	.0486	-.0227	-.0305	.0176	.0499	0.		
.2970	0.	0.	-0.	-0.	0.	-0.	.0028	.0424	-.0359	-.0200	.0321	.0505	0.		
.2980	-0.	0.	0.	0.	0.	-0.	.0029	.0364	-.0486	-.0087	.0467	.0507	0.		
.2990	-0.	-0.	0.	0.	0.	0.	.0028	.0308	-.0606	.0034	.0613	.0509	0.		
.3000	0.	0.	0.	0.	-0.	-0.	.0026	.0256	-.0716	.0157	.0755	.0512	0.		
.3010	-0.	-0.	-0.	-0.	0.	0.	.0023	.0208	-.0813	.0278	.0886	.0517	0.		
.3020	-0.	0.	-0.	-0.	-0.	0.	.0023	.0165	-.0895	.0396	.1004	.0526	0.		
.3030	-0.	-0.	0.	0.	-0.	0.	.0026	.0127	-.0961	.0508	.1100	.0538	0.		

ADLPIPE PAGE 708

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING





.3310	0.	-0.	0.	0.	-0.	-0.	-0.0040	-0.1443	.0848	.1612	-0.0558	-0.0842	0.
.3320	-0.	-0.	0.	0.	0.	-0.	-0.0019	-0.1447	.0816	.1553	-0.0647	-0.0874	0.
.3330	0.	-0.	0.	0.	0.	0.	.0010	-0.1441	.0813	.1482	-0.0523	-0.0863	0.
.3340	-0.	0.	-0.	-0.	0.	0.	.0044	-0.1425	.0778	.1404	-0.0588	-0.0838	0.
.3350	-0.	-0.	-0.	-0.	-0.	0.	.0002	-0.1402	.0730	.1321	-0.0541	-0.0801	0.
.3360	-0.	-0.	-0.	-0.	0.	0.	.0123	-0.1372	.0669	.1239	-0.0484	-0.0756	0.
.3370	0.	0.	0.	0.	0.	-0.	.0165	-0.1337	.0596	.1163	-0.0420	-0.0706	0.
.3380	0.	-0.	0.	0.	0.	-0.	.0206	-0.1297	.0510	.1095	-0.0350	-0.0656	0.
.3390	0.	-0.	0.	0.	0.	-0.	.0245	-0.1255	.0414	.1037	-0.0276	-0.0607	0.
.3400	0.	-0.	-0.	-0.	-0.	-0.	.0282	-0.1212	.0309	.0987	-0.0200	-0.0562	0.
.3410	-0.	-0.	0.	-0.	-0.	0.	.0315	-0.1169	.0198	.0941	-0.0124	-0.0522	0.

ADLPIPE PAGE 709

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKM24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
14	.3420	0.	0.	0.	0.	-0.	-0.	.0345	-0.1129	.0082	.0899	-0.0049	-0.0488	0.
	.3430	0.	-0.	0.	-0.	-0.	-0.	.0373	-0.1092	-0.0036	.0856	.0024	-0.0458	0.
	.3440	0.	-0.	0.	-0.	-0.	0.	.0398	-0.1060	-0.0155	.0809	.0094	-0.0433	0.
	.3450	-0.	-0.	-0.	-0.	-0.	0.	.0422	-0.1032	-0.0269	.0756	.0162	-0.0412	0.
	.3460	0.	-0.	-0.	-0.	0.	-0.	.0445	-0.1009	-0.0377	.0693	.0226	-0.0395	0.
	.3470	0.	-0.	-0.	-0.	0.	0.	.0467	-0.0991	-0.0475	.0623	.0286	-0.0381	0.
	.3480	0.	0.	0.	0.	-0.	-0.	.0487	-0.0977	-0.0560	.0549	.0340	-0.0370	0.
	.3490	-0.	0.	-0.	-0.	0.	0.	.0507	-0.0966	-0.0631	.0472	.0389	-0.0363	0.
	.3500	0.	-0.	-0.	-0.	0.	-0.	.0525	-0.0958	-0.0686	.0394	.0429	-0.0360	0.
	.3510	0.	0.	0.	0.	0.	-0.	.0541	-0.0949	-0.0725	.0319	.0459	-0.0361	0.
	.3520	0.	-0.	-0.	-0.	0.	-0.	.0554	-0.0941	-0.0749	.0251	.0477	-0.0367	0.
	.3530	0.	0.	-0.	-0.	-0.	-0.	.0565	-0.0929	-0.0759	.0191	.0481	-0.0378	0.
	.3540	-0.	-0.	-0.	-0.	0.	0.	.0571	-0.0914	-0.0755	.0143	.0472	-0.0395	0.
	.3550	0.	0.	-0.	-0.	0.	0.	.0573	-0.0894	-0.0738	.0106	.0450	-0.0415	0.
	.3560	0.	0.	-0.	-0.	0.	-0.	.0569	-0.0868	-0.0709	.0080	.0417	-0.0440	0.
	.3570	0.	-0.	0.	0.	0.	-0.	.0558	-0.0835	-0.0669	.0063	.0373	-0.0466	0.
	.3580	-0.	0.	0.	0.	0.	0.	.0541	-0.0795	-0.0619	.0055	.0322	-0.0493	0.
	.3590	0.	-0.	-0.	-0.	0.	0.	.0516	-0.0748	-0.0558	.0053	.0265	-0.0518	0.
	.3600	0.	0.	-0.	-0.	0.	0.	.0485	-0.0694	-0.0487	.0052	.0203	-0.0540	0.
	.3610	0.	0.	-0.	-0.	0.	-0.	.0447	-0.0634	-0.0408	.0048	.0138	-0.0557	0.
	.3620	0.	-0.	-0.	-0.	0.	-0.	.0404	-0.0569	-0.0321	.0038	.0070	-0.0567	0.
	.3630	0.	-0.	-0.	-0.	0.	-0.	.0357	-0.0501	-0.0226	.0021	.0001	-0.0568	0.
	.3640	-0.	0.	-0.	-0.	0.	0.	.0306	-0.0429	-0.0125	-0.0006	-0.0070	-0.0560	0.
	.3650	-0.	-0.	-0.	-0.	0.	0.	.0253	-0.0355	-0.0019	-0.0043	-0.0141	-0.0543	0.
	.3660	0.	-0.	-0.	-0.	-0.	-0.	.0199	-0.0281	.0092	-0.0090	-0.0212	-0.0517	0.
	.3670	0.	0.	-0.	-0.	0.	-0.	.0143	-0.0207	.0204	-0.0146	-0.0282	-0.0483	0.
	.3680	0.	-0.	0.	0.	0.	-0.	.0086	-0.0133	.0315	-0.0207	-0.0350	-0.0442	0.
	.3690	0.	-0.	0.	0.	0.	0.	.0030	-0.0061	.0421	-0.0271	-0.0417	-0.0396	0.
	.3700	0.	-0.	0.	-0.	0.	-0.	-0.0026	.0010	.0520	-0.0338	-0.0480	-0.0346	0.
	.3710	-0.	0.	0.	-0.	0.	0.	-0.0081	.0079	.0607	-0.0405	-0.0538	-0.0294	0.
	.3720	-0.	0.	0.	-0.	-0.	0.	-0.0135	.0144	.0679	-0.0470	-0.0589	-0.0240	0.
	.3730	0.	0.	-0.	-0.	-0.	-0.	-0.0188	.0206	.0734	-0.0529	-0.0632	-0.0187	0.
	.3740	-0.	0.	0.	0.	-0.	-0.	-0.0240	.0266	.0771	-0.0581	-0.0664	-0.0134	0.
	.3750	-0.	-0.	0.	0.	-0.	0.	-0.0291	.0322	.0790	-0.0625	-0.0682	-0.0082	0.
	.3760	0.	-0.	0.	0.	0.	-0.	-0.0340	.0374	.0790	-0.0661	-0.0685	-0.0032	0.
	.3770	0.	-0.	0.	0.	-0.	-0.	-0.0388	.0423	.0772	-0.0689	-0.0673	.0017	0.
	.3780	0.	0.	0.	0.	-0.	-0.	-0.0432	.0469	.0739	-0.0706	-0.0644	.0063	0.
	.3790	0.	-0.	0.	0.	-0.	-0.	-0.0472	.0513	.0690	-0.0717	-0.0600	.0109	0.

ADLPIPE PAGE 710

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKM24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3690	0.	-0.	0.	0.	0.	0.	-0.	-0.0030	-0.0061	.0421	-0.0271	-0.0417	-0.0396	0.
.3700	0.	-0.	0.	-0.	0.	0.	-0.	-0.0026	.0010	.0520	-0.0338	-0.0480	-0.0346	0.
.3710	-0.	0.	0.	-0.	0.	0.	0.	-0.0081	.0079	.0607	-0.0405	-0.0538	-0.0294	0.
.3720	-0.	0.	0.	-0.	-0.	0.	0.	-0.0135	.0144	.0679	-0.0470	-0.0589	-0.0240	0.
.3730	0.	0.	-0.	-0.	-0.	-0.	-0.	-0.0188	.0206	.0734	-0.0529	-0.0632	-0.0187	0.
.3740	-0.	0.	0.	0.	0.	0.	-0.	-0.0240	.0266	.0771	-0.0581	-0.0664	-0.0134	0.
.3750	-0.	-0.	0.	0.	0.	-0.	0.	-0.0291	.0322	.0790	-0.0625	-0.0682	-0.0082	0.
.3760	0.	-0.	0.	0.	0.	0.	-0.	-0.0340	.0374	.0790	-0.0661	-0.0685	-0.0032	0.
.3770	0.	-0.	0.	0.	0.	0.	-0.	-0.0388	.0423	.0772	-0.0689	-0.0673	.0017	0.
.3780	0.	0.	0.	0.	0.	-0.	-0.	-0.0432	.0469	.0739	-0.0706	-0.0644	.0063	0.
.3790	0.	-0.	0.	0.	0.	0.	-0.	-0.0472	.0513	.0690	-0.0717	-0.0600	.0109	0.

ADLPIPE PAGE 710

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	14	MEMBER	2	SEQUENCE	237	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ				(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)										
.3800	-0.	-0.	0.	0.	-0.	0.				-0.0507	.0555	.0630	-0.0725	-0.0541	.0154	0.
.3810	-0.	-0.	0.	0.	0.	0.				-0.0534	.0596	.0560	-0.0731	-0.0470	.0199	0.
.3820	-0.	-0.	0.	0.	-0.	0.				-0.0554	.0636	.0484	-0.0736	-0.0388	.0246	0.
.3830	0.	0.	-0.	-0.	-0.	-0.				-0.0566	.0676	.0403	-0.0741	-0.0298	.0295	0.
.3840	0.	0.	-0.	-0.	0.	0.				-0.0568	.0718	.0320	-0.0747	-0.0204	.0348	0.
.3850	0.	0.	-0.	-0.	0.	0.				-0.0560	.0760	.0238	-0.0755	-0.0106	.0404	0.
.3860	-0.	-0.	0.	0.	-0.	0.				-0.0542	.0804	.0157	-0.0766	-0.0008	.0464	0.
.3870	-0.	0.	-0.	-0.	-0.	-0.				-0.0516	.0851	.0077	-0.0779	.0087	.0527	0.
.3880	0.	0.	-0.	-0.	-0.	-0.				-0.0480	.0900	-0.0001	-0.0791	.0176	.0593	0.
.3890	0.	0.	-0.	0.	0.	0.				-0.0437	.0951	-0.0079	-0.0801	.0258	.0660	0.
.3900	0.	0.	-0.	-0.	0.	0.				-0.0388	.1003	-0.0156	-0.0809	.0331	.0727	0.
.3910	0.	0.	-0.	-0.	-0.	-0.				-0.0334	.1057	-0.0231	-0.0815	.0393	.0792	0.
.3920	0.	0.	0.	0.	0.	0.				-0.0277	.1111	-0.0306	-0.0813	.0446	.0854	0.
.3930	-0.	-0.	-0.	-0.	0.	0.				-0.0220	.1164	-0.0378	-0.0805	.0489	.0912	0.
.3940	-0.	0.	-0.	-0.	0.	0.				-0.0163	.1214	-0.0447	-0.0790	.0523	.0966	0.
.3950	0.	-0.	-0.	-0.	0.	0.				-0.0110	.1260	-0.0511	-0.0771	.0551	.1015	0.
.3960	0.	-0.	-0.	-0.	0.	0.				-0.0061	.1301	-0.0568	-0.0751	.0572	.1058	0.
.3970	-0.	0.	0.	0.	-0.	0.				-0.0017	.1336	-0.0618	-0.0728	.0589	.1094	0.
.3980	0.	0.	-0.	-0.	0.	0.				.0019	.1364	-0.0659	-0.0705	.0600	.1124	0.
.3990	0.	-0.	-0.	-0.	0.	0.				.0047	.1383	-0.0692	-0.0683	.0607	.1146	0.
.4000	0.	-0.	0.	0.	0.	0.				.0068	.1393	-0.0714	-0.0665	.0611	.1159	0.

MAXIMUM VALUE OF STRESS OCCURS AT

TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1640	-0.	-0.	0.	0.	0.	-0.	.0353	.0482	-0.1451	.0005	.1074	.1143	0.

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ				(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)										
0.0000	0.	0.	0.	0.	0.	0.				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	-2.	0.	3.	-1.	-2.	-0.				.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	1.
.0020	-4.	0.	14.	-6.	-13.	-1.				.0000	-0.0000	-0.0002	.0000	-0.0001	-0.0000	6.
.0030	21.	-3.	24.	-13.	-34.	-4.				.0000	-0.0000	-0.0005	.0001	-0.0004	-0.0001	15.

ADLPIPE PAGE 711

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION			BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS			
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)			
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.			
.0010	-2.	0.	3.	-1.	-2.	-0.	.0000	-.0000	-.0000	.0000	-.0000	-.0000	1.			
.0020	-4.	0.	14.	-6.	-13.	-1.	.0000	-.0000	-.0002	.0000	-.0001	-.0000	6.			
.0030	21.	-3.	24.	-13.	-34.	-4.	.0000	-.0000	-.0005	.0001	-.0004	-.0001	15.			

ADLPIPE PAGE 711                  DIS/ADLPIPE                  ADLPIPE STRESS ANALYSIS                  83/12/02.    18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION			BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS			
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)			
.0040	82.	-13.	25.	-15.	-62.	-13.	.0000	-.0000	-.0011	.0001	-.0007	-.0003	26.			
.0050	166.	-28.	24.	-8.	-92.	-30.	.0000	.0001	-.0020	-.0000	-.0012	-.0006	39.			
.0060	289.	-46.	11.	7.	-118.	-51.	-.0000	.0003	-.0033	-.0003	-.0016	-.0009	52.			
.0070	484.	-67.	-26.	23.	-145.	-64.	-.0001	.0006	-.0051	-.0007	-.0022	-.0012	64.			
.0080	821.	-89.	-109.	31.	-188.	-77.	.0001	.0009	-.0079	-.0013	-.0029	-.0016	82.			
.0090	1460.	-116.	-319.	33.	-235.	-119.	.0008	.0014	-.0121	-.0025	-.0038	-.0021	106.			
.0100	2259.	-150.	-583.	33.	-285.	-207.	.0024	.0022	-.0175	-.0051	-.0048	-.0026	142.			
.0110	2832.	-187.	-697.	25.	-361.	-324.	.0048	.0033	-.0240	-.0094	-.0058	-.0030	195.			
.0120	3006.	-210.	-582.	8.	-456.	-438.	.0081	.0045	-.0312	-.0153	-.0068	-.0030	254.			
.0130	2937.	-196.	-350.	-17.	-514.	-537.	.0121	.0059	-.0386	-.0226	-.0074	-.0022	298.			
.0140	2883.	-137.	-194.	-35.	-435.	-614.	.0167	.0073	-.0454	-.0314	-.0070	-.0004	302.			
.0150	2992.	-42.	-245.	-29.	-136.	-643.	.0217	.0088	-.0510	-.0420	-.0046	.0024	264.			
.0160	3499.	85.	-666.	6.	437.	-602.	.0270	.0101	-.0553	-.0541	.0006	.0062	299.			
.0170	3896.	252.	-1177.	54.	1190.	-500.	.0327	.0112	-.0587	-.0661	.0087	.0106	518.			
.0180	2994.	447.	-1061.	83.	1871.	-356.	.0387	.0122	-.0618	-.0761	.0187	.0150	765.			
.0190	370.	642.	42.	41.	2223.	-244.	.0456	.0131	-.0656	-.0832	.0286	.0186	898.			
.0200	-4043.	809.	2347.	-190.	1905.	-332.	.0544	.0142	-.0723	-.0870	.0356	.0199	780.			
.0210	-8280.	911.	4853.	-704.	965.	-822.	.0661	.0161	-.0831	-.0894	.0389	.0178	582.			
.0220	-10854.	877.	6675.	-1395.	-174.	-1608.	.0782	.0185	-.0937	-.0934	.0398	.0124	857.			
.0230	-13196.	718.	8406.	-2108.	-1322.	-2366.	.0882	.0201	-.1003	-.0984	.0384	.0051	1378.			
.0240	-12761.	621.	8406.	-2671.	-1904.	-2968.	.0953	.0205	-.1016	-.0982	.0380	-.0027	1775.			
.0250	-11673.	712.	7778.	-3010.	-2088.	-3383.	.0993	.0195	-.0987	-.0876	.0389	-.0104	2001.			
.0260	-16667.	851.	10408.	-3075.	-2833.	-3444.	.0989	.0165	-.0924	-.0691	.0370	-.0190	2174.			
.0270	-22774.	876.	13712.	-2663.	-3739.	-3211.	.0919	.0123	-.0808	-.0495	.0326	-.0293	2248.			
.0280	-20860.	847.	12390.	-1847.	-3712.	-3253.	.0822	.0091	-.0666	-.0325	.0324	-.0413	2115.			
.0290	-14901.	800.	8453.	-1086.	-3133.	-3607.	.0738	.0054	-.0541	-.0179	.0367	-.0547	1966.			
.0300	-9187.	622.	4824.	-638.	-2828.	-3424.	.0626	-.0030	-.0422	-.0034	.0377	-.0680	1800.			
.0310	-4717.	358.	2168.	-294.	-2902.	-2743.	.0478	-.0149	-.0302	.0143	.0347	-.0810	1607.			
.0320	-5006.	71.	2050.	448.	-3278.	-2366.	.0318	-.0242	-.0174	.0373	.0290	-.0942	1632.			
.0330	-3419.	-277.	694.	1749.	-2899.	-2614.	.0153	-.0282	-.0010	.0608	.0246	-.1067	1716.			
.0340	4487.	-726.	-4168.	3001.	-1357.	-2752.	-.0031	-.0318	.0203	.0760	.0221	-.1157	1723.			
.0350	10745.	-1146.	-8030.	3501.	161.	-1920.	-.0225	-.0412	.0433	.0807	.0172	-.1183	1604.			
.0360	10625.	-1346.	-8222.	3434.	834.	-232.	-.0409	-.0547	.0648	.0825	.0073	-.1142	1421.			
.0370	11462.	-1263.	-8668.	3523.	1314.	1278.	-.0581	-.0641	.0847	.0853	-.0051	-.1051	1594.			
.0380	16491.	-1046.	-11166.	3885.	1997.	1947.	-.0751	-.0660	.1038	.0929	-.0175	-.0934	1919.			
.0390	18292.	-993.	-11839.	3920.	2119.	2434.	-.0912	-.0665	.1201	.0833	-.0305	-.0799	2038.			
.0400	14799.	-1195.	-9624.	3212.	1262.	3582.	-.1026	-.0724	.1292	.0601	-.0455	-.0649	1996.			
.0410	14321.	-1284.	-8719.	2156.	116.	4830.	-.1106	-.0789	.1321	.0426	-.0518	-.0482	2123.			

ADLPIPE PAGE 712                  DIS/ADLPIPE                  ADLPIPE STRESS ANALYSIS                  83/12/02.    18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0310	-4717.	358.	2168.	-294.	-2902.	-2743.	.478	-.0149	-.0302	.0143	.0347	-.0810	1607.
.0320	-5006.	71.	2050.	446.	-3278.	-2366.	.0318	-.0242	-.0174	.0373	.0290	-.0942	1632.
.0330	-3419.	-277.	694.	1749.	-2699.	-2614.	.0153	-.0282	-.0010	.0608	.0246	-.1067	1716.
.0340	4487.	-726.	-4168.	3001.	-1357.	-2752.	-.0031	-.0318	.0203	.0760	.0221	-.1157	1723.
.0350	10745.	-1148.	-8030.	3501.	161.	-1920.	-.0225	-.0412	.0433	.0807	.0172	-.1183	1604.
.0360	10625.	-1346.	-8227.	3474.	834.	-272.	-.0409	-.0547	.0648	.0825	.0373	-.1142	1421.
.0370	11462.	-1263.	-8668.	3523.	1314.	1278.	-.0581	-.0641	.0847	.0883	-.0051	-.1051	1594.
.0380	16491.	-1046.	-11166.	3885.	1997.	1947.	-.0751	-.0660	.1038	.0929	-.0175	-.0934	1919.
.0390	18292.	-993.	-11829.	3920.	2119.	2434.	-.0912	-.0665	.1201	.0833	-.0305	-.0799	2038.
.0400	14799.	-1195.	-9624.	3212.	1262.	3582.	-.1026	-.0724	.1292	.0601	-.0455	-.0649	1996.
.0410	14321.	-1284.	-8719.	2156.	116.	4830.	-.1106	-.0789	.1321	.0426	-.0518	-.0482	2123.

ADLPIPE PAGE 712

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITSINTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU					STRESS		
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)				DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	(PSI)
.0420	14840.	-1018.	-8249.	1246.	-1063.	4921.				-.1156	-.0784	.1307	.0409	-.0774	-.0317	2081.
.0430	10345.	-796.	-5032.	628.	-2953.	4107.				-.1149	-.0733	.1237	.0396	-.0922	-.0181	2046.
.0440	7064.	-1071.	-2633.	292.	-4506.	3548.				-.1095	-.0706	.1155	.0229	-.1035	-.0072	2304.
.0450	7601.	-1468.	-2339.	147.	-5170.	3244.				-.1028	-.0694	.1104	.0018	-.1111	.0034	2450.
.0460	6393.	-1402.	-1111.	151.	-5417.	2688.				-.0957	-.0661	.1086	-.0050	-.1168	.0159	2427.
.0470	3242.	-1005.	829.	394.	-5136.	2251.				-.0855	-.0625	.1089	.0016	-.1190	.0298	2256.
.0480	3300.	-687.	640.	829.	-3870.	2241.				-.0720	-.0603	.1113	.0096	-.1161	.0429	1825.
.0490	4981.	-466.	-407.	1079.	-2227.	2034.				-.0574	-.0567	.1142	.0136	-.1107	.0535	1286.
.0500	4103.	-302.	21.	816.	-922.	1390.				-.0414	-.0515	.1146	.0133	-.1042	.0604	745.
.0510	3120.	-286.	424.	143.	145.	944.				-.0222	-.0482	.1104	.0119	-.0960	.0638	388.
.0520	3916.	-244.	-268.	-683.	1204.	706.				-.0007	-.0459	.1020	.0202	-.0851	.0646	624.
.0530	2954.	78.	-118.	-1599.	2096.	72.				.0203	-.0415	.0915	.0440	-.0716	.0626	1058.
.0540	32.	425.	884.	-2524.	2957.	-605.				.0399	-.0376	.0803	.0713	-.0543	.0571	1579.
.0550	-1591.	436.	899.	-3167.	4131.	-545.				.0579	-.0387	.0696	.0908	-.0324	.0479	2100.
.0560	-3272.	385.	850.	-3235.	5358.	-159.				.0738	-.0418	.0595	.1130	-.0083	.0359	2513.
.0570	-6949.	729.	2115.	-2704.	6158.	-181.				.0865	-.0425	.0487	.1513	.0142	.0227	2700.
.0580	-9453.	1292.	3130.	-1805.	6523.	-162.				.0968	-.0442	.0357	.1978	.0340	.0091	2717.
.0590	-9386.	1613.	3084.	-845.	6507.	465.				.1062	-.0510	.0196	.2346	.0509	-.0055	2640.
.0600	-9834.	1656.	3588.	37.	5970.	1078.				.1139	-.0594	.0011	.2582	.0651	-.0215	2434.
.0610	-11056.	1622.	4664.	895.	5095.	960.				.1194	-.0643	-.0189	.2758	.0772	-.0381	2111.
.0620	-10219.	1535.	4657.	1730.	4209.	460.				.1234	-.0668	-.0400	.2903	.0885	-.0530	1835.
.0630	-8727.	1384.	4256.	2280.	3231.	109.				.1257	-.0700	-.0614	.2985	.0985	-.0637	1587.
.0640	-8963.	1220.	4687.	2299.	2174.	-140.				.1244	-.0738	-.0810	.2964	.1075	-.0685	1271.
.0650	-8472.	986.	4492.	1925.	1528.	-350.				.1185	-.0772	-.0964	.2798	.1172	-.0672	997.
.0660	-5850.	642.	2894.	1523.	1341.	-435.				.1092	-.0798	-.1079	.2499	.1276	-.0604	833.
.0670	-4693.	395.	1990.	1228.	993.	-510.				.0977	-.0801	-.1176	.2156	.1361	-.0486	666.
.0680	-5964.	417.	2489.	837.	206.	-718.				.0843	-.0780	-.1267	.1823	.1407	-.0325	450.
.0690	-5891.	537.	2365.	132.	-657.	-769.				.0698	-.0763	-.1350	.1453	.1424	-.0138	409.
.0700	-3836.	513.	1160.	-824.	-1426.	-498.				.0558	-.0762	-.1423	.1007	.1419	.0049	691.
.0710	-2636.	395.	426.	-1712.	-2265.	-329.				.0424	-.0748	-.1474	.0558	.1383	.0212	1147.
.0720	-2667.	347.	489.	-2241.	-3116.	-623.				.0280	-.0689	-.1482	.0217	.1307	.0345	1560.
.0730	-3017.	354.	812.	-2419.	-3753.	-1098.				.0127	-.0603	-.1432	-.0002	.1197	.0449	1845.
.0740	-3932.	327.	1348.	-2495.	-4043.	-1301.				-.0019	-.0524	-.1326	-.0157	.1064	.0530	1977.
.0750	-4053.	304.	1339.	-2642.	-3820.	-1185.				-.0155	-.0462	-.1164	-.0285	.0920	.0598	1923.
.0760	-1846.	360.	94.	-2826.	-3096.	-966.				-.0284	-.0400	-.0951	-.0384	.0764	.0654	1726.
.0770	423.	473.	-1087.	-2949.	-2330.	-760.				-.0399	-.0332	-.0708	-.0450	.0585	.0692	1539.
.0780	446.	583.	-955.	-3020.	-1928.	-586.				-.0489	-.0258	-.0459	-.0490	.0377	.0707	1457.
.0790	656.	681.	-813.	-3194.	-1726.	-505.				-.0554	-.0184	-.0215	-.0516	.0155	.0698	1471.

ADLPIPE PAGE 713

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITSINTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0690	-5891.	537.	2365.	132.	-657.	-769.	.0698	-.0763	-.1350	.1453	.1424	-.0138	409.
.0700	-3836.	513.	1160.	-824.	-1426.	-498.	.0558	-.0762	-.1423	.1007	.1419	.0049	691.
.0710	-2636.	395.	426.	-1712.	-2265.	-329.	.0424	-.0748	-.1474	.0558	.1383	.0212	1147.
.0710	-2667.	347.	489.	-2241.	-3116.	-623.	.0280	-.0689	-.1482	.0217	.1307	.0345	1560.
.0730	-3017.	354.	812.	-2419.	-3753.	-1098.	.0127	-.0603	-.1432	-.0002	.1197	.0449	1845.
.0740	-3932.	327.	1348.	-2495.	-4043.	-1301.	-.0019	-.0524	-.1326	-.0157	.1264	.0530	1977.
.0750	-4057.	304.	1339.	-2642.	-3820.	-1185.	-.0155	-.0462	-.1164	-.0285	.0920	.0598	1923.
.0760	-1846.	360.	94.	-2026.	-3096.	-966.	-.0284	-.0400	-.0951	-.0384	.0764	.0654	1726.
.0770	423.	473.	-1087.	-2949.	-2330.	-760.	-.0399	-.0332	-.0708	-.0450	.0585	.0692	1539.
.0780	446.	583.	-955.	-3020.	-1928.	-586.	-.0489	-.0258	-.0459	-.0490	.0377	.0707	1457.
.0790	656.	681.	-613.	-3194.	-1726.	-505.	-.0554	-.0184	-.0215	-.0516	.0155	.0698	1471.

ADLPIPE PAGE 713

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION			BEG	TYPE			RU	
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.0800	3521.	731.	-2051.	-3634.	-1408.	-519.	-.0600	-.0119	.0026	-.0554	-.0058	.0665	1578.	
.0810	6624.	632.	-3533.	-4301.	-1050.	-518.	-.0626	-.0076	.0261	-.0617	-.0248	.0601	1789.	
.0820	7600.	351.	-4084.	-4854.	-775.	-507.	-.0632	-.0051	.0489	-.0670	-.0407	.0498	1983.	
.0830	7772.	18.	-4368.	-4908.	-426.	-713.	-.0629	-.0022	.0716	-.0651	-.0531	.0356	1998.	
.0840	8111.	-257.	-4853.	-4391.	77.	-1208.	-.0611	.0014	.0939	-.0551	-.0617	.0184	1828.	
.0850	7933.	-543.	-5135.	-3523.	565.	-1602.	-.0592	-.0023	.1140	-.0435	-.0676	-.0011	1569.	
.0860	7918.	-901.	-5401.	-2452.	864.	-1528.	-.0546	-.0018	.1305	-.0346	-.0727	-.0220	1210.	
.0870	8669.	-1201.	-5721.	-1102.	790.	-1201.	-.0488	-.0085	.1427	-.0243	-.0793	-.0436	727.	
.0880	8640.	-1313.	-5189.	607.	143.	-1045.	-.0418	-.0145	.1500	-.0078	-.0886	-.0658	488.	
.0890	7395.	-1329.	-3725.	2519.	-945.	-1011.	-.0328	-.0196	.1524	.0118	-.0998	-.0884	1153.	
.0900	6823.	-1398.	-2528.	4266.	-2016.	-773.	-.0223	-.0258	.1514	.0281	-.1107	-.1103	1918.	
.0910	7223.	-1494.	-1884.	5549.	-2770.	-263.	-.0114	-.0335	.1487	.0398	-.1200	-.1302	2491.	
.0920	6966.	-1525.	-1027.	6381.	-3173.	387.	-.0010	-.0410	.1454	.0504	-.1272	-.1466	2864.	
.0930	5821.	-1498.	64.	6990.	-3155.	1088.	.0086	-.0470	.1421	.0619	-.1316	-.1588	3108.	
.0940	4558.	-1447.	942.	7481.	-2648.	1721.	.0171	-.0504	.1388	.0727	-.1330	-.1665	3259.	
.0950	3162.	-1376.	1648.	7708.	-1747.	2208.	.0245	-.0518	.1346	.0787	-.1314	-.1691	3293.	
.0960	2013.	-1324.	2025.	7504.	-581.	2714.	.0310	-.0528	.1279	.0757	-.1274	-.1662	3211.	
.0970	1901.	-1312.	1675.	6944.	781.	3358.	.0370	-.0543	.1181	.0645	-.1212	-.1581	3111.	
.0980	1994.	-1259.	1075.	6282.	2203.	3846.	.0421	-.0542	.1052	.0509	-.1134	-.1454	3085.	
.0990	1136.	-1102.	878.	5716.	3553.	3874.	.0454	-.0501	.0901	.0391	-.1042	-.1292	3116.	
.1000	125.	-933.	690.	5249.	4845.	3617.	.0467	-.0433	.0734	.0261	-.0932	-.1103	3213.	
.1010	-167.	-845.	86.	4748.	6068.	3391.	.0460	-.0357	.0558	.0078	-.0803	-.0894	3378.	
.1020	-655.	-765.	-398.	4141.	7056.	3156.	.0433	-.0273	.0374	-.0141	-.0656	-.0666	3519.	
.1030	-1907.	-558.	-406.	3495.	7650.	2736.	.0392	-.0166	.0180	-.0348	-.0496	-.0422	3549.	
.1040	-3095.	-201.	-300.	2880.	7761.	2169.	.0346	-.0036	-.0028	-.0532	-.0329	-.0165	3434.	
.1050	-4204.	232.	-3.	2184.	7250.	1555.	.0301	.0105	-.0254	-.0726	-.0165	.0098	3102.	
.1060	-5934.	673.	915.	1216.	6021.	891.	.0262	.0246	-.0499	-.0964	-.0013	.0359	2491.	
.1070	-7290.	1078.	1917.	-44.	4258.	196.	.0227	.0383	-.0753	-.1238	.0126	.0611	1711.	
.1080	-8151.	1462.	2941.	-1486.	2007.	-542.	.0208	.0513	-.1019	-.1500	.0240	.0844	1025.	
.1090	-9706.	1851.	4710.	-3084.	-943.	-1536.	.0223	.0640	-.1319	-.1697	.0306	.1036	1433.	
.1100	-8737.	2098.	5224.	-4526.	-3451.	-2819.	.0222	.0776	-.1566	-.1858	.0372	.1177	2549.	
.1110	-8735.	2068.	5948.	-5699.	-5318.	-4040.	.0211	.0896	-.1742	-.2020	.0458	.1258	3523.	
.1120	-10109.	1848.	6955.	-6493.	-6467.	-4831.	.0202	.0901	-.1852	-.2139	.0569	.1285	4157.	
.1130	-8835.	1693.	6815.	-6877.	-6800.	-5420.	.0186	.1048	-.1902	-.2114	.0695	.1262	4449.	
.1140	-8236.	1657.	5866.	-6974.	-6614.	-6107.	.0165	.1110	-.1910	-.1949	.0826	.1186	4570.	
.1150	-6964.	1474.	4969.	-6898.	-6247.	-6623.	.0153	.1141	-.1902	-.1775	.0950	.1052	4584.	
.1160	-4985.	999.	3598.	-6623.	-5711.	-6695.	.0146	.1131	-.1881	-.1661	.1061	.0865	4420.	
.1170	-3182.	476.	2305.	-6085.	-5143.	-6666.	.0136	.1107	-.1847	-.1535	.1150	.0644	4169.	

ADLPIPE PAGE 714

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.37.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1067	-5934.	673.	15.	1216.	6021.	891.	262	.0246	-.0499	-.0964	-.0017	.0359	2491.
.1070	-7290.	1078.	1917.	-44.	4258.	196.	.227	.0383	-.0753	-.1238	.0126	.0611	1711.
.1080	-8151.	1462.	2941.	-1486.	2007.	-542.	.0208	.0513	-.1019	-.1500	.0240	.0844	1025.
.1090	-9706.	1851.	4710.	-3084.	-943.	-1536.	.0223	.0640	-.1319	-.1697	.0306	.1036	1433.
.1100	-8737.	2098.	5024.	-4526.	-3451.	-2819.	.0222	.0776	-.1566	-.1858	.0372	.1177	2549.
.1110	-8735.	2068.	5048.	-5699.	-5318.	-4040.	.0211	.0896	-.1742	-.2020	.0458	.1258	3523.
.1120	-10109.	1848.	6955.	-6493.	-6467.	-4831.	.0202	.0981	-.1852	-.2139	.0569	.1285	4157.
.1130	-9835.	1693.	6811.	-6877.	-6800.	-5420.	.0186	.1048	-.1902	-.2114	.0595	.1262	4449.
.1140	-8236.	1657.	5866.	-6974.	-6614.	-6107.	.0165	.1110	-.1910	-.1949	.0826	.1186	4570.
.1150	-6964.	1474.	4969.	-6898.	-6243.	-6223.	.0153	.1141	-.1902	-.1775	.0950	.1052	4584.
.1160	-4985.	994.	3598.	-6623.	-5711.	-6695.	.0146	.1131	-.1881	-.1661	.1061	.0865	4420.
.1170	-3182.	476.	2305.	-6085.	-5143.	-6666.	.0136	.1107	-.1847	-.1535	.1150	.0644	4169.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION			BEG	TYPE	RU				
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	FX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1180	-163.	163.	353.	-5200.	-4266.	-6608.	.0091	.1089	-.1769	-.1318	.1221	.0420	3784.		
.1190	-109.	53.	-297.	-4152.	-3343.	-6074.	.0036	.1048	-.1660	-.1046	.1284	.0213	3243.		
.1200	-921.	28.	-782.	-3128.	-2223.	-4750.	-.0022	.0964	-.1524	-.0792	.1348	.0032	2450.		
.1210	1825.	66.	-3066.	-2230.	-840.	-3115.	-.0096	.0866	-.1365	-.0578	.1388	-.0126	1574.		
.1220	2229.	117.	-3938.	-1460.	115.	-1828.	-.0170	.0787	-.1203	-.0423	.1391	-.0276	940.		
.1230	1857.	35.	-4182.	-641.	697.	-642.	-.0243	.0717	-.1037	-.0342	.1343	-.0415	459.		
.1240	1149.	-131.	-4022.	238.	944.	579.	-.0306	.0651	-.0868	-.0296	.1240	-.0531	455.		
.1250	-20.	-173.	-3280.	1013.	862.	1511.	-.0366	.0601	-.0694	-.0230	.1078	-.0612	808.		
.1260	619.	-129.	-3134.	1572.	699.	2199.	-.0429	.0562	-.0509	-.0178	.0859	-.0652	1120.		
.1270	-313.	-261.	-2055.	1897.	222.	2859.	-.0455	.0512	-.0342	-.0223	.0600	-.0668	1380.		
.1280	388.	-546.	-1700.	2239.	-228.	3343.	-.0455	.0469	-.0185	-.0353	.0305	-.0663	1617.		
.1290	813.	-772.	-1014.	2728.	-707.	3119.	-.0441	.0471	-.0026	-.0501	-.0018	-.0637	1687.		
.1300	-206.	-894.	494.	3258.	-1206.	2499.	-.0414	.0501	.0138	-.0660	-.0351	-.0582	1717.		
.1310	1404.	-1009.	470.	3689.	-1168.	2366.	-.0387	.0510	.0325	-.0856	-.0570	-.0485	1820.		
.1320	1932.	-1034.	750.	3887.	-787.	2610.	-.0354	.0502	.0527	-.1060	-.0959	-.0351	1905.		
.1330	2305.	-884.	953.	3963.	-81.	2678.	-.0332	.0517	.0743	-.1221	-.1219	-.0199	1920.		
.1340	2362.	-702.	1187.	4012.	685.	2462.	-.0310	.0561	.0948	-.1363	-.1442	-.0052	1909.		
.1350	2369.	-630.	1319.	3963.	1307.	2260.	-.0276	.0610	.1120	-.1524	-.1525	.0076	1904.		
.1360	3721.	-579.	761.	3658.	1811.	2132.	-.0251	.0655	.1258	-.1674	-.1777	.0192	1848.		
.1370	2058.	-455.	1322.	3012.	1907.	1899.	-.0232	.0698	.1356	-.1769	-.1895	.0292	1621.		
.1380	3753.	-363.	1017.	2296.	1971.	1792.	-.0233	.0731	.1426	-.1801	-.1972	.0376	1411.		
.1390	4801.	-366.	420.	1790.	2012.	1764.	-.0249	.0758	.1473	-.1773	-.1993	.0433	1292.		
.1400	3825.	-396.	712.	1556.	1982.	1499.	-.0285	.0796	.1503	-.1670	-.1952	.0459	1177.		
.1410	3726.	-472.	394.	1478.	2177.	1116.	-.0352	.0837	.1523	-.1507	-.1849	.0458	1147.		
.1420	3112.	-647.	121.	1367.	2391.	930.	-.0422	.0853	.1512	-.1317	-.1684	.0434	1166.		
.1430	3818.	-833.	-939.	1237.	2597.	1010.	-.0494	.0845	.1462	-.1091	-.1475	.0398	1223.		
.1440	4052.	-883.	-1640.	1139.	2487.	962.	-.0566	.0840	.1366	-.0811	-.1244	.0353	1163.		
.1450	3489.	-867.	-1764.	1087.	1983.	721.	-.0635	.0843	.1227	-.0521	-.0996	.0299	953.		
.1460	4437.	-919.	-2563.	1057.	1371.	648.	-.0699	.0837	.1053	-.0287	-.0735	.0243	742.		
.1470	3744.	-932.	-2536.	928.	557.	771.	-.0740	.0817	.0846	-.0108	-.0458	.0201	533.		
.1480	4088.	-730.	-3108.	700.	11.	1032.	-.0774	.0791	.0632	.0067	-.0167	.0190	501.		
.1490	4686.	-345.	-3916.	379.	-216.	1420.	-.0798	.0759	.0420	.0241	.0136	.0213	596.		
.1500	3924.	45.	-4102.	15.	-304.	1954.	-.0801	.0717	.0209	.0375	.0437	.0259	793.		
.1510	3844.	365.	-4573.	-297.	-188.	2483.	-.0795	.0676	.0011	.0455	.0718	.0322	1006.		
.1520	2660.	638.	-4293.	-628.	-161.	2686.	-.0772	.0647	-.0187	.0496	.0961	.0392	1109.		
.1530	2523.	811.	-4311.	-1037.	-158.	2645.	-.0735	.0623	-.0385	.0507	.1152	.0466	1142.		
.1540	1702.	844.	-3729.	-1582.	-446.	2457.	-.0671	.0595	-.0593	.0491	.1286	.0535	1186.		
.1550	236.	793.	-2561.	-2198.	-1036.	2048.	-.0583	.0569	-.0808	.0463	.1366	.0596	1275.		

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1440	4052.	-883.	-146.	1139.	2487.	962.	-.566	.0840	.1366	-.0811	-.1244	.0353	1163.
.1450	3489.	-867.	-1764.	1087.	1983.	721.	-.835	.0843	.1227	-.0521	-.0996	.0299	953.
.1460	4437.	-919.	-2563.	1057.	1371.	648.	-.0699	.0837	.1053	-.0287	-.0735	.0243	742.
.1470	3744.	-932.	-2536.	928.	557.	771.	-.0740	.0817	.0846	-.0108	-.0458	.0201	533.
.1480	4088.	-730.	-3107.	700.	11.	1032.	-.0774	.0791	.0632	.0067	-.0167	.0190	501.
.1490	4686.	-345.	-3916.	379.	-216.	1420.	-.0798	.0759	.0420	.0241	.0136	.0213	596.
.1500	3924.	45.	-4102.	15.	-304.	1954.	-.0801	.0717	.0209	.0375	.0437	.0259	793.
.1510	3844.	365.	-4573.	-297.	-188.	2483.	-.0795	.0676	.0011	.0455	.0718	.0322	1006.
.1520	2660.	638.	-4293.	-628.	-161.	2686.	-.0772	.0647	-.0187	.0496	.0961	.0392	1109.
.1530	2523.	811.	-4311.	-1037.	-158.	2645.	-.0735	.0623	-.0385	.0507	.1152	.0466	1142.
.1540	1702.	844.	-3729.	-1582.	-446.	2457.	-.0671	.0595	-.0593	.0491	.1286	.0535	1186.
.1550	236.	793.	-2561.	-2198.	-1036.	2048.	-.0583	.0569	-.0808	.0463	.1366	.0596	1275.

ADLPIPE PAGE 715

DIS/ADLPIPE ADLPIPE STRESS ANALYSIS  
S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

83/12/02. 18.26.37.

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU						
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)		
.1560	903.	697.	-2293.	-2755.	-1539.	1386.	-.0493	.0556	-.1006	.0431	.1401	.0651	1383.		
.1570	-356.	517.	-1009.	-3258.	-2131.	523.	-.0388	.0551	-.1185	.0377	.1406	.0695	1576.		
.1580	-1528.	249.	161.	-3627.	-2532.	-254.	-.0283	.0543	-.1329	.0302	.1389	.0737	1778.		
.1590	-1220.	55.	509.	-3811.	-2594.	-861.	-.0196	.0536	-.1425	.0243	.1354	.0789	1882.		
.1600	-2743.	54.	1723.	-3884.	-2607.	-1364.	-.0120	.0532	-.1481	.0219	.1304	.0856	1955.		
.1610	-5194.	159.	3246.	-3898.	-2523.	-1640.	-.0049	.0524	-.1506	.0194	.1250	.0932	1976.		
.1620	-4717.	288.	3100.	-3883.	-2111.	-1630.	.0014	.0508	-.1503	.0141	.1193	.1010	1890.		
.1630	-5597.	505.	5533.	-3931.	-1789.	-1618.	.0077	.0494	-.1487	.0073	.1135	.1082	1851.		
.1640	-6906.	806.	4083.	-3995.	-1471.	-1547.	.0134	.0482	-.1450	.0006	.1074	.1145	1818.		
.1650	-6356.	1108.	3541.	-3981.	-914.	-1223.	.0177	.0460	-.1383	-.0050	.1011	.1196	1711.		
.1660	-7147.	1407.	3569.	-3891.	-361.	-825.	.0213	.0432	-.1290	-.0073	.0947	.1226	1603.		
.1670	-7495.	1701.	3323.	-3669.	356.	-493.	.0229	.0408	-.1160	-.0050	.0880	.1231	1492.		
.1680	-7643.	1888.	2910.	-3304.	1197.	-218.	.0235	.0380	-.0998	-.0009	.0817	.1203	1413.		
.1690	-6325.	1873.	1714.	-2803.	2210.	88.	.0231	.0342	-.0809	.0035	.0752	.1138	1433.		
.1700	-5588.	1718.	902.	-2252.	3097.	252.	.0222	.0299	-.0605	.0109	.0573	.1036	1540.		
.1710	-7149.	1506.	1434.	-1717.	3554.	121.	.0221	.0259	-.0407	.0229	.0576	.0900	1585.		
.1720	-5235.	1206.	409.	-1161.	3952.	-66.	.0216	.0213	-.0209	.0367	.0458	.0741	1653.		
.1730	-3614.	798.	-202.	-711.	3915.	-293.	.0217	.0157	-.0027	.0486	.0318	.0561	1601.		
.1740	-3257.	320.	118.	-403.	3406.	-549.	.0219	.0093	.0141	.0586	.0154	.0366	1394.		
.1750	-1903.	-153.	134.	-115.	2725.	-738.	.0210	.0027	.0306	.0682	-.0026	.0170	1134.		
.1760	-1071.	-529.	496.	223.	1869.	-834.	.0198	-.0038	.0463	.0784	-.0204	-.0018	826.		
.1770	597.	-772.	428.	605.	1091.	-721.	.0171	-.0106	.0622	.0890	-.0372	-.0187	578.		
.1780	1066.	-906.	881.	913.	307.	-379.	.0137	-.0182	.0774	.0974	-.0517	-.0335	415.		
.1790	2538.	-981.	669.	1181.	-266.	258.	.0088	-.0267	.0920	.1021	-.0632	-.0459	497.		
.1800	4741.	-982.	-71.	1495.	-678.	1050.	.0025	-.0354	.1053	.1045	-.0722	-.0559	782.		
.1810	4445.	-896.	316.	1858.	-1234.	1735.	-.0039	-.0432	.1156	.1066	-.0785	-.0639	1134.		
.1820	5531.	-789.	-165.	2262.	-1595.	2357.	-.0114	-.0502	.1237	.1078	-.0821	-.0698	1459.		
.1830	6685.	-715.	-867.	2585.	-1851.	2925.	-.0191	-.0572	.1289	.1064	-.0827	-.0741	1734.		
.1840	7294.	-686.	-1479.	2780.	-1992.	3439.	-.0267	-.0644	.1315	.1023	-.0807	-.0767	1946.		
.1850	8001.	-704.	-2341.	2916.	-1891.	3837.	-.0344	-.0708	.1326	.0976	-.0761	-.0779	2077.		
.1860	7986.	-763.	-3008.	3063.	-1605.	3986.	-.0414	-.0756	.1324	.0940	-.0594	-.0783	2118.		
.1870	8840.	-848.	-4176.	3237.	-1066.	3924.	-.0486	-.0785	.1317	.0919	-.0617	-.0777	2086.		
.1880	8734.	-948.	-4602.	3293.	-569.	3722.	-.0547	-.0803	.1300	.0899	-.0540	-.0761	2007.		
.1890	8038.	-1078.	-5037.	3155.	-70.	3515.	-.0595	-.0816	.1271	.0865	-.0472	-.0732	1896.		
.1900	8905.	-1211.	-5915.	2847.	427.	3247.	-.0626	-.0820	.1228	.0824	-.0418	-.0691	1741.		
.1910	8298.	-1282.	-5827.	2398.	608.	2738.	-.0630	-.0805	.1159	.0788	-.0384	-.0640	1481.		
.1920	7729.	-1281.	-5529.	1857.	567.	2083.	-.0609	-.0775	.1069	.0753	-.0370	-.0578	1143.		
.1930	7288.	-1237.	-5124.	1206.	358.	1418.	-.0562	-.0740	.0958	.0698	-.0367	-.0503	761.		

ADLPIPE PAGE 716

DIS/ADLPIPE ADLPIPE STRESS ANALYSIS  
S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

83/12/02. 18.26.37.

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1830	6685.	-715.	-867.	2585.	-1851.	2925.	-.1191	-.0572	.1289	.1064	-.0827	-.0741	1734.
.1840	7294.	-686.	-1479.	2780.	-1992.	3439.	-.0267	-.0644	.1315	.1023	-.0807	-.0767	1946.
.1850	8001.	-704.	-2341.	2916.	-1891.	3837.	-.0344	-.0708	.1326	.0976	-.0761	-.0779	2077.
.1860	7986.	-763.	-3008.	3063.	-1605.	3986.	-.0414	-.0756	.1324	.0940	-.0694	-.0783	2118.
.1870	8840.	-848.	-4176.	3237.	-1066.	3924.	-.0486	-.0785	.1317	.0919	-.0617	-.0777	2086.
.1880	8734.	-948.	-4602.	3293.	-569.	3722.	-.0547	-.0803	.1300	.0899	-.0540	-.0761	2007.
.1890	8038.	-1078.	-5037.	3155.	-70.	3515.	-.0595	-.0816	.1271	.0865	-.0472	-.0732	1896.
.1900	8905.	-1211.	-5915.	2847.	427.	3247.	-.0626	-.0820	.1228	.0824	-.0418	-.0691	1741.
.1910	8298.	-1262.	-5827.	2398.	608.	2738.	-.0630	-.0805	.1159	.0788	-.0384	-.0640	1481.
.1920	7729.	-1281.	-5529.	1857.	567.	2083.	-.0609	-.0775	.1069	.0753	-.0370	-.0578	1143.
.1930	7289.	-1237.	-5124.	1206.	356.	1418.	-.0562	-.0740	.0958	.0698	-.0367	-.0503	761.

ADLPIPE PAGE 716

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.37.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
 LOADS  
 SHOCK  
 PRESSURE  
 ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
 FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU						STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	PSI		
.1940	6390.	-1149.	-4385.	447.	31.	782.	-.0489	-.0706	.0831	.0618	-.0366	-.0415	361.		
.1950	5394.	-982.	-3555.	-322.	-293.	172.	-.0397	-.0673	.0696	.0530	-.0359	-.0314	188.		
.1960	4670.	-718.	-2860.	-969.	-535.	-388.	-.0291	-.0640	.0561	.0455	-.0341	-.0202	471.		
.1970	3544.	-390.	-1970.	-1435.	-734.	-898.	-.0175	-.0608	.0426	.0394	-.0311	-.0087	741.		
.1980	1812.	-59.	-804.	-1744.	-894.	-1374.	-.0052	-.0580	.0293	.0338	-.0265	-.0023	960.		
.1990	405.	233.	126.	-1941.	-939.	-1803.	.0075	-.0558	.0160	.0280	-.0200	.0118	1128.		
.2000	-327.	489.	642.	-2067.	-889.	-2176.	.0204	-.0545	.0026	.0234	-.0120	.0195	1256.		
.2010	-1015.	720.	1107.	-2144.	-868.	-2511.	.0332	-.0539	-.0113	.0215	-.0030	.0250	1370.		
.2020	-1317.	905.	1631.	-2183.	-915.	-2805.	.0454	-.0540	-.0254	.0229	.0064	.0278	1473.		
.2030	-2441.	1013.	2045.	-2181.	-969.	-3041.	.0563	-.0547	-.0391	.0270	.0162	.0278	1551.		
.2040	-3010.	1043.	2367.	-2135.	-976.	-3195.	.0655	-.0560	-.0518	.0332	.0267	.0250	1591.		
.2050	-3566.	1023.	2582.	-2045.	-889.	-3218.	.0730	-.0581	-.0630	.0415	.0379	.0199	1571.		
.2060	-3931.	988.	2594.	-1914.	-672.	-3052.	.0784	-.0611	-.0723	.0529	.0496	.0128	1471.		
.2070	-4746.	965.	2549.	-1738.	-365.	-2694.	.0818	-.0648	-.0795	.0677	.0614	.0044	1295.		
.2080	-5137.	951.	2648.	-1498.	-41.	-2199.	.0835	-.0689	-.0850	.0847	.0726	-.0053	1068.		
.2090	-5901.	919.	2713.	-1180.	281.	-1636.	.0838	-.0730	-.0888	.1017	.0827	-.0160	817.		
.2100	-6210.	848.	2573.	-803.	585.	-1055.	.0829	-.0770	-.0912	.1172	.0910	-.0273	582.		
.2110	-6515.	753.	2502.	-407.	801.	-494.	.0812	-.0806	-.0922	.1311	.0967	-.0386	411.		
.2120	-7029.	662.	2615.	-7.	921.	31.	.0789	-.0837	-.0917	.1431	.0997	-.0489	370.		
.2130	-7247.	578.	2618.	392.	1046.	498.	.0763	-.0862	-.0894	.1525	.1001	-.0576	492.		
.2140	-7003.	491.	2397.	772.	1263.	864.	.0733	-.0876	-.0847	.1578	.0982	-.0641	688.		
.2150	-6623.	391.	2125.	1100.	1549.	1116.	.0699	-.0878	-.0775	.1579	.0941	-.0680	884.		
.2160	-6144.	284.	1855.	1354.	1848.	1286.	.0662	-.0869	-.0680	.1525	.0874	-.0689	1054.		
.2170	-5345.	201.	1512.	1515.	2101.	1378.	.0620	-.0849	-.0567	.1426	.0780	-.0668	1177.		
.2180	-4317.	159.	1166.	1554.	2231.	1358.	.0574	-.0816	-.0441	.1294	.0560	-.0617	1220.		
.2190	-3143.	141.	857.	1447.	2187.	1229.	.0524	-.0769	-.0310	.1129	.0516	-.0544	1162.		
.2200	-1722.	114.	509.	1202.	1954.	1033.	.0469	-.0714	-.0179	.0930	.0355	-.0456	1009.		
.2210	-291.	75.	215.	853.	1524.	774.	.0408	-.0649	-.0051	.0711	.0184	-.0361	767.		
.2220	790.	41.	114.	455.	918.	429.	.0340	-.0576	.0071	.0496	.0012	-.0266	446.		
.2230	1663.	16.	64.	58.	230.	31.	.0265	-.0496	.0186	.0304	-.0154	-.0175	96.		
.2240	2529.	-15.	-87.	-305.	-439.	-347.	.0180	-.0417	.0297	.0140	-.0305	-.0094	256.		
.2250	3130.	-64.	-224.	-605.	-1050.	-667.	.0086	-.0342	.0404	.0004	-.0437	-.0026	555.		
.2260	3310.	-135.	-269.	-801.	-1567.	-929.	-.0016	-.0271	.0507	-.0101	-.0548	.0026	799.		
.2270	3333.	-219.	-361.	-856.	-1930.	-1133.	-.0121	-.0206	.0606	-.0170	-.0639	.0061	962.		
.2280	3359.	-295.	-573.	-784.	-2115.	-1258.	-.0225	-.0147	.0697	-.0202	-.0708	.0078	1036.		
.2290	3393.	-348.	-868.	-641.	-2132.	-1264.	-.0323	-.0098	.0779	-.0205	-.0760	.0082	1027.		
.2300	3607.	-386.	-1296.	-474.	-1985.	-1109.	-.0411	-.0063	.0853	-.0194	-.0798	.0072	932.		
.2310	4085.	-420.	-1872.	-286.	-1676.	-797.	-.0487	-.0039	.0917	-.0179	-.0822	.0052	753.		

ADLPIPE PAGE 717

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
 LOADS  
 SHOCK  
 PRESSURE  
 ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
 FORCES AND MOMENTS ACT ON THE PIPING



.2200	-17.1	114.	89.	120.	1054.	1033.	.0469	-.0714	-.0179	.0930	.0355	-.0456	1009.
.2210	-241.	75.	215.	853.	1524.	774.	.0408	-.0649	-.0051	.0711	.0184	-.0361	767.
.2220	790.	41.	114.	455.	918.	429.	.0340	-.0576	.0071	.0496	.0012	-.0266	446.
.2230	1663.	16.	64.	58.	270.	31.	.0265	-.0496	.0186	.0304	-.0154	-.0175	96.
.2240	2529.	-15.	-87.	-205.	-436.	-347.	.0180	-.0417	.0297	.0140	-.0305	-.0094	256.
.2250	3130.	-64.	-224.	-605.	-1050.	-667.	.0086	-.0342	.0404	.0004	-.0437	-.0026	555.
.2260	3310.	-135.	-269.	-801.	-1567.	-929.	-.0016	-.0271	.0507	-.0101	-.0548	.0026	799.
.2270	3333.	-219.	-361.	-856.	-1930.	-1133.	-.0121	-.0206	.0606	-.0170	-.0539	.0061	962.
.2280	3359.	-295.	-573.	-784.	-2115.	-1258.	-.0225	-.0147	.0697	-.0202	-.0708	.0078	1036.
.2290	3393.	-348.	-868.	-641.	-2132.	-1264.	-.0323	-.0098	.0779	-.0205	-.0760	.0082	1027.
.2300	3607.	-386.	-1296.	-474.	-1985.	-1109.	-.0411	-.0063	.0853	-.0194	-.0798	.0072	932.
.2310	4085.	-420.	-1872.	-286.	-1676.	-777.	-.0487	-.0039	.0917	-.0179	-.0822	.0052	753.

ADLPIPE PAGE 717

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW0RF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2320	4611.	-439.	-2461.	-51.	-1232.	-385.	-.0549	-.0023	.0974	-.0159	-.0833	.0022	518.	
.2330	5123.	-428.	-3016.	240.	-677.	84.	-.0596	-.0011	.1022	-.0134	-.0833	-.0013	290.	
.2340	5767.	-391.	-3600.	552.	-31.	626.	-.0627	-.0005	.1059	-.0111	-.0821	-.0051	335.	
.2350	6441.	-344.	-4156.	841.	649.	1253.	-.0640	-.0009	.1083	-.0099	-.0797	-.0089	659.	
.2360	6937.	-298.	-4561.	1109.	1280.	1903.	-.0636	-.0020	.1087	-.0101	-.0761	-.0127	1022.	
.2370	7298.	-256.	-4813.	1396.	1784.	2476.	-.0615	-.0032	.1068	-.0113	-.0717	-.0166	1347.	
.2380	7512.	-226.	-4878.	1724.	2077.	2901.	-.0578	-.0040	.1020	-.0131	-.0668	-.0207	1590.	
.2390	7330.	-225.	-4616.	2064.	2095.	3164.	-.0528	-.0045	.0943	-.0155	-.0616	-.0250	1734.	
.2400	6733.	-261.	-4037.	2375.	1841.	3282.	-.0467	-.0046	.0836	-.0186	-.0562	-.0294	1786.	
.2410	5974.	-332.	-3315.	2640.	1394.	3248.	-.0397	-.0041	.0704	-.0221	-.0504	-.0337	1770.	
.2420	5054.	-426.	-2502.	2858.	838.	3035.	-.0322	-.0025	.0554	-.0253	-.0440	-.0378	1706.	
.2430	3764.	-530.	-1531.	3019.	238.	2647.	-.0243	.0004	.0393	-.0279	-.0369	-.0414	1614.	
.2440	2154.	-674.	-444.	3088.	-344.	2140.	-.0163	.0046	.0227	-.0304	-.0292	-.0440	1514.	
.2450	479.	-717.	616.	3024.	-845.	1581.	-.0083	.0099	.0062	-.0332	-.0212	-.0451	1411.	
.2460	-1068.	-755.	1540.	2800.	-1215.	1009.	-.0004	.0161	-.0099	-.0369	-.0131	-.0443	1290.	
.2470	-2346.	-730.	2245.	2422.	-1406.	453.	.0073	.0232	-.0251	-.0415	-.0051	-.0411	1138.	
.2480	-3326.	-633.	2727.	1918.	-1408.	-54.	.0147	.0310	-.0391	-.0470	.0025	-.0356	955.	
.2490	-4197.	-465.	3114.	1329.	-1263.	-488.	.0214	.0393	-.0517	-.0536	.0093	-.0279	761.	
.2500	-5004.	-236.	3435.	693.	-991.	-839.	.0274	.0480	-.0627	-.0612	.0154	-.0184	591.	
.2510	-5423.	35.	3503.	55.	-570.	-1109.	.0325	.0569	-.0721	-.0698	.0209	-.0075	501.	
.2520	-5333.	326.	3256.	-548.	-15.	-1307.	.0365	.0656	-.0798	-.0791	.0261	.0042	569.	
.2530	-5148.	613.	2929.	-1083.	587.	-1448.	.0390	.0739	-.0860	-.0886	.0309	.0161	763.	
.2540	-5196.	869.	2711.	-1515.	1145.	-1553.	.0400	.0818	-.0910	-.0979	.0354	.0275	984.	
.2550	-5345.	1072.	2535.	-1819.	1620.	-1664.	.0395	.0892	-.0951	-.1069	.0395	.0379	1184.	
.2560	-5420.	1210.	2319.	-2006.	1976.	-1819.	.0376	.0961	-.0987	-.1159	.0435	.0470	1345.	
.2570	-5501.	1277.	2130.	-2118.	2154.	-2003.	.0345	.1021	-.1021	-.1250	.0470	.0546	1454.	
.2580	-5671.	1275.	2044.	-2187.	2102.	-2166.	.0302	.1068	-.1055	-.1346	.0499	.0607	1496.	
.2590	-5923.	1215.	2073.	-2217.	1814.	-2301.	.0249	.1104	-.1088	-.1440	.0518	.0654	1474.	
.2600	-6213.	1121.	2189.	-2196.	1339.	-2436.	.0188	.1131	-.1117	-.1527	.0527	.0684	1422.	
.2610	-6351.	1000.	2275.	-2134.	761.	-2566.	.0122	.1152	-.1139	-.1607	.0528	.0699	1374.	
.2620	-6167.	843.	2232.	-2056.	157.	-2628.	.0052	.1162	-.1147	-.1682	.0519	.0697	1341.	
.2630	-5772.	659.	2121.	-1974.	-431.	-2585.	-.0021	.1163	-.1139	-.1750	.0500	.0681	1316.	
.2640	-5280.	477.	1991.	-1865.	-958.	-2455.	-.0096	.1156	-.1111	-.1799	.0468	.0650	1295.	
.2650	-4531.	315.	1740.	-1696.	-1368.	-2269.	-.0170	.1145	-.1063	-.1822	.0426	.0607	1263.	
.2660	-3431.	164.	1312.	-1460.	-1643.	-2027.	-.0240	.1131	-.0995	-.1828	.0373	.0554	1200.	
.2670	-2195.	18.	820.	-1177.	-1807.	-1710.	-.0307	.1111	-.0910	-.1825	.0309	.0492	1105.	
.2680	-982.	-121.	342.	-859.	-1885.	-1320.	-.0369	.1086	-.0811	-.1816	.0236	.0426	986.	
.2690	251.	-235.	-163.	-494.	-1872.	-881.	-.0424	.1057	-.0699	-.1796	.0156	.0359	853.	

ADLPIPE PAGE 718

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW0RF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2590	-5923.	1215.	2073.	-2217.	1814.	-2301.	2249.	.1104	-1088	-1440	.0518	.0654	1474.
.2600	-6213.	1121.	2189.	-2196.	1339.	-2436.	2188	.1131	-1117	-1527	.0527	.0684	1422.
.2610	-6351.	1000.	2275.	-2134.	761.	-2566.	20122	.1152	-1139	-1607	.0528	.0699	1374.
.2620	-6167.	843.	2232.	-2056.	157.	-2628.	20052	.1162	-1147	-1682	.0519	.0697	1341.
.2630	-5772.	659.	2121.	-1974.	-431.	-2585.	20021	.1163	-1139	-1750	.0500	.0681	1316.
.2640	-5280.	477.	1991.	-1865.	-951.	-2455.	20096	.1156	-1111	-1799	.0468	.0650	1295.
.2650	-4531.	315.	1740.	-1696.	-1368.	-2269.	20170	.1145	-1063	-1822	.0426	.0607	1263.
.2660	-3431.	164.	1312.	-1460.	-1643.	-2027.	20240	.1131	-0995	-1828	.0373	.0554	1200.
.2670	-2195.	18.	820.	-1177.	-1807.	-1710.	20307	.1111	-0910	-1825	.0309	.0492	1105.
.2680	-982.	-121.	342.	-859.	-1885.	-1320.	20369	.1086	-0811	-1816	.0236	.0426	986.
.2690	251.	-235.	-163.	-494.	-1872.	-881.	20424	.1057	-0699	-1796	.0156	.0359	853.

ADLPIPE PAGE 718

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKWC8F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU							STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ				(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)				
.2700	1446.	-314.	-686.	-72.	-1765.	-433.	-0474	.1028	-0576	-1764	.0073	.0295				730.
.2710	2423.	-377.	-1143.	379.	-1579.	0.	-0518	.1000	-0444	-1722	-0010	.0234				652.
.2720	3114.	-451.	-1498.	812.	-1328.	417.	-0557	.0973	-0304	-1680	-0092	.0178				647.
.2730	3544.	-541.	-1754.	1203.	-1030.	806.	-0592	.0948	-0159	-1639	-0173	.0127				713.
.2740	3692.	-625.	-1884.	1544.	-723.	1130.	-0621	.0929	-0013	-1593	-0253	.0083				821.
.2750	3669.	-693.	-1921.	1820.	-439.	1357.	-0642	.0917	.0130	-1541	-0333	.0046				928.
.2760	3621.	-763.	-1915.	1994.	-198.	1486.	-0655	.0911	.0264	-1491	-0414	.0017				1001.
.2770	3518.	-849.	-1834.	2044.	-24.	1528.	-0659	.0910	.0386	-1449	-0496	-0005				1024.
.2780	3352.	-931.	-1674.	1988.	88.	1489.	-0652	.0913	.0494	-1411	-0577	-0018				998.
.2790	3269.	-984.	-1525.	1869.	174.	1368.	-0637	.0920	.0587	-1371	-0556	-0022				932.
.2800	3315.	-1005.	-1428.	1714.	268.	1173.	-0614	.0931	.0664	-1325	-0728	-0015				840.
.2810	3345.	-1007.	-1327.	1527.	381.	934.	-0583	.0942	.0726	-1275	-0789	-0001				735.
.2820	3304.	-990.	-1208.	1324.	518.	691.	-0548	.0950	.0771	-1224	-0836	.0022				634.
.2830	3252.	-941.	-1113.	1130.	680.	459.	-0508	.0956	.0797	-1170	-0865	.0052				560.
.2840	3151.	-860.	-1024.	963.	840.	227.	-0464	.0959	.0803	-1112	-0876	.0087				521.
.2850	2914.	-758.	-887.	812.	959.	-2.	-0417	.0957	.0787	-1051	-0868	.0126				504.
.2860	2549.	-647.	-690.	655.	1008.	-200.	-0367	.0949	.0748	-0991	-0841	.0166				489.
.2870	2085.	-528.	-437.	487.	977.	-342.	-0318	.0933	.0686	-0934	-0798	.0208				459.
.2880	1516.	-405.	-129.	320.	876.	-427.	-0270	.0909	.0606	-0880	-0739	.0250				412.
.2890	887.	-284.	210.	167.	730.	-466.	-0225	.0877	.0511	-0824	-0664	.0292				354.
.2900	246.	-172.	550.	36.	567.	-451.	-0186	.0830	.0405	-0767	-0574	.0334				291.
.2910	-413.	-71.	895.	-76.	404.	-373.	-0153	.0791	.0294	-0706	-0472	.0374				223.
.2920	-1047.	17.	1216.	-173.	258.	-231.	-0126	.0737	.0179	-0641	-0359	.0411				155.
.2930	-1526.	85.	1437.	-256.	146.	-51.	-0105	.0677	.0063	-0570	-0236	.0443				120.
.2940	-1818.	134.	1536.	-322.	69.	135.	-0090	.0614	-0054	-0490	-0104	.0469				143.
.2950	-2014.	164.	1559.	-380.	14.	304.	-0079	.0550	-0171	-0402	.0033	.0488				195.
.2960	-2150.	174.	1516.	-445.	-22.	448.	-0072	.0486	-0286	-0305	.0176	.0500				254.
.2970	-2190.	170.	1374.	-528.	-28.	562.	-0069	.0424	-0397	-0200	.0321	.0506				310.
.2980	-2156.	168.	1133.	-630.	11.	641.	-0068	.0364	-0503	-0086	.0467	.0508				361.
.2990	-2123.	181.	830.	-752.	93.	688.	-0069	.0308	-0600	.0034	.0613	.0510				411.
.3000	-2145.	212.	503.	-897.	210.	710.	-0073	.0256	-0686	.0157	.0755	.0513				467.
.3010	-2257.	260.	194.	-1072.	339.	704.	-0076	.0208	-0759	.0279	.0886	.0518				532.
.3020	-2455.	331.	-69.	-1282.	455.	663.	-0078	.0165	-0819	.0397	.1004	.0527				607.
.3030	-2673.	425.	-284.	-1533.	531.	585.	-0077	.0127	-0864	.0509	.1100	.0539				692.
.3040	-2864.	528.	-439.	-1828.	540.	466.	-0071	.0093	-0894	.0611	.1172	.0554				787.
.3050	-3055.	622.	-485.	-2162.	461.	295.	-0060	.0063	-0908	.0700	.1213	.0568				895.
.3060	-3243.	697.	-408.	-2511.	292.	63.	-0042	.0036	-0905	.0777	.1222	.0579				1015.
.3070	-3347.	751.	-248.	-2846.	59.	-219.	-0019	.0011	-0884	.0841	.1199	.0588				1146.

ADLPIPE PAGE 719

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKWC8F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2970	-2190.	170.	1374.	-528.	-28.	562.	-.0069	.0424	-.0397	-.0200	.0321	.0506	310.
.2980	-2156.	168.	1133.	-630.	11.	641.	-.0068	.0364	-.0503	-.0086	.0467	.0508	361.
.2990	-2123.	181.	820.	-752.	93.	688.	-.0069	.0308	-.0600	.0034	.0513	.0510	411.
.3000	-2145.	212.	503.	-897.	210.	710.	-.0073	.0256	-.0686	.0157	.0755	.0513	467.
.3010	-2257.	260.	194.	-1072.	339.	704.	-.0076	.0208	-.0759	.0279	.0886	.0518	532.
.3020	-2455.	331.	-69.	-1282.	455.	663.	-.0078	.0165	-.0819	.0397	.1004	.0527	607.
.3030	-2673.	425.	-284.	-1533.	531.	585.	-.0077	.0127	-.0864	.0509	.1100	.0539	692.
.3040	-2864.	528.	-439.	-1828.	540.	466.	-.0071	.0093	-.0894	.0611	.1172	.0554	787.
.3050	-3055.	622.	-485.	-2162.	461.	295.	-.0060	.0063	-.0908	.0700	.1213	.0568	895.
.3060	-3243.	697.	-408.	-2511.	292.	63.	-.0042	.0036	-.0905	.0777	.1222	.0579	1015.
.3070	-3347.	751.	-248.	-2846.	59.	-219.	-.0019	.0011	-.0884	.0841	.1199	.0588	1146.

ADLPIPE PAGE 719

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ								STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3080	-3322.	782.	-43.	-3141.	-205.	-527.	.0008	-.0014	-.0843	.0894	.1146	.0592	1281.	
.3090	-3192.	786.	194.	-3374.	-465.	-833.	.0039	-.0042	-.0781	.0934	.1067	.0591	1407.	
.3100	-2968.	759.	440.	-3525.	-688.	-1118.	.0071	-.0075	-.0699	.0963	.0966	.0585	1509.	
.3110	-2645.	707.	655.	-3571.	-843.	-1363.	.0104	-.0114	-.0598	.0984	.0849	.0572	1571.	
.3120	-2247.	636.	817.	-3505.	-914.	-1556.	.0134	-.0159	-.0482	.1001	.0722	.0552	1582.	
.3130	-1806.	552.	915.	-3336.	-896.	-1680.	.0161	-.0211	-.0354	.1015	.0590	.0523	1541.	
.3140	-1323.	455.	928.	-3081.	-791.	-1714.	.0183	-.0271	-.0218	.1029	.0457	.0485	1450.	
.3150	-830.	352.	857.	-2753.	-608.	-1647.	.0200	-.0339	-.0078	.1045	.0327	.0436	1310.	
.3160	-356.	249.	708.	-2360.	-359.	-1483.	.0209	-.0414	.0064	.1068	.0205	.0377	1128.	
.3170	89.	154.	490.	-1909.	-56.	-1226.	.0212	-.0495	.0204	.1100	.0091	.0307	911.	
.3180	492.	75.	218.	-1410.	283.	-873.	.0207	-.0579	.0340	.1142	-.0011	.0227	675.	
.3190	853.	11.	-92.	-879.	640.	-425.	.0196	-.0668	.0472	.1195	-.0103	.0138	468.	
.3200	1187.	-38.	-426.	-331.	990.	98.	.0180	-.0760	.0596	.1255	-.0183	.0043	421.	
.3210	1535.	-76.	-775.	226.	1310.	657.	.0160	-.0853	.0711	.1323	-.0255	-.0058	595.	
.3220	1892.	-108.	-1108.	782.	1569.	1215.	.0139	-.0944	.0815	.1396	-.0320	-.0163	856.	
.3230	2223.	-140.	-1379.	1323.	1738.	1743.	.0119	-.1032	.0907	.1469	-.0379	-.0269	1121.	
.3240	2543.	-183.	-1578.	1826.	1803.	2210.	.0101	-.1116	.0984	.1537	-.0435	-.0374	1359.	
.3250	2905.	-248.	-1728.	2278.	1770.	2581.	.0088	-.1192	.1048	.1596	-.0488	-.0477	1553.	
.3260	3285.	-333.	-1822.	2662.	1649.	2837.	.0080	-.1260	.1098	.1642	-.0536	-.0574	1696.	
.3270	3630.	-431.	-1847.	2973.	1459.	2973.	.0079	-.1319	.1134	.1673	-.0579	-.0662	1786.	
.3280	3925.	-534.	-1817.	3204.	1227.	2996.	.0083	-.1367	.1158	.1687	-.0515	-.0738	1828.	
.3290	4161.	-637.	-1750.	3344.	985.	2916.	.0092	-.1403	.1169	.1682	-.0641	-.0799	1824.	
.3300	4321.	-730.	-1662.	3387.	760.	2744.	.0107	-.1429	.1169	.1656	-.0656	-.0843	1776.	
.3310	4419.	-799.	-1579.	3337.	567.	2501.	.0126	-.1443	.1158	.1611	-.0658	-.0869	1689.	
.3320	4437.	-830.	-1499.	3195.	410.	2207.	.0149	-.1447	.1134	.1552	-.0647	-.0875	1567.	
.3330	4332.	-819.	-1403.	2968.	285.	1875.	.0175	-.1441	.1098	.1482	-.0523	-.0865	1413.	
.3340	4121.	-770.	-1300.	2661.	187.	1513.	.0205	-.1425	.1047	.1403	-.0588	-.0839	1231.	
.3350	3877.	-686.	-1227.	2290.	119.	1129.	.0236	-.1402	.0984	.1320	-.0541	-.0802	1026.	
.3360	3604.	-570.	-1178.	1874.	74.	731.	.0268	-.1372	.0907	.1238	-.0484	-.0757	808.	
.3370	3263.	-430.	-1119.	1432.	39.	328.	.0300	-.1337	.0819	.1162	-.0420	-.0707	590.	
.3380	2865.	-277.	-1047.	986.	8.	-73.	.0332	-.1297	.0720	.1095	-.0350	-.0656	397.	
.3390	2450.	-123.	-972.	554.	-21.	-468.	.0362	-.1255	.0613	.1037	-.0276	-.0608	291.	
.3400	2026.	23.	-889.	153.	-56.	-856.	.0390	-.1212	.0499	.0987	-.0200	-.0563	350.	
.3410	1581.	151.	-784.	-206.	-105.	-1227.	.0415	-.1169	.0379	.0941	-.0124	-.0523	501.	
.3420	1103.	257.	-644.	-519.	-179.	-1569.	.0439	-.1129	.0255	.0899	-.0049	-.0488	667.	
.3430	576.	341.	-457.	-780.	-280.	-1877.	.0461	-.1092	.0128	.0856	.0024	-.0458	823.	
.3440	7.	403.	-232.	-966.	-402.	-2145.	.0481	-.1060	.0001	.0809	.0094	-.0433	961.	
.3450	-566.	443.	3.	-1135.	-527.	-2363.	.0501	-.1032	-.0124	.0756	.0162	-.0412	1073.	

ADLPIPE PAGE 720

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3340	4121.	-770.	1500.	2661.	107.	1513.	.205	-.1425	.1047	.1403	-.0588	-.0839	1231.
.3350	3877.	-686.	-1227.	2290.	119.	1129.	.236	-.1402	.0984	.1320	-.0541	-.0802	1026.
.3360	2604.	-570.	-1178.	1874.	74.	731.	.0268	-.1372	.0907	.1238	-.0484	-.0757	808.
.3370	3263.	-430.	-1119.	1432.	39.	328.	.0300	-.1337	.0819	.1162	-.0420	-.0707	590.
.3380	2865.	-277.	-1047.	986.	8.	-73.	.0332	-.1297	.0720	.1095	-.0350	-.0656	397.
.3390	2450.	-123.	-972.	554.	-21.	-468.	.0362	-.1255	.0613	.1037	-.0276	-.0608	291.
.3400	2026.	23.	-889.	153.	-56.	-856.	.0390	-.1212	.0499	.0987	-.0200	-.0563	350.
.3410	1581.	151.	-784.	-206.	-105.	-1227.	.0415	-.1169	.0379	.0941	-.0124	-.0523	501.
.3420	1103.	257.	-644.	-519.	-179.	-1569.	.0439	-.1129	.0255	.0899	-.0049	-.0488	667.
.3430	576.	341.	-457.	-780.	-280.	-1877.	.0461	-.1092	.0128	.0856	.0024	-.0458	823.
.3440	7.	403.	-232.	-986.	-402.	-2145.	.0481	-.1060	.0001	.0809	.0094	-.0433	961.
.3450	-566.	443.	3.	-1135.	-527.	-2363.	.0501	-.1032	-.0124	.0756	.0162	-.0412	1073.

ADLPIPE PAGE 720

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3460	-1134.	461.	240.	-1224.	-639.	-2520.	.0521	-.1009	-.0244	.0693	.0226	-.0394	1153.	
.3470	-1722.	466.	490.	-1250.	-724.	-2610.	.0540	-.0991	-.0355	.0624	.0286	-.0380	1197.	
.3480	-2311.	465.	742.	-1207.	-769.	-2628.	.0559	-.0977	-.0455	.0549	.0340	-.0369	1201.	
.3490	-2825.	461.	958.	-1097.	-760.	-2577.	.0577	-.0966	-.0541	.0472	.0389	-.0362	1165.	
.3500	-3219.	456.	1123.	-926.	-697.	-2463.	.0594	-.0958	-.0611	.0395	.0429	-.0359	1092.	
.3510	-3499.	449.	1251.	-706.	-593.	-2296.	.0610	-.0949	-.0664	.0320	.0459	-.0360	993.	
.3520	-3663.	441.	1352.	-449.	-468.	-2089.	.0625	-.0941	-.0701	.0251	.0477	-.0366	878.	
.3530	-3699.	435.	1424.	-168.	-337.	-1860.	.0637	-.0929	-.0722	.0192	.0481	-.0377	761.	
.3540	-3617.	428.	1470.	118.	-215.	-1626.	.0647	-.0914	-.0727	.0144	.0472	-.0393	660.	
.3550	-3435.	415.	1492.	389.	-110.	-1403.	.0653	-.0894	-.0718	.0107	.0450	-.0414	586.	
.3560	-3190.	394.	1500.	630.	-30.	-1196.	.0653	-.0868	-.0694	.0080	.0417	-.0438	543.	
.3570	-2946.	363.	1513.	832.	21.	-1013.	.0648	-.0835	-.0657	.0064	.0373	-.0465	526.	
.3580	-2744.	326.	1542.	991.	41.	-863.	.0636	-.0795	-.0608	.0056	.0322	-.0492	528.	
.3590	-2574.	282.	1570.	1107.	36.	-750.	.0616	-.0748	-.0548	.0054	.0265	-.0517	537.	
.3600	-2421.	232.	1582.	1177.	12.	-667.	.0589	-.0694	-.0477	.0053	.0203	-.0539	543.	
.3610	-2294.	176.	1581.	1204.	-29.	-605.	.0554	-.0634	-.0399	.0049	.0138	-.0556	541.	
.3620	-2183.	119.	1563.	1202.	-78.	-561.	.0513	-.0569	-.0314	.0039	.0070	-.0566	533.	
.3630	-2045.	65.	1508.	1185.	-122.	-530.	.0466	-.0501	-.0222	.0021	.0001	-.0567	523.	
.3640	-1847.	16.	1399.	1168.	-146.	-506.	.0414	-.0429	-.0127	-.0006	-.0070	-.0560	515.	
.3650	-1568.	-30.	1230.	1154.	-136.	-486.	.0358	-.0355	-.0027	-.0043	-.0141	-.0542	506.	
.3660	-1193.	-76.	1001.	1147.	-88.	-457.	.0298	-.0281	.0074	-.0090	-.0212	-.0517	497.	
.3670	-725.	-122.	722.	1148.	-2.	-421.	.0235	-.0207	.0176	-.0146	-.0282	-.0483	491.	
.3680	-182.	-166.	408.	1159.	110.	-380.	.0171	-.0133	.0275	-.0207	-.0350	-.0442	491.	
.3690	426.	-209.	75.	1172.	231.	-334.	.0106	-.0061	.0369	-.0271	-.0417	-.0396	498.	
.3700	1084.	-254.	-263.	1176.	341.	-279.	.0041	.0010	.0455	-.0338	-.0480	-.0346	504.	
.3710	1752.	-299.	-580.	1162.	416.	-209.	-.0024	.0079	.0529	-.0405	-.0538	-.0294	502.	
.3720	2378.	-342.	-852.	1126.	437.	-123.	-.0089	.0144	.0589	-.0470	-.0589	-.0241	487.	
.3730	2933.	-377.	-1068.	1073.	397.	-19.	-.0152	.0206	.0633	-.0529	-.0532	-.0188	459.	
.3740	3392.	-403.	-1226.	1009.	298.	102.	-.0214	.0266	.0660	-.0581	-.0564	-.0135	424.	
.3750	3722.	-424.	-1321.	935.	148.	243.	-.0275	.0322	.0670	-.0625	-.0682	-.0083	392.	
.3760	3910.	-440.	-1359.	857.	-39.	401.	-.0334	.0374	.0663	-.0662	-.0685	-.0033	380.	
.3770	3970.	-450.	-1355.	786.	-247.	572.	-.0391	.0423	.0640	-.0689	-.0673	.0015	402.	
.3780	3915.	-451.	-1324.	728.	-458.	748.	-.0444	.0469	.0603	-.0707	-.0544	.0062	457.	
.3790	3767.	-444.	-1278.	688.	-657.	922.	-.0493	.0513	.0552	-.0718	-.0500	.0108	531.	
.3800	3562.	-434.	-1237.	662.	-827.	1088.	-.0536	.0555	.0491	-.0725	-.0541	.0153	609.	
.3810	3332.	-423.	-1213.	647.	-954.	1239.	-.0573	.0596	.0420	-.0731	-.0470	.0198	679.	
.3820	3085.	-408.	-1204.	636.	-1028.	1366.	-.0602	.0636	.0343	-.0736	-.0388	.0245	732.	
.3830	2826.	-386.	-1211.	621.	-1041.	1461.	-.0622	.0676	.0261	-.0741	-.0298	.0294	762.	

ADLPIPE PAGE 721

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3730	2933.	-377.	-1068.	1073.	397.	-19.	-.0152	.0206	.0633	-.0529	-.0632	-.0188	459.
.3740	3392.	-403.	-1226.	1009.	298.	102.	-.0214	.0266	.0660	-.0581	-.0664	-.0135	424.
.3750	3722.	-424.	-1321.	935.	148.	243.	-.0275	.0322	.0670	-.0625	-.0682	-.0083	392.
.3760	3910.	-440.	-1359.	857.	-39.	401.	-.0334	.0374	.0663	-.0662	-.0685	-.0033	380.
.3770	3970.	-450.	-1355.	706.	-247.	572.	-.0391	.0423	.0640	-.0689	-.0673	.0015	402.
.3780	3915.	-451.	-1324.	728.	-458.	748.	-.0444	.0469	.0603	-.0707	-.0644	.0062	457.
.3790	3767.	-444.	-1278.	688.	-657.	922.	-.0493	.0513	.0552	-.0718	-.0600	.0108	531.
.3800	3562.	-434.	-1237.	662.	-827.	1088.	-.0536	.0555	.0491	-.0725	-.0541	.0153	609.
.3810	3332.	-423.	-1213.	647.	-954.	1239.	-.0573	.0596	.0420	-.0731	-.0470	.0198	679.
.3820	3085.	-408.	-1204.	636.	-1028.	1366.	-.0602	.0636	.0343	-.0736	-.0388	.0245	732.
.3830	2826.	-386.	-1211.	621.	-1041.	1461.	-.0622	.0676	.0261	-.0741	-.0298	.0294	762.

ADLPIPE PAGE 721

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKMOEF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	235	LOCATION	BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3840	2562.	-359.	-1231.	590.	-986.	1523.	-.0634	.0718	.0177	-.0747	-.0204	.0347	765.	
.3850	2289.	-327.	-1256.	530.	-864.	1547.	-.0637	.0760	.0093	-.0755	-.0106	.0403	742.	
.3860	1988.	-292.	-1268.	429.	-689.	1529.	-.0632	.0804	.0010	-.0767	-.0008	.0463	695.	
.3870	1641.	-251.	-1247.	283.	-479.	1464.	-.0617	.0851	-.0073	-.0779	.0087	.0527	629.	
.3880	1236.	-198.	-1174.	91.	-258.	1355.	-.0594	.0900	-.0153	-.0791	.0176	.0592	555.	
.3890	766.	-135.	-1035.	-149.	-51.	1204.	-.0564	.0951	-.0233	-.0801	.0258	.0660	487.	
.3900	241.	-67.	-829.	-435.	125.	1009.	-.0527	.1003	-.0311	-.0810	.0331	.0727	444.	
.3910	-330.	3.	-559.	-759.	259.	775.	-.0486	.1057	-.0388	-.0815	.0393	.0792	448.	
.3920	-950.	79.	-226.	-1103.	345.	511.	-.0441	.1111	-.0462	-.0813	.0446	.0854	507.	
.3930	-1613.	167.	161.	-1446.	387.	235.	-.0395	.1164	-.0533	-.0804	.0489	.0913	608.	
.3940	-2284.	264.	572.	-1774.	397.	-37.	-.0349	.1214	-.0599	-.0789	.0523	.0967	730.	
.3950	-2925.	361.	976.	-2077.	308.	-293.	-.0304	.1260	-.0659	-.0771	.0551	.1016	856.	
.3960	-3518.	455.	1358.	-2343.	366.	-524.	-.0264	.1301	-.0712	-.0750	.0572	.1059	975.	
.3970	-4056.	545.	1708.	-2565.	335.	-723.	-.0227	.1336	-.0757	-.0728	.0589	.1096	1078.	
.3980	-4519.	630.	2010.	-2739.	300.	-830.	-.0197	.1364	-.0795	-.0704	.0600	.1125	1161.	
.3990	-4874.	700.	2242.	-2869.	267.	-994.	-.0172	.1383	-.0823	-.0682	.0607	.1147	1223.	
.4000	-5092.	746.	2387.	-2958.	243.	-1061.	-.0155	.1393	-.0842	-.0664	.0611	.1160	1265.	

MAXIMUM VALUE OF STRESS OCCURS AT

TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1150	6964.	-1474.	-4969.	6898.	6247.	6623.	.0153	.1141	-.1902	-.1775	.0950	.1052	4584.

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.	
.0010	2.	-0.	-3.	1.	3.	0.	-.0000	-.0000	-.0000	.0000	-.0000	-.0000	1.	
.0020	4.	-0.	-14.	6.	22.	1.	-.0000	-.0000	-.0002	.0001	-.0001	-.0000	9.	
.0030	-21.	3.	-24.	15.	60.	7.	-.0000	-.0000	-.0006	.0001	-.0003	-.0001	25.	
.0040	-82.	13.	-25.	20.	113.	22.	-.0000	.0000	-.0013	.0001	-.0006	-.0003	47.	
.0050	-166.	28.	-24.	19.	176.	51.	-.0001	.0002	-.0022	-.0000	-.0010	-.0005	74.	
.0060	-289.	46.	-11.	12.	241.	85.	-.0002	.0005	-.0035	-.0003	-.0013	-.0008	103.	
.0070	-484.	67.	26.	4.	319.	112.	-.0003	.0008	-.0054	-.0007	-.0018	-.0011	136.	

ADLPIPE PAGE 722

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKMOEF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	D (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	2.	-0.	-3.	1.	3.	0.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	1.
.0020	4.	-0.	-14.	6.	22.	1.	-0.0000	-0.0000	-0.0002	.0001	-0.0001	-0.0000	9.
.0030	-21.	3.	-24.	15.	60.	7.	-0.0000	-0.0000	-0.0006	.0001	-0.0003	-0.0001	25.
.0040	-82.	13.	-25.	20.	113.	22.	-0.0000	.0000	-0.0013	.0001	-0.0006	-0.0003	47.
.0050	-166.	28.	-24.	19.	176.	51.	-0.0001	.0002	-0.0022	-0.0000	-0.0010	-0.0005	74.
.0060	-289.	46.	-11.	12.	241.	85.	-0.0002	.0005	-0.0035	-0.0003	-0.0013	-0.0008	103.
.0070	-464.	67.	26.	4.	319.	112.	-0.0003	.0008	-0.0054	-0.0007	-0.0018	-0.0011	136.

ADLPIPE PAGE 722

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKWO8F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
15	1	403					.0080	-821.	89.	109.	4.	435.	142.	-0.0002	.0012	-0.0084	-0.0013	-0.0024	-0.0014	184.
							.0090	-1460.	116.	319.	13.	582.	204.	.0005	.0019	-0.0126	-0.0026	-0.0032	-0.0018	247.
							.0100	-2259.	150.	583.	27.	757.	317.	.0019	.0030	-0.0182	-0.0051	-0.0039	-0.0022	330.
							.0110	-2832.	187.	697.	49.	976.	461.	.0042	.0045	-0.0249	-0.0094	-0.0047	-0.0024	434.
							.0120	-3006.	210.	582.	75.	1225.	592.	.0074	.0062	-0.0323	-0.0154	-0.0054	-0.0022	547.
							.0130	-2937.	196.	350.	95.	1425.	680.	.0114	.0080	-0.0397	-0.0226	-0.0059	-0.0012	635.
							.0140	-2883.	137.	194.	89.	1440.	714.	.0160	.0099	-0.0465	-0.0314	-0.0055	.0007	646.
							.0150	-2992.	42.	245.	46.	1146.	674.	.0212	.0118	-0.0518	-0.0421	-0.0036	.0035	534.
							.0160	-3499.	-85.	666.	-40.	466.	540.	.0269	.0136	-0.0554	-0.0543	.0006	.0071	287.
							.0170	-3896.	-252.	1177.	-154.	-502.	315.	.0331	.0150	-0.0575	-0.0663	.0074	.0113	246.
							.0180	-2994.	-447.	1061.	-260.	-1458.	28.	.0401	.0161	-0.0591	-0.0765	.0161	.0154	594.
							.0190	-370.	-642.	-42.	-296.	-2045.	-226.	.0478	.0170	-0.0615	-0.0835	.0253	.0186	834.
							.0200	4043.	-809.	-2347.	-131.	-1794.	-261.	.0574	.0183	-0.0672	-0.0869	.0326	.0199	729.
							.0210	8280.	-911.	-4853.	342.	-703.	155.	.0696	.0205	-0.0775	-0.0885	.0376	.0185	320.
							.0220	10856.	-877.	-6675.	1046.	747.	966.	.0818	.0239	-0.0879	-0.0913	.0405	.0144	645.
							.0230	13196.	-718.	-8406.	1822.	2231.	1840.	.0918	.0270	-0.0946	-0.0950	.0412	.0082	1372.
							.0240	12761.	-621.	-8406.	2423.	2986.	2513.	.0989	.0284	-0.0959	-0.0937	.0419	.0014	1843.
							.0250	11673.	-712.	-7773.	2727.	3143.	2862.	.1030	.0277	-0.0928	-0.0926	.0431	-0.0057	2026.
							.0260	16667.	-851.	-10408.	2737.	3827.	2820.	.1027	.0244	-0.0868	-0.0640	.0423	-0.0143	2201.
							.0270	22774.	-876.	-13712.	2314.	4725.	2570.	.0956	.0202	-0.0758	-0.0452	.0394	-0.0249	2350.
							.0280	20860.	-847.	-12390.	1510.	4491.	2633.	.0858	.0176	-0.0616	-0.0298	.0390	-0.0367	2175.
							.0290	14901.	-800.	-8453.	768.	3398.	3021.	.0775	.0147	-0.0484	-0.0168	.0419	-0.0492	1850.
							.0300	9187.	-622.	-4824.	391.	2707.	2969.	.0662	.0071	-0.0362	-0.0030	.0421	-0.0627	1620.
							.0310	4717.	-358.	-2168.	152.	2613.	2481.	.0510	-0.0041	-0.0246	.0142	.0391	-0.0766	1447.
							.0320	5006.	-71.	-2050.	-476.	2789.	2313.	.0346	-0.0132	-0.0125	.0359	.0339	-0.0901	1467.
							.0330	3419.	277.	-694.	-1638.	2048.	2817.	.0177	-0.0171	.0032	.0569	.0286	-0.1018	1544.
							.0340	-4487.	726.	4168.	-2713.	89.	3284.	-0.0013	-0.0204	.0241	.0698	.0232	-0.1100	1710.
							.0350	-10745.	1146.	8030.	-3046.	-1769.	2759.	-0.0213	-0.0296	.0463	.0738	.0156	-0.1137	1795.
							.0360	-10625.	1346.	8222.	-2898.	-2631.	1218.	-0.0406	-0.0436	.0662	.0761	.0046	-0.1123	1645.
							.0370	-11462.	1263.	8668.	-3021.	-3104.	-353.	-0.0589	-0.0548	.0842	.0821	-0.0086	-0.1059	1744.
							.0380	-16491.	1046.	11166.	-3469.	-3617.	-1181.	-0.0771	-0.0588	.1013	.0860	-0.0219	-0.0953	2066.
							.0390	-18292.	993.	11839.	-3525.	-3516.	-1707.	-0.0944	-0.0605	.1156	.0764	-0.0350	-0.0827	2112.
							.0400	-14799.	1195.	9624.	-2737.	-2426.	-2708.	-0.1068	-0.0667	.1225	.0549	-0.0484	-0.0696	1826.
							.0410	-14321.	1284.	8719.	-1645.	-806.	-3890.	-0.1162	-0.0742	.1230	.0397	-0.0526	-0.0552	1725.
							.0420	-14840.	1018.	8249.	-842.	922.	-4176.	-0.1224	-0.0761	.1192	.0398	-0.0758	-0.0392	1749.
							.0430	-10345.	796.	5032.	-312.	3381.	-3525.	-0.1228	-0.0732	.1101	.0394	-0.0871	-0.0245	1964.
							.0440	-7064.	1071.	2633.	134.	5387.	-2763.	-0.1181	-0.0708	.1002	.0234	-0.0956	-0.0125	2430.
							.0450	-7601.	1468.	2339.	437.	6479.	-2169.	-0.1120	-0.0694	.0939	.0026	-0.1019	-0.0012	2747.

ADLPIPE PAGE 723

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKWO8F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0340	-4417.	726.	838.	-2713.	89.	3284.	-.0013	-.0204	.0241	.0698	.0232	-.1100	1710.
.0350	-10745.	1146.	8030.	-3046.	-1769.	2759.	-.0213	-.0296	.0463	.0738	.0156	-.1137	1795.
.0360	-10625.	1346.	8222.	-2898.	-2631.	1218.	-.0406	-.0436	.0662	.0761	.0046	-.1123	1645.
.0370	-11467.	1263.	8660.	-3021.	-3104.	-353.	-.0589	-.0548	.0842	.0821	-.0086	-.1059	1744.
.0380	-16451.	1046.	11166.	-3469.	-2717.	-1181.	-.0771	-.0588	.1013	.0860	-.0219	-.0953	2066.
.0390	-12252.	993.	11839.	-3525.	-3516.	-1707.	-.0944	-.0605	.1156	.0764	-.0350	-.0827	2112.
.0400	-14799.	1195.	9624.	-2737.	-2426.	-2708.	-.1068	-.0667	.1225	.0549	-.0484	-.0696	1826.
.0410	-14321.	1284.	8719.	-1645.	-806.	-3890.	-.1162	-.0742	.1230	.0397	-.0526	-.0552	1725.
.0420	-14840.	1018.	8249.	-.842.	922.	-4176.	-.1224	-.0761	.1192	.0398	-.0758	-.0392	1749.
.0430	-10345.	796.	5032.	-312.	3381.	-3525.	-.1228	-.0732	.1101	.0394	-.0871	-.0245	1964.
.0440	-7064.	1071.	2633.	134.	5387.	-2763.	-.1181	-.0708	.1002	.0234	-.0956	-.0125	2430.
.0450	-7601.	1468.	2039.	477.	6479.	-2169.	-.1120	-.0694	.0939	.0026	-.1019	-.0012	2747.

ADLPIPE PAGE 723

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE	RU					
T1-	Fx	Fy	Fz	Mx	My	Mz	Dx	Dy	Dz	Rx	Ry	Rz	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEC)	(DEC)	(DEC)	(PSI)	
.0460	-0393.	1402.	1111.	407.	7145.	-1661.	-.1053	-.0676	.0912	-.0044	-.1068	.0122	2948.	
.0470	-3242.	1005.	-829.	6.	7032.	-1515.	-.0953	-.0668	.0911	.0016	-.1093	.0266	2887.	
.0480	-3300.	687.	-640.	-556.	5650.	-1736.	-.0816	-.0672	.0937	.0086	-.1086	.0397	2383.	
.0490	-4981.	466.	407.	-894.	3909.	-1693.	-.0667	-.0656	.0974	.0120	-.1058	.0505	1747.	
.0500	-4103.	302.	-21.	-696.	2569.	-1169.	-.0503	-.0616	.0986	.0121	-.1015	.0584	1166.	
.0510	-3120.	286.	-424.	-29.	1406.	-735.	-.0304	-.0588	.0955	.0119	-.0950	.0624	637.	
.0520	-3916.	244.	268.	782.	157.	-528.	-.0081	-.0574	.0887	.0218	-.0859	.0634	384.	
.0530	-2954.	-78.	118.	1568.	-1007.	-129.	.0141	-.0548	.0801	.0471	-.0740	.0621	750.	
.0540	-32.	-425.	-884.	2355.	-2298.	293.	.0351	-.0526	.0715	.0759	-.0585	.0574	1326.	
.0550	1591.	-436.	-899.	2993.	-4106.	226.	.0550	-.0539	.0641	.0968	-.0389	.0479	2041.	
.0560	3272.	-385.	-850.	3082.	-6037.	-123.	.0729	-.0570	.0576	.1192	-.0174	.0353	2720.	
.0570	6949.	-729.	-2115.	2414.	-7372.	-353.	.0875	-.0589	.0501	.1563	.0035	.0221	3116.	
.0580	9453.	-1292.	-3130.	1291.	-7989.	-784.	.0996	-.0624	.0401	.2009	.0224	.0083	3263.	
.0590	9386.	-1613.	-3084.	204.	-7980.	-1646.	.1104	-.0699	.0266	.2358	.0394	-.0074	3271.	
.0600	9834.	-1656.	-3588.	-695.	-7253.	-2290.	.1193	-.0777	.0103	.2578	.0546	-.0243	3065.	
.0610	11056.	-1622.	-4664.	-1540.	-6075.	-2148.	.1259	-.0814	-.0078	.2738	.0883	-.0405	2659.	
.0620	10219.	-1535.	-4657.	-2340.	-4861.	-1584.	.1308	-.0828	-.0270	.2865	.0813	-.0543	2256.	
.0630	8727.	-1384.	-4256.	-2830.	-3584.	-1123.	.1339	-.0851	-.0468	.2937	.0931	-.0642	1887.	
.0640	8963.	-1220.	-4687.	-2705.	-2305.	-753.	.1334	-.0880	-.0649	.2915	.1039	-.0685	1482.	
.0650	8472.	-986.	-4492.	-2316.	-1607.	-362.	.1284	-.0903	-.0787	.2757	.1147	-.0668	1141.	
.0660	5850.	-642.	-2894.	-1778.	-1547.	-35.	.1200	-.0914	-.0886	.2467	.1253	-.0597	946.	
.0670	4693.	-395.	-1990.	-1365.	-1402.	221.	.1092	-.0907	-.0969	.2129	.1342	-.0477	796.	
.0680	5964.	-417.	-2489.	-1003.	-755.	413.	.0962	-.0883	-.1051	.1804	.1400	-.0313	530.	
.0690	5891.	-537.	-2365.	-346.	46.	376.	.0819	-.0864	-.1130	.1447	.1430	-.0128	206.	
.0700	3836.	-513.	-1160.	620.	750.	123.	.0679	-.0855	-.1203	.1020	.1436	.0053	394.	
.0710	2636.	-395.	-426.	1555.	1528.	40.	.0542	-.0829	-.1259	.0590	.1413	.0212	875.	
.0720	2667.	-347.	-489.	2103.	2414.	369.	.0392	-.0763	-.1277	.0259	.1351	.0349	1293.	
.0730	3017.	-354.	-812.	2278.	3148.	839.	.0230	-.0675	-.1244	.0042	.1252	.0461	1595.	
.0740	3932.	-327.	-1348.	2364.	3467.	1061.	.0073	-.0596	-.1158	-.0112	.1124	.0546	1737.	
.0750	4053.	-304.	-1339.	2521.	3189.	962.	-.0074	-.0533	-.1018	-.0237	.0976	.0611	1676.	
.0760	1846.	-360.	-94.	2683.	2431.	702.	-.0217	-.0472	-.0829	-.0332	.0508	.0662	1480.	
.0770	-423.	-473.	1087.	2761.	1703.	413.	-.0349	-.0404	-.0615	-.0396	.0517	.0696	1312.	
.0780	-446.	-583.	955.	2708.	1407.	159.	-.0457	-.0329	-.0398	-.0433	.0403	.0707	1255.	
.0790	-656.	-681.	813.	2924.	1391.	6.	-.0540	-.0251	-.0188	-.0457	.0180	.0696	1299.	
.0800	-3521.	-731.	2051.	3344.	1306.	-17.	-.0605	-.0179	.0020	-.0486	-.0036	.0662	1440.	
.0810	-6624.	-632.	3533.	4050.	1097.	56.	-.0648	-.0121	.0225	-.0535	-.0230	.0597	1684.	
.0820	-7600.	-351.	4084.	4714.	806.	250.	-.0668	-.0076	.0429	-.0577	-.0395	.0494	1922.	
.0830	-7772.	-18.	4360.	4901.	717.	699.	-.0675	-.0026	.0637	-.0556	-.0525	.0358	1991.	

ADLPIPE PAGE 724

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0730	3017.	-354.	-812.	2278.	3148.	839.	.0230	-.0675	-.1244	.0042	.1252	.0461	1595.
.0740	3932.	-327.	-1348.	2364.	3467.	1061.	.073	-.0596	-.1158	-.0112	.1124	.0546	1737.
.0750	4057.	-304.	-1339.	2521.	3189.	962.	-.0074	-.0533	-.1018	-.0237	.0976	.0611	1676.
.0760	1846.	-360.	-94.	2683.	2431.	702.	-.0217	-.0472	-.0829	-.0332	.0808	.0662	1480.
.0770	-423.	-473.	1087.	2761.	1703.	413.	-.0349	-.0404	-.0615	-.0396	.0617	.0696	1312.
.0780	-446.	-523.	955.	2788.	1407.	159.	-.0457	-.0329	-.0398	-.0433	.0403	.0707	1255.
.0790	-656.	-681.	813.	2924.	1391.	6.	-.0540	-.0251	-.0188	-.0457	.0180	.0696	1299.
.0800	-3521.	-731.	2051.	3344.	1306.	-17.	-.0605	-.0179	.0020	-.0486	-.0036	.0662	1440.
.0810	-6624.	-632.	3533.	4050.	1097.	56.	-.0648	-.0121	.0225	-.0535	-.0230	.0597	1684.
.0820	-7600.	-351.	4084.	4714.	806.	250.	-.0668	-.0076	.0429	-.0577	-.0395	.0494	1922.
.0830	-7772.	-18.	4360.	4901.	317.	699.	-.0675	-.0026	.0637	-.0556	-.0525	.0358	1991.

ADLPIPE PAGE 724

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKM08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ								STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.0840	-8111.	257.	4853.	4494.	-406.	1396.	-.0672	.0027	.0846	-.0467	-.0521	.0197	1895.	
.0850	-7933.	543.	5135.	3738.	-1170.	2000.	-.0651	.0057	.1038	-.0368	-.0689	.0012	1765.	
.0860	-7918.	901.	5401.	2810.	-1671.	2187.	-.0610	.0043	.1195	-.0298	-.0747	-.0194	1578.	
.0870	-8669.	1201.	5721.	1580.	-1533.	2081.	-.0557	.0001	.1307	-.0220	-.0811	-.0411	1216.	
.0880	-8640.	1313.	5189.	-85.	-508.	2006.	-.0494	-.0037	.1365	-.0088	-.0892	-.0631	831.	
.0890	-7395.	1329.	3725.	-1991.	1158.	1985.	-.0413	-.0068	.1373	.0071	-.0981	-.0854	1220.	
.0900	-6823.	1398.	2528.	-3710.	2877.	1796.	-.0316	-.0109	.1346	.0200	-.1068	-.1074	2017.	
.0910	-7223.	1494.	1884.	-4955.	4262.	1356.	-.0215	-.0163	.1305	.0294	-.1144	-.1278	2679.	
.0920	-6966.	1525.	1027.	-5775.	5191.	730.	-.0117	-.0221	.1261	.0385	-.1205	-.1451	3130.	
.0930	-5821.	1498.	-64.	-6394.	5516.	9.	-.0025	-.0270	.1221	.0489	-.1247	-.1584	3389.	
.0940	-4558.	1447.	-942.	-6106.	5150.	-662.	.0059	-.0301	.1185	.0589	-.1268	-.1671	3467.	
.0950	-3162.	1376.	-1648.	-7160.	4211.	-1200.	.0134	-.0314	.1143	.0645	-.1267	-.1705	3368.	
.0960	-2013.	1324.	-2025.	-6978.	2864.	-1745.	.0203	-.0326	.1081	.0620	-.1247	-.1686	3107.	
.0970	-1901.	1312.	-1675.	-6423.	1202.	-2398.	.0267	-.0344	.0991	.0520	-.1209	-.1616	2793.	
.0980	-1994.	1259.	-1075.	-5782.	-623.	-2925.	.0323	-.0351	.0874	.0398	-.1157	-.1499	2612.	
.0990	-1136.	1102.	-878.	-5278.	-2459.	-3067.	.0364	-.0326	.0735	.0290	-.1089	-.1340	2641.	
.1000	-125.	933.	-690.	-4878.	-4290.	-2934.	.0386	-.0276	.0584	.0168	-.1005	-.1149	2860.	
.1010	167.	845.	-86.	-4412.	-6072.	-2772.	.0389	-.0218	.0427	-.0005	-.0899	-.0937	3211.	
.1020	655.	765.	398.	-3837.	-7608.	-2596.	.0374	-.0151	.0265	-.0213	-.0772	-.0707	3575.	
.1030	1907.	558.	406.	-3273.	-8705.	-2327.	.0347	-.0066	.0095	-.0409	-.0626	-.0458	3847.	
.1040	3095.	201.	300.	-2800.	-9211.	-2022.	.0315	.0038	-.0087	-.0583	-.0464	-.0195	3947.	
.1050	4204.	-232.	3.	-2276.	-8924.	-1725.	.0285	.0153	-.0287	-.0766	-.0294	.0074	3760.	
.1060	5934.	-673.	-915.	-1483.	-7710.	-1384.	.0259	.0273	-.0507	-.0988	-.0122	.0342	3199.	
.1070	7290.	-1078.	-1917.	-384.	-5753.	-985.	.0238	.0391	-.0738	-.1241	.0046	.0601	2347.	
.1080	8151.	-1462.	-2941.	904.	-3094.	-529.	.0229	.0505	-.0984	-.1476	.0199	.0842	1311.	
.1090	9706.	-1851.	-4710.	2348.	533.	180.	.0253	.0616	-.1271	-.1646	.0318	.1045	969.	
.1100	8737.	-2098.	-5224.	3692.	3803.	1283.	.0258	.0741	-.1506	-.1781	.0429	.1204	2188.	
.1110	8735.	-2068.	-5948.	4876.	6200.	2525.	.0255	.0860	-.1668	-.1923	.0550	.1304	3324.	
.1120	10109.	-1848.	-6955.	5758.	7540.	3478.	.0256	.0950	-.1761	-.2028	.0680	.1343	4055.	
.1130	9835.	-1693.	-6815.	6204.	7880.	4181.	.0251	.1018	-.1790	-.1996	.0812	.1331	4360.	
.1140	8236.	-1657.	-5866.	6315.	7635.	4894.	.0240	.1076	-.1779	-.1830	.0939	.1267	4435.	
.1150	6964.	-1474.	-4969.	6312.	7118.	5543.	.0238	.1113	-.1751	-.1658	.1056	.1142	4418.	
.1160	4985.	-999.	-3598.	6225.	6364.	5963.	.0240	.1123	-.1713	-.1548	.1157	.0960	4300.	
.1170	3182.	-476.	-2305.	5896.	5566.	6317.	.0236	.1124	-.1665	-.1430	.1235	.0742	4125.	
.1180	163.	-163.	-353.	5136.	4460.	6489.	.0196	.1123	-.1577	-.1230	.1291	.0521	3773.	
.1190	109.	-53.	297.	4131.	3081.	6035.	.0145	.1092	-.1459	-.0977	.1335	.0307	3185.	
.1200	921.	-28.	782.	3117.	1284.	4729.	.0093	.1017	-.1313	-.0740	.1376	.0107	2330.	
.1210	-1825.	-66.	3066.	2203.	-679.	3066.	.0020	.0928	-.1149	-.0540	.1389	-.0078	1539.	

ADLPIPE PAGE 725

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKM08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING



.1100	8727.	-2098.	-5948.	4876.	6200.	2525.	.0255	.0860	-.1668	-.1923	.0550	.1304	2188.
.1110	8735.	-2068.	-5948.	4876.	6200.	2525.	.0255	.0860	-.1668	-.1923	.0550	.1304	3324.
.1120	10109.	-1848.	-6955.	5758.	7540.	3478.	.0256	.0950	-.1761	-.2028	.0580	.1343	4055.
.1130	9835.	-1693.	-6815.	6204.	7880.	4181.	.0251	.1018	-.1790	-.1996	.0812	.1331	4360.
.1140	8236.	-1657.	-5866.	6315.	7635.	4894.	.0240	.1076	-.1779	-.1830	.0939	.1267	4435.
.1150	6964.	-1474.	-4969.	6312.	7118.	5543.	.0238	.1113	-.1751	-.1658	.1056	.1142	4418.
.1160	4985.	-999.	-3598.	6225.	6364.	5983.	.0240	.1123	-.1713	-.1548	.1157	.0960	4300.
.1170	3182.	-476.	-2305.	5896.	5566.	6217.	.0236	.1124	-.1665	-.1430	.1235	.0742	4125.
.1180	163.	-163.	-353.	5136.	4460.	6489.	.0196	.1123	-.1577	-.1230	.1291	.0521	3773.
.1190	109.	-53.	297.	4131.	3081.	6035.	.0145	.1092	-.1459	-.0977	.1335	.0307	3185.
.1200	921.	-28.	782.	3117.	1284.	4729.	.0093	.1017	-.1313	-.0740	.1376	.0107	2330.
.1210	-1825.	-86.	3066.	2203.	-679.	3066.	.0020	.0928	-.1149	-.0540	.1389	-.0078	1539.

ADLPIPE PAGE 725

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKMO8F 2 RUP DISK

2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	TIME (SEC)	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	STRESS (PSI)					
15		1	403										
	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	
.1220	-2229.	-117.	3938.	1413.	-2112.	1742.	-.0054	.0861	-.0987	-.0398	.1373	-.0248	1236.
.1230	-1857.	-35.	4182.	627.	-3021.	617.	-.0131	.0808	-.0828	-.0331	.1313	-.0406	1263.
.1240	-1149.	131.	4022.	-186.	-3433.	-484.	-.0203	.0758	-.0675	-.0299	.1205	-.0540	1393.
.1250	20.	173.	3280.	-944.	-3272.	-1384.	-.0276	.0717	-.0526	-.0247	.1045	-.0634	1475.
.1260	-619.	139.	3134.	-1517.	-2748.	-2098.	-.0357	.0680	-.0376	-.0204	.0832	-.0686	1515.
.1270	313.	261.	2055.	-1793.	-1851.	-2668.	-.0405	.0638	-.0248	-.0253	.0584	-.0711	1489.
.1280	-388.	546.	1700.	-2022.	-863.	-2943.	-.0429	.0606	-.0136	-.0389	.0300	-.0712	1474.
.1290	-813.	772.	1014.	-2421.	288.	-2553.	-.0442	.0618	-.0028	-.0546	-.0010	-.0680	1417.
.1300	206.	894.	-494.	-2902.	1486.	-1844.	-.0443	.0651	.0085	-.0716	-.0330	-.0613	1503.
.1310	-1404.	1009.	-478.	-3288.	2076.	-1627.	-.0443	.0662	.0222	-.0920	-.0645	-.0512	1691.
.1320	-1932.	1034.	-750.	-3476.	2104.	-1853.	-.0435	.0651	.0380	-.1128	-.0936	-.0382	1792.
.1330	-2305.	884.	-953.	-3612.	1696.	-2031.	-.0435	.0656	.0555	-.1290	-.1205	-.0231	1797.
.1340	-2362.	702.	-1187.	-3733.	1123.	-1948.	-.0432	.0689	.0724	-.1434	-.1439	-.0082	1749.
.1350	-2369.	630.	-1319.	-3712.	601.	-1799.	-.0414	.0731	.0867	-.1595	-.1631	.0049	1673.
.1360	-3721.	579.	-761.	-3427.	226.	-1708.	-.0402	.0771	.0981	-.1740	-.1789	.0166	1539.
.1370	-2958.	455.	-1322.	-2831.	237.	-1567.	-.0393	.0806	.1061	-.1822	-.1909	.0269	1302.
.1380	-3753.	363.	-1017.	-2151.	266.	-1525.	-.0401	.0828	.1119	-.1842	-.1986	.0352	1064.
.1390	-4201.	366.	-420.	-1644.	205.	-1496.	-.0419	.0843	.1163	-.1803	-.2007	.0409	896.
.1400	-3825.	396.	-712.	-1399.	60.	-1208.	-.0452	.0868	.1199	-.1696	-.1967	.0439	742.
.1410	-3726.	472.	-399.	-1291.	-404.	-770.	-.0510	.0895	.1235	-.1532	-.1869	.0445	625.
.1420	-3112.	647.	-121.	-1109.	-1065.	-456.	-.0565	.0899	.1249	-.1340	-.1711	.0425	644.
.1430	-3818.	833.	939.	-906.	-1766.	-400.	-.0620	.0878	.1232	-.1111	-.1510	.0388	813.
.1440	-4052.	883.	1646.	-788.	-2081.	-315.	-.0673	.0856	.1173	-.0829	-.1280	.0344	902.
.1450	-3489.	867.	1764.	-742.	-1888.	-86.	-.0721	.0844	.1072	-.0538	-.1027	.0294	815.
.1460	-4437.	919.	2563.	-692.	-1484.	25.	-.0763	.0826	.0940	-.0303	-.0758	.0240	657.
.1470	-3744.	932.	2536.	-557.	-926.	-88.	-.0780	.0797	.0777	-.0121	-.0470	.0195	435.
.1480	-4088.	730.	3108.	-410.	-661.	-498.	-.0789	.0758	.0608	.0058	-.0172	.0178	371.
.1490	-4686.	345.	3916.	-242.	-788.	-1167.	-.0787	.0709	.0443	.0238	.0131	.0191	573.
.1500	-3924.	-45.	4102.	-33.	-1139.	-1897.	-.0764	.0649	.0280	.0379	.0431	.0225	919.
.1510	-3844.	-365.	4573.	152.	-1633.	-2750.	-.0735	.0591	.0124	.0465	.0706	.0277	1285.
.1520	-2660.	-638.	4293.	375.	-1925.	-3153.	-.0691	.0547	-.0036	.0512	.0947	.0342	1490.
.1530	-2523.	-811.	4311.	715.	-1996.	-3239.	-.0639	.0511	-.0205	.0530	.1138	.0414	1553.
.1540	-1702.	-844.	3729.	1247.	-1608.	-3075.	-.0563	.0473	-.0392	.0524	.1277	.0485	1479.
.1550	-236.	-793.	2561.	1883.	-746.	-2628.	-.0468	.0439	-.0595	.0508	.1368	.0552	1331.
.1560	-903.	-697.	2293.	2478.	218.	-1896.	-.0375	.0420	-.0787	.0486	.1415	.0618	1255.
.1570	356.	-517.	1009.	3052.	1250.	-901.	-.0269	.0411	-.0966	.0440	.1433	.0677	1372.
.1580	1528.	-249.	-161.	3528.	2042.	72.	-.0165	.0402	-.1113	.0372	.1426	.0732	1636.
.1590	1220.	-55.	-509.	3790.	2482.	821.	-.0081	.0391	-.1215	.0316	.1394	.0796	1847.

ADLPIPE PAGE 726

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKMO8F 2 RUP DISK

2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1490	-4686.	345.	2916.	-242.	-788.	-1167.	-0.0787	.0709	.0443	.0238	.0131	.0191	573.
.1500	-3924.	-45.	4102.	-33.	-1139.	-1987.	-.0764	.0649	.0280	.0379	.0431	.0225	919.
.1510	-3844.	-365.	4573.	152.	-1633.	-2750.	-.0735	.0591	.0124	.0465	.0706	.0277	1285.
.1520	-2660.	-638.	4293.	375.	-1925.	-3153.	-.0691	.0547	-.0036	.0512	.0947	.0342	1490.
.1530	-2523.	-811.	4311.	715.	-1996.	-3239.	-.0639	.0511	-.0205	.0530	.1138	.0414	1553.
.1540	-1702.	-844.	3729.	1247.	-1608.	-3075.	-.0563	.0473	-.0392	.0524	.1277	.0485	1479.
.1550	-236.	-793.	2561.	1883.	-746.	-2628.	-.0468	.0439	-.0595	.0508	.1368	.0552	1331.
.1560	-903.	-697.	2293.	2478.	218.	-1896.	-.0375	.0420	-.0787	.0486	.1415	.0618	1255.
.1570	356.	-517.	1009.	3052.	1250.	-901.	-.0269	.0411	-.0966	.0440	.1433	.0677	1372.
.1580	1528.	-245.	-161.	3528.	2642.	72.	-.0165	.0402	-.1113	.0372	.1426	.0732	1636.
.1590	1220.	-55.	-509.	3790.	2482.	821.	-.0081	.0391	-.1215	.0316	.1394	.0796	1847.

ADLPIPE PAGE 726

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE		RU								
15	1	403													
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)		
.1600	2743.	-54.	-1723.	3862.	2779.	1325.	-.0009	.0379	-.1279	.0292	.1346	.0871	1982.		
.1610	5194.	-159.	-3246.	3834.	2835.	1523.	.0059	.0360	-.1313	.0266	.1292	.0951	2009.		
.1620	4717.	-288.	-3100.	3768.	2505.	1419.	.0116	.0336	-.1319	.0213	.1230	.1028	1903.		
.1630	5597.	-505.	-3533.	3730.	2151.	1249.	.0174	.0317	-.1312	.0145	.1166	.1099	1799.		
.1640	6906.	-806.	-4083.	3675.	1716.	957.	.0226	.0300	-.1285	.0079	.1099	.1158	1672.		
.1650	6356.	-1108.	-3541.	3540.	980.	411.	.0263	.0275	-.1228	.0022	.1026	.1202	1483.		
.1660	7147.	-1407.	-3569.	3332.	133.	-205.	.0294	.0245	-.1145	-.0003	.0951	.1224	1341.		
.1670	7495.	-1701.	-3323.	2993.	-902.	-752.	.0305	.0218	-.1026	.0015	.0870	.1222	1290.		
.1680	7643.	-1888.	-2910.	2553.	-2105.	-1164.	.0305	.0191	-.0874	.0049	.0791	.1189	1408.		
.1690	6325.	-1873.	-1714.	2058.	-3470.	-1460.	.0295	.0160	-.0695	.0084	.0707	.1120	1722.		
.1700	5588.	-1718.	-902.	1569.	-4658.	-1510.	.0278	.0128	-.0505	.0148	.0512	.1018	2063.		
.1710	7149.	-1506.	-1434.	1118.	-5346.	-1224.	.0270	.0099	-.0321	.0258	.0506	.0886	2246.		
.1720	5235.	-1206.	-409.	681.	-5733.	-817.	.0254	.0066	-.0142	.0385	.0381	.0733	2340.		
.1730	3614.	-798.	202.	394.	-5500.	-292.	.0243	.0028	.0018	.0497	.0243	.0560	2216.		
.1740	3257.	-320.	-118.	276.	-4614.	314.	.0231	-.0013	.0162	.0592	.0090	.0373	1859.		
.1750	1903.	153.	-134.	176.	-3383.	850.	.0207	-.0056	.0299	.0683	-.0074	.0184	1402.		
.1760	1071.	529.	-496.	-13.	-1932.	1222.	.0180	-.0101	.0429	.0780	-.0234	.0000	917.		
.1770	-597.	772.	-428.	-298.	-539.	1286.	.0139	-.0151	.0562	.0879	-.0385	-.0169	572.		
.1780	-1066.	906.	-881.	-552.	762.	1043.	.0093	-.0210	.0693	.0959	-.0513	-.0322	564.		
.1790	-2538.	981.	-669.	-791.	1765.	460.	.0034	-.0280	.0821	.1001	-.0616	-.0456	798.		
.1800	-4741.	982.	71.	-1105.	2511.	-330.	-.0037	-.0352	.0941	.1021	-.0696	-.0568	1109.		
.1810	-4445.	896.	-316.	-1501.	3233.	-1078.	-.0106	-.0418	.1035	.1036	-.0749	-.0659	1494.		
.1820	-5531.	789.	165.	-1948.	3674.	-1779.	-.0184	-.0480	.1111	.1041	-.0779	-.0729	1815.		
.1830	-6685.	715.	867.	-2301.	3874.	-2401.	-.0262	-.0541	.1162	.1021	-.0782	-.0781	2049.		
.1840	-7294.	686.	1479.	-2508.	3809.	-2936.	-.0336	-.0604	.1193	.0977	-.0760	-.0816	2177.		
.1850	-8001.	704.	2341.	-2636.	3358.	-3322.	-.0410	-.0663	.1211	.0929	-.0720	-.0835	2171.		
.1860	-7986.	763.	3008.	-2760.	2577.	-3427.	-.0474	-.0707	.1219	.0891	-.0661	-.0841	2046.		
.1870	-8840.	848.	4176.	-2900.	1523.	-3303.	-.0540	-.0735	.1225	.0866	-.0596	-.0833	1867.		
.1880	-8334.	948.	4602.	-2916.	512.	-3028.	-.0594	-.0753	.1219	.0845	-.0532	-.0812	1699.		
.1890	-8038.	1078.	5037.	-2726.	-422.	-2726.	-.0636	-.0768	.1200	.0814	-.0475	-.0779	1556.		
.1900	-8905.	1211.	5915.	-2365.	-1218.	-2360.	-.0664	-.0775	.1166	.0778	-.0431	-.0733	1427.		
.1910	-8298.	1282.	5827.	-1888.	-1576.	-1799.	-.0664	-.0766	.1102	.0751	-.0402	-.0674	1223.		
.1920	-7729.	1281.	5529.	-1348.	-1543.	-1145.	-.0642	-.0743	.1014	.0725	-.0387	-.0602	942.		
.1930	-7288.	1237.	5124.	-714.	-1212.	-513.	-.0594	-.0717	.0903	.0682	-.0379	-.0518	601.		
.1940	-6390.	1149.	4385.	10.	-701.	60.	-.0521	-.0691	.0777	.0614	-.0371	-.0421	282.		
.1950	-5394.	982.	3555.	712.	-165.	547.	-.0428	-.0668	.0643	.0540	-.0358	-.0312	366.		
.1960	-4670.	718.	2860.	1254.	297.	914.	-.0320	-.0647	.0510	.0475	-.0335	-.0193	634.		
.1970	-3544.	390.	1970.	1590.	701.	1184.	-.0202	-.0629	.0380	.0422	-.0299	-.0072	844.		

ADLPIPE PAGE 727

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1870	-9840.	848.	4176.	-2900.	1523.	-3303.	-540	-.0735	.1225	.0866	-.0596	-.0833	1867.
.1880	-8334.	948.	4602.	-2916.	512.	-3028.	594	-.0753	.1219	.0845	-.0532	-.0812	1699.
.1890	-8038.	1078.	5037.	-2726.	-422.	-2726.	-.0636	-.0768	.1200	.0814	-.0475	-.0779	1556.
.1900	-8905.	1211.	5915.	-2365.	-1218.	-2360.	-.0664	-.0775	.1166	.0778	-.0431	-.0733	1427.
.1910	-8298.	1282.	5627.	-1888.	-1576.	-1799.	-.0664	-.0766	.1102	.0751	-.0402	-.0674	1223.
.1920	-7729.	1281.	5529.	-1348.	-1543.	-1145.	-.0642	-.0743	.1014	.0725	-.0387	-.0602	942.
.1930	-7288.	1237.	5124.	-714.	-1212.	-513.	-.0594	-.0717	.0903	.0682	-.0379	-.0518	601.
.1940	-6390.	1149.	4385.	10.	-701.	60.	-.0521	-.0691	.0777	.0614	-.0371	-.0421	282.
.1950	-5394.	982.	3555.	712.	-165.	547.	-.0428	-.0668	.0643	.0540	-.0358	-.0312	366.
.1960	-4670.	718.	2860.	1254.	297.	914.	-.0320	-.0647	.0510	.0475	-.0335	-.0193	634.
.1970	-3544.	396.	1970.	1590.	701.	1184.	-.0202	-.0629	.0380	.0422	-.0299	-.0072	844.

ADLPIPE PAGE 727

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.1980	-1812.	59.	804.	1767.	1026.	1417.	-.0074	-.0614	.0253	.0369	-.0249	.0043	998.	
.1990	-405.	-233.	-126.	1849.	1192.	1632.	.0058	-.0604	.0130	.0314	-.0183	.0143	1099.	
.2000	327.	-489.	-642.	1872.	1229.	1819.	.0194	-.0599	.0008	.0269	-.0103	.0225	1158.	
.2010	1015.	-720.	-1107.	1858.	1275.	1984.	.0331	-.0601	-.0117	.0250	-.0013	.0284	1205.	
.2020	1817.	-905.	-1631.	1823.	1387.	2143.	.0460	-.0608	-.0244	.0263	.0082	.0316	1259.	
.2030	2441.	-1013.	-2045.	1778.	1496.	2300.	.0577	-.0619	-.0367	.0304	.0182	.0320	1312.	
.2040	3010.	-1043.	-2367.	1720.	1513.	2431.	.0679	-.0633	-.0478	.0364	.0286	.0294	1340.	
.2050	3566.	-1023.	-2582.	1638.	1362.	2468.	.0763	-.0653	-.0572	.0446	.0396	.0243	1308.	
.2060	3931.	-988.	-2594.	1521.	1009.	2329.	.0827	-.0681	-.0647	.0557	.0509	.0171	1187.	
.2070	4346.	-965.	-2549.	1355.	504.	1987.	.0871	-.0717	-.0702	.0703	.0621	.0080	986.	
.2080	5137.	-951.	-2648.	1120.	-63.	1503.	.0897	-.0756	-.0739	.0869	.0726	-.0024	752.	
.2090	5901.	-919.	-2713.	814.	-640.	963.	.0909	-.0794	-.0762	.1034	.0819	-.0140	568.	
.2100	6210.	-848.	-2573.	466.	-1170.	434.	.0907	-.0829	-.0773	.1183	.0896	-.0262	535.	
.2110	6515.	-753.	-2502.	107.	-1559.	-58.	.0895	-.0858	-.0775	.1315	.0949	-.0383	628.	
.2120	7029.	-662.	-2615.	-256.	-1800.	-516.	.0875	-.0882	-.0766	.1429	.0976	-.0494	759.	
.2130	7247.	-578.	-2618.	-622.	-2012.	-922.	.0848	-.0900	-.0742	.1516	.0977	-.0587	923.	
.2140	7003.	-491.	-2397.	-967.	-2292.	-1224.	.0816	-.0908	-.0698	.1563	.0954	-.0657	1113.	
.2150	6623.	-391.	-2125.	-1255.	-2626.	-1402.	.0779	-.0904	-.0632	.1559	.0907	-.0699	1296.	
.2160	6144.	-284.	-1855.	-1467.	-2933.	-1494.	.0736	-.0889	-.0548	.1500	.0836	-.0710	1446.	
.2170	5345.	-201.	-1512.	-1594.	-3119.	-1525.	.0686	-.0863	-.0449	.1398	.0739	-.0689	1533.	
.2180	4317.	-159.	-1166.	-1617.	-3094.	-1474.	.0629	-.0826	-.0342	.1266	.0518	-.0638	1521.	
.2190	3143.	-141.	-857.	-1503.	-2809.	-1332.	.0567	-.0777	-.0233	.1102	.0476	-.0563	1386.	
.2200	1722.	-114.	-509.	-1247.	-2266.	-1116.	.0498	-.0719	-.0127	.0908	.0322	-.0472	1130.	
.2210	291.	-75.	-215.	-883.	-1482.	-829.	.0423	-.0652	-.0025	.0695	.0160	-.0373	768.	
.2220	-790.	-41.	-114.	-471.	-521.	-460.	.0340	-.0576	.0071	.0488	.0000	-.0272	337.	
.2230	-1663.	-16.	-64.	-65.	478.	-43.	.0251	-.0495	.0162	.0303	-.0152	-.0176	194.	
.2240	-2529.	15.	87.	310.	1381.	358.	.0154	-.0415	.0250	.0145	-.0290	-.0089	586.	
.2250	-3130.	64.	224.	631.	2131.	713.	.0049	-.0339	.0338	.0015	-.0411	-.0015	936.	
.2260	-3310.	135.	269.	855.	2686.	1028.	-.0062	-.0269	.0424	-.0086	-.0515	.0041	1204.	
.2270	-3333.	219.	361.	943.	2991.	1294.	-.0175	-.0203	.0509	-.0155	-.0500	.0080	1361.	
.2280	-3359.	295.	573.	901.	3031.	1474.	-.0284	-.0144	.0590	-.0189	-.0667	.0100	1400.	
.2290	-3393.	348.	868.	779.	2845.	1518.	-.0386	-.0095	.0665	-.0194	-.0721	.0104	1331.	
.2300	-3607.	386.	1296.	628.	2470.	1391.	-.0478	-.0059	.0733	-.0186	-.0762	.0092	1165.	
.2310	-4085.	420.	1872.	453.	1930.	1104.	-.0556	-.0033	.0794	-.0173	-.0793	.0067	910.	
.2320	-4611.	439.	2461.	225.	1263.	707.	-.0620	-.0013	.0848	-.0157	-.0814	.0031	588.	
.2330	-5123.	428.	3016.	-70.	505.	229.	-.0666	.0003	.0896	-.0137	-.0824	-.0012	224.	
.2340	-5767.	391.	3600.	-396.	-312.	-340.	-.0697	.0013	.0935	-.0119	-.0823	-.0058	244.	
.2350	-6441.	344.	4156.	-705.	-1131.	-1001.	-.0709	.0015	.0962	-.0112	-.0811	-.0107	669.	

ADLPIPE PAGE 728

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2240	-2529.	15.	87.	310.	1381.	358.	.0154	-.0415	.0250	.0145	-.0290	-.0089	586.
.2250	-3130.	64.	224.	631.	2131.	713.	.0049	-.0339	.0338	.0015	-.0411	-.0015	936.
.2260	-3310.	135.	269.	855.	2686.	1028.	-.0062	-.0269	.0424	-.0086	-.0515	.0041	1204.
.2270	-3333.	219.	361.	943.	2991.	1294.	-.0175	-.0203	.0509	-.0155	-.0500	.0080	1361.
.2280	-3359.	295.	573.	901.	3031.	1474.	-.0284	-.0144	.0590	-.0189	-.0667	.0100	1400.
.2290	-3393.	348.	866.	779.	2845.	1518.	-.0386	-.0095	.0665	-.0194	-.0721	.0104	1331.
.2300	-3607.	386.	1297.	628.	2470.	1791.	-.0478	-.0059	.0733	-.0186	-.0762	.0092	1165.
.2310	-4085.	420.	1872.	453.	1930.	1104.	-.0556	-.0033	.0794	-.0173	-.0793	.0067	910.
.2320	-4611.	439.	2461.	225.	1263.	707.	-.0620	-.0013	.0848	-.0157	-.0814	.0031	588.
.2330	-5123.	428.	3016.	-70.	505.	229.	-.0666	.0003	.0896	-.0137	-.0824	-.0012	224.
.2340	-5767.	391.	3600.	-396.	-312.	-340.	-.0697	.0013	.0935	-.0119	-.0823	-.0058	244.
.2350	-6441.	344.	4156.	-705.	-1131.	-1001.	-.0709	.0015	.0962	-.0112	-.0811	-.0107	669.

ADLPIPE PAGE 728

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
15	.2360	-6937.	298.	4561.	-991.	-1862.	-1685.	-.0702	.0011	.0971	-.0118	-.0786	-.0156	1083.
	.2370	-7298.	256.	4813.	-1295.	-2407.	-2289.	-.0678	.0007	.0958	-.0135	-.0751	-.0204	1431.
	.2380	-7512.	226.	4878.	-1634.	-2663.	-2735.	-.0637	.0007	.0917	-.0158	-.0706	-.0251	1666.
	.2390	-7330.	225.	4616.	-1975.	-2561.	-3000.	-.0583	.0012	.0847	-.0188	-.0653	-.0298	1770.
	.2400	-6733.	261.	4037.	-2271.	-2121.	-3091.	-.0517	.0021	.0749	-.0225	-.0594	-.0343	1759.
	.2410	-5974.	332.	3315.	-2508.	-1447.	-3004.	-.0442	.0035	.0626	-.0265	-.0527	-.0385	1674.
	.2420	-5054.	426.	2502.	-2689.	-661.	-2723.	-.0360	.0060	.0486	-.0301	-.0452	-.0421	1558.
	.2430	-3764.	530.	1531.	-2808.	138.	-2259.	-.0275	.0097	.0336	-.0331	-.0369	-.0450	1447.
	.2440	-2154.	634.	444.	-2836.	875.	-1676.	-.0188	.0144	.0182	-.0358	-.0283	-.0467	1368.
	.2450	-479.	717.	-616.	-2739.	1486.	-1056.	-.0101	.0200	.0029	-.0386	-.0194	-.0468	1320.
	.2460	1068.	755.	-1540.	-2500.	1918.	-456.	-.0015	.0263	-.0119	-.0419	-.0106	-.0450	1278.
	.2470	2346.	730.	-2245.	-2131.	2117.	82.	.0070	.0332	-.0259	-.0459	-.0023	-.0410	1206.
	.2480	3326.	633.	-2727.	-1666.	2082.	518.	.0150	.0405	-.0387	-.0506	.0053	-.0348	1090.
	.2490	4197.	465.	-3114.	-1144.	1374.	829.	.0224	.0482	-.0503	-.0562	.0118	-.0265	942.
	.2500	5004.	236.	-3435.	-599.	1516.	1012.	.0289	.0559	-.0604	-.0627	.0174	-.0167	770.
	.2510	5423.	-35.	-3503.	-69.	980.	1083.	.0344	.0637	-.0690	-.0702	.0221	-.0056	587.
	.2520	5333.	-326.	-3256.	418.	279.	1068.	.0388	.0712	-.0759	-.0784	.0263	.0062	474.
	.2530	5148.	-613.	-2929.	839.	-489.	999.	.0417	.0785	-.0815	-.0869	.0301	.0180	559.
	.2540	5196.	-869.	-2711.	1169.	-1226.	916.	.0431	.0853	-.0858	-.0955	.0335	.0293	773.
	.2550	5345.	-1072.	-2535.	1393.	-1889.	879.	.0429	.0918	-.0893	-.1040	.0367	.0397	1005.
	.2560	5420.	-1210.	-2319.	1525.	-2432.	933.	.0413	.0980	-.0923	-.1127	.0400	.0490	1211.
	.2570	5501.	-1277.	-2130.	1610.	-2781.	1067.	.0385	.1036	-.0951	-.1217	.0431	.0568	1359.
	.2580	5671.	-1275.	-2044.	1680.	-2860.	1233.	.0344	.1081	-.0981	-.1311	.0459	.0632	1420.
	.2590	5923.	-1215.	-2073.	1733.	-2651.	1411.	.0293	.1118	-.1010	-.1405	.0482	.0681	1391.
	.2600	6213.	-1121.	-2189.	1751.	-2207.	1616.	.0234	.1148	-.1038	-.1493	.0499	.0715	1303.
	.2610	6351.	-1000.	-2275.	1737.	-1621.	1834.	.0168	.1172	-.1059	-.1573	.0509	.0732	1204.
	.2620	6167.	-843.	-2232.	1721.	-974.	2011.	.0097	.1190	-.1068	-.1650	.0510	.0733	1132.
	.2630	5772.	-659.	-2121.	1712.	-311.	2102.	.0023	.1199	-.1062	-.1719	.0501	.0717	1095.
	.2640	5280.	-477.	-1991.	1675.	316.	2105.	-.0054	.1201	-.1038	-.1768	.0479	.0685	1087.
	.2650	4531.	-315.	-1740.	1571.	841.	2039.	-.0132	.1200	-.0996	-.1795	.0443	.0640	1087.
	.2660	3431.	-164.	-1312.	1394.	1239.	1906.	-.0207	.1195	-.0936	-.1804	.0396	.0584	1070.
	.2670	2195.	-18.	-820.	1170.	1535.	1697.	-.0279	.1185	-.0861	-.1805	.0336	.0519	1031.
	.2680	982.	121.	-342.	908.	1745.	1408.	-.0347	.1169	-.0772	-.1801	.0265	.0448	971.
	.2690	-251.	235.	163.	587.	1852.	1052.	-.0410	.1150	-.0673	-.1788	.0186	.0375	887.
	.2700	-1446.	314.	686.	197.	1838.	663.	-.0467	.1129	-.0563	-.1762	.0102	.0304	788.
	.2710	-2423.	377.	1143.	-229.	1706.	275.	-.0518	.1108	-.0444	-.1728	.0016	.0237	699.
	.2720	-3114.	451.	1498.	-633.	1469.	-87.	-.0565	.1087	-.0317	-.1694	-.0070	.0175	643.
	.2730	-3544.	541.	1754.	-988.	1155.	-410.	-.0607	.1068	-.0184	-.1659	-.0156	.0119	632.

ADLPIPE PAGE 729

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2630	5772.	-659.	-2121.	1712.	-311.	2102.	.023	.1199	-.1062	-.1719	.0510	.0717	1095.
.2640	5280.	-477.	-1991.	1675.	316.	2105.	-.0054	.1201	-.1038	-.1768	.0479	.0685	1087.
.2650	4531.	-315.	-1740.	1571.	841.	2039.	-.0132	.1200	-.0996	-.1795	.0443	.0640	1087.
.2660	3431.	-164.	-1312.	1394.	1239.	1906.	-.0207	.1195	-.0936	-.1804	.0396	.0584	1070.
.2670	2195.	-18.	-820.	1170.	1535.	1697.	-.0279	.1185	-.0861	-.1805	.0336	.0519	1031.
.2680	982.	121.	-342.	908.	1745.	1408.	-.0347	.1169	-.0772	-.1801	.0265	.0448	971.
.2690	-251.	235.	163.	587.	1852.	1052.	-.0410	.1150	-.0673	-.1788	.0186	.0375	887.
.2700	-1446.	314.	686.	197.	1838.	663.	-.0467	.1129	-.0563	-.1762	.0102	.0304	788.
.2710	-2423.	377.	1143.	-229.	1706.	275.	-.0518	.1108	-.0444	-.1728	.0016	.0237	699.
.2720	-3114.	451.	1498.	-633.	1469.	-87.	-.0565	.1087	-.0317	-.1694	-.0070	.0175	643.
.2730	-3544.	541.	1754.	-988.	1155.	-410.	-.0607	.1068	-.0184	-.1659	-.0156	.0119	632.

ADLPIPE PAGE 729

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.26.38.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE		RU	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY			(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)							
.2740	-3692.	625.	1884.	-1296.	812.	-672.	-.0643	.1052	-.0050	-.1619	-.0241	.0070	670.		
.2750	-3669.	693.	1921.	-1544.	491.	-849.	-.0671	.1042	.0080	-.1572	-.0326	.0031	734.		
.2760	-3621.	763.	1915.	-1691.	236.	-927.	-.0691	.1037	.0201	-.1525	-.0410	.0001	780.		
.2770	-3510.	849.	1834.	-1707.	79.	-907.	-.0701	.1036	.0310	-.1483	-.0495	-.0021	776.		
.2780	-3352.	931.	1674.	-1618.	19.	-808.	-.0702	.1037	.0406	-.1445	-.0578	-.0034	726.		
.2790	-3269.	984.	1525.	-1478.	9.	-647.	-.0693	.1042	.0486	-.1402	-.0657	-.0035	648.		
.2800	-3315.	1005.	1428.	-1314.	4.	-436.	-.0676	.1047	.0552	-.1353	-.0730	-.0026	556.		
.2810	-3345.	1007.	1327.	-1127.	-23.	-196.	-.0650	.1051	.0604	-.1300	-.0792	-.0008	459.		
.2820	-3304.	990.	1208.	-930.	-89.	34.	-.0619	.1052	.0642	-.1245	-.0840	.0019	375.		
.2830	-3252.	941.	1113.	-756.	-202.	231.	-.0582	.1048	.0664	-.1188	-.0872	.0052	327.		
.2840	-3151.	860.	1024.	-622.	-337.	402.	-.0539	.1040	.0668	-.1127	-.0885	.0091	326.		
.2850	-2914.	758.	887.	-511.	-450.	557.	-.0491	.1027	.0653	-.1064	-.0879	.0132	353.		
.2860	-2549.	647.	690.	-398.	-500.	673.	-.0439	.1007	.0617	-.1002	-.0853	.0174	373.		
.2870	-2085.	528.	437.	-277.	-469.	728.	-.0386	.0980	.0562	-.0943	-.0310	.0217	365.		
.2880	-1516.	405.	129.	-159.	-367.	724.	-.0333	.0944	.0491	-.0885	-.0748	.0260	332.		
.2890	-887.	284.	-210.	-54.	-224.	674.	-.0282	.0900	.0407	-.0828	-.0571	.0302	286.		
.2900	-246.	172.	-550.	32.	-66.	578.	-.0234	.0850	.0316	-.0768	-.0579	.0343	234.		
.2910	413.	71.	-895.	104.	88.	424.	-.0192	.0792	.0220	-.0705	-.0475	.0380	179.		
.2920	1047.	-17.	-1216.	167.	217.	219.	-.0156	.0726	.0123	-.0638	-.0360	.0414	141.		
.2930	1526.	-85.	-1437.	222.	300.	-12.	-.0125	.0656	.0025	-.0565	-.0235	.0443	150.		
.2940	1818.	-134.	-1536.	268.	333.	-234.	-.0098	.0583	-.0071	-.0484	-.0102	.0465	196.		
.2950	2014.	-164.	-1559.	315.	327.	-425.	-.0076	.0509	-.0167	-.0395	.0036	.0481	249.		
.2960	2150.	-174.	-1516.	376.	278.	-576.	-.0057	.0435	-.0260	-.0296	.0178	.0490	298.		
.2970	2190.	-170.	-1374.	460.	164.	-686.	-.0041	.0363	-.0349	-.0189	.0322	.0494	338.		
.2980	2156.	-168.	-1133.	564.	-38.	-764.	-.0028	.0293	-.0432	-.0073	.0467	.0495	381.		
.2990	2123.	-181.	-830.	680.	-329.	-821.	-.0018	.0227	-.0506	.0050	.0610	.0496	448.		
.3000	2145.	-212.	-503.	813.	-694.	-866.	-.0009	.0164	-.0570	.0176	.0747	.0498	552.		
.3010	2257.	-260.	-194.	969.	-1095.	-895.	-.0001	.0105	-.0623	.0300	.0875	.0503	688.		
.3020	2455.	-331.	69.	1151.	-1481.	-905.	.0007	.0051	-.0664	.0422	.0988	.0511	836.		
.3030	2673.	-425.	284.	1364.	-1802.	-896.	.0016	.0001	-.0694	.0538	.1082	.0524	975.		
.3040	2864.	-528.	439.	1618.	-2000.	-853.	.0028	-.0044	-.0713	.0646	.1151	.0539	1088.		
.3050	3055.	-622.	485.	1914.	-2031.	-751.	.0043	-.0084	-.0721	.0741	.1193	.0555	1160.		
.3060	3243.	-697.	408.	2235.	-1880.	-573.	.0061	-.0120	-.0717	.0824	.1205	.0569	1194.		
.3070	3347.	-751.	248.	2548.	-1571.	-330.	.0082	-.0152	-.0699	.0894	.1186	.0581	1208.		
.3080	3322.	-782.	43.	2829.	-1147.	-46.	.0106	-.0183	-.0665	.0952	.1139	.0590	1225.		
.3090	3192.	-786.	-194.	3062.	-661.	258.	.0130	-.0215	-.0615	.0996	.1065	.0594	1261.		
.3100	2968.	-755.	-440.	3223.	-170.	562.	.0154	-.0250	-.0549	.1028	.0970	.0593	1315.		
.3110	2645.	-707.	-655.	3290.	271.	846.	.0176	-.0288	-.0466	.1049	.0958	.0584	1368.		

ADLPIPE PAGE 730

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3010	2257.	-260.	-194.	969.	-1095.	-895.	-.0001	.0105	-.0623	.0300	.0875	.0503	688.
.3020	2455.	-331.	69.	1151.	-1481.	-905.	.0007	.0051	-.0664	.0422	.0988	.0511	836.
.3030	2673.	-425.	284.	1364.	-1802.	-896.	.0016	.0001	-.0694	.0538	.1082	.0524	975.
.3040	2864.	-526.	439.	1611.	-2000.	-853.	.0028	-.0044	-.0713	.0646	.1151	.0539	1088.
.3050	3055.	-622.	485.	1914.	-2031.	-751.	.0043	-.0084	-.0721	.0741	.1193	.0555	1160.
.3060	3243.	-697.	408.	2231.	-1880.	-573.	.0061	-.0120	-.0717	.0824	.1205	.0569	1194.
.3070	3347.	-751.	248.	2548.	-1571.	-330.	.0082	-.0152	-.0699	.0894	.1186	.0581	1208.
.3080	3322.	-782.	43.	2829.	-1147.	-46.	.0106	-.0183	-.0665	.0952	.1139	.0590	1225.
.3090	3192.	-786.	-194.	3062.	-661.	258.	.0130	-.0215	-.0615	.0996	.1065	.0594	1261.
.3100	2968.	-759.	-440.	3223.	-170.	562.	.0154	-.0250	-.0549	.1028	.0970	.0593	1315.
.3110	2645.	-707.	-655.	3290.	271.	846.	.0176	-.0288	-.0466	.1049	.0958	.0584	1368.

ADLPIPE PAGE 730 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.39.  
 S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
 2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
 LOADS  
 SHOCK  
 PRESSURE  
 ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
 FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE	RU					STRESS
TIME	FX	FY	FZ	MX	MY	MZ				DZ	RX	RY	RZ	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	
.3120	2247.	-636.	-817.	3252.	619.	1090.	.0195	-.0331	-.0370	.1064	.0734	.0568	1399.	
.3130	1806.	-552.	-915.	3116.	849.	1275.	.0211	-.0380	-.0263	.1075	.0603	.0542	1393.	
.3140	1323.	-455.	-928.	2900.	945.	1380.	.0222	-.0436	-.0147	.1085	.0470	.0505	1343.	
.3150	830.	-352.	-857.	2613.	905.	1389.	.0227	-.0498	-.0027	.1095	.0339	.0457	1242.	
.3160	356.	-249.	-708.	2261.	736.	1300.	.0226	-.0565	.0095	.1110	.0213	.0396	1088.	
.3170	-89.	-154.	-490.	1847.	450.	1113.	.0219	-.0636	.0217	.1134	.0095	.0323	884.	
.3180	-492.	-75.	-218.	1380.	72.	819.	.0206	-.0711	.0338	.1168	-.0013	.0238	645.	
.3190	-853.	-11.	92.	874.	-368.	417.	.0186	-.0790	.0455	.1211	-.0111	.0144	416.	
.3200	-1187.	38.	426.	346.	-830.	-70.	.0163	-.0871	.0566	.1262	-.0198	.0041	362.	
.3210	-1535.	76.	775.	-196.	-1268.	-601.	.0137	-.0953	.0670	.1320	-.0276	-.0069	568.	
.3220	-1892.	108.	1108.	-739.	-1628.	-1137.	.0111	-.1033	.0764	.1383	-.0345	-.0181	850.	
.3230	-2223.	140.	1379.	-1268.	-1864.	-1641.	.0085	-.1110	.0847	.1447	-.0408	-.0295	1119.	
.3240	-2543.	183.	1578.	-1755.	-1947.	-2075.	.0063	-.1182	.0916	.1507	-.0465	-.0407	1342.	
.3250	-2905.	248.	1728.	-2179.	-1880.	-2400.	.0046	-.1247	.0972	.1557	-.0517	-.0515	1504.	
.3260	-3285.	333.	1822.	-2529.	-1677.	-2593.	.0034	-.1304	.1014	.1597	-.0563	-.0615	1602.	
.3270	-3630.	431.	1847.	-2802.	-1368.	-2657.	.0028	-.1350	.1044	.1622	-.0602	-.0704	1644.	
.3280	-3925.	534.	1817.	-2992.	-997.	-2605.	.0029	-.1387	.1062	.1632	-.0633	-.0779	1641.	
.3290	-4161.	637.	1750.	-3091.	-612.	-2450.	.0037	-.1414	.1070	.1624	-.0554	-.0838	1602.	
.3300	-4321.	730.	1662.	-3097.	-259.	-2209.	.0050	-.1431	.1068	.1597	-.0664	-.0879	1530.	
.3310	-4419.	799.	1579.	-3019.	34.	-1916.	.0069	-.1438	.1056	.1553	-.0662	-.0900	1435.	
.3320	-4437.	830.	1499.	-2865.	256.	-1599.	.0093	-.1436	.1034	.1497	-.0548	-.0902	1321.	
.3330	-4332.	819.	1403.	-2642.	410.	-1275.	.0122	-.1426	.1001	.1430	-.0622	-.0886	1189.	
.3340	-4121.	770.	1300.	-2355.	499.	-949.	.0154	-.1409	.0957	.1356	-.0585	-.0855	1038.	
.3350	-3877.	686.	1227.	-2017.	524.	-627.	.0189	-.1385	.0900	.1279	-.0538	-.0813	873.	
.3360	-3604.	570.	1178.	-1647.	497.	-313.	.0226	-.1356	.0833	.1205	-.0481	-.0762	702.	
.3370	-3263.	430.	1119.	-1261.	439.	-13.	.0264	-.1323	.0754	.1136	-.0417	-.0707	536.	
.3380	-2865.	277.	1047.	-876.	264.	276.	.0302	-.1287	.0667	.1076	-.0348	-.0652	396.	
.3390	-2450.	123.	972.	-505.	284.	558.	.0338	-.1248	.0571	.1026	-.0274	-.0598	323.	
.3400	-2026.	-23.	889.	-162.	210.	839.	.0372	-.1209	.0468	.0982	-.0198	-.0548	353.	
.3410	-1581.	-151.	784.	147.	159.	1116.	.0405	-.1169	.0360	.0942	-.0122	-.0503	456.	
.3420	-1103.	-257.	644.	417.	146.	1381.	.0435	-.1132	.0248	.0905	-.0046	-.0464	582.	
.3430	-576.	-341.	457.	644.	174.	1627.	.0463	-.1096	.0132	.0866	.0028	-.0430	706.	
.3440	-7.	-403.	232.	826.	235.	1849.	.0490	-.1064	.0016	.0823	.0099	-.0401	818.	
.3450	566.	-443.	-3.	960.	305.	2039.	.0516	-.1036	-.0099	.0772	.0168	-.0376	912.	
.3460	1134.	-461.	-240.	1041.	364.	2183.	.0541	-.1011	-.0208	.0711	.0234	-.0357	981.	
.3470	1722.	-466.	-490.	1064.	398.	2269.	.0565	-.0989	-.0310	.0641	.0294	-.0341	1018.	
.3480	2311.	-465.	-742.	1022.	393.	2288.	.0588	-.0971	-.0402	.0566	.0350	-.0330	1018.	
.3490	2825.	-461.	-958.	914.	339.	2239.	.0611	-.0955	-.0480	.0487	.0398	-.0323	980.	

ADLPIPE PAGE 731 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.39.  
 S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
 2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
 LOADS  
 SHOCK  
 PRESSURE  
 ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
 FORCES AND MOMENTS ACT ON THE PIPING

.3390	-2450.	123.	972.	-505.	284.	558.	.0338	-1.1248	.0571	.1026	-.0274	-.0598	323.
.3400	-2026.	-23.	889.	-162.	210.	839.	.0372	-1.1209	.0468	.0982	-.0198	-.0548	353.
.3410	-1581.	-151.	784.	147.	159.	1116.	.0405	-1.1169	.0360	.0942	-.0122	-.0503	456.
.3420	-1103.	-257.	644.	417.	146.	1381.	.0435	-1.1132	.0248	.0905	-.0046	-.0464	582.
.3430	-576.	-341.	457.	644.	174.	1627.	.0463	-1.1096	.0132	.0866	.0028	-.0430	706.
.3440	-7.	-403.	232.	826.	235.	1849.	.0490	-1.1064	.0016	.0823	.0099	-.0401	818.
.3450	566.	-443.	-3.	960.	305.	2039.	.0516	-1.1036	-.0099	.0772	.0168	-.0376	912.
.3460	1134.	-461.	-240.	1041.	364.	2183.	.0541	-1.1011	-.0208	.0711	.0234	-.0357	981.
.3470	1722.	-466.	-490.	1064.	398.	2269.	.0565	-1.0989	-.0310	.0641	.0294	-.0341	1018.
.3480	2311.	-465.	-742.	1022.	393.	2288.	.0588	-1.0971	-.0402	.0566	.0350	-.0330	1018.
.3490	2825.	-461.	-950.	914.	339.	2239.	.0611	-1.0955	-.0480	.0487	.0398	-.0323	980.

ADLPIPE PAGE 731

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3500	3219.	-456.	-1123.	745.	240.	2129.	.0631	-.0940	-.0544	.0407	.0437	-.0321	910.	
.3510	3499.	-449.	-1251.	528.	118.	1967.	.0650	-.0925	-.0593	.0328	.0465	-.0325	819.	
.3520	3663.	-441.	-1352.	273.	1.	1766.	.0666	-.0909	-.0627	.0254	.0480	-.0334	717.	
.3530	3699.	-435.	-1424.	-5.	-90.	1541.	.0679	-.0890	-.0648	.0190	.0483	-.0348	619.	
.3540	3617.	-428.	-1470.	-288.	-146.	1313.	.0688	-.0868	-.0655	.0137	.0472	-.0368	543.	
.3550	3435.	-419.	-1492.	-554.	-163.	1099.	.0691	-.0841	-.0649	.0095	.0450	-.0392	498.	
.3560	3190.	-394.	-1500.	-787.	-140.	908.	.0689	-.0809	-.0630	.0064	.0416	-.0419	485.	
.3570	2946.	-363.	-1513.	-976.	-84.	747.	.0680	-.0770	-.0600	.0044	.0373	-.0448	494.	
.3580	2744.	-326.	-1542.	-1121.	-3.	624.	.0663	-.0725	-.0559	.0034	.0322	-.0477	515.	
.3590	2574.	-282.	-1570.	-1219.	90.	543.	.0639	-.0673	-.0508	.0030	.0266	-.0504	537.	
.3600	2421.	-232.	-1582.	-1269.	184.	497.	.0606	-.0616	-.0447	.0028	.0205	-.0527	552.	
.3610	2294.	-176.	-1581.	-1274.	274.	476.	.0566	-.0553	-.0379	.0023	.0141	-.0544	557.	
.3620	2183.	-119.	-1563.	-1249.	355.	473.	.0520	-.0486	-.0304	.0014	.0074	-.0555	555.	
.3630	2045.	-65.	-1508.	-1212.	413.	482.	.0467	-.0415	-.0223	-.0003	.0005	-.0556	549.	
.3640	1847.	-16.	-1399.	-1175.	436.	496.	.0409	-.0343	-.0138	-.0030	-.0065	-.0549	541.	
.3650	1568.	30.	-1230.	-1143.	414.	508.	.0346	-.0268	-.0049	-.0066	-.0136	-.0532	529.	
.3660	1193.	76.	-1001.	-1117.	347.	513.	.0281	-.0194	.0041	-.0113	-.0208	-.0506	512.	
.3670	725.	122.	-722.	-1100.	242.	510.	.0212	-.0121	.0132	-.0169	-.0280	-.0472	496.	
.3680	182.	166.	-408.	-1092.	117.	502.	.0142	-.0048	.0221	-.0230	-.0350	-.0432	485.	
.3690	-426.	209.	-75.	-1089.	-7.	487.	.0071	.0023	.0305	-.0294	-.0419	-.0387	479.	
.3700	-1084.	254.	263.	-1075.	-103.	464.	.0000	.0092	.0381	-.0361	-.0483	-.0338	472.	
.3710	-1752.	299.	580.	-1043.	-144.	428.	-.0070	.0158	.0446	-.0428	-.0542	-.0287	456.	
.3720	-2378.	342.	852.	-990.	-115.	373.	-.0139	.0221	.0498	-.0491	-.0594	-.0235	427.	
.3730	-2933.	377.	1068.	-923.	-12.	296.	-.0206	.0280	.0535	-.0549	-.0635	-.0183	389.	
.3740	-3392.	403.	1226.	-848.	153.	193.	-.0271	.0336	.0558	-.0599	-.0665	-.0132	354.	
.3750	-3722.	424.	1321.	-766.	364.	67.	-.0334	.0388	.0565	-.0642	-.0680	-.0083	342.	
.3760	-3910.	440.	1359.	-682.	598.	-79.	-.0393	.0436	.0558	-.0677	-.0680	-.0035	366.	
.3770	-3970.	450.	1355.	-606.	833.	-242.	-.0448	.0480	.0537	-.0702	-.0664	.0010	425.	
.3780	-3915.	451.	1324.	-549.	1045.	-417.	-.0499	.0520	.0505	-.0718	-.0632	.0054	502.	
.3790	-3767.	444.	1278.	-511.	1218.	-597.	-.0544	.0558	.0461	-.0728	-.0585	.0096	582.	
.3800	-3562.	434.	1237.	-489.	1337.	-770.	-.0582	.0594	.0409	-.0735	-.0524	.0138	650.	
.3810	-3332.	423.	1213.	-478.	1391.	-930.	-.0613	.0629	.0349	-.0740	-.0451	.0181	698.	
.3820	-3085.	408.	1204.	-474.	1373.	-1067.	-.0635	.0662	.0284	-.0745	-.0369	.0226	723.	
.3830	-2826.	386.	1211.	-467.	1278.	-1178.	-.0648	.0696	.0216	-.0749	-.0280	.0273	722.	
.3840	-2562.	359.	1231.	-448.	1103.	-1260.	-.0652	.0729	.0147	-.0754	-.0187	.0324	696.	
.3850	-2289.	327.	1256.	-400.	854.	-1308.	-.0646	.0764	.0078	-.0762	-.0092	.0380	647.	
.3860	-1988.	292.	1268.	-313.	550.	-1315.	-.0632	.0800	.0010	-.0771	.0002	.0440	586.	
.3870	-1641.	251.	1247.	-184.	218.	-1281.	-.0610	.0837	-.0058	-.0781	.0092	.0504	527.	

ADLPIPE PAGE 732

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.3760	-3910.	440.	1259.	-671.	190.	-79.	-.393	.0436	.0558	-.0677	-.0580	-.0035	366.
.3770	-3970.	450.	1355.	-606.	833.	-242.	-.448	.0480	.0537	-.0702	-.0564	.0010	425.
.3780	-3915.	451.	1324.	-549.	1045.	-417.	-.0499	.0520	.0505	-.0718	-.0532	.0054	502.
.3790	-3767.	444.	1278.	-511.	1218.	-597.	-.0544	.0556	.0461	-.0728	-.0555	.0096	582.
.3800	-3562.	434.	1237.	-489.	1337.	-770.	-.0582	.0594	.0409	-.0735	-.0524	.0138	650.
.3810	-3332.	423.	1213.	-470.	1391.	-930.	-.0613	.0629	.0349	-.0740	-.0451	.0181	698.
.3820	-3085.	408.	1204.	-474.	1473.	-1067.	-.0635	.0662	.0284	-.0745	-.0369	.0226	723.
.3830	-2826.	386.	1211.	-467.	1278.	-1178.	-.0648	.0696	.0216	-.0749	-.0280	.0273	722.
.3840	-2562.	359.	1231.	-448.	1107.	-1260.	-.0652	.0729	.0147	-.0754	-.0187	.0324	696.
.3850	-2289.	327.	1256.	-400.	854.	-1308.	-.0646	.0764	.0078	-.0762	-.0092	.0380	647.
.3860	-1988.	292.	1268.	-317.	550.	-1315.	-.0632	.0800	.0010	-.0771	.0002	.0440	586.
.3870	-1641.	251.	1247.	-164.	218.	-1281.	-.0610	.0837	-.0055	-.0781	.0092	.0504	527.

ADLPIPE PAGE 732

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	1	SEQUENCE	403	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.3880	-1236.	198.	1174.	-12.	-110.	-1210.	-.0580	.0877	-.0125	-.0789	.0177	.0571	488.		
.3890	-766.	135.	1035.	203.	-402.	-1105.	-.0542	.0918	-.0192	-.0795	.0255	.0640	479.		
.3900	-241.	67.	829.	462.	-637.	-961.	-.0500	.0960	-.0260	-.0799	.0324	.0709	498.		
.3910	330.	-3.	559.	758.	-799.	-777.	-.0453	.1004	-.0327	-.0798	.0385	.0777	541.		
.3920	950.	-79.	226.	1071.	-888.	-569.	-.0404	.1047	-.0394	-.0791	.0436	.0843	603.		
.3930	1613.	-167.	-161.	1380.	-910.	-357.	-.0353	.1090	-.0458	-.0776	.0478	.0905	679.		
.3940	2284.	-264.	-572.	1669.	-887.	-156.	-.0304	.1130	-.0519	-.0756	.0513	.0963	761.		
.3950	2925.	-361.	-976.	1933.	-836.	29.	-.0258	.1166	-.0575	-.0732	.0541	.1015	845.		
.3960	3518.	-455.	-1358.	2163.	-771.	191.	-.0215	.1199	-.0625	-.0707	.0563	.1061	924.		
.3970	4056.	-545.	-1708.	2348.	-698.	323.	-.0177	.1225	-.0668	-.0681	.0580	.1100	991.		
.3980	4519.	-630.	-2010.	2488.	-625.	419.	-.0145	.1246	-.0703	-.0654	.0593	.1131	1043.		
.3990	4874.	-700.	-2242.	2591.	-563.	481.	-.0120	.1260	-.0730	-.0630	.0501	.1154	1081.		
.4000	5092.	-746.	-2387.	2662.	-519.	515.	-.0102	.1267	-.0749	-.0610	.0605	.1168	1108.		

MAXIMUM VALUE OF STRESS OCCURS AT

TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1140	8236.	-1657.	-5866.	6315.	7635.	4894.	.0240	.1076	-.1779	-.1830	.0939	.1267	4435.		

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.		
.0010	2.	-0.	-3.	1.	7.	-0.	-.0000	-.0000	-.0000	.0000	.0000	-.0000	3.		
.0020	4.	-0.	-14.	6.	49.	1.	-.0000	-.0000	-.0002	.0001	.0001	-.0000	20.		
.0030	-21.	3.	-24.	19.	143.	15.	-.0000	-.0000	-.0006	.0002	.0002	-.0001	58.		
.0040	-82.	13.	-25.	37.	280.	52.	-.0001	.0001	-.0014	.0003	.0004	-.0001	115.		
.0050	-166.	28.	-24.	55.	448.	117.	-.0002	.0004	-.0024	.0002	.0007	-.0001	187.		
.0060	-289.	46.	-11.	72.	641.	195.	-.0003	.0008	-.0038	-.0001	.0009	-.0001	270.		
.0070	-484.	67.	26.	90.	885.	272.	-.0005	.0014	-.0057	-.0005	.0013	-.0001	373.		
.0080	-821.	89.	109.	120.	1239.	355.	-.0005	.0020	-.0088	-.0011	.0019	-.0001	519.		
.0090	-1460.	116.	319.	163.	1711.	481.	.0000	.0031	-.0131	-.0023	.0028	.0001	716.		
.0100	-2259.	150.	583.	221.	2293.	675.	.0014	.0050	-.0187	-.0047	.0040	.0005	963.		
.0110	-2832.	187.	697.	291.	2981.	907.	.0036	.0075	-.0253	-.0088	.0055	.0013	1256.		

ADLPIPE PAGE 733

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING



.0010	2.	-0.	-3.	1.	7.	-0.	-0.000	-0.000	-0.000	.0000	.0000	-0.000	3.
.0020	4.	-0.	-14.	6.	49.	1.	-0.000	-0.000	-0.002	.0001	.0001	-0.000	20.
.0030	-21.	3.	-24.	19.	143.	15.	-0.000	-0.000	-0.006	.0002	.0002	-0.001	58.
.0040	-82.	13.	-25.	77.	210.	52.	-0.001	.0001	-0.014	.0003	.0004	-0.001	115.
.0050	-166.	28.	-24.	51.	448.	117.	-0.002	.0004	-0.024	.0002	.0007	-0.001	187.
.0060	-289.	46.	-11.	72.	641.	195.	-0.003	.0008	-0.038	-0.001	.0009	-0.001	270.
.0070	-484.	67.	26.	90.	885.	272.	-0.005	.0014	-0.057	-0.005	.0013	-0.001	373.
.0080	-821.	89.	109.	120.	1239.	355.	-0.005	.0020	-0.088	-0.011	.0019	-0.001	519.
.0090	-1460.	116.	219.	163.	1711.	481.	.0000	.0031	-0.131	-0.023	.0028	.0001	716.
.0100	-2259.	150.	583.	221.	2293.	675.	.0014	.0050	-0.187	-0.047	.0040	.0005	963.
.0110	-2832.	187.	697.	291.	2981.	907.	.0036	.0075	-0.253	-0.088	.0055	.0013	1256.

ADLPIPE PAGE 733

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.39.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK

2 SAFETY COLD FKM24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ				DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.0120	-3006.	210.	582.	347.	3728.	1093.	.0069	.0105	-0.0326	-0.0146	.0074	.0023	1565.		
.0130	-2937.	196.	350.	348.	4391.	1147.	.0110	.0137	-0.0399	-0.0218	.0092	.0037	1827.		
.0140	-2883.	137.	194.	266.	4709.	1040.	.0158	.0170	-0.0464	-0.0309	.0104	.0054	1938.		
.0150	-2992.	42.	245.	100.	4435.	774.	.0212	.0206	-0.0512	-0.0421	.0108	.0075	1807.		
.0160	-3499.	-85.	666.	-151.	3407.	336.	.0275	.0241	-0.0535	-0.0552	.0106	.0096	1375.		
.0170	-3896.	-252.	1177.	-481.	1737.	-287.	.0348	.0273	-0.0537	-0.0684	.0105	.0116	732.		
.0180	-2994.	-447.	1061.	-840.	-112.	-1038.	.0433	.0297	-0.0525	-0.0797	.0120	.0129	538.		
.0190	-370.	-642.	-42.	-1128.	-1465.	-1758.	.0533	.0314	-0.0513	-0.0874	.0162	.0136	1024.		
.0200	4043.	-809.	-2347.	-1178.	-1432.	-2189.	.0654	.0330	-0.0533	-0.0903	.0243	.0136	1151.		
.0210	8280.	-911.	-4853.	-837.	148.	-2016.	.0803	.0356	-0.0598	-0.0894	.0362	.0135	878.		
.0220	10854.	-877.	-6675.	-88.	2611.	-1124.	.0947	.0402	-0.0668	-0.0882	.0492	.0136	1141.		
.0230	13196.	-718.	-8406.	893.	5188.	129.	.1064	.0455	-0.0712	-0.0869	.0604	.0128	2113.		
.0240	12761.	-621.	-8406.	1619.	6508.	1031.	.1142	.0487	-0.0710	-0.0820	.0664	.0099	2723.		
.0250	11673.	-712.	-7778.	1805.	6576.	1165.	.1186	.0479	-0.0670	-0.0695	.0683	.0040	2776.		
.0260	16667.	-851.	-10408.	1635.	7066.	791.	.1190	.0440	-0.0609	-0.0512	.0705	-0.0057	2927.		
.0270	22774.	-876.	-13712.	1180.	7934.	480.	.1124	.0407	-0.0505	-0.0350	.0721	-0.0176	3225.		
.0280	20860.	-847.	-12390.	414.	7026.	614.	.1020	.0402	-0.0369	-0.0248	.0688	-0.0283	2835.		
.0290	14901.	-800.	-8453.	-268.	4261.	1114.	.0929	.0400	-0.0237	-0.0165	.0617	-0.0380	1771.		
.0300	9187.	-622.	-4824.	-414.	2316.	1485.	.0804	.0357	-0.0123	-0.0045	.0551	-0.0504	1116.		
.0310	4717.	-358.	-2168.	-311.	1675.	1629.	.0638	.0273	-0.0022	.0124	.0502	-0.0652	946.		
.0320	5006.	-71.	-2050.	-568.	1196.	2144.	.0460	.0195	.0073	.0311	.0442	-0.0774	1011.		
.0330	3419.	277.	-694.	-1280.	-723.	3478.	.0267	.0156	.0193	.0456	.0320	-0.0834	1515.		
.0340	-4487.	726.	4168.	-1773.	-4039.	5014.	.0040	.0126	.0350	.0528	.0130	-0.0856	2680.		
.0350	-10745.	1146.	8030.	-1563.	-7003.	5490.	-0.0202	.0048	.0511	.0564	-0.0071	-0.0894	3626.		
.0360	-10625.	1346.	8222.	-1156.	-8481.	4427.	-0.0432	-0.0088	.0642	.0613	-0.0242	-0.0954	3867.		
.0370	-11462.	1263.	8668.	-1386.	-8933.	2659.	-0.0655	-0.0226	.0751	.0673	-0.0397	-0.0981	3781.		
.0380	-16491.	1046.	11166.	-2114.	-8889.	1314.	-0.0881	-0.0314	.0853	.0682	-0.0543	-0.0932	3704.		
.0390	-18292.	993.	11839.	-2239.	-8062.	662.	-0.1090	-0.0361	.0935	.0584	-0.0550	-0.0837	3368.		
.0400	-14799.	1195.	9624.	-1190.	-6213.	141.	-0.1238	-0.0423	.0951	.0432	-0.0708	-0.0755	2539.		
.0410	-14321.	1284.	8719.	18.	-3053.	-828.	-0.1355	-0.0523	.0909	.0361	-0.0726	-0.0677	1269.		
.0420	-14840.	1018.	8249.	476.	465.	-1749.	-0.1439	-0.0621	.0833	.0405	-0.0722	-0.0555	751.		
.0430	-10345.	796.	5032.	719.	4776.	-1627.	-0.1449	-0.0675	.0718	.0424	-0.0660	-0.0388	2045.		
.0440	-7064.	1071.	2633.	1520.	8255.	-209.	-0.1405	-0.0683	.0605	.0296	-0.0603	-0.0213	3369.		
.0450	-7601.	1468.	2339.	2337.	10742.	1330.	-0.1352	-0.0682	.0529	.0117	-0.0573	-0.0044	4444.		
.0460	-6393.	1402.	1111.	2221.	12773.	1681.	-0.1290	-0.0717	.0489	.0040	-0.0552	.0114	5246.		
.0470	-3242.	1005.	-829.	1308.	13206.	882.	-0.1193	-0.0793	.0473	.0060	-0.0569	.0244	5337.		
.0480	-3300.	687.	-640.	334.	11447.	-100.	-0.1065	-0.0873	.0485	.0085	-0.0643	.0347	4596.		
.0490	-4981.	466.	407.	-291.	9386.	-583.	-0.0923	-0.0917	.0513	.0090	-0.0714	.0446	3776.		

ADLPIPE PAGE 734

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.39.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK

2 SAFETY COLD FKM24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0390	-18292.	993.	1839.	-2239.	-1067.	662.	-1090.	-0.0361	.0925	.0584	-0.0550	-0.0837	3368.
.0400	-14799.	1195.	9624.	-1190.	-6213.	141.	-1238.	-0.0423	.0951	.0432	-0.0708	-0.0755	2539.
.0410	-14321.	1284.	8719.	18.	-3053.	-828.	-1355.	-0.0523	.0909	.0361	-0.0726	-0.0677	1269.
.0420	-14040.	1018.	1249.	476.	465.	-1749.	-1439.	-0.0621	.0823	.0405	-0.0722	-0.0555	751.
.0430	-10345.	796.	1032.	710.	4776.	-1627.	-1449.	-0.0675	.0718	.0424	-0.0660	-0.0388	2045.
.0440	-7064.	1071.	2638.	1570.	8255.	-209.	-1405.	-0.0683	.0605	.0296	-0.0603	-0.0213	3369.
.0450	-7601.	1468.	2339.	2337.	10742.	1330.	-1352.	-0.0682	.0529	.0117	-0.0573	-0.0044	4444.
.0460	-6393.	1402.	1111.	2221.	12773.	1681.	-1290.	-0.0717	.0489	.0040	-0.0552	.0114	5246.
.0470	-3242.	1005.	-829.	1308.	13206.	882.	-1193.	-0.0793	.0473	.0060	-0.0569	.0244	5337.
.0480	-3700.	687.	-640.	374.	11447.	-100.	-1065.	-0.0873	.0485	.0085	-0.0643	.0347	4596.
.0490	-4981.	466.	407.	-291.	9786.	-583.	-0.0923	-0.0917	.0513	.0090	-0.0714	.0446	3776.

ADLPIPE PAGE 734

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.0500	-4103.	302.	-21.	-305.	7931.	-450.		-0.0755	-0.0922	.0528	.0094	-0.0743	.0542	3190.	
.0510	-3120.	286.	-424.	342.	6455.	-52.		-0.0547	-0.0924	.0513	.0132	-0.0746	.0601	2594.	
.0520	-3916.	244.	268.	1098.	4587.	55.		-0.0309	-0.0950	.0474	.0279	-0.0736	.0614	1893.	
.0530	-2954.	-78.	118.	1467.	2537.	-315.		-0.0064	-0.0995	.0429	.0570	-0.0701	.0599	1183.	
.0540	-32.	-425.	-884.	1805.	-149.	-720.		.0180	-0.1035	.0399	.0893	-0.0548	.0549	782.	
.0550	1591.	-436.	-899.	2429.	-4023.	-813.		.0418	-0.1062	.0393	.1143	-0.0599	.0445	1914.	
.0560	3272.	-385.	-850.	2584.	-8245.	-1041.		.0639	-0.1086	.0404	.1376	-0.0543	.0302	3492.	
.0570	6949.	-729.	-2115.	1470.	-11325.	-2092.		.0834	-0.1130	.0410	.1695	-0.0449	.0140	4659.	
.0580	9453.	-1292.	-3130.	-381.	-12764.	-3864.		.1003	-0.1198	.0393	.2053	-0.0313	-0.0048	5354.	
.0590	9386.	-1613.	-3084.	-1883.	-12778.	-5490.		.1157	-0.1269	.0343	.2328	-0.0143	-0.0266	5632.	
.0600	9834.	-1656.	-3588.	-2839.	-11430.	-6239.		.1293	-0.1307	.0266	.2493	.0062	-0.0467	5348.	
.0610	11056.	-1622.	-4664.	-3640.	-9266.	-6015.		.1408	-0.1303	.0171	.2599	.0286	-0.0614	4668.	
.0620	10219.	-1535.	-4657.	-4328.	-6986.	-5245.		.1501	-0.1285	.0062	.2674	.0506	-0.0711	3912.	
.0630	8727.	-1384.	-4256.	-4622.	-4734.	-4424.		.1574	-0.1281	-0.0057	.2717	.0716	-0.0771	3194.	
.0640	8963.	-1220.	-4687.	-4364.	-2734.	-3663.		.1608	-0.1289	-0.0166	.2702	.0909	-0.0784	2536.	
.0650	8472.	-986.	-4492.	-3592.	-1864.	-2711.		.1592	-0.1288	-0.0241	.2578	.1057	-0.0734	1955.	
.0660	5850.	-642.	-2894.	-2610.	-2220.	-1566.		.1533	-0.1266	-0.0285	.2332	.1156	-0.0627	1512.	
.0670	4693.	-395.	-1990.	-1896.	-2733.	-721.		.1448	-0.1236	-0.0323	.2026	.1235	-0.0480	1366.	
.0680	5964.	-417.	-2489.	-1543.	-2542.	-582.		.1340	-0.1211	-0.0370	.1723	.1314	-0.0310	1216.	
.0690	5891.	-537.	-2365.	-1041.	-1942.	-905.		.1210	-0.1191	-0.0424	.1405	.1381	-0.0138	956.	
.0700	3836.	-513.	-1160.	-44.	-1451.	-1100.		.1074	-0.1160	-0.0484	.1042	.1418	.0024	731.	
.0710	2636.	-395.	-426.	1045.	-869.	-901.		.0934	-0.1103	-0.0541	.0676	.1430	.0180	654.	
.0720	2667.	-347.	-489.	1654.	128.	-459.		.0774	-0.1024	-0.0578	.0379	.1417	.0334	691.	
.0730	3017.	-354.	-812.	1819.	1179.	-6.		.0591	-0.0940	-0.0585	.0170	.1364	.0470	870.	
.0740	3932.	-327.	-1348.	1941.	1590.	281.		.0403	-0.0866	-0.0559	.0021	.1255	.0569	1013.	
.0750	4053.	-304.	-1339.	2128.	1135.	239.		.0214	-0.0802	-0.0497	-0.0093	.1088	.0629	972.	
.0760	1846.	-360.	-94.	2218.	265.	-155.		.0017	-0.0738	-0.0401	-0.0178	.0878	.0661	898.	
.0770	-423.	-473.	1087.	2149.	-340.	-714.		-0.0174	-0.0665	-0.0290	-0.0238	.0652	.0672	919.	
.0780	-446.	-583.	955.	2033.	-292.	-1231.		-0.0341	-0.0581	-0.0183	-0.0276	.0432	.0662	961.	
.0790	-656.	-681.	813.	2042.	301.	-1617.		-0.0484	-0.0490	-0.0083	-0.0293	.0223	.0636	1052.	
.0800	-3521.	-731.	2051.	2397.	973.	-1761.		-0.0610	-0.0395	.0020	-0.0297	.0023	.0595	1256.	
.0810	-6624.	-632.	3533.	3232.	1248.	-1450.		-0.0709	-0.0298	.0128	-0.0299	-0.0170	.0535	1507.	
.0820	-7600.	-351.	4084.	4260.	906.	-587.		-0.0777	-0.0200	.0247	-0.0290	-0.0350	.0456	1764.	
.0830	-7772.	-18.	4368.	4877.	-36.	655.		-0.0823	-0.0098	.0382	-0.0249	-0.0517	.0364	1975.	
.0840	-8111.	257.	4853.	4827.	-1477.	2009.		-0.0853	.0004	.0532	-0.0181	-0.0669	.0261	2180.	
.0850	-7933.	543.	5135.	4441.	-3142.	3294.		-0.0857	.0094	.0678	-0.0124	-0.0801	.0132	2552.	
.0860	-7918.	901.	5401.	3976.	-4299.	4335.		-0.0836	.0165	.0798	-0.0103	-0.0901	-0.0035	2923.	
.0870	-8669.	1201.	5721.	3135.	-3952.	4944.		-0.0800	.0218	.0881	-0.0092	-0.0953	-0.0232	2834.	

ADLPIPE PAGE 735

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0770	-423.	-473.	1087.	2149.	-340.	-714.	-0174	-0665	-0290	-0238	.0878	.0661	898.
.0780	-446.	-583.	955.	2033.	-292.	-1231.	-0341	-0581	-0183	-0276	.0432	.0662	961.
.0790	-656.	-681.	813.	2042.	301.	-1617.	-0484	-0490	-0083	-0293	.0223	.0636	1052.
.0800	-3521.	-731.	2051.	2397.	973.	-1761.	-0610	-0795	.0070	-0297	.0023	.0595	1256.
.0810	-6624.	-632.	3533.	3232.	1248.	-1450.	-0709	-0298	.0128	-0299	-0170	.0535	1507.
.0820	-7660.	-351.	4024.	4260.	906.	-587.	-0777	-0700	.0247	-0290	-0350	.0456	1764.
.0830	-7772.	-18.	4368.	4877.	-36.	655.	-0823	-0098	.0382	-0249	-0517	.0364	1975.
.0840	-8111.	257.	4853.	4827.	-1477.	2009.	-0853	.0004	.0532	-0181	-0669	.0261	2180.
.0850	-7933.	543.	5135.	4441.	-3142.	3294.	-0857	.0094	.0678	-0124	-0801	.0132	2552.
.0860	-7918.	901.	5401.	3976.	-4299.	4335.	-0836	.0165	.0798	-0103	-0901	-0035	2923.
.0870	-8669.	1201.	5721.	3135.	-3952.	4944.	-0800	.0218	.0881	-0092	-0953	-0232	2834.

ADLPIPE PAGE 735 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ									STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(DEG)	(PSI)	
.0880	-8640.	1313.	5189.	1615.	-1695.	5137.	-0750	.0266	.0915	-0063	-0949	-0439		2265.	
.0890	-7395.	1329.	3725.	-270.	1851.	5154.	-0678	.0316	.0904	-0025	-0904	-0649		2200.	
.0900	-6823.	1398.	2528.	-1900.	5681.	5129.	-0588	.0364	.0861	-0001	-0847	-0864		3165.	
.0910	-7223.	1494.	1884.	-3022.	9120.	4917.	-0495	.0401	.0805	.0019	-0798	-1078		4331.	
.0920	-6966.	1525.	1027.	-3801.	11761.	4365.	-0404	.0418	.0747	.0063	-0766	-1279		5260.	
.0930	-5821.	1498.	-64.	-4455.	13205.	3580.	-0318	.0422	.0692	.0131	-0763	-1450		5774.	
.0940	-4558.	1447.	-942.	-5033.	13296.	2787.	-0240	.0420	.0641	.0201	-0790	-1573		5814.	
.0950	-3162.	1376.	-1648.	-5379.	12235.	2082.	-0170	.0417	.0587	.0242	-0841	-1640		5428.	
.0960	-2013.	1324.	-2025.	-5264.	10297.	1411.	-0106	.0408	.0516	.0231	-0906	-1655		4675.	
.0970	-1901.	1312.	-1675.	-4725.	7657.	729.	-0044	.0387	.0420	.0170	-0980	-1626		3622.	
.0980	-1994.	1259.	-1075.	-4152.	4521.	76.	.0011	.0358	.0302	.0090	-1056	-1546		2463.	
.0990	-1136.	1102.	-878.	-3851.	1103.	-439.	.0056	.0332	.0169	.0010	-1125	-1407		1617.	
.1000	-125.	933.	-690.	-3670.	-2483.	-709.	.0086	.0316	.0032	-0092	-1180	-1222		1801.	
.1010	167.	845.	-86.	-3318.	-6083.	-757.	.0103	.0311	-0100	-0240	-1214	-1009		2797.	
.1020	655.	765.	398.	-2847.	-9406.	-772.	.0109	.0314	-0224	-0415	-1213	-0778		3956.	
.1030	1907.	558.	406.	-2552.	-12142.	-998.	.0113	.0322	-0339	-0584	-1166	-0531		4995.	
.1040	3095.	201.	300.	-2539.	-13933.	-1542.	.0120	.0338	-0451	-0742	-1063	-0276		5717.	
.1050	4204.	-232.	3.	-2577.	-14373.	-2280.	.0138	.0364	-0565	-0908	-0897	-0021		5931.	
.1060	5934.	-673.	-915.	-2354.	-13211.	-2987.	.0169	.0403	-0684	-1096	-0663	.0234		5517.	
.1070	7290.	-1078.	-1917.	-1780.	-10618.	-3555.	.0210	.0452	-0805	-1295	-0377	.0483		4550.	
.1080	8151.	-1462.	-2941.	-988.	-6634.	-4014.	.0264	.0497	-0938	-1464	-0053	.0717		3137.	
.1090	9706.	-1851.	-4710.	-47.	-803.	-4232.	.0351	.0536	-1114	-1559	.0311	.0926		1729.	
.1100	8737.	-2098.	-5224.	977.	4947.	-3718.	.0412	.0597	-1245	-1624	.0656	.1121		2514.	
.1110	8735.	-2068.	-5948.	2199.	9072.	-2406.	.0461	.0680	-1311	-1698	.0945	.1284		3868.	
.1120	10109.	-1848.	-6955.	3366.	11034.	-927.	.0510	.0758	-1320	-1745	.1161	.1384		4644.	
.1130	9835.	-1693.	-6815.	4013.	11395.	146.	.0542	.0810	-1279	-1684	.1311	.1417		4848.	
.1140	8236.	-1657.	-5866.	4171.	10958.	945.	.0562	.0845	-1207	-1515	.1420	.1394		4720.	
.1150	6964.	-1474.	-4969.	4403.	9951.	2028.	.0586	.0888	-1128	-1341	.1498	.1317		4442.	
.1160	4985.	-999.	-3598.	4932.	8488.	3581.	.0606	.0951	-1051	-1223	.1541	.1188		4193.	
.1170	3182.	-476.	-2305.	5280.	6942.	5182.	.0615	.1022	-0974	-1112	.1559	.1024		4071.	
.1180	163.	-163.	-353.	4925.	5092.	6102.	.0578	.1078	-0873	-0950	.1538	.0836		3752.	
.1190	109.	-53.	297.	4062.	2231.	5908.	.0528	.1097	-0754	-0755	.1473	.0611		3013.	
.1200	921.	-28.	782.	3080.	-1774.	4662.	.0471	.1082	-0618	-0573	.1363	.0346		2353.	
.1210	-1825.	-66.	3066.	2118.	-5626.	2909.	.0383	.1058	-0475	-0422	.1226	.0074		2680.	
.1220	-2229.	-117.	3938.	1261.	-8614.	1462.	.0291	.1061	-0344	-0323	.1095	-0169		3543.	
.1230	-1857.	-35.	4182.	582.	-10587.	534.	.0190	.1089	-0229	-0296	.0961	-0378		4260.	
.1240	-1149.	131.	4022.	-17.	-11535.	-173.	.0086	.1115	-0137	-0304	.0818	-0557		4629.	
.1250	20.	173.	3280.	-721.	-11116.	-973.	-0028	.1123	-0066	-0292	.0673	-0694		4487.	

ADLPIPE PAGE 736 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1150	6964.	-1474.	469.	4403.	9951.	2028.	.0586	.0888	-.1128	-.1341	.1498	.1317	4442.
.1160	4985.	-999.	-3598.	4932.	8488.	3581.	.0606	.0951	-.1051	-.1223	.1541	.1188	4193.
.1170	3182.	-476.	-2305.	5280.	6942.	5182.	.0615	.1022	-.0974	-.1112	.1559	.1024	4071.
.1180	163.	-163.	-353.	4925.	5092.	6102.	.0578	.1076	-.0873	-.0950	.1538	.0836	3752.
.1190	109.	-53.	297.	4062.	2231.	5908.	.0528	.1097	-.0754	-.0755	.1473	.0611	3013.
.1200	521.	-28.	782.	3080.	-1774.	4662.	.0471	.1082	-.0618	-.0573	.1363	.0346	2353.
.1210	-1825.	-66.	3066.	2118.	-5626.	2909.	.0383	.1058	-.0475	-.0422	.1226	.0074	2680.
.1220	-2229.	-117.	3938.	1261.	-8614.	1462.	.0291	.1061	-.0344	-.0323	.1095	-.0169	3543.
.1230	-1857.	-35.	4182.	582.	-10587.	534.	.0190	.1089	-.0229	-.0296	.0961	-.0378	4260.
.1240	-1149.	131.	4022.	-17.	-11535.	-173.	.0086	.1115	-.0137	-.0304	.0818	-.0557	4629.
.1250	20.	173.	3280.	-721.	-11116.	-973.	-.0028	.1123	-.0066	-.0292	.0673	-.0694	4487.

ADLPIPE PAGE 736 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU								
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.1260	-619.	139.	3134.	-1337.	-9418.	-1767.	-.0162	.1115	-.0012	-.0283	.0517	-.0783	3883.	
.1270	313.	261.	2055.	-1456.	-7156.	-2047.	-.0268	.1106	-.0006	-.0341	.0350	-.0831	3043.	
.1280	-388.	546.	1700.	-1314.	-4414.	-1641.	-.0359	.1115	-.0007	-.0480	.0163	-.0828	1962.	
.1290	-813.	772.	1014.	-1421.	-1077.	-712.	-.0446	.1149	-.0032	-.0658	-.0031	-.0758	770.	
.1300	206.	894.	-494.	-1745.	2398.	287.	-.0520	.1189	-.0059	-.0859	-.0229	-.0641	1196.	
.1310	-1404.	1009.	-478.	-1981.	5033.	779.	-.0600	.1203	-.0065	-.1086	-.0461	-.0518	2193.	
.1320	-1932.	1034.	-750.	-2138.	6395.	611.	-.0669	.1188	-.0049	-.1302	-.0716	-.0398	2717.	
.1330	-2305.	884.	-953.	-2468.	6952.	76.	-.0744	.1166	-.0011	-.1478	-.0981	-.0265	2960.	
.1340	-2362.	702.	-1187.	-2825.	7011.	-275.	-.0808	.1164	.0036	-.1636	-.1228	-.0122	3035.	
.1350	-2369.	630.	-1319.	-2897.	6812.	-297.	-.0845	.1183	.0077	-.1799	-.1439	.0013	2973.	
.1360	-3721.	579.	-761.	-2677.	6858.	-327.	-.0879	.1201	.0109	-.1928	-.1606	.0130	2957.	
.1370	-2958.	455.	-1322.	-2242.	7217.	-483.	-.0901	.1202	.0130	-.1977	-.1716	.0229	3039.	
.1380	-3753.	363.	-1017.	-1681.	7548.	-659.	-.0929	.1183	.0151	-.1957	-.1783	.0304	3114.	
.1390	-4801.	366.	-420.	-1170.	7422.	-623.	-.0955	.1156	.0184	-.1886	-.1810	.0359	3026.	
.1400	-3825.	396.	-712.	-885.	6710.	-263.	-.0978	.1131	.0237	-.1764	-.1792	.0406	2718.	
.1410	-3726.	472.	-399.	-680.	5370.	354.	-.1014	.1103	.0313	-.1593	-.1741	.0440	2177.	
.1420	-3112.	647.	-121.	-271.	3253.	1087.	-.1033	.1058	.0394	-.1386	-.1654	.0447	1381.	
.1430	-3818.	833.	939.	172.	939.	1585.	-.1041	.0990	.0464	-.1138	-.1531	.0423	742.	
.1440	-4052.	883.	1646.	355.	-761.	1790.	-.1037	.0912	.0512	-.0847	-.1353	.0386	793.	
.1450	-3489.	867.	1764.	379.	-1578.	1980.	-.1016	.0842	.0537	-.0556	-.1117	.0347	1027.	
.1460	-4437.	919.	2563.	498.	-1850.	2216.	-.0984	.0786	.0544	-.0317	-.0844	.0303	1175.	
.1470	-3744.	932.	2536.	650.	-2125.	2134.	-.0919	.0730	.0529	-.0125	-.0549	.0251	1237.	
.1480	-4088.	730.	3108.	534.	-2778.	1242.	-.0848	.0657	.0510	.0059	-.0261	.0199	1240.	
.1490	-4686.	345.	3916.	204.	-4058.	-345.	-.0767	.0562	.0493	.0242	.0006	.0150	1636.	
.1500	-3924.	-45.	4102.	-92.	-5838.	-2094.	-.0667	.0460	.0470	.0388	.0250	.0113	2489.	
.1510	-3844.	-365.	4573.	-320.	-7559.	-3619.	-.0568	.0364	.0443	.0480	.0468	.0101	3365.	
.1520	-2660.	-638.	4293.	-450.	-8715.	-4673.	-.0462	.0281	.0396	.0535	.0671	.0126	3972.	
.1530	-2523.	-811.	4311.	-335.	-9007.	-5172.	-.0358	.0203	.0322	.0570	.0853	.0180	4170.	
.1540	-1702.	-844.	3729.	155.	-8294.	-5086.	-.0241	.0126	.0209	.0596	.1021	.0255	3905.	
.1550	-236.	-793.	2561.	857.	-6545.	-4517.	-.0112	.0053	.0064	.0618	.1180	.0346	3210.	
.1560	-903.	-697.	2293.	1575.	-4079.	-3559.	.0003	-.0008	-.0088	.0632	.1315	.0454	2263.	
.1570	356.	-517.	1009.	2383.	-1616.	-2134.	.0124	-.0052	-.0242	.0623	.1423	.0575	1438.	
.1580	1528.	-249.	-161.	3205.	447.	-523.	.0235	-.0088	-.0379	.0588	.1490	.0698	1316.	
.1590	1220.	-55.	-509.	3719.	2115.	691.	.0315	-.0129	-.0488	.0551	.1513	.0813	1739.	
.1600	2743.	-54.	-1723.	3793.	3337.	1197.	.0379	-.0179	-.0571	.0528	.1505	.0916	2083.	
.1610	5194.	-159.	-3246.	3628.	3850.	1143.	.0436	-.0232	-.0631	.0495	.1465	.1000	2172.	
.1620	4717.	-288.	-3100.	3394.	3789.	731.	.0474	-.0278	-.0672	.0434	.1393	.1065	2062.	
.1630	5597.	-505.	-3533.	3077.	3329.	46.	.0513	-.0709	-.0702	.0358	.1308	.1112	1819.	

ADLPIPE PAGE 737 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1520	-1880.	-678.	-293.	-450.	-8715.	-4673.	-10462	.0281	.0396	.0535	.0871	.0126	3972.
.1530	-2523.	-811.	4311.	-335.	-9007.	-5172.	-10358	.0203	.0322	.0570	.0853	.0180	4170.
.1540	-1702.	-844.	3729.	155.	-8294.	-5086.	-10241	.0126	.0209	.0596	.1021	.0255	3905.
.1550	-236.	-793.	2561.	857.	-6545.	-4517.	-10112	.0053	.0064	.0618	.1180	.0346	3210.
.1560	-903.	-697.	2293.	1575.	-4079.	-3559.	.0003	-10008	-10088	.0632	.1315	.0454	2263.
.1570	356.	-517.	1009.	2383.	-1616.	-2134.	.0124	-10052	-10242	.0623	.1423	.0575	1438.
.1580	1528.	-249.	-161.	3205.	447.	-523.	.0235	-10080	-10379	.0508	.1490	.0698	1316.
.1590	1220.	-55.	-509.	3719.	2115.	691.	.0315	-10129	-10488	.0551	.1513	.0813	1739.
.1600	2743.	-54.	-1723.	3793.	3337.	1197.	.0379	-10179	-10571	.0528	.1505	.0916	2083.
.1610	5194.	-159.	-3246.	3628.	3850.	1143.	.0436	-10232	-10631	.0495	.1465	.1000	2172.
.1620	4717.	-288.	-3100.	3394.	3789.	731.	.0474	-10278	-10672	.0434	.1393	.1065	2062.
.1630	5597.	-505.	-3533.	3077.	3329.	46.	.0513	-10309	-10702	.0358	.1308	.1112	1819.

ADLPIPE PAGE 737

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW081 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU							STRESS							
15	2	33					TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(DEG)
.1640	6906.	-806.	-4083.	2631.	2511.	-965.	.0545	-0.0331	-0.0716	.0280	.1208	.1138	1510.							
.1650	6356.	-1108.	-3541.	2106.	1194.	-2232.	.0555	-0.0353	-0.0706	.0208	.1082	.1134	1321.							
.1660	7147.	-1407.	-3569.	1511.	-610.	-3559.	.0559	-0.0375	-0.0675	.0163	.0938	.1104	1571.							
.1670	7455.	-1701.	-3323.	791.	-2682.	-4807.	.0539	-0.0394	-0.0612	.0154	.0777	.1056	2232.							
.1680	7643.	-1888.	-2910.	110.	-5059.	-5664.	.0508	-0.0403	-0.0518	.0156	.0605	.0992	3048.							
.1690	6325.	-1873.	-1714.	-367.	-7570.	-5926.	.0462	-0.0403	-0.0401	.0162	.0421	.0911	3861.							
.1700	5588.	-1718.	-902.	-655.	-9741.	-5606.	.0409	-0.0398	-0.0275	.0200	.0239	.0818	4518.							
.1710	7149.	-1506.	-1434.	-831.	-11181.	-4814.	.0368	-0.0394	-0.0156	.0287	.0078	.0718	4896.							
.1720	5235.	-1206.	-409.	-879.	-11533.	-3692.	.0313	-0.0389	-0.0043	.0394	-0.0066	.0609	4872.							
.1730	3614.	-798.	202.	-639.	-10659.	-2193.	.0266	-0.0378	.0054	.0498	-0.0175	.0492	4374.							
.1740	3257.	-320.	-118.	-138.	-8548.	-448.	.0220	-0.0363	.0135	.0597	-0.0251	.0369	3435.							
.1750	1903.	153.	-134.	374.	-5526.	1214.	.0161	-0.0346	.0212	.0694	-0.0305	.0239	2276.							
.1760	1071.	529.	-496.	672.	-2136.	2483.	.0104	-0.0333	.0286	.0789	-0.0340	.0100	1342.							
.1770	-597.	772.	-428.	701.	1255.	3126.	.0033	-0.0326	.0368	.0878	-0.0367	-0.0048	1381.							
.1780	-1066.	906.	-881.	621.	4243.	3204.	-0.0037	-0.0326	.0456	.0947	-0.0384	-0.0204	2148.							
.1790	-2538.	981.	-669.	479.	6644.	2798.	-0.0116	-0.0332	.0550	.0981	-0.0399	-0.0365	2899.							
.1800	-4741.	982.	71.	166.	8479.	2011.	-0.0204	-0.0341	.0643	.0985	-0.0412	-0.0518	3497.							
.1810	-4445.	896.	-316.	-341.	9741.	1059.	-0.0280	-0.0353	.0721	.0977	-0.0413	-0.0654	3934.							
.1820	-5531.	789.	165.	-927.	10440.	102.	-0.0364	-0.0368	.0789	.0955	-0.0414	-0.0766	4206.							
.1830	-6685.	715.	867.	-1376.	10462.	-697.	-0.0443	-0.0387	.0842	.0914	-0.0411	-0.0855	4243.							
.1840	-7294.	686.	1479.	-1620.	9724.	-1301.	-0.0514	-0.0412	.0881	.0859	-0.0410	-0.0919	3990.							
.1850	-8001.	704.	2341.	-1725.	8132.	-1644.	-0.0582	-0.0442	.0911	.0806	-0.0422	-0.0958	3401.							
.1860	-7986.	763.	3008.	-1773.	5742.	-1609.	-0.0638	-0.0471	.0935	.0762	-0.0445	-0.0965	2497.							
.1870	-8840.	848.	4176.	-1803.	3012.	-1282.	-0.0697	-0.0498	.0955	.0731	-0.0479	-0.0944	1500.							
.1880	-8334.	948.	4602.	-1689.	329.	-768.	-0.0743	-0.0524	.0964	.0710	-0.0510	-0.0902	756.							
.1890	-8038.	1078.	5037.	-1331.	-2025.	-157.	-0.0778	-0.0554	.0958	.0694	-0.0538	-0.0845	975.							
.1900	-8905.	1211.	5915.	-797.	-3793.	528.	-0.0803	-0.0583	.0933	.0683	-0.0561	-0.0773	1570.							
.1910	-8298.	1282.	5827.	-229.	-4726.	1257.	-0.0798	-0.0606	.0878	.0685	-0.0565	-0.0682	1965.							
.1920	-7729.	1281.	5529.	310.	-4719.	1908.	-0.0771	-0.0625	.0797	.0690	-0.0549	-0.0577	2046.							
.1930	-7288.	1237.	5124.	887.	-3995.	2436.	-0.0718	-0.0641	.0696	.0681	-0.0514	-0.0465	1911.							
.1940	-6390.	1149.	4385.	1497.	-2883.	2798.	-0.0637	-0.0657	.0580	.0653	-0.0464	-0.0347	1721.							
.1950	-5394.	982.	3555.	1983.	-1658.	2887.	-0.0534	-0.0678	.0462	.0614	-0.0405	-0.0226	1555.							
.1960	-4670.	718.	2860.	2184.	-477.	2626.	-0.0415	-0.0706	.0347	.0573	-0.0339	-0.0107	1384.							
.1970	-3544.	390.	1970.	2095.	591.	2115.	-0.0282	-0.0738	.0241	.0529	-0.0266	.0007	1218.							
.1980	-1812.	59.	804.	1844.	1454.	1559.	-0.0136	-0.0767	.0144	.0475	-0.0185	.0113	1131.							
.1990	-405.	-233.	-126.	1548.	2016.	1078.	.0018	-0.0793	.0057	.0414	-0.0100	.0207	1108.							
.2000	327.	-489.	-642.	1240.	2335.	653.	.0177	-0.0817	-0.0025	.0360	-0.0011	.0283	1093.							
.2010	1015.	-720.	-1107.	926.	2600.	267.	.0339	-0.0843	-0.0105	.0331	.0088	.0337	1113.							

ADLPIPE PAGE 738

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW081 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.1900	-8905.	1211.	5515.	-797.	-3793.	528.	-.0803	-.0583	.0933	.0683	-.0561	-.0773	1570.
.1910	-8298.	1282.	5827.	-229.	-4726.	1257.	-.0798	-.0606	.0878	.0685	-.0565	-.0682	1965.
.1920	-7729.	1281.	5529.	310.	-4719.	1908.	-.0771	-.0625	.0797	.0690	-.0549	-.0577	2046.
.1930	-7288.	1237.	5124.	887.	-3995.	2436.	-.0718	-.0641	.0696	.0681	-.0514	-.0465	1911.
.1940	-6390.	1149.	4385.	1497.	-2383.	2798.	-.0637	-.0657	.0580	.0653	-.0464	-.0347	1721.
.1950	-5394.	982.	3595.	1983.	-1658.	2887.	-.0534	-.0678	.0462	.0614	-.0405	-.0226	1555.
.1960	-4670.	718.	2860.	2184.	-477.	2626.	-.0415	-.0706	.0347	.0573	-.0339	-.0107	1384.
.1970	-3544.	390.	1970.	2095.	591.	2115.	-.0282	-.0738	.0241	.0529	-.0266	.0007	1218.
.1980	-1812.	59.	804.	1844.	1454.	1559.	-.0136	-.0767	.0144	.0475	-.0185	.0113	1131.
.1990	-465.	-233.	-126.	1548.	2016.	1078.	.0018	-.0793	.0057	.0414	-.0100	.0207	1108.
.2000	327.	-489.	-642.	1240.	2335.	653.	.0177	-.0817	-.0025	.0360	-.0011	.0283	1093.
.2010	1015.	-720.	-1107.	926.	2600.	267.	.0339	-.0843	-.0105	.0331	.0088	.0337	1113.

ADLPIPE PAGE 738

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU					
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.2020	1817.	-905.	-1631.	652.	2924.	-14.	.0497	-.0870	-.0183	.0335	.0194	.0367	1202.	
.2030	2441.	-1013.	-2045.	468.	3212.	-115.	.0642	-.0895	-.0253	.0368	.0304	.0373	1303.	
.2040	3010.	-1043.	-2367.	370.	3259.	-55.	.0773	-.0914	-.0312	.0423	.0410	.0353	1316.	
.2050	3566.	-1023.	-2582.	314.	2902.	29.	.0886	-.0930	-.0355	.0500	.0507	.0306	1171.	
.2060	3931.	-988.	-2594.	242.	2104.	-27.	.0978	-.0950	-.0379	.0606	.0590	.0228	850.	
.2070	4346.	-965.	-2549.	106.	956.	-312.	.1048	-.0975	-.0386	.0744	.0559	.0122	406.	
.2080	5137.	-951.	-2648.	-112.	-402.	-765.	.1098	-.0999	-.0381	.0899	.0714	-.0007	350.	
.2090	5901.	-919.	-2713.	-375.	-1810.	-1227.	.1131	-.1016	-.0368	.1049	.0756	-.0149	890.	
.2100	6210.	-848.	-2573.	-631.	-3076.	-1586.	.1145	-.1021	-.0350	.1182	.0786	-.0293	1412.	
.2110	6515.	-753.	-2502.	-868.	-4028.	-1854.	.1144	-.1017	-.0331	.1297	.0804	-.0433	1813.	
.2120	7029.	-662.	-2615.	-1113.	-4664.	-2094.	.1129	-.1009	-.0313	.1394	.0808	-.0562	2100.	
.2130	7247.	-578.	-2618.	-1371.	-5150.	-2301.	.1101	-.0997	-.0292	.1463	.0791	-.0670	2329.	
.2140	7003.	-491.	-2397.	-1603.	-5643.	-2395.	.1061	-.0977	-.0263	.1493	.0749	-.0748	2543.	
.2150	6623.	-391.	-2125.	-1761.	-6134.	-2333.	.1008	-.0947	-.0225	.1475	.0681	-.0792	2727.	
.2160	6144.	-284.	-1855.	-1835.	-6464.	-2171.	.0943	-.0909	-.0180	.1406	.0593	-.0801	2834.	
.2170	5345.	-201.	-1512.	-1854.	-6434.	-2003.	.0864	-.0866	-.0132	.1300	.0492	-.0776	2805.	
.2180	4317.	-159.	-1166.	-1823.	-5901.	-1854.	.0775	-.0819	-.0083	.1167	.0385	-.0719	2588.	
.2190	3143.	-141.	-857.	-1685.	-4835.	-1667.	.0676	-.0766	-.0038	.1010	.0279	-.0636	2161.	
.2200	1722.	-114.	-509.	-1394.	-3282.	-1388.	.0570	-.0706	.0001	.0832	.0178	-.0533	1535.	
.2210	291.	-75.	-215.	-980.	-1346.	-1007.	.0456	-.0637	.0036	.0642	.0087	-.0418	781.	
.2220	-790.	-41.	-114.	-525.	772.	-558.	.0338	-.0563	.0068	.0460	.0007	-.0297	437.	
.2230	-1663.	-16.	-64.	-86.	2784.	-82.	.0215	-.0488	.0099	.0299	-.0067	-.0179	1118.	
.2240	-2529.	15.	87.	329.	4447.	392.	.0087	-.0417	.0132	.0163	-.0139	-.0070	1796.	
.2250	-3130.	64.	224.	713.	5648.	865.	-.0045	-.0350	.0170	.0052	-.0210	.0024	2311.	
.2260	-3310.	135.	269.	1029.	6331.	1349.	-.0180	-.0286	.0213	-.0034	-.0281	.0101	2630.	
.2270	-3333.	219.	361.	1227.	6445.	1616.	-.0314	-.0226	.0259	-.0096	-.0355	.0159	2732.	
.2280	-3359.	295.	573.	1283.	6013.	2177.	-.0442	-.0171	.0305	-.0131	-.0433	.0194	2618.	
.2290	-3393.	348.	868.	1229.	5167.	2347.	-.0561	-.0122	.0350	-.0143	-.0513	.0204	2330.	
.2300	-3607.	386.	1296.	1127.	4048.	2311.	-.0668	-.0080	.0390	-.0142	-.0594	.0189	1924.	
.2310	-4085.	420.	1872.	997.	2755.	2106.	-.0760	-.0040	.0427	-.0138	-.0572	.0151	1448.	
.2320	-4611.	439.	2461.	794.	1363.	1755.	-.0836	.0000	.0461	-.0133	-.0746	.0096	947.	
.2330	-5123.	428.	3016.	484.	-54.	1250.	-.0892	.0040	.0492	-.0129	-.0812	.0028	538.	
.2340	-5767.	391.	3600.	109.	-1431.	591.	-.0930	.0079	.0520	-.0129	-.0869	-.0051	623.	
.2350	-6441.	344.	4156.	-259.	-2700.	-180.	-.0945	.0114	.0542	-.0139	-.0910	-.0136	1091.	
.2360	-6937.	298.	4561.	-605.	-3756.	-975.	-.0938	.0147	.0553	-.0161	-.0932	-.0224	1576.	
.2370	-7298.	256.	4813.	-964.	-4434.	-1680.	-.0909	.0182	.0551	-.0194	-.0928	-.0306	1942.	
.2380	-7512.	226.	4878.	-1341.	-4567.	-2196.	-.0858	.0221	.0530	-.0237	-.0893	-.0378	2104.	
.2390	-7330.	225.	4616.	-1684.	-4077.	-2464.	-.0788	.0263	.0488	-.0287	-.0825	-.0437	2028.	

ADLPIPE PAGE 739

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2290	-3393.	348.	868.	1229.	5167.	2347.	-4442.	-0171.	.0350	-0143	-0513	.0204	2330.
.2300	-3607.	386.	1296.	1127.	4048.	2311.	-2668.	-0080	.0390	-0142	-0594	.0139	1924.
.2310	-4085.	420.	1872.	997.	2755.	2106.	-0760	-0040	.0427	-0138	-0472	.0151	1448.
.2320	-4611.	439.	2461.	794.	1762.	1755.	-0836	.0000	.0461	-0133	-0746	.0096	947.
.2330	-5123.	428.	3016.	484.	-54.	1250.	-0892	.0040	.0492	-0129	-0812	.0028	538.
.2340	-5767.	391.	3600.	109.	-1431.	591.	-0930	.0079	.0520	-0129	-0869	-0051	623.
.2350	-6441.	344.	4156.	-259.	-2700.	-180.	-0945	.0114	.0542	-0139	-0910	-0136	1091.
.2360	-6987.	298.	4561.	-605.	-3756.	-975.	-0938	.0147	.0553	-0161	-0932	-0224	1576.
.2370	-7298.	256.	4813.	-964.	-4434.	-1680.	-0909	.0182	.0551	-0194	-0928	-0306	1942.
.2380	-7512.	226.	4878.	-1341.	-4567.	-2196.	-0858	.0221	.0530	-0237	-0893	-0378	2104.
.2390	-7330.	225.	4616.	-1684.	-4077.	-2464.	-0788	.0263	.0488	-0287	-0825	-0437	2028.

ADLPIPE PAGE 739

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.2400	-6733.	261.	4037.	-1933.	-3029.	-2468.	-0701	.0307	.0426	-0341	-0727	-0483	1749.		
.2410	-5974.	332.	3315.	-2078.	-1616.	-2212.	-0601	.0353	.0347	-0394	-0606	-0514	1380.		
.2420	-5054.	426.	2502.	-2128.	-83.	-1707.	-0492	.0403	.0256	-0441	-0471	-0528	1098.		
.2430	-3764.	530.	1531.	-2122.	1360.	-995.	-0376	.0456	.0159	-0478	-0331	-0524	1087.		
.2440	-2154.	634.	444.	-2016.	2604.	-166.	-0258	.0511	.0058	-0506	-0192	-0502	1323.		
.2450	-479.	717.	-616.	-1811.	3575.	654.	-0140	.0566	-0043	-0530	-0063	-0464	1629.		
.2460	1068.	755.	-1540.	-1522.	4209.	1345.	-0025	.0619	-0142	-0550	.0052	-0412	1875.		
.2470	2346.	730.	-2245.	-1186.	4432.	1822.	.0085	.0669	-0238	-0571	.0146	-0346	1981.		
.2480	3326.	633.	-2727.	-847.	4277.	2027.	.0186	.0716	-0330	-0594	.0217	-0269	1929.		
.2490	4197.	465.	-3114.	-541.	3866.	1938.	.0276	.0760	-0417	-0624	.0267	-0183	1749.		
.2500	5004.	236.	-3435.	-293.	3227.	1575.	.0354	.0802	-0496	-0664	.0296	-0092	1446.		
.2510	5423.	-35.	-3503.	-114.	2313.	999.	.0419	.0842	-0566	-0714	.0306	.0002	1012.		
.2520	5333.	-326.	-3256.	-4.	1139.	291.	.0468	.0880	-0625	-0775	.0300	.0098	472.		
.2530	5148.	-613.	-2929.	46.	-169.	-462.	.0501	.0917	-0673	-0843	.0284	.0192	198.		
.2540	5196.	-869.	-2711.	44.	-1491.	-1157.	.0518	.0953	-0710	-0915	.0264	.0283	757.		
.2550	5345.	-1072.	-2535.	4.	-2765.	-1678.	.0519	.0990	-0739	-0993	.0247	.0371	1298.		
.2560	5420.	-1210.	-2319.	-41.	-3919.	-1950.	.0508	.1028	-0761	-1076	.0235	.0457	1757.		
.2570	5501.	-1277.	-2130.	-44.	-4822.	-1978.	.0484	.1067	-0780	-1164	.0234	.0538	2092.		
.2580	5671.	-1275.	-2044.	30.	-5328.	-1807.	.0450	.1104	-0798	-1255	.0247	.0611	2258.		
.2590	5923.	-1215.	-2073.	160.	-5376.	-1486.	.0407	.1138	-0814	-1344	.0274	.0673	2239.		
.2600	6213.	-1121.	-2189.	299.	-5030.	-1057.	.0355	.1171	-0828	-1429	.0312	.0724	2066.		
.2610	6351.	-1000.	-2275.	443.	-4419.	-549.	.0297	.1205	-0836	-1508	.0353	.0761	1796.		
.2620	6167.	-843.	-2232.	630.	-3635.	2.	.0231	.1240	-0836	-1582	.0391	.0781	1481.		
.2630	5772.	-659.	-2121.	859.	-2726.	531.	.0158	.1273	-0825	-1645	.0422	.0781	1167.		
.2640	5280.	-477.	-1991.	1057.	-1773.	967.	.0080	.1303	-0803	-1691	.0441	.0761	915.		
.2650	4531.	-315.	-1740.	1164.	-877.	1289.	-0004	.1332	-0771	-1718	.0442	.0724	781.		
.2660	3431.	-164.	-1312.	1182.	-75.	1514.	-0090	.1359	-0728	-1733	.0426	.0670	771.		
.2670	2195.	-18.	-820.	1147.	647.	1655.	-0177	.1385	-0677	-1742	.0392	.0604	849.		
.2680	982.	121.	-342.	1064.	1288.	1697.	-0263	.1409	-0619	-1749	.0343	.0527	956.		
.2690	-251.	235.	163.	891.	1788.	1612.	-0347	.1428	-0556	-1749	.0280	.0444	1030.		
.2700	-1446.	314.	686.	604.	2075.	1413.	-0427	.1442	-0487	-1743	.0203	.0359	1036.		
.2710	-2423.	377.	1143.	259.	2117.	1174.	-0504	.1453	-0411	-1732	.0115	.0277	977.		
.2720	-3114.	451.	1498.	-49.	1929.	987.	-0576	.1461	-0330	-1718	.0018	.0202	870.		
.2730	-3544.	541.	1754.	-287.	1561.	880.	-0644	.1466	-0244	-1701	-0086	.0136	728.		
.2740	-3692.	625.	1884.	-486.	1100.	819.	-0706	.1469	-0157	-1676	-0192	.0080	584.		
.2750	-3669.	693.	1921.	-647.	662.	803.	-0759	.1469	-0074	-1642	-0296	.0037	492.		
.2760	-3621.	763.	1915.	-703.	359.	893.	-0804	.1468	.0001	-1601	-0395	.0007	478.		
.2770	-3518.	849.	1834.	-608.	260.	1116.	-0838	.1465	.0067	-1557	-0486	-0008	521.		

ADLPIPE PAGE 740

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.2670	2195.	-18.	-820.	1147.	647.	1655.	-.0177	.1385	-.0677	-.1742	.0392	.0604	849.
.2680	982.	121.	-342.	1064.	1288.	1697.	-.0263	.1409	-.0619	-.1749	.0343	.0527	956.
.2690	-251.	235.	163.	891.	1788.	1612.	-.0347	.1428	-.0556	-.1749	.0280	.0444	1030.
.2700	-1446.	314.	686.	674.	2075.	1413.	-.0427	.1442	-.0487	-.1742	.0203	.0359	1036.
.2710	-2423.	377.	1143.	259.	2117.	1174.	-.0504	.1453	-.0411	-.1732	.0115	.0277	977.
.2720	-3114.	451.	1499.	-49.	1929.	987.	-.0576	.1461	-.0330	-.1718	.0018	.0202	870.
.2730	-3544.	541.	1754.	-287.	1561.	880.	-.0644	.1466	-.0244	-.1701	-.0086	.0136	728.
.2740	-3692.	625.	1884.	-486.	1100.	819.	-.0706	.1469	-.0157	-.1676	-.0192	.0080	584.
.2750	-3669.	693.	1921.	-647.	662.	803.	-.0759	.1469	-.0074	-.1642	-.0296	.0037	492.
.2760	-3621.	763.	1915.	-703.	359.	823.	-.0804	.1468	.0001	-.1601	-.0395	.0007	478.
.2770	-3518.	849.	1834.	-608.	260.	1116.	-.0838	.1465	.0067	-.1557	-.0486	-.0008	521.

ADLPIPE PAGE 740

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	15	MEMBER	2	SEQUENCE	33	LOCATION	END	TYPE	RU					
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.2780	-3352.	931.	1674.	-413.	366.	1411.	-.0861	.1460	.0120	-.1511	-.0568	-.0011	608.	
.2790	-3269.	984.	1525.	-205.	607.	1698.	-.0873	.1450	.0161	-.1459	-.0641	-.0001	728.	
.2800	-3315.	1005.	1428.	-13.	892.	1961.	-.0875	.1434	.0192	-.1400	-.0707	.0020	864.	
.2810	-3345.	1007.	1327.	177.	1143.	2205.	-.0867	.1410	.0213	-.1337	-.0763	.0051	999.	
.2820	-3304.	990.	1208.	351.	1307.	2393.	-.0849	.1378	.0226	-.1272	-.0809	.0088	1103.	
.2830	-3252.	941.	1113.	462.	1354.	2474.	-.0820	.1339	.0231	-.1206	-.0842	.0128	1147.	
.2840	-3151.	860.	1024.	491.	1300.	2452.	-.0782	.1292	.0227	-.1141	-.0860	.0170	1131.	
.2850	-2914.	758.	887.	471.	1209.	2364.	-.0732	.1240	.0214	-.1075	-.0859	.0213	1082.	
.2860	-2549.	647.	690.	439.	1156.	2215.	-.0674	.1181	.0190	-.1011	-.0836	.0254	1018.	
.2870	-2085.	528.	437.	406.	1187.	1988.	-.0608	.1115	.0157	-.0948	-.0791	.0292	943.	
.2880	-1516.	405.	129.	365.	1289.	1689.	-.0537	.1042	.0118	-.0887	-.0725	.0326	865.	
.2890	-887.	284.	-210.	314.	1425.	1352.	-.0464	.0963	.0074	-.0826	-.0640	.0357	798.	
.2900	-246.	172.	-550.	255.	1565.	989.	-.0390	.0878	.0030	-.0764	-.0541	.0385	750.	
.2910	413.	71.	-895.	195.	1689.	593.	-.0318	.0786	-.0012	-.0699	-.0429	.0407	722.	
.2920	1047.	-17.	-1216.	145.	1762.	179.	-.0248	.0689	-.0051	-.0629	-.0308	.0424	713.	
.2930	1526.	-85.	-1437.	111.	1751.	-215.	-.0182	.0587	-.0085	-.0554	-.0182	.0436	709.	
.2940	1818.	-134.	-1536.	94.	1643.	-554.	-.0119	.0484	-.0110	-.0470	-.0051	.0443	697.	
.2950	2014.	-164.	-1559.	102.	1437.	-817.	-.0060	.0380	-.0143	-.0377	.0082	.0446	664.	
.2960	2150.	-174.	-1516.	150.	1109.	-991.	-.0003	.0277	-.0166	-.0274	.0214	.0445	600.	
.2970	2190.	-170.	-1374.	241.	605.	-1091.	.0050	.0175	-.0186	-.0161	.0342	.0443	510.	
.2980	2156.	-168.	-1133.	347.	-126.	-1163.	.0100	.0073	-.0200	-.0038	.0463	.0439	490.	
.2990	2123.	-181.	-830.	446.	-1099.	-1253.	.0146	-.0027	-.0209	.0092	.0573	.0435	692.	
.3000	2145.	-212.	-503.	538.	-2272.	-1372.	.0189	-.0125	-.0211	.0226	.0671	.0431	1087.	
.3010	2257.	-260.	-194.	632.	-3554.	-1515.	.0227	-.0221	-.0208	.0359	.0755	.0431	1571.	
.3020	2455.	-331.	69.	723.	-4824.	-1693.	.0261	-.0313	-.0200	.0490	.0825	.0433	2072.	
.3030	2673.	-425.	284.	814.	-5939.	-1908.	.0293	-.0401	-.0189	.0617	.0881	.0439	2524.	
.3040	2864.	-528.	439.	934.	-6753.	-2112.	.0321	-.0484	-.0178	.0737	.0925	.0449	2864.	
.3050	3055.	-622.	485.	1109.	-7143.	-2234.	.0347	-.0561	-.0166	.0848	.0956	.0462	3036.	
.3060	3243.	-697.	408.	1333.	-7050.	-2234.	.0370	-.0630	-.0154	.0947	.0974	.0480	3015.	
.3070	3347.	-751.	248.	1576.	-6494.	-2120.	.0388	-.0692	-.0141	.1033	.0977	.0500	2813.	
.3080	3322.	-782.	43.	1817.	-5551.	-1912.	.0403	-.0749	-.0124	.1106	.0965	.0521	2466.	
.3090	3192.	-786.	-194.	2045.	-4330.	-1615.	.0412	-.0800	-.0103	.1163	.0936	.0540	2028.	
.3100	2968.	-759.	-440.	2241.	-2963.	-1247.	.0414	-.0848	-.0075	.1204	.0889	.0556	1573.	
.3110	2645.	-707.	-655.	2376.	-1592.	-839.	.0410	-.0893	-.0041	.1230	.0824	.0566	1196.	
.3120	2247.	-636.	-817.	2428.	-341.	-428.	.0400	-.0935	.0001	.1243	.0741	.0567	999.	
.3130	1806.	-552.	-915.	2402.	693.	-41.	.0382	-.0976	.0048	.1247	.0643	.0558	1003.	
.3140	1323.	-455.	-926.	2310.	1445.	295.	.0358	-.1017	.0100	.1245	.0532	.0534	1100.	
.3150	830.	-352.	-857.	2158.	1873.	551.	.0328	-.1056	.0156	.1240	.0411	.0495	1168.	

ADLPIPE PAGE 741

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING



.3050	3055.	-622.	485.	1109.	-7143.	-2234.	.347	-.0561	-.0168	.0848	.0956	.0462	2864.
.3060	3243.	-697.	408.	1333.	-7050.	-2234.	.370	-.0630	-.0154	.0947	.0974	.0480	3015.
.3070	3347.	-751.	248.	1576.	-6494.	-2120.	.0388	-.0692	-.0141	.1033	.0977	.0500	2813.
.3080	3322.	-782.	47.	1017.	-5551.	-1912.	.0403	-.0749	-.0124	.1106	.0965	.0521	2466.
.3090	3192.	-786.	-194.	2045.	-4330.	-1615.	.0412	-.0800	-.0103	.1163	.0936	.0540	2028.
.3100	2968.	-759.	-440.	2241.	-2960.	-1247.	.0414	-.0848	-.0075	.1204	.0889	.0556	1573.
.3110	2645.	-707.	-655.	2376.	-1592.	-839.	.0410	-.0893	-.0041	.1230	.0824	.0566	1196.
.3120	2247.	-636.	-817.	2428.	-341.	-428.	.0400	-.0935	.0001	.1243	.0741	.0567	999.
.3130	1806.	-552.	-915.	2402.	693.	-41.	.0382	-.0976	.0048	.1247	.0543	.0558	1003.
.3140	1727.	-455.	-921.	2310.	1445.	295.	.0358	-.1017	.0100	.1245	.0532	.0534	1100.
.3150	830.	-352.	-857.	2108.	1873.	551.	.0328	-.1056	.0156	.1240	.0411	.0495	1168.

ADLPIPE PAGE 741

DIG/ADLPIPE S/RV PIPING KEWAUNEE GKM06F 2 RUP DISK 2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.39.

CONDITION 24

LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.3160	356.	-249.	-700.	1939.	1964.	707.	.0292	-.1094	.0214	.1237	.0283	.0438	1143.							
.3170	-89.	-154.	-490.	1647.	1733.	745.	.0250	-.1131	.0274	.1239	.0152	.0363	1005.							
.3180	-492.	-75.	-218.	1283.	1228.	641.	.0204	-.1167	.0336	.1248	.0021	.0270	758.							
.3190	-853.	-11.	92.	860.	516.	390.	.0154	-.1202	.0398	.1264	-.0107	.0160	432.							
.3200	-1187.	38.	426.	394.	-308.	20.	.0103	-.1236	.0459	.1286	-.0227	.0037	201.							
.3210	-1535.	76.	775.	-97.	-1129.	-420.	.0052	-.1268	.0517	.1314	-.0338	-.0096	485.							
.3220	-1892.	108.	1108.	-600.	-1821.	-880.	.0004	-.1299	.0572	.1347	-.0434	-.0233	847.							
.3230	-2223.	140.	1379.	-1087.	-2274.	-1308.	-.0041	-.1326	.0617	.1382	-.0515	-.0369	1140.							
.3240	-2543.	183.	1578.	-1518.	-2417.	-1638.	-.0080	-.1349	.0659	.1414	-.0578	-.0499	1321.							
.3250	-2905.	248.	1728.	-1858.	-2238.	-1808.	-.0111	-.1368	.0690	.1442	-.0623	-.0618	1375.							
.3260	-3285.	333.	1822.	-2098.	-1769.	-1799.	-.0134	-.1381	.0713	.1463	-.0652	-.0721	1317.							
.3270	-3630.	431.	1847.	-2244.	-1074.	-1631.	-.0148	-.1388	.0728	.1476	-.0665	-.0806	1194.							
.3280	-3925.	534.	1817.	-2301.	-247.	-1333.	-.0152	-.1390	.0737	.1476	-.0665	-.0871	1072.							
.3290	-4161.	637.	1750.	-2267.	603.	-932.	-.0147	-.1388	.0741	.1464	-.0654	-.0914	1013.							
.3300	-4321.	730.	1662.	-2152.	1372.	-469.	-.0134	-.1380	.0739	.1438	-.0635	-.0936	1041.							
.3310	-4419.	799.	1579.	-1984.	1997.	-10.	-.0112	-.1370	.0733	.1400	-.0610	-.0937	1128.							
.3320	-4437.	830.	1499.	-1791.	2427.	381.	-.0082	-.1357	.0722	.1352	-.0579	-.0920	1220.							
.3330	-4332.	819.	1403.	-1581.	2674.	679.	-.0045	-.1343	.0704	.1297	-.0542	-.0889	1276.							
.3340	-4121.	770.	1300.	-1358.	2734.	886.	-.0002	-.1327	.0679	.1238	-.0502	-.0845	1276.							
.3350	-3877.	686.	1227.	-1129.	2617.	1078.	.0046	-.1310	.0646	.1178	-.0456	-.0792	1213.							
.3360	-3604.	570.	1178.	-909.	2356.	1045.	.0099	-.1291	.0605	.1121	-.0407	-.0734	1097.							
.3370	-3263.	430.	1119.	-705.	1994.	1012.	.0153	-.1272	.0557	.1070	-.0354	-.0673	941.							
.3380	-2865.	277.	1047.	-517.	1576.	936.	.0209	-.1253	.0502	.1028	-.0297	-.0614	764.							
.3390	-2450.	123.	972.	-346.	1138.	850.	.0264	-.1232	.0441	.0994	-.0237	-.0556	587.							
.3400	-2026.	-23.	889.	-192.	713.	785.	.0319	-.1211	.0374	.0965	-.0174	-.0502	432.							
.3410	-1581.	-151.	784.	-48.	336.	757.	.0371	-.1188	.0305	.0940	-.0109	-.0452	333.							
.3420	-1107.	-257.	644.	85.	38.	770.	.0422	-.1164	.0227	.0914	-.0041	-.0406	311.							
.3430	-576.	-341.	457.	203.	-170.	815.	.0470	-.1140	.0148	.0885	.0028	-.0365	344.							
.3440	-7.	-403.	232.	304.	-310.	888.	.0517	-.1114	.0067	.0850	.0097	-.0329	397.							
.3450	566.	-443.	-3.	387.	-421.	983.	.0563	-.1087	-.0013	.0805	.0165	-.0297	456.							
.3460	1134.	-461.	-240.	445.	-533.	1084.	.0606	-.1057	-.0090	.0748	.0229	-.0271	516.							
.3470	1722.	-466.	-490.	462.	-665.	1159.	.0648	-.1026	-.0162	.0679	.0288	-.0251	567.							
.3480	2311.	-465.	-742.	421.	-831.	1130.	.0686	-.0993	-.0226	.0601	.0338	-.0239	603.							
.3490	2825.	-461.	-950.	316.	-1034.	1139.	.0721	-.0957	-.0282	.0515	.0380	-.0234	630.							
.3500	3219.	-456.	-1123.	159.	-1250.	1042.	.0752	-.0919	-.0328	.0425	.0410	-.0237	656.							
.3510	3499.	-449.	-1251.	-53.	-1429.	898.	.0778	-.0877	-.0365	.0334	.0431	-.0247	677.							
.3520	3663.	-441.	-1352.	-298.	-1517.	714.	.0798	-.0832	-.0393	.0246	.0441	-.0265	683.							
.3530	3699.	-435.	-1424.	-560.	-1483.	504.	.0811	-.0784	-.0413	.0165	.0442	-.0290	669.							

ADLPIPE PAGE 742

DIG/ADLPIPE S/RV PIPING KEWAUNEE GKM06F 2 RUP DISK 2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

83/12/02. 18.26.40.

CONDITION 24

LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING